

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 5, 1967 Volume 842 Number 1

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of July 1967

Examiner affirmed	177
Examiner affirmed in part	32
Examiner reversed	50
Total	259

Erratum

All references to Patent No. 3,334,672 to Frank S. Kasper, assignor to Amtron, Inc., for Slicing Machine Having Automatic Controls for Producing Groups of Preselected Weight appearing in the OFFICIAL GAZETTE of Aug. 8, 1967, should be deleted as the application was withdrawn from issue and the patent was not issued.

Disclaimers

3,008,206.—*Clarence E. Meese and Ronald R. Meese*, New Philadelphia, Ohio. HOSE CLAMP. Patent dated Nov. 14, 1961. Disclaimer filed Aug. 3, 1967, by the assignee, *Eaton Yale & Towne Inc.*

Hereby enters this disclaimer to all the claims of said patent.

3,167,686.—*Richard E. Riebs*, Hales Corners, Wis. ELECTRONIC TIME DELAY DEVICES. Patent dated Jan. 26, 1965. Disclaimer filed Aug. 2, 1967, by the assignee, *McGraw-Edison Company*.

Hereby enters this disclaimer to claims 5, 6 and 7 of said patent.

Classification Order No. 389

Classification Order No. 389, dated Aug. 4, 1967, incorporates changes in the following classes:

- 43, FISHING, TRAPPING AND VERMIN DESTROYING
- 47, PLANT HUSBANDRY
- 73, MEASURING AND TESTING
- 202, DISTILLATION: APPARATUS
- 239, FLUID SPRINKLING, SPRAYING AND DIFFUSING
- 260, CHEMISTRY, CARBON COMPOUNDS
- 275, SCATTERING-UNLOADERS—Abolished

Design Classes

- D 1, FOODSTUFFS AND DIETETIC FOODS—Established
- D 1, ADVERTISING—Abolished
- D 6, BOOK BINDING—Abolished
- D 8, BREAD, CRACKERS AND LOZENGES—Abolished

- D12, CARE OF LIVESTOCK—Abolished
- D23, DAIRY APPLIANCES—Abolished
- D30, CARE AND HANDLING OF ANIMALS—Established
- D31, BIRD CAGES AND ATTACHMENTS—Abolished
- D38, HARNESS—Abolished
- D54, METAL WORKING
- D82, SUGAR AND SALT—Abolished
- D91, WATER DISTRIBUTION
- D96, ADVERTISING—Established
- D97, BOOK BINDING—Established
- D98, DAIRY APPLIANCES—Established

All of the above changes will be incorporated in the Manual of Classification replacement pages dated October 1967.

E. C. DARSCH,

Acting Administrator, Office of Examining and Classifying Control.

Adjudicated Patents

(C.A. Iowa) Romine Patent No. 2,847,808 (53—124), for TREE WRAPPING MACHINE. Claims 1, 2 and 5 to 7 Held invalid. *Greening Nursery Co. v. J. and R. Tool & Mfg. Co.*, 376 F.2d 738; 153 USPQ 660.

(C.A. Tenn.) Ludwig Patent No. 2,979,981 (84—411), for DRUMHEAD CONSTRUCTION, Held invalid. *Ludwig Drum Co. v. Solar Musical Instrument Co.*, 376 F.2d 827; 153 USPQ 579.

(D.C. Mo.) Tibbals Patent No. 2,650,627 (144—2), for SPLINE AFFIXING DEVICE FOR PARQUETING BLOCKS. Claims 1 and 2 Held not infringed. *Wood Products Development Co. v. Cloud Oak Flooring Co.*, 267 F. Supp. 193; 152 USPQ 670.

(D.C. Mass.) Magrath Patent No. 2,938,676 (242—26.3), for TOP DRIVING SPINNING SPINDLE, Held invalid. *Magrath v. Draper Corp.*, 267 F. Supp. 285; — USPQ —.

(D.C. Mo.) Tibbals Patent No. 2,961,021 (144—318), for METHOD OF AND APPARATUS FOR MAKING PARQUET FLOORING BLOCKS. Claims 9 and 10 Held invalid and not infringed. *Wood Products Development Co., Inc. et al. v. Cloud Oak Flooring Company*, 267 F. Supp. 193; 152 USPQ 670.

(D.C. Mo.) Tibbals Patent No. 2,983,295 (144—318), for WOODEN PARQUET FLOORING BLOCK AND METHOD AND APPARATUS FOR PRODUCING SAME. Claims 1, 4, 6 and 12 Held invalid and not infringed. *Id.*

(D.C. Mo.) Tibbals Patent No. 3,118,804 (156—552), for APPARATUS FOR MAKING PARQUET FLOORING BLOCKS. Claims 2 and 3 Held invalid and not infringed. *Id.*

(D.C. Mo.) Tibbals Patent No. 3,128,511 (52—586), for PARQUET FLOORING BLOCK. Claims 1 to 4 Held invalid and not infringed. *Id.*

New Applications Received During July 1967

Patents	6871
Designs	410
Plant Patents	10
Reissues	27
Total	7318

Issue—September 5, 1967

Patents.....	1336—No. 3,339,206 to No. 3,340,541, incl.
Designs.....	75—No. 208,452 to No. 208,526, incl.
Plant Patents..	2—No. 2,764 to No. 2,765, incl.
Reissues	4—No. 26,260 to No. 26,263, incl.
Total.....	1417

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 17, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—L. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-4-64	5-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-10-64	3-1-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	5-8-64	3-9-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-10-64	5-8-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-21-64	12-12-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-11-64	2-11-63
SECURITY, GROUP 220—S. BOYD, Manager..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-30-65	11-19-63
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	11-6-63	11-29-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-30-64	11-3-61
PHYSICS, GROUP 280—R. L. EVANS, Manager..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-5-64	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager..... Industrial Arts; Household, Personal and Fine Arts.	12-6-65	8-25-65
Total number of pending applications (excluding Designs).....		184,972
Total number of Design applications pending.....		4,497
Total number of applications awaiting action (excluding Designs).....		135,313
Total number of Design applications awaiting action.....		2,374
Date of oldest new application awaiting action.....		Nov. 6, 1963
Date of oldest amended application awaiting action.....		Nov. 3, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during September 1967, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents.....	Numbers 2,520,900 to 2,524,025, inclusive
Plant Patents.....	Numbers 978 to 981, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

Actual Filing Date
of Oldest Case
Awaiting Action

New Amended

MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.

HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager

Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid, Flexible and Special Receptacles and Packages.

1-3-66 8-17-64

MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager

Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Wood-working; Tools; Cutlery; Jacks; Fasteners.

6-2-65 2-7-63

AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager

Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.

2-4-65 1-22-63

HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager

Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.

1-3-66 12-2-64

FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager

Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.

9-14-65 4-30-63

TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager

Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.

7-26-65 8-28-62

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12-12-61

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11-10-63

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11-3-61

6-24-63

8-25-65

84, 972

4, 497

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2, 374

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3, 1961

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DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE FRED C. ARZBERGER AND WINFRED N. McCUTCHAN

Appeal No. 543-79. Decided March 29, 1966

1. PATENTABILITY—PROCESS—USE OF DIFFERENT STRAIN OF MICROORGANISM IN FERMENTATION ART.

"The employment in the fermentation art of different strains of microorganism is not necessarily of patentable significance; yet patentability is not foreclosed where use of a novel strain produces an unexpected beneficial result. The showing in this case establishes such result in the environment set forth in claims 5 through 10 requiring the presence of the already mentioned growth promoters. It does not extend to claims 1 through 4 which do not require the growth promoter. As to these claims we consider the rejection to be well taken on the general principle that the choice of a closely related microorganism or different strain of the same microorganism is *prima facie* obvious."

2. SAME—PARTICULAR SUBJECT MATTER—PRODUCTION OF L-GLUTAMIC ACID BY CULTIVATING A *Brevibacterium divaricatum*.

The refusal of certain claims to a process for producing L-glutamic acid by cultivating a *Brevibacterium divaricatum* is affirmed as to some of the claims and reversed as to the others.

APPEAL from the Examiner (A. Louis Monagell) of Group 170.
Serial No. 371,100.

MODIFIED.

McLean and Boustead, McLean and Dibble and McLean, Morton and Boustead for appellants.

Before ASP, LIDOFF and MANGAN, *Examiners-in-Chief*

ASP, *Examiner-in-Chief*.

This is an appeal from the final rejection of claims 1 through 10, all the claims in the case.

Claim 1 is reproduced as illustrative.

1. A process for the production of L-glutamic acid which comprises cultivating *Brevibacterium divaricatum* NRRL B-2620 in an aqueous nutrient medium under submerged aerobic conditions until substantial L-glutamic acid content is imparted to said medium.

The references relied upon are:

Yamada (I), 2,978,383, Apr. 4, 1961.

Yamada (II), 2,978,384, Apr. 4, 1961.

Motozaki et al. (I), 3,096,252, July 2, 1963.

Hidy, 3,121,668, Feb. 18, 1964.

Motozaki et al. (II), 3,128,237, Apr. 7, 1964.

The invention in this case is predicated on the discovery that cultivation of a new strain of *Brevibacterium divaricatum* NRRL B-2620 in suitable nutrient media will produce improved yields of L-glutamic acid as compared with certain prior art strains of this bacteria.

Claims 1 through 4 stand rejected as unpatentable over either of the patents to Yamada employing *Brevibacterium divaricatum* NRRL B-2311 and 2312 for production of glutamic acid on the ground that it is obvious for one skilled in the art to select and use other strains of the same bacteria for the same purpose. Claims 5 through 10 stand rejected as unpatentable over each of the Yamada patents in view of either Hidy or Motozaki et al. disclosing that incorporation of

desthiobiotin or biotin in the culture medium enhances the yield of glutamic acid. The Examiner considered it obvious that such growth promoters would be likely to enhance the yield of glutamic acid when employing appellants' closely related strain of the same bacteria.

Appellants insist their *Brevibacterium* strain is *novel* and point to the unexpectedly increased yields of glutamic acid obtained upon its culture as compared with the known B-2311 and B-2312 strains of the Yamata and the Hidy patents. This is demonstrated by the tests reported on page 9 of the specification and presented in affidavit form by Dr. Hidy. This showing, however, is limited to fermentation in the presence of growth promoters, i.e., either desthiobiotin or biotin. While there is considerable variation in yields in the several runs, it is to be noted that in each case on the same media appellants' strain NRRL B-2620 gave substantially better yields than either NRRL B-2311 or B-2312 strain, the largest being some 2.9 times that of these prior art strains.

[1] The employment in the fermentation art of different strains of microorganism is not necessarily of patentable significance; yet patentability is not foreclosed where use of a novel strain produces an unexpected beneficial result. The showing in this case establishes such result in the environment set forth in claims 5 through 10 requiring the presence of the already mentioned growth promoters. It does not extend to claims 1 through 4 which do not require the growth promoter. As to these claims we consider the rejection to be well taken on the general principle that the choice of a closely related microorganism or different strain of the same microorganism is *prima facie* obvious.

[2] The decision of the Examiner is affirmed as to claims 1 through 4 but is reversed as to claims 5 through 10.

AFFIRMED-IN-PART.

U.S. Court of Customs and Patent Appeals

IN RE ALLEN H. KEOUGH

No. 7794. Decided April 27, 1967

[54 CCPA —; 375 F.2d 851; 153 USPQ 409]

1. PATENTABILITY—OBVIOUSNESS—UNREBUTTED PRIMA FACIE CASE.

"In our view, the Patent Office has established a *prima facie* case on this record that it would be obvious to substitute one species of hydrogen exchanged zeolite for another to accomplish the common purpose of hydrocarbon conversion, specifically catalytic 'cracking' as disclosed by Gladrow. Appellant has failed to adduce substantial evidence, as opposed to argument, to overcome this *prima facie* case. Consequently, the decision of the Board is affirmed."

2. SAME—PARTICULAR SUBJECT MATTER—"HYDROCARBON CONVERSION REACTIONS."

The refusal of a certain claim in an application entitled "Hydrocarbon Conversion Reactions," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 114,317.

AFFIRMED.

Rufus M. Franklin for appellant.

Joseph Schimmel (Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, SMITH and ALMOND,
Associate Judges

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the rejection of claim 2 of appellant's application Serial No. 114,317, filed June 2, 1961, for "Hydrocarbon Conversion Reactions."

The invention relates to the use of the hydrogen exchanged form of synthetic zeolite having the mordenite crystal structure as a catalyst for hydrocarbon conversion, specifically catalytic cracking of hydrocarbons.

Sole appealed claim 2 reads as follows:

2. A method of converting hydrocarbons to lower molecular weight fractions comprising contacting said hydrocarbons at conversion temperatures with a synthetic zeolite having the mordenite crystal structure and being in the hydrogen exchanged form, said zeolite being effective, *per se*, as the conversion catalyst.

The sole reference relied on here is:

Gladrow et al. (Gladrow), 2,971,904, February 14, 1961.

Gladrow's invention relates to "catalysts suitable for the conversion of hydrocarbon fractions." In the opening paragraph of the patent, Gladrow specifically lists five types of hydrocarbon conversion reactions for which his catalysts are suitable, i.e. "hydroforming, hydroisomerization, dehydrogenation, aromatization, cracking * * *." The patent states that the invention "finds its highest utility when a hydrogen atom replaces the bulk of the sodium atoms in the original sodium aluminosilicate [zeolite] * * *." In the following two sentences Gladrow discloses that:

Such materials serve not only as the support for the platinum group metal catalyst, but also possess catalytic activity in their own right. Thus, such catalysts may serve a dual role for specific hydrocarbon conversion reactions. * * *

In view of the above teachings of Gladrow, the Board commented as follows:

This reference shows contacting hydrocarbons at conversion temperatures with a zeolite in the hydrogen exchanged form which zeolite is effective *per se* as the conversion catalyst.

Now inasmuch as appellant has admitted that his particular zeolite catalyst is old, * * * we find nothing unobvious for one of ordinary skill in this art in the employment of this zeolite catalyst material in the hydrogen form as a catalyst in the conversion of hydrocarbons as taught by Gladrow * * *.

Therefore, the Board sustained "[t]he rejection on Gladrow * * * in view of the state of the art as acknowledged by appellant."

Appellant and the Solicitor agree that Gladrow specifically discloses only one zeolite species, faujasite, while appellant's claim is directed to a different zeolite species, mordenite. Thus the rejection is one of alleged obviousness under 35 U.S.C. 103.

Although Gladrow does not specifically disclose the use of hydrogen mordenite, we agree with the Board that, in the absence of substantial evidence to the contrary, it would be obvious to substitute appellant's admittedly old zeolite species in place of the hydrogen faujasite which Gladrow discloses to be useful *per se* as a hydrocarbon conversion catalyst. While appellant uses his hydrogen exchanged zeolite as a cracking catalyst, and Gladrow contemplates using a different hydrogen exchanged zeolite primarily for catalytic hydrogenation, dehydrogenation, and hydroisomerization of hydrocarbons, according to the working examples set forth in the patent, it is nevertheless a fact that Gladrow also discloses in his opening paragraph that his catalysts are suitable for "cracking" of hydrocarbons, as noted above. Therefore, the reference clearly suggests, at least, the use of

the hydrogen form of a synthetic crystalline zeolite for catalytic "cracking" of hydrocarbons.

The Gladrow patent does not indicate that the catalytic effect is limited to any particular synthetic zeolite, e.g. hydrogen faujasite. [1] In our view, the Patent Office has established a *prima facie* case on this record that it would be obvious to substitute one species of hydrogen exchanged zeolite for another to accomplish the common purpose of hydrocarbon conversion, specifically catalytic "cracking" as disclosed by Gladrow. Appellant has failed to adduce substantial evidence, as opposed to argument, to overcome this *prima facie* case. Consequently, the decision of the Board is affirmed.

[2] AFFIRMED.

RICH, J., took no part in the decision of this case.

U.S. Court of Customs and Patent Appeals

IN RE MOGEN DAVID WINE CORPORATION

No. 7705. Decided February 16, 1967

[54 CCPA —; 371 F.2d 870; 152 USPQ 563]

1. TRADEMARK—REGISTRABILITY—DESIGN PATENT DOES NOT PRECLUDE REGISTRATION—*In re Mogen David Wine Corp.* CONSTRUED.

"On appeal this court in *In re Mogen David Wine Corp.*, 51 CCPA 1260, 328 F.2d 925, 140 USPQ 575, held, in substance, that the existence of the design patent did not preclude appellant's right to register on the Principal Register * * *."

2. SAME—SECONDARY MEANING—EVIDENCE—AFFIDAVITS OF CUSTOMERS—DECANTER BOTTLE.

"We agree with the Board that the affidavits submitted by appellant leave much to be desired in the way of substantial proof that the container itself had run the gamut of acquiring a secondary meaning. The approximately fifty affiants, customers of appellant, located generally throughout the United States, executed affidavits similar in language and purport which had been prepared and submitted by appellant. In substance, they amounted to hardly more than a *carte blanche* approval of that which had been formulated by a party naturally and understandably desirous of serving its own interest."

3. SAME—SAME—SAME—SAME—SAME.

"As we have heretofore noted, the decanter in issue when displayed in advertisements, promotional literature as well as in the market place is embellished with a cellulose band at the neck of the bottle with the words "MOGEN DAVID" thereon and a label prominently featuring the trademark MOGEN DAVID. As far as the record shows from the advertisement and promotional material and point of sale display, affiants never saw the decanter without the neck band or label or had called to their attention the allegedly unusual configuration of the decanter. We think it reasonable to assume, therefore, as did the Board, that the affiants' association of the decanter with appellant was predicated upon the impression imparted by the mark MOGEN DAVID and other descriptive material appearing thereon rather than by any distinctive characteristic of the container *per se*."

4. SAME—SAME—DECANTER BOTTLE FOR WINES.

"* * * we are not persuaded on the record herein that the decanter bottle creates a commercial impression separate and apart from the word marks appearing thereon and serves, in and of itself, as an indication of origin for applicant's wine."

APPEAL from the Patent Office. Serial No. 73,406.

AFFIRMED.

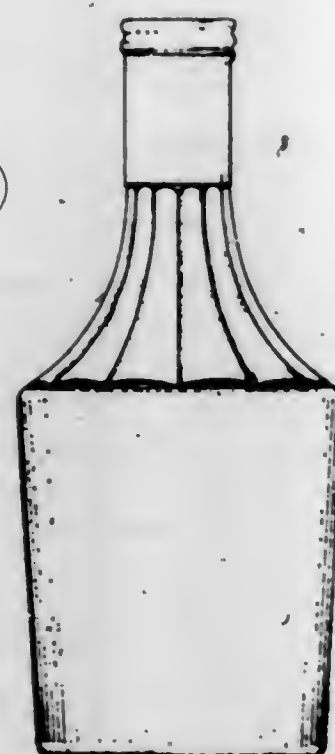
Sidney Wallenstein (Ben Cohen, Charles B. Spangenberg, of counsel) for appellant.

Joseph Schimmel (George C. Roeming, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK¹ ALMOND, *J.*, delivered the opinion of the court.

Mogen David Wine Corporation appeals from the decision of the Trademark Trial and Appeal Board refusing to grant registration on the Principal Register of the configuration of a decanter bottle as a trademark for wines.

The application² drawing depicts the bottle as follows:



Appellant contends that the evidence adduced proves that the mark sought to be registered has acquired, for wines, a secondary meaning. The Examiner found the evidence insufficient to support this contention. On appeal the Board refused to consider the evidence adduced but held that a then existing, but now expired, design patent³ covered the decanter bottle of the instant application and that the bottle configuration "is precluded as a matter of law during life of the design patent from constituting subject matter which may properly be registered on the Principal Register." [1] On appeal this court in *In re Mogen David Wine Corp.*, 51 CCPA 1260, 328 F.2d 925, 140 USPQ 575, held, in substance, that the existence of the design patent did not preclude appellant's right to register on the Principal Register, and remanded the case to the Board "for decision on the factual issue as to whether the evidence submitted is sufficient to establish that appellant's bottle design functions as a trademark to indicate origin" (pp. 1268-69). In its decision on remand from this court the Board affirmed the Examiner's refusal of registration on the ground of insufficient evidence of secondary meaning. It is from the latter decision that the instant appeal has been taken.

In his brief on behalf of the Commissioner of Patents and in argument before us, the Solicitor challenges "as clearly erroneous the law of the case as established by the majority opinion in appeal No. 7085. *In re Mogen David Wine Corp.*," supra. Suffice it to say that in reaching our decision in appeal No. 7085, we considered, as we do in the instant appeal, the authorities cited and the arguments made

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² Serial No. 73,406, filed May 11, 1959.

³ No. 158,213, issued April 18, 1950, for a term of 14 years.

as to their relevancy to the issue raised. We are not persuaded of error in our former decision, and consequently we adhere thereto. This conclusion disposes of the motion filed by appellant on October 7, 1966 to strike certain parts of the brief for the Commissioner of Patents filed September 12, 1966, and taken under advisement by us by order dated October 31, 1966.

The sole issue, therefore, is whether the configuration of appellant's decanter bottle has acquired a secondary meaning under section 2(f) of the Lanham Act so as to function as a trademark identifying appellant's wines and distinguishing them from those of others.

The factual situation found by the Board and accepted by us is as stated in our opinion in appeal No. 7085, supra, at page 1262. We incorporate same herein by reference.

We have examined appellant's advertising and promotional material appearing of record. We find therein no promotion advertisement or display of the container configuration per se as an indication of the origin of the wines. While a decanter bottle of wine is featured, there is nothing to indicate that the container has been promoted separate and apart from the word mark "MOGEN DAVID." We are unable to find a single reference to the container itself. Prominently displayed on the wine-filled container in every instance is "MOGEN DAVID WINE." The Board noted, as do we, the reference to "Package Personality" in the publications "Wines & Vines" and "Spirits." The reference is not to the bottle itself but to the complete package which consists of the container, the prominently displayed label, and the cellulose band at the top of the bottle with the words "MOGEN DAVID" and the figure of a star embracing the letters "MD."

[2] We agree with the Board that the affidavits submitted by appellant leave much to be desired in the way of substantial proof that the container itself had run the gamut of acquiring a secondary meaning. The approximately fifty affiants, customers of appellant, located generally throughout the United States, executed affidavits similar in language and purport which had been prepared and submitted by appellant. In substance, they amounted to hardly more than a carte blanche approval of that which had been formulated by a party naturally and understandably desirous of serving its own interest. These affidavits contained the statement:

That, to the best of my knowledge and belief, up until only a relatively short time ago, the only wines which were sold in decanter bottles having the shape or substantially the shape of the current decanter bottle in which Mogen David Wines are sold were wines bottled and sold by the concern which bottles and sell[s] Mogen David Wines.

We do not consider the Board's evaluation of the evidentiary efficacy of these affidavits to be in deprecation of the veracity of affiants. The Board reasoned that the obvious inference from the statement is that others "are or had been selling wines in decanters similar to that of" appellant and that when such use first began is not ascertainable from the vagueness and ambiguity of the phrase "until only a relatively short time ago." It would seem reasonable to assume that those affiants engaged in the retail sale of wines could and would have indicated with some degree of particularity the time when usage by others came to their attention. In its assessment of the probative worth of these affidavits, we think the Board was warranted in its observation that:

The phrase "until a short time ago" appears to have been tailored to meet the recollection of the affiants as a group rather than to reflect the memory of each

individual, and this leads us to question whether this statement made by the affiants was truly their personal recollection and experience or was it merely something related to them by applicant.

Each affidavit contains the following statement or one in similar substance and purport:

When I saw the wine bottled and sold in bottles of the shape of the above-mentioned decanter, I associated said wines with just one company, and that company is the one which sold and sells Mogen David Wines.

[3] As we have heretofore noted, the decanter in issue when displayed in advertisements, promotional literature as well as in the market place is embellished with a cellulose band at the neck of the bottle with the words "MOGEN DAVID" thereon and a label prominently featuring the trademark MOGEN DAVID. As far as the record shows from the advertisement and promotional material and point of sale display, affiants never saw the decanter without the neck band or label or had called to their attention the allegedly unusual configuration of the decanter. We think it reasonable to assume, therefore, as did the Board, that the affiants' association of the decanter with appellant was predicated upon the impression imparted by the mark MOGEN DAVID and other descriptive material appearing thereon rather than by any distinctive characteristic of the container per se.

The Board reasoned that inasmuch as the decanter in issue, unlike the "PINCH" whiskey bottle, is not susceptible to verbal description, it is more than likely that appellant's wine would be called for and requested by the trademark MOGEN DAVID.

On the basis of the facts of record here presented, we are in agreement with the Board that:

Under such circumstances and since most of the assertedly distinctive features of applicant's decanter are somewhat obscured or hidden when it is filled with wine and adorned with the neck band and label, it is our opinion that the average purchaser is likely to recognize and identify applicant's wine by the written matter and pictorial representations prominently displayed on the label and neck band rather than on the configuration of the rather prosaic bottle, per se.

[4] Accordingly, we are not persuaded on the record herein that the decanter bottle creates a commercial impression separate and apart from the word marks appearing thereon and serves, in and of itself, as an indication of origin for applicant's wine.

The Board's decision refusing registration is affirmed.

AFFIRMED.

SMITH, J., concurring.

I agree with the majority's conclusion that our previous decision in *In re Mogen David Wine Corp.*, 51 CCPA 1260, 328 F.2d 925, 140 USPQ 575, should be adhered to. Thus the existence of a design patent at one time does not automatically preclude appellant's right to register a device on the Principal Register.

The Solicitor, however, in a very extensive brief filed in the present appeal argues that our previous decision is "erroneous" in view of the Supreme Court's decisions in *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 140 USPQ 524, and *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 140 USPQ 528.

In disagreeing with the Solicitor on this issue, the majority apparently rests on the reasoning previously advanced in the *Mogen David* opinion. Since our prior decision did not expressly consider *Sears* and *Compco*, which were decided at about the time our previous decision

was released, I would like to state my views. The Supreme Court in the *Sears* and *Compco* cases considered that both presented the same issue for decision, i.e., "whether the use of a state unfair competition law to give relief against the copying of an unpatented industrial design conflicts with the federal patent laws." *Compco*, supra, 376 U.S. at 234, 140 USPQ at 529. It held, in both cases, that a conflict existed. The decisions were not concerned with federal trademark law although Professor Derenberg has stated there is "much language, in Mr. Justice Black's sweeping opinions, which cannot be easily harmonized with" certain portions of the opinion in *Mogen David*. 54 Trademark Rep. 660, 665 (1964).⁴

Very little is said in either the *Sears* or the *Compco* opinion concerning trademarks. While the court did set forth the boundaries between federal patent laws and state unfair competition law, it is my conclusion that the Supreme Court did not purport to consider or decide the boundaries between federal patent law and federal trademark law.

Do the *Sears* and *Compco* cases indicate that there is a potential conflict between federal patent laws and federal trademark laws? I think not. Congress, in 35 U.S.C. 171, provided that the inventor of a "new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements" of title 35. Congress provided, in the Trademark Act of 1946, section (1) (15 U.S.C. 1051), that "the owner of a trademark used in commerce may register his trademark under this Act on the principal register." Congress also stated, in section 45 (15 U.S.C. 1127), that "The term 'trademark' includes any word, name, symbol or device or any combination thereof adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others." Further, "No trademark * * * shall be refused registration on the principal register on account of its nature" unless it is barred from registration under section 2 (15 U.S.C. 1052).

The purpose of federal design patent laws is to encourage the creation of ornamental designs. The inventor receives, for a limited period, a federal right to exclude others from making, using, or selling the patented design throughout the United States. Upon expiration of the design patent this federal right no longer exists. Thus the inventor loses this exclusive right or interest.

Federal trademark laws, independent in origin from design patent law, have the dual purpose of protecting both the trademark owner and the public from confusion, mistake and deception. The public interest under the federal trademark laws has two aspects. In addition to protection from confusion, mistake and deception, the public, which includes competitors of the owner of a trademark, has an interest in the free use of words, names, symbols, devices or combination thereof which do not serve as trademarks.

Thus substantial public and private interests exist in both federal design law and trademark law. It seems to me that the heart of the controversy here is the duration of these interests. Federal design law provides for a limited period as to the inventor, which has been set

⁴ Other comments are expressed in the following articles: Derenberg, The Eighteenth Year of Administration of the Lanham Trademark Act of 1946, 55 Trademark Rep. 609 (1965); Zelnick, Registrations of Configurations of Goods and Containers in the Light of the *Sears* and *Compco* Decisions, 55 Trademark Rep. 833 (1965); 53 Geo. L. J. 520 (1965); 55 Trademark Rep. 1032 (1965). See also Dulin, Statutory Design-Rights: Solution to the Unfair Competition of Piracy, 56 Trademark Rep. 158, 171 (1966). See infra, fn. 6.

by Congress. Federal trademark law, however, provides for the grant of rights to the trademark owner for an indefinite time period. Absent certain abuses by a trademark owner and assuming use in a trademark sense, the duration of a trademark depends on public recognition that the trademark identifies the user's goods and distinguishes them from the goods of others. Trademark law is replete with instances where the public has both "created" and "destroyed" the trademark rights which are subject to registration, and this has been done *independently* of any action or inaction by the trademark owner. Thus Congress has stated, in effect, that interests in certain designs are created and protected independently of any public recognition or acceptance of the design and that interests in the trademarks recognized by the public will be protected only for as long as the public recognizes that interest. See 15 U.S.C. 1064.

In challenging our previous decision in *Mogen David* as being erroneous, as a matter of law, the Solicitor argues that certain considerations are irrelevant. Thus we may assume that the shape of the container identifies that company's goods and distinguishes them to the public from those manufactured or sold by others. We may also assume that if the container was used by others for the sale of *those* goods, confusion, mistake and deception to the public would result.

I would like to focus at this point on what appellant seeks to register. It is a particular container shape for "Kosher and Kosher Type Wines," amended at the Examiner's suggestion, to "Wines." Thus all appellant asserts is the right to register the shape of the container as a trademark for its wines for the reason that it serves to identify its wines and distinguish them from those of others. In no sense is there any assertion of an interest in the container shape *per se* for all uses. Comparing design and trademark law,⁵ federal design law did give appellant a limited right to exclude others concerning the container shape, regardless of the goods associated with the container and any public recognition or acceptance of the design, while federal trademark law would yield only the following:

Sec. 32(1) (15 U.S.C. 1114(1)). *Remedies—Infringement.*

Any person who shall, without the consent of the registrant—

(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

(b) reproduce, counterfeit, copy or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive;

shall be liable in a civil action by the registrant for the remedies hereinafter provided * * * [Emphasis added.]

⁵ We stated, in *In re Deister Concentrator Co.*, 48 CCPA 952, 962, 289 F.2d 496, 129 USPQ 314, 319:

* * * the only significance of the existence of an expired patent on the article copied is that it adds another reason for saying that the public has the right to copy it, it being basic to the patent system that the public may copy when the term of a patent comes to an end, with certain exceptions. However, the right to copy is not derived in any way from the patent law; it is a right which inheres in the public under the general law except to the extent the patent law may remove it. The same is true of copyrights. When a temporary incursion on the public rights ends, the public right remains. No new right is born. [Emphasis added.]

Concerning trademarks, the public interest in copying yields to the public interest of preventing confusion, mistake and deception in commerce independently of any benefits that may accrue to the trademark owner.

Thus appellant seeks protection for what it asserts amounts only to the public acceptance of its container shape as a trademark for wines.

The Solicitor's rather extensive brief arbitrarily decides that this appeal involves federal patent rights. From this arbitrary premise, it proceeds to a consideration of the patent statutes and then to a host of cases involving patents. The general conclusion extracted from this conglomeration is that *all* the patentee's interests expire after the patent term provided by Congress. Therefore appellant can have no other interest of any kind in the container shape. And as if to impress upon us the consequences of our decision, the Solicitor's brief contains one recurring allegation: Appellant here seeks "a potentially perpetual monopoly," and a "perpetual patent." Whatever the meaning intended by these terms, it must be repeated that what appellant seeks here is nothing more than a federal registration of a particular container shape because it allegedly serves as a valid trademark for wine, i.e., a continuing legal right to prevent others from applying that trademark to similar goods in commerce and creating for the public an area of confusion, mistake and deception as to the source or origin of the goods so identified.

The consequences of the reasoning urged by the Solicitor would be to place the federal patent law and the federal trademark law in direct conflict. In fact the Solicitor implies that a novel forfeiture doctrine exists, i.e., that one who *seeks* design patent protection, whether successful or not, forfeits all future trademark rights, both under the federal law as well as at common law. Trademark rights depend upon public acceptance and recognition, not upon what applications for federal patents have been made or who made them.

It seems to be that there is a public interest in trademarks manifested in the prevention of confusion, mistake and deception in the sale of goods. Congress has provided, by authority of the commerce clause of the Constitution, for federal recognition of this public interest when its existence has been proven. Yet the regulation of commerce as provided by Congress through federal trademark laws to prevent confusion, mistake and deception is in effect ignored by the Solicitor. It seems to me that the Supreme Court in *Sears and Roebuck*, in expressly relying on the federal policy underlying patents, would require and must yet face the task, should it arise, of also considering the federal policy underlying trademarks.⁶

The Solicitor's brief portrays appellant as attempting to extract something from the "public domain," contrary to federal law. If the public recognizes and accepts appellant's container shape in a trademark sense, appellant seeks only federal recognition of that public interest. It is the public that is protected. Of course this may operate against competitors and potential competitors who wish to trade on appellant's goodwill by copying the container shape for the sale of wines. I see no valid interest in permitting this very minute class to create confusion, mistake or deception by copying, merely because the thing copied was once patented or sought to be patented under federal design law. Copiers should not be given rights in derogation of the public interest. Federal trademark laws take nothing from the "public domain"; rather, they give federal recognition to existing interests, both private and public. Society's acceptance of law and order

⁶ See Lunsford, *The Protection of Packages and Containers*, 56 Trademark Rep. 567 (1966); compare Leeds, *The Impact of Sears and Roebuck*, 55 Trademark Rep. 188 (1965). See also the authorities cited, *supra*, fn. 4.

depends on sound decisions. It will not be advanced by holding that confusion, mistake and deception are *necessary* in order to prevent appellant from allegedly extracting something from the "public domain."

Perhaps the Solicitor's argument is that the public has the "right" to be confused, mistaken or deceived, or that recognizing the narrow interest of trademark owners in preventing confusion, mistake and deception is so great an "evil" that sacrificing the public interest is a small price to pay. It seems to me that confusion in commerce would be an unnecessary and great price to pay.

I have purposely avoided use of the terms "functional" and "non-functional," not presented in this case. Instead I have relied heavily on a general consideration of the basic interests involved in this argument. I conclude from these considerations that the federal patent laws and trademark laws are not in conflict. Appellant is thus not barred from seeking federal protection for what the public recognizes as a trademark.

As to whether appellant has proven that the container shape serves as a trademark, I agree with the conclusions of the court. It does not seem to me that the evidence submitted is either of such character or weight as to sustain appellant's burden of proof on this issue. I do not rest my conclusions on the form of affidavit used. It seems to me that a much larger cross section of public impression needs to be shown. Certainly the import of the alleged mark on the dealer and consumer, with emphasis on the latter as to the impression of the container shape, must be shown. I also find no fault with the fact that the container is always associated in commerce with the trademark "Mogen David" on a label affixed to the container. Such marking is required by provision of the federal alcoholic beverage laws. Thus the issue here comes down simply to a question of whether appellant has met its burden of proof to establish that its container shape did in fact identify its wines.⁷ In this regard I find the evidence insufficient to show that the container shape operates in a trademark sense to identify and distinguish appellant's wines from those of others.

I therefore concur in the result reached by the majority.

⁷ See Lunsford, *supra*, fn. 6, 56 Trademark Rep. at 572-73, for a review of instances where containers have been registered on the Principal Register.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,748,001, Anderson and Rawlings, FEED SUPPLEMENTS FOR RUMINANTS; 2,807,546, same, VITAMIN ADDITIVES, filed Apr. 16, 1965, D.C., C.D. Calif. (Los Angeles), Doc. 65-592MC, Frank N. Rawlings v. National Molasses Co. et al. Stipulation and order dismissing case with prejudice, Feb. 8, 1966; order on motion of plaintiffs, dismissing this action, Dec. 21, 1966.

2,772,419, M. Silverstein, LADIES' UNDERGARMENT, filed Sept. 29, 1965, D.C., S.D.N.Y. Doc. 65-C-2913, Murray Silverstein v. Son-Jay Mills, Inc. Order dismissing complaint and counterclaim with prejudice, May 24, 1967.

2,807,546. (See 2,748,001.)

2,825,006, J. W. Kalb, LIGHTNING ARRESTERS; 3,019,367, Same, LIGHTNING ARRESTER AND GAP UNIT THEREFOR, filed Mar. 29, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67-218, The Ohio Brass Co. v. General Electric Company.

2,877,577, H. Jacobson, POLYTETRAFLUOROETHYLENE PRESSING ACCESSORY; 3,142,916, S. Jacobson, ACCESSORY FOR GARMENT STEAMING DEVICES, filed Feb. 10, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65-224-TC, Sidney

Jacobson v. Bishop Freeman Co., Nevell & Associates, Inc. Consent judgment dismissing this action with prejudice, Mar. 15, 1967.

2,895,758, O. A. Wright, MECHANICAL COMPENSATOR, filed Sept. 28, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-1327WB, O. A. Wright v. Borg-Warner Corporation. Order dismissing this action with prejudice, Mar. 9, 1967.

2,941,785, A. W. Kammerer, EXPANSIBLE ROTARY DRILL BIT, filed Feb. 6, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-169-EC, Rotary Oil Tool Company v. Oteco Inc., doing business as Oil Tool Engineering Co. and Ben H. Fuchs. Stipulation and order; plaintiff's patent valid; defendants enjoined, Mar. 2, 1967.

2,987,440, Junkmann, Kathol and Richter, INJECTABLE HORMONE PREPARATIONS, filed June 23, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65-981WB, Olin Mathieson Chemical Corporation v. Maurry Biological Co., Inc. Consent judgment and order; defendant enjoined, Mar. 7, 1967.

3,000,576, Levey and Harvey, SPRAY GUN, filed May 26, 1967, D.C., N.D. Tex. (Dallas), Doc. CA3-2069, The Spee-Flo Manufacturing Corporation v. The Aro Corporation.

3,004,298, R. N. Haynie, METHOD FOR MAKING FLUID SEALS, 3,010,748, same, RADIAL SHAFT SEAL WITH RESILIENT SEALING ELEMENT BONDED TO AN ANGULARLY EXTENDING PERIPHERAL CASE PORTION, filed Jan. 5, 1965, D.C., E.D. Mich. (Detroit), Doc. 26229-C, Federal-Mogul-Bower Bearings, Inc. v. Yale Rubber Manufacturing Co. Stipulation and order of dismissal without prejudice, May 25, 1967.

3,010,748. (See 3,004,298.)

3,019,367. (See 2,825,008.)

3,091,360. (See 3,139,213.)

3,104,274, G. W. King, SAFETY ATTACHMENT FOR REAR VIEW VEHICLE MIRRORS, filed Nov. 7, 1963, D.C., S.D. Calif. (Los Angeles), Doc. 63-1348-CC, Garner W. King and Safe-See, Inc. v. William S. Pardee et al. Judgment; plaintiff permanently enjoined, Mar. 14, 1967.

3,139,213, B. Edwards, NESTABLE CUP; 3,091,360, same, filed May 26, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c888, Maryland Cup Corporation et al. v. Illinois Tool Works, Inc.

3,142,916. (See 2,877,577.)

3,155,106, A. M. Baron, DISHWASHER DRAIN AIRGAP, filed May 6, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65-684-DW, U.S. Brass Corp. v. American Metal Products Corporation. Consent judgment; defendant enjoined, Mar. 10, 1967.

3,250,605, B. Elsenstadt, SWEETENING COMPOSITION, filed May 25, 1967, D.C., S.D. Fla. (Miami), Doc. 67-559-CA, Cumberland Packing Co. v. Sunaid Food Products, Inc.

3,310,268, H. Kramer, HINGE BRACKETS, filed May 26, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C-505, Hyman Kramer, et al. v. Times Sq. Stores, Inc.

3,312,218, A. G. Jacobs, MOUTH PROTECTOR, filed May 24, 1967, D.C., W.D. Wis. (Madison), Doc. 67-C-55, Madison Dental Company, Inc. v. Mueller Chemical Company, Inc. and Curt Mueller.

3,319,369, K. H. Severson, HOLDER, filed May 23, 1967, D. C. Minn. Doc. 4-67-C-133, Severson Products Company v. Service Record, Inc., and Plastic Products Company, Inc.

D.199,141, W. E. Curry, LAMP, filed Oct. 4, 1965, D.C., S.D.N.Y., Doc. 65-C-2980, Design Line, Inc. v. Laurel Lamp Mfg. Co., Inc. Consent judgment; order dismissing action, May 25, 1967.

REISSUES

SEPTEMBER 5, 1967

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,260

PROCESS UTILIZING THE COMBINATION OF MISCIBLE AND THICKENED FLOODS IN PETROLEUM RECOVERY

Claude P. Coppel, La Habra, Calif., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Original No. 3,261,399, dated July 19, 1966, Ser. No. 289,090, June 19, 1963. Application for reissue Nov. 15, 1966, Ser. No. 597,501

6 Claims. (Cl. 166—9)

1. The process for recovering fluid hydrocarbons from subterranean formations having drilled therein at least one each of a production well and an injection well consisting essentially of

(a) injecting into the subterranean formation at least one slug of an emulsion,

(b) injecting into said formation at least one slug of a thickened flood material differing from said emulsion in character,

at least a portion of said material being incrementally diminished in viscosity from about that of the emulsion at the leading edge of the material to about that of a drive material at the interface between the thickened flood material and a drive fluid,

(c) injecting a drive fluid into the formation to displace hydrocarbons toward said production well, and
(d) recovering oil from said formation.

26,261

ANODIC PREVENTION OF HYDROGEN EMBRITTLEMENT OF METALS

Spencer W. Shepard, Plainfield, and Charles K. Aldrich, Buttzville, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original No. 3,147,204, dated Sept. 1, 1964, Ser. No. 10,861, Feb. 25, 1960. Application for reissue June 9, 1965, Ser. No. 462,769

7 Claims. (Cl. 204—147)

1. In the process of acrylonitrile synthesis, the method of preventing hydrogen deposition on ferrous metal surfaces in contact with an acrylonitrile solution containing cyanide, acetic acid and phosphoric acid impurities, which comprises immersing an inert electrical conductor in said acrylonitrile solution, and establishing an electrical potential in the range of 1 to 10 volts between said conductor and said ferrous metal surface, whereby said surface is maintained continuously anodic in electrical potential relative to said solution, said electrical potential serving to establish a current density such that the ferrous metal surface is continuously dissolved into said solution by induced corrosion, said induced corrosion being of a small and essentially negligible order of magnitude.

26,262

PORTABLE STAPLER WITH PNEUMATIC DRIVE AND RETURN

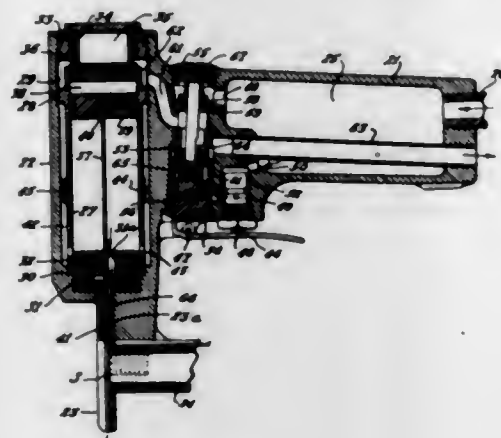
Albert G. Jullfs, Anderson Township, Hamilton County, Ohio, assignor to Senco Products, Inc., Fairfax, Ohio, a corporation of Ohio

Original No. 2,983,922, dated May 16, 1961, Ser. No. 809,129, Apr. 27, 1959. Application for reissue Mar. 24, 1966, Ser. No. 544,639

19 Claims. (Cl. 227—130)

19. In a pneumatically operated device, a cylinder provided with a head, a piston slidable in said cylinder, re-

leasable means operative independent of air pressure normally to hold said piston in a retracted position, travel limiting means for said piston, the surface of said travel limiting means which contacts said piston being less in area than said cylinder, means for admitting air under pressure from a source to said cylinder so as to overcome said releasable means and drive said piston from said retracted position to said travel limiting means, a port in said cylinder adjacent said travel limiting means and disposed just below the surface of said piston when said piston has abutted said travel limiting means, a reservoir connected to said port, a second port connected to said reservoir and to a source of air under pressure, a valve for said second port for admitting air under pressure to



said reservoir when said piston abuts said travel limiting means, the air under pressure in said reservoir acting upon the lower surface of said piston via said first mentioned port, and a passage from said cylinder for air beneath said piston when said piston is in its retracted position, said piston operative when seated on said limiting means by said air under pressure to effect a shut-off valve to said passage whereby said passage is sealed while air is admitted to said reservoir through said second port, whereby when air pressure is no longer admitted to said cylinder and said air pressure is diminished, the air under pressure in said reservoir causes said piston to return to retracted position where it is held independent of air pressure by said releasable means, excess air in said reservoir and cylinder exhausting through said passage.

26,263

PROCESS FOR NIXTAMALIZING WHOLE GRAIN HAVING AN INHERENT MOISTURE CONTENT

Manuel G. Madrazo and Guillermo A. Cortina, Mexico City, Mexico, assignors, by mesne assignments, to Process Millers, Inc., Santa Maria, Calif., a corporation of Nevada

Original No. 3,117,868, dated Jan. 14, 1964, Ser. No. 141,472, Sept. 28, 1961. Application for reissue Jan. 7, 1966, Ser. No. 526,937

7 Claims. (Cl. 99—80)

8. In a process for treating whole grain (having an inherent moisture content) the improvement which comprises: contacting said whole grain with an alkaline substance selected from the group consisting of calcium hydroxide, sodium hydroxide, potassium hydroxide, soluble phosphate salts, and ammonia in a closed system having

SEPTEMBER 5, 1967

U. S. PATENT OFFICE

17

a temperature of between about 50° C. to 100° C., the amount of water present in said system, including that present as inherent moisture in said whole grain, weighing more than about 15% and less than 35% by weight of said whole grain (wet basis); and maintaining said con-

tact for a period of at least about ten minutes to cause said treated grain to absorb substantially all of the water initially present in said system during its period of contact and to thereby contain from between about 15% to 35% water (wet basis).

PLANT PATENTS

GRANTED SEPTEMBER 5, 1967

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,764

ROSE PLANT

Marie Louise Meilland, Cap d'Antibes, Alpes-Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed June 2, 1966, Ser. No. 554,914

1 Claim. (Cl. Plt.—9)

A new and distinct variety of rose plant of the miniature class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous habit of growth for a rose of this type, production of relatively large flowers of high-centered form at the beginning, but becoming flat, with the petals loosely rolled outward from the beginning to maturity, a relatively high flower petal count usually ranging between 65 and 75 petals and a distinctive and attractive Salmon Pink general color tonality of the flowers.

2,765

ROSE PLANT

Marie Louise Meilland, Cap d'Antibes, Alpes-Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed June 24, 1966, Ser. No. 560,395

Claims priority, application France, July 26, 1965,

46,256

1 Claim. (Cl. Plt.—18)

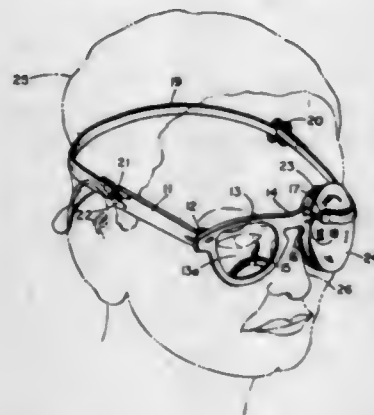
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous habit of growth, excellent production of flowers when grown under glass for cut flowers, a large size and attractive shape of the flowers, a distinctive, attractive, luminous and uniform very light pink general color tonality of the flowers, with equal color intensity both inside and outside thereof and excellent keeping qualities of the flowers as cut flowers.

PATENTS

GRANTED SEPTEMBER 5, 1967

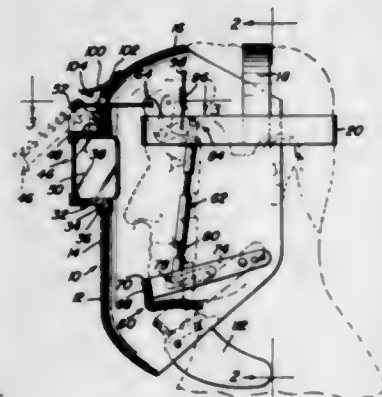
GENERAL AND MECHANICAL

3,339,206
POST-OPERATIVE EYEGLASS
Henry G. Daley, 14 Rhodes Ave.,
Lynn, Mass. 01904
Filed Dec. 4, 1964, Ser. No. 415,879
4 Claims. (Cl. 2-2)



1. A post-operative eyeglass frame comprising a temple portion, a single lens chassis having a lens therein, hinge means connecting said temple portion to one side of said chassis, a nose bridge portion extending from the other side of said chassis, a nose pad portion depending from said chassis, a headband extending from said nose bridge portion to said temple portion, and an eye pad adapted to be releasably retained by said strap against a wearer's eye adjacent said nose bridge portion.

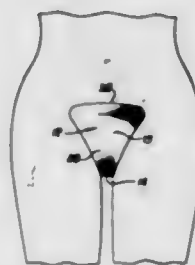
3,339,207
CHIN ACTUATED WELDING HOOD
Harry J. Perry, St. Charles, Mo., assignor of ten percent
to Allen J. Perry, St. Charles, Mo.
Filed June 1, 1965, Ser. No. 460,069
9 Claims. (Cl. 2-8)



1. In a protective hood including a frontwardly directed opening for allowing a wearer to see out of the hood, the improvement comprising a chin rest adapted for engagement with the wearer's chin, arm means, means pivotally mounting said arm means on said hood adjacent the rear edges of the hood for pivotal movement about substantially the same axis as the jaw of a wearer, said arm means supporting said chin rest for pivotal movement in response to movement of the wearer's jaw and about generally the same axis, motion transmitting means operatively connected to said chin rest, eye shielding means, means hingedly mounting said eye shielding means on the exterior of said hood adjacent said opening and adapted

to selectively close said opening, said motion transmitting means being in engagement with said eye shielding means exteriorly of the hood whereby movement of the wearer's jaw is transmitted to said eye shielding means, said eye shielding means including detent means thereon, catch means, means mounting said catch means on the hood in position for releasable engagement with said detent means whereby said eye shielding means will be retained in open position when said catch means is in engagement with said detent means.

3,339,208
BATHING BRIEF OR LIKE CLOTHING ARTICLE
Raymond L. Marbach, 5463 Penfield Ave.,
Woodland Hills, Calif. 91364
Filed Oct. 24, 1965, Ser. No. 504,467
3 Claims. (Cl. 2-67)



1. In a bathing brief or the like: a spring member having an anterior portion, a crotch portion and a posterior portion; the anterior and posterior portions having free ends terminating substantially at the same level above the crotch portion, said crotch portion being resilient whereby movement of said anterior and posterior portions away from each other is yieldingly opposed; said anterior portion having sides diverging in a direction toward the free end of said anterior portion; the ends of said anterior and posterior portions being located to engage adjacent the area of the pubic bone and the sacrum respectively of the body of the wearer; said spring member having sides contoured to extend substantially along the line joining the legs and the body; said anterior and posterior portions being joined together only through said crotch portion; a flexible sleeve-like enclosure for detachably receiving said spring member, one end of said enclosure being closed and conforming to the configuration of said posterior portion, the other end of said enclosure providing an opening and conforming to the configuration of said anterior portion, said opening being restricted relative to the maximum width of said anterior portion whereby said enclosure is latched by said spring member and whereby said enclosure is maintained under longitudinal tension.

3,339,209
ONE-PIECE GARMENT
Hester E. Larson, 35 S. Bothwell,
Palatine, Ill. 60067
Filed Feb. 23, 1965, Ser. No. 434,433
4 Claims. (Cl. 2-74)

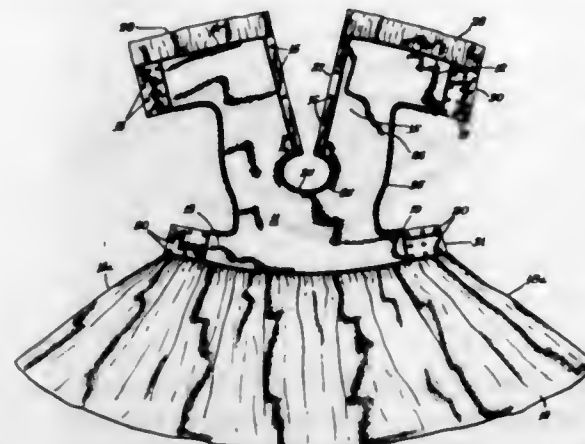
1. An article of clothing for an individual, which article comprises: an over front bodice portion having two back bodice portions longitudinally closable at about the

SEPTEMBER 5, 1967

GENERAL AND MECHANICAL

19

center back line and contiguous at the top thereof with said over front bodice portion, two under bodice portions longitudinally closable at about the center front line and contiguous under the arms with said back bodice portions respectively contiguous at the bottom thereof, two waistband portions longitudinally closable at about the center



back waistline and contiguous with the bottom of the over front bodice portion, and a skirt portion contiguous at the bottom of the waistband portions and having vertical side edges which are in juxtaposition in back of the individual when the skirt is worn thus permitting the skirt to be open in back merely by separating those side edges.

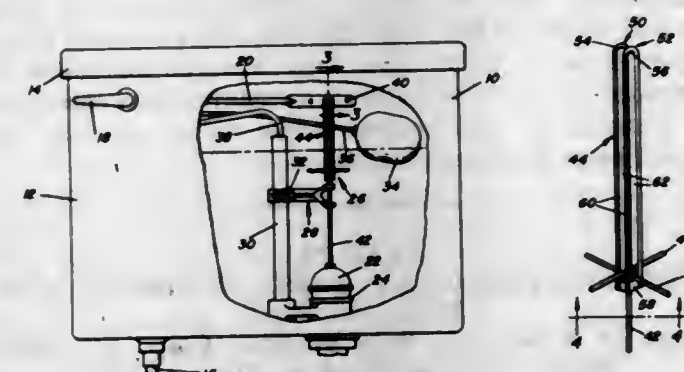
3,339,210
FOOT CONSTRUCTION AND METHOD
Joseph O'Neill, Phoenixville, Pa., assignor to National
Knitting Company, a corporation of Pennsylvania
Filed Sept. 27, 1966, Ser. No. 582,403
7 Claims. (Cl. 2-80)



1. A garment made of two-way stretch material having enclosed foot portions comprising
a front panel and a back panel, each having inside and outside surfaces,
said front panel having a left and a right tongue-shaped extension respectively forming a part of the left and the right leg of the garment each having a toe end, said back panel having a left and a right tongue-shaped extension respectively forming a part of the left and the right leg of the garment each having a toe end, said left and right back panel extensions being respectively longer as measured from the crotch end of the extensions than said left and right front panel extensions,
a first fold formed in each of said left and right back panel extensions with each first fold being in direction to tend to bring the inside surfaces of the respective back panels together,
a second fold formed in each of said left and right back panel extensions each closer to the toe end of its respective extension than the first fold, with each second fold being in direction to tend to bring the outside surfaces of the respective back panels to-

gether whereby each second fold is in opposite direction to that of its corresponding first fold to form a heel pocket and,
said left and right front extensions being sewn to said left and right back extensions respectively to tend to bring the inner surfaces of the extensions together thereby to form left and right enclosed foot portions respectively,
whereby in each leg portion (1) the first fold forms the back edge of said heel pocket (2) between each first and second fold there is formed a substantial portion of said heel pocket and (3) from said second fold to the remainder of said extension in the direction of the toe end there is formed substantially the sole portion of said foot portion.

3,339,211
FLUSH TANK BULB LINKAGE
Charles J. Wills, % Sonnemann & Corbell, 107 S. 4th St.,
Vandalia, Ill. 62471
Filed July 12, 1965, Ser. No. 471,237
11 Claims. (Cl. 4-67)

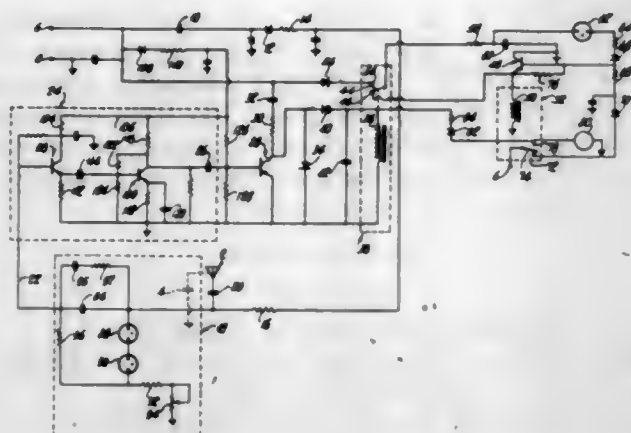


1. In a water closet flush tank including a handle, a lift arm mounted for vertical movement at one end in response to movement of said handle, a discharge port and a ball valve for selectively opening and closing said port, the improvement comprising depending guide bracket mounted on said lift arm for movement therewith, said guide bracket including a mounting ring means and upstanding guide means, said guide means being attached at its lower end to said mounting ring means, a valve stem attached at its lower end to said ball valve, said valve stem extending through said mounting ring and cooperating with said guide members whereby controlled relative motion between said guide bracket and said valve stem is possible, said valve stem and guide means including coacting means for allowing relative longitudinal sliding movement between said guide bracket and said valve stem while at the same time preventing rotational movement between said guide bracket and said valve stem.

3,339,212
AUTOMATIC FLUSHING SYSTEM
Carl E. Atkins, Montclair, and Robert L. Zolkowski,
South Plainfield, N.J., assignors to Wagner Electric
Corporation, a corporation of Delaware
Filed July 21, 1965, Ser. No. 473,608
12 Claims. (Cl. 4-100)

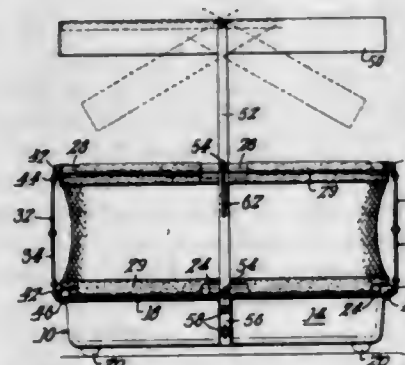
1. In an automatic flusher for urinals having a first control means that is responsive to the present and absence of an individual positioned for use of the urinal, a capacitor, a charging circuit for the capacitor which is closed by said first control means when an individual is so positioned, a second control means responsive to discharge of said capacitor when the individual moves away from said position, said second control means operative to cause flushing of the urinal, the improvement com-

prising means for preventing intermittent and incomplete flushing of the urinal when an individual moves into and out of position of use without remaining in such position for a predetermined time, said improvement including a discharge path for said capacitor by-passing said second control means and means responsive to a pre-



determined value of charge on said capacitor for blocking said discharge path whereby said second control means causes flushing of the urinal only when an individual has remained in said position long enough for the capacitor to be charged to said predetermined value and has then moved away from said position.

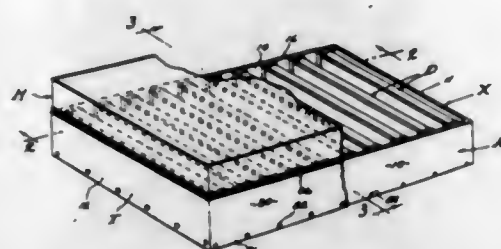
3,339,213
COMBINATION PLAY YARD, SANDBOX, AND WADING POOL
Aaron D. Spencer, % Baby Products Corp., 143 Shaker Road, East Longmeadow, Mass. 01028
Filed Sept. 14, 1964, Ser. No. 396,123
9 Claims. (Cl. 4-177)



1. An article of manufacture for the use of infants, comprising a substantially continuous foldable side wall forming an enclosure having a generally open top and bottom, a box-like member including a floor and up-standing walls with an open top, and means for detachably securing the foldable side wall adjacent its bottom to the walls of the box-like member at the tops thereof so that said side wall forms an extension thereof when the side wall is extended, means to hold the side wall extended, said enclosure being disposable in extended condition on a surface by itself without the box-like member for use as a play yard without a bottom, said folding side wall including a bottom frame and said box-like member including peripheral flange means extending outwardly from the upper portion thereof, said bottom frame and said peripheral flange means being provided with complementary convex and concave surfaces to facilitate ready mounting and dismounting of the side wall with reference to said box-like member.

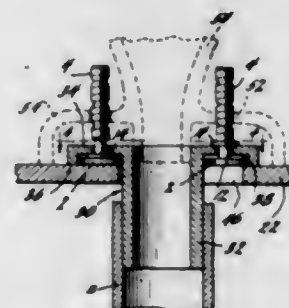
3,339,214
INDIVIDUALLY ADJUSTABLE SLEEPING EQUIPMENT
Melvin N. Janapol, Los Angeles, Calif., assignor to Wortso Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 28, 1966, Ser. No. 545,916
12 Claims. (Cl. 5-243)



1. A box-spring for the support of mattress padding and comprising, a frame with side rails and a plurality of sets of independently effective spring coils with an adjustably positionable support therefor and with a height limiting means yieldingly carried thereby, each of said sets of spring coils comprising at least a pair of laterally spaced springs with their lower and upper ends engaged yieldingly against the said support and height limiting means respectively, and there being opposed members at the opposite side rails respectively and each of said members including a vertical guide means engageably receiving both said support and said height limiting means to align the same and direct the depression of the latter against said spring coils.

3,339,215
SELF-RETAINING CLOSET BOLT
Thomas D. Flood, 3616 Ordway St. NW., Washington, D.C. 20016
Filed Jan. 3, 1965, Ser. No. 518,302
1 Claim. (Cl. 4-252)



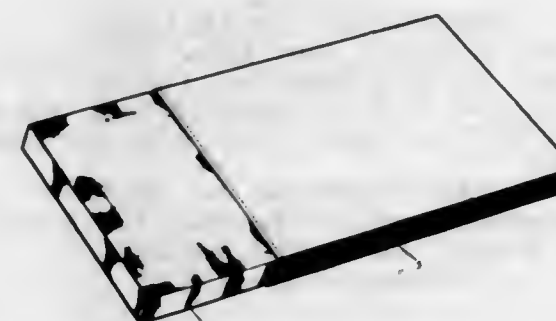
In the combination with a coupling for connecting a toilet bowl to a sewage system comprising a central tubular conduit having a radial flange with a downturned peripheral edge concentric with said conduit and a pair of arcuate slots having enlarged end openings formed in the radial flange and a toilet bowl mounted above said flange and provided with at least one bolt hole adapted to register with said slots; a self retaining bolt connecting said bowl to said coupling and passing through said slot in said flange and said bolt hole in said bowl, said bolt being inserted upwardly through said slot and said hole and including a generally oval head having a narrow axis dimension capable of fitting between said conduit and said downturned end of said flange and a longer axis dimension greater than the aforesaid spacing between said conduit and said flange, said bolt further including a threaded portion connected to said oval head by a shank having a diameter smaller than the diameter of the threaded portion and joined thereto in the area of a cir-

cumferential shoulder; said shoulder being spaced a substantial axial distance from said head; a thin metal washer having high resistance to bending mounted on said shank portion, said washer being provided with a central aperture having a diameter only slightly larger than the diameter of the shank portion, and smaller than the diameter of the threaded portion of said bolt so that it is loosely confined between said shoulder and said bolt head whereby when said bolt is inserted through said coupling flange, head down, said washer may be disposed above the top surface of said flange and bridge said slot to retain the bolt therein and whereby when said bowl is passed over the threaded portion of said bolt, turning motion applied to said bolt will engage said head with either the surface of the conduit or the inside of the downturned edge of said coupling flange to permit the attachment and tightening of a retaining nut on the threaded portion of said bolt.

ERRATUM

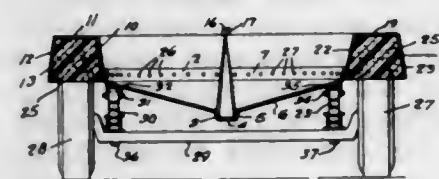
For Class 5-243 see:
Patent No. 3,339,214

3,339,216
MATTRESSES
George Eric Ormerod, Carnforth, England, assignor to Eric Ormerod Limited, Waterfoot, Rosendale, England, a British company
Filed May 5, 1965, Ser. No. 453,453
Claims priority, application Great Britain, May 26, 1964, 21,669/64; June 2, 1964, 22,713/64
5 Claims. (Cl. 5-347)



1. A mattress comprising a resilient pad of expanded plastic material, said pad having a series of perforations constituting air holes extending only between the top and bottom surfaces of the pad at that part of the pad intended to support the head of a user, the remainder of said pad being imperforate, an air-permeable textile sleeve open at one end enclosing the head-supporting part of the pad, and an impermeable elastomeric sleeve open at one end enclosing the remainder of the pad.

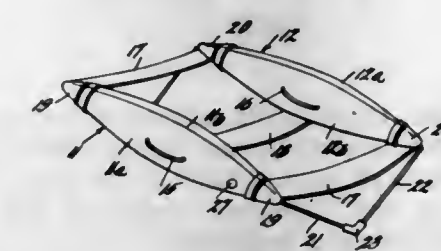
3,339,217
PORTABLE AND TOWABLE BOAT TRAILER
Clark Gudmundson, 267 East 550 North, Bountiful, Utah 84010
Filed Jan. 18, 1965, Ser. No. 426,131
6 Claims. (Cl. 9-1)



1. A towable boat trailer comprising a bottom having a rear edge, a pointed end and side edges extending from said rear edge to said pointed end, a pair of channel

members each having a flat top with sides extending therefrom providing an open bottom channel therebetween, each of said channel members having one of its sides extending along and fixedly joined to one of said bottom side edges, a pair of abutting joined flanges each fixedly joined to one of said channel side members at the pointed end of said bottom, a floatable material positioned in said open bottom channels, an axle resiliently connected to said bottom, wheels rotatably mounted on said axle and a tow bar fixedly joined to said bottom and extending therefrom.

3,339,218
SELF-INFLATABLE HOLLOW BODIES FOR USE AS FLOATS AND FOR LIKE PURPOSES
Paul Stamberger, 552 University Parkway, Baltimore, Md. 21210
Filed May 5, 1965, Ser. No. 453,328
4 Claims. (Cl. 9-11)

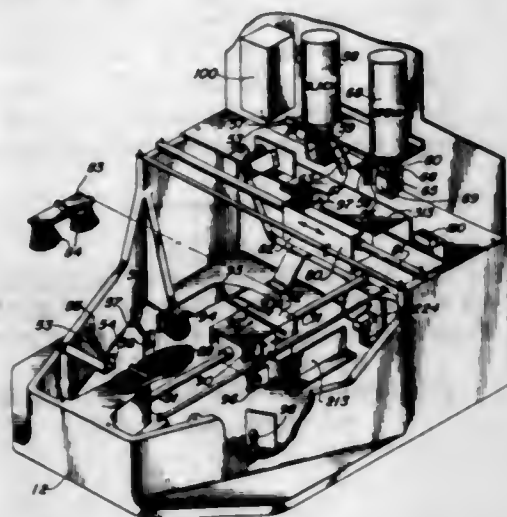


1. A float or the like device, comprising a hollow body of relatively stiff but flexible material and composed of a pair of opposed walls extending longitudinally of the body, one of said walls of said body having an air-admitting and escape opening formed therein, the wall of said body opposed to the first-named wall being flexibly joined along opposite longitudinal sides thereof to corresponding opposite sides of said first-named wall, to enable said second-named wall to be movable in opposite directions relative to said first-named wall by flexing said second-named wall toward and away from said first-named wall, said movement of said second-named wall in the direction away from said first-named wall being effective to suck air into said body and inflate the same, said movement of said second-named wall in the direction toward said first-named wall being effective to compress and deflate said body, closure means for said opening whereby to retain the inflated body in its pneumatic condition, and a weight-supporting flexible means connected to one of said walls of the body, said device being adapted to support its own weight and the weight held by said means.

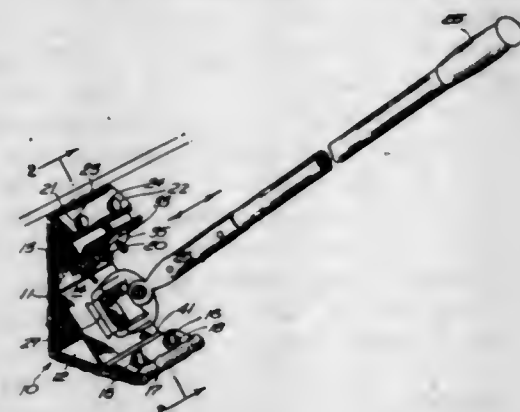
3,339,219
AUTOMATIC SHOE SHINE MACHINE
Gordon Byron Bast, Lombard, Ill., and Leo J. Fregeau, 6540 Pontiac Drive, La Grange, Ill. 60525; said Bast assignor to said Fregeau
Filed Feb. 12, 1965, Ser. No. 432,135
18 Claims. (Cl. 15-31)

1. An automatically cyclic shoe shining apparatus for at any one time receiving only one shoe and having means for sequentially cleaning, applying polish, and buffing said shoe and then repeating such sequence for a second presented shoe during the same cycle of automatic operation, said apparatus comprising:
an energized first lead,
a neutral second lead,
an aperiodic switching means for coupling energizing power to said first lead,
a plurality of switching devices divided into a first and second group, each switching device being coupled between said first and second leads,
a motor coupled between said leads by way of said switching devices,

cam linkage driven by said motor and connected to said switching devices for actuating said two groups at a fixed ratio such that the switching devices of said first group proceed through two cycles enabling

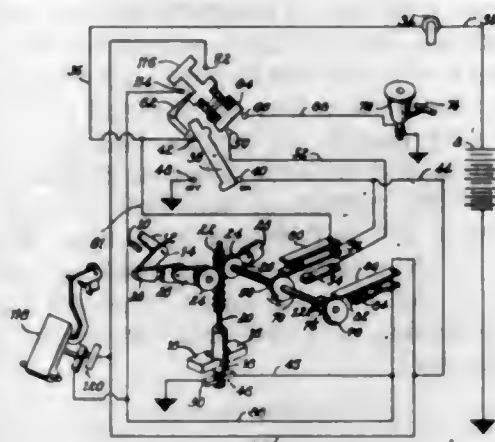


3,339,220
DEVICE FOR CLEANING CORNER SURFACES
Earl H. Barry, Marblehead, Mass., assignor to Bay State Mop Wringer Co., Inc., Wilmington, Mass., a corporation of Massachusetts
Filed Aug. 12, 1964, Ser. No. 389,070
5 Claims. (Cl. 15-233)



5. A hand tool adapted for the simultaneous contacting of intersecting surfaces, comprising a head formed to provide a pair of perpendicular flat supporting outer surfaces arranged to fit said areas to be contacted, an operating handle universally pivoted to and extending outwardly from said head and arranged to transmit a propellant force to said head to propel said tool along the areas to be contacted, adjustable pad engaging means secured to said head whereby a flexible contact pad may be extended across said outer surfaces of said head, and screw means for tensioning said pad by adjustment of at least one of said pad engaging means to secure intimate contact between said pad and the outer surfaces of said head; wherein said head further includes a brace portion securing the perpendicular arrangement of the outer surfaces of said head and wherein said screw means for tensioning said pad comprises a flange extending from said head and having an opening therein, a screw member passing through the opening therein, a nut threaded on said screw member bearing upon said flange to tension said pad upon rotation of said screw by moving at least one of said pad-engaging means.

3,339,221
INTERMITTENT WINDSHIELD WIPER SYSTEMS
Morris B. Wood, 26 Central St., Ipswich, Mass. 01938
Filed Mar. 11, 1965, Ser. No. 438,904
7 Claims. (Cl. 15-250.12)



1. A windshield cleaner having a wiper, a motor for operating the wiper in successive cycles, and an electrical circuit for the motor, in combination with variable rate timing means including a bimetallic strip flexed both by heat from the current consumed by the motor and by mechanical force derived from the motor during each cycle of wiper operation to open the circuit to the motor for a longer period of time when the motor current is higher and for a shorter period of time when the current is lower.

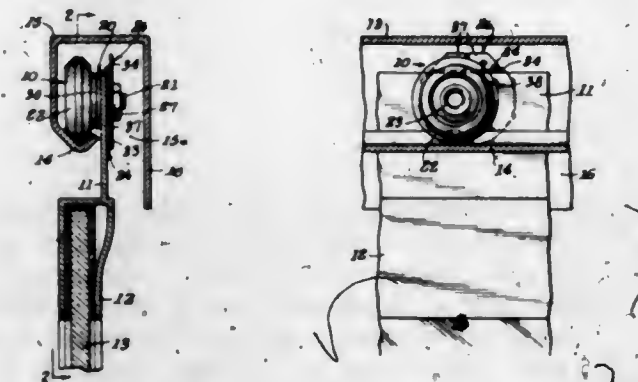
3,339,222
WINDSHIELD WIPER ARM
Willy Bock, Bietigheim, Kurt Bauer, Kleiningersheim, and Hans Christian Deutscher, Ludwigsburg, Germany, assignors to SWF-Spezialfabrik für Autozubehör Gustav Rau G.m.b.H., Bietigheim, Württemberg, Germany
Filed Jan. 25, 1965, Ser. No. 427,550
Claims priority, application Germany, Feb. 5, 1964, S 89,377; June 3, 1964, S 91,356
5 Claims. (Cl. 15-250.35)



1. In a windshield wiper, particularly for motor vehicles, of the type including a wiper arm head having a bore for receiving a wiper drive shaft, a wiper blade supporting arm structure including a substantially trough-shaped inner end pivotally mounted on and at least partially embracing the wiper arm head, an extension projecting from an intermediate portion of the supporting arm structure, and inwardly toward the wiper arm head, a clamping screw threaded in the wiper arm head and engaging the drive shaft to clamp the wiper arm head to the drive shaft, the screw having a screw head within the trough-shaped inner end of the supporting arm structure, and tension spring means connected between the wiper arm head and the extension in a manner such as to stably bias the supporting arm structure either to a position pressing the wiper blade against the windshield or to a position in which the supporting arm structure is folded away from the windshield about its pivot axis: the improvement in which said tension spring means comprises a substantially U-shaped intermediate member having a pair of substantially parallel legs pivoted to said

head at an axis spaced inwardly from the pivot axis of said arm structure and embracing a part of said head, and having a substantially V-shaped bight interconnecting said legs; and a tension spring connected at one end to said extension and at the other end to the apex of said bight for centering by said apex; said legs providing free access to said screw head in the operative position of the windshield wiper.

3,339,223
ADJUSTABLE HANGER FOR SLIDING DOORS
Jordan M. Laby, Hollywood, Calif., assignor to American Shower Door Co., Inc., Hollywood, Calif., a corporation of California
Filed Aug. 9, 1965, Ser. No. 478,335
6 Claims. (Cl. 16-105)



1. An adjustable hanger for sliding doors having a top rail that extends upwardly into a space that is forward of a horizontal track, said hanger comprising:
(a) a fitting having a threaded stud rotatively extending forwardly through said door rail and provided with a rearwardly directed eccentric axle,
(b) a roller on said axle supported on said track for rolling movement therealong,
(c) an adjustment member having non-rotational engagement with said stud at the front of the rail and having wrench-engangeable polygonal peripheral edges for rotative adjustment thereof and of the fitting to angularly move the axle and roller thereon around the axis of the stud accordingly, and
(d) spring detent means to releasably retain said member in adjusted position.

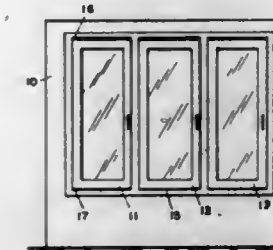
3,339,224
SPECTACLE HINGE CONSTRUCTION AND METHOD FOR MAKING THE SAME
Francis B. Neary, Rochester, N.Y., assignor to Art-Craft Optical Company, Inc., Rochester, N.Y., a corporation of New York
Filed Sept. 8 1964, Ser. No. 394,665
13 Claims. (Cl. 16-128)



1. In an improved spectacle hinge construction for at least one of a spectacle frame member or spectacle temple member,
(a) a hinge,
(b) a hinge plate,
(c) an undercut channel formed at one end of said one member adapted to receive said hinge plate,

(d) a recess formed in an inner face of said one member defining a flange between said channel and said inner face, and
(e) means for interconnecting said hinge and hinge plate and for applying compressional force therebetween to said flange.

3,339,225
TORSION DOOR HINGE
John Summer Booth, 1400 S. Haskell Ave., Dallas, Tex. 75223
Filed Mar. 30, 1964, Ser. No. 355,652
3 Claims. (Cl. 16-151)

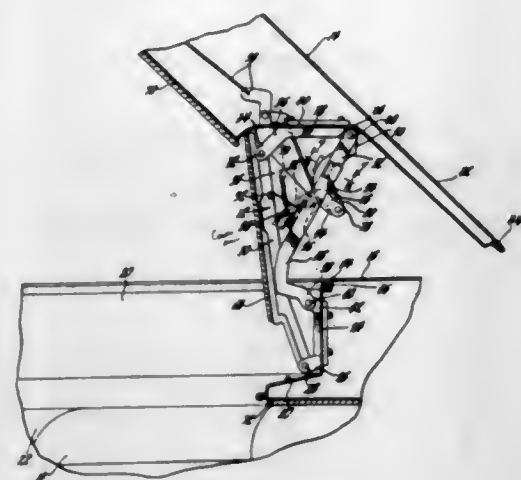


1. A spring-biased door hinge system which comprises:
(a) an elongated cylinder adapted to be inserted into the end of a door stile having a lateral port in the region of one end thereof;
(b) a torsion spring in said cylinder anchored at one end thereof against rotation at a point adjacent to the other end of said cylinder;
(c) an insert extending into said cylinder engaging the other end of said spring, said insert having an enlarged head with a plurality of radially directed holes therein and an annular groove located in registration with said port;
(d) a thrust bearing encircling said insert between the end of said cylinder and said head;
(e) a cup adapted to be mounted on the door frame at the axis of said cylinder to receive said head, said cup being peripherally slotted;
(f) means received by said holes extending through said slot to engage said cup to apply a torque from said frame to said cylinder through said spring; and
(g) anchor means secured to said stile extending through said port into said groove to maintain said insert in said cylinder and said cylinder in said stile while permitting rotation of said insert relative to said cylinder.

3,339,226
TOGGLE LINKAGE FOR VEHICLE DOOR HINGE
Doyle E. Brown, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 27 1964, Ser. No. 370,612
6 Claims. (Cl. 16-163)

1. In combination with a support member, a closure member and hinge means mounting the closure member on the support member for movement between open and closed positions, the hinge means including a connecting link pivotally interconnecting the closure member and the support member, control means for controlling the swinging movement of the closure member including, a toggle linkage having a pair of links pivotally interconnected at a first pivot point, means pivotally connecting one of the toggle links to the connecting link at a second pivot point, means pivotally connecting the other of the toggle links to one of the members at a third pivot point, locating means locating the toggle linkage in an overcenter position in which the first pivot point is moved past a line defined by the second and third pivot points in

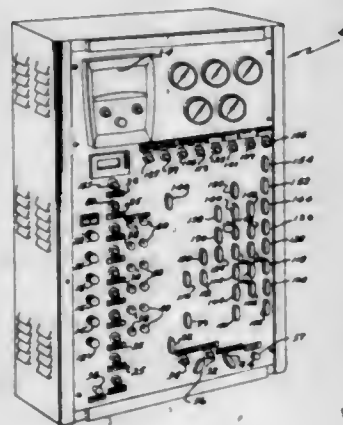
closure-closed position to prevent opening movement of the closure member, and selectively operable means for



moving the toggle linkage out of overcenter position to permit opening movement of the closure member.

3,339,227

AUTOMATIC CONTROLLER FOR MOLDING
Herbert A. Ehrenfreund, Longmeadow, Mass., assignor to De Bell & Richardson, Inc., Hazardville, Conn., a corporation of Connecticut
Filed Mar. 18, 1965, Ser. No. 440,879
8 Claims. (Cl. 18—2)



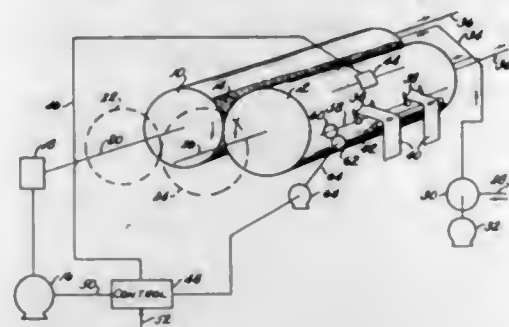
1. Controller for use in automatically operating molding apparatus in a series of steps comprising a temperature responsive resistor disposed to sense molding temperatures, a resistance comparator circuit electrically connected to said temperature responsive resistor, a plurality of reference resistors, the resistance of each being related to a temperature attained in a step of the molding cycle, and means for sequentially interconnecting each of said reference resistors to said comparator circuit in response to completion of a step in the mold cycle.

3,339,228

CONSTANT TEMPERATURE MILL
Rex C. Seanor, Akron, Ohio, and S. Everett Perlberg, Fairlawn, N.J., assignors to Adamson United Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 22, 1965, Ser. No. 501,956
5 Claims. (Cl. 18—2)

4. In combination, a pair of cooperating mill rolls adapted to receive plastic stock, motor means driving said rolls and adapted to form a sheet of stock passing continuously around one of the rolls, and

means for measuring the temperature of the sheet of stock, means responsive to the temperature measuring means controlling the speed of said motor means to increase or decrease the speed of said motor means and the drive of said rolls inversely with respect to temperature changes of the sheet of stock, means positioned adjacent the sheet of stock for continuously cutting a ribbon of stock from the sheet, and



means responsive to the temperature measuring means controlling the width of ribbon cut from said sheet by said ribbon cutting means, said means causing the width of ribbon cut from the sheet of stock to increase or decrease inversely with respect to changes in the drive speed of said rolls, whereby the same volume of stock is cut in ribbon form from the sheet of stock irrespective of the drive speed of said rolls.

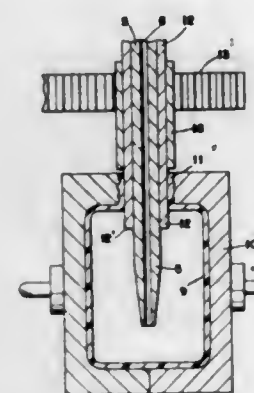
3,339,229

PLASTIC BOTTLE BLOWING AND REAMING APPARATUS
Miro Billings, Ramsey, N.J., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 9, 1964, Ser. No. 417,155
2 Claims. (Cl. 18—5)

1. An apparatus for molding and reaming hollow plastic containers comprising:
 - (a) a housing;
 - (b) a first chamber contained in said housing;
 - (c) a second chamber in said housing adjacent to said first chamber, and having its linear axis an extension of the linear axis of said first chamber;
 - (d) a first piston positioned in said first chamber in slidable but close contact with the inner side walls of said first chamber;
 - (e) a blow pin having one end connected to said first piston, and extending therefrom along the linear axis of said first chamber and also extending into and through said second chamber along the linear axis of said second chamber;
 - (f) a second piston positioned in said second chamber in slidable but close contact with the inner side walls of said second chamber;
 - (g) a reamer comprising a cylindrical sleeve attached to and extending from said second piston through and beyond said second chamber in the direction opposite from said first chamber, said cylindrical sleeve being concentric with and surrounding a portion of said blow pin, said cylindrical sleeve having an outer diameter corresponding in dimension to the desired diameter of the neck opening to be formed in said container and having a cutting edge at the external diameter of said cylindrical sleeve and at the end thereof opposite from the end joined to said second piston;
 - (h) said first piston being adapted to move from a first position in said first chamber at a point re-

moved from that end of said first chamber adjacent to the second chamber and to move along the linear axis of said first chamber through a substantial part of the length thereof to a second position in which said piston is closer to the end of said first chamber that is adjacent to said second chamber;

- (i) a first means for moving said first piston from said first position to said second position;
- (j) a second means for moving said first piston from said second position to said first position;
- (k) an opening in said blow pin extending through a substantial portion of the length thereof, and through the end of said blow pin opposite from that end joined to said first piston, said opening being positioned when said first piston is positioned in said second position to receive a supply of compressed air and thereby being adapted to expand a parison of heated plastic material into which said blow pin is inserted when said first piston is moved into said second position;

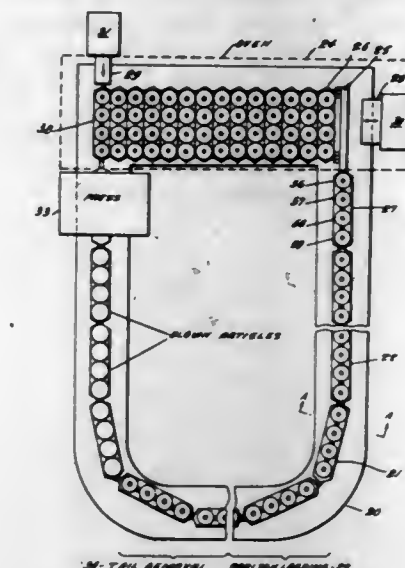


- (l) said second piston is adapted to be moved from a first position near the end of said second chamber adjacent to said first chamber to a second position closer to that end of said second chamber through which both said blow pin and said reamer extend;
- (m) a first means for moving said second piston from said first position to said second position;
- (n) a second means for moving said second piston from said second position to said first position;
- (o) a means for rotating said reamer on its linear axis simultaneously with the movement of said second piston from said first position to said second position and thereby linear movement of said reamer along its linear axis.

3,339,230

MOLDING APPARATUS
John J. Farrell, 40 Abby Lane, Greenbrook, N.J. 08812
Filed Jan. 22, 1965, Ser. No. 427,397
6 Claims. (Cl. 18—5)

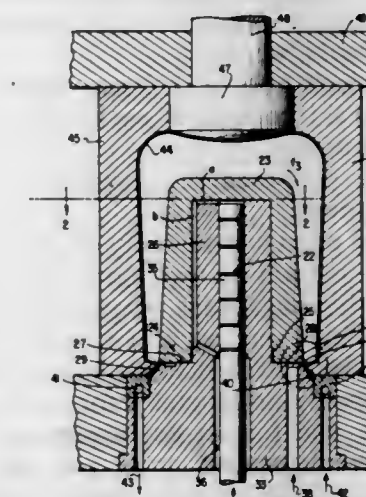
1. A blow molding apparatus comprising in combination, an oven, a press, a parison removal stage, a parison conveyor system, a plurality of elongated parison support racks; said parison support rack being connected to said parison conveyor system; said parison conveyor system passing through said oven, said press, said parison loading stage, and said parison removal stage; said plurality of parison support racks being connected to said parison conveyor system; and conveyor drive means connected to said racks for driving said racks along said parison conveyor system; each of said parison support racks comprising elongated members; a plurality of individual parison support means connected to each of said individual racks and lying on a straight line; each of said plurality of individual parison support means having single parison



means on a respective parison support rack moving as a unitary subassembly along said conveyor system.

3,339,231

METHOD AND APPARATUS FOR MANUFACTURING BY EXPANSION-MOLDING ARTICLES IN THERMOPLASTIC MATERIAL
Tadeusz Plotrowski, 99 Blvd. Aristide Briand, Montreuil-sous-Bois, France
Filed Oct. 7, 1965, Ser. No. 493,673
Claims priority, application France, Oct. 12, 1957, 749,319, Patent 1,196,867; July 1, 1958, 769,190, Patent 76,156
27 Claims. (Cl. 18—5)



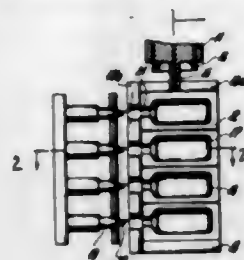
1. For use in an injection molding and blowing apparatus for forming a blown hollow article of thermoplastic material, a preform core comprising a shell resiliently mounted on an interior support means, said interior support means consisting of a stem extending inside said shell, and a base member about said stem and extending outward from said stem at least as far as the outer surface of said shell, said shell and said interior support means defining an annular opening at the bottom of said shell, the resilient mounting permitting said shell to be forced toward said base member by the pressure of injection of said thermoplastic material thereon, said opening always being maintained at less than the critical penetration threshold of the injected thermoplastic material and being connected to a channel means for providing a blowing gas thereto, said shell having means for circulating a heat exchange fluid uniformly beneath the surface thereof.

3,339,232

APPARATUS FOR THE PRODUCTION OF HOLLOW BODIES IN A BLOWING PROCESS

Werner Battenfeld, Lindenstrasse, and Erhard Langecker, Hohbuschener Weg, both of Melnerzhagen, Germany
Original application July 7, 1964, Ser. No. 380,774, now Patent No. 3,300,556, dated Jan. 24, 1967. Divided and this application June 21, 1966, Ser. No. 559,182
Claims priority, application Germany, July 8, 1963, B 72,591

10 Claims. (Cl. 18—5)



1. An apparatus for producing predetermined hollow bodies with calibrated neck openings from hose-shaped starting products, comprising

- a multi-part mold adapted to receive a hose-shaped starting product,
- a blowing pin means disposed axially relative to said hose-shaped starting product outside of and adjacent to said mold, and for blowing up said starting product into an intermediate hollow body,
- a pair of clamping means disposed at the end of said hose-shaped starting product opposite said blowing pin means and clamping sealingly said opposite end of said hose-shaped starting product,
- said intermediate hollow body within said mold forming at least one enclosed hollow body,
- said mold having an interior complementary to the shape of said predetermined hollow bodies to be produced and defining at least one neck communicating said interior of said mold,
- said at least one neck having an inner periphery complementary to said calibrated neck openings to be produced, respectively,
- piercing blowing pin means comprising a hollow needle-shaped point,
- said needle-shaped point substantially smaller than said inner periphery of said at least one neck, and
- said piercing blowing pin means adapted to be inserted through said at least one neck of said mold and for piercing said at least one enclosed hollow body with said needle-shaped point thereby forming a pierced opening therein, and for feeding a pressure medium through said needle-shaped point and said pierced opening into said at least one enclosed hollow body thereby displacing and widening said at least one enclosed hollow body within the range of said pierced opening outwardly against said inner periphery of said at least one neck.

3,339,233

GRANULATING DEVICE

Heinz Woltzel, Stuttgart-Feuerbach, and Heinz Koch, Ludwigsbach, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a firm of Germany
Filed July 30, 1965, Ser. No. 475,981
Claims priority, application Germany, Aug. 17, 1964, W 37,387

4 Claims. (Cl. 18—9)

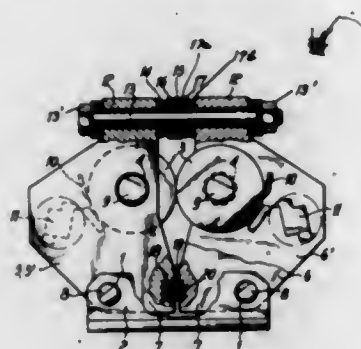
1. A device for granulating plastic material, said device comprising in combination:
- a pair of parallel rotary rollers each having in its periphery a plurality of circumferential axially spaced forming grooves;

two support structures, one at each end of said rollers to support the same, each of said support structures including a stationary base part, a pair of mounting members, one for each roller, each of said mounting members having journaled therein the respective end of one of said rollers;

a pair of bearing means on said base part, each of said bearing means pivotally supporting one of the mounting members at one end thereof with play, said mounting members having wall portions at said one end facing each other, at least one of said facing wall portions including a recess;

an insert fitted in said recess displaceable toward the other facing wall portion;

a spring fitted in said recess between the base thereof and said insert, said spring biasing the insert into abutment with said other facing wall portion and urging said one end of the mounting members apart from each other thereby taking up the play in said bearing means;



an adjustable tensioning means secured to both said mounting members at the other end thereof, said tensioning means rigidly holding said mounting members in a pivotal position in reference to each other in which position the peripheral walls of said rollers abut against each other with a predetermined pressure, the grooves of each of said rollers constituting forming gaps for forming therein individual strands of the plastic material to be granulated and fed between the rollers from the side thereof opposite to said base part; and

a stripping means for each roller mounted on the respective mounting member adjacent to the periphery thereof, each of said stripping means coacting with the respective roller to strip the strands being formed in said forming gaps.

3,339,234

APPARATUS FOR MAKING LAMINATED ARTICLES

Kastulus Utz, Freising, Upper Bavaria, Germany, assignor to Multifol Patentverwertungs A.G., Chur, Switzerland, a corporation of Switzerland

Filed Jan. 22, 1965, Ser. No. 427,293

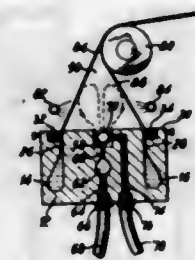
Claims priority, application Germany, Jan. 24, 1964, A 45,081

10 Claims. (Cl. 18—14)

1. In an apparatus for producing laminated articles, in combination:

- (a) die means defining two orifices elongated in a common direction, said orifices being spaced from each other transversely of said common direction;
- (b) pressure means for simultaneously extruding two continuous bodies of plastically deformable material from said orifices respectively;
- (c) take-off means for continuously moving the extruded bodies away from said orifices in respective paths terminating in a common portion spaced from said orifices, and for continuously superimposing said

bodies in said common portion, each moving body having an inner face spacedly opposite a corresponding inner face of the other body intermediate the respective associated orifice and said common portion, said inner faces and said die means helping define a space between same;



- (d) a source for a gas capable of activating the material of at least one of said bodies;
- (e) feed means for continuously feeding said gas from said source to said space; and
- (f) exhaust means for withdrawing said gas from said space.

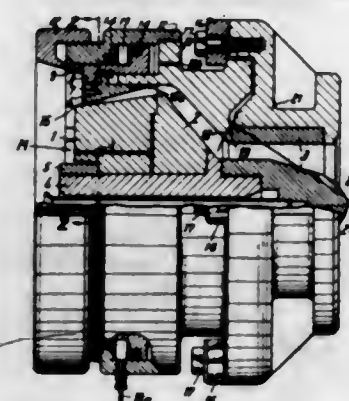
3,339,235

EXTRUSION HEAD

Gerhardt Johannes Nossol, Hamburg-Fuhlsbüttel, Germany, assignor to Beteteiligungs- und Patentverwaltungs-gesellschaft mit beschränkter Haftung, Essen, Germany

Filed Feb. 12, 1965, Ser. No. 432,299

5 Claims. (Cl. 18—14)



1. An extrusion head for producing tubular means, especially large diameter hoses of rubber material, which includes: a first member forming a mandrel, a second member forming an annular matrix surrounding said first member in radially spaced relationship thereto and defining therewith an annular extrusion passage with a material inlet and a material outlet, the cross-section of said extrusion passage decreasing in the direction toward said outlet, one of said members being axially movable relative to the other member to thereby vary the cross-section of said outlet, and fluid operable annular cylinder piston means extending around said first and second members and being operatively connected to said axially movable member for axially adjusting the same relative to the other member, said fluid operable cylinder piston means including means for axially guiding said axially adjustable member.

3,339,236

INJECTION SOLE MOLDING MACHINES

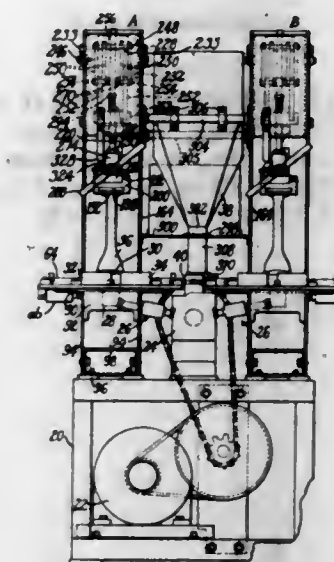
Leslie C. Battell, Paul W. Senfleben, and Walter W. Yarrison, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Aug. 7, 1964, Ser. No. 388,070

2 Claims. (Cl. 18—17)

1. An injection molding machine for molding soles onto lasted footwear, said machine comprising a frame, at least one mold assembly mounted on said frame, said

mold assembly comprising a bottom mold member, side mold members movable to engage the bottom mold member, and a top mold member comprising a footform for receiving a lasted upper, said machine further comprising carrier means disposed on said frame for mounting said footform, first moving means attached to said frame and operable to move said carrier means from a first position remote from the mold assembly to a second position wherein said top mold member is proximate to said side mold members when said side mold members are in the bottom mold engaging position, a second moving means mounted on said frame and operable to move said carrier means to a third position wherein said lasted



upper is in sealing engagement with said side mold members, said second means comprising a rotary cam, a cam follower in engagement with the periphery of said rotary cam and connected to said carrier means whereby upon rotation of said cam said carrier means is caused to move to said third position whereby to enclose a mold cavity having the configuration of a footwear sole, means for adjusting the space relation between the foot form and the remainder of the mold assembly, said adjusting means comprising means for locating said cam and said cam follower at a predetermined distance from said remainder of the mold assembly and means for injecting molten sole material into said cavity whereby to form a molded sole on the upper mounted on said footform.

3,339,237

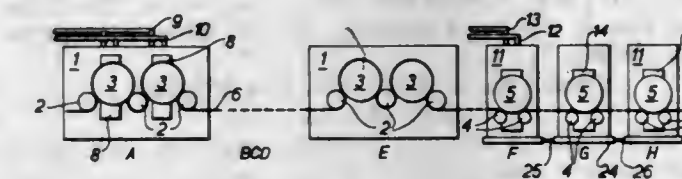
APPARATUS FOR CONVERTING TOW INTO SLIVER

Jean Claude Chezard, St.-Rambert-l'Île-Barbe, Pierre Muller, Lyon, and Robert Saint-Genis, St.-Didier-au-Mont-d'Or, France, assignors to Societe Rhodiacta, Paris, France, a French body corporate

Filed July 24, 1964, Ser. No. 384,928

Claims priority, application France, July 31, 1963, 943,318

2 Claims. (Cl. 19—35)



1. An apparatus for converting tow into sliver, said apparatus comprising a plurality of sets of pre-stretching rollers arranged in a protruding fashion on each side of

the apparatus and through which tow may be passed, at least three sets of breaking rollers arranged in a protruding fashion subsequent to the pre-stretching rollers and through which the tow may be passed after passing through the pre-stretching rollers, drive means to drive said sets of rollers at predetermined surface velocities, a device for regulating said surface velocities in accordance with the desired stretching rate, said device comprising means for detecting said velocities, means for comparing the velocity detecting signals with reference values corresponding to the desired stretching rates, and means operatively connected to said drive means for adjusting the velocities of at least one set of said rollers in response to change in velocity of another of said sets of rollers to maintain the desired stretching rate.

3,339,238

POSITIVE PRESSURE APPLICATOR

Jay W. Rapp, Park Ridge, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,790
9 Claims. (Cl. 18-19)



2. A pressure applicator operatively disposed around a plug forming die and being movable therewith so that a pressure condition is maintained between said plug forming die and a thermoplastic sheet, said pressure applicator comprising a housing adapted for extensible movement with respect to said die and said thermoplastic sheet, a gripping member operatively mounted on one end of said housing for engaging said sheet, said housing being provided with an annular groove on its underside, a flexible sealing ring disposed immediately beneath said groove and having a portion extending into said groove, said sealing ring being constructed of compressible material capable of providing a biasing action thereby permitting extensible and retractable movement of said housing with respect to said sheet responsive to fluid pressure conditions in said housing, and a retaining ring disposed under said flexible sealing ring, whereby contact between said engageable means and said sheet will cause a downwardly directed force on said housing causing compression of said biasing element and retraction of said housing.

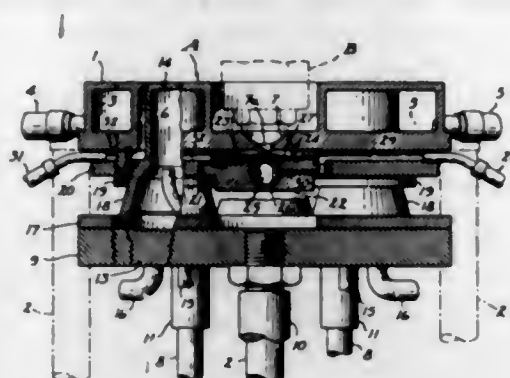
3,339,239

INJECTION MOLDING APPARATUS WITH DIAPHRAGM VALVE

Richard O. Peck, Tallmadge, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 30, 1965, Ser. No. 452,202
7 Claims. (Cl. 18-30)

1. In a molding unit for injection molding with liquid plastics, a sprue adapted to receive molded liquid from an injection nozzle, means defining a chamber communicating with said sprue and with at least one mold cavity, a flexible bladder mounted in said chamber, a check valve piston cooperating with said bladder and mounted for

reciprocating movement perpendicular to said bladder to force said bladder into sealing engagement with said sprue to prevent escape of molding liquid from said chamber,

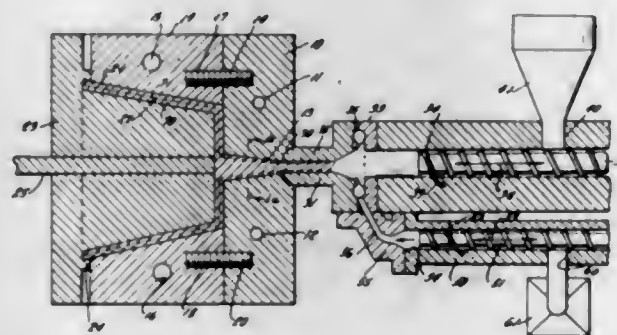


means for operating said check valve piston, and fluid pressure means operable to flex said bladder in said chamber to pressurize molding liquid in said molding unit.

3,339,240

APPARATUS FOR LAMINAR INJECTION MOLDING

Herbert O. Corbett, Bridgeport, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed July 29, 1965, Ser. No. 475,753
4 Claims. (Cl. 18-30)



1. Injection molding apparatus for forming laminated plastic products; said apparatus including a mold having a separable mold core defining therewith a mold cavity and a sprue channel leading to said cavity; plastic injection apparatus including a nozzle engageable with said sprue channel, said nozzle being provided with a passage extending therethrough with the outer extremity of said passage in direct communication with said sprue channel; said plastic injection apparatus being provided with a first combined plasticizer-plunger means for injecting plastic material directly into the inner extremity of the passage in said nozzle; said nozzle being provided with an interior annular channel located in completely surrounding relationship with respect to said nozzle passage; said plastic injection apparatus being provided with a second combined plasticizer-plunger means and a channel providing direct communication from said second combined plasticizer-plunger means and the annular channel in said nozzle whereby plastic material from said second plasticizer-plunger means will be received within said nozzle in surrounding relationship with respect to the plastic material entering said nozzle from said first combined plasticizer-plunger means; the construction and arrangement being such that the plastic material from said second combined plasticizer-plunger means will laminarily coat the plastic material from said first combined plasticizer-plunger

means and will pass through said nozzle passage into said sprue channel and mold cavity as a laminated product.

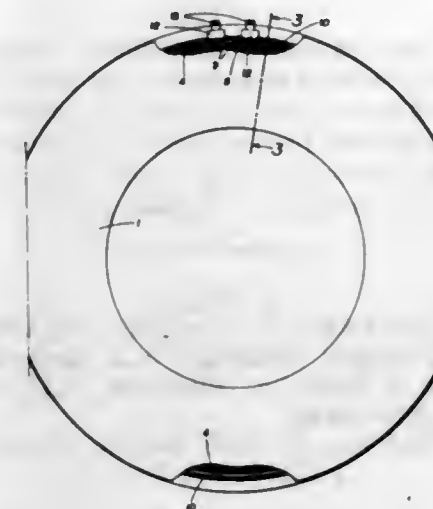
3,339,241

TIRE RETREADING MATRIX WITH ANNULAR STEAM CHAMBER

Louis T. Flke, Lodi, Calif., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California

Filed Mar. 22, 1965, Ser. No. 441,652

2 Claims. (Cl. 18-38)



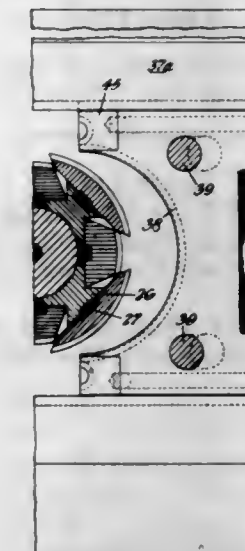
1. A tire recapping matrix comprising:
a pair of mating, substantially identical, full circle metallic halves, detachably connected together as a unit to enclose the tread of a tire;
the halves each including an outer, peripheral face;
each of said halves having a continuous, circumferentially extending channel formed therein, the channels being of substantially rectangular sectional configuration and being located intermediate the sides of each of said halves;
opposing, flat shoulders outwardly of each of the channels, and bevel wall means outwardly of each shoulder;
locating faces at each shoulder on either side of each channel providing locating means;
a diagonal partition fixed in upstanding position in each channel at a selected location and extending fully across the channel and being of a depth equal to the full depth of the channel;
a metal cover band having side edges and ends, extended about each channel;
the locating faces providing the locating means for each of the bands;
the side edges of the cover bands being seated on said shoulders to enclose said channels;
metallic filler material extending from the side edges of the bands and covering said bevel wall means;
the ends of the bands engaging one another in a position directly over and in contact with said diagonal partitions, respectively, of the channels, the bands completely enclosing the respective channels;
nipple means adjacent each end of each of the bands, providing steam intake and discharge elements in closely spaced relation on opposite sides of each of the diagonal partitions; and
each of said partitions having a bleed hole formed therein adjacent each of its ends, and the diagonal arrangement of the partitions providing an even heat

distribution throughout the full peripheral extent of each matrix half, with trapped condensate being dispersed through said bleed holes.

3,339,242

COLLAPSIBLE TOOLS FOR USE IN THE MOULDING, CASTING OR PRESSING OF HOLLOW ARTICLES

Harry Lamb, Lichfield, England, assignor to Ketch Plastics Limited, Lichfield, England
Filed Nov. 5, 1964, Ser. No. 409,207
Claims priority, application Great Britain, Nov. 12, 1963, 44,573/63
8 Claims. (Cl. 18-42)



1. A collapsible core comprising a tapered spigot member having first and second sets of inclined faces, the faces of said first set being more steeply inclined to the axis of the spigot member than the faces of said second set and the faces of said first set being disposed respectively between adjacent faces of said second set and a plurality of segments slidably retained respectively, on said inclined faces, the arrangement being such that the spigot member can be moved relative to the segments from a working position, in which the segments combine to form a surface complementary to the internal surface of the article, to a withdrawal position in which all the segments are displaced towards the axis of the spigot member, the segments mounted on said first set of faces being displaced by a distance greater than the segments mounted on said second set and each of the segments mounted on said second set of faces projecting at opposite lateral sides into the spaces vacated by the adjacent segments mounted on said first set of faces.

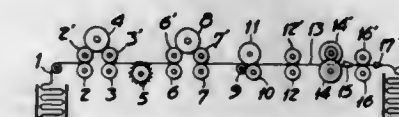
3,339,243

APPARATUS FOR MANUFACTURING BAST FIBER SLIVER

Keishi Sato, Mihara-shi, Japan, assignor to Toyo Sen-I Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Apr. 15, 1964, Ser. No. 359,942

1 Claim. (Cl. 19-5)



A drafting apparatus for strings of degummed fibers comprising sequentially a first drafting stage consisting of at least one pair of feed rollers and back rollers, respectively, at least one porcupine roller disposed between said feed rollers and said back rollers with the latter

rollers rotating at a greater rate of speed than the former rollers so as to tension draft and simultaneously separate a bundle of bast fibers sticking together, a second drafting stage consisting of at least one pair of middle and front rollers, respectively, for producing a fleece having individual fibers, and a third drafting stage consisting of at least one pair of cone and calender rollers, respectively, for further drafting and separating said bast fibers still sticking together, said pair of cone rollers being disposed one above the other with the small end of each cone roller being in contact with the large end of the other cone roller and each said cone roller being coated with a high polymer elastomer.

ERRATUM

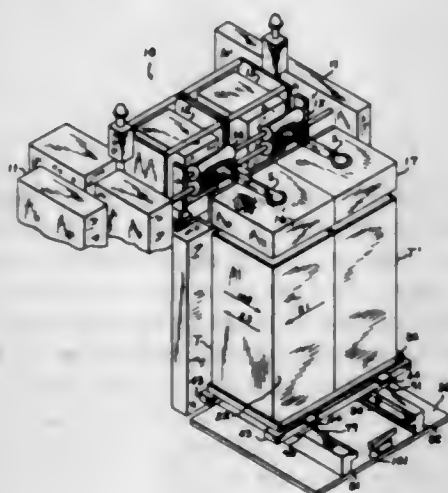
For Class 19—35 see:
Patent No. 3,339,237

3,339,244

APPARATUS FOR PACKING SLIVER

George S. Van Deusen, Willoughby, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed June 19, 1962, Ser. No. 203,527
8 Claims. (Cl. 19—160)



1. An apparatus for packing continuously fed sliver in a container comprising a transfer table for supporting the container, a coiling head for coiling the sliver and delivering the coiled sliver to the container, drive means for moving the transfer table in a sidewise first direction relative to the coiling head to form a row of coiled sliver in the container, intermittently actuated indexing means for moving the transfer table in a second direction at the end of said sidewise movement a distance as measured on a line substantially perpendicular to said first direction of movement not greater than substantially the diameter of a coil of said sliver, said drive means moving said transfer table in a third direction opposite and parallel to said first direction to form a second row of coiled sliver in the container.

3,339,245

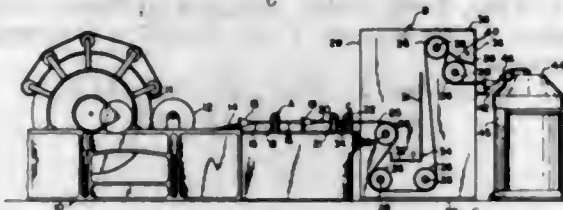
METHOD OF AND APPARATUS FOR THE CLEANING OF FIBERS

Morris M. Bryan, Jr., Jefferson, Ga., assignor to The Jefferson Mills, Inc., Jefferson, Ga., a corporation of Georgia

Filed Sept. 8, 1965, Ser. No. 485,786
10 Claims. (Cl. 19—200)

1. In a method of cleaning fibers, the steps of folding a thin web of said fibers upon itself to form a first ribbon which is thick and substantially uniform in strength relative to said web, drafting said first ribbon to form a sec-

ond ribbon which is thin relative to said first ribbon and in which fibers have increased parallelization relative to fibers in said first ribbon, passing said second ribbon continuously and in sequence along a plurality of angularly disposed paths at a velocity which causes foreign matter to separate from fibers in said second ribbon by



centrifugal force as said second ribbon changes direction in passing from one of said plurality of angularly disposed paths to another of said plurality of angularly disposed paths, and collecting foreign matter separating from fibers in said second ribbon as said second ribbon passes along said plurality of angularly disposed paths.

3,339,246

UNITARY BUNDLING STRAPS

George Gelsinger, Elizabeth, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed Aug. 17, 1965, Ser. No. 480,336
1 Claim. (Cl. 24—6)



A unitary self-clinching bundling strap comprising a head end portion, a tail end portion, and a body portion extending therebetween, said head end portion having a transverse generally rectangular aperture therethrough adapted to receive said body portion, a plurality of ratchet teeth on said body portion, a yieldable pawl integral with said head end portion and extending from the upper part thereof into said aperture for locking engagement with said ratchet teeth, a slot in the side of said head end portion communicating with said aperture and adapted to admit the body portion of the strap into said aperture and into engagement with said pawl, means on the upper part of said head end portion for axially distorting the upper part of said head end portion comprising an integral finger piece coextensive with and in alignment with said head end portion and on said upper part thereof, said finger piece being provided with a notch extending inwardly from one edge thereof whereby the twisting of said finger piece will flex the upper part of said head end portion and said pawl out of the plane of the remaining part of said head end portion.

3,339,247

SELF-CLINCHING BUNDLING STRAP

George Gelsinger, Elizabeth, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed Aug. 17, 1965, Ser. No. 480,337
1 Claim. (Cl. 24—16)



A self-clinching bundling strap comprising a head end portion, a tail end portion and a body portion extending therebetween, said head end portion having a transverse aperture therethrough adapted to receive said body portion, a gusset in said head end portion adjacent to said aperture, a resilient metallic tongue having one end portion thereof anchored in said gusset and its opposite end portion extending into said aperture presenting a line edge transversely of said aperture adapted for locking the body portion of said strap in position against movement axially of the aperture when the same is looped upon itself and placed in said aperture, a radial slot in said head end portion communicating with said aperture adapted to admit the body portion of the strap into said aperture and into engagement with said tongue, means on said head end portion for axially distorting part of said head end portion whereby said body portion is out of engagement with said tongue and radially movable from said aperture through said radial slot comprising an integral finger piece co-extensive with and in alignment with said head end portion on one side of said slot, said finger piece being provided with a notch extending inwardly from one edge thereof whereby said finger piece when twisted will flex part of said head end portion and said one side of said slot out of the plane of the remaining part of said head end portion.

3,339,248

ADJUSTABLE WATCH BAND CLASP

Michael Campalola, South Ozone Park, N.Y., assignor to Michael Campalola, Paul Berchan and Morris Lamm, all of New York, N.Y., doing business as L.B.C. Watch Case & Jewelry Co.

Filed Apr. 26, 1966, Ser. No. 545,475
3 Claims. (Cl. 24—74)

1. A clasp for a band or strap having a fixed and free end, said clasp comprising a base plate having a rear and fore end with outwardly turned opposed flanges at its upper and lower edges, a first opening between said rear and fore ends, a plate member supported between said flanges at one end of said clasp for fixedly clamping one end of said band, a hingedly movable clasp bar mounted between said flanges at the other end of said clasp, a

pressure plate seated upon the rear end of said base plate between said fore end and said clip plate with its fore end spaced apart from the fore end of said base plate providing a second opening to receive the free end of said band, said clasp bar having a clip plate as its swinging end extending beyond its mountings for depressing the free end of said pressure plate for adjustably clamping the free end of said band, said flanges having two pairs of front and rear opposed apertures, said plate member having pins at opposite edges pivotally contained in said rear apertures of said pairs of apertures and a turned edge provided with teeth adapted to engage when pressed inwardly said fixed end of said band, said fore portion of said base plate being lower than said rear portion providing said first opening between said fore and rear plate portions, said second opening being slightly wider than



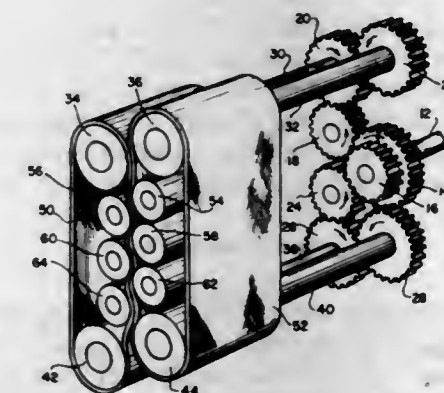
the width of the band providing a channel for said band above said fore portion of said base plate, said clip plate having pins at opposite edges which are pivotally contained in the front apertures, said pressure plate having a downwardly turned end positioned against the back end of said base plate and has a downwardly directed shoulder at approximately its central portion and an upwardly turned extremity, the fore part of said pressure plate being spaced from said lower portion of said base plate slightly greater than the thickness of said band whereby when the free end of said band is inserted through said openings into said channel and said clip plate is rotated downwardly said clasp bar depresses the fore end of said pressure plate clamping the end of said band between the fore part of said pressure plate and said fore portion of said base plate.

3,339,249

FABRIC COMPACTOR

Carl F. Libby, Stoughton, Mass., assignor to John D. Riordan, Hopkinton, Mass., and Gertrude C. Libby, Stoughton, Mass., trustees of the Libby family trusts

Filed Aug. 25, 1964, Ser. No. 391,884
4 Claims. (Cl. 26—18.6)

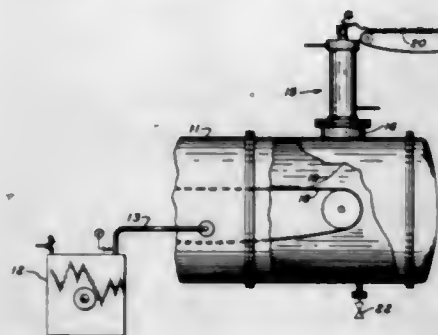


point of juncture and to discharge said fabric at the point of separation, said supporting and driving means being adapted to maintain the portions of said belts approaching the point of juncture in a longitudinally stretched condition as compared with the mutually joined portions and to press the belts strongly together at said point of juncture, and means for maintaining a continuous interfacial pressure on said belts from said point of juncture to a substantial distance therefrom.

3,339,250

CRIMPING FIBERS

Alfred G. Comolli, Greenwich, and George E. Davis, Fairfield, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed May 29, 1962, Ser. No. 198,629
7 Claims. (Cl. 28-1)



1. A process for crimping fibers comprising heating said fibers to an elevated temperature above their softening point under superatmospheric pressure in an enclosed zone; ejecting the thus heated and softened fibers from said enclosed zone by such superatmospheric pressure into a confined crimping zone thus causing them to fold and crimp by pressing against a mass of crimped fibers already in said crimping zone; cooling such crimped fibers to below their softening point while maintained in said crimping zone; and discharging the thus cooled crimped fibers from said crimping zone.

6. Apparatus for crimping fibers comprising:
a pressurized chamber having an opening therein;
means for supplying gas under pressure to the interior of said chamber;
means for heating said gas to a temperature above the softening point of said fibers;
means for supporting said fibers in a relaxed condition within said pressurized chamber for a time sufficient to permit said fibers to be heated to above their softening point;
a tubular member operatively associated with said opening having one end thereof communicating with the interior of said chamber and a second end thereof communicating with the exterior of said chamber;
a pressure-maintaining closure for constricting said second end of said tubular member; and
means for cooling the contents of said tubular member.

3,339,251

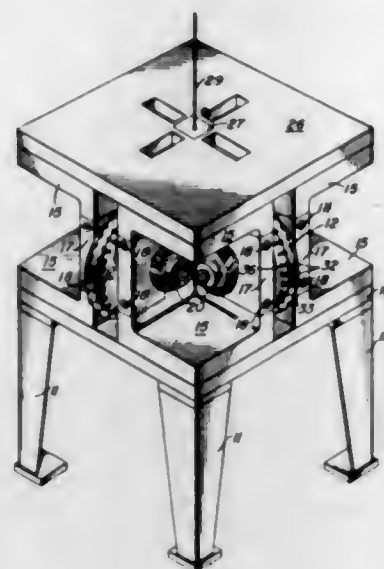
MISSILE FORMING APPARATUS

Roy C. Butth, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Continuation of application Ser. No. 385,172, July 27, 1964. This application Oct. 12, 1966, Ser. No. 602,435
7 Claims. (Cl. 29-1.2)

1. Apparatus for forming wire missile penetrating means and flight guiding means, comprising:
means for advancing a wire axially through preselected space;
a plurality of forming members each having a forming portion; and

means for causing relative movement of said members to dispose said forming portions of said members in juxtaposed angularly spaced relationship about said space, said forming portions comprising

(a) means for radially inwardly constricting circumferentially spaced, axially elongated portions of the wire in said space to extrude the wire material between the constricted portions radially outwardly and thereby form vanes defining said flight guiding means of a preceding missile and

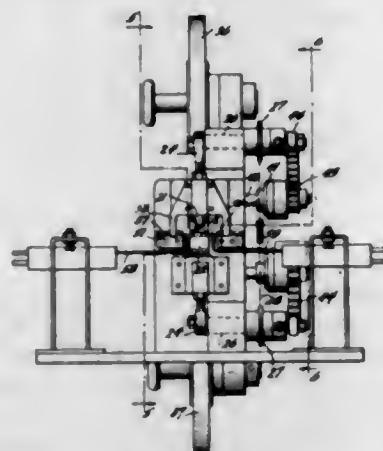


(b) means for severing the wire at an angle to the longitudinal axis thereof rearwardly adjacent said flight guiding means of the preceding missile to form a point defining said penetrating means of a subsequent missile and concurrently separate the preceding missile from the wire.

3,339,252

METHODS OF AND APPARATUS FOR MAKING WOUND CAPACITORS

Paul B. Banks, Chicago, and Robert A. Fuessle, Northbrook, Ill., and James G. McCarrell, Red Bank, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 19, 1963, Ser. No. 296,329
8 Claims. (Cl. 29-25.42)



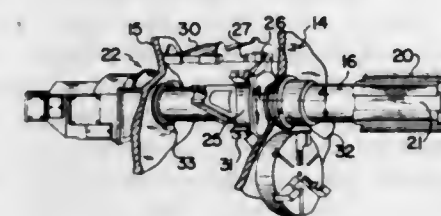
1. A method of fabricating a wound capacitor, which comprises the steps of:
placing axially spaced terminals between two layers of plastic material with the ends of the terminals extending beyond the layers,
pressing the two layers of plastic material together with the terminals sandwiched therein,

applying energy to the extending ends of the terminals to heat and coalesce said layers over the terminals to bind the terminals within the layers of plastic, winding a pair of sheets of metal coated plastic material to form a roll having a central opening and leaving the metal coating of each sheet exposed on opposite ends of the roll, positioning the plastic layers with terminals extending within the central opening with the exposed terminals projecting from the central opening, and forming a conductive block about each terminal to mechanically engage and electrically connect the exposed metal at the respective ends of the roll to the terminals.

3,339,253

DEFLECTION COMPENSATING DEVICE FOR A MACHINE TOOL SPINDLE

Robert C. Seidel, Port Clinton, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 10, 1965, Ser. No. 512,846
10 Claims. (Cl. 29-38)



1. A machine tool comprising a first member having a tool support portion, a second member having a work support portion, one of said members being elongated with its support portion located at one end thereof, and means supporting said one member with said support portion being cantilevered and with said one member deflecting upon loading of said support portion thereof, said means including a support member having an opening therein through which said one member extends and a rotatable member in said opening, said rotatable member having a first cylindrical surface engageable with a second cylindrical surface defining said opening in said support member, said rotatable member including a third cylindrical surface encircling and engaging said one member of said machine tool, said first and third cylindrical surfaces being eccentric and rotatable relative to said one member and said support member to move said one member and change the distance between said support portion of said one member and the support portion of said other member to compensate for deflection of said one member.

3,339,254

FILE CONSTRUCTION

Roy Hugh Anderson and Douglas James Lemery, Victoria, British Columbia, Canada, assignors to Atlas Chain Co., Ltd., Victoria, British Columbia, Canada
Filed Mar. 28, 1966, Ser. No. 532,804
4 Claims. (Cl. 29-78)



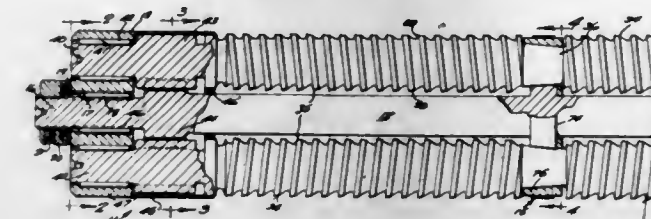
1. File construction comprising: an elongated circular cross-section file body, file teeth on the surface of said body defining cutting surfaces, and a plurality of

planar surfaces on said body defining safety surfaces at varying radial distances on the file body, each of said safety surfaces being formed by the removal of a segment of the file cutting surface defined by a chord on the file cross section, whereby the configuration of the cut made by the file is determined by the diameter of the file body and the location of the chords defining the safety surfaces.

3,339,255

PRECISION HIGH-SPEED BROACH

Roy J. Mefford, 219 W. Myrtle, Laurens, Iowa 50554
Filed May 27, 1966, Ser. No. 553,458
10 Claims. (Cl. 29-95.1)

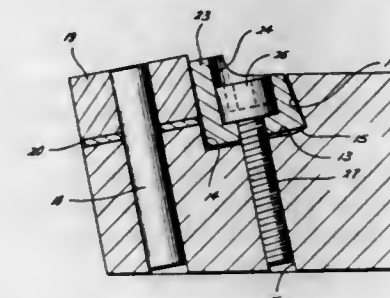


1. A broach assembly comprising a rotary mandrel, housing means at the top and bottom end portions of the mandrel, means rotatably-supporting the top and bottom end portions of the mandrel in said housing means, elongated cutter means arranged substantially parallel to said mandrel, means rotatably-supporting said cutter means in said housing means, and means gearingly-coupling said mandrel to said cutter means.

3,339,256

TURNING AND BORING TOOL

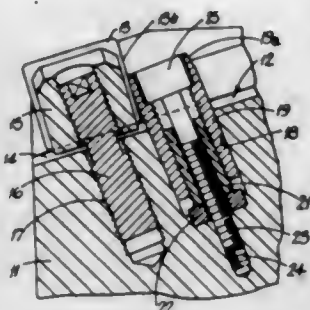
Arthur A. Melinder, 10006 Hanka, Houston, Tex. 77055
Filed Jan. 20, 1967, Ser. No. 610,686
6 Claims. (Cl. 29-96)



1. A tool for use in cutting and boring, said tool comprising:
a shank having a generally transversely extending and generally dove-tailed slot near the forward end thereof, said slot having a screw hole in the bottom thereof and stop means at the rearward side thereof;
a pin connected to said shank forwardly of said slot and adapted to support a cutting insert thereon;
a cutting insert of hardened metal removably mounted on said pin in a cutting position;
a locking member mounted in said slot, said locking member having a screw recess passing downwardly therethrough and mating with said screw hole in said shank, and said locking member having a rearward side and a bottom side which meet at an angle which is less than 90°;
and a locking screw passing through said locking member and threaded into said screw hole in said shank, whereby the rearward side of said locking member engages said stop means and the upper end of the forward side of said locking member is pressed against the back side of said insert in locking relationship by tightening said locking screw.

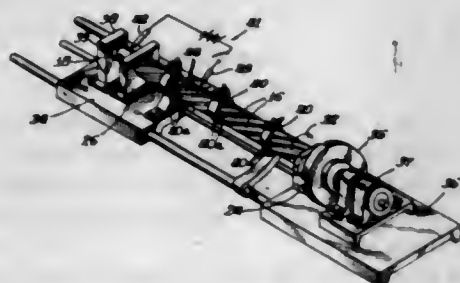
3,339,257 CUTTING TOOLS

James Hargreaves, Coventry, and Graham John Powell, Nuneaton, England, assignors to Wickman Wimet Limited, Coventry, England
Filed Feb. 26, 1965, Ser. No. 435,417
Claims priority, application Great Britain, Mar. 2, 1964, 8,665/64
1 Claim. (Cl. 29—105)



A milling cutter including a body adapted to support a plurality of indexable cutting inserts, each insert when in place having one edge thereof resting on part of the base of a slot in the body and one side thereof held against one side of the slot by a wedge in the slot, and a plurality of adjustment members for adjusting the positions of the inserts along the bases of the slots, each adjustment member in use acting on its insert and being axially movable in a bore which extends into the body at an acute angle to said part of the base of the slot on which said one edge of the insert rests, so that axial movements of the adjustment member serve to adjust the position of the appropriate insert along the base of its slot, each adjustment member comprising a sleeve located in said bore so that said sleeve can move axially but not angularly in said bore, and an externally screw-threaded adjustment pin in screw-threaded engagement with the sleeve and engaging the bottom of the bore, turning of said pin serving to adjust the axial position of the sleeve, which extends from said bore and acts on the appropriate insert, and said milling cutter further including a plurality of removable locking pins extending through the adjustment pins respectively and engaged with screw-threaded bores extending into said body from the lower ends of said bores in which said sleeves are located, the locking pins having heads accommodated in recesses in said sleeves when the locking pins are in position.

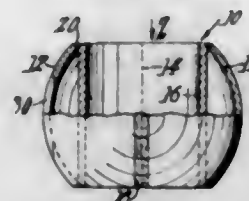
3,339,258
PRESSURE ROLL AND METHOD OF MAKING
Edward J. Johnston, La Grange, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 443,031
7 Claims. (Cl. 29—121)



1. A pressure roll comprising a cylindrical tube, a plurality of strips of channel shape applied to the tube with their flanges directed inwardly and in engagement with the tube and defining axially elongated apertures, the strips

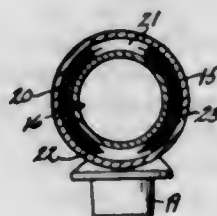
being connected to the tube, the foregoing constituting a roll having a plurality of circumferentially spaced splines of helical shape, and weight-balancing members in certain of said apertures defined by the splines at such position as to provide a balanced distribution of weight of the roll around its central longitudinal axis.

3,339,259
BALL CONSTRUCTION FOR BALL VALVES
Alvin L. Johnson, 337 Park Ave., Worcester, Mass. 01610
Filed Aug. 21, 1964, Ser. No. 391,134
1 Claim. (Cl. 29—148.4)



The method of making a substantially hollow ball for a ball valve which comprises the steps of providing a pair of substantially flat but shaped blanks, bending said blanks into similar shapes approximating spheroidal elongated members each having a transverse concave conformation interiorly thereof and a convex conformation exteriorly thereof, joining the two spheroidal members at their adjacent ends forming a ring, and then applying to the inner edges thereof a cylindrical member which closes the concave aspect of said ring and forms the flow passage for the ball valve.

3,339,260
METHOD OF PRODUCING HEAT EXCHANGERS
Frederick A. Burne and Raghnath V. Date, New Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Nov. 25, 1964, Ser. No. 413,925
4 Claims. (Cl. 29—157.3)

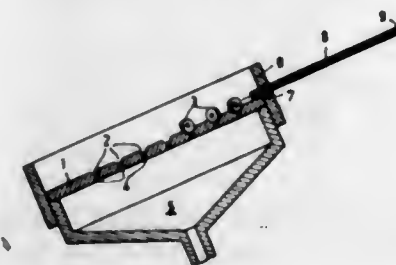


1. A method of producing a tubular heat exchanger having a body of pervious material therein, said body of pervious material having channels therein for controlled circulation of a heat exchange medium, the method comprising

- (A) positioning a first tubular member within a second tubular member, said second tubular member having at least one radial opening therein,
- (B) inserting at least one preformed removable core in the space between said first and second tubular members, said core being of a configuration of the desired channel and in communication with said radial opening in said second tubular member,
- (C) introducing particulate metallic material into the remaining space between said first and second tubular members,
- (D) creating a metallic bond between the particles of said particulate metallic material and between said particulate metallic material and said first and second tubular members, to form a pervious body in the space between said first and second tubular members, and

(E) removing said core to form a channel in said pervious body in communication with said radial opening in said second tubular member.

3,339,261
APPARATUS FOR THREADING CORES OF A MEMORY PLANE
Bastiaan van der Voo, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 3, 1964, Ser. No. 394,218
Claims priority, application Netherlands, Sept. 4, 1963, 297,519
6 Claims. (Cl. 29—203)

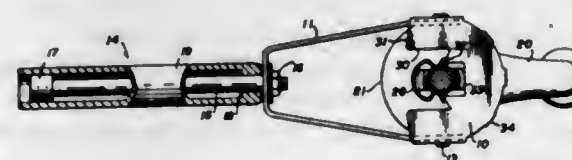


1. Apparatus for threading a memory plane having a plurality of ferrite cores having apertures therethrough, said cores being positioned to define a plurality of rows and columns comprising a jig means disposed at an angle to horizontal for holding said cores in said rows and columns, a plurality of wire conductor guide means connected with said jig means at the elevated side thereof, the longitudinal axis of each of said guide means being aligned with said openings in said cores of each of said rows and said columns, a plurality of wire conductors for threading said cores, said wire conductors being freely supported by said guide means, means for holding said cores in said rows and columns and means for vibrating said guide means whereby said conductors simultaneously thread through said cores.

ERRATUM

For Class 29—205 see:
Patent No. 3,340,029

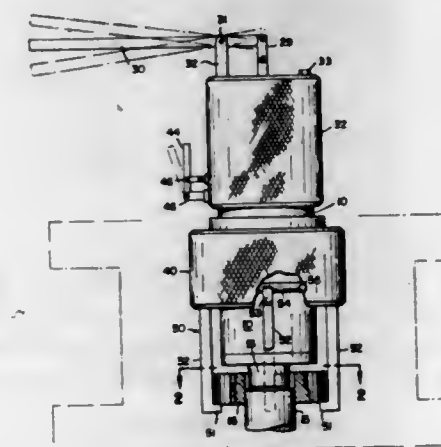
3,339,262
TOOL FOR REMOVING AUTOMOBILE DOOR HANDLES AND WINDOW ROLLERS
Garland R. Brinson, 1415 Randolph, Arlington, Tex. 76010
Filed Aug. 26, 1965, Ser. No. 482,836
1 Claim. (Cl. 29—229)



A tool for removing a crank handle from the end of a splined shaft where said crank includes a socket which fits over the end of said shaft, where said shaft includes a circumferential groove therearound and located within said socket, openings in opposite sides of said socket and aligned with said groove and a U-shaped keeper spring, said spring having diverging ends and converging portions adjacent thereto adapted to be received in said openings and extend into said groove, said tool comprising: an operating plate including a forward portion hav-

ing a recess therein, projections on the sides of said recess positioned to engage said diverging ends of said spring, a handle pivotally connected with opposite sides of said plate, said handle including an elongate support member, a handle member slidably mounted thereon, and stop means limiting the outward movement of said handle member.

3,339,263
HAND-OPERATED HYDRAULIC PULLER WITH READILY REMOVABLE AND CAMMED PULLING LEVERS
Darwin W. Dodge, 2401 Fair Drive, Napa, Calif. 94558
Filed Jan. 9, 1967, Ser. No. 608,109
6 Claims. (Cl. 29—252)

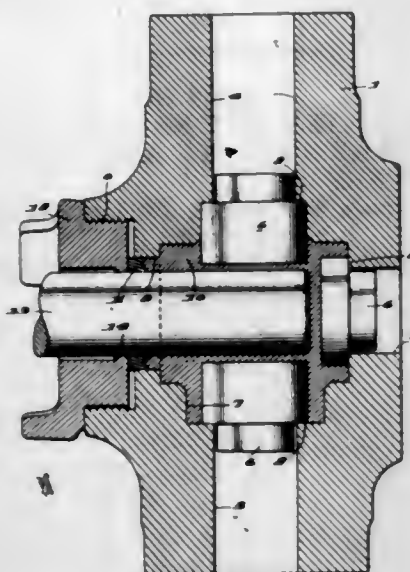


1. An hydraulic pulling device for exerting a strong force on a member to be pulled relatively to a stationary member, including in combination a housing providing a main cylinder, an oil reservoir, and a passageway connecting said reservoir to said cylinder, a check valve in said passageway, a main piston in said main cylinder, having an extension adapted to bear against said stationary member during pulling, pump means for forcing hydraulic fluid from said reservoir into said cylinder via said check valve, release means for returning hydraulic fluid from the cylinder to the reservoir after completion of the pulling operation, said housing having recess means around its outer periphery adjacent the lower end thereof, a series of readily detachable gripper arms having axially extending portions with a cam portion at one end terminating in dog-like ends engageable in said recess means and inwardly extending fingers at the other end of said axially extending portion for gripping said member to be pulled, and a collet member having a lower frustoconical face adapted to engage against said cam portions of said gripper arms to hold said ends thereof in said recess means and to force the gripper arms to swing their fingers radially inwardly.

3,339,264
PRESTRESSING PUMP FLUID ENDS
Don R. Wilson and William K. Maddox, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,539
10 Claims. (Cl. 29—407)

1. A method of prestressing a metal block having a cavity therein comprising filling the cavity with a substan-

tially incompressible metal, sealing said metal in the cavity, inserting a plunger into said cavity to displace said metal, moving said plunger into said cavity with a force



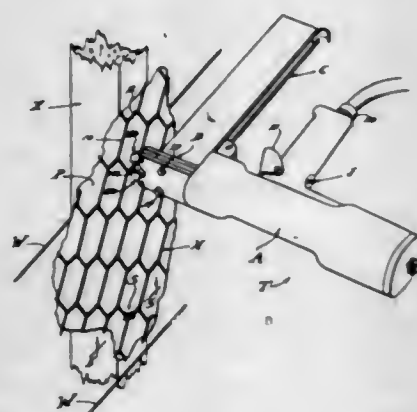
to develop a pressure in the metal sufficient to prestress said block, said metal being in the solid state during said plunger movement, and measuring the external strain on said block to determine the degree of prestressing.

3,339,265

FASTENER DRIVING AND REFORMING TOOL FOR FURRING STUCCO-NETTING AND THE LIKE

Richard E. Powers, Monterey Park, and Otto C. Nick, Temple City, Calif., assignors to Powers Wire Products Co., Inc., El Monte, Calif., a corporation of California

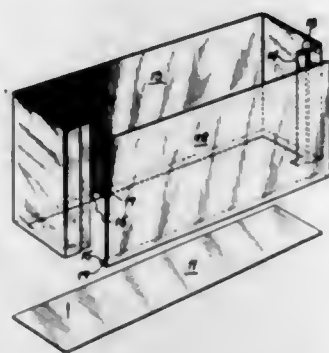
Filed Oct. 22, 1964, Ser. No. 405,794
18 Claims. (Cl. 29-432.1)



1. The method of installing a drivable fastener with a loop-shaped head for embracement of an article furred from a support, and including;

- initially forming a U-shaped body with parallel legs of substantially equal length spaced by an integral and transversely disposed head,
- lifting the article to a predetermined level spaced from the support,
- and driving the legs of said body into the support with the said lifted article therebetween by force applied to the head and deflecting one of said legs toward the other of said legs so that the legs converge and form a closed loop with said article embraced therein.

3,339,266
METHOD OF LEAD LINING TANKS
Armand S. Piche, Montreal, Quebec, Canada, assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 15, 1963, Ser. No. 316,328
3 Claims. (Cl. 29-469)

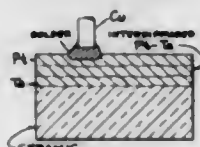


1. The method of lining with lead sheeting an electrolytic cell having a bottom wall and upstanding side walls, said method comprising laying a bottom lead sheet on the bottom wall of said cell, forming lead sheeting into a tube having at least one seam extending lengthwise of the tube, lead burning the seam from the inside of the tube while the seam is in horizontal position, bending inwardly an end margin of the tube to form a flap, placing the tube in the cell, and lead burning a seam from the inside of the tube to connect the flap with the bottom sheet.

3,339,267

METALLIZING NON-METALS

Robert L. Bronnes, Irvington, Ray C. Hughes, Ardsley, and Richard C. Sweet, Tarrytown, N.Y., assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1962, Ser. No. 247,246
4 Claims. (Cl. 29-473.1)



1. A method of hermetically sealing a body of non-metallic material to a metal comprising the steps, applying on a clean surface portion of the body by cathodic sputtering a thin layer of a reactive metal selected from the group consisting of tantalum, columbium, and vanadium, applying over said reactive metal layer by cathodic sputtering a layer of an oxidation resistant metal selected from the group consisting of palladium and platinum, and fusion joining the metallized surface of said body to another metal.

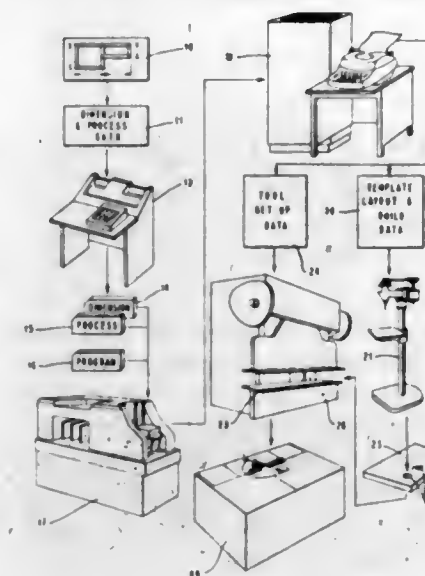
3,339,268

FRAME FABRICATION METHOD

John M. Adams and James A. White, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 25, 1964, Ser. No. 369,842
5 Claims. (Cl. 29-475)

1. A frame fabricating method comprising the steps of entering data, obtained from a drawing showing the device to be made, in a control medium; using said control medium to control a computer to provide a set of dimensions

from which a locating means can be formed, and a set-up procedure from which a plurality of tools may be positioned on a power brake; forming said locating means; positioning said locating means on said power brake; positioning said tools on said brake in accordance with said



locating means and setup procedure; positioning a workpiece in operative relation to said tools; operating said brake to machine said workpiece at points specified by said drawing; removing said workpiece from said brake to a bender-welded wherein said workpiece is bent at the point of machining; and welding said machine points.

3,339,269

METHOD OF BONDING

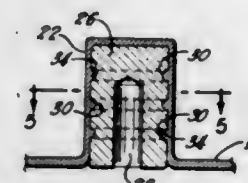
Dean K. Hanink, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Mar. 15, 1962, Ser. No. 180,043
7 Claims. (Cl. 29-488)

1. The process of bonding metals which form a eutectic with boron which comprises impregnating the surface of said metal with boron to form a boron-rich surface layer therein, placing said boron impregnated surface in contact with the surface of a metallurgically compatible metal and heating said metals to bond said metals together through said boron-rich surface layer.

3,339,270

METHOD OF SECURING AN INSERT TO A SHEET METAL BODY

Wilfred E. Walton, Sylvania, and Alex D. Bourdo, Toledo, Ohio, assignors to Universal American Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1964, Ser. No. 397,535
8 Claims. (Cl. 29-511)



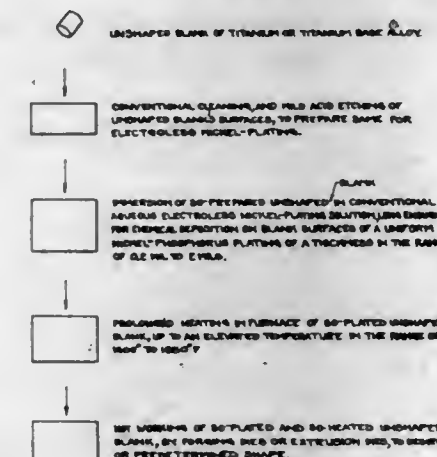
1. The method of assembling an insert having an indentation in a peripheral surface with a sheet metal body including disposing the insert in engagement with a guide surface, preforming a portion of the sheet metal body with

a dished configuration, positioning the sheet metal body with the dished configuration adjacent the insert, engaging a cavity die with the metal body, forcing the die toward and in overlapping relation with the insert to cold flow the metal of the sheet along the peripheral surface of the insert into the indentation and in snug contiguous embracing relation with the peripheral surface of the insert whereby to permanently secure the insert within the region of the sheet metal body occupied by the insert.

3,339,271

METHOD OF HOT WORKING TITANIUM AND TITANIUM BASE ALLOYS

George L. Durfee, Grafton, and Frank G. Tahmouh, Shrewsbury, Mass., assignors to Wyman-Gordon Company, Worcester, Mass., a corporation of Massachusetts
Filed July 1, 1964, Ser. No. 379,728
2 Claims. (Cl. 29-528)

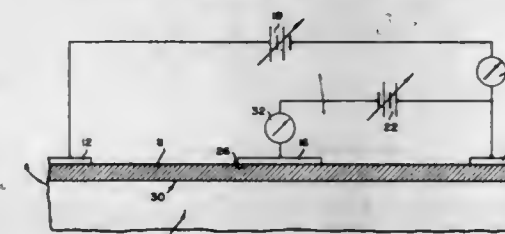


1. In the hot working of titanium and titanium base alloys, wherein unshaped blanks of such metals are subjected to prolonged heating in a furnace, to an elevated temperature in the range of 1600° to 1850° F., before being hot worked to a desired or predetermined shape, the improvement which consists in depositing electrolessly and catalytically on each unshaped blank, prior to its said heating, a thin nickel-phosphorus plating by chemical reduction in an aqueous solution wherein each unshaped unheated blank is temporarily submerged, the plating being diffusion bonded to said blank by said heating.

3,339,272

METHOD OF FORMING CONTACTS IN SEMICONDUCTOR DEVICES

Bernard A. MacIver, Detroit, and James W. Bergstrom, Troy, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 28, 1964, Ser. No. 370,983
3 Claims. (Cl. 29-571)



2. A method for forming a rectifying contact in a field effect transistor conducting channel formed by deposition of indium on a cadmium sulfide insulating semiconductor body comprising the following steps: applying first and second ohmic contacts to the conducting channel, depositing a tellerium metal contact on said conducting channel intermediate said ohmic contacts where a rectifying contact is desired,

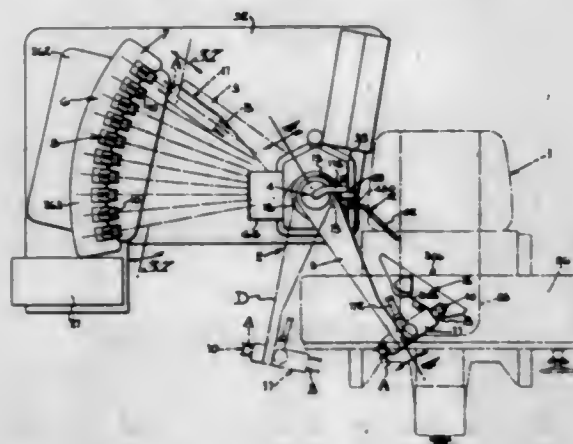
connecting a reverse bias voltage source between said metal contact and said second ohmic contact, connecting a voltage source between said first and said second ohmic contacts, and passing current through said conducting channel from said voltage sources whereby the heating effect of the current localizes at an area beneath said metal contact and forms a rectifying barrier alloy region at the interface and creates a space charge region extending through said channel to the semiconducting body when the current from said two sources is substantially zero.

3,339,273

AUTOMATIC TOOL CHANGING APPARATUS FOR MACHINE TOOLS

Robert N. Knosp, Ludlow, Ky., assignor to The Fosdick Machine Tool Company, Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 11, 1963, Ser. No. 257,398
21 Claims. (Cl. 29—568)



1. A tool changing apparatus for a machine tool having a tool spindle adapted to mount a series of interchangeable cutting tools, said tool changing apparatus comprising, a tool storage rack mounted in spaced relationship to spindle, said storage rack having a plurality of tool storage levels, each level adapted to releasably support a plurality of interchangeable cutting tools, said tools adapted to be mounted selectively in the said tool spindle, a tool changing arm, mounting means for said tool changing arm adapting the arm to be shifted in an arc between the said tool spindle and tool storage rack, said mounting means adapting the tool changing arm to be shifted in a second path parallel with the axis of the spindle and into alignment with selected levels of the tool storage rack, said tool changing arm adapted to engage and withdraw a selected cutting tool from a selected level of the tool storage rack, said arm thereafter adapted to shift through said arc from the storage rack to a position aligning the selected tool with the axis of the spindle and spaced outwardly therefrom, adapting the tool to be mounted in the spindle upon motion of the arm along the second path toward the spindle.

3,339,274

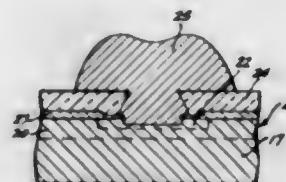
TOP CONTACT FOR SURFACE PROTECTED SEMICONDUCTOR DEVICES

Frank J. Saia, Costa Mesa, Dorothy F. James, Huntington Beach, and Lucille G. Hammock, Santa Ana, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 16, 1964, Ser. No. 352,150
2 Claims. (Cl. 29—578)

1. A method of manufacturing semiconductor devices which comprises:
(a) forming a masking film on a surface of a semiconductor wafer of one conductivity type;

- (b) forming an opening in the film;
- (c) forming in the wafer adjacent the opening a region of opposite conductivity type which region forms with the adjacent portion of the wafer a P-N junction;
- (d) depositing a metal contact on the wafer through the opening and extending substantially above the surface level of the masking film;



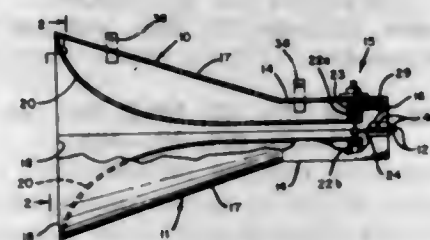
- (e) forming a film of glass on and adherent to the masking film and the exposed surface of the metal contact, with the top of the metal contact extending above the general level of the glass film;
- (f) removing the glass film from the top of the coated contact to expose the metal thereof; and
- (g) depositing additional metal on said metal contact to enlarge the same.

3,339,275

METHOD OF MAKING LOW FREQUENCY HORN ANTENNA

Donald L. Anderson, Cupertino, Kenneth L. Walton, Sunnyvale, and Richard F. Huelskamp, Los Altos, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 15, 1964, Ser. No. 359,864
3 Claims. (Cl. 29—601)



1. A method of making a horn antenna having opposed inwardly projecting spaced ridges extending longitudinally of the horn, consisting of the steps of applying a release agent to the surfaces of a mold having the shape of the interior of one-half of the horn antenna and having a bottom rim, laying a peel cloth and a facing sheet over the mold surface, mounting a conductive feed tube transversely of and at the rear of the longitudinal ridge-defining recess of the mold, disposing a structural edge flange against the mold on the rim, placing multilayer resin-impregnated fibrous sheets on the bottom and sides of the longitudinal recess, pressing said fibrous sheets against the mold and allowing same to cure, cementing lift plates to the fibrous sheets defining the sides of the ridges, placing similar multilayer resin-impregnated fibrous sheets over the remainder of the mold and cementing same to the edge flange, pressing said sheets against the mold and allowing same to cure whereby to form a half horn, pulling on said lift plates and separating the half horn from the mold, removing the lift plates and peel cloth,

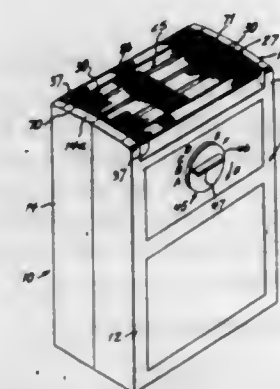
flame spraying a metal film over the entire interior of the half horn including the inner edge of the conductive tube, repeating the aforementioned steps to form a second half horn, releasably joining the two opposed half horns at the edge flanges to form the complete horn, and electrically connecting the conductive tubes to a microwave feed assembly.

3,339,276

ELECTRIC DRY SHAVER HAVING SELECTIVELY POSITIONABLE CUTTER MEANS

Robert J. Tolmie, David R. Locke, and John F. Daniels, Bridgeport, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 6, 1965, Ser. No. 445,906
9 Claims. (Cl. 30—34.1)



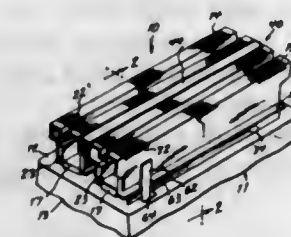
1. An electric dry shaver comprising,
 - (a) an outer casing having an opening in one end thereof,
 - (b) an inner casing disposed within said outer casing,
 - (c) means supporting said inner casing for movement between spaced limit positions within said outer casing,
 - (d) a cutter head mounted on said inner casing and having a cutting surface exposed in the opening of said outer casing, and
 - (e) actuating means carried by said casings and operable to effect and control movement of said inner casing on said supporting means between said spaced limit positions to position said cutter head in the opening at selected elevated positions intermediate said limit positions.

3,339,277

CUTTER HEAD ASSEMBLY FOR DRY SHAVER HAVING SKIN UNDULATING MEANS

David R. Locke and John F. Daniels, Bridgeport, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 444,979
8 Claims. (Cl. 30—34.2)



1. In a cutter head assembly:
 - (a) a substantially rectangular mounting plate;

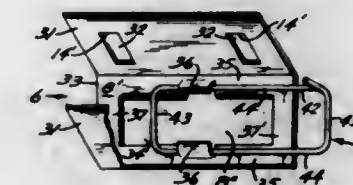
- (b) two identical cutter units detachably mounted in spaced and parallel relation on one side of said mounting plate;
- (c) skin engaging means arranged on said one side of said mounting plate between said cutter units;
- (d) positioning means provided on adjacent portions of said cutter units and skin engaging means for positioning the skin engaging means for movement transversely of said cutter units between predetermined limit positions; and
- (e) resilient means for yieldingly mounting said skin engaging means intermediate said cutter units and extending longitudinally thereof;
- (f) said resilient means including means urging said skin engaging means away from a center portion of said mounting plate.

3,339,278

ASSEMBLED SHEARING SECTION HAVING A RETRACTABLE SHAVING UNIT

Jacob L. Kleinman, New York, N.Y. (Yitzhak Sadeh St. 88, Tel-Aviv, Israel)

Filed Aug. 14, 1963, Ser. No. 302,066
3 Claims. (Cl. 30—43)



1. An individually assembled shearing section for use in connection with a shaving implement, said shaving implement comprising a handle having a seat for carrying thereon said shearing section, an actuating element, said shearing section comprising a base element and a coil-spring and a shaving unit, said shaving unit consisting of an outer cutter member having a floor portion provided with an opening and having a shear-face and carrying a cooperating inner movable cutter member having a shear-face, said base element having a wall portion provided with an opening, said outer cutter member having an outwardly disposed portion, said outwardly disposed portion being snapped into said opening of said wall portion to become interlocked therewith enabling transverse movements of said shaving unit relative to said base element and simultaneously therewith preventing longitudinal movements of such shaving unit upon said base element, said coil-spring carried by said base element, the upper portion of said coil-spring positioned through said floor opening for engagement with said cooperating cutter member to urge frictional engagement between said shear-faces for shaving purposes and simultaneously therewith providing resilient means for urging said transverse movements during shaving operation.

3,339,279

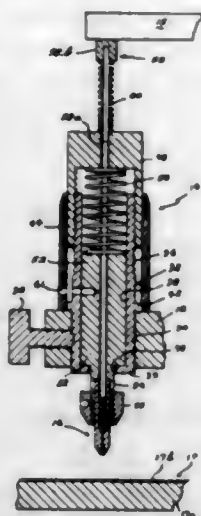
HOLLOW ENGRAVING POINT AND HOLDER FOR ENGRAVING COATED TRANSPARENT SHEETS

Robert H. Sovar, 2552 Redman 63136, and Robert H. Sicking, 5705 Itaska 63109, both of St. Louis, Mo.

Filed July 17, 1964, Ser. No. 384,049
29 Claims. (Cl. 30—164.9)

1. A hollow engraving point and holder for engraving coated transparent sheets and comprising: a body having an axial bore, a plunger axially slidable within and extending from the bore in said body, an engraving point having a scribing tip for engaging the coated transparent sheet, the extending end of said plunger having coaxial means for releasably holding said engraving point, said

plunger and said engraving point each having an axial bore, and retractable means axially movable within the

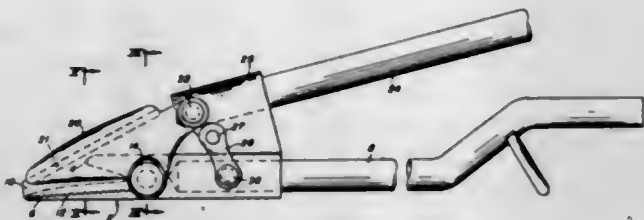


bore in said plunger and said engraving point for protruding from the scribing tip of said engraving point.

3,339,280

STRAP CUTTER

Marchand B. Hall, Olympia Fields, Ill., assignor to United States Steel Corporation, a corporation of Delaware
Filed Aug. 4, 1965, Ser. No. 477,161
2 Claims. (Cl. 30-251)



1. A strap cutter comprising a stationary jaw having a lateral cutting edge, a handle connected with said stationary jaw, a shear blade having a cutting edge portion pivotally connected with said stationary jaw in side-by-side relation therewith, said shear blade normally extending along said lateral cutting edge and being pivotal toward and away from said lateral cutting edge to effect a cooperative shearing action therewith, a hood of substantially channel section pivotally connected with said jaw and telescoped snugly over said jaw and said shear blade to laterally confine the jaw and blade, said cutting edge portion of said shear blade projecting below said hood, said hood being rigidly connected with one end of said shear blade for pivotal movement therewith relative to said jaw, a handle pivotally connected with said hood, and linkage means connecting said hood handle with said jaw whereby movement of said hood handle relative to said stationary jaw effects pivotal movement of said shear blade relative to said lateral cutting edge.

3,339,281

SHEARS WITH LOCKING MEANS

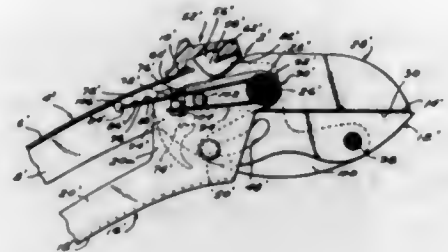
Ho Chow, River Edge, N.J., assignor to International Patent Research Corp., New York, N.Y., a corporation of New York

Filed May 24, 1965, Ser. No. 458,317

8 Claims. (Cl. 30-262)

1. In shears comprising a support, a pair of blades mounted thereon for relative movement toward and away from one another, a pair of handles mounted on said

support for relative movement, and operative driving connections between said handles and said blades; lock means mounted on a surface of said shears so as to be slidable thereover between a plurality of operative positions and operatively engageable with one of said handles in at least one of said operative positions so as to retain said handles and said blades in a predetermined relative position, cooperating detent means on said lock



means and on another portion of said shears for retaining said lock means in at least one of its operative positions, and unitary spring means mounted on said shears, operatively engaged with said handles and effective to bias them to a given relative position, and operatively engaged with said lock means and effective to urge it toward said shears surface and to bias said detent means into operative engagement.

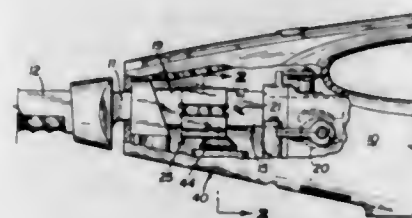
3,339,282

POWER OPERATED KNIFE BLADES DRIVING AND RETAINING MEANS

John M. Hansen, Racine, Wis., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Jan. 24, 1966, Ser. No. 522,550

6 Claims. (Cl. 30-272)



1. Power operated knife blades driving and retaining means comprising

- (a) a knife handle housing,
 - (b) a pair of reciprocated blades having tangs for insertion in the housing,
 - (c) a pair of reciprocated blade drivers each having an opening through its side wall,
 - (d) a blade retainer loosely mounted adjacent each driver and having a blade tang engaging portion extending through said opening in the driver,
 - (d-1) said retainer having a non-fixed fulcrum on one of its edges and means on the opposite edge for engagement by blade release means,
 - (e) flexible means contacting said tang engaging portion of the retainer, and
 - (f) means on each driver holding the flexible means in bearing relation to the tang engaging portion of the retainer,
- said blade retainers being bodily movable when contacted by blade tangs inserted between them, and pivotally movable about said fulcrums when engaged by blade release means between them.

3,339,283

DENTURES WITH HYDRAULIC CUSHIONING MEANS

Ambrose B. Van Handel, 8653 Louise, Northridge, Calif. 91324

Filed Oct. 21, 1964, Ser. No. 405,462

4 Claims. (Cl. 32-2)



1. In a denture construction, a rigid carrier having a groove in the under surface thereof which corresponds generally in configuration to the wear's gum line, a hydraulic cushion positioned in said groove so as to bear against the wearer's gum ridge, and a relatively soft, non-absorbent cushioning material positioned in said groove in overlying relation to said hydraulic cushion, said cushioning material being bonded to said rigid carrier and thereby sealing said hydraulic cushion within the groove in said carrier so as to bear against the wearer's gum ridge the outer surface of said cushioning material having a configuration which conforms to the gum line of the denture wearer.

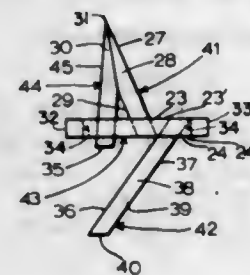
3,339,284

MODEL TRIMMING GUIDE

Richard L. Ashby, Pittsburgh, Pa.
(290 Crestmont Drive, Oakland, Calif. 94619)

Filed Sept. 24, 1963, Ser. No. 311,026

5 Claims. (Cl. 32-38)



1. A model trimming guide comprising a body portion which is approximately of rectangular cross section and having a length greater than its width and having its longitudinal sides parallel to each other to engage a side of the grinding rest plate of a model trimmer and three arms of uniform width and thickness having parallel sides and edges, the thickness of each being less than the thickness of the body portion, extending from said body portion and forming angles therewith, two of said arms extending on one transverse side of said body portion and forming an angle other than a right angle and substantially a right angle therewith respectively, the other arm extending from said body portion on the opposite transverse side and forming an angle therewith other than a right angle.

3,339,285

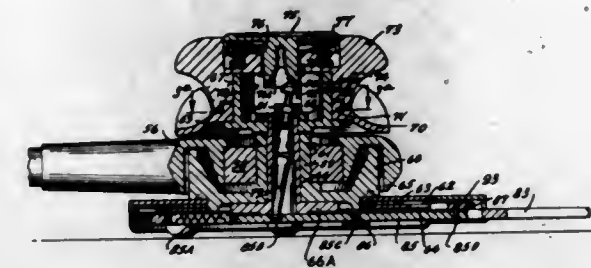
DRAFTING MACHINE

Allister L. Baker, Denville, and William R. Krause, Secaucus, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Original application Oct. 25, 1961, Ser. No. 147,680, now Patent No. 3,196,544, dated July 27, 1965. Divided and this application Feb. 19, 1965, Ser. No. 442,845

8 Claims. (Cl. 33-79)

1. An anchor structure for a drafting machine comprising a bracket having a bore therein, means to support said bracket on a drafting surface with said bore sub-

stantially perpendicular thereto, an anchor pulley rotatably mounted in said bore, a fitting rotatably mounted on the axis of said pulley and on the axis of said bore and having communicating sockets extending substantially tangential to said pulley, said pulley having a circumferential T-shaped groove on one side thereof and having a circumferential groove on the other side thereof, a stop lug so said fitting projecting into said circumferential groove, a stop lug member on said anchor pulley projecting into said circumferential groove for coopera-



tion with said stop lug on said fitting to limit the relative rotation between said anchor pulley and said fitting, a lug on said bracket underlying said T-shaped groove and having an aperture therethrough in registry with said T-shaped groove, a non-circular headed locking bolt positioned in the aperture in said lug and having its head extending into said T-shaped slot, an adjustable nut means cooperating with said locking bolt and with said lug for retaining said anchor pulley wheel in fixed angular relation.

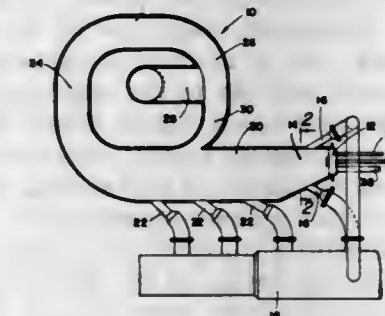
3,339,286

METHOD AND APPARATUS FOR DRYING WET PULVERULENT MATERIAL IN A GASEOUS PATH

Nicholas N. Stephanoff, Haverford, Pa., assignor to Fluid Energy Processing and Equipment Company, Lansdale, Pa., a corporation of Pennsylvania

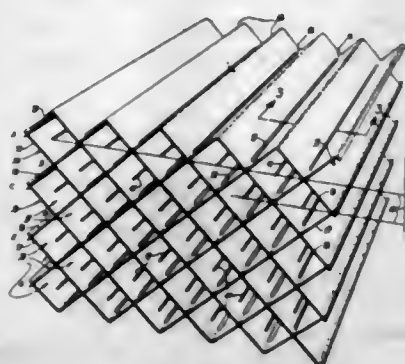
Filed Mar. 11, 1965, Ser. No. 438,963

11 Claims. (Cl. 34-10)



1. A method of drying wet pulverulent material to retain said material in colloidal particle size which comprises atomizing said material in a fluid vortex, spraying the particles of atomized material and fluid through a straight flash-drying path while heating said particles and fluid to a temperature that is sufficiently high to substantially evaporate any liquid adhering to said particles before said particles reach the end of said straight path, then centrifugally circulating said particles and fluid through a separation area where the most dry, lighter particles are centrifugally removed, and then continuing the circulation of the less dry, heavier particles in a centrifugal path that is spaced from the flash-drying path.

3,339,287
METHOD AND APPARATUS FOR DRYING
FREE FLOWING MATERIAL
 Norman T. Gray, 1619 G St., Sacramento, Calif. 95814
 Filed Aug. 16, 1965, Ser. No. 479,792
 4 Claims. (Cl. 34-22)

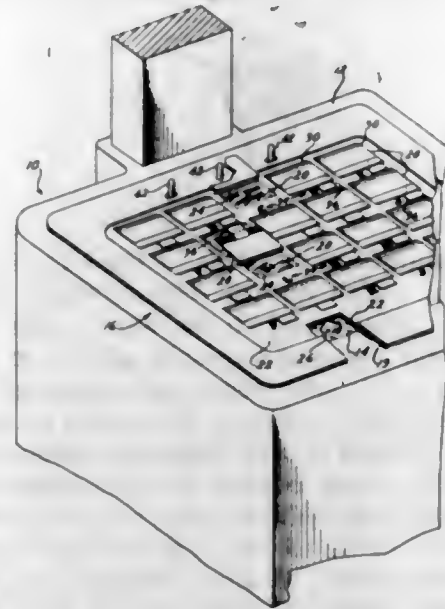


1. In apparatus for drying particulate material, an enclosed vessel, means forming an input plenum connected to one side of said vessel for supplying drying gas to the interior thereof, means forming an output plenum connected to the horizontally opposite side of said vessel for discharging drying gases that have passed through the vessel, a plurality of material supporting metal sheets, mounting means supporting said sheets in a two dimensional array to form elongate cells extending horizontally in parallel alignment between the input plenum and output plenum within said vessel, said plurality of metal sheets being constructed and arranged and in connected pairs joined together at their upper margins at an angle and extending downwardly and outwardly therefrom, each of said sheets being disposed at an equal angle to the horizontal which is greater than the angle of repose for the material to be dried, said mounting means supporting the pairs of sheets in tiers having a plurality of adjacent pairs in each tier, the lower margins of each adjacent pair within a tier being spaced apart to form a material passageway, the upper margins of the connected pairs of a given tier lying immediately beneath and in a material receiving relationship to the material passageways provided in the tier immediately thereabove so that material delivered to the uppermost tier slides down the sheets thereof in free movement under gravity flow for predetermined distance and is discharged through the material passageways of said tier to the upper margins of the sheets of the tier next below which divert the stream of material for free movement under gravity flow along the upper surfaces of the sheets of said second tier, said material flowing in like manner downwardly through the tiers to the lowermost portion of the vessel, the material being subjected to the action of the drying gases flowing through the vessel from the inlet plenum to the outlet plenum.

3,339,288
PROJECTION GAME DEVICE
 Stanley E. Sacks, Plainview, N.Y., assignor to Tecnifax Corporation, Holyoke, Mass., a corporation of Massachusetts
 Filed Dec. 21, 1964, Ser. No. 419,636
 3 Claims. (Cl. 35-9)

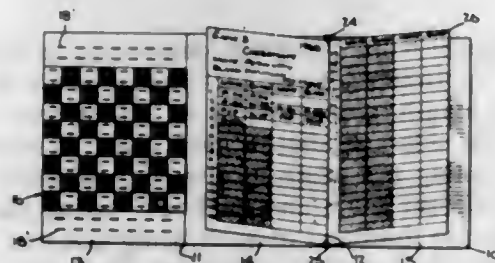
1. For use in combination with an overhead projector having a stage overlying a light source, a game device to be placed on said stage, said device comprising a transparency having indicia arranged thereon in a grid pattern of a plurality of rows of a given number of indicia, said indicia comprising a plurality of associated pairs of indicia, a mask overlying said transparency, said mask comprising a transparency having opaque portions de-

fining windows arranged in said grid pattern and registering respectively with said indicia and opaque flaps covering said windows, said flaps being hingedly connected by a flexible strip adhesively secured to said mask and said flaps, said flaps being swiggable from said covering relation to permit said indicia to be displayed by said pro-



jector in an attempt to locate the windows registered with a pair of associated indicia, the transparency comprising said mask further having at the bottom of each window transparent identifying indicium to be displayed by said projector, each flap at the bottom edge thereof having a tab which may be selectively moved from a position to one side of the identifying indicium to a position overlying same to prevent its display by said projector.

3,339,289
CHESS INSTRUCTION SET
 Kenneth J. Arkin, 1669 47th St., Brooklyn, N.Y. 11204
 Filed Feb. 20, 1964, Ser. No. 346,289
 7 Claims. (Cl. 35-9)

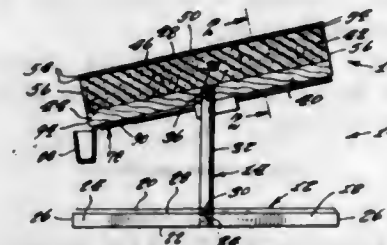


1. A chess game consisting in its component parts of a foldable support having flaps, a chess board and set constituting one of said flaps, a double flap beside the chess board, clip means adapted to hold a card at the fold of the double flap, and foldable card means fitted to the double flap and the clip means.

3,339,290
INJECTION TRAINING DEVICE
 Marjorie P. Doyle, 83 Elliot Ave., Centereach, N.Y. 11720
 Filed June 22, 1965, Ser. No. 466,033
 1 Claim. (Cl. 35-17)

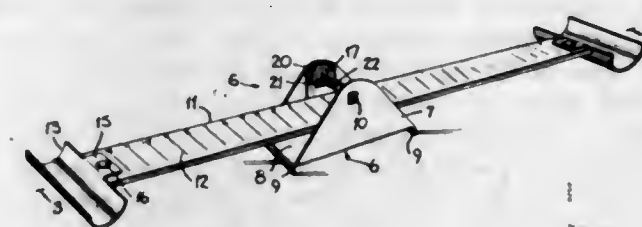
In an injection training device, the combination of a base, a vertical upstanding post centrally mounted on said base, and an arm angularly mounted on said post, said arm simulating the construction of the human or animal anatomy, said anatomy including the inner and outer

layers of skin and a muscle adjacent said inner layer of skin, said simulated anatomy comprising an outer sheet of plastic simulating said outer layer of skin, an inner sheet of plastic simulating said inner layer of skin, a sponge material simulating said muscle, said arm comprising a panel mounted on said post, said sponge material being positioned on said panel, said inner plastic sheet being positioned over said sponge material, said outer plastic sheet being positioned over said inner plastic



sheet, said panel being of rectangular configuration, said sponge material being of semi-cylindrical configuration having a flat side adjacent said panel and a semi-cylindrical side adjacent to said inner sheet, said sheets being of rectangular configuration having side edges extending under said panel, clamp means on the under side of said panel to secure said sheet edges, and a tray removably secured below a lower end of said angularly mounted arm to catch fluid from hypodermic needles injected into said arm.

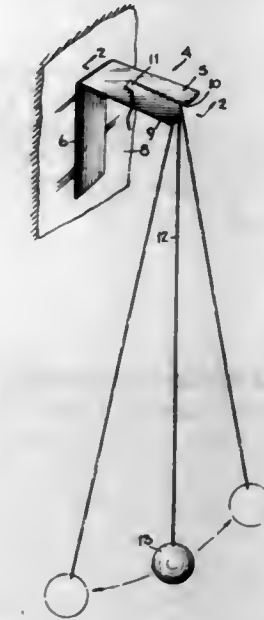
3,339,291
EDUCATIONAL BALANCE DEVICE
 Hyman Ruchlis, Brooklyn, N.Y., assignor to Harcourt, Brace & World, Inc., New York, N.Y., a corporation of New York
 Filed Oct. 15, 1965, Ser. No. 496,483
 5 Claims. (Cl. 35-19)



1. An educational balance device for demonstrating the principle of the equal arm balance comprising a U-shaped support means having a pair of upstanding legs, a fulcrum means supported in and positioned across said upstanding legs, a yoke means supported from said fulcrum means in depending manner, an elongated flat beam of substantial width supported at the central portion thereof on said yoke means, and pan means secured to each end of said elongated flat beam.

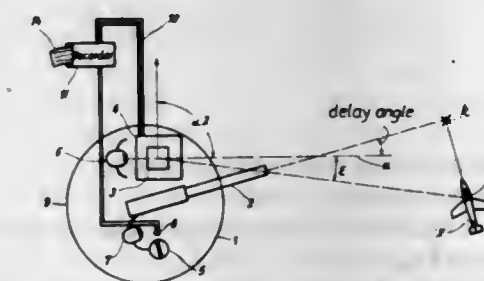
3,339,292
EDUCATIONAL PENDULUM DEVICE
 Hyman Ruchlis, Brooklyn, N.Y., assignor to Harcourt, Brace & World, Inc., New York, N.Y., a corporation of New York
 Filed Oct. 22, 1965, Ser. No. 500,723
 2 Claims. (Cl. 35-19)

1. An educational pendulum device for demonstrating the effect of changing the length of a pendulum comprising an L-shaped bracket of a single thickness having an outwardly extending leg and a depending leg, said outwardly extending leg having a notched pivot formed in one edge



thereof and a friction lock means formed in an intermediate portion thereof, said friction lock means including an integral tab directed from an intermediate portion of the surface of said outwardly extending leg; means on said depending leg for securing said bracket to a wall whereby said outwardly extending leg projects from said

3,339,293
INFRARED MARKSMANSHIP TRAINING APPARATUS
 Günther Kuhlo, Hohenbrunn, Riemerling, and Joachim Hermann, Munich, Germany, assignors to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn, near Munich, Germany
 Filed Sept. 9, 1963, Ser. No. 307,559
 Claims priority, application Germany, Sept. 18, 1962, B 68,894
 13 Claims. (Cl. 35-25)



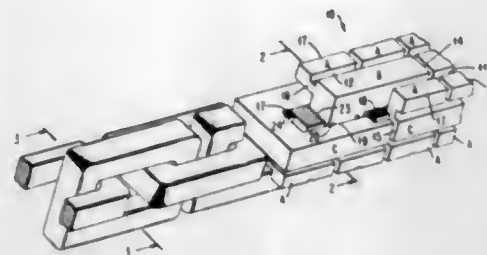
1. A system for training marksmen with the use of a movable target, said system comprising, in combination, an infrared target source, an optical sighting means; an infrared position detector; means operable to calculate the angular displacement of said infrared target source from the optical axis of said infrared position detector; means mounting said optical sighting means and said infrared position detector so that the indicated angular displacement of said infrared target source from the optical axis of said infrared position detector corresponds to the angular displacement of the target from the optical axis of said sighting means; and means operable to record the angular displacement of the target from the optical axis of said sighting means.

3,339,294

EDUCATIONAL DEVICE

Herbert P. Byrnes, Hillside Lake, Hopewell Junction, N.Y. 12533, and Robert H. Cadwallader, Forest View Road, Fishkill, N.Y. 12524

Filed May 27, 1965, Ser. No. 459,393
2 Claims. (Cl. 35-26)

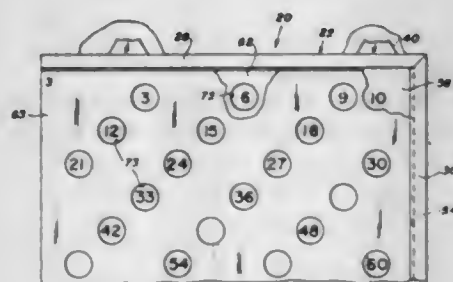


1. An educational device comprising a block of material capable of being carved, lines delineating a rough configuration of an object to be formed, a group of said lines extending parallel to each other and parallel to the axis of the block, a second group of said lines extending at right angles to the axis of said block, said first group of said lines outlining certain material to be removed as well as the faces of the object to be formed, said second group dividing portions of said block into parts of the object, and a series of holes drilled through said block from corner to corner to act as guides to locate material to be removed during the forming of said object.

3,339,295

MATHEMATICS INSTRUCTING DEVICE

Willard J. Wanvig, 6641 SE. Lake Road, Milwaukie, Oreg. 97222
Filed May 17, 1965, Ser. No. 456,131
11 Claims. (Cl. 35-31)



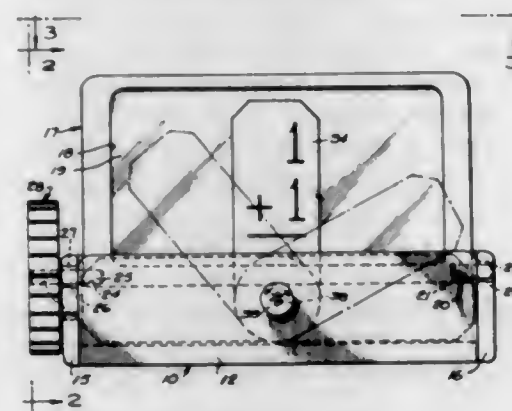
1. In a mathematics instructing device, a stiff chart supporting panel, a frame for said chart supporting panel to which said chart supporting panel is joined, a chart positioned upon a first surface of said chart supporting panel, said chart bearing numerals arranged in a predetermined array thereon, a first stiff factoring mask having a plurality of apertures therein, each aperture being of sufficient size to expose only one of said numerals on said chart, wherein said plurality of apertures expose a first given numeral less than ten and greater than one as well as multiples thereof, when said first mask is positioned in registration with said chart, and at least a second stiff factoring mask having a plurality of apertures therein, each aperture being of sufficient size to expose only one of said numerals on said chart, wherein said plurality of apertures in said second mask expose a second given numeral, different from first given numeral, and multiples thereof,

when said second mask is positioned in registry with the chart, such second given numeral also being less than ten and greater than one, said frame having portions extending forward of the first surface of said chart supporting panel upon which said chart is positioned to form a compartment of a depth equal to at least the combined thickness of said first factoring mask and said second factoring mask in registry, both said factoring masks being slidably receivable in guided relation into said compartment, a portion of said frame forming a backstop for registering said masks with said chart, said apertures conjointly exposing numerals of which both said first given numeral and second given numeral are factors.

3,339,296

FLASH CARD GAME WITH ADJUSTABLE MIRROR

Ruth G. Chuy, 15447 Sorrento, Detroit, Mich. 48227
Filed June 4, 1965, Ser. No. 461,233
5 Claims. (Cl. 35-31)



1. A device of the class described comprising: a set of flash cards having problems on the front faces thereof, and answers to the problems on the rear faces thereof; a stand; means for mounting said set of flash cards on said stand; a pivotally mounted mirror carried by said stand in a position spaced apart from and cooperative with said flash cards to show the answers to problems appearing on the front faces of said flash cards when it is pivoted to a first position, and said answers being unobservable when the mirror is pivoted to a second position said problems being observable when said mirror is in said first and second positions; and, stop means on said stand to limit the pivotal movement of the mirror at said first and second positions.

3,339,297

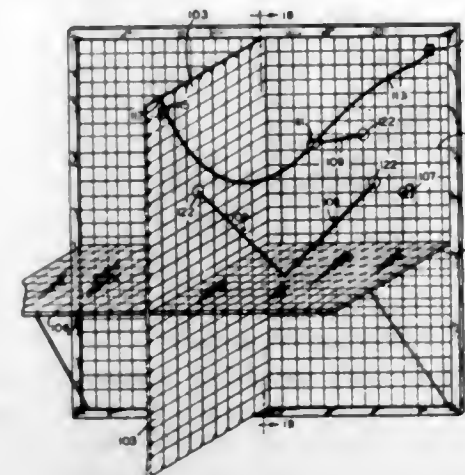
PARAMAGNETIC BOARDS AND ATTACHMENTS

Dorothea J. Stinn, 409 Indigo Drive, Prospect Heights, Ill. 60070; and Jack P. Burke, 6078 Newberg Ave., and Ted C. Skonberg, 6941 N. Ozark Ave.; both of Chicago, Ill. 60631

Filed Jan. 18, 1965, Ser. No. 426,339
3 Claims. (Cl. 35-73)

1. An educational device comprising: a self-supported first blackboard panel wherein said panel consists of a metallic sheet secured between two sheets of blackboard material, a second blackboard panel consisting of a metallic sheet secured between two sheets of blackboard material, removably vertically attached to said first panel in a right angular position, a third panel consisting of a transparent plastic sheet in which metallic strips are embedded, removably

horizontally attached to said first panel and said second panel in a right angular position to said first and second panels, and

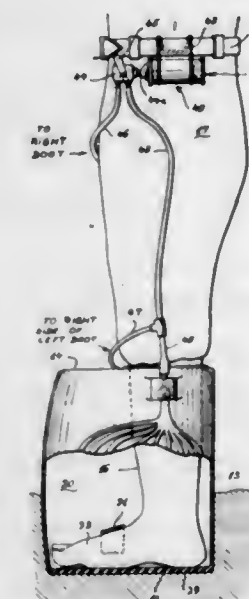


one or more symbolic elements magnetically attachable to said panels to represent various scientific concepts.

3,339,298

BOOTS WITH MEANS TO PROVIDE AIR PRESSURE UNDER THE SOLES

Samuel A. Kesselman, 175-25 139th Road, Jamaica, N.Y. 11434
Filed Sept. 28, 1966, Ser. No. 582,575
4 Claims. (Cl. 36-2.5)



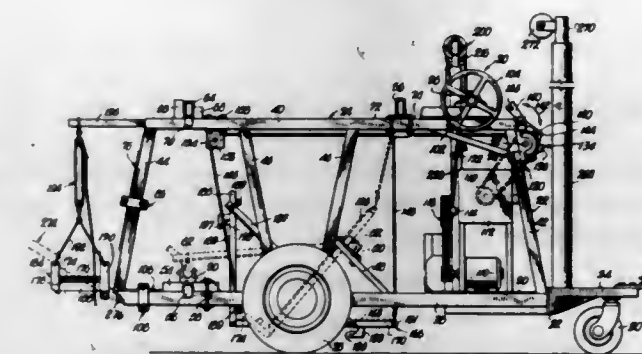
1. In a deep mud boot, the combination of a sole, and upwardly extending side wall, said side wall extending upwardly around all sides of the said sole, said wall being of relatively equal height upon all sides, the upper end of said side wall being secured to the edge of a horizontal top wall, said top wall having an opening therein for the purpose of fitting around a wearer's leg, said top wall having a forwardly extending slot, one end of said slot intersecting said opening, said slot providing a means for introducing a foot through said top wall into said boot, a slide fastener for selectively enclosing said slot, a tubing assembly upon each lateral side of said side wall to provide access means for air to the underside of said sole of said boot, said tubing assemblies each comprising a downwardly extending tube, the upper end of said tube being approximately level with said top wall of said boot,

the lower end of each of said tubes being in communication with a plurality of radially extending tube lines, the lower ends of said tube lines being open and in communication with the lower surface of said boot sole, and a one-way valve between said tube and tube lines to permit entry of air downward only from said tube into said tube lines.

3,339,299

APPARATUS FOR TRANSPLANTING

Allen E. Pollock, 3517 Holmes, Kansas City, Mo. 64109
Filed Feb. 3, 1965, Ser. No. 430,079
14 Claims. (Cl. 37-2)



1. Apparatus for removing a soil ball attached to the earth, extending below ground level, and being surrounded by a trench, said apparatus comprising:

a support adapted to be lowered into the trench to a first position adjacent to the base of the soil ball and having means thereon for severing the soil ball from the earth as the support is moved to a second position between the soil ball and the earth;

means shiftable into the trench and coupled with said support for moving the support from said first position to said second position, whereby the soil ball is severed from the earth;

structure movable over the ground and having means for elevating the support from said second position, thereof said elevating means including mechanisms for tilting the support and thereby the soil ball thereon after the soil ball has been elevated, whereby the support and thereby the soil ball may be lifted to ground level and disposed for movement over the ground with said structure;

means removably secured to said support for retaining the soil ball thereon when the support is tilted; and means removably secured to said structure in a location beneath said support after the latter has been elevated for supporting the same and thereby said soil ball in an elevated disposition, said structure being provided with a pair of spaced side portions, said support and said soil ball being movable between said side portions when the same are elevated, said supporting means including a pair of spaced bars spanning the distance between said side portions.

3,339,300

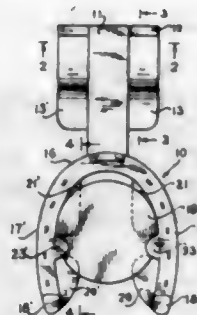
DETACHABLY MOUNTABLE PENDENT AND COACTING REMOVABLE ELEMENT

Aubrey C. Bury, Huntington, N.Y., assignor to William F. Blake, Inc., Newark, N.J., a corporation of New Jersey

Filed Feb. 5, 1965, Ser. No. 430,649
9 Claims. (Cl. 40-1.5)

1. A detachably mountable pendent device comprising a relatively flat elongated body part, one end of said body part having an integral, rearwardly extending cross-head protruding laterally beyond side edges of said body, resilient clamp members integral with said cross-head and

rearwardly spaced from said body part providing clamping movement perpendicularly to the plane of said body part, said clamp members being spaced apart a distance at least equal to the width of said body part, whereby said body part, cross-head and clamp members can be fashioned in



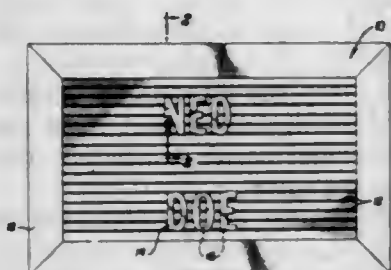
a unitary cavity of a two-part mold, the other end of said body part being divided into two laterally spaced members yieldably movable in the plane of said body part to provide peripheral engagement with a disc-like coacting element disposed therebetween.

3,339,301

DISPLAY PANEL AND METHODS OF MANUFACTURE

Edward H. Doris, 12011 Foster Road, Los Alamitos, Calif. 90720, and James L. Morgan, 3411 Altura St., Los Angeles, Calif. 90031

Filed Feb. 7, 1966, Ser. No. 536,489
2 Claims. (Cl. 40-142)



1. In a sign assembly comprising a display panel and a plurality of indicia elements adapted to be disposed in horizontal rows thereon, said elements being substantially rigid and having rigid parallel tab portions extending rearwardly from their upper and lower extremities to define a generally U-shaped configuration in cross-section, the improvement consisting of said display panel comprising an integral, relatively thick slab of solid resilient foam plastic material having on one side thereof parallel grooves extending inwardly from the outer surface of said one side toward a central plane of said slab parallel to said outer surface and terminating at points disposed in a plane spaced inwardly from the opposite sides of said slab, said grooves being narrower in cross-section than said tab portions and being defined by straight parallel side walls having resilient, closely spaced, opposed surfaces for receiving and gripping said tab portions, whereby various indicia elements may be firmly but removably mounted in selected positions on said outer surface.

3,339,302

INTERLOCKING PHOTOGRAPH FRAME

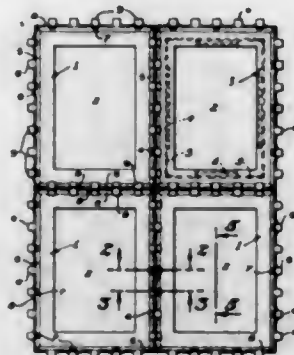
Gary E. Mallory, 37-863 Melrose Drive, Palm Springs, Calif. 92262

Filed Feb. 1, 1966, Ser. No. 524,228
4 Claims. (Cl. 40-152)

1. A frame structure for photographs, comprising:
(a) a rectangular frame defining a central opening;

(b) means for positioning a photograph in said opening;

(c) a raised rim bordering said frame and having a set of slots therein defining a common plane parallel to, but offset from said frame;



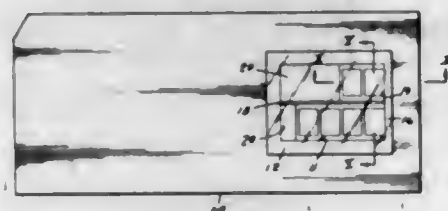
(d) a set of tongues extending outwardly from said rim in the same plane as said slots, said tongues and slots being so located as to permit the tongues of one frame structure to enter the slots of a companion frame structure thereby to join said frame structures.

3,339,303

FILM STORAGE CARD

Thomas P. Anderson, Hubbards Woods, and Thomas E. Graves, Arlington Heights, Ill., assignors to Microseal Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 29, 1965, Ser. No. 429,059
8 Claims. (Cl. 40-159)



1. A microfilm record card for removably and gripably retaining microfilm strips in side-by-side alignment comprising:

a stiff card having a rectangular aperture formed therein;

resilient, transparent enveloping films completely overlying said aperture and lying on opposite surfaces of said card;

means bonding each of said enveloping films to said card about three edges of said aperture whereby to provide an access opening to the area between said films for insertion and removal of microfilm strips;

means bonding facing surfaces of said films together within said aperture along a bonding line running normal to the edge of said aperture at said access opening;

wherein said films are stretched relatively taut across said aperture;

wherein the film-to-film bonding line is of lesser thickness than the microfilm to be contained between said films; and

wherein the thickness of said stiff card is only slightly greater than the thickness of the microfilm.

3,339,304

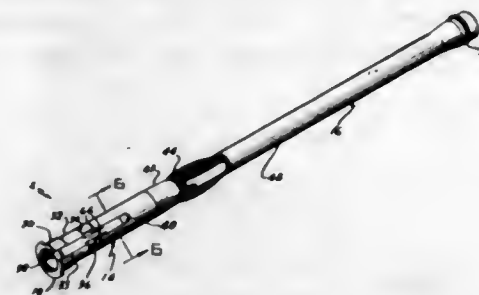
SHOTGUN GAUGE ADAPTER

Oliver M. Knode, Jr., Hampden, and Edward M. Stark, East Longmeadow, Mass., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Oct. 23, 1965, Ser. No. 503,211
1 Claim. (Cl. 42-77)

Adapter to reduce a gun bore diameter comprising a composite tubular structure having a steel chamber member and a lightweight non-ferrous metal barrel piece

affixed to the end of the chamber member, said chamber member being formed with a longitudinally extending undercut recess, an extractor bar slidably mounted in said recess, an elastic ring carried adjacent the terminal end of said barrel piece, and a metal clip in the form of a split ring disposed on said chamber member, the free ends



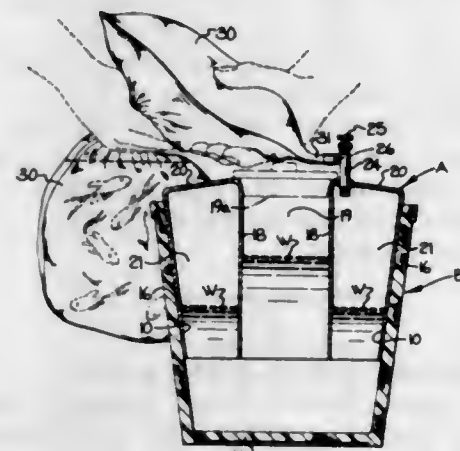
of said ring terminating in spaced opposed relationship, a projection extending into the split formed by the free ends of said ring, said projection being axially offset from the circumferential center line of said ring so that end-to-end reversal of the clip changes the stroke of said extractor bar.

3,339,305

LIVE BAIT BUCKET ADAPTER

Oscar C. Smith, Box 207, Newton, N.C. 28658

Filed Aug. 9, 1965, Ser. No. 478,228
1 Claim. (Cl. 43-56)



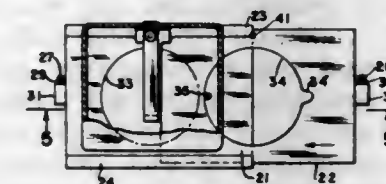
A device, adapted to be frictionally received in buckets of varying size which have inwardly and downwardly tapered annular side walls, for retaining a pocket of oxygen above a supply of water in the bucket for sustaining live bait, such as minnows, for extended periods of time, said device comprising spaced apart inner and outer annular walls having free lower end portions adapted to extend below the water level in the bucket, an annular top wall connecting said inner and outer walls and cooperating therewith for defining a chamber for retaining oxygen, said annular top wall being wholly within the perimeter of said outer wall, said outer annular wall being substantially uniformly tapered inwardly and downwardly throughout its entire length and adapted to frictionally engage the tapered side wall of a bucket, the length of said outer wall being substantial and the taper thereof being such that the device is received to a deeper extent in larger size buckets than buckets of smaller size, said inner annular wall being of substantially the same length as said outer wall and defining an open-ended passageway for gaining access to minnows in the bucket, and a valve communicating with said chamber for introducing oxygen into the chamber for sustaining the life of live bait in the bucket.

3,339,306

MOUSETRAPS

John Henry William Yakel and Frederick Otto Yakel, both of 4291 NW. 36th St., Miami, Fla. 33166

Filed Mar. 17, 1965, Ser. No. 440,424
1 Claim. (Cl. 43-85)



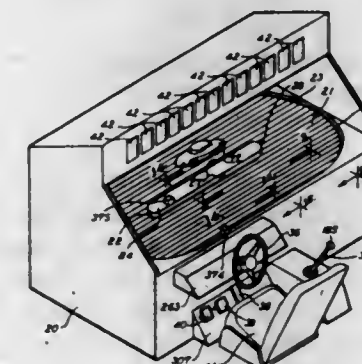
A mousetrap comprising a pair of elongated flat plates, one plate having intumed sides along its length forming a guideway for slidably receiving the other plate, a bowed spring rod having its outer ends connected to said plates and urging said plates apart, said plates each having an entrance opening adapted to align with one another when said spring rod is compressed, said one plate having a pin reciprocally mounted in a portion of said intumed sides, spring means urging said pin downward, said other plate having a pin hole adapted to receive said pin to lock said plates together, an arm mounted to said pin and adapted to raise said pin, with the raising of said pin releasing said plates and allowing said entrance openings to become misaligned, and a rectangular box surrounding said arm.

3,339,307

REMOTELY CONTROLLED RACING CAR GAME

Francis B. Floyd, 5039 E. 6th St., Kansas City, Mo. 64124, and Aubrey E. Richardson, 9820 Aberdeen Road, Overland Park, Kans. 66206

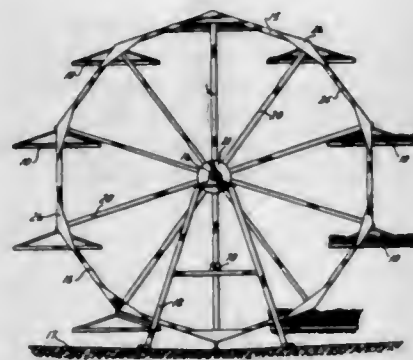
Filed Apr. 30, 1964, Ser. No. 363,962
4 Claims. (Cl. 46-244)



1. In an apparatus of the character described, a vehicle and a member having a surface over which said vehicle operates, means remote from the vehicle for independently producing two oscillating currents of different fixed frequencies, independently controlling the amplitude of each of said currents common amplifying means for said oscillating currents, a direct current source, said surface being provided with a plurality of conducting strips extending longitudinally thereof substantially in parallel transversely spaced relationship, means for insulating transversely adjacent conducting strips from each other including insulating strips mounted between said conducting strips, means for connecting alternating conducting strips with the output terminals of said amplifying means and with the opposed terminals of said direct current source, comprising a circuit having its terminals connected with said alternating strips and serially including the opposed terminals of said direct current source.

nals of said direct current source and the output terminals of said amplifying means, a pair of variable speed motors mounted on said vehicle, a plurality of current collecting members mounted on said vehicle yieldingly engaging said conducting strips, a receiving circuit having a pair of conductors mounted on said vehicle, rectifying means disposed between said current collecting members and said conductors to provide for only negative current flow to one of said conductors and only positive current flow to the other conductor from said collecting members, means on said vehicle connecting each of said motors with said conductors including a transistor serially connected with said motor and means for independently varying the conductivity of each of said transistors comprising means each tuned to one of said fixed frequencies and responsive to the amplitude of the oscillating current to which it is tuned included in said receiving circuit each comprising a primary and a secondary winding, means connecting the negative end of each of said secondary windings with the base of one of said transistors, a driving connection between a pair of wheels of said vehicle and one of said motors, a steering mechanism for said vehicle and means for adjusting the position of said steering mechanism responsive to the speed of the other motor.

3,339,308
IRRIGATING DEVICE
Donald T. Clare, Phoenix, Ariz., assignor to
Dac Corporation, a corporation of Arizona
Filed Dec. 10, 1965, Ser. No. 513,129
5 Claims. (Cl. 47-1.2)



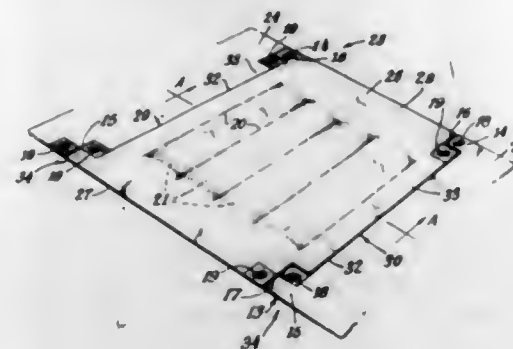
1. An irrigating device comprising: a plurality of trays, each including means for supporting seeds and plants to be irrigated; an irrigation well; a shaft supported above said irrigation well; a support frame mounted on said shaft and rotatable about the axis of said shaft; means pivotally supporting said trays on said support frame; said shaft and support frame positioned relative to said irrigation well to permit said trays to sequentially extend into said well when said support frame is rotated about the axis of said shaft, said support frame comprising a pair of wheels pivoted on said shaft and axially spaced from each other.

3,339,309
HORTICULTURAL BLANKET
Jack Stone, "Lynden," Prestbury Road,
Wilmslow, England
Filed Dec. 28, 1965, Ser. No. 516,940
2 Claims. (Cl. 47-29)

1. An elongated, horticultural blanket, of extreme lightness in weight, for resting on, and covering, growing crops to provide sunlight transmission and heat insulation, said structure comprising:

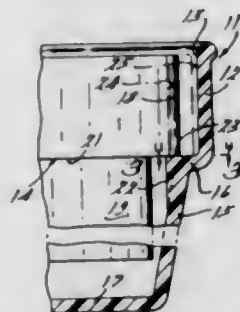
a plurality of identical lay-flat, air inflatable enclosures each of relatively thin, generally rectangular configuration for covering a predetermined area of said

crops, each formed of two layers of transparent synthetic, light weight plastic film material sealed around the edges thereof and sealed discontinuously over the meeting surfaces thereof to each other, to form one of said enclosures;
tongue means projecting longitudinally from each opposite end of each said enclosure for mating in juxtaposition, with said tongue means on adjacent enclosures, when said enclosures are positioned end to end to cover an elongated row of crops;



said tongue means comprising a pair of longitudinally projecting tabs each on an opposite side of one end of each said enclosure, separated by a relatively wide tab space and a single longitudinally projecting tab centrally of the opposite end of each said enclosure, said opposite end having tab spaces each on an opposite side thereof for receiving the pair of tabs of the next successive enclosure;
inflation means on each said enclosure for individually inflating the same with air;
and eyelet means, proximate each of the four corners of each said rectangular enclosure for receiving peg-like anchoring means to resist the effect of strong winds while retaining the extremely light characteristic of said blanket.

3,339,310
FLOWER POT CONTAINER
Harry J. Solomon, Detroit, Mich., assignor to Decor
Plastic Company, a corporation of Michigan
Filed Dec. 6, 1965, Ser. No. 511,626
6 Claims. (Cl. 47-34)

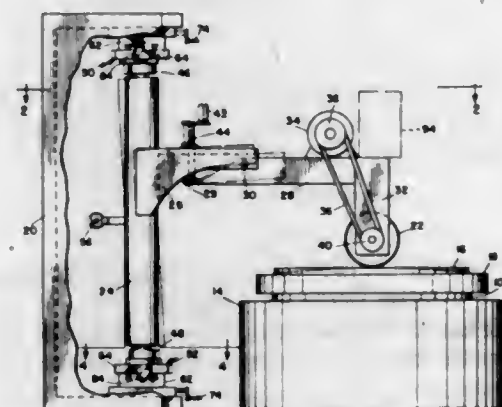


1. An ornamental container adapted to support flower pots having various sizes within a given nominal size, the flower pots having generally like contour comprised of two joined segments defining a downwardly facing shoulder therebetween, said container having first and second sections, said first section defining an opening at one end thereof large enough to receive both segments of the largest size flower pot within the given nominal size to be supported, the other end of said first section being joined to a respective open end of said second section by a ledge,

said open end of said second section being large enough to receive the smaller segment of the largest size flower pot within the given nominal size to be supported, the inner periphery of said ledge being greater in size than the outer periphery of the shoulder of the smallest size flower pot within the given nominal size to be supported, and a plurality of spaced tabs extending inwardly of said ledge for engaging and supporting the received flower pot thereupon through engagement with its shoulder, said tabs having sufficient inward extent to supportingly accommodate the smallest size flower pot within the given nominal size to be supported without interfering with the positioning of the largest size flower pot within the given nominal size to be supported within said container the supporting surfaces of said tabs lying in the same plane as said ledge.

3,339,311
CONTOUR FINISHING MACHINE
John W. Berg, La Mesa, Calif., assignor to
Gerald L. Berg, La Mesa, Calif.
Substituted for abandoned application Ser. No. 401,543,
Oct. 5, 1964. This application Oct. 8, 1964, Ser. No.
402,569

3 Claims. (Cl. 51-33)

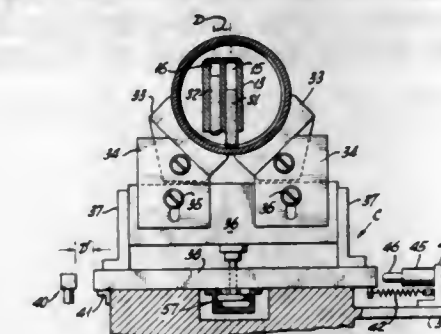


1. Contour surfacing apparatus comprising:
a worktable movable about an axis;
means for holding a workpiece on said worktable;
rotatable surfacing means;
a frame member;
spaced self-aligning anti-friction bearings mounted on said frame member on an axis generally parallel to the axis of said worktable;
a supporting column journaled in said bearings;
means supporting said surfacing means from said supporting column in a position to move in an arcuate path across said worktable;
means to oscillate said column; and
means to individually adjust the lateral position in two axes of said bearings on said frame whereby the axis of said column may be tilted with respect to the axis of said worktable.

3,339,312
HONING APPARATUS
William F. Hannon, Berlin, Conn. (% Fafnir Bearing Co.,
New Britain, Conn. 06053)
Filed May 18, 1964, Ser. No. 368,103
20 Claims. (Cl. 51-58)

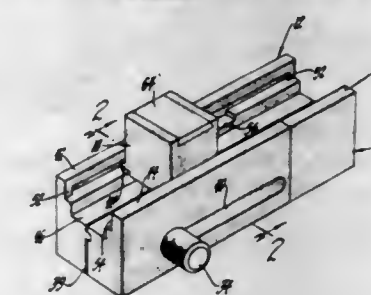
1. Honing apparatus comprising work-support means, a holder, a honing stone movably carried by the holder, means positioning the holder with the honing stone oriented toward a work surface of work supported by the work-support means, means to transmit fluid pressure directly to the honing stone to move said stone, relative to the holder, from a retracted position into honing con-

tact with the work surface, and means for alternately transmitting suction directly to the honing stone to move



said stone, relative to the holder, away from the work surface and back to said retracted position.

3,339,313
BLADE HONING DEVICE
Carl L. Lindhag, 31461 Lamar,
Farmington, Mich. 48024
Filed June 8, 1964, Ser. No. 373,173
3 Claims. (Cl. 51-59)

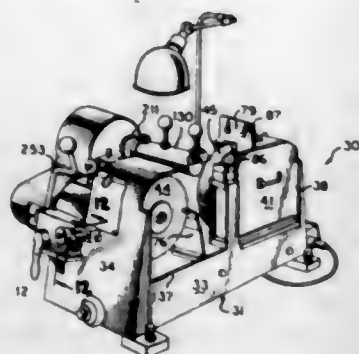


2. A device for honing razor blades, and comprising:
a body part member including a separable part and threaded fastener means for holding said separable part thereto,
cooperative means formed and provided between said body part member and said separable part for receiving and positively positioning a razor blade member therebetween,
an elongated slot provided in one of said body and separable parts and receptive of said fastener means for permitting the relative separation of said body member and separable parts to receive a razor blade, guideways formed in said body and separable parts in parallel alignment and on opposite sides of where the razor blade member is received,
a slide member received and guided in said guideways, said slide member including a bore formed in the underside thereof and a cylindrical member received and relatively movable in said bore,
spring means in said bore biasing said cylindrical member outwardly thereof,
blade sharpening hones provided in said cylindrical member and disposed to provide pairs of aligned V's receptive of the blade edge to be sharpened in the clefts thereof,
said hones of each V aligned pair being laterally spaced relative to each other and in combination being self-aligned relative to a blade edge to be sharpened upon spring resistant depression thereof.

3,339,314
CUTTER BLADE HONING MACHINE
Ralph Cover, Box 390, Westminster, Md. 21157
Filed Dec. 30, 1964, Ser. No. 422,122
20 Claims. (Cl. 51-95)

1. In apparatus of the character described, a pair of abrading wheels presenting cylindrical abrading surfaces, means for rotating said wheels, a blade carrier arm

between and parallel to the axes of said wheels, blade supporting means on said arm for supporting a blade, a gage block having a gage surface for accurately positioning a blade carried by said arm for subsequent pre-



sensation to the wheels, first means mounting said arm for movement toward and away from said gage block, and second means mounting said arm for movement toward and away from each of said wheels.

3,339,315

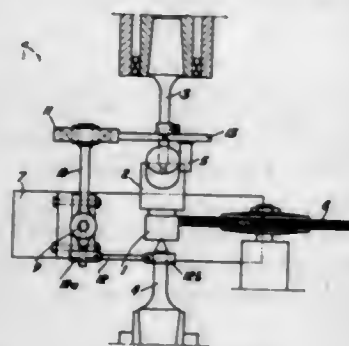
GRINDING MACHINE

Michel Orain, Courbevoie, France, assignor to Societe Glaenzer Spicer Societe Anonyme, Poissy, Seine-et-Oise, France, a corporation of France

Filed Jan. 29, 1965, Ser. No. 429,066

Claims priority, application France, Feb. 4, 1964, 962,619

14 Claims. (Cl. 51—101)



1. A device for machining a surface on a workpiece according to a predetermined shape by means of a tool, consisting of a master pattern reproducing the desired shape of the said surface; reading means which move in conjunction with the said pattern; resilient means of variable resiliency, said resilient means being connected to said reading means and producing a resilient force proportional to the value of displacement of said reading means on said master pattern; flexible means for supporting said master pattern, said resilient means being in operative contact with said flexible supporting means so that said surface is subject to the action of said resilient force and moves in relation to the said tool proportionally to the value of said force.

3,339,316

VIBRATORY FINISHING APPARATUS

John F. Rampe, 3417 Fairfax Road, Cleveland Heights, Ohio 44118

Filed Apr. 7, 1965, Ser. No. 446,376

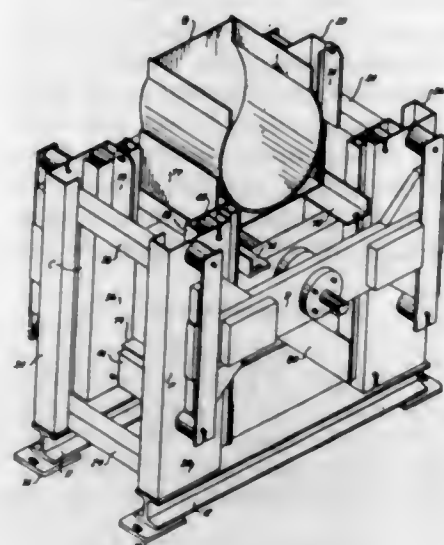
10 Claims. (Cl. 51—163)

1. In an orbital finishing apparatus, the combination comprising:

- a frame including a base and a group of vertically extending members connected to said base;
- a carriage resiliently mounted on said frame by means of a plurality of resilient shear mounts and having a pair of opposed bearing block assemblies;

a generally cylindrical workpiece supporting tub mounted on said carriage;

an eccentric drive shaft rotatably mounted in said bearing block assemblies; and



a counterpoise assembly including a pair of H-shaped members each having a pair of legs connected by a crossbar and a bearing block assembly in each crossbar rotatably supporting said drive shaft, each of said H-shaped members having its center of gravity in a horizontal plane containing said drive shaft.

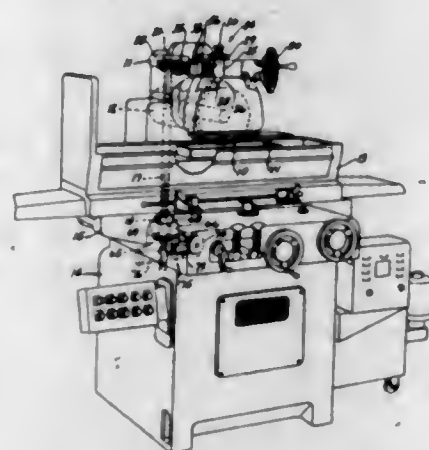
3,339,317

GRINDER WITH AUTOMATIC COMPENSATION FOR WHEEL DRESS

Charles E. Cleland, Minneapolis, Minn., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota

Filed Mar. 29, 1965, Ser. No. 443,552

12 Claims. (Cl. 51—165)



11. In a grinder of the type having a grinder head including a grinding wheel rotatable on an axis fixed with respect to the head:

- (A) a wheel dressing tool;
- (B) means carried by the head mounting the tool
 - (1) adjacent to the periphery of the grinding wheel,
 - (2) for indexing movement radially toward the wheel axis,
 - (3) and for wheel dressing movement relative to the periphery of the wheel;
- (C) drive means having a movable motion transmitting member connected with the tool for imparting wheel dressing movement thereto;

(D) and tool indexing means connected with the tool and activated by the movement of said motion transmitting member of said drive means to effect indexing of the tool the same fixed amount toward the wheel axis each time the drive means is operated.

3,339,318

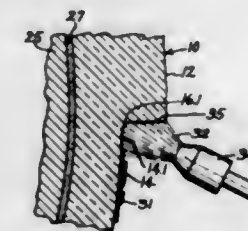
METHOD OF MAKING OPHTHALMIC LENS

Robert E. Graf, Southbridge, Mass., and Robert W. Young, Woodstock, Conn., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Original application June 7, 1961, Ser. No. 115,487.

Divided and this application Dec. 7, 1964, Ser. No. 425,985

5 Claims. (Cl. 51—284)



1. A method of making an ophthalmic lens unit of the character described, said method comprising the steps of providing a lens blank having a side which is divided into at least two portions of different surface curvature and having a shoulder surface extending between said portions, the surface curvature of at least one of said portions being optically finished, masking said optically finished surface curvature at least adjacent to said shoulder surface, treating said shoulder surface to adapt same for substantially reduced light transmission therethrough and removing said mask from said finished surface portion.

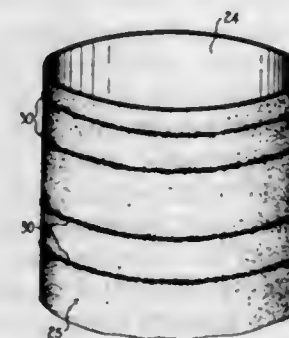
3,339,319

ABRASIVE SLEEVE FOR ROTARY ABRADING MACHINES

Gordon L. Schuster, Minneapolis, and Howard W. Grivna, Fridley, Minn., assignors to Timesavers Sanders, Inc., Minneapolis, Minn., a corporation of Kansas

Filed Oct. 29, 1964, Ser. No. 407,300

3 Claims. (Cl. 51—395)



1. A rotary abrading element adapted to be mounted on a drum, comprising:

- (A) a sleeve of flexible material having sufficient tensile strength to successfully resist the centrifugal force incident to rotation of the sleeve when mounted on a drum rotating at high speed; and
- (B) circumferential bands of abrasive particles bonded to the outer surface of the sleeve, certain of said bands being more abrasive than the rest.

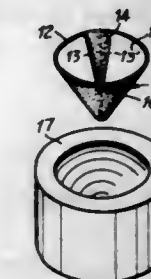
3,339,320

COATED ABRASIVES

Warren E. Christian, Troy, N.Y., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts

Filed Mar. 10, 1965, Ser. No. 438,563

2 Claims. (Cl. 51—399)



1. In a coated abrasive cone formed from a conical piece of coated abrasive material with the abrasive surface thereof on the outside of the cone and the edges of the material forming said cone butted one against the other, the improvement which comprises: a locking tab formed from and integral with the coated abrasive material forming said conical piece, said locking tab being folded over into the interior of said cone to cover said butted edges and being adhesively secured to the interior of said cone to hold said edges in position.

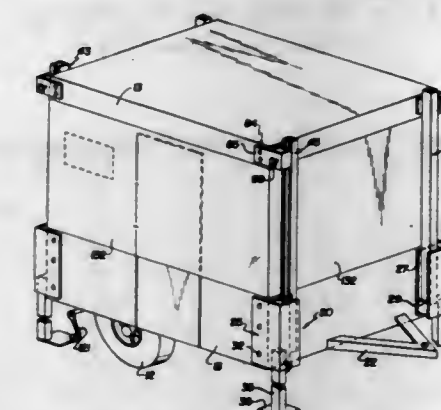
3,339,321

TRAILER APPARATUS

William Schmidt, 1312 3rd St. NE., Calgary, Alberta, Canada

Filed May 3, 1965, Ser. No. 452,600

7 Claims. (Cl. 52—66)



1. Trailer apparatus comprising a base, a roof adapted to be moved between a collapsed position over and closing the base and an extended position spaced above said base, a plurality of hollow supporting arms each swingably mounted adjacent a lower end thereof on the base at an edge of said base and swingable between a lower position extending along the base and an upright position beside the roof, each arm having a slot therein extending longitudinally thereof, a slide mounted in each arm for movement longitudinally thereof, securing means on each slide and projecting through the slot of the arm of said each slide adapted releasably to be connected to the roof when the latter arm is in the upright position, and lifting means connected to said slides for moving the latter along the upright arms to raise the roof to said extended position.

3,339,322

ADJUSTABLE WALL SLEEVE

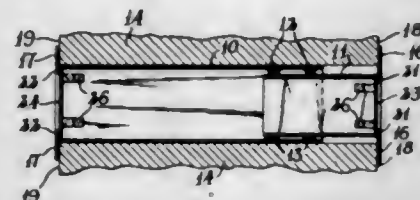
Walter J. Kraus, 2024 Sheridan Road, North Chicago, Ill. 60064

Filed Mar. 12, 1965, Ser. No. 439,250

5 Claims. (Cl. 52—208)

4. An adjustable wall sleeve for positioning within an opening in walls of various thickness comprising: an outer

wall section and an inner wall section movable in said outer wall section, each of said wall sections being provided with a flange about the outer edge thereof extending transversely away from said wall section for seating said adjustable wall sleeve against the outer surfaces of a wall, and each of said wall sections being provided with a second flange about the outer edge thereof extending transversely toward the center of said opening; a translucent panel disposed within each of said wall sections



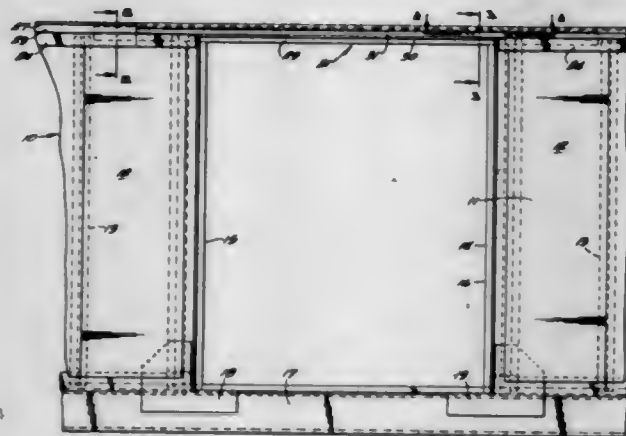
abutting the inner surface of said second flanges; spring means disposed about the inner surface of each of said wall sections adjacent said second flanges for yieldably retaining said panels against the inner surfaces of said flanges; a heat insulating sealing gasket disposed between said inner and outer wall sections maintaining said wall sections out of contact with each other at all times; and a groove disposed about the inner surface of said wall section for retaining said gasket therein.

3,339,323

SIDE PLATE AND DOOR RETAINER CONSTRUCTION

Carl E. Johansson, South Euclid, Ohio, assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 21, 1965, Ser. No. 500,064
5 Claims. (Cl. 52-210)



1. In a railroad car having a side wall with a door opening defined therein adapted to be closed by a sliding door including at least one upper retaining crank and roller, the improvement comprising: a side plate; said side plate having a longitudinal extent substantially coextensive with said side wall; said side plate including a first vertically extending web portion secured to the outer side of said side wall, a horizontal web portion extending inwardly from the top margin of said first vertical web portion and overlying the upper edge of said side wall, a second vertical web portion extending upwardly from the inner margin of said horizontal web and terminating in a supporting surface at the upper end thereof; said supporting surface extending transversely of said side wall and being adapted to support the roof of the railroad car;

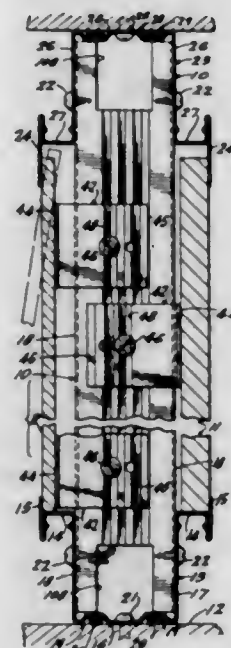
said supporting surface further including a depending retaining flange along at least a portion of the length thereof; the free edge of said depending flange being spaced vertically above said horizontal web and spaced laterally from the second vertical web of said side plate; said upper retaining roller being received between said second vertical web and said depending retaining flange with the roller in engagement with said flange for rolling movement therealong.

3,339,324

WALL CONSTRUCTION INCLUDING OUTER HAT-SHAPED SPLINES AND INNER ADJUSTABLE CLIPS

David W. Stackhouse, Bronson, Mich., assignor to L. A. Darling Company, Bronson, Mich., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 394,086
9 Claims. (Cl. 52-241)



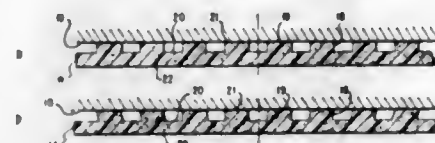
7. A wall structure comprising: a sill member of generally hat-shaped cross section having a bottom, upwardly extending opposite sides, oppositely extending ledges projecting laterally outwardly from the top of said sides, and upwardly extending flanges at the opposite outer ends of said ledges of said sill member; a header member of generally hat-shaped cross section having a top, downwardly extending opposite sides, oppositely extending webs projecting laterally outwardly from the bottoms of said sides, and downwardly extending flanges at the opposite outer ends of said webs of said header member; said flanges of said sill and header members being aligned; a tubular upright of rectangular cross section the lower end of the outer sides of which are received between said sides of said sill member and the upper end of the outer sides of which are received between said sides of said header member, said upright having laterally facing sides with vertically extending grooves therein; a spline of generally hat-shaped cross section fastened to an outer surface of said upright, said spline having a base abutting the outer surface of the upright, sides projecting outwardly from said base, and oppositely extending lateral flanges at the outer ends of said sides in alignment with said flanges of said sill and header members; a panel the margins of which are positioned against the inner surfaces of aligned flanges of said spline, sill and header members; and clips having sides with projections seated in said grooves of said upright, said clips pressing said margins of said panel away from said upright into firm engagement with the inner surfaces of said aligned flanges.

3,339,325

FOAM PLASTIC TILES WITH FLEXIBLE HANGERS

Eugene J. Knapp, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 23, 1964, Ser. No. 353,762
7 Claims. (Cl. 52-309)



1. An improved mounting for maintaining adhesively applied semi-rigid foam surface coverings securely attached to a mounting support wherein the surface covering has a tendency to shrink and otherwise distort upon exposure to various environmental conditions which comprises, a plurality of flexible, resilient precompressed foam plastic mounting bodies, adhesive means securing one face of said bodies to a mounting support, the end opposite said one face of said bodies being connected to the back face of a semi-rigid foam surface covering, and each of said bodies having a height sufficient to maintain the back of said surface covering in spaced-apart relationship with the mounting surface so that stresses produced in said surface covering may be absorbed by said flexible mounting bodies and thereby securely maintain the surface covering adhesively sealed to the mounting support by said flexible mounting bodies.

3,339,326

PANEL WITH TRIANGULAR CROSS-SECTION FOAM CORE ELEMENTS

Henry H. Derr, Roxboro, and Bernard G. Gentry, Timberlake, N.C., assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed July 6, 1964, Ser. No. 380,481
5 Claims. (Cl. 52-309)



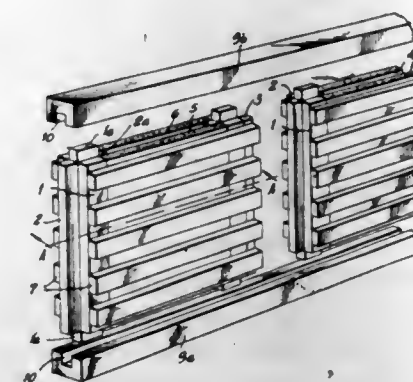
1. A panel adapted for plate or beam loading comprising: a plurality of substantially rigid elements of triangular cross-section disposed in side-by-side relationship between two spaced co-extending planes with one side of each element in one of said planes, each of its other two sides being outwardly concave and, when adjacent to another one of said elements, one of said other sides of one element being in juxtaposed relation with one of said other sides of the adjacent element forming an elliptical cavity, said sides of each element are constituted of a single piece of substantially non-elastic sheet material enclosing a region and each element is filled with a non-elastic plastic foam; substantially non-elastic sheet material disposed generally within said planes in juxtaposition with said sides of said elements; and adhesive means joining the latter of said sheet material to said sides in juxtaposition therewith, and joining said concave element sides which are in juxtaposition.

3,339,327

ASSEMBLY WITH PREFABRICATED WALL ELEMENTS

Wilhelm Kempf, Mespelbrunn über Aschaffenburg, Germany

Filed May 18, 1964, Ser. No. 368,308
Claims priority, application Germany, May 22, 1963, K 49,803
1 Claim. (Cl. 52-347)



Wall structure fabricated from finished parts and comprising frame-shaped, multilayer wall components placed side-by-side, each wall component being provided with end posts composed of several parts, one end post being provided with a groove and the other with a spline for joining adjacent wall components, said wall components being further provided at the top and bottom thereof with splines to engage corresponding grooves within upper and lower bordering strips, and face plates being arranged at both sides, the characteristics being (a) that each end post which is provided with a groove comprises a post-core-strut (1) of rectangular profile and two square strips (3), fastened to the strut and forming the groove, and the end post which is provided with a spline comprises a post-core-strut (1) and a square strip (2), fastened to the strut and forming the spline, (b) that there are provided centric machined strips (2a), one such strip at each inside of a post-core-strut (1), at both sides of said strips there being fastened planks (4) which extend from the end post to end post to form an inner hollow area and are covered at the outer side with a blocking material (5, 6); (c) that there are provided at the two sides of a post-core-strut (1), which run parallel to the wall, laths (7) extending horizontally and at a distance from each other and supporting face plates, and (d) that each of the post-core-struts (1) is provided at each upper and lower end with a protruding tenon (1a) which forms the spline engaging bordering strips (9a, 9b) of U-shaped profile and in the shape of a ledge.

3,339,328

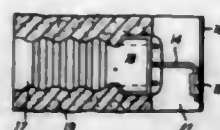
FURNACE CASING AND LINING SECURED BY AN ANCHORAGE ASSEMBLY

Neville William Hinchliffe, Chester, England, assignor to Morganite Incorporated, Long Island City, N.Y., a corporation of New York

Filed Oct. 30, 1964, Ser. No. 407,729
Claims priority, application Great Britain, Nov. 7, 1963, 44,032/63
3 Claims. (Cl. 52-378)

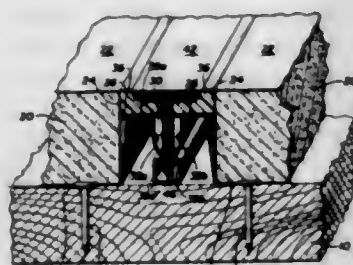
1. A furnace structure comprising a casing and a refractory lining secured together by an anchorage assembly including: an anchor bracket comprising a channel member of U-section having at least one external flange lying in a plane perpendicular to the length of the channel and formed upon the external surface of the channel base, the sides of the channel being turned at their outer edges so that the width of the channel is at a minimum at the channel mouth,

a refractory anchor body with sides shaped to key with a refractory lining and a head in interlocked engagement with the channel member of the anchor bracket, resisting separation of the anchor body from the anchor bracket in a direction away from the flange, the flange having apertures formed therein parallel to the length of the channel, a sleeve bracket fixedly secured to the furnace casing, and



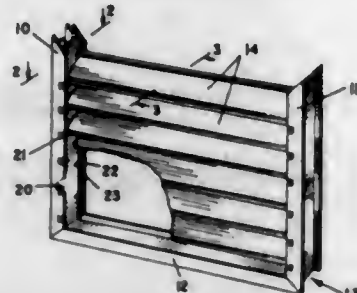
securing means comprising a metal rod having its opposite ends extending in directions mutually at right angles and perpendicular to the central part of the rod, the first end of said rod extending through one of said apertures in the flange and the other end of said rod extending through said sleeve bracket, allowing relative movement due to thermal dimensional changes to occur between the furnace lining and the casing.

3,339,329
ARRANGEMENT FOR SECURING PANELS TO THE SURFACE OF A ROOF OR WALL
Edward T. Berg, 187 Fremont St., San Francisco, Calif. 94105
Filed May 18, 1965, Ser. No. 456,672
2 Claims. (Cl. 52-395)



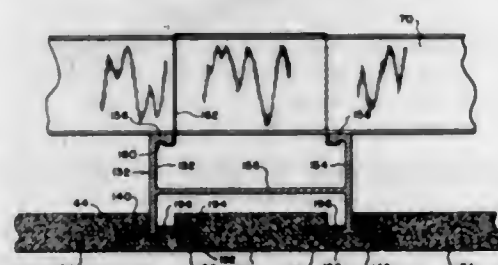
1. Arrangement of panels upon the surface of a roof or wall, comprising an inverted channel member having a bight portion containing an intermediately located cleft portion, said cleft portion having walls slanting downwardly toward each other to form a constriction and expanding abruptly below said constriction to form downwardly directed shoulders, side walls at either side of said bight portion possessing outwardly turned flanges along their free edges, blocks of insulating material of a greater depth than said channel member resting upon said flanges, dished panels laminated onto the free surfaces of said blocks, the side walls of said dished panels having laterally directed lips arranged to lie upon said bight portion at either side of said cleft portion thereof, a pad of plastic sealing compound arranged between the side walls of said panels and upon the lips thereof, and a locking bar of T-shaped cross-sectional contour having a cross bar portion of lesser width than the space between the confronted side walls of the panels and a stem portion arranged to pass through said pad and protrude into said cleft portion and having its free bottom end formed into a wedge whose base is wider than the open width of said constriction and is engaged underneath said shoulders, below said constriction.

3,339,330
LOUVER STRUCTURE
George W. Minds, Jr., Pacific Palisades, Calif., assignor of one-half to John B. Colligan, Glendale, Calif.
Continuation of application Ser. No. 335,721, Jan. 6, 1964. This application Sept. 29, 1966, Ser. No. 583,150
2 Claims. (Cl. 52-473)



1. A panel louver structure including: first and second spaced jambs; a pair of spaced sidewalls secured to each of said jambs, said pairs of sidewalls extending from said jambs towards each other; a panel seating means connected to each sidewall of each pair in face to face relationship, each panel seating means being formed by a tab projecting outwardly from its associated sidewall in a substantially horizontal plane normal to said sidewall; a panel extending between said jambs, said panel having its opposite ends dimensioned such that the opposite sides thereof are disposed, respectively, in position against the face to face sidewalls to seat between associated tabs, the distance between said opposite sides being normally greater than the corresponding distance between respective seating points of the tabs so that each of the panel ends must be bowed about the longitudinal axis of said panel to be received between the tabs to retain said panel in place under compression and whereby said panel is removable.

3,339,331
SUPPORTS FOR ACOUSTIC TILE
Paul D. Dall, San Diego, Calif., assignor to Crownco of San Diego, San Diego, Calif., a corporation of California
Continuation of application Ser. No. 126,298, July 24, 1961. This application May 24, 1965, Ser. No. 465,233
2 Claims. (Cl. 52-496)



1. A ceiling construction comprising in combination: (A) A plurality of parallelly arranged channel-like runners, each having:

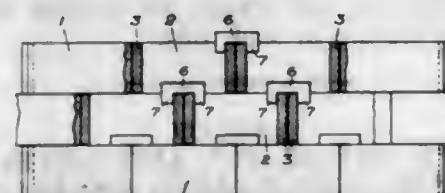
- (1) a pair of parallelly arranged and vertically extending side walls;
- (2) parallelly and longitudinally disposed flanges extending outwardly from the lower ends, respectively, of the side walls forming upwardly facing shoulders;
- (3) parallelly and longitudinally disposed flanges extending inwardly from the lower ends, respectively, of the side walls, forming upwardly facing shoulders, the confronting edges of the second mentioned flanges being spaced from one another;

(B) sound absorbing tiles, each having a planar underside, each tile having opposite edges thereof rabbetted to form downwardly facing shoulders, said shoulders resting directly upon the first mentioned shoulders of adjacent runners;

(C) elongated sound absorbing strips, each strip being rabbetted lengthwise along both side edges thereof to form an upper portion and a wider lower portion, said upper portion being disposed, respectively, between a pair of side walls of the runners, said strips having planar undersides throughout the length and width thereof and disposed flush with the planar surfaces of the tiles, said lower portion of the strip extending below the first and second mentioned flanges and to adjacent the lower confronting side edges of the tiles;

(D) and means for supporting the strips by the second mentioned shoulders.

3,339,332
DRY MASONRY WALL
Julius Hein, 3 Apostelgasse, Vienna III, Austria
Filed Feb. 5, 1965, Ser. No. 430,542
Claims priority, application Austria, May 29, 1964, A 4,672/64
4 Claims. (Cl. 52-584)

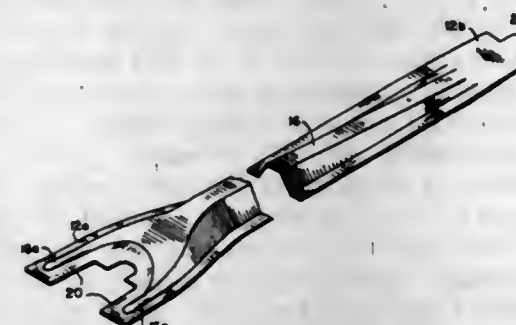


1. A dry masonry wall comprising a plurality of superimposed horizontal courses of contiguous identical wall blocks of rectangular parallelepipedic wall blocks having throughgoing slots located in the median longitudinal plane of each block and terminating short of the lateral sides thereof while having a width equal to a minor fraction of the width of each block, the blocks of each course having end faces abutting the end faces of the adjoining blocks of the course, the blocks of each course being offset horizontally with respect to the blocks of adjoining upper and lower courses by a distance of half the length of the blocks, and a multiplicity of generally flat U-shaped hook members having bight portions bridging the abutting faces of the adjoining blocks of each course and of a width substantially equal to the width of said slots with legs projecting from said bight portions into the slots of the adjoining blocks and substantially tightly received therein, the spacing between the legs of each hook member being substantially equal to the spacing between the slots of the adjoining blocks with abutting end faces, said bight portion of each hook member being substantially tightly received in the slot of a block of an adjacent course spanning the blocks receiving the legs of the respective hook member.

3,339,333
BACK-UP TAB FOR SIDING
James L. Kovalick, % Metcom Products Co., P.O. Box 325, Blairsville, Pa. 15717
Filed Apr. 5, 1965, Ser. No. 445,802
6 Claims. (Cl. 52-672)

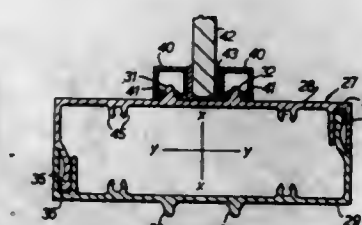
1. A back-up tab for metal siding comprising, an elongated strip of metal formed with an elongated embossed reinforcing rib extending lengthwise in said strip of metal, said rib tapering in depth from its deepest point adjacent one end of said strip to its shallowest portion adjacent the other end of said strip and said strip tapering in width from its widest portion at said one end to its

narrowest portion at said other end, a finger at the narrowest end portion of less width than said narrowest



end portion, and a section of metal removed from said one end of said strip to form a recess that conforms in configuration with said other end of said strip.

3,339,334
BAR SECTIONS
Henry John Rowan and Edmund Damian Rowan, both of 23 Calthness Drive, Crosby, Liverpool, England
Filed Mar. 5, 1964, Ser. No. 349,650
6 Claims. (Cl. 52-731)



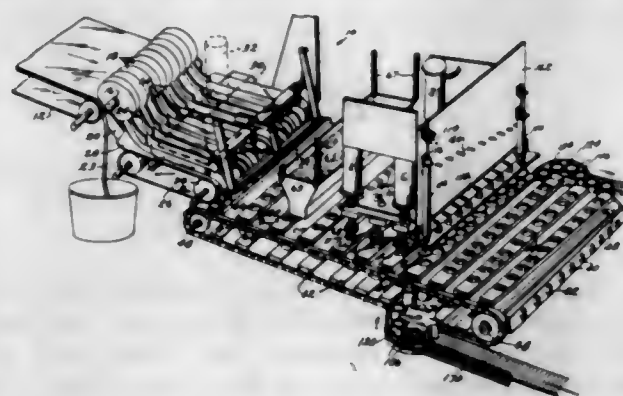
1. For use in curtain-walling, panelling and the like, the combination of a frame bar section and two pairs of hollow glazing bead sections, said frame bar section having perpendicular x and y axes and a pair of solid longitudinal ribs on each of opposite sides thereof and formed integrally therewith, each of said longitudinal ribs having a bulbous free edge, said pairs of ribs being symmetrically disposed relatively to said y axis and the ribs of each said pair thereof being symmetrically disposed relatively to said x axis, and each of said hollow glazing bead sections having a pair of longitudinal corner edges and a pair of springy lips defining a concave face delimited by said corner edges, said springy lips having free edges spaced apart to define a continuous longitudinal slot in said concave face, said slot and said bulbous free edge on a corresponding one of said longitudinal ribs being so relatively dimensioned as to provide a snap fit between said frame bar action and each of said bead sections, and said sections when snap-fitted together being in contact with one another only along said corner edges of said concave face and along said free edges of said springy lips, the latter free edges lying beneath said bulbous free edge of said rib.

3,339,335
METHOD AND APPARATUS FOR FORMING AND PACKAGING BISCUIT PATTIES
Wilson E. Bowden, Dallas, Tex., assignor to Wilson E. Bowden, Dallas, Tex., trustee for Wilson E. Bowden, and William T. Wofford and Paul C. Cook, both of Fort Worth, Tex.

Filed June 26, 1964, Ser. No. 382,434
52 Claims. (Cl. 53-123)

1. Apparatus for continuously forming and packaging substantially uniformly shaped biscuit patties comprising: conveyor means for continuously advancing a sheet of dough forwardly, a slitting station having means for continuously slitting the advancing dough sheet into a plurality of longitudinally directed strips; means transverse separating said strips and means continuously advancing

ing the separated dough strips forwardly; a cutting station including cutting knife means mounted for cutting transversely of said strips, means intermittently indexing said knife means into and from a cutting position wherein a pillow-like slug of dough is severed from each of said strips; a generally horizontal table positioned forwardly and downwardly from said cutting station; a plurality of generally horizontal, laterally extending cup bars having means defining a plurality of laterally spaced, upwardly opening cups in each cup bar and extending through each cup bar; means securing each of said bars to endless conveyor means said conveyor means being arranged to intermittently index said bars forwardly along the upper surface of said table, and return the bars; means coordinating the cup bar indexing and the cutter knife indexing whereby the pillow-like dough slugs severed from said dough strips upon each movement of the knife means to its cutting position each fall into the die cups of a cup bar and are thereafter indexed forwardly within the die cups; means defining a biscuit patty forming station comprising at least one laterally extending row of patting plungers arranged for intermittent contact with the upper surface of the dough slugs in the cups of at least one cup bar indexed to said station to thereby form said slugs into



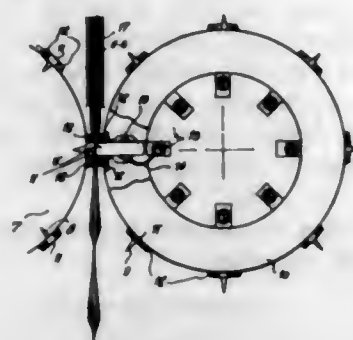
patties conforming with the cups, patting plungers and table upper surface; a packing station including means defining a resilient finger bar positioned forwardly of said table; means defining a plurality of laterally spaced vertically directed openings through said resilient finger bar, said openings corresponding in spacing to that of the die cups in each die cup bar; means defining a plurality of resilient fingers mounted on said finger bar and extending generally laterally from the periphery of each finger bar opening to the central region of each opening; said die cup bars each being indexable to a position wherein each patty carrying die cup in the die cup bar overlies a resilient finger bar opening and the patties rest on the resilient fingers; means positioning a biscuit can beneath each resilient finger bar opening; a vertically reciprocable knockout plunger positioned coaxially with each resilient finger bar opening, air cylinder received piston means operatively carrying said knockout plungers, said air cylinder piston means being adapted to intermittently lower said plungers into engagement with the upper surface of the biscuit patties resting on said resilient fingers and drive said biscuits downwardly through said resilient finger bar and into position within said biscuit cans at a speed faster than gravity thereby preventing tumbling action of said biscuits during the downward movement thereof.

3,339,336 APPARATUS FOR ENCLOSING LIQUID IN SACHETS

Peregrino Mario del Pilar Castro, Marconi and Blanco
Encalada, Buenos Aires, Argentina
Filed Aug. 24, 1964, Ser. No. 391,557
2 Claims. (Cl. 53-180)

1. A machine for enclosing a liquid product in sachets by transversely sealing at predetermined intervals a

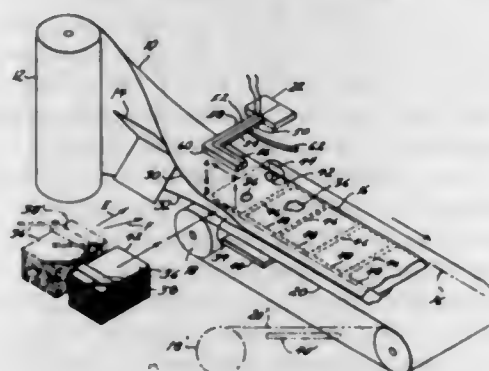
liquid-filled tube of flexible sheet material, which comprises, in combination, a first roll having pairs of bars of elastomeric material at predetermined spaced positions about the periphery thereof and a sealing bar between each pair of elastomeric bars, a second roll having similarly disposed elastomeric bars and sealing bars, one of said rolls having a projecting tooth or pin adjacent



3,339,337 ENVELOPE, APPARATUS AND METHOD FOR MAKING AND FILLING ENVELOPES

Raymond I. Rapp, 7841 Ridge Ave., Philadelphia, Pa. 19128; and William R. Peterson, 29 Hamilton Road, and Themis C. Pallas, 31 Hamilton Road, both of Ambler, Pa. 19002

Filed Oct. 8, 1964, Ser. No. 402,398
5 Claims. (Cl. 53-180)

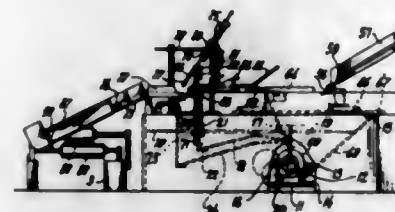


1. Apparatus for making and filling envelopes or the like, comprising means to advance overlying portions of envelope material having transversely extending, potentially adhesive, heat sealable, inner surfaces at predetermined stripes along the longitudinal extension of said portions, means to insert a succession of relatively flat inserts between said portions whereby said stripes border the transverse edges of each insert, heating means disposed between said portions to heat said surfaces, and pressure means disposed outside said portions to press said portions together along said stripes around each successive insert to form a series of filled envelopes, said pressure means being operable for a predetermined period of time after said heat and pressure sealing to permit cooling of the sealed portions under pressure to develop sufficient bond strength to prevent bursting after removal of pressure.

3,339,338 MACHINE FOR PACKAGING ARTICLES INTO BAGS

Ernst J. Brinck and Anthonius J. M. Priem, Haarlem, Netherlands, assignors to Kousenfabrieken Hln N.V., Haarlem, Netherlands, a corporation of Dutch law
Continuation of application Ser. No. 270,462, Apr. 3, 1963. This application Feb. 1, 1967, Ser. No. 613,206

Claims priority, application Netherlands, Oct. 8, 1962, 284,095; Jan. 7, 1963, 287,480
11 Claims. (Cl. 53-189)

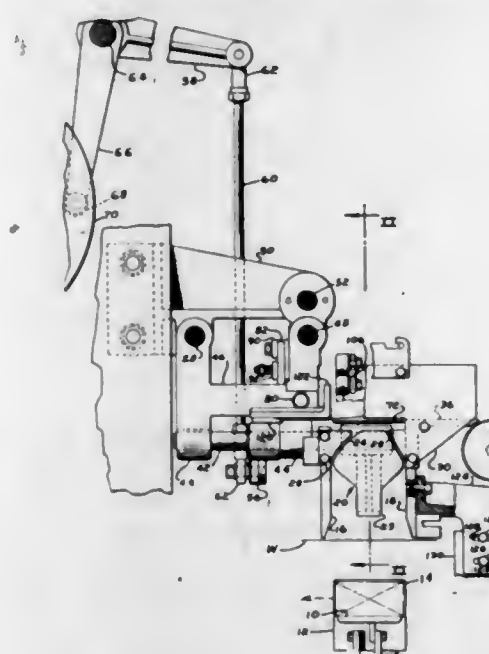


1. An apparatus for packaging articles into bags, comprising a slideway for the articles, means for presenting a bag with an open mouth at the end of said slideway, a pusher for shoving an article along said slideway and into the open bag, means for reciprocating said pusher along said slideway, a resilient connection in said reciprocating means, a latch disposed into the path of the pusher during the operating stroke of the latter so as to tension said resilient connection, and means to retract said latch so that the bagged articles will be flung away by said pusher upon the untensioning of said resilient connection.

3,339,339 WRAPPING MACHINE

Robert T. Hull, Suffield, Conn., and Lawrence W. Schoppee, Springfield, and John S. Bartlo, Longmeadow, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts

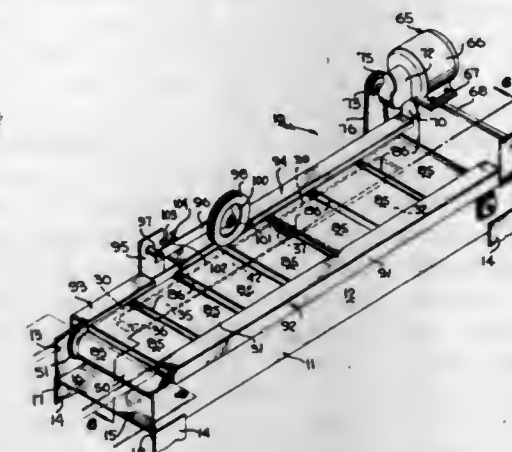
Filed Mar. 12, 1964, Ser. No. 351,894
18 Claims. (Cl. 53-223)



1. In a wrapping machine, a forming well, an elevator for raising an article through the forming well, said forming well having means for folding wrapper extensions against the end faces of the article, said folding means being slotted and including vertically disposed central folders on opposite sides of said forming well, and means for downwardly and outwardly displacing said central folders from their operative positions after the wrapper extensions are folded for snugly fitting said extensions against the end faces of the article.

3,339,340 APPARATUS FOR HEAT SEALING PLASTIC PACKAGES

Thomas E. Piazza, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 21, 1963, Ser. No. 325,290
12 Claims. (Cl. 53-388)



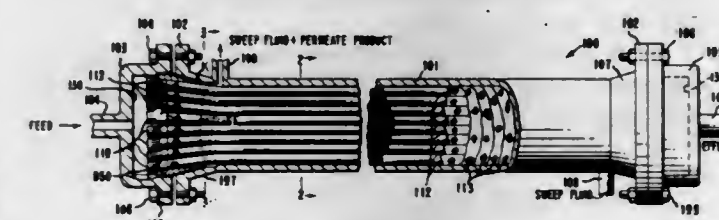
2. Apparatus for sealing thermoplastic packages comprising a conveyor mechanism including first and second conveyor chains spaced to define upper and lower pairs of chain conveyor runs, heating means supported between said upper pairs of conveyor runs to one side of a longitudinal center line between the upper pair of conveyor runs, cooling means supported between said upper pair of conveyor runs to one side of a longitudinal center line between the upper pair of conveyor runs, said heating and cooling means including respective heating and cooling surfaces substantially coplanar to a plane through said upper pair of conveyor runs, a plurality of sheet-like members carried by said chains, connecting means swingably joining each of the sheet-like members solely at an edge thereof to each of a plurality of transverse support members secured between said chains, a member below said lower pair of conveyor runs for supporting the sheet-like members therebetween in a plane substantially parallel to said first mentioned plane, means above said heating means for urging thermoplastic packages carried by the sheet-like members into intimate contact therewith, and each of said sheet-like members being constructed from fiberglass coated with a polymerized tetrafluoro ethylene composition.

3,339,341 FLUID SEPARATION PROCESS AND APPARATUS

John Murdock Maxwell, Glen Farms, Md., and William Everett Moore and Richard Donald Rego, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,621

34 Claims. (Cl. 55-16)



27. An improved multi-stage method for continuously progressively separating a permeable fluid from a fluid mixture according to the different permeation rates of the mixture components through a plurality of permeable membrane structures, said method comprising maintaining, in each of a plurality of operatively associated stages,

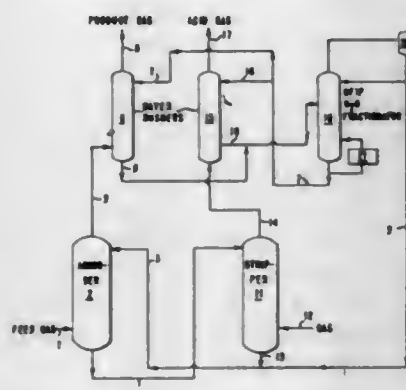
a plurality of permeable membrane structures of polymeric composition and comprising hollow filaments extending through and packed in a fluid-tight enclosed zone, said plurality of stages comprising a first stage and a final stage, said method further comprising passing an inlet stream of an initial fluid mixture at a given pressure through the interior of the hollow filaments extending through the enclosed zone of the first stage, removing any permeated fluid from said first stage enclosed zone outside said hollow filaments in a direction countercurrent to the direction of flow of said initial fluid mixture inside said hollow filaments in said first stage zone said method further comprising concurrently passing at least a portion of the permeated fluid from a preceding stage as an inlet stream to and through the enclosed zone of said final stage outside said hollow filaments in said final stage zone under a given pressure, withdrawing and collecting permeated fluid from the interior of the hollow filaments extending through said final stage zone at a lower pressure and countercurrently with respect to said inlet stream moving through said enclosed zone of said final stage, supplying the remaining portion of the said fluid which passes through said enclosed zone outside said hollow filaments of said final stage as a portion of an inlet fluid stream to at least one preceding stage.

3,339,342

PROCESS FOR REMOVING H₂S AND CO₂ FROM GAS MIXTURES

Robert H. Blaker, Hockessin, and William T. Robinson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 15, 1965, Ser. No. 439,893
5 Claims. (Cl. 55—53)



1. A process for enriching components of a gaseous mixture which comprises the steps of

- contacting a gaseous mixture containing at least one acid gas of the group consisting of hydrogen sulfide and carbon dioxide and at least one gas from the group consisting of methane, hydrogen, nitrogen, and carbon monoxide with liquid hexafluoroisopropyl alcohol and selectively absorbing in said alcohol said acid gas, and
- separating the liquid solvent phase containing the absorbed acid gas from the other components of said gaseous mixture.

3,339,343

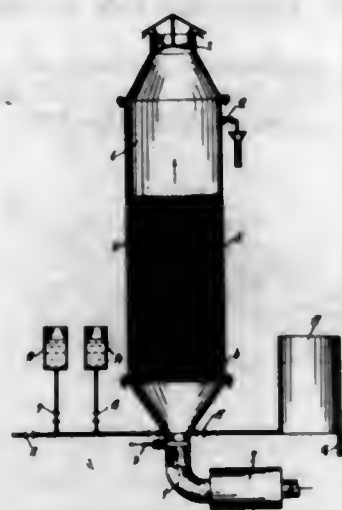
PURIFICATION OF GASES

Arend Jacob Van Buuren, Leidsevaartweg 119, Heemstede, Netherlands

Filed Jan. 21, 1965, Ser. No. 427,041
4 Claims. (Cl. 55—76)

1. A process for the purification of a gas, said process comprising passing the gas to be purified through a filter containing, as a filter material, a granular condensate of

metaphenylene diamine and an aldehyde, said condensate being produced in an aqueous medium in the presence of an acid, the relative amounts of diamine, aldehyde, acid and water being such that the volume of condensate when dried to constant weight is at least 25% of the volume of



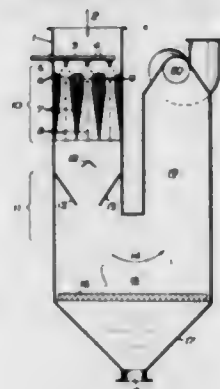
freshly prepared moist condensate, periodically regenerating said filter material within said filter by a first treatment with a lye, followed by a second treatment with a dilute acid, and drying said filter material within said filter after each regeneration.

3,339,344

METHOD AND APPARATUS FOR SEPARATING SUSPENDED PARTICLES FROM GASES

Josef Pallinger, Vienna, Austria, assignor to Waagner-Biro Aktiengesellschaft, Vienna, Austria

Filed Oct. 7, 1964, Ser. No. 402,692
Claims priority, application Austria, Oct. 8, 1963,
A 8,064/63
8 Claims. (Cl. 55—90)



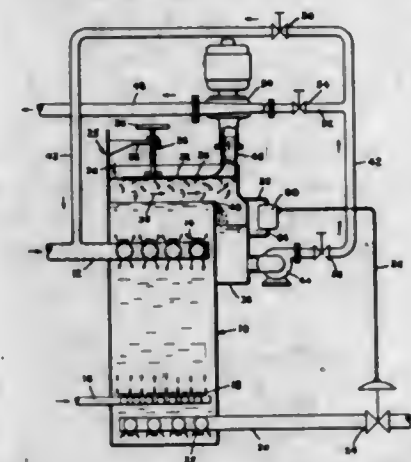
1. In a process for separating from a gas fine solid particles suspended therein, the steps of contacting the gas with a liquid spray providing droplets in which the solid particles are entrained; directing a stream of the thus-sprayed gas through a first duct of venturi configuration and then through a second duct which is a continuation of and is situated downstream of said first duct; and throttling the stream in the second duct to a degree which is inversely proportional to the volume of the stream entering said first duct in a given unit of time, so that at full load operation there will be minimum throttling while at partial load operation there will be throttling to a degree determined by the extent to which the partial load is less than the full load, whereby at partial load operation when there is a relatively small difference between the speeds of the gas and liquid droplets in the first duct a relatively great difference between said speeds will be provided in said second duct to achieve a high degree of separation of the solids from the gas.

3,339,345

HYDRAULIC AND PNEUMATIC FOAM COLLECTION, PICK-UP AND COLLAPSE SYSTEM WITH CONCENTRATED LIQUID RECIRCULATION

Joseph F. Sebald, Bloomfield, and Igor J. Karassik, Maplewood, N.J., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Nov. 19, 1965, Ser. No. 508,675
9 Claims. (Cl. 55—178)



1. In combination with a foaming column apparatus including a foaming column, means to introduce a liquid containing foaming compounds thereto, means to separate said foaming compounds from said liquid, and means to remove liquid from which said foaming compounds have been separated, the improvement of means to collect and remove foaming compounds separated from said liquid by said foaming column apparatus comprising:

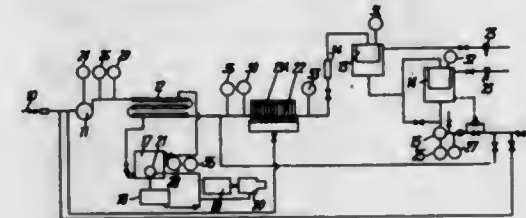
- pump means to collapse and remove foaming compounds transported thereto in the foam state;
- fluid flow passage means communicating the top of said foaming column with the inlet of said pump means;
- air inlet means in said fluid flow passage means to provide a flow of secondary air to the inlet of said pump means, said flow of secondary air to result in the collection and transportation of said foaming compounds, in the foam state, from the top of said foaming column to the inlet of said pump means; and
- means to remove a portion of said liquid in which said foaming compounds have been concentrated by said foaming column and recirculate said portion through said foaming column by reintroduction thereof through said liquid introducing means so that said liquid portion will be resubjected to the action of said foaming column.

3,339,346

MOBILE DEGASSING UNIT FOR TRANSFORMER OIL

Thomas Osman Buchanan, Renfrew, Scotland, assignor to J. O. Buchanan & Company Limited, Renfrew, Scotland, a British company

Filed June 16, 1966, Ser. No. 558,107
4 Claims. (Cl. 55—195)



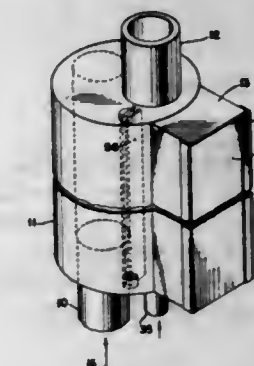
1. A self-contained mobile oil degassing plant including, carried by a mobile wheeled vehicle and for treating oil, in series fluid communication an oil inlet, a heat ex-

changer, a filter press, a degassing unit and an oil outlet, direct fired heating means, having its own self-contained fuel supply providing heat through the medium of a heating fluid for the heat exchanger, and including also an electricity generator, and a laboratory section in the wheeled vehicle equipped to carry out at least dielectric, Karl Fischer, gas content and acidity determination tests on the oil and having a supply of hot water heated by the aforesaid heating means.

3,339,347

FILTER

Herbert R. Otto, Jr., 4 Dickson Drive, Westfield, N.J. 07090
Filed Oct. 5, 1965, Ser. No. 493,035
1 Claim. (Cl. 55—290)



In a filter for removing particles of matter entrained in a gas, the combination comprising:

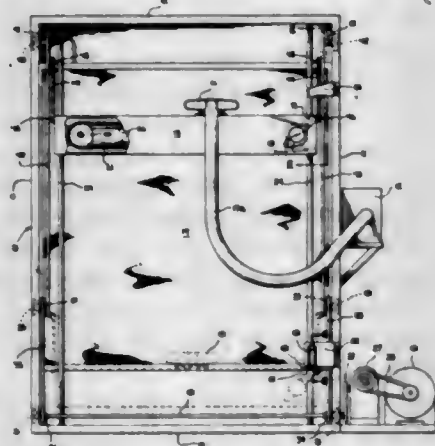
- a housing including a vertical cylinder provided with circular closure members engaged with the upper and lower ends of said vertical cylinder;
- a vertical gas intake pipe projecting through the circular closure member engaged with the lower end of said vertical cylinder, said gas intake pipe also communicating with a perforated tube disposed within said vertical cylinder and depending from the circular closure member engaged with the upper end of said vertical cylinder;
- a vertical gas outlet pipe disposed laterally of said perforated tube and projecting through the circular closure member engaged with the upper end of said vertical cylinder;
- a plurality of concentric tubular screens rotatably engaged with said gas outlet pipe and resting upon annular means surmounting the circumferential periphery of a bushing projecting through the closure member engaged with the lower end of said vertical cylinder;
- an air inlet pipe projecting through the circular closure member engaged with the lower end of said vertical cylinder and extending into said vertical cylinder;
 - said air inlet pipe being received within said bushing;
 - the air inlet pipe being disposed axially of said concentric tubular screens;
 - that portion of the air inlet pipe within the vertical cylinder being provided with a plurality of vertically aligned nozzles extending radially of said air inlet pipe and directed at said concentric tubular screens;
- an inner perforated tube disposed concentrically of said air inlet pipe and depending from said gas outlet pipe, whereby gas entering said gas intake pipe may travel through said first-mentioned perforated tube, said tubular screens and inner perforated tube and may emerge from said gas outlet pipe, the said particles being entrapped by said tubular screens;

- (i) said inner perforated tube being provided with a longitudinal slot aligned with said nozzles, said slot being disposed between said nozzles and said tubular screens, whereby air emerging from said nozzles will be directed through said slot and tubular screens to remove particles of matter accumulated therein;
- (ii) said tubular screens being slidably engaged with said inner perforated tube;
- (g) ratchet means depending from said bushing, whereby said tubular screens may be rotated with respect to said slot, thereby bringing successive portions of said tubular screens into the vicinity of said slot;
- (h) a rectangular bin depending from said vertical cylinder and disposed adjacent to said slot, whereby particles blown from said tubular screens by said nozzles will be received within said bin;
- (i) a door hingeably engaged with said rectangular bin, whereby access may be had to the interior thereof for removal of particles accumulated therein.

3,339,348

AIR FILTER CLEANER

Cleon Bratton and Buren C. Crane, Lebanon, Ind., assignors, by mesne assignments, to Microtron Corporation, Charlotte, N.C., a corporation of North Carolina
Filed June 10, 1963, Ser. No. 286,557
9 Claims. (Cl. 55—294)



1. A filter assembly comprising a frame, a filter mounted in said frame, a carriage disposed transversely of said frame and filter, means for mounting said carriage for movement longitudinally of said filter, carriage drive means coupled to said carriage for imparting reciprocatory motion thereto substantially throughout the length of said filter, a vacuum cleaning head positioned closely adjacent one face of the filter so as to apply a suction cleaning force to the filter, means for mounting said head on said carriage for movement transversely of said filter, vacuum head drive means on said carriage, and means to operate said vacuum head drive means in timed relation to certain longitudinal movements of said carriage for imparting reciprocatory motion to said head transversely of and substantially throughout the width of said filter and relative to said carriage.

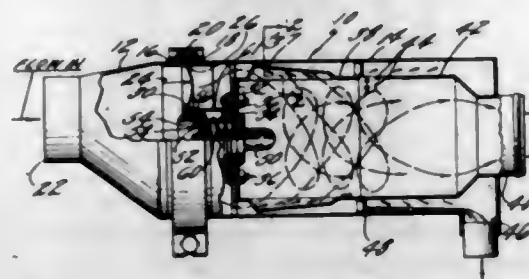
3,339,349

COALESCER

Robert F. Farnum, Tariffville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 28, 1964, Ser. No. 392,748
1 Claim. (Cl. 55—309)

In apparatus for removing particles of liquid entrained in a stream of gaseous fluid, the combination of: a generally cylindrically-shaped housing adapted to be disposed

in a fluid line, said housing having an inlet for admitting the moisture-laden fluid, a vortex generator having a cylindrically-shaped wall having inwardly directing swirl vanes formed thereon, a cylindrically-shaped centrifugal collector section disposed downstream of said vortex generator, means for securing said collector section and vortex generator to said housing so that said collector section and vortex generator are in axial alignment, an outlet in said housing formed adjacent to and in axial alignment with the substantially moisture-free fluid discharge end of said collector section, a coalescer formed from a relatively thin sheet of fabric shaped in the form of a disc having a central opening and mounted upstream of and spaced relative to the receiving end of said vortex generator, said coalescer being secured at its outer circumference to said housing and extending inwardly so that it lies perpendicular to the fluid stream, bypass valve means centrally

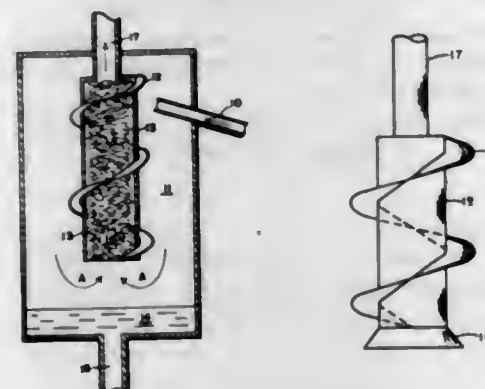


mounted on the receiving end of the vortex generator, supporting means including an element extending from the inner surface of said housing toward the centerline thereof to support said bypass valve means and vortex generator internally of said housing, said supporting means also securing the inner peripheral edge of said coalescer thereto, drain means for removal of moisture from said collector section, said bypass valve means including an inlet communicating with the inlet of said housing and an outlet communicating with said vortex generator, a normally closed valve element in said bypass valve means resiliently urged in the closed direction, said normally closed valve automatically opens when the pressure in said valve inlet exceeds a predetermined value to bypass the coalescer so as to lead said gaseous fluid through an opening formed at the outer edge of said element adjacent the inner surface of said housing into said vortex generator.

3,339,350

GAS-LIQUID SEPARATOR

Robert W. Sims, Pasadena, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,620
5 Claims. (Cl. 55—320)



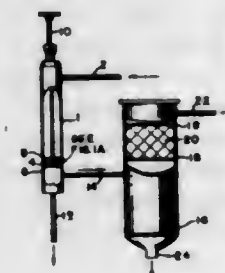
1. An apparatus for separating entrained particles from gases which comprises a chamber, a vertically positioned tube located within said chamber, said tube in open communication at its lower end with said chamber and

open communication at its upper end with a flow means external of said chamber, said tube having a cylindrical upper section, said cylindrical upper section being flared at its lower end to a diameter greater than the diameter of said cylindrical upper section so as to provide a conical shaped lower section, a helically arranged baffle on the external surface of said tube, said helically arranged baffle being terminated at its lower end at approximately the point at which the walls of said cylindrical upper section begins to flare to form said conical shaped lower section, a filter means within said tube, inlet means for flowing a gaseous stream containing entrained particles into contact with said helically arranged baffle near its upper end such that the flow of said gaseous stream is directed downwardly substantially along the path of said baffle, and outlet means at the bottom of said chamber for withdrawing particles separated from said gaseous stream from said chamber.

3,339,351

APPARATUS FOR REMOVING LIQUID PARTICLES IN A GAS STREAM

Laurence A. Carmichael, Jr., San Jose, and Andrew F. Reese, Walnut Creek, Calif., assignors to Otto H. York, Company, Inc., West Orange, N.J.
Filed Mar. 12, 1965, Ser. No. 439,328
4 Claims. (Cl. 55—350)



1. Apparatus especially useful for removing liquid particles of a mineral acid having a size of from about 0.25 to about 10 microns which are entrained in a flowing gas stream which comprises confining means comprising a pair of laterally spaced housing means defining a gas flow passage, the first of said housing means having a gas inlet at one end and a gas outlet and liquid outlet at the other end, an agglomeration filter positioned within and across said first housing means intermediate said inlet and outlets, said agglomeration filter being from 0.1 to 0.5 inch thick and made up of a mat of filaments having a diameter of from about .0003 to about 0.15 inch, said agglomeration filter having from 50 to 89% void, the second housing means having a gas inlet and a liquid outlet adjacent one end and a gas outlet adjacent the other end, a second filter positioned within and across said second housing means intermediate said gas outlet and said gas inlet and liquid outlet, the gas inlet to the second housing means being connected to the gas outlet of said first housing means, said second filter being made up of a mat of filaments wherein the percent void of said second filter is 97 to 99%, and 4 to 6 inches thick.

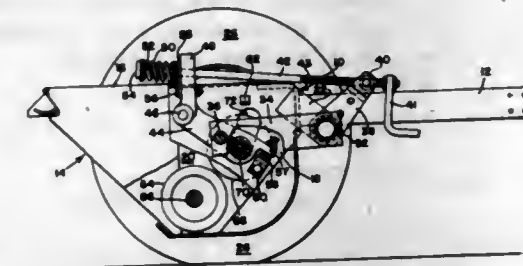
3,339,352

CROP CONDITIONER

Donald E. Burrough and William R. Wood, Ottumwa, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,513
17 Claims. (Cl. 56—1)

1. A crop conditioner comprising: a main frame; a first roll journaled on the frame and having a horizontal axis transverse to the direction of machine travel; a sec-

ond roll; a ground-engaging support means; and mounting means on the frame for connecting the support means to the frame to suspend the frame above the ground, the second roll also being rotatably carried by the mounting

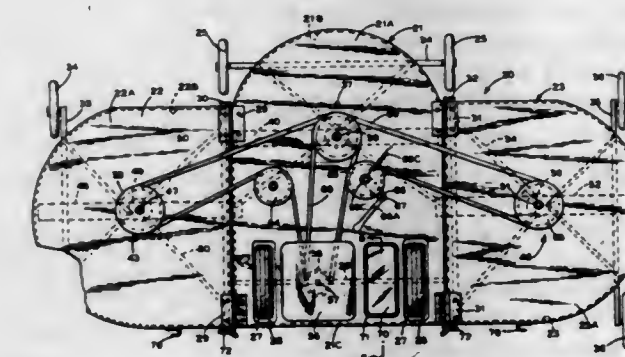


means parallel and adjacent to the first roll, the mounting means interconnecting the second roll to the ground-engaging support means so that the weight of the frame exerts a force on the second roll urging it toward the first roll.

3,339,353

GANG MOWER

Teddy A. Schreyer, Bayside, N.Y., assignor to Bonamarte, Inc., a corporation of New York
Filed Jan. 23, 1964, Ser. No. 339,659
11 Claims. (Cl. 56—6)



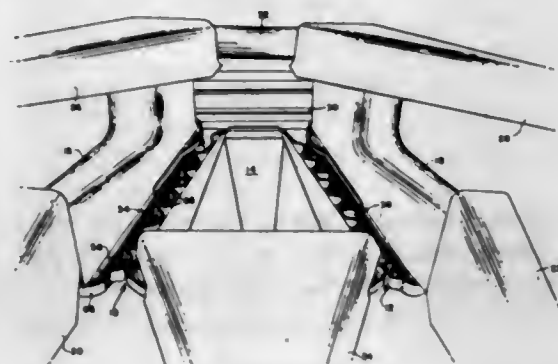
1. A mowing device particularly adapted for cutting grass in a wide path and uniformly disbursing the cuttings over a wide area comprising:

- main housing means and a pair of outboard housings hingedly connected thereto, each of said housings including a shell having a top and connected depending side wall portion extending about the periphery thereof,
- wheel means for maintaining the respective housing in rolling relationship over the area to be mowed,
- a cutting means including a spindle rotatably journaled on each of said housings, and a cutting blade connected to said spindle,
- means for bracing the respective cutting means to its respective housing whereby said bracing means effects uniform disbursements of the cuttings over a wide area, and, a bearing collar connected to each of said spindles intermediate the respective ends thereof, and said bracing means including a plurality of bracing bars connected to each of said collars, said bars extending radially therefrom and spacially disposed between said cutting blades and the top of the respective shells,
- a single power means, and a flexible drive means connecting said power means in driving relationship with said cutter means for driving each of said cutting means and means for selectively driving the cutter of the main housing independently or in con-

junction with the drive of the respective outboard cutter means.

3,339,354 STALK HARVESTING APPARATUS AND THE LIKE

Kenneth Q. Kessler, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 28, 1965, Ser. No. 428,652
4 Claims. (Cl. 56-98)

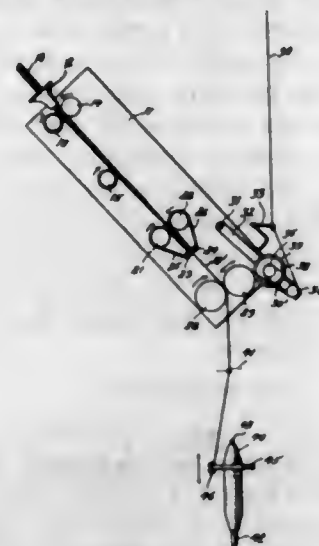


1. In stalk harvesting apparatus including frame means adapted to advance over a field of row-planted field-borne stalk crops and provided with a fore-and-aft elongated stalk-receiving passageway having front and rear ends and cutting means movable back and forth across and below the front end of the passageway for severing stalks from the field, the improvement residing in gathering mechanism for moving severed stalks in generally erect fashion rearwardly along the passageway, comprising a first set of front and rear carriers mounted respectively at said front and rear ends and spaced apart along one side of the passageway; a second set of front and rear carriers mounted respectively at said front and rear ends along the other side of the passageway respectively across from the first set of carriers; a first endless flexible belt-like means trained about the first set of carriers and a second endless flexible belt-like means trained about the second set of carriers, each means presenting an elongated inner straight stretch thereof closely along its side of the passageway with lengthwise spaced apart portions of each of said endless means curving respectively about its carriers and into its opposed outer stretch; stalk-engaging means generally coextensive with and carried by each endless means by a plurality of attachment means uniformly spaced apart along the endless means, each stalk-engaging means including a plurality of flexible portions, each portion extending between and attached to its endless means by a pair of neighboring attachment means and each portion having an effective length greater than the straight-line distance between a pair of neighboring attachment means to give its stalk-engaging means a sinuous configuration along its inner straight stretch and providing a series of alternate loops and valleys, said loops on each inner stretch projecting into the passageway and respectively into the valleys of the other inner stretch and intercooperative to engage stalks in the passageway; said front carriers being mounted in closely overlying relation to the cutting means and respectively having front curved portions about which the respective endless means are looped to provide a stalk inlet and the distance between each attachment means and its neighbor being so related to the extent to which each loop projects into the passage and to the curvature of its front carrier that as it passes about its said front carrier it relatively closely hugs its said front carrier and thereby negatives the aforesaid sinuous configuration in the area of said inlet while a stalk is being received; and means for moving the endless means to present a moving series of loops and valleys along the passageway.

3,339,355 MANUFACTURE OF COMPOSITE YARN

John E. O'Neill, Springfield, Pa., assignor to Textured Yarn Co., Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 22, 1964, Ser. No. 420,309
8 Claims. (Cl. 57-12)



1. Apparatus for manufacturing a composite yarn, comprising means including a first pair of rolls driven at a given surface speed and a second pair of rolls driven at a greater surface speed, the first and second pairs of rolls effective together to extend an irreversibly extensible strand to increased length, means including a third pair of rolls driven at a given intermediate surface speed, said third pair of rolls being of smaller diameter than the rolls of said second pair of rolls, one roll of said third pair being provided with a drive wheel affixed at one of its ends, said drive wheel having a diameter greater than that of the roll, a driving member attached to the circumference of said wheel, said driving member being in engagement with a roll of said second pair of rolls for being driven thereby, the other roll of said third pair of rolls being driven by yarn passing in driving contact from the one roll to the other roll of said third pair, said driving member, drive wheel and roll of said second pair of rolls being effective to drive said third pair of rolls at said intermediate surface speed, the third and second pairs of rolls being effective together to extend a reversibly extensible strand to increased length, said second pair of rolls also being effective for combining the strands at their respective increased lengths by placing them in twisted engagement with one another along essentially the entire length of each.

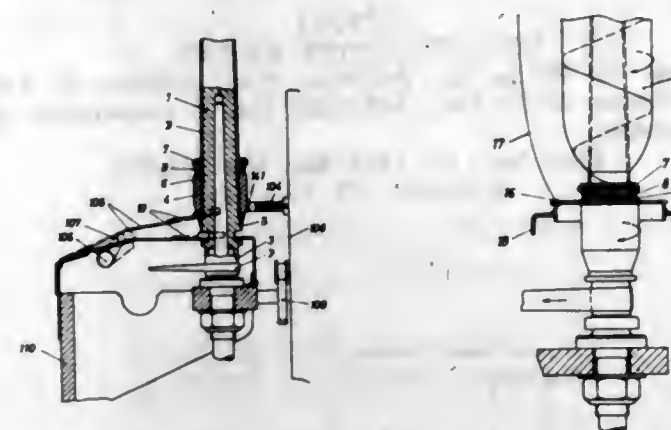
3,339,356 PROCESS AND DEVICE FOR THE AUTOMATIC REMOVAL OF UNDERWINDING THREAD REMAINDERS

Alfred Nikel and Robert Günther, Ingolstadt, Germany, assignors to Deutscher Spinnermaschinenbau Ingolstadt, Ingolstadt (Danube), Germany, a corporation of Germany

Filed Oct. 4, 1965, Ser. No. 492,724
Claims priority, application Germany, Oct. 3, 1964,
D 45,560
5 Claims. (Cl. 57-34)

1. An apparatus for the automatic removal of underwinding thread remainders, which comprises a base means, a spindle supported by said base means for rotation relative thereto, a cop shell bobbin releasably mounted on said spindle for rotation therewith to wind and accumulate a quantity of thread, an underwinding shell bobbin mounted on said spindle in frictional contact therewith to rotate with said spindle to wind and accumulate a limited quantity of thread in excess of the capacity of said cop bobbin, said underwinding bobbin and spindle being capable of differential rotation relative to each

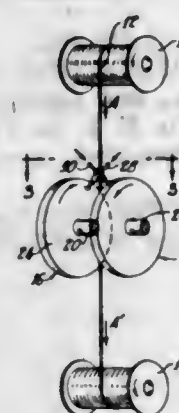
other to transfer thread accumulated on said underwinding bobbin after filling a first cop bobbin to a new cop bobbin on said spindle, and braking means supported by said base means and disposed for movement relative thereto into a position of frictional engagement with



said underwinding bobbin to retard the rotation thereof with respect to the base means and thereby impart differential rotation between said underwinding bobbin and such new cop bobbin to transfer thread accumulated on the former to the latter.

3,339,357 PROCESS AND APPARATUS FOR PRODUCING IMPREGNATED FIBER MATERIAL

Alfred Marzocchi, Cumberland, R.I., and James M. O'Flahavan, deceased, late of Manville, R.I., by Lorraine C. O'Flahavan, administratrix, West Chelmsford, Mass., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 434,139
12 Claims. (Cl. 57-35)

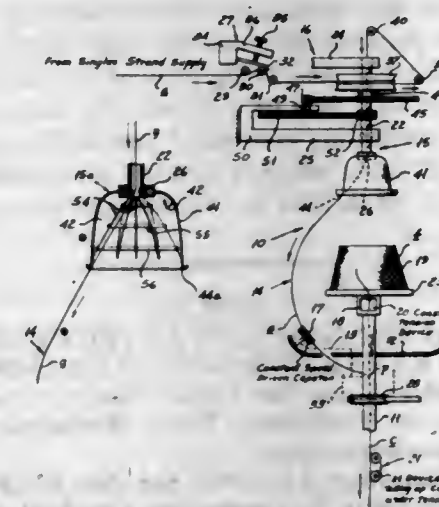


1. Apparatus for impregnating a normally twisted strand of textile fibers comprising:
means for directing the twisted strand along a path;
a pair of contact counter-rotating elements having strand contact surfaces mounted to rotate about spaced parallel axes, the contact surface of one of said contact elements contacting a portion of the twisted strand and the contact surface of the other of said contact elements contacting at least a downstream portion of the twisted strand;
means for imparting counter rotation to said contact element; and
means for applying an impregnating fluid to the fibers of said strand while it is in the untwisted condition, whereby the contact surface of said one of said said contact elements untwists the strand to expose the fibers thereof as it travels thereacross and the contact surface of said other of said contact elements causes the strand to return the yarn to its normally twisted condition.
12. A method for impregnating a twisted strand of textile fibers including:

directing a twisted strand of yarn along a path;
applying a first force to said yarn to untwist a section thereof to expose the substantial portion of fibers in said section;
impregnating said yarn while in the untwisted state with a fluid material capable of controlled solidification; and
thereafter applying a second force to the untwisted section of said yarn downstream of said first force causing said yarn to return to its original twisted state before the impregnating fluid solidifies.

3,339,358 BALLOON CONTROL DEVICE FOR STRAND TWISTING APPARATUS

Alfred W. Vibber, 630 5th Ave., New York, N.Y. 10020
Filed Dec. 12, 1966, Ser. No. 600,845
9 Claims. (Cl. 57-58.36)



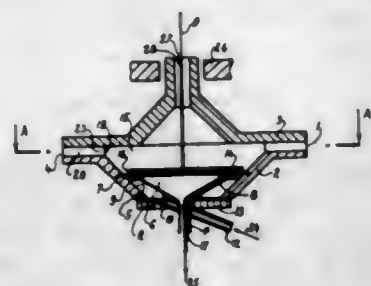
1. In a strand twisting apparatus having a driven rotatable shaft for rotating a traveling strand in the form of a loop, means for feeding the strand into a first, strand inlet, end of the loop, and means for taking-up the strand under tension from the second, strand outlet, end of the loop, the improved means for feeding the strand into the loop which comprises a capstan engaging and feeding the strand at variable speed toward the loop, a rotatable circular member disposed coaxially of the loop and having a peripheral zone closely confronting a zone of the loop, means drivingly connecting the capstan and the circular member so that rotation of the capstan by the strand traveling thereover rotates the circular member in the direction opposite the direction of rotation of the loop, and means on the circular member receiving torque from said zone of the loop which the member confronts in an amount which increases as the diameter of the loop increases and decreases as the diameter of the loop decreases, whereby the capstan is variably retarded by the loop to maintain the diameter of the loop within predetermined desired limits.

3,339,359 SPINNING CHAMBER FOR REMOVING IMPURITIES FROM FIBERS

Josef Ripka, 1019 Nadrazni, and Jiri Lanta, 317 Hlavni, both of Usti nad Orlici, Czechoslovakia; Milan Chrtok, 1708 Jeremenkova, Ceska Trebova, Czechoslovakia; and Milan Maršálek, 314 Dukla, Usti, nad Orlici, Czechoslovakia
Filed Dec. 19, 1966, Ser. No. 603,063
Claims priority, application Czechoslovakia,
Dec. 20, 1965, 7,660/65
18 Claims. (Cl. 57-58.89)

1. In a spinning apparatus, in combination, a rotary spinning chamber having an outwardly flaring annular inner surface having a narrower end and a wider end;

fiber inlet means communicating with said rotary spinning chamber at said narrower end of said inner surface for placing fibers containing impurities on said inner surface so that said fibers and impurities travel on the same toward said wider end due to the action of the centrifugal force; discharge means communicating with said rotary spinning chamber at said wider end of said inner surface;



and annular fiber retaining means extending substantially in a plane perpendicular to the axis of rotation of said spinning chamber, and being located on said inner surface intermediate said ends of the same for retaining only said fibers, but permitting continued movement of said impurities on said inner surface toward said discharge means so that said impurities are discharged through said discharge means.

3,339,360

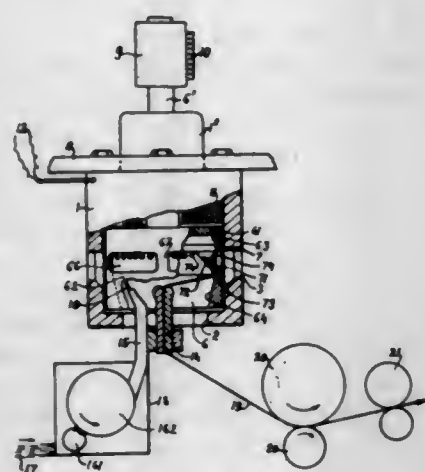
RINGLESS SPINNING APPARATUS WITH EASILY CLEANABLE SPINNING CHAMBER

Karel Mikulecky and Jiri Elias, Chocen, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlicí, Czechoslovakia

Filed Mar. 21, 1967, Ser. No. 624,954

Claims priority, application Czechoslovakia, Mar. 23, 1966, 1,920/66

25 Claims. (Cl. 57—58.89)



1. In a ringless spinning apparatus for textile fibers, in combination, spinning chamber means comprising two coaxial rotary hollow bodies having inner frusto-conical surfaces, said hollow bodies being movable in axial direction relative to each other between a spinning position in which the frusto-conical surfaces meet each other along the large diameter edges of said surfaces to form along said edges a collecting surface for fibers fed into the spinning chamber means, and a cleaning position in which said edges are axially spaced from each other to form an annular gap therebetween permitting escape of impurities collecting on said collecting surface during the spinning process to the outer atmosphere; means cooperating with said spinning chamber means for creating subatmospheric pressure therein during its rotation about its axis; mounting means mounting one of said hollow bodies turnable about its axis but immovable in axial direction; moving means cooperating with the other of said bodies

for moving the same in axial direction relative to said one body between said spinning and said cleaning positions; and rotating means cooperating with said spinning chamber means for rotating the same about its axis.

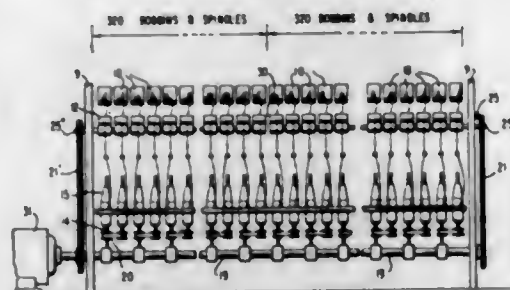
3,339,361

LONG SPINNING FRAME

Morris M. Bryan, Jr., Jefferson, Ga., assignor to The Jefferson Mills, Inc., Jefferson, Ga., a corporation of Georgia

Filed Nov. 22, 1965, Ser. No. 508,990

8 Claims. (Cl. 57—92)



1. In a spinning frame having a plurality of spindles and a plurality of drafting rolls operatively related to said plurality of spindles, a continuous drive shaft operatively connected to said plurality of spindles so as to simultaneously drive all of said plurality of spindles, a plurality of separate shaft segments each of which is drivingly connected to only some of said plurality of drafting rolls and each of which is operatively connected to said continuous drive shaft so that said plurality of shaft segments are driven independently of each other by said continuous drive shaft.

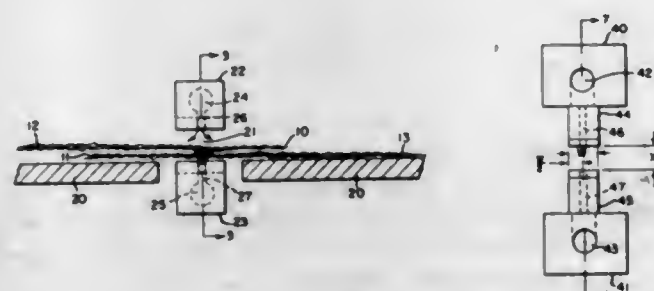
3,339,362

METHOD OF JOINING STRANDS

William C. Dodson, Jr., and George R. Long, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 5, 1966, Ser. No. 564,499

4 Claims. (Cl. 57—159)



1. The process for joining portions of a plurality of multifilament strands which comprises jetting a plurality of opposing high velocity fluid streams with the axes of the streams aligned in a common plane; arranging a plurality of filamentary strands with portions in an overlapping, generally parallel relationship between the opposed fluid streams, and with the strands aligned to be normally perpendicular to said common plane of the fluid streams; moving the overlapped strand portions and the opposed fluid streams relative to each other in a direction substantially parallel to said common plane of the fluid streams to apply successive entangling forces against opposite sides of the overlapped strands and in the plane of passage of the overlapped strands through the streams;

and continuing the treatment to form a strong joint of interentangled fibers extending across the overlapped strand portions.

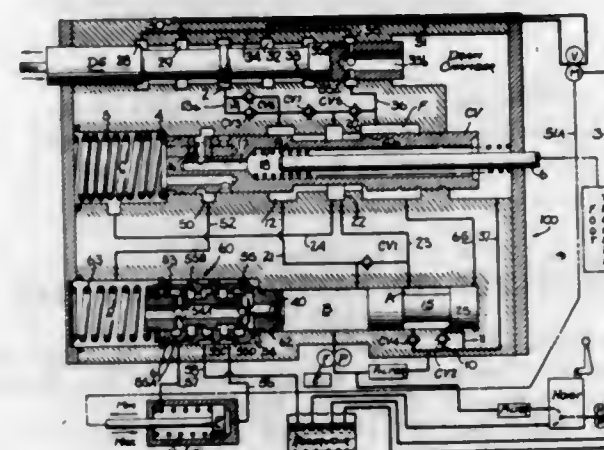
3,339,363

HYDROSTATIC TRANSMISSION CONTROL

George F. Quayle, Jenkintown, Pa., assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Filed Oct. 21, 1965, Ser. No. 499,615

17 Claims. (Cl. 60—19)



4. In combination of the class described, an engine driven pump, a hydraulic motor, a control for said motor, manually operated cam means to effect movement of said control in a direction to slow said motor while said engine is rotating at a speed normally to drive said motor at a relatively high speed, a pair of treadles for actuating said cam means, the cam means operated by one treadle being shaped to impart gradual movement to said control while the other cam means operated by the other treadle is shaped to impart sharp swift movement to the control operated thereby, and a master brake cylinder operated also by said other treadle.

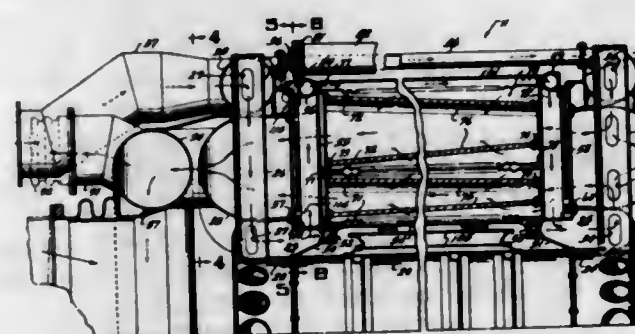
3,339,364

MEANS FOR REDUCING LEAKAGE IN ROTARY REGENERATORS

Francis Joseph Paradise and Thomas Neil Hull, Jr., Marblehead, Mass., assignors to General Electric Company, a corporation of New York

Filed Dec. 29, 1965, Ser. No. 517,414

11 Claims. (Cl. 60—39.51)



4. In a gas turbine powerplant having a compressor, a combustor, and a turbine for driving said compressor, a rotary regenerator comprising:
a rotor mounted for rotation about an axis, said rotor having axially spaced upstream and downstream ends;
an annular heat exchange array comprising a plurality of circumferentially spaced heat exchange units car-

ried by said rotor, each of said heat exchange units extending axially between the upstream and downstream ends of said rotor and forming a fluid flow passage therebetween;

upstream and downstream stationary headers adjacent the upstream and downstream ends, respectively, of said rotor communicating with a first arcuate position only of said annular heat exchange array;
first manifold means interconnecting the discharge portion of said compressor and one of said headers;
second manifold means interconnecting the inlet portion of said combustor and the other of said headers;
a first exhaust duct interconnecting the discharge portion of said turbine and the upstream end of a second arcuate portion only of said annular heat exchange array;
a second exhaust duct for discharging gas to atmosphere from the downstream end of said second arcuate portion of said annular heat exchange array;
means for rotating said rotor and said annular heat exchange array to continually change the heat exchange units comprising said first and second arcuate portions of said heat exchange array;
and first axial sealing means between said upstream header and the upstream end of said rotor and second axial sealing means between said downstream header and the downstream end of said rotor, said first and second sealing means confining flow of high pressure fluid between said headers to the passages of the heat exchange units comprising said first arcuate portion of said heat exchange array;

each of said sealing means including:

a pair of stationary seal plates having radially disposed faces at the circumferentially opposite ends of the respective header, the circumferential extent of each of said seal plates being greater than the circumferential extent of any of said heat exchange units,
a plurality of radially disposed, circumferentially spaced seal wipers projecting axially from the radial face of each of said seal plates, means biasing each of said seal wipers axially toward the associated end of said rotor,
and a plurality of radially positioned seal elements carried on the associated end of said rotor, said seal elements being located in the circumferential spaces between adjacent heat exchange units and being axially positioned to slidably engage the associated seal wipers to prevent circumferential leakage therebetween.

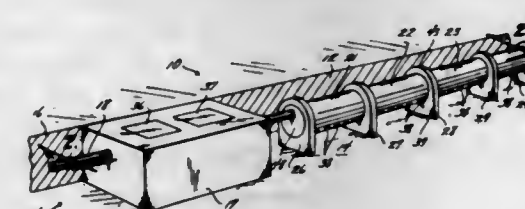
3,339,365

SEWAGE DISPOSAL SYSTEM

Rupert H. Uden, Juniata, Nebr. 68955

Filed Dec. 21, 1964, Ser. No. 419,830

3 Claims. (Cl. 61—13)



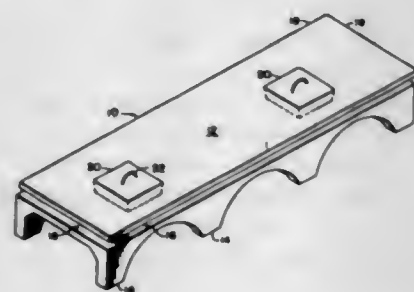
1. A sewage disposal system comprising in combination:
a septic tank unit having an inlet conduit and a discharge conduit;
a plurality of identical, cylindrical pipes, each pipe having a plurality of apertures formed therein;
means fluidly connecting one pipe to said discharge conduit; and

a plurality of ground supported upright risers supporting said pipes upwardly spaced from the ground in an elevated position above the lower portions of the risers and in an end-to-end relationship, each riser having a 360° circular opening formed therethrough in the upper portion thereof into which contiguous ends of adjacent pipes are inserted and adjoined in abutting relationship, each said riser having a thickness longitudinally of said pipes for supporting said contiguous ends and for completely covering both longitudinally and circumferentially the junction of said pipe abutting ends.

3,339,366

STRUCTURE FOR LEACHING FIELDS
Robert M. Gogan, 105 Coolidge Hill Road, Watertown, Mass. 02172, and Gilbert T. Joly, 75 Hillcroft Ave., Worcester, Mass. 01606

Filed Oct. 20, 1965, Ser. No. 498,590
7 Claims. (Cl. 61—13)



1. A structure for the distribution of effluent materials over the top surface of a porous percolating bed, said structure comprising a plurality of discrete distribution chambers nested together in abutting relationship on the top surface of said porous bed to form a substantially continuous horizontal roof over said bed, each chamber comprising a plurality of spaced, vertically upstanding pedestals for positioning on said percolating bed and forming walls supporting a horizontally extending closed roof which is impervious to the admission of liquids when said chamber is positioned on said percolating bed, adjacent pairs of pedestals forming fluid passages extending through said walls adjacent the surface of said percolating bed and communicating between the interior and exterior of the respective chamber, the width of each of said passages as measured in the plane of its respective wall at the bottom thereof along said surface being greater than the width of each of said pedestals of said pair of pedestals of the respective passage as measured in a corresponding direction in said plane at the bottom thereof along said surface, the corresponding passages in each adjacent chamber being aligned with each other when said chambers are placed in nested relationship to form a plurality of continuous fluid channels extending throughout said field beneath said closed roof portion, whereby said effluent material may flow out from the interior of each said chamber through said fluid passages and along the surface of said bed in both the longitudinal and lateral directions substantially unimpeded by said pedestals.

3,339,367

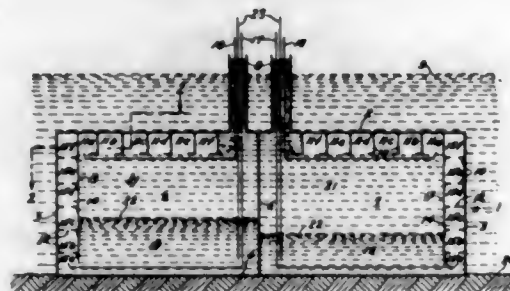
METHOD AND APPARATUS FOR INSULATED SUBMERGED OIL STORAGE

Ray S. Lacy, Jr., Beaumont, Tex., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed May 27, 1965, Ser. No. 459,398
14 Claims. (Cl. 61—63)

9. Method of storing oil beneath the surface of a body of water and insulating said oil from the said body of water, said method comprising:

(a) submerging an oil storage tank in said body of water,



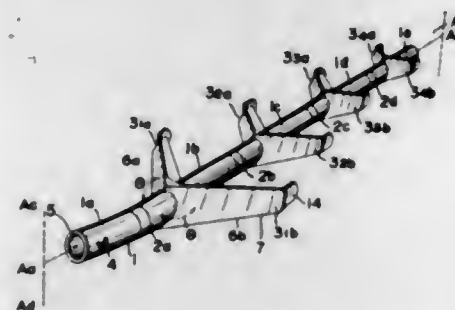
(b) introducing oil for storage into said tank,
(c) displacing oil away from the walls of said tank by a body of gaseous fluid.

3,339,368

APPARATUS FOR LAYING UNDERWATER CABLES

Takujl Ezoe, 1089 8-chome, Koyama, Shinagawa-ku, Tokyo-to, Japan, and Kikuo Shirai, 1791 Kaneko-machi, Chofu-shi, Tokyo-to, Japan

Filed Sept. 27, 1965, Ser. No. 490,283
Claims priority, application Japan, Sept. 28, 1964,
39/54,498
26 Claims. (Cl. 61—72.4)



1. An apparatus for laying underwater cables, conduits, or the like comprising: a tubular structure adapted for passing therethrough at least one cable and composed, with respect to the longitudinal direction thereof, of a plurality of divided tube sections; joint means for successively connecting said divided tube sections to one another in a tandem row with flexible couplings each of which has an aperture to pass the cable and has some flexibility without rotatability with respect to the axis of the tubular structure; a plurality of pairs of plough blades, the blades of each pair of which are secured to respective sides of one of the divided tube sections so as to be symmetrical to each other with respect to a plane which contains the axis of the tubular structure and divides the tubular structure into two equal parts, each of the plurality of blades having an angle of sweepback with respect to the axis of its respective tube section, each of the lower edges of the blades constituting a cutting edge facing the forward end of the tubular structure, the lower edge of each of the blades arranged on one side of the tubular structure being intersected at a point outside of the tubular structure with the lower edge of the corresponding blade symmetrically arranged on the other side of the tubular structure so that said point is offset, by a distance less than the diameter of the tubular structure, from the outer surface of the tubular structure and lies in a plane which contains the axis of the tubular structure and divides the apparatus symmetrically into two equal parts, the lengths of said blades being successively reduced in proportion to the distances of the blades from the forward end of the tubular structure; and connection means disposed, at the forward end of the tubular structure for

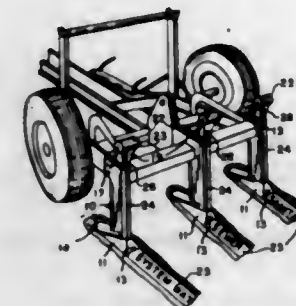
connecting the apparatus to means for towing the apparatus, whereby when the apparatus is towed along the bottom of a body of water by said means for towing the apparatus, said lower edges of the blades dig successively into the material of the bottom in accordance with the arrangement order of the blades so as to dig a trench in the material, and, at the same time, the cable guided through the tubular structure is laid in the trench.

3,339,369

IDENTIFICATION TAPE PLOW

Francis B. Ryan, Chariton, Iowa, assignor to F. B. Ryan Manufacturing Company, Chariton, Iowa, a corporation of Iowa

Filed Oct. 14, 1965, Ser. No. 495,884
5 Claims. (Cl. 61—72.6)



1. In a tape laying structure designed to be affixed to the trailing edge of a ditching blade to the type comprising a vertical cutting edge and a rearwardly enlarged, triangular cross-section lower shoe member, a vertical tape tube affixed downwardly along the trailing rear edge of the ditching blade of a width equal to that of the ditching blade and triangularly enlarged at its lower extremity to conform to the shape of the rear extremity of the blade shoe, arm means affixed to the forward upper extremity of the blade structure extending upwardly and rearwardly therefrom and provided with a rectangularly disposed arm positioned above the forward edge of the tape tube, a tape roll rotatably mounted upon said rectangular arm delivering tape downwardly into said tape tube, means extending upwardly above said tape tube and aligned with the axis thereof impinging against tape issuing from said tape roll and folding it along its median line to adapt the tape to the width of the tube and downwardly rearwardly enlarged guiding means positioned within the lower extremity of said tape tube adjacent the rear extremity of said blade shoe receiving said folded tape and extending it laterally into its original flattened condition for laying in the foot of the cut made by said blade and said shoe.

3,339,370

PROCESS FOR THE SEPARATION OF NITROGEN AND OXYGEN FROM AIR BY FRACTIONAL DISTILLATION

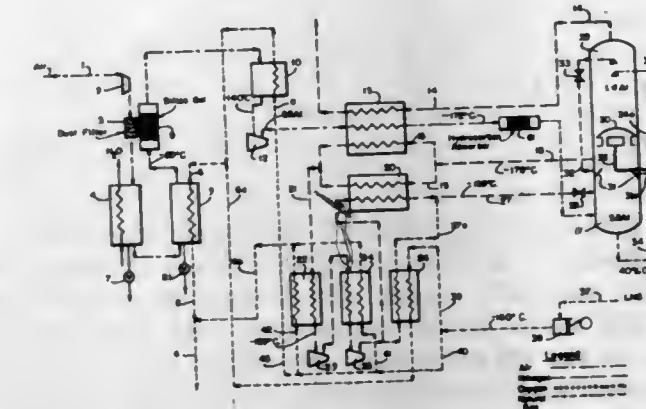
Martin F. M. R. Streich, Frankfurt am Main, Germany, and Ralph Charles Tutton, Teddington, England, assignors to Conch International Methane Limited, Nassau, Bahamas, a company of the Bahamas

Filed June 15, 1964, Ser. No. 375,979
Claims priority, application Great Britain, Nov. 12, 1963,
44,604/63
4 Claims. (Cl. 62—14)

1. A process for the separation of nitrogen and oxygen from air by fractional distillation, first at a higher pressure and then at a lower pressure,

(a) in which the gaseous nitrogen is separated from air in a lower pressure fractionation column and is used to cool air flowing to a higher pressure fractionation column and

(b) gaseous nitrogen separated in the higher pressure fractionation column is compressed at a temperature below minus 50° C.
(c) and is cooled by indirect heat exchange with a liquefied natural gas refrigerant from a source external to the separation system
(d) and is then expanded back into the higher pressure fractionation column,



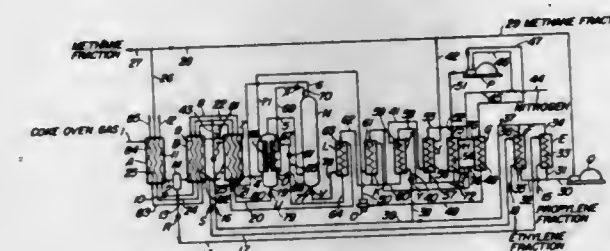
(e) wherein the gaseous nitrogen separated in the higher pressure fractionation column is divided into two streams prior to said compression, and is heat-exchanged in one of said streams with incoming air feed for the system, and is heat-exchanged in the other of said two streams with compressed and cooled gaseous nitrogen from step (d), after which the two streams are reunited prior to said compression, said compression being in at least two stages with a heat exchange prior to and intermediate the stages, the external natural gas refrigerant being in parallel flow in the latter heat exchange.

3,339,371

METHOD OF CRYOGENICALLY SEPARATING COKE-OVEN GAS

Kiyoshi Ichihara, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan

Filed Sept. 4, 1964, Ser. No. 394,517
Claims priority, application Japan, Sept. 9, 1963,
38/47,720
4 Claims. (Cl. 62—26)

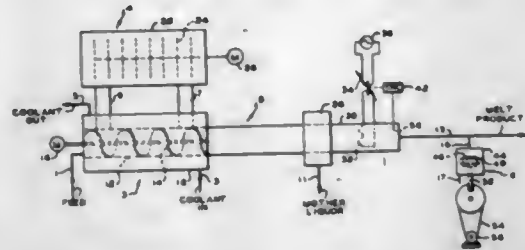


1. A method of cryogenically separating coke-oven gas including refrigerating the coke-oven gas for successive fractional liquefaction of the coke-oven gas into components in the order of from a highest-boiling component to successively lower-boiling components, said method comprising the steps of transferring cold held by a liquid propylene fraction and a liquid ethylene fraction obtained by the fractional liquefaction in parallel but separate heat exchangers to a compressed gaseous methane fraction also obtained by the fractional liquefaction and refrigerating the raw coke-oven gas by the cold transferred to the methane fraction.

3,339,372

FRACTIONAL CRYSTALLIZATION

John E. Cottle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,374
6 Claims. (Cl. 62—58)



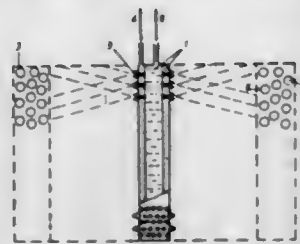
1. Fractional crystallization apparatus comprising, in combination, a first elongated cylindrical chamber having inlet and outlet means, a heat-exchange jacket having inlet and outlet means surrounding said first chamber, auger-scraper means axially disposed in said first chamber and adapted to pump material therethrough and scrape the inner wall thereof, a second elongated cylindrical chamber having a vertical baffle disposed therein dividing said chamber into two zones communicating across said baffle at the top of said cylinder, plural agitators within said second cylindrical chamber, one being positioned on each side of the baffle, said first and second chambers connected by first and second conduits adapted to provide a circular path therethrough, a third elongated cylindrical chamber communicating with the outlet of said first chamber, stationary filtration means positioned in said third chamber with means for withdrawing liquid therefrom, and melting zone means associated with said third chamber with means for withdrawing melt therefrom.

3,339,373

PROCESS AND DEVICE FOR COOLING WIRE COILS

Hans Eberhard Möbius, 72 Nordring, Volklingen, Germany, and Otto Steinhauer, Volklingen, Germany (143 Allenbrucher Damm, Duisburg-Grossenbaum, Germany)

Filed Dec. 21, 1965, Ser. No. 515,329
Claims priority, application Germany, Dec. 21, 1964, R 39,509; July 30, 1965, R 41,199
7 Claims. (Cl. 62—64)



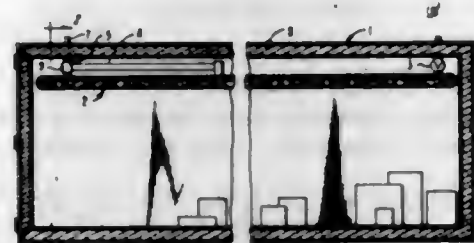
1. In a process for cooling hot metallic wire at a predetermined rate to alter the metallurgical properties of the wire in accordance with the cooling rate, said hot wire being configured in an annular coil formed of a plurality of convolutions, the improvement for controlling the cooling rate to assure that all of said convolutions are uniformly cooled, which comprises simultaneously generating a coolant liquid and a gas which are intimately mixed through a plurality of atomizing nozzles to create an atomized mist, spraying the atomized mist against the coil, and adjusting the size of the droplets in said mist so that they are small enough to enable said mist to permeate substantially through said convolutions, but large enough to remain fluidized as they pass through said convolutions.

3,339,374

EVAPORATIVE NON-MECHANICAL HEAT-SINK REFRIGERATION SYSTEM

Herbert B. Ellis, Pasadena, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Apr. 5, 1965, Ser. No. 447,605
5 Claims. (Cl. 62—113)

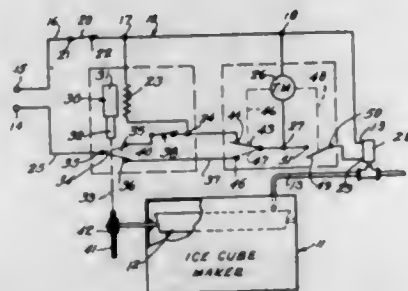


1. In an evaporative, non-mechanical, heat-sink method of refrigeration of an enclosure containing articles to be refrigerated, the steps comprising: providing a non-insulated metal container positioned wholly within said enclosure and holding a refrigerant under pressure therein with the surface of said metal container being in direct heat transfer relationship with the atmosphere within the enclosure, said refrigerant within the container comprising liquid partially filling said container and expanded vapor occupying the rest of the container; evaporatively releasing said refrigerant from said metal container and discharging to atmospheric pressure; and prior to discharge to atmospheric pressure passing said released vapors in heat-transfer relationship with the refrigerant in said metal container, whereby the vapor pressure over said liquid body of refrigerant within the container is maintained at a constant predetermined level.

3,339,375

TIME FILL ICE MAKER

William L. Fox, Niles, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Feb. 14, 1966, Ser. No. 527,187
11 Claims. (Cl. 62—233)

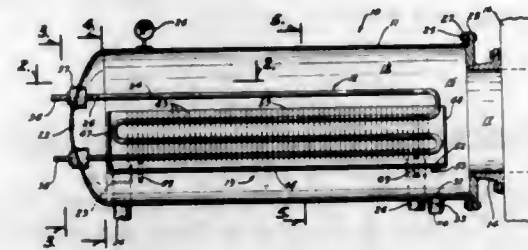


1. A time fill ice maker comprising: an ice cube maker, first and second electromechanical transducers for emptying ice from said ice cube maker and for refilling said ice cube maker with water, a control circuit for sequentially actuating said first and second electromechanical transducers, said control circuit including a timing motor for engaging and disengaging said second electromechanical transducer according to preset time intervals, means for energizing said timing motor in response to the deenergization of said first transducer, and means for initiating operation of said control circuit and for continuously recycling the control function.

3,339,376

CONDENSER APPARATUS AND METHOD OF DEFROSTING

Everett R. Taggart, 5176 SE. 40th St., Des Moines, Iowa 50320
Filed Nov. 5, 1965, Ser. No. 506,522
6 Claims. (Cl. 62—282)

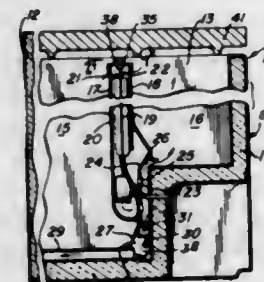


1. A defrosting device in a condenser apparatus comprising in combination: a housing having a chamber enclosed by a wall, and having an opening formed in said wall for communicating said chamber with the interior of that within which the vapor is to be condensed; means attached to said housing for discharging fluid therefrom; refrigerant carrying means disposed within said chamber; container means also disposed within said wall and open at the top thereof, said container means enclosing said refrigerant carrying means on both sides and the bottom thereof and for receiving fluid therein for contacting said refrigerant carrying means for defrosting same, wherein any and all material defrosted from said refrigerant carrying means is carried by the fluid outwardly through the said open top for gravitational discharge downwardly into said chamber.

3,339,377

REFRIGERATION APPARATUS

Louis W. Fellwock, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 23, 1965, Ser. No. 489,475
5 Claims. (Cl. 62—408)



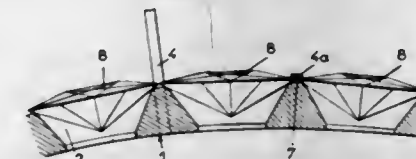
1. Refrigeration apparatus comprising: wall means defining a first freezer chamber and a second freezer chamber substantially smaller than said first freezer chamber; means for circulating a substantially constant total volume of air to said chambers including air moving means and means for delivering air from said air moving means in a first path to said first chamber and in a second path to said second chamber; means for refrigerating the air moved by said air moving means to below 32° F. for refrigerating each of said chambers to a freezing temperature; damper means movably carried in said first path; and control means connected to said damper means for adjustably positioning the damper means between a maximum open position wherein said first path is substantially unobstructed and a maximum restriction

position wherein said first path is maintained partially open for varying the ratio of air flow in said paths to provide selectively a normal freezing condition and a flash freeze condition in said second chamber while maintaining at least a preselected minimum delivery of air to said first chamber to maintain said first chamber in a freezing condition at all times.

3,339,378

PROCESS FOR THE SECURING OF PRECIOUS STONES OR THE LIKE IN THEIR MOUNT AND PRODUCTS OBTAINED BY THE APPLICATION OF THE SAID PROCESS

Francis Chirol, 1 Rue Rossini, Paris, France
Continuation of application Ser. No. 377,910, June 25, 1964. This application June 20, 1966, Ser. No. 559,681
Claims priority, application France, Oct. 17, 1963, 950,991, Patent 1,379,772
7 Claims. (Cl. 63—28)

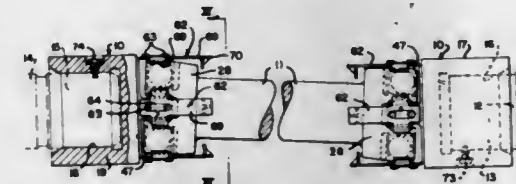


4. A setting for decorative stones, said setting comprising mounting means provided with a row of cavities, each adapted to receive a single stone, and a plurality of metal loops positioned transversely of said row midway between the centers of adjacent cavities, so that when pressed downwardly toward said mounting said loops will engage the stones in both said adjacent cavities.

3,339,379

UNIVERSAL COUPLING SYSTEM AND THE LIKE

Peter J. Snyder, 6723 Smithfield St., McKeesport, Pa. 15135
Filed Sept. 14, 1965, Ser. No. 487,234
8 Claims. (Cl. 64—7)



1. In a universal coupling and the like, the combination comprising a head member having a plurality of axially extending and angularly spaced fingers, a cooperating head member having a like plurality of axially extending and angularly spaced fingers, said fingers being interfitted and uniformly spaced about the axes of their respective heads in axially overlapping relationship, said fingers respectively having their radially juxtaposed surfaces respectively spaced apart, a bearing assembly slidably engaging each surface of each pair of said radially juxtaposed surfaces, and a number of bearing assembly retaining brackets secured respectively to the outward circumferential surfaces of some of said fingers, said retaining brackets overlying but spaced from the associated outward openings of said spaces to retain said bearing assemblies therein.

3,339,380

SHOCK ABSORBER

Fred K. Fox, 242 Stoney Creek Drive, Houston, Tex. 77024
Filed Sept. 16, 1965, Ser. No. 487,797
12 Claims. (Cl. 64—23)

1. A shock absorber, comprising a pair of elongate members arranged telescopically of one another, and non-

parallel splines connecting said members at opposite ends of a section of at least one of said members so as to



twist said section upon relative axial movement between said members.

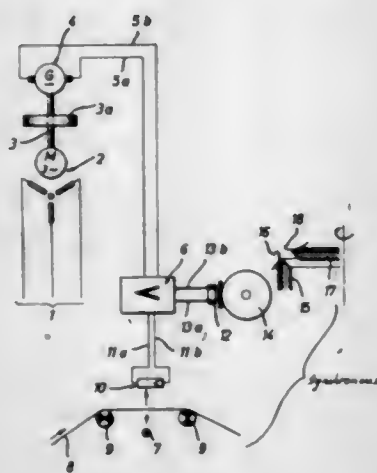
3,339,381

ELECTRICAL CONTROL IN CIRCULAR KNITTING MACHINES

Richard Schmidt, Stuttgart-Vaihingen, Germany, assignor to Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany

Filed May 26, 1964, Ser. No. 370,220
Claims priority, application Germany, Aug. 22, 1963, M 57,925

4 Claims. (Cl. 66—50)



1. In a circular knitting machine including rotary parts supporting knitting needles and rotating at a constant speed, and electronically controllable devices for determining patterns to be produced by operating a plurality of said knitting needles selectively, in combination, electrically operable control means for selectively controlling the operation of individual needles out of said plurality thereof; record carrier means carrying a record of commands corresponding to a pattern to be produced; means for sequentially deriving from said record carrier means said commands in the form of low energy electric pulses; amplifier means for amplifying said pulses and for furnishing the amplified pulses to said control means for energizing the latter in accordance with said commands so that the same operate in exact synchronism with said rotary parts and said needles if energized by a constant voltage; direct current voltage generator means for energizing said amplifier means; three-phase motor means connected

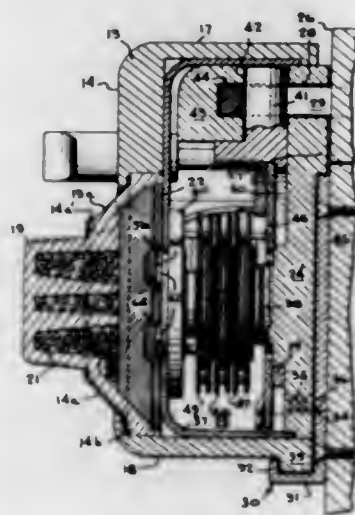
to a three-phase voltage supply network and driving said generator means; and flywheel means operatively connected with said generator means for keeping said direct current voltage, which controls said control means, at a uniform level in spite of an occurrence of fluctuations in said three-phase voltage supply so that the current of said amplified pulses is constant and said control means are operated in synchronism with the constant rotary speed of said parts and said knitting needles.

3,339,382

COMBINATION LOCK FOR SECURITY CABINETS AND THE LIKE

Harry C. Miller and Steven Helesfal, Rochester, N.Y., assignors to Sargent & Greenleaf, Inc., Rochester, N.Y., a corporation of New York

Filed Dec. 15, 1964, Ser. No. 418,424
14 Claims. (Cl. 70—23)



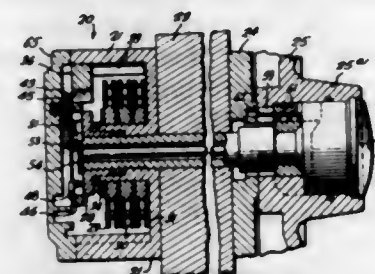
1. In a combination lock having a plurality of peripherally gated tumbler wheels loosely journaled for rotation about a common axis, a peripherally gated driving cam rotatable about the common axis, a lost motion driving connection between said driving cam and tumbler wheels, a rotatable dial for rotating said driving cam to angularly adjust said tumbler wheels to dispose the peripheral gates in alignment, and reciprocative bolt means to be selectively shifted to locked and unlocked positions; the improvement comprising fence means for selectively shifting said bolt means between said locked and unlocked positions responsive to rotation of the driving cam including a fence lever having a nose to be received in said peripheral gates when said tumbler wheels and driving cam occupy selected angular positions, means supporting said fence lever for arcuate translatable movement circumferentially of the tumbler wheels and for pivotal movement about a pivot axis from an inactive position spacing said nose out of operative engagement with the tumbler wheel and driving cam peripheries to an active position locating said nose in said gates, overcenter spring means normally occupying a position holding said fence lever at said inactive position, and accelerator means including a rotatable cam operative from externally of the lock independently of the dial and a resiliently biased member within the lock movable responsive to said cam for exerting an impact force on said fence lever to propel the fence lever to said active position when said peripheral gates are aligned to receive said nose therein, said overcenter spring means returning said fence lever to said inactive position when said gates are not aligned with said nose and assuming a position holding said fence lever in said active position when said nose is projected into said gates.

3,339,383

RING GUARD COMBINATION LOCK

Harry C. Miller, George D. Paul, and John Z. Thomolaris, Rochester, N.Y., assignors to Sargent & Greenleaf, Inc., Rochester, N.Y., a corporation of New York

Filed June 25, 1965, Ser. No. 467,039
9 Claims. (Cl. 70—333)



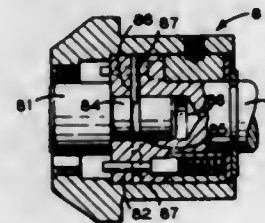
1. In a combination lock having a plurality of selectively adjustable, peripherally recessed tumbler wheels, a rotatable driving cam for adjusting said tumbler wheels, a bolt, a fence lever pivotally connected to said bolt having a nose for selectively engaging the periphery of said driving cam and a laterally extending fence transversely overlying the peripheries of said tumbler wheels, said driving cam having a peripheral gate for receiving said fence lever nose to permit said fence to enter the tumbler recesses when the latter are adjusted in registry therewith; the improvement comprising shielding means to selectively shield said driving cam gate against entry of the fence lever nose therein including an annular guard ring having an uninterrupted cylindrical periphery of slightly larger diameter than said driving cam pivotally supported at an eccentric point on the latter for arcuate movement from a normal concentric position relative to the driving cam supporting said nose against entry of the fence lever nose in said gate to a displaced position exposing said gate to receive said nose, a movable actuating member adjacent said driving cam, manipulating means coupled to said actuating member for moving the latter relative to said guard ring over a preselected range of movement, and spring means coupled to said actuating member and to said ring guard to be actuated by movement of the actuating member to store up energy during movement of the actuating member thereof toward a selected intermediate position in said range of movement and be shifted to a direction upon passage of said intermediate position to expend the stored up energy on said guard ring to drive the latter fully to said displaced position.

3,339,384

TUMBLER LOCK

Harry Greenwald, Whitestone, N.Y., assignor of one-third each to Louis Wolff and Harry Silberglait, Brooklyn, N.Y.

Filed July 6, 1965, Ser. No. 469,601
12 Claims. (Cl. 70—363)



1. A tumbler lock comprising:
a housing,
a pair of juxtapositioned relatively movable members disposed within said housing,
each of said members having a plurality of axially aligned bores formed therein,

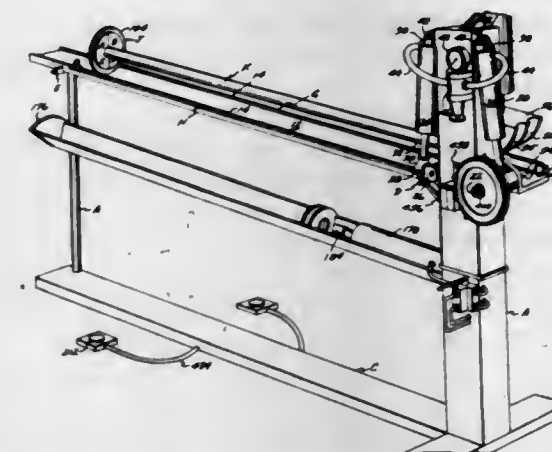
lock pins mounted in the bore of one of said members, means for normally biasing said lock pins so that the ends of said respective lock pins extend into the aligned bores of said other member to prohibit relative movement therebetween,
code pins disposed in the bore of said other member, a key guide,
means for connecting said key guide for free relative rotation with respect to said other member,
and a key means for effecting axial displacement of said code pins and lock pins a proportional amount to disengage said lock pins from said other member, and complementary means on said key means and said other member for effecting a driving connection between said key means and said other member whereby said driving connection is engaged only after said code pins have been displaced a proportional amount necessary to permit relative movement between said members.

3,339,385

PIPE BENDING APPARATUS

Bruce J. Lance, 1460 Chase Drive, Corona, Calif. 91720

Filed Apr. 22, 1966, Ser. No. 544,512
7 Claims. (Cl. 72—22)



1. In a machine for bending a length of tubing that includes a vertical column, two longitudinally aligned jaws rigidly connected to two shafts rotatably and pivotally supported by said column, means for tending to restrain downward pivotal movement of said jaws, a downwardly curved pressure-exerting member in which at least one groove of semi-circular cross section is formed in the lowermost surface thereof that is in vertical alignment with grooves of a generally semi-circular cross section formed in said jaws, a hydraulic cylinder supported from the upper portion of said column, a piston slidably mounted in said cylinder, a piston rod connected to said piston and supporting said pressure-exerting member on the lower end thereof, a source of hydraulic liquid under pressure, solenoid operated valve means which when in a first position admits said fluid into the upper portion of said cylinder to move said pressure-exerting member downwardly to bend said tubing and when in a second position admits said fluid into said cylinder to raise said pressure-exerting member to a position above said tubing, the improvement for forming a sequence of longitudinally spaced bends in said tubing, comprising:

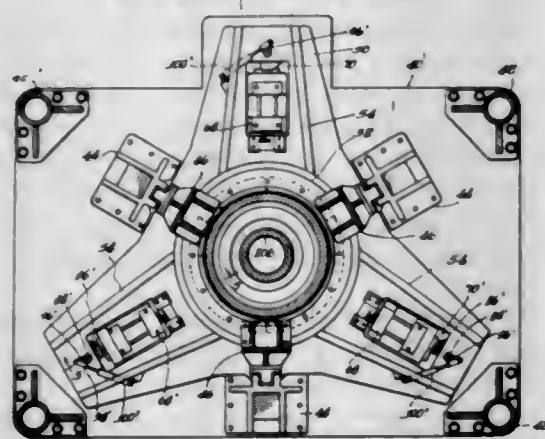
- an electric system connected to said solenoid operated valve means for moving the same to either said first or second position;
- a first normally open switch in said system which when closed results in said solenoid operated valve means moving to said first position;
- a second normally open switch in said system which when closed results in said solenoid operated valve means moving to said second position;

- (d) first resilient movably supported means adjacent said second switch, said first means capable of occupying either a first or second position, and said first means when in said first position and deformed downwardly, closing said second switch;
- (e) a disc having a plurality of circumferentially spaced, radially extending slots formed in the peripheral portion thereof;
- (f) second means for so supporting said disc from one of said shafts that said disc rotates when said shaft rotates in a first direction but does not rotate when said shaft rotates in a second direction;
- (g) a plurality of tabs selectively positioned in said slots and projecting rearwardly and outwardly therefrom to the extent that they sequentially contact said first means when in said first position to sequentially close said second switch to form a plurality of bends in said tubing, each of a desired angle, as said tubing is moved intermittently through said machine;
- (h) third means for removably locking said tabs in said slots;
- (i) fourth means for visually indicating the degrees of spacing of said tabs when disposed in said slots;
- (j) fifth means that at all times tend to move said first means from said first position to a second position where said first means is disposed outwardly from said tabs;
- (k) sixth electrically operated means which when energized, maintains said second means in said first position; and
- (l) a third normally closed electric switch connected to said system and to said sixth means, said third switch being so disposed relative said first means that it is opened when said first means closes said second switch, said third switch when in said open position allowing said fifth means to move said first means that is downwardly deformed to said second position, said first means upon reaching said second position moving upwardly due to the resiliency thereof to open said second switch and close said third switch, with said third switch upon being closed energizing said sixth means to move said first means to said first position, and said first means in returning to said first position being disposed above the one of said tabs causing the downward deformation of said first means to permit the further rotation of said disc and tabs supported thereon in the subsequent bending of said tubing.

3,339,386

LARGE CORRUGATOR

Bransford R. Homfeldt, Elgin, Ill., assignor to Calumet & Hecla, Inc., Chicago, Ill., a corporation of Michigan
Filed May 7, 1964, Ser. No. 365,722
16 Claims. (Cl. 72-59)



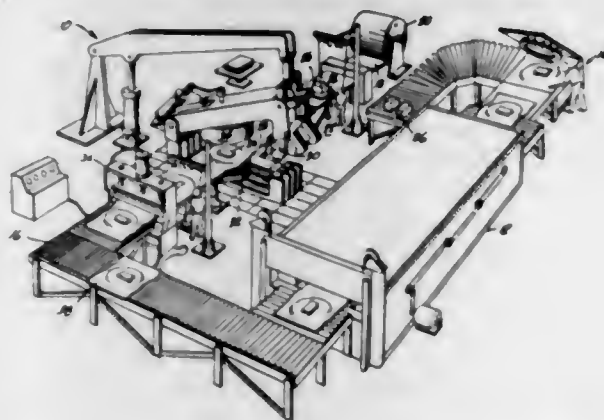
1. Apparatus for forming a convolution on a tubular workpiece, comprising: a frame; means defining a mandrel mounted on said frame for partially forming a convolu-

tion on such tubular workpiece; carriage means movable reciprocally with respect to said frame axially of said mandrel; first and second forming means mounted respectively on said frame and carriage means and co-operable to complete the formation of such convolution, said first and second forming means each including tri-segmented means, each segment being shiftable selectively laterally of said mandrel from a closed position closely adjacent said mandrel to an open position spaced apart therefrom a distance greater than the height of such convolution; stop means for arresting said tri-segment means in a closed position concentric with such workpiece; and mechanical locking means for maintaining said tri-segmented means in said closed position and to preclude unselected retraction thereof during a convolution forming operation.

3,339,387

FORMING METHOD AND APPARATUS

Richard A. Myers, Rolling Hills Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Dec. 14, 1964, Ser. No. 417,968
23 Claims. (Cl. 72-63)

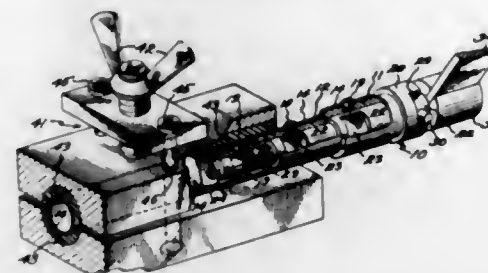


1. A system for hot forming and sizing titanium sheet metal into desired shapes on form blocks, comprising: a generally closed loop conveyor system including an assembly zone, a forming zone, a severing zone, a sizing zone, and a disassembly zone;
- a supply reel carrying an elongate strip of deformable, shape retaining sheet metal adjacent said assembly zone and adapted to feed said sheet metal to a loading table at said assembly zone to receive a sheet of titanium and a form block;
- means to remove said sheet metal onwardly sufficiently to locate said titanium and form block at said forming zone;
- means at said forming zone to apply heat to said titanium and sheet metal to raise said titanium to a suitable forming temperature, and to deform said titanium to a suitable forming temperature, and to deform said sheet metal around said form block, and to deform said sheet metal around said titanium and form block in gripping and shape holding relation; said means to move said sheet metal being adapted to move the strip onwardly to locate the formed material at said severing zone;
- means at said severing zone to sever the formed portion of said sheet metal from the succeeding portion of said strip;
- conveyor means to transfer said formed portion together with said titanium and form block onwardly to and through said sizing zone to the disassembly zone;
- means at said sizing zone to maintain said formed portion, titanium, and form block at a predetermined elevated temperature for a predetermined period of time;

means at said disassembly zone to forcefully separate said sheet metal, titanium, and form block; and conveyor means to transfer said form block to a position adjacent said assembly zone.

3,339,388
MULTIPLE SIZE RECTILINEAR TUBE
BEADING TOOL

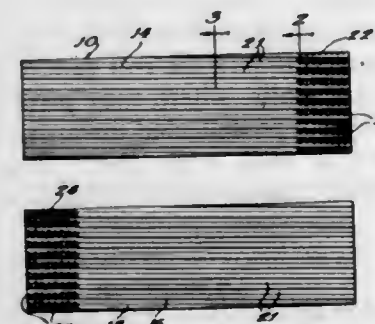
Arthur S. Cann, 62 Pond Point Ave.,
Milford, Conn. 06460
Filed Sept. 8, 1964, Ser. No. 394,819
6 Claims. (Cl. 72-75)



1. A rectilinear hand tool for embossing circumferential beads at axially spaced locations in the wall of cylindrical tubes of different diametrical size, comprising in combination, a hollow mandrel having coaxial cylindrical wall portions of relative large and relatively small diametrical sizes united rigidly end to end and adapted to be inserted endwise in a tube to be embossed, a core rod so arranged within said mandrel that relative movement of said rod and mandrel is confined to rotation about a common axis, a plurality of axially spaced apart camming surfaces on said core rod located at respectively differing radial distances from said common axis, lateral openings located respectively in said wall portions in axial register with said camming surfaces, and embossing balls in said wall openings having a limited range of radial movement with respect to said mandrel at respectively different distances from said common axis of rotation, said balls being operably related to said camming surfaces for embossing work tubes of different diameter when similarly aligned longitudinally with said common axis.

3,339,389
METHOD OF FORMING SELF-LOCKING
THREADED FASTENING MEMBER

William A. Mosow, Greenville, Miss., assignor to National Lock Co.
Filed Feb. 16, 1965, Ser. No. 433,107
9 Claims. (Cl. 72-88)

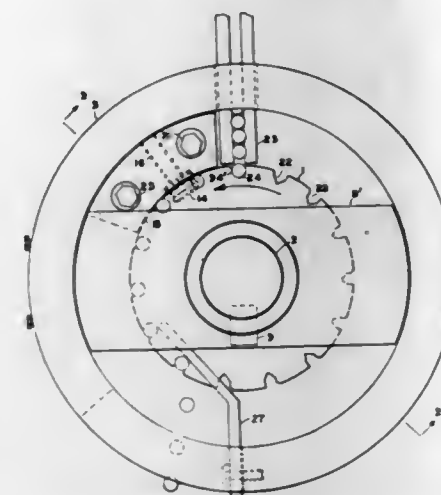


9. In combination with a screw thread rolling apparatus, die blocks for forming a self-locking threaded fastener, said blocks having first portions with thread forming surfaces thereon including ribs having inclined faces intersecting in a crest and a root, and second portions on

said die blocks, said second portions having teeth on one of said inclined faces for forming radial deformations in the face of a screw thread during screw rolling operation of two of such dies.

3,339,390
HIGH SPEED BENDING MEANS

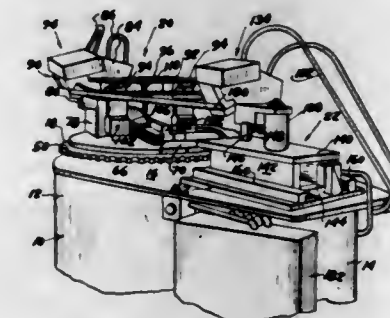
Albert Sommer, 124 N. 7th St.,
New Hyde Park, N.Y. 11040
Filed Nov. 17, 1964, Ser. No. 411,826
6 Claims. (Cl. 72-133)



1. Means for bending rivets comprising a round table rotatably mounted for rotation about a vertical axis, means to rotate said table, rivet holding means spaced around the periphery of said table, a notched roller rotatably mounted to rotate about a horizontal axis, said roller being located and extending under the end of said table so that the ends of the said rivets extending below said table come in contact with said notched roller end and are bent as said rivet passes said roller.

3,339,391
STRETCH BENDING MACHINE

Ben C. Kowalski, 3174 Wendover,
Birmingham, Mich.
Filed Dec. 4, 1964, Ser. No. 416,008
10 Claims. (Cl. 72-151)



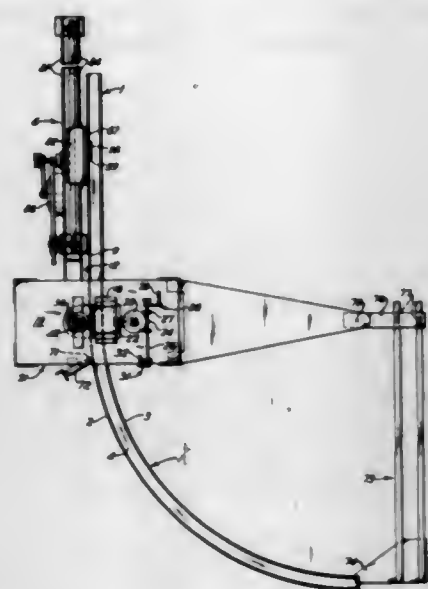
1. A machine for stretch bending molding, comprising: a frame; a table rotatably supported on the frame; a slide supported on the frame for motion toward and away from the center of said table; a first clamp for said molding supported on said table; a second clamp for said molding supported on said slide; a means for rotating said table; means for moving said slide toward and away from said table in timed relation to the rotation of said table; and a bending die pivotably supported on said table for movement about an axis parallel to the surface of said table.

3,339,392

BENDING STRUCTURAL SHAPES

Milton Thomas Buckwalter, Allison Park, Pa., and Lloyd E. Anderson, Sr., Des Moines, Iowa, assignors to Pittsburgh Des Moines Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 6, 1965, Ser. No. 446,066
18 Claims. (Cl. 72-166)



1. A beam bender for bending a structural beam having integral first and second members, such as flange and web members, extending longitudinally at right angles to each other with the first member having a flat outer face and an opposed inner face and with the second member extending out from the inner face of the first member but not from the outer face of that member, said apparatus comprising: anvil roll means for supporting the inner face of the first member; rolling and swaging means for rapidly and successively contacting the outer face of the first member with a plurality of work rolls that are translated longitudinally of said face to produce, by a combination of rolling and swaging, longitudinal plastic flow in the first member without substantial lateral plastic flow therein, for elongating that member relative to that portion of the beam remote from the first member; and feeding means for moving the first member longitudinally between the anvil roll means and the rolling and swaging means at a controlled speed that is considerably less than the translational speed of the work rolls contacting the outer face of the first member, whereby the differential elongation of the first member relative to that portion of the beam remote from the first member will cause the beam to bend so that the outer face of the first member will form a convex surface.

3,339,393

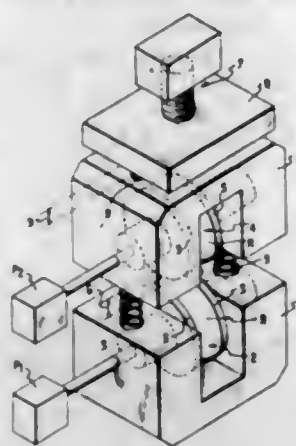
ROLLING MILL APPARATUS

James Rice, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 1, 1964, Ser. No. 415,077
5 Claims. (Cl. 72-240)

1. Rolling mill apparatus comprising:
 - (a) a first roller drivably mounted for rotation in a fixed roller mount, and a second roller drivably mounted for rotation in a movable roller mount, said fixed roller mount being positioned adjacent one side of said movable roller mount so that the peripheral surfaces of said first and second rollers define a roller gap therebetween,
 - (b) an adjustable set block positioned adjacent the opposite side of said movable roller mount for limiting movement of said second roller away from said first roller,

- (c) first spring means positioned between said fixed and movable roller mounts for urging said movable roller mount toward said set block and for increasing said roller gap, and
- (d) second spring means between said movable roller mount and said set block, said second spring means



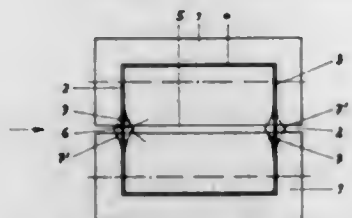
normally urging said movable roller mount towards said fixed roller mount against the force of said first spring means to decrease said roller gap and to maintain positive contact between said rollers and stock introduced into said roller gap for deforming over-size stock drawn between said rollers.

3,339,394

MEANS FOR LATERALLY LIMITING THE ROLL GAP OF A ROLLING MILL FOR THE PRODUCTION OF SHEETS OR THE LIKE FROM METAL PARTICLES

Kurt Claus, Lintorf, near Dusseldorf, and Ulf Geler, Osterrath-Bovert, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company

Filed Jan. 26, 1965, Ser. No. 428,136
Claims priority, application Germany, Feb. 12, 1964, Sch 34,623
4 Claims. (Cl. 72-250)



1. In a rolling mill with ungrooved rolls for the production of sheets, plates, strips and other simple sections from metal particles, means for laterally limiting the roll gap, comprising: a stock-feeding device having adjustable lateral walls projecting into the roll gap, at least the lower part of the lateral walls, where they project into the roll gap, being adapted to be deflected inwards, that is, towards the opposite lateral wall, when the roll pressure is low, and to be deflected outwards when the pressure is high.

3,339,395

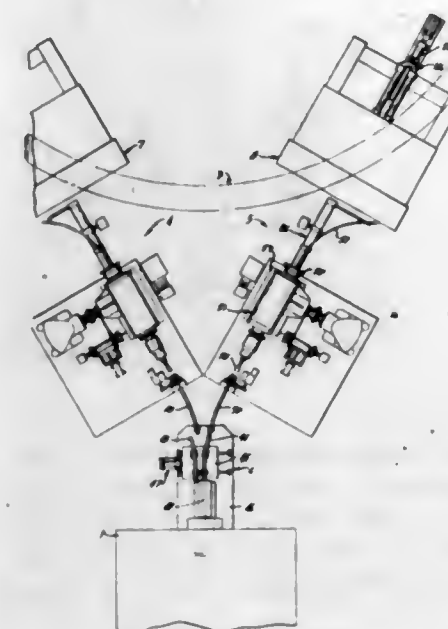
HIGH SPEED METALLIC EXTRUSION APPARATUS

Bertil G. Winstrom, Mequon, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Feb. 17, 1964, Ser. No. 345,194
10 Claims. (Cl. 72-257)

1. Apparatus for extruding a heated metal billet into a rod-like element and simultaneously coiling the element, comprising:

a rotating winding means having an inlet means for receiving said hot rod-like element and an outlet means for discharging the element in a plane generally perpendicular to the rotational axis of the winding means and perpendicular to the axis of extrusion; and drive means for rotating said winding means with the speed of said winding means being conjointly respon-



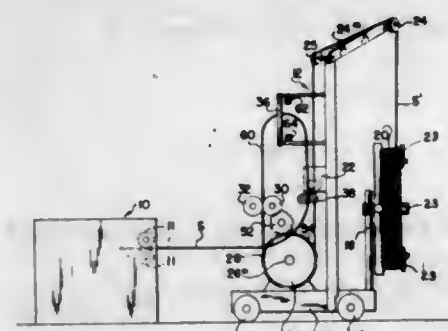
sive to the torque of said drive means and the torque of the extruded element to maintain said element under only slight tension towards the inlet side of the winding means and with the winding means being immediately responsive to, and substantially instantaneously following changes in the speed of the extruded element.

3,339,396

WIRE DRAWING AND FEEDING MECHANISM

Wilbur E. Carlson, 17316 Fries Ave., Lakewood, Ohio 44107

Filed June 9, 1964, Ser. No. 373,752
16 Claims. (Cl. 72-289)



1. In a wire drawing and feeding mechanism for use with a wire working machine comprising, a support member, drum means rotatably mounted on said support member, power means for rotating said drum means, die drawing means disposed above said drum means, said drum means being adapted to pull wire vertically downwardly through said die drawing means as the wire is tightly wound onto said drum means, rotatable friction means adapted for maintaining tension on said wire as it is paid off therefrom and for forming an extended supply loop in said wire, said supply loop being formed subsequent to tension of said wire and prior to movement to an associated wire working machine.

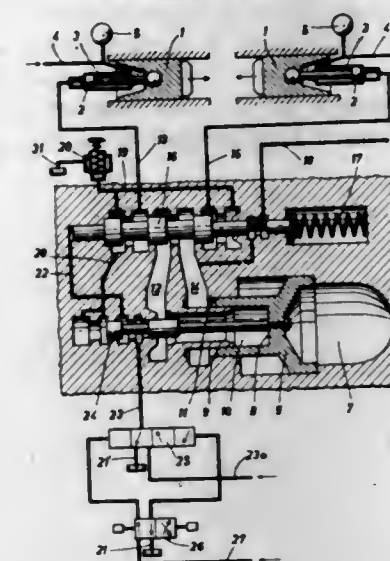
3,339,397

FORGING MACHINE

Othmar Heimel, Behamberg, Austria, assignor to Gesellschaft fur Fertigungstechnik und Maschinenbau Gesellschaft m.b.H., Steyr, Austria

Filed May 25, 1965, Ser. No. 458,662
Claims priority, application Austria, July 23, 1964, A 6,323/64

9 Claims. (Cl. 72-407)



1. A forging machine, which comprises at least one pair of hammers and drive means for reciprocating the hammers of said pair in mutually opposite directions toward each other and away from each other, said drive means comprising two identical cylinder-piston units, each of which is associated with one hammer of said pair, a gas accumulator, a driving piston slidably fitted in said gas accumulator, said driving piston having at its end opposite to said gas accumulator two piston faces of equal size, cylinder means in which said piston is slidably mounted and which define with said piston an annular cylindrical working chamber adjoining one of said piston faces and a cylindrical working chamber adjoining the other of said piston faces and separate from said annular cylindrical working chamber, and two hydraulic transmission conduits, each of which connects one of said working chambers to one of said cylinder-piston units.

3,339,398

HIGH SENSITIVITY DIFFERENTIAL THERMAL ANALYSIS APPARATUS AND METHOD

Edward M. Barrall II, Terra Linda, and Jay F. Gernert, Pacheco, Calif., assignors to Chevron Research Company, a corporation of Delaware

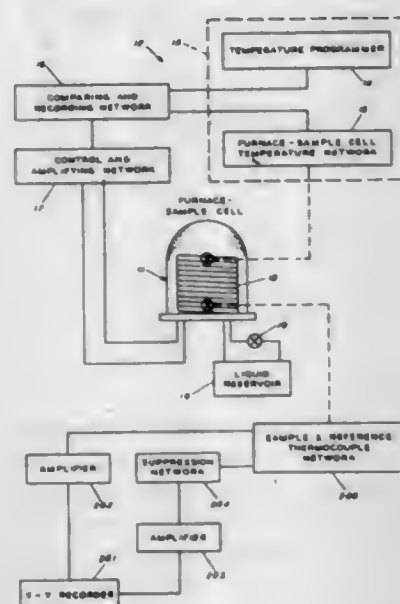
Filed Mar. 30, 1964, Ser. No. 355,604
18 Claims. (Cl. 73-15)

1. An apparatus for the determination of thermal characteristics of a material by means of differential thermal analysis, comprising:

- (a) a furnace-cell for enclosure of a sample of said material and an inert reference material, said furnace-cell including an electrical coil adapted to heat said materials,
- (b) means for generating a first signal voltage varying in magnitude in accordance with a predetermined program to heat said materials,
- (c) means for generating a second signal voltage having a magnitude proportional to the temperature of said furnace-cell, said second signal voltage being of reverse polarity with respect to that of said first signal,
- (d) a balancing network for comparing said first and second signals and adapted to be unbalanced in accordance with the sum of said signals, said network including compensating means and drive means connected to said compensating means for repositioning said compensating means to rebalance said

network by producing a third signal voltage equal in magnitude to the sum of said first and second signals,

- (e) a second balancing network mechanically linked to said compensating means of said first network to produce an electrical characteristic that varies in accordance with the magnitude of said third signal for rebalancing said compensating means, said second network including a rate resistor and a rate capacitor for producing a compensating adjustment of said electrical characteristic in accordance with the rate of change of said characteristic, a reset-capacitor to produce another compensating adjustment



of said characteristic as changes occur in the resistivity of said electrical coil in said furnace-cell, and means for generating a current proportional to and controllable by said electrical characteristic and passing said current through said electrical coil, (f) means for measuring the temperature of the sample and the differential temperature between the sample and the reference material by producing fourth and fifth signal voltages proportional to said temperatures respectively, and

- (g) means for recording said fourth and fifth signal voltages to produce a record of the differential temperature between said sample and said reference as a function of the temperature of said sample.

3,339,399

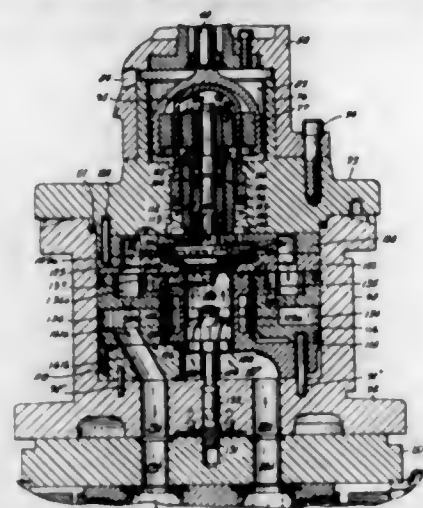
DIRECT READING DENSITOMETER

Albert B. Hubbard, Woodstock, and Kenton D. McMahan, Scotia, N.Y., assignors to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York

Filed Feb. 4, 1964, Ser. No. 342,494
27 Claims. (Cl. 73-30)

1. A densitometer for measuring the density of gas in an enclosure comprising in combination sensor and driver housings and a coupling means: said sensor housing including an impeller cavity, an impeller in said impeller cavity, an intake passage to said impeller cavity, a discharge passage from said impeller cavity, intake and discharge piezo chambers adjacent said intake and discharge passages respectively, first and second piezo openings communicating said intake and discharge passages with said intake and discharge piezo chambers respectively, manometer connections to said piezo chambers; said driver housing including an electrical motor for rotating said impeller at a predetermined speed; said coupling means providing a connecting intake and a connecting discharge passage between said enclosure and said intake

and discharge passages respectively; an annular space surrounding said motor and fan blades forcing cooling air through said annular space, a pulley assembly interposed between said sensor and driver housings, said fan blades being supported within said pulley assembly, a passage



between said pulley assembly and said driver housing, an opening formed in said driver housing exposing said annular space to atmosphere at a zone remote from said fan whereby cooling air is passed through said pulley assembly, said passage, said annular space and said opening.

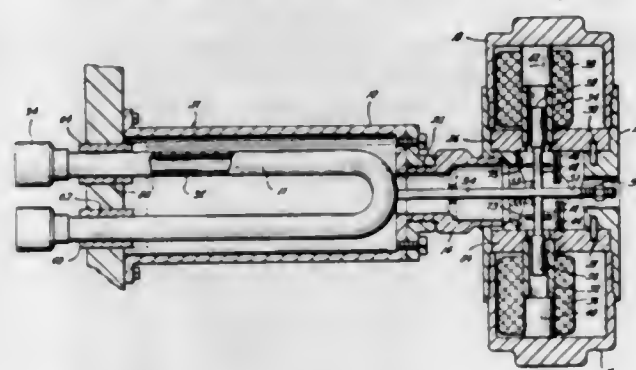
3,339,400

MASS PRESENCE SENSING APPARATUS

William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas

Continuation of abandoned application Ser. No. 301,250, Aug. 12, 1963. This application July 6, 1964, Ser. No. 381,610

10 Claims. (Cl. 73-32)



9. A mass presence sensing apparatus for flowing materials comprising:

a U-shaped hollow body for conducting said flowing material, support means supporting said body adjacent the node points of the natural resonant frequency of the body, a T-shaped rod, the body of said T being connected to the body, a vibration armature connected to the one arm of the T-shaped rod, vibration means vibrating the vibration armature at a fixed vibration frequency, an amplitude vibration detection armature connected to the other arm of the T-shaped rod for detecting a change in the vibration of the body, means measuring the amplitude of vibration of the detection armature, the body having a natural resonant frequency different by a predetermined amount from the fixed vibration frequency such that the range of material values

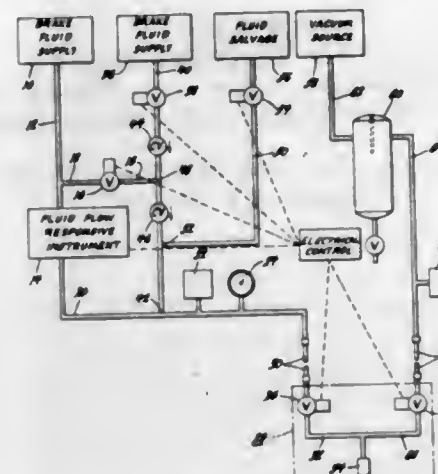
being measured will not cause the body to vibrate at its natural resonant frequency, said T-shaped rod and armatures having a natural resonance frequency substantially different from the natural resonant frequency of the body.

3,339,401

BRAKE BLEED AND FILL MACHINE

Donald R. Peters, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,722
5 Claims. (Cl. 73-40.5)



1. Brake bleed and fill mechanism for vehicle brake lines comprising: coupler means for attaching to brake lines of a vehicle thereby simultaneously isolating all vehicle brake lines from atmospheric pressure; vacuum means in fluid communication with vehicle brake lines through said coupler means and being adapted to selectively and sequentially apply a negative pressure to vehicle brake lines; fluid pressure means in fluid communication with vehicle brake lines through said coupler means and adapted to sequentially fill vehicle brake lines with fluid and pressurize the fluid therein to determine the leak resistance of the brake lines; electrical means for sequencing the operation of said vacuum means and said fluid pressure means; valve means electrically operated and communicating with said vacuum means and said fluid pressure means to selectively apply said vacuum and fluid pressure as required; and fluid flow responsive means communicating with said fluid pressure means for providing an indication of fluid retention capability of the brake lines.

3,339,402

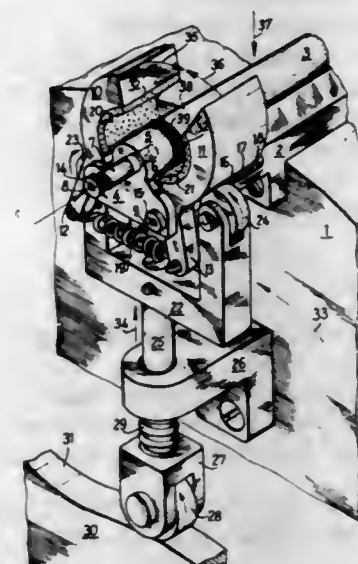
APPARATUS FOR TESTING CIGARETTES AND THE LIKE

Willy Rudszinat, Hamburg-Bergedorf, Germany, assignor to Hauni Werke Körber & Co., Hamburg, Germany

Filed Feb. 10, 1964, Ser. No. 343,718
Claims priority, application Great Britain, Feb. 8, 1963, 5,185/63

13 Claims. (Cl. 73-41)

1. An apparatus for testing the integrity of cigarettes and similar articles wherein a tubular wrapper having a cylindrical surface and two end portions provided with openings connected by a restricted flow path, comprising a testing conveyor arranged to support and to advance the articles to be tested; at least one coupling device including first sealing means carried by said conveyor adjacent to one end portion of the wrapper on an article supported by the conveyor, and second sealing means carried also by said conveyor, at least one of said sealing means being movable with reference to the other sealing means between a sealing position in which said first and second



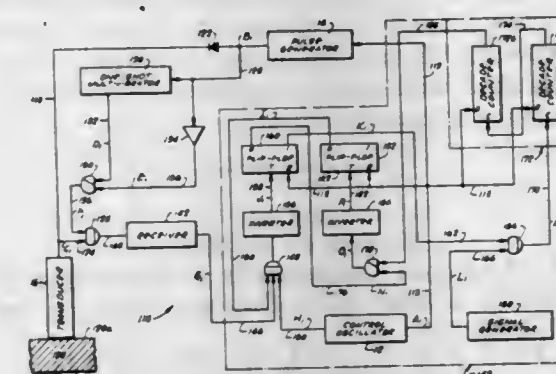
position in which at least said one sealing means is moved out of contact with said cylindrical surface of said wrapper; and actuating means for moving at least said one sealing means.

3,339,403

NON-DESTRUCTIVE THICKNESS MEASURING DEVICE

Al-G Barnes, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Sept. 3, 1963, Ser. No. 306,068
4 Claims. (Cl. 73-67.9)



3. A device for measuring the thickness of a specimen having at least one exposed surface, comprising: a pulse generator; a transducer for converting electrical pulses from the pulse generator to ultrasonic pulses and for converting reflected ultrasonic pulses to electrical pulses; a liquid column coupling the transducer to the exposed surface of the specimen; a digital counter responsive to successive pulses for counting the number of such pulses; signal generator means for producing a wave train of successive pulses; gate means connecting said signal generator means to said digital counter for controlling the time during which successive pulses are transmitted from said signal generator means to said digital counter; a receiver; an AND gate connecting the transducer to the receiver; and

means connected to the pulse generator and the AND gate for closing the AND gate until after the occurrence of the electrical pulse produced by the transducer in response to the ultrasonic pulse reflected from the exposed surface of the specimen through said liquid column; and

control circuit means connected to said gate means and to said receiver for opening said gate means only during the time interval between a pair of selected, successive reflected pulses, whereby said counter measures twice the travel time of an ultrasonic pulse through the specimen, thereby indicating the thickness of the specimen.

3,339,404

LUNAR PENETROMETER

George W. Brooks, Tabbs, John L. McCarty, Hampton, and Alfred G. Beswick, Virginia Beach, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Nov. 26, 1963, Ser. No. 326,298
30 Claims. (Cl. 73-84)



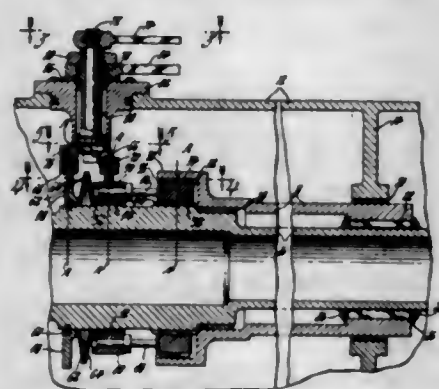
1. A method of determining certain physical properties of a surface including the steps of: directing a body toward the surface; impacting the body against the surface; communicating from the body the impact acceleration data thereof; collecting the acceleration data; and comparing the data with known acceleration data for establishing surface characteristics.

3,339,405

TORQUE METER

Charles J. McDowall, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 22, 1965, Ser. No. 450,141
4 Claims. (Cl. 73-136)



1. In a torque responsive device having a member operatively connected to concentric load and reference shafts for axial movement in proportion to the relative twist between the load and reference shafts, the improvement comprising:

a first arm operatively connected to said member, said first arm being angularly displaceable about a fixed axis transverse to the longitudinal axis of said shafts in response to the relative twist between said shafts and in response to the axial movement of said shafts, and

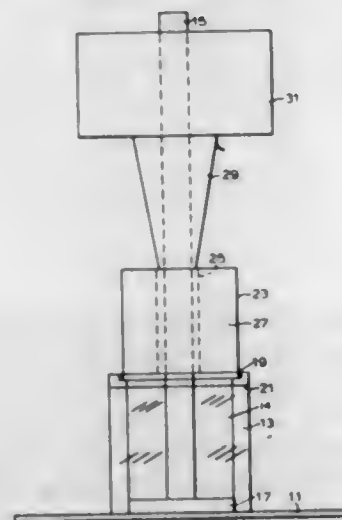
a zero reference indicator angularly displaceable about said fixed transverse axis in response to axial movement of said shafts whereby said zero arm compensates for axial movement of said shafts so that the angular displacement of said first arm relative to said zero arm is indicative of the relative twist between the shafts.

3,339,406

SPOOLING TENSION TESTER

William T. Hankins, Jr., Albert Lea, Minn., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 10, 1964, Ser. No. 417,424
7 Claims. (Cl. 73-143)



1. A nondestructive ribbon spool tension tester comprising a base,

a transparent member mounted on the base and having a hollow interior opening out through the upper end thereof,

means integral with the open end of said member for holding said ribbon spool by its outer edge,

guide means longitudinally coaxial with and inside said transparent member,

a plurality of removable weights slidably mounted on said guide means for applying pressure to said ribbon spool, and

at least one reference mark, scribed horizontally about the periphery of said transparent member for measuring the penetration of the coning of said ribbon into said open end of the member.

3,339,407

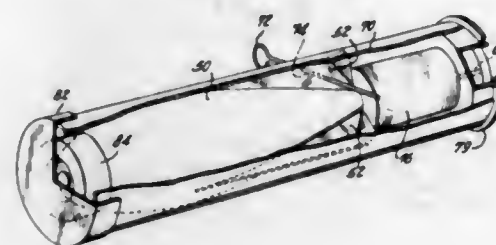
OCEANOGRAPHY PROBE

Walter G. Campbell, W. Van Alan Clark, Jr., and Courtland B. Converse, Marion, Mass., assignors to Buzzards Corporation, Marion, Mass., a corporation of Massachusetts

Filed Apr. 22, 1965, Ser. No. 450,151
5 Claims. (Cl. 73-170)

1. A canister, for use with a system for measuring a property of a fluid at varying depths and transmitting such information to a remote location, said system including a housing for launching a probe from a moving vehicle, comprising, an elongated hollow container portion having a forward open end and a rearward end, a stationary conductor coil in wound configuration within said container portion adjacent said rearward end, said conductor coil including a continuous wire coiled for being

freely payed out from said conductor coil at a rate substantially proportional to the velocity of said probe through the fluid, said probe containing a second conductor coil in wound configuration, said second conductor coil including a continuous wire electrically connected to said stationary conductor coil and coiled for being freely payed out from said second conductor coil at a rate substantially proportional to the velocity of said vehicle with respect to the fluid, said probe which contains said second conductor coil being initially disposed within said hollow container portion prior to the launching of the probe from said moving vehicle, electrical contact means



secured to said rearward end for cooperatively engaging vehicle mounted electrical connector means when in an inserted condition, said inserted condition including said hollow container portion being disposed within said housing such that said rearward end of the container portion is adjacent and in contact with said vehicle mounted electrical connector means, said probe having a sensing element for sensing said property of the fluid, said vehicle mounted electrical connector means being electrically connected to the sensing element when the container portion is in said inserted condition, and means for releasing said probe from said container portion.

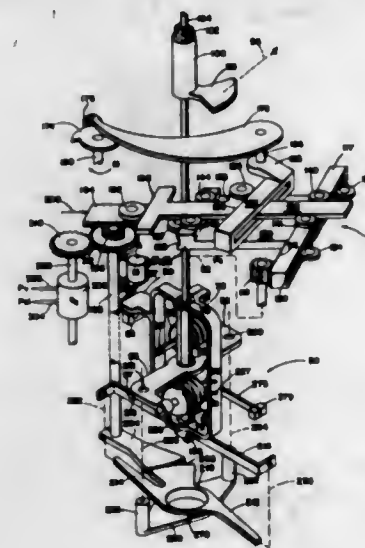
3,339,408

STATIC PRESSURE CORRECTION SYSTEM

Robert W. Armstrong, Mound, Minn., assignor to Honeywell Inc., a corporation of Delaware

Original application Apr. 27, 1962, Ser. No. 191,685, now Patent No. 3,239,140, dated Mar. 8, 1966. Divided and this application Apr. 5, 1965, Ser. No. 452,964

3 Claims. (Cl. 73-178)



2. Apparatus for correcting indicated static pressure as a predetermined function of Mach number comprising, in combination:

pressure transducing means including a member movable in accordance with indicated static pressure;

responsive means generating an output signal in accordance with movement of the member of said pressure transducing means;

correction means having a first input connected to receive the output of said responsive means, a second input connected to receive a signal indicative of a predetermined function of Mach number, and producing an output force which varies as the product of the signals at the first and second inputs; and

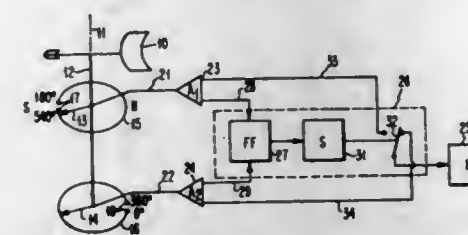
means connecting said correction means to said pressure transducing means so that the output force is applied to the member of said pressure transducing means, movement of the member being indicative of corrected static pressure.

3,339,409

WIND MONITORING APPARATUS

Edward F. Kingman, Saratoga, Calif., assignor to Clime Instruments Inc., Sunnyvale, Calif., a corporation of California

Filed July 6, 1964, Ser. No. 380,320
1 Claim. (Cl. 73-188)



In apparatus for monitoring wind direction having wind vane means, positionable by changes in the direction of wind, mounted for continuous rotation in opposite directions to follow the azimuth of the wind, and having a strip chart recorder serving to read out the angular displacement of the wind vane means with respect to a predetermined azimuth, the system comprising first and second angular position sensing potentiometers each adapted, to sense the angular displacement, through an associated range of angular rotation, of the wind vane means with respect to said predetermined azimuth, the opposite ends of that range associated with the first sensing potentiometer lying well within the range associated with the second potentiometer and vice versa, each potentiometer serving to provide an electrical reference signal indicative of sensing the opposite ends of its associated range, and a flip-flop selectively operable between a first and second stable state to respectively provide a read-out signal from either said first or second potentiometer adapted to be fed to said recorder to drive same, said flip-flop having a first and second input channel thereto operatively coupled respectively to the wiper of said first and second potentiometer, said flip-flop being responsive to receipt of a said reference signal via said first input channel to switch said flip-flop to said second state and responsive to receipt of a said reference signal via said second input channel to switch said flip-flop to said first state.

3,339,410

FLOW METER

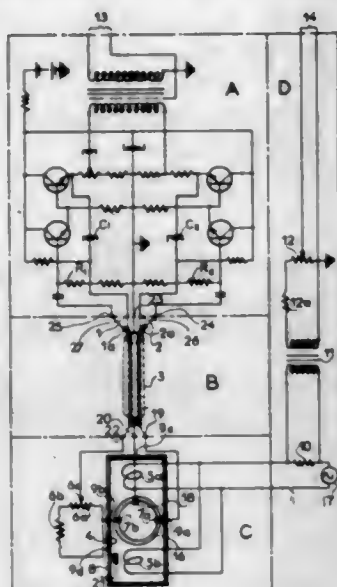
Marius Steru, Paris, France, assignor to Compagnie Generale d'Electronique Industrielle Lepaute, Paris, France

Filed Feb. 4, 1965, Ser. No. 430,258
Claims priority, application France, Feb. 6, 1964, 962,862

12 Claims. (Cl. 73-194)

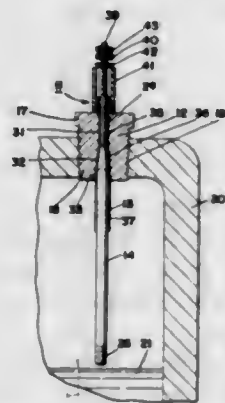
1. A flow meter for measuring the flow of an electricity conductive liquid flowing through a conduit, comprising means for producing an alternating magnetic field substantially perpendicular to the direction of flow of liquid through said conduit, electrode means operable to collect the transverse electromotive force induced in said liquid by said alternating magnetic field, measuring circuit

means having input terminals respectively operable to give a measure of the flow of said liquid, coil means positioned in said magnetic field, core means of magnetic material disposed in the vicinity of said coil means and operable to modify the magnetic field in the vicinity of said coil



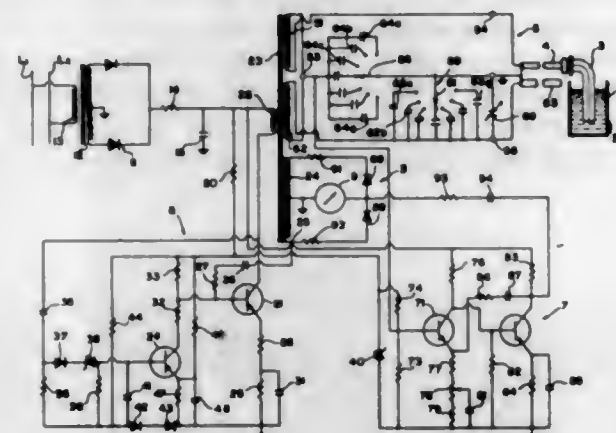
means, and connecting means connecting one of said electrode means directly and the other of said electrode means via said coil means to said measuring circuit means and operable to inject in said measuring circuit means the alternating voltage induced in said coil means by said alternating magnetic field.

3,339,411
ELECTRODE PROBE ASSEMBLY
Robert W. Riffie, Cleveland, Ohio, assignor to Bedford Controls, Inc., Bedford, Ohio
Filed June 23, 1965, Ser. No. 466,221
14 Claims. (Cl. 73-304)



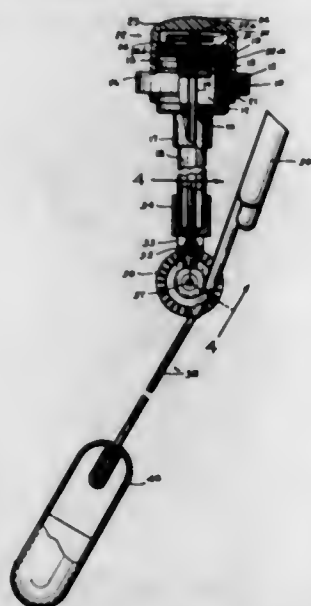
1. An electrode probe assembly, comprising, in combination, a body having an axis and an inner end and an outer end, a longitudinal aperture in said body; elongated metal probe means disposed coaxially in said aperture; said body aperture and said probe means each having first, second and third portions disposed in that order from said outer end toward said inner end, each of said first portions being smaller than the respective third portions, each of said second portions including an inwardly facing shouldered form and into tight engagement with said probe means and said body aperture at least at said shouldered, said insulator tube means being heat-shrunk into shouldered form an into tight engagement with said probe means from a heat shrinkable plastic tube; and means acting axially between said probe means and said body to hold said insulator tube means squeezed between said probe means and said body to maintain a liquid and pressure tight seal at said shouldered surfaces.

3,339,412
CAPACITANCE MEASURING APPARATUS
Frederick L. Maltby, 1417 Edge Hill Road, Abington, Pa. 19001
Filed Oct. 18, 1965, Ser. No. 497,340
12 Claims. (Cl. 73-304)



2. A condition measuring apparatus having independent span and zero adjustments comprising, in combination, an amplitude stabilized oscillator, a capacitance bridge having as two of the adjacent arms a pair of windings energized by said oscillator and as the opposite adjacent arms a capacitor responsive to the condition being measured and a first adjustable capacitor for varying the zero output point of said apparatus, the output of said bridge being between the junction of said windings and the junction of said condition sensitive capacitor and said first manually adjustable capacitor, a second adjustable capacitor connected across the output of said bridge for providing an adjustment of the span of said apparatus and phase responsive means connected across the output of said bridge for producing a direct current proportional to the output of said capacitance bridge.

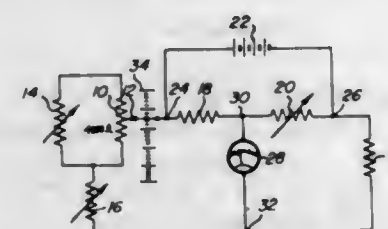
3,339,413
LIQUID LEVEL GAUGE AND PROCESS OF MAKING SAME
Leta S. Taylor, Paul B. Johnson, and Eugene D. Huskey, Garland, Tex., assignors to J. Y. Taylor Mfg. Company, a corporation of Texas
Filed Mar. 11, 1965, Ser. No. 439,023
6 Claims. (Cl. 73-317)



3. In a liquid level gage, a gage head formed of cast, non-magnetic material, said gage head being adapted to be positioned over an opening in a storage tank for indicating the quantity of material in said storage tank, said gage head having a peripheral portion whereby said gage

head may be operatively connected in operative position to said storage tank, a drive magnet in said gage head, a float member carried by said gage head and adapted to be positioned in said storage tank, means operatively connecting said float member to said drive magnet for actuating said drive magnet according to the quantity of contents in said storage tank, and an indicator head positioned over said gage head, said indicator head including a cup-shaped crystal having a rim portion engaging the upper portion of said gage head and connected thereto to connect said crystal to said gage head, said crystal having an integral transparent dial viewing portion, a dial member carried by said crystal in alignment with said transparent dial viewing portion, and an indicator mounted for pivotal movement relative to said dial member and adapted to be actuated by said drive magnet, said dial member comprising a member of cast, non-metallic material carried by said indicator head intermediate said dial viewing portion and said rim portion.

3,339,414
DIRECT READING RESISTANCE THERMOMETER
Thomas Coor, Princeton, N.J., assignor to Princeton Applied Research Corporation, a corporation of New Jersey
Filed Nov. 30, 1964, Ser. No. 416,955
4 Claims. (Cl. 73-362)



1. A temperature measuring system of the type including a resistance thermometer sensor having a linear and a quadratic temperature vs. resistance characteristic, means connecting said sensor in a bridge circuit including as one leg thereof, a resistance network exhibiting a quadratic resistance-linear adjustment characteristic, said resistance network including first and second linear resistors connected in series, both of said first and second resistors having adjustable taps and, the resistance between the taps of said first and second resistors comprising one of the legs of said bridge circuit, further resistance means connected in parallel with said second resistor, the taps of said linear resistors being ganged for unicontrol operation and adjustable to balance said bridge circuit.

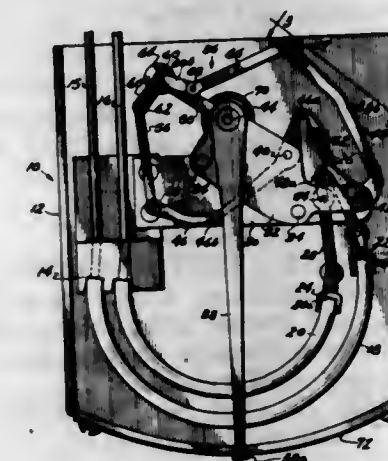
3,339,415
DEVICE FOR PROTECTION FROM AND DETECTION OF LEAKS IN PIPELINES CONVEYING LIQUIDS OR GASES
Werner Wild, Zurich, Switzerland, assignor to Elektro-Watt Elektrische und Industrielle Unternehmungen A.G., Zurich, Switzerland
Filed Apr. 16, 1964, Ser. No. 360,300
Claims priority, application Switzerland, Apr. 19, 1963, 4,995/63
10 Claims. (Cl. 73-40.5)

1. A length of pipe for use in constructing a pipeline comprising a length of pipe of adequate strength to support the designed pressures under which the pipeline is to operate, a thin-walled liner spaced slightly inwardly from the interior wall of the pipe and sealed to the pipe only at its extremities to provide an interspace between the interior of the length of pipe and the exterior surface



of the pipe, a fluid completely filling said interspace and a pressure responsive device operatively connected to said interspace.

3,339,416
GAUGE DRIVE SYSTEM
Karl L. Diehl, Chicago, Ill., assignor to Colorado Oil and Gas Corporation, Denver, Colo., a corporation of Delaware
Filed Apr. 7, 1965, Ser. No. 446,322
14 Claims. (Cl. 73-412)

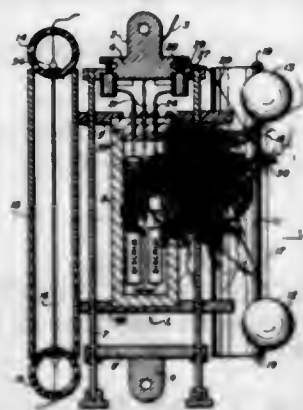


1. A differential indicating gauge comprising first and second sensing elements movable in response to variables being sensed thereby, an indicator, and means connecting said sensing elements to said indicator comprising a first link for driving said indicator and mounted for pivotal movement about a first axis fixed relative to said gauge, a differential link pivotally mounted on said first link at a point spaced from said first fixed axis and including first and second end portions extending in angular relation to one another from the pivotal connection of said differential link to said first link, a first linkage connected to said first sensing element and to said first end portion, a second linkage connected to said second sensing element and to said second end portion, each of said first and second linkages including a drive link and a connecting link pivotally connected to said drive link and to the respective end portion of said differential link, each of said drive links extending generally parallel to the respective end portion of said differential link and each of said connecting links extending generally normal to the respective connected drive link and end portion when the respective sensing element is at the mid-point of its range of operating movement.

3,339,417
WATER SAMPLING APPARATUS
Joseph D. Richard, 3613 Loquat Ave., Miami, Fla. 33133
Filed Nov. 19, 1964, Ser. No. 412,541
10 Claims. (Cl. 73-425.4)

1. Apparatus for obtaining a series of water samples at predetermined depths in the ocean comprising: a source of energy pulses operable above the surface of the ocean; means for transmitting the aforementioned pulses into the ocean; a watertight and pressure resistant housing adaptable for lowering into the ocean; means for attaching the said housing to a cable suitable for lowering into the

ocean; means within the said housing for receiving the aforementioned transmitted pulses; a series of water sampling bottles attached to the said housing each of the said bottles having openable lids at both top and bottom; spring means associated with each of the said lids for

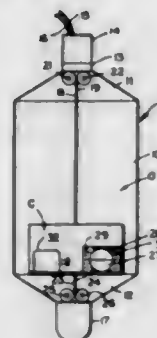


urging them into the closed position; latching means associated with each of the said bottles for restraining the said lids in the open position; means for sequentially releasing the said latching means in response to sequential pulses received by the said pulse receiving means, the said water sampling bottles being thereby sequentially closed.

3,339,418

FREE-FALL TEST FACILITY

Howard L. Paynter, Littleton, Colo., Vernal M. Tyler, Bridgeton, Mo., and Dennis L. Satterlee, Ankeny, Iowa, assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed Mar. 12, 1965, Ser. No. 439,336
7 Claims. (Cl. 73-432)



1. A test drop facility for conducting experiments in a fractional, reduced or negative gravity environment comprising:

- an elongated, closed test capsule, adapted to be dropped from a tower;
- a test cell mounted within said capsule for containing a test specimen;
- a first constant force spring interconnected between the top of said test capsule and the top of said test cell; and
- a second constant force spring interconnected between the bottom of said test capsule and said test cell, the force exerted by one of said constant force springs being greater than that exerted by the other constant force spring to subject said test specimen to a reduced gravity environment.

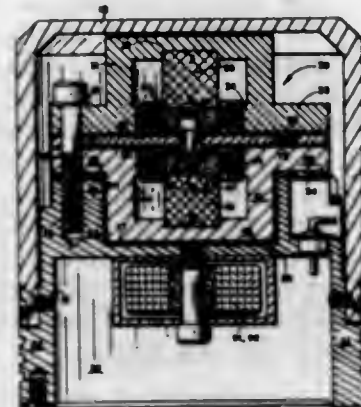
3,339,419

ACCELEROMETER

Doyle E. Wilcox, Hacienda Heights, Calif., assignor to North American Aviation, Inc.
Filed July 2, 1964, Ser. No. 379,931
8 Claims. (Cl. 73-517)

1. an accelerometer comprising a support means, a base member cantilevered from said support means at a

central portion of said base member and in a first direction, a proof mass cantilevered from said base member in an opposite direction and extending beyond said central portion, pick-off means having a first part mounted on said proof mass and a second part mounted on said

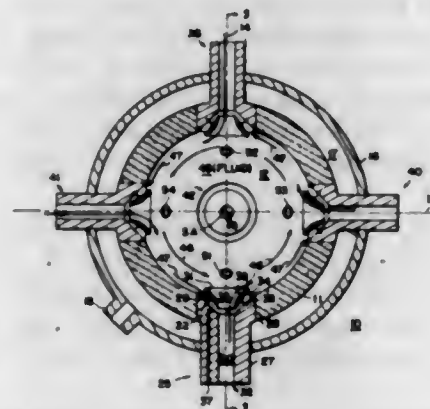


support means, substantially one-half of each of said parts being located on each side of said central portion, and servo means torquing said proof mass in response to acceleration signals from said pick-off means so as to maintain said proof mass undeflected with respect to its environment.

3,339,420

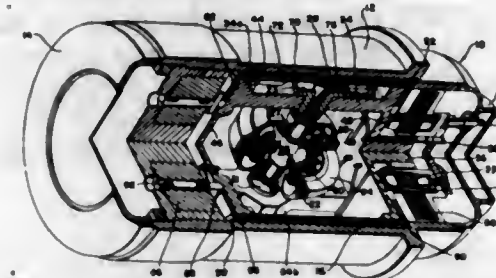
CONTROL APPARATUS

David L. Paine, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed May 1, 1963, Ser. No. 277,173
15 Claims. (Cl. 74-5)



1. A pure fluid position sensor comprising: housing means having a spherical chamber therein; three pairs of inlet nozzles within said housing means and in communication with said chamber, one pair of said three pairs of inlet nozzles being positioned upon each of three orthogonal axes intersecting at the center of said chamber, said three orthogonal axes defining a reference coordinate system; exhaust means in communication with said chamber; means for providing a continuous flow of fluid to said chamber through said inlet nozzles; means for initiating rotation of said fluid in said chamber about a spin axis aligned with said coordinate system, said inlet nozzles being effective to sustain said rotation and to maintain the alignment of said spin axis substantially fixed in space when said reference coordinate system is displaced relative thereto, said exhaust means being effective to remove a portion of said fluid from said chamber; and means for sensing the position of said spin axis relative to said reference coordinate system.

3,339,421
DYNAMIC GAS FILM SUPPORTED INERTIAL INSTRUMENT
Lyle F. Warnock, Jr., Grand Rapids, Mich., assignor to Lear Siegler, Inc.
Filed Nov. 14, 1963, Ser. No. 323,789
7 Claims. (Cl. 74-5)

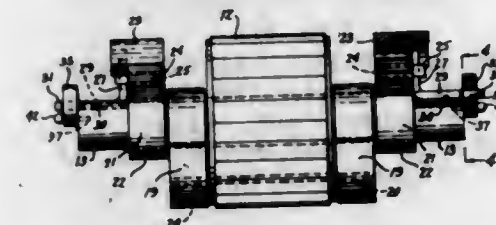


1. An inertial device dynamically supported in non-contacting condition in three dimensions, comprising: a rotatable inertial means having a generally cylindrical peripheral surface; a support means for said inertial means, having a generally cylindrical surface closely adjacent to and slightly spaced from said inertial means surface to form a definite uniform, peripheral clearance therebetween; thrust bearing plates extending radially from said support means adjacent the axial end of said inertial means and forming a controlled gas filled end clearance therefrom communicant with said peripheral clearance; said plates being axially shifted with axial pulsing of said support means to cause the gas in said end clearances to be compressed in pulsing fashion with compression of the gas in said peripheral clearance to form a three dimensional dynamic support film.

3,339,422

ELECTRIC MOTOR DRIVEN VIBRATOR AND ADJUSTING DEVICE THEREFOR

Frank Petrin, 41-10 Judge St.,
Elmhurst, N.Y. 11373
Filed Mar. 18, 1965, Ser. No. 440,798
4 Claims. (Cl. 74-87)



1. An electric vibrator including a housing, a rotor in said housing, a rotor shaft extending concentrically axially through said rotor, a fixed weight concentrically mounted on said shaft at each end of said rotor, said fixed weights being aligned, rotatably movable eccentric weights mounted on said shaft adjacent said fixed weights, means for varying the eccentricity of said movable weights relative to said fixed weights, and means for securing said movable weights in a selected position of adjustment, said last mentioned means being accessible from the exterior of said casing.

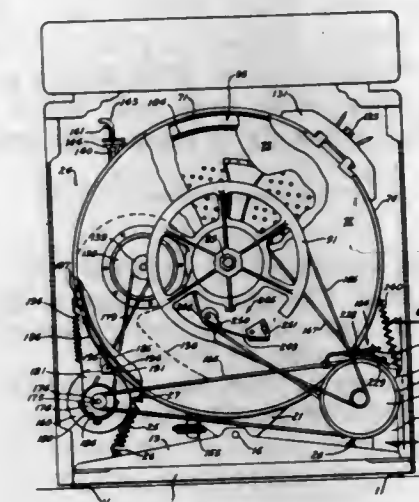
3,339,423

DRIVE SYSTEM USEFUL IN A LAUNDRY APPARATUS

Richard P. Bergeson, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Aug. 17, 1965, Ser. No. 480,298
15 Claims. (Cl. 74-217)

1. In a drive system useful in a laundry apparatus for controlling rotation of a rotatable container: motive power means; shaft means spaced from said motive

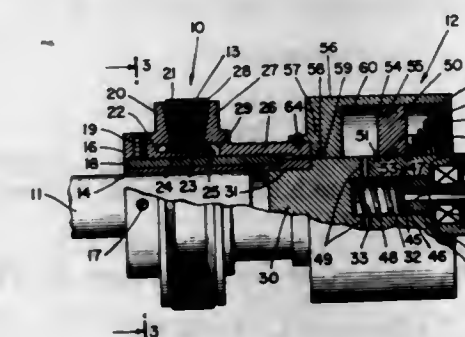
power means; rotatable pulley means mounted on said shaft means and including a driven portion and a driving portion; first belt means driven by said motive power means and drivingly connected to said driven portion; drive pulley means rotatively fixed to said rotatable container; second belt means connected between said driving portion and said pulley means; means pivotally mounting said shaft means radially spaced from a predetermined pivot axis; means pivotally biasing said shaft and said shaft-mounted pulley means about said predetermined



pivot axis to effect a first rate of torque transmission through said second belt means for acceleration of said rotatable container by said motive power means; and means for effecting a resistance to the coast-down of said rotatable container responsive to interruption of said acceleration, said shaft means and shaft-mounted pulley means being pivotally operable about said pivot axis responsive to said resistance for effecting a second lower rate of torque transmission to control deceleration of said rotatable container.

3,339,424

AIR ACTUATED CLUTCH ASSEMBLY
Walter J. Humphrey, Reseda, Calif., assignor to Kelly-Moore Paint Company, Inc., a corporation of California
Filed Dec. 20, 1965, Ser. No. 514,999
5 Claims. (Cl. 74-230.24)



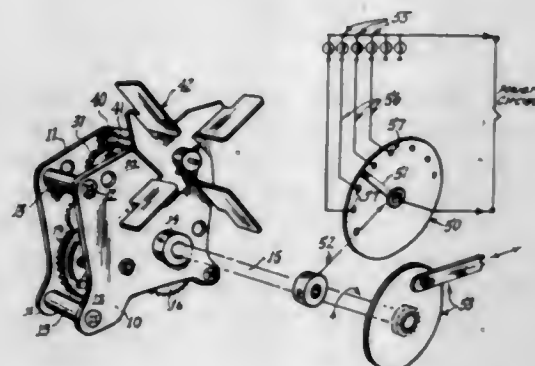
1. An air actuated clutch assembly comprising: hub means adapted to be mounted for rotation; air inlet means disposed in said hub means for conducting pressurized air into said hub means; means journalling said hub means for rotation about said air inlet means; piston means mounted on said hub means; cylinder means slidably mounted on said piston means and having end walls slidably engaging said hub means to thereby provide an expansible chamber between said piston means, cylinder

means, and hub means; air passage means in said hub means providing communication between said air inlet means and said expansible chamber; a first pulley portion secured to said cylinder means; a second opposite pulley portion secured to said hub means; idler bearing means rotatably disposed around said hub means between said first and second pulley portions for receiving a V-belt thereon whereby said first and second pulley portions are rotatable with respect to said idler bearing means and said V-belt; and, spring means positioned between said piston means and said cylinder means, whereby pressurization of said expansible chamber causes said first pulley portion to move towards said second pulley portion to thereby engage said V-belt therebetween for conjoint rotation and whereby release of pressure from said expansible chamber allows said spring means to move said first pulley portion away from said V-belt to thereby permit the clutch assembly to rotate with respect to said V-belt.

3,339,425

SELF-VARYING GOVERNOR

Herman L. Selden, Chicago, Ill., assignor, by mesne assignments, to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed June 1, 1965, Ser. No. 460,394
6 Claims. (Cl. 74-393)



1. A self-varying governor unit comprising a train of gears having an input connection for coupling same with a rotatable shaft to be governed and an output gear driving a rotatable loading device, together with an intermediately driven eccentric gear and follower gear means drivingly interposed in the train between said input and output gears, whereby the loading effect of said loading device is applied to said shaft in accordance with a variable ratio effect produced by rotation of said eccentric gear responsive to rotation of the rotatable shaft.

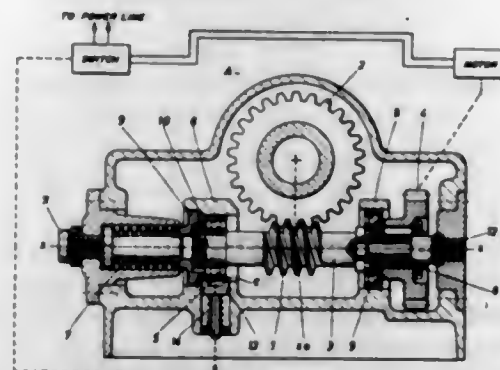
3,339,426

VALVE ACTUATOR

Karl-Heinz, Borggräfe, Ratingen, Germany, assignor to Siebeck-Metallwerk G.m.b.H., Ratingen, Germany, a corporation of Germany
Filed Apr. 23, 1965, Ser. No. 450,545
Claims priority, application Germany, Apr. 25, 1964, S 90,785
7 Claims. (Cl. 74-425)

1. An actuator which comprises a reversible motor, a worm means including a worm mounted on a shaft and driven by said motor, said worm means being supported for limited axial displacement from a reference position in each of two opposing directions, a gear wheel disposed in meshing engagement with said worm for rotary displacement thereby against the influence of a load force, a first resilient means and a second resilient means each disposed to receive thrust forces exerted by said worm in displacing said gear wheel, and to resist the axial displacement of said worm means by such thrust forces, said first

resilient means being disposed to resist axial displacement of the worm means in an axial direction corresponding to forward rotation of the gear wheel, and said second resilient means being disposed to resist axial displacement of the worm means in the opposite axial direction corresponding to backward rotation of the gear wheel, a follower disposed for engagement by said worm means and for displacement thereby along a predetermined path in accordance with the axial displacement of the worm means from said reference position, and a switch means connected to said motor and disposed for engagement by said follower to interrupt the operation of said motor whenever said follower displacement corresponds to a

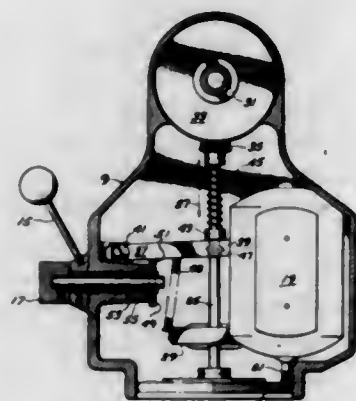


worm means displacement representing the thrust force required to rotate the gear wheel in the forward direction against a first predetermined limit load, and whenever said follower displacement corresponds to a worm means displacement representing the thrust required to rotate the gear wheel in the backward direction against a second predetermined limit load, said first and second limit load values being established by the elastic force-deformation characteristics of said first and second resilient means respectively, whereby whenever the load acting against said gear wheel reaches one of said limit values, the operation of the motor is interrupted to prevent further gear wheel rotation.

3,339,427

MILL TABLE FEED MECHANISM

Francis L. Moseley, 700 Filtridge, Pasadena, Calif. 91103
Filed Aug. 16, 1965, Ser. No. 480,203
9 Claims. (Cl. 74-472)



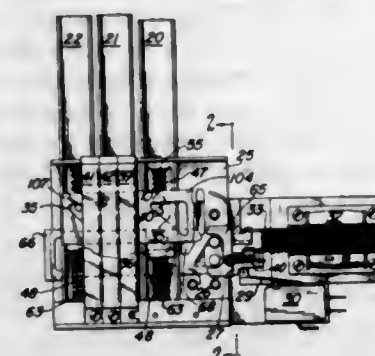
5. A gear drive mechanism comprising a drive gear movable into and out of engagement with a driven gear, a reversible motor coupled to the drive gear, a control lever for selecting between engaged and disengaged positions of the drive gear, a rotatable cam coupled to the control lever, plural switching means selectively actuatable by the cam for energizing the motor, in a selected direction of rotation and means coupling the drive gear to the

cam for moving the drive gear to a disengaged position for one position of the cam and for moving the drive gear into engagement with the driven gear for another position of the cam.

3,339,428

PUSH BUTTON SWITCH

Raymond F. Lewandowski, Mount Prospect, and Harry S. Tice, Jr., Crystal Lake, Ill., assignors to Oak Electro-Netics Corp., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,602
11 Claims. (Cl. 74-483)

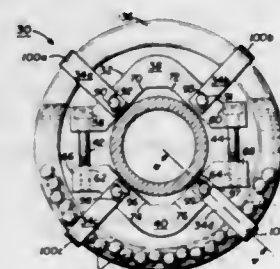


1. A push button mechanism comprising: a frame; a plurality of push rods having a switch actuating portion slidably mounted on said frame; electromechanical means attached to said frame and actuatable when one of said push rods is moved a predetermined distance to move the portion corresponding to said one moved push rod to a new position.

3,339,429

DYNAMIC BALANCING SYSTEM FOR ROTATING SHAFTS

Beauford I. Whitlock, Stafford, Kans., assignor to AWB Manufacturing Co., Inc., Stafford, Kans., a corporation of Kansas
Filed Apr. 26, 1965, Ser. No. 450,873
8 Claims. (Cl. 74-573)

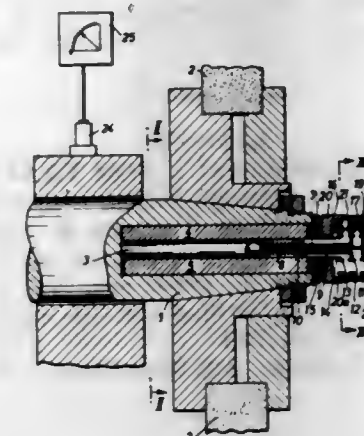


1. The dynamic balancing assembly for a rotating shaft which comprises:

- clamp means for connection around the shaft including a pair of clamp halves generally V-shaped and each has a pair of serrated faces for engaging a cylindrical shaft at two circumferentially-spaced points, the faces having a concave radius of curvature at least greater than the radius of curvature of the shaft and being correspondingly formed with respect to a line bisecting the angle between the faces whereby each clamp half will be automatically centered on cylindrical shafts of different diameters,
- a plurality of arms connected to the clamp means and extending from the shaft at circumferentially-spaced points, and
- a dynamic balancing ring connected to the arms for disposition concentrically about the shaft.

3,339,430
COMPENSATION OF OUT-OF-BALANCE OF ROTATING MASSES

Artur Klein, Austrasse 6a, Netphen, Kreis Siegen, Germany
Filed Aug. 11, 1964, Ser. No. 388,826
Claims priority, application Germany, Aug. 13, 1963, W 35,082
7 Claims. (Cl. 74-573)

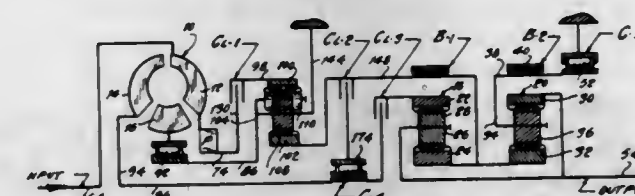


1. A device for compensating out-of-balance of a rotating mass having two balancing weights spaced from the axis of the rotating mass and serving to load it, which are adjustable in their angular position relative to the rotating mass both in common and individually, in which the balancing weights consist of respective bodies adjustable in a circular path in a central longitudinal bore in the shaft carrying the mass and in which the means for adjusting these balancing weights comprises three internally toothed rings mounted outside the shaft and rotatable coaxially in relation thereto, and at least one set of planet wheels rotatable on a common stem each of which meshes with a respective ring and one of three coaxial pinions, one of which pinions is coupled to the shaft and the other two of which are coupled each to one balancing weight, wherein the balancing weights consists of elongated bodies which are of annular sector form in cross section.

3,339,431

MULTIPLE SPEED RATIO POWER TRANSMISSION SYSTEM WITH OVERDRIVE GEARING

Howard L. Croswhite, Livonia, and Richard L. Leonard, Farmington, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 495,879
12 Claims. (Cl. 74-688)



1. A multiple speed ratio power transmission system comprising a hydrokinetic torque converter mechanism and planetary gearing adapted to establish plural torque delivery paths between a driving member and a driven member, said converter including an impeller, a turbine and a stator situated in toroidal fluid flow relationship with the impeller connected to said driving member, first reaction brake means for anchoring one element of said planetary gearing to establish a reaction point during low speed ratio operation, selectively engageable clutch means for connecting said turbine to a first power input element of said gearing during operation of said mechanism in each forward driving speed ratio, second selectively engageable

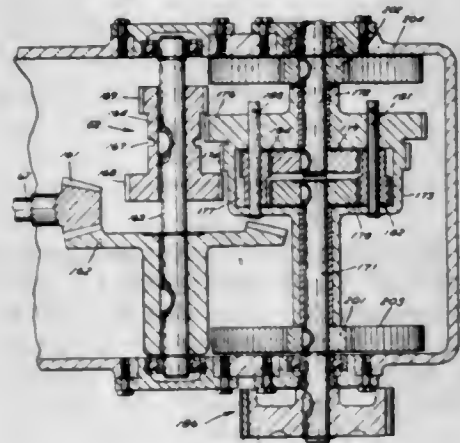
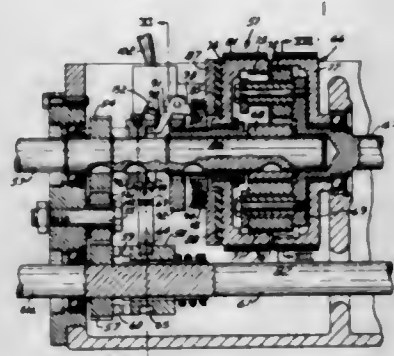
brake means for anchoring a second element of said gearing to establish a reaction point during operation in an intermediate speed ratio, second selectively engageable clutch means for connecting said turbine to said second element when said second brake means is released to establish high speed ratio direct drive operation, an overdrive planetary gear unit having a reaction member connected to a stationary portion of said system and a power output member connected to said second element of said gearing, and means for delivering driving torque to a power input element of said overdrive gear unit from said driving member.

3,339,432

GEARING ASSEMBLY FOR TRACTOR

Max Hungerford, La Grange, Mich., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Original application June 5, 1964, Ser. No. 379,066, now Patent No. 3,307,431. Divided and this application Dec. 14, 1966, Ser. No. 601,795

1 Claim. (Cl. 74-701)



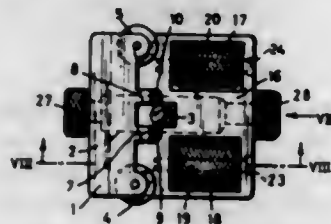
A garden tractor structure including a frame, a mounting for a source of power at one end of the frame, a gear assembly including a transmission and a differential, an elongated housing at the opposite end of the frame for said transmission and differential, a transmission input shaft for delivering power from said source to said transmission, said input shaft extending longitudinally into said housing, an output shaft from said transmission aligned with the input shaft in said housing, said transmission including a planetary assembly connecting said input shaft and said output shaft, said planetary assembly including a sun gear fixed to the end portion of said input shaft, a first drum mounted on the end of the input shaft for free rotational movement thereon, said first drum being provided with an internal ring gear, a second drum mounted for free rotation on said output shaft and being provided with an internal ring gear of different diameter from the diameter of the ring gear of the first

drum, a planet gear carrier fixedly secured to the adjacent end portion of said output shaft and mounting a plurality of large and small planet gears for transmitting motion between said sun and ring gears, the large planet gears continuously meshing with the sun gear and the internal ring gear of one drum and the small planet gears continuously meshing with the ring gear of the other drum, brake bands arranged about said drums for regulating the rotary movement of the same, clutch means axially movable of the input shaft and mounted thereon for securing the first freely rotating drum on said input shaft, manual means for operating the clutch means, a first rotatable shaft positioned rearwardly of said planetary assembly and extending transversely of said housing, said shaft having splined thereon a sliding sleeve, said sleeve being provided at spaced points with a pair of driven gears, a beveled gear fixed to said transverse shaft in mesh with a beveled gear mounted on the output shaft of said planetary, a pair of shafts arranged end-to-end in axial alignment and extending through and outwardly of said differential housing and being arranged in substantial abutting relation at their inner ends and within said housing, said pair of shafts being spaced rearwardly of said first rotatable shaft, gears fixed on the inner end portions of said pair of shafts, a second planetary assembly including a rotatable differential housing enclosing the abutting end portions of said aligned shafts, said housing having fixed on its outer surface a pair of large and small spaced drive gears for selective meshing with the spaced gears fixed on said sliding sleeve, pin members extending through said differential housing and having mounted thereon pairs of planetary gears meshing with the gears on the abutting end portions of said pair of shafts, the gears on one shaft normally meshing with one pair of planetary gears and the gears on the opposite shaft being in mesh with the alternate planetary gears, whereby the aligned shafts are rotated upon rotation of said housing, a relatively small gear fixedly mounted on each of said pair of shafts adjacent the inner walls of said housing, a pair of drive axles having their outer ends provided with wheel mounting means and extending inwardly of said housing, bearing means for said drive axles, relatively large gear means mounted on said drive axles adjacent the inner faces of said housing and normally in mesh with the relatively small gears on said pair of shafts adjacent the inner wall of the housing, independently actuated brake means mounted on said aligned abutting shafts exteriorly of said housing to control the rotation of the drive axles to provide a differential movement of said drive axles, and manual means for operating said independent brake means.

3,339,433

SHARPENING DEVICE FOR STEEL EDGES OF SKIS

Gustl Sonn, Deutenhauser Strasse 25, Wellhelm, Upper Bavaria, Germany
Filed July 24, 1964, Ser. No. 384,913
Claims priority, application Germany, Aug. 2, 1963, S 86,522; July 1, 1964, S 91,807
10 Claims. (Cl. 76-82)



1. A device for sharpening the steel edges of skis, comprising
a body member,

means on said body member for guiding said device for movement longitudinally along the edge of a ski, a slide member carried by said body member for movement transverse to the direction of travel of the latter relative to a ski edge, a sharpening blade mounted on said slide member, and disposed for engagement with the steel edge of a ski to which the device is applied, means engageable with said body member and said slide member for retaining the latter in any of its adjusted positions with respect to said body member, said guiding means including two rolls mounted on said body for guiding a side surface of a ski, said body including projections disposed between said rolls and on opposite sides of said sharpening blade, said projections having recesses therein on the upper side thereof, said retaining means including a set screw disposed in said slide member and engaging said blade.

carried by said sleeve at a point where the drill of the drilling machine passes through the sleeve, said bellows

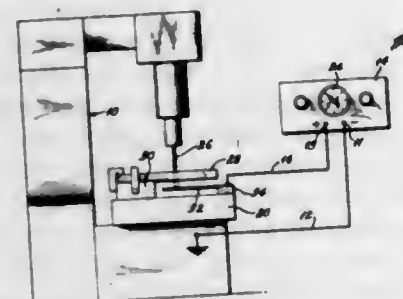


type receptacle when not being compressed projecting with its front edge beyond the drill bit.

3,339,434

APPARATUS FOR MONITORING AUTOMATIC MACHINES

Russell W. Sparling, West Warwick, R.I., assignor to Taco, Inc., Cranston, R.I., a corporation of New York
Filed Nov. 3, 1964, Ser. No. 408,538
16 Claims. (Cl. 77-5)



1. In combination, an automatic machine having elements movable in continuously repeating cycles for performing operations on workpieces with the length of time of each cycle being substantially constant as long as the machine is operating properly, means for producing an electric signal each time one of said elements of said machine reaches a predetermined point in each cycle of operation, resettable electric timer means for producing a control signal whenever it is not reset at the end of a time interval corresponding to the normal length of time of one of said cycles, and means for applying said electric signal to said timer to reset the timer each cycle of operation.

3,339,435

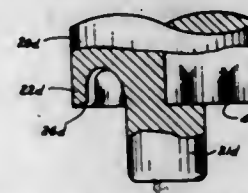
DEVICE FOR DRILLING MACHINES FOR COLLECTING CHIPPED MATERIAL

Walter-Helmut Heitz, 32 Kurt-Schumacher-Strasse, Hannover, Germany
Filed Oct. 12, 1965, Ser. No. 495,222
Claims priority, application Germany, Oct. 13, 1964, H 54,023
5 Claims. (Cl. 77-55)

1. A device for drilling machines for collecting chipped material, especially drillings, during the drilling of holes in ceilings and walls, comprising an axially compressible bellows type receptacle of elastic material having a lateral wall and an end wall closing the receptacle at its front end and provided with a central opening, a sleeve mounted with force fit on the housing of a drilling machine and having said bellows type receptacle slipped thereon so that same is removable from the housing of the drilling machine, and a perforated sealing member

**3,339,436
TOOL FOR LOCKING THREADED FASTENERS IN A WORKPIECE**

Jose Rosan, San Juan Capistrano, Calif., assignor to Rosan Engineering Corp., Newport Beach, Calif., a corporation of California
Original application Jan. 8, 1965, Ser. No. 424,266, now Patent No. 3,281,173, dated Oct. 25, 1966. Divided and this application Apr. 11, 1966, Ser. No. 541,627
3 Claims. (Cl. 81-3)



1. A tool for effecting permanent locking of a threaded fastener in a workpiece, comprising:

a body;
pilot means provided by said body, said pilot means adapted to cooperate with said fastener so as to properly position said tool relative to said fastener; and
an annular workpiece penetrating element longitudinally projecting from said body, said workpiece penetrating element being formed with generally cylindrical internal and external surfaces concentric with the axis of said tool and having a lower frusto-conical wall which intersects said cylindrical surface and converges in a direction away from the axis of the fastener at a steep angle relative to the axis of said tool, said workpiece penetrating element being further provided with longitudinal flutes, said workpiece penetrating element adapted to penetrate the surface of the workpiece material thereby effecting inward flow of a portion of said workpiece material into locking relationship with said fastener.

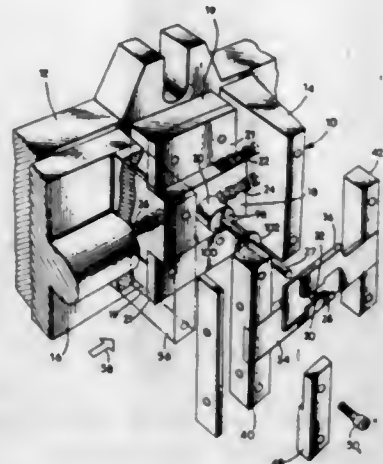
3,339,437

APPARATUS AND PROCESS FOR REMOVING SHIELD FROM CABLE OR THE LIKE MATERIAL

Herbert F. Hamilton and William C. Callow, Fort Wayne, Ind., assignors to The Maguavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Mar. 15, 1966, Ser. No. 534,394
6 Claims. (Cl. 81-9.51)

1. Apparatus for stripping wire comprising a metallic tubular anvil proportioned to fit between the inner insulation and the outer shield of said wire, cutter blades

adapted to close over said shield to effect severing thereof by penetration through said shield and against the underlying anvil which protectively surrounds said inner insulation against cutting by said blades, means for adjustably positioning said anvil in relation to said blades



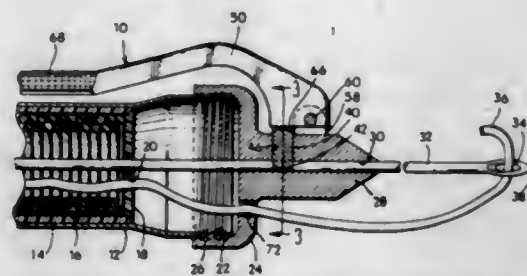
for defining the location at which said shield is severed thereby effecting a desired residual length of exposed shield, actuating means for closing said blades against the outer surface of said shield to produce severing, and means for opening said blades when the cutting operation is completed.

3,339,438

TIRE REPAIRING INJECTOR TOOL

William F. Stover, Kittanning, Pa., assignor to Fre-Mar Industries, Inc., East Butler, Pa., a corporation of Pennsylvania

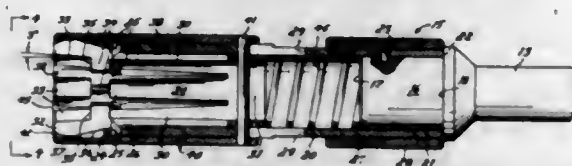
Filed Dec. 7, 1965, Ser. No. 512,177
3 Claims. (Cl. 81-15.7)



1. An injector tool for inserting elongated puncture repair material in cord form into the injuries of pneumatic pressure-containing bodies, and the like, comprising: An elongated tubular portion having a hollow interior adapted to receive the repair material in coiled form therein and providing a handle for manipulation of the repair operation, means forming a threaded opening at one end of said tubular member, a unitary end cap structure threadedly received on said opening and including an opening through which the repair material is passed, passage means extending through said member, an elongated needle slideably passing through said passage and having an eyelet through which the repair material is threaded and is adapted for doubling into and out of the injury, a stem proportioned to fit within a companion opening in said member and acting against said needle to hold it within said passage during insertion of the needle and repair product into an injury, a pair of support lugs formed integrally with said member, and a clamping lever having an abutment surface and pivotally mounted on said lugs and acting against a portion of said pin protruding above said structure to produce a biasing effort which forces said pin within its companion opening to effect clamping of the needle simultaneously with gripping both said handle and said tubular portion.

3,339,439
**AUTOMATICALLY ADJUSTABLE
SOCKET WRENCH**

Leonard Van Dalen and Horace C. Disston, Jr., Westmont, N.J., assignors to Seaboard Tools, Cherry Hill, N.J., a corporation of New Jersey
Filed Feb. 1, 1966, Ser. No. 524,205
9 Claims. (Cl. 81-112)



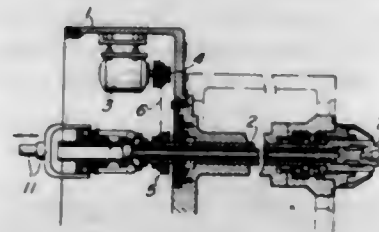
1. An automatically adjustable socket wrench comprising an elongate handle shank, a hollow tubular closer extending longitudinally from one end of said handle shank and terminating in an open end, a generally cylindrical array of elongate jaws having their inner ends internally of said closer and extending outwardly therefrom away from said shank to terminate in radially inwardly facing spaced jaw faces, connection means internally of said closer connecting together the inner jaw ends and mounted for movement longitudinally of said closer to shift the outer jaw ends between an extended position externally of said closer and a retracted position interiorly of said closer, said jaws being resiliently deflectable between a relatively unstressed radially expanded position of said jaw faces and a relatively stressed radially contracted position of said jaw faces, cam means on the outer sides of said jaws slidably engageable with said closer to effect movement of said jaw faces to said radially contracted position upon retraction of said jaws and to release said jaws to their radially expanded position upon extension of said jaws, an actuator slidable externally on said closer, and tie means connected to said actuator and jaws for manually effecting extension and retraction of said jaws upon sliding movement of said actuator on said closer.

3,339,440

MULTISPINDLE AUTOMATIC LATHES

Toyosuke Tsuda, Kariya-shi, Japan, assignor to Tsuda Iron Works Ltd., Kariya-shi, Aichi-ken, Japan, a corporation of Japan

Filed Apr. 16, 1965, Ser. No. 448,677
7 Claims. (Cl. 82-3)



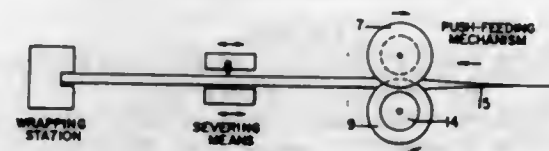
1. A multispindle automatic lathe comprising: a drum rotatably mounted on a single shaft; said drum being shallow cup-shaped with substantially U-shaped cross-section in substantially all planes passing through the axis of said single shaft defining an interior, a closed end and an open end; a plurality of spindles circumferentially mounted for rotation on said drum within its interior; a separate motor associated with each of said spindles and radially spaced outwardly from its corresponding spindle, and each of said motors being mounted on said drum within its interior and having an armature shaft; said armature shafts and said spindles being mounted parallel to each other and parallel to said single shaft; separate

power transfer means consisting essentially of flexible endless drive members and cooperating drive wheels, for forming a direct driving connection between each of said armature shafts and the corresponding spindle; each of said spindles having a terminal portion extending through the closed end of said drum, and a collet chuck mounted on said terminal portion outside of said drum.

3,339,441
**FEEDING AND CORRUGATING MEANS FOR
PACKAGE WRAPPING MACHINES**

Michael John Herbert Haley, Welwyn Garden City, England, assignor to Imperial Chemical Industries Limited, Millbank, England, a corporation of Great Britain

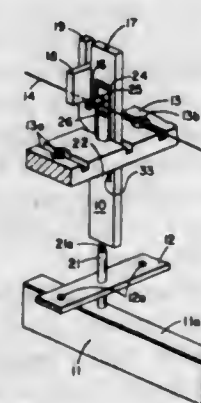
Filed May 17, 1965, Ser. No. 456,346
Claims priority, application Great Britain, May 20, 1964, 20,754/64
5 Claims. (Cl. 83-176)



1. In a packaging machine having a film wrapping station and a severing means for severing portions of film of predetermined length, the improvement comprising a push-feeding means adapted to impart longitudinal corrugations to said film and positioned such that the severing means is between said push-feeding means and the wrapping station, said push-feeding means further comprising two parallel shafts adapted to be contra-rotated at equal speeds on which are mounted at intervals along the length of the shafts pairs of rollers consisting of a first roller mounted on one shaft and a second roller of smaller diameter than said first roller mounted on the other shaft, one of said rollers in each pair being keyed to its shaft and the other free to rotate about its shaft.

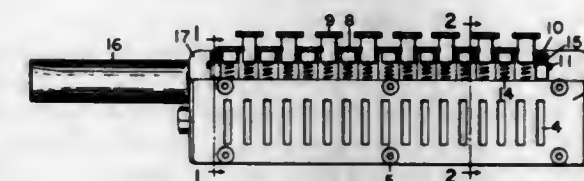
3,339,442
HARPSICORD PLUCKING MECHANISM

Stephen Korbet, 3 Adelaide Terrace, Jamaica Plain, Mass. 02130
Filed Sept. 27, 1966, Ser. No. 582,340
5 Claims. (Cl. 84-258)



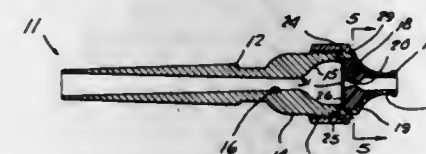
1. A harpsichord jack comprising a one-piece body having a front-to-rear aperture and a tongue; said tongue being part of the body and having a thinned resilient base portion extending upwardly from the rear of bottom wall of the aperture; said tongue being moveable in said aperture and having means in its forward upward portion for engaging with a plectra.

3,339,443
FINGERED HARMONICAS
Oran M. Heath, 1410 Crescent Drive, Corpus Christi, Tex. 78412
Filed May 20, 1966, Ser. No. 551,637
4 Claims. (Cl. 84-377)



1. An air control system for a harmonica composing a casing enclosing an air chamber and a harmonica-accommodating recess; a ventilated recess cover; valves positioned to open and close the multiple mouthpiece holes of a recessed harmonica; valve control means for opening said valves; springs for closing said valves; finger keys membering with said valve control means; and a single mouthpiece communicating with said air chamber; and having said air chamber opening upon the valve-fitted mouthpiece holes of said recessed harmonica, whereby said harmonica may be played by controlling the breath through said single mouthpiece while manipulating said finger keys.

3,339,444
TRUMPET EMOUCHURE
Jerry R. Brooks, 1716 Merrywood Way, Gainesville, Tex. 76240
Filed Jan. 7, 1966, Ser. No. 519,340
7 Claims. (Cl. 84-399)

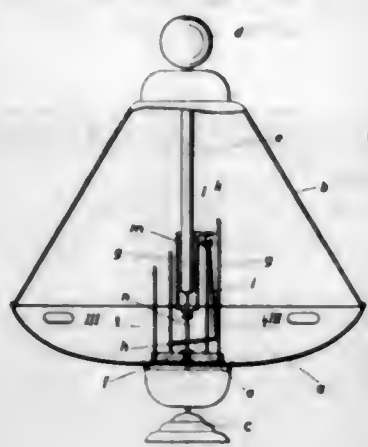


1. A mouthpiece for providing the embouchure of a wind-musical instrument comprising a rigid tubular stem member adapted to be inserted in a wind-musical instrument, an artificial lip element comprising a generally tubular mouthpiece body of resiliently-deformable material having an axial duct and being formed so that the duct normally has a horizontally-elongated transverse cross-sectional shape, said mouthpiece body having a tapering free end adapted to be received in the user's mouth and adapted to be engaged between the user's teeth so that the cross-sectional shape of the duct can be varied by varying the pressure exerted by the teeth, means clampingly-securing said mouthpiece body to the end of the stem member, and a rigid baffle plate having a horizontal slot, said baffle plate being interposed between the mouthpiece body and the stem member with the slot substantially in registry with the duct.

3,339,445
MUSICAL TOP
Friedrich Fuchs, Zirndorf, near Nurnberg, Germany, assignor to Fuchs, Martin Metallwarenfabrik, Zirndorf, near Nurnberg, Germany, a company of Germany
Filed Jan. 12, 1966, Ser. No. 520,264
Claims priority, application Germany, July 10, 1965, F 28,420
12 Claims. (Cl. 84-406)

1. A musical top comprising a stationary stand, a hollow body rotatably supported on said stand for rotation about a vertical axis, and sound-producing means, said sound-producing means including several chime members mounted in mutually parallel relationship and a clapper

member swingingly supported in a position extending into the path of the chime members, said chime members and said clapper member being rotatable in reference one to



another, whereby the impact of the clapper member against successive chime members produces a sequence of sounds.

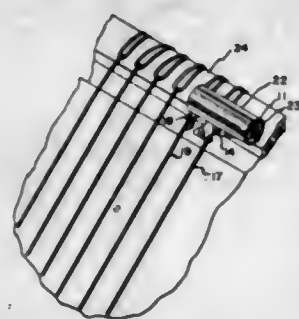
3,339,446

DEVICE AND METHOD FOR TUNING RESONATING INSTRUMENTS

William A. Gantz, Berkeley, Calif., assignor to G.M.R., Inc., doing business as General Measurement Research, a corporation of California

Filed Jan. 25, 1965, Ser. No. 428,893

9 Claims. (Cl. 84-456)



1. A device for tuning a resonating instrument to a desired pitch comprising:

- a support;
- a single reed carrier by said support and having a natural frequency of vibration of said pitch;
- said support being adapted for connection to said instrument and being constructed to permit interchange of energy between said resonating instrument and said reed when said instrument is tuned to and near said pitch; and
- said reed having a shape confining its vibration to a single plane whereby the interchange of energy between said instrument and said reed when said instrument is vibrating near pitch will be made apparent at said reed in the form of a pair of rhythmically diverging and converging images.

3,339,447

MUSIC TEACHING AID

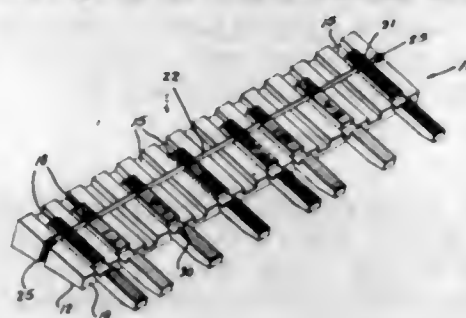
Elisha J. Curry and Blanche L. Curry, both of
Rte. 3, Meridian, Idaho 83642

Filed July 20, 1965, Ser. No. 473,425

6 Claims. (Cl. 84-478)

1. A musical scale-teaching aid for locating the black keys for a scale on a piano-like keyboard comprising an elongated supporting body adapted to be placed on a keyboard transverse to the white keys thereof, said body being formed with transverse evenly-spaced grooves corresponding in number to the number of semi-tones in an

octave and arranged so as to span an octave on the keyboard, a plurality of bar members receivable in said grooves in said positions projecting forwardly from one longitudinal edge of the body sufficiently to engage black



keys on the keyboard, the bar members being the same in number as the notes in one octave of a scale, and means to yieldably secure the bar members in said grooves in said forwardly-projecting positions.

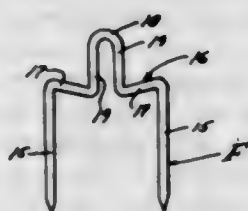
3,339,448

FASTENER FOR FURRING ARTICLES FROM A SUPPORTING SURFACE

Dale P. McKee, Woodland Hills, Calif., assignor to Powers Wire Products Company, Inc., El Monte, Calif., a corporation of California

Filed June 25, 1964, Ser. No. 377,967

2 Claims. (Cl. 85-49)



1. A staple-shaped fastener for securing a wire-like object in spaced relation to a support, said staple comprising a one piece integral body formed symmetrically about a longitudinally disposed axis and including:

- a pair of longitudinally disposed and parallel shanks equidistantly spaced at opposite sides of said axis, each of said shanks having a support penetrating terminal end;
- a centrally disposed head member of inverted U-shape having a transversely disposed bail and a pair of longitudinally disposed and parallel sides, the sides being integrally and bendably joined to said bail and spaced considerably closer to said axis than are said shanks;
- and a pair of shoulders extending integrally between and bendably joined to the ends of the shanks remote from their penetrating terminal ends and bendably joined to the ends of said sides remote from said bail respectively, each of said shoulder members being transversely disposed between an adjacent shank and a side of the head member and oppositely inclined and slightly angularly related to the shanks and said side of the head at like angles;

said staple-shaped fastener in use having the said wire-like object disposed between said sides of the head member, said shoulders being engaged and driven for penetration of the shanks into said support and for straightening engagement of said shoulders upon said support, thereby bending said angles of joinder into substantially right angles of joinder and bending said joinders of the bail and sides of the head member by forcing said sides of the head member toward said axis and divergently disposing them into contacting relation with and to retain said wire-like object against said bail and in spaced relation to said support.

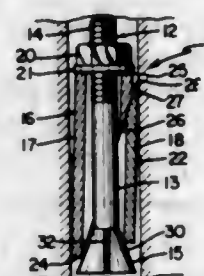
3,339,449

ANCHOR BOLT WITH EXPANSION SLEEVE

Lester Lerich, 30 Morningside Drive,
Lakewood, Colo. 80215

Filed Jan. 27, 1965, Ser. No. 428,470

6 Claims. (Cl. 85-75)



1. An anchor bolt comprising a bolt portion, an expansion sleeve disposed in outer concentric relation on said bolt portion, said expansion sleeve being defined by a pair of tubular wedging sections having adjacent end faces inclined at complementary wedging angles with the end faces intersecting the inner end surface of said expansion sleeve so as to form a circumferential interruption at the inner end of said sleeve whereby said tubular wedging section may be circumferentially expanded, a pair of outer and inner end compression members arranged in axially spaced relation to said bolt portion with said expansion sleeve being disposed between said end compression members, said end compression members being axially movable in relation to one another against opposite ends of said expansion sleeve in response to tightening of said outer end compression member, and said inner end compression member being dimensioned to circumferentially expand said expansion sleeve and simultaneously to cause relative sliding movement between the end faces of said wedging sections.

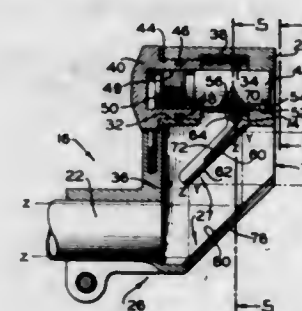
3,339,450

ADJUSTABLE REFLECTOR SIGHT FOR HIGH- TRAJECTORY PROJECTILES

Frederick P. Reed, Ludlow, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 1, 1963, Ser. No. 299,439

4 Claims. (Cl. 88-1)



1. For shoulder-supported firearms firing high-trajectory projectiles with a predetermined component of lateral drift: a sighting device including a tube mounted on a barrel of the firearm so as to be parallel therewith, an eyepiece mounted on the rear end of said tube, and an optical adjuster mounted on the front end of said tube; said optical adjuster including a housing, a pair of mirrors respectively mounted in said housing so as to be vertically inclined relative to the axis of said tube and substantially in parallel relationship and so as to cooperate in effecting an adjustable sight line extending from an optical

path determined by said eyepiece and said pair of mirrors, said pair of mirrors including a first mirror and a second mirror, said second mirror being fixedly mounted in said housing for reflecting an image transmitted thereto by said first mirror to said eyepiece; an adjuster assembly including a rotatable knob, sight line adjusting means operationally disposed between said knob and said first mirror including a shaft mounted in said housing for longitudinal and angular displacement, cooperating thread means on said knob and said shaft for converting rotational displacement of said knob to longitudinal displacement of said shaft, a pin mounted laterally through said shaft for mounting said first mirror thereto for pivotal displacement respective thereto and for lateral swinging displacement therewith, abutting portions on said first mirror and said housing arranged in cooperation to convert longitudinal displacement of said shaft to pivotal displacement of said first mirror about said pin for elevational adjustment of the sight line to selected range distances, and cam means on said shaft cooperating with fixed means in said housing for converting longitudinal displacement of said shaft to angular displacement thereof to swing said first mirror laterally in an arcuate path while being pivotally displaced for elevational adjustment of the sight line to also adjust the sight line laterally.

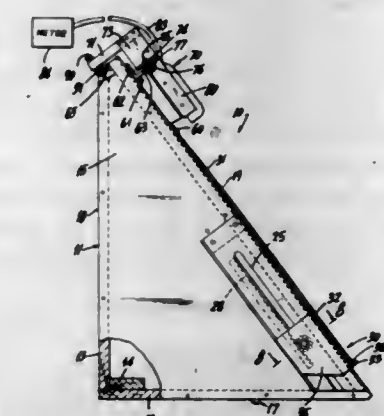
3,339,451

APPARATUS TO ENABLE RAPID USE OF A DENSITOMETER

Norman Shafer, Brooklyn, N.Y., assignor to Color Reproductions Incorporated, South Hackensack, N.J., a corporation of Delaware

Filed June 11, 1962, Ser. No. 201,514

9 Claims. (Cl. 88-14)



1. A stand having an upwardly and rearwardly inclined platform; a horizontal, transverse rail extending forwardly and upwardly from said platform, and disposed adjacent the upper end of said platform; a device comprising an intermediate portion having means engaging said rail, a densitometer scanner unit fixed to said intermediate portion and extending downwardly and forwardly therefrom; and overlying said platform, a counterbalancing member extending rearwardly of said intermediate portion, a transverse bar fixed to the rear upper end of said platform and being inclined rearwardly and downwardly and formed at its rear edge with spaced rearwardly opening notches and with elongated straight rear edge portions between the notches, and means on said counterbalancing member engageable in said notches, selectively; the weight of the device forwardly of said intermediate portion being somewhat greater than the weight of the counterbalancing member, said device being tiltable about said rail to space the unit up above the platform, and to move said notch engaging means rearwardly and downwardly out of the notch to permit shifting of said device sideways.

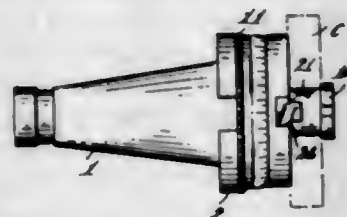
means for calculating the angular coordinates to be given to said gun, so that a projectile fired therefrom normally reaches said target, from said angular coordinates of the target, the distance of the target from the gun, the duration of said time intervals and the indications of firing tables giving, for said distance, the time of flight of the projectile and the elevation angle to be given to the gun, the calculated time of flight of the projectile being determined, by an algorithm, repetitive, but without iteration, from an estimated approximate time of flight of the projectile and from the duration of said time intervals.

3,339,458

ROTARY-CUTTER TOOLS

Thurston V. Williams, Wilton, N.H., assignor to The O.K. Tool Company, Inc., Milford, N.H., a corporation of New Hampshire
Continuation of abandoned application Ser. No. 404,797, Oct. 19, 1964. This application Sept. 12, 1966, Ser. No. 589,151

6 Claims. (Cl. 90-11)



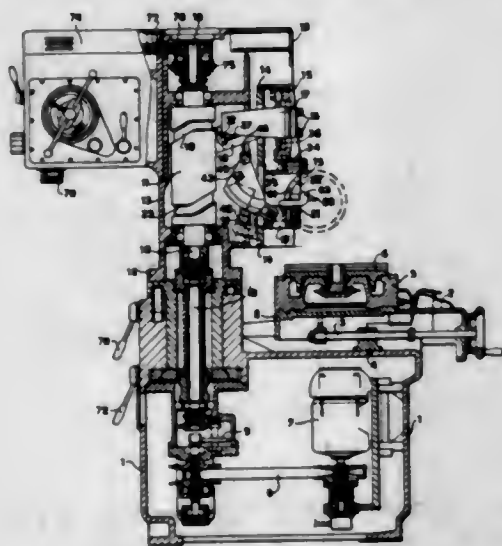
1. A tool comprising an arbor having a front face and a cylindrical extension beyond said face, a collar fitting over said extension, the collar having a shoulder opposite said face with a space therebetween, a micrometer adjuster in said space, means for clamping a cutter against the front of said collar, and key means for keying said collar to said extension and cutter so that torque may be transmitted from the arbor to the cutter wholly through the collar, whereby the micrometer may be clamped between said face and shoulder without being keyed to any part of the tool.

3,339,459

MULTIPURPOSE MACHINE TOOL HAVING A TOOLHOLDER SLIDE ADAPTED TO MOVE ON ARCuate GUIDEWAYS

Danilo Mattioli and Giancarlo Mattioli, both of Via Borgonuovo 10, Milan, Italy
Filed Sept. 28, 1964, Ser. No. 399,805
Claims priority, application Italy, Oct. 3, 1963, Patent 706,147

10 Claims. (Cl. 90-26)



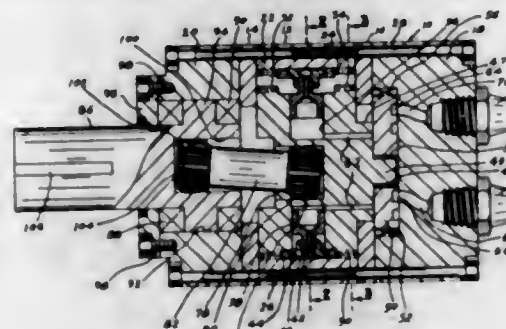
3. In a machine-tool for producing dies, punches and like articles, a head, a slide for carrying a tool, a support adapted to assume relative to the head a vertical posi-

tion and at least one inclined position to either side of such vertical position, a carriage operably related to said head and adapted to execute a longitudinal reciprocatory movement relative to the support, said carriage including an arcuate guiding member for the slide having a center which lies permanently outside the machine-tool and means operably associated with said member and slide for holding said slide in an angularly adjustable position.

3,339,460

PRESSURE FLUID MOTOR

J. C. Birdwell, 8535 Glencrest, Houston, Tex. 77017
Filed May 7, 1965, Ser. No. 454,120
13 Claims. (Cl. 91-56)



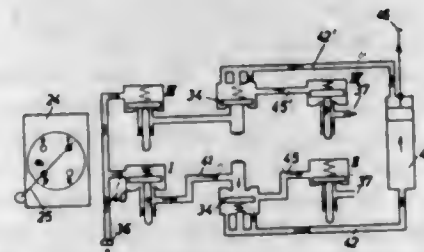
11. Pressure fluid apparatus comprising, a housing, a rotor in the housing, means mounting the rotor for rotation on an axis disposed eccentrically of and for orbital movement relative to the axis of the housing and in engagement therewith, peripherally spaced radially disposed cylinders arranged between the housing and the rotor, pistons movably disposed in the cylinders for reciprocating movement therein, means carried by the pistons forming driving connections between the rotor and the housing to cause the rotor to rotate upon reciprocation of the pistons, and means for introducing pressure fluid into and exhausting the same from the cylinders to cause the pistons to reciprocate.

3,339,461

DEVICE FOR OPERATING MACHINE CYLINDERS

Erich Sommerer, Hauptstrasse 136, Stuttgart-Vaihingen, Germany
Filed May 13, 1965, Ser. No. 455,413
Claims priority, application Germany, May 14, 1964, S 91,066

4 Claims. (Cl. 91-446)



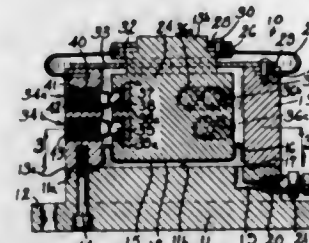
1. In combination with a cylinder and a piston movable in said cylinder, a device for operating said piston, said device comprising a block spaced from said cylinder and having the shape of a four-cornered prism with two front surfaces and two opposed side surfaces, two check valves located in alignment opposite each other upon said front surfaces, four passages formed in said block and extending between said two side surfaces, said passages having axes forming four corners of an imaginary square the sides of which extend parallel to the sides of the prism, each of said passages having a wider portion adjacent one side surface and a narrower portion adjacent the other side surface, valves located in the wider portions of said

passages and valve-actuating pins located in the narrower portions of said passages, conduits in said block interconnecting said valves, said block having an opening receiving a pressure medium and communicating with said conduits, other conduits connected with said check valves and with said cylinder on opposite sides of said piston, and a single switching device carried by said block and having cams actuating said pins, the last-mentioned conduits serving as pressure transmitting as well as de-aerating conduits.

3,339,462

WEIGHING DEVICE

Joseph T. Bankowski, 144 Jefferson St., Stamford, Conn. 06902
Filed June 21, 1965, Ser. No. 465,428
6 Claims. (Cl. 92-23)



1. A fluid pressure load cell comprising a cylinder assembly defining a cylinder having an upper surface and an internal cylinder wall, a piston assembly including a piston receiving within said cylinder, said piston having a substantially continuous cylindrical sidewall defining an annular space with said internal cylinder wall, a flexible diaphragm interposed between said surface and said piston and defining with said surface a fluid pressure cavity, a fluid conduit defined in said cylinder assembly and providing communication with said cavity from without said cylinder assembly, a plurality of bearing assemblies cooperatively carried by said cylinder and said piston members and centering said piston with respect to said cylinder, each of said assemblies comprising a rotative bearing element carried within an individual socket in one of said piston and cylinder members and a planar bearing surface providing element carried by the other of said members, said bearings and said planar surfaces being in contact, said bearing surfaces residing within said annular space.

3,339,463

ROTARY FLUID MOTOR WITH AXIAL THRUST BALANCING MEANS

Walter C. Updegrave, 300 Adams St., St. Lawrence, Reading, Pa. 19606
Filed Aug. 1, 1966, Ser. No. 569,390
3 Claims. (Cl. 92-31)

1. A fluid motor comprising:

(I) an inner, a medial, and an outer generally cylindrical, hollow, rigid members, axially aligned and circumferentially spaced with respect to each other;
(A) said inner member extending substantially the axial length of said motor and comprising:

(1) a first portion having a smooth outside diameter; and
(2) a second portion carrying external helical splines of a given hand;

(B) said medial member comprising an annularly shaped fluid-driven piston extending only a portion of the axial length of said motor and comprising:

(1) a piston head located adjacent one end of said medial member;
(2) an interior skirt portion located adjacent the other end of said medial member having internal helical splines that are adapted

to engage the helical splines of the second portion of said inner member in mechanically cooperative relationship; and

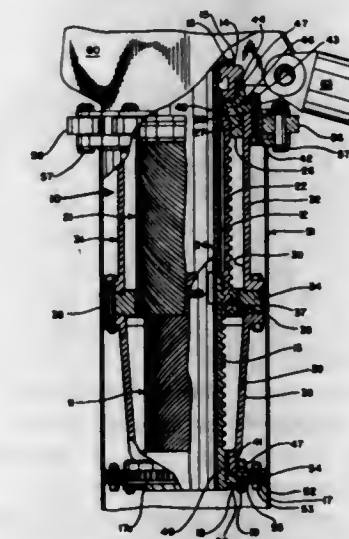
(3) an outer portion carrying external helical splines of opposite hand to the given hand of the helical splines of said inner member; and

(C) said outer member extending substantially the axial length of said motor and comprising:

(1) a first portion having a smooth inside diameter concentrically positioned with respect to said first portion of said inner member;

(2) a central portion adjacent said first portion of comparatively small axial extent carrying internal helical splines adapted to engage the external helical splines of said medial member in mechanically cooperative relationship; and

(3) a third portion adjacent the other side of said central portion concentrically positioned with respect to said second portion of said inner member;



(II) first fluid sealing means engaging the outside diameter of said first portion of said inner member with the inside diameter of said piston head;

(III) second fluid sealing means engaging the inside diameter of said first portion of outer member with the outside diameter of said piston head;

(IV) port means adapted to permit the introduction and removal of fluids under pressure from either side of said piston head; and

(V) end flanges on each of the ends of both said inner and said outer members, including first and second bearing means adapted to enable rotational movement of one of said members relative to the other of said members;

(A) said first bearing means comprising a generally cylindrical bearing surface adapted to accommodate radial forces during rotation of one of said members relative to the other of said members;

(B) said second bearing means comprising a generally radially extending bearing surface adapted to accommodate axial forces during rotation of one of said members relative to the other of said members; and

(VI) third fluid sealing means annularly disposed at a fixed radial distance from the common axis of the inner and outer cylinders intermediate the outer diameter of the inner cylinder and the inner diameter of the outer cylinder, which fixed distance is selected to provide axial internal fluid pressure forces on said end flanges that will balance, to a substantial degree, the axial forces developed on

the splines of said inner member with the axial forces developed on the splines of said outer member when said fluid motor is subjected to internal fluid pressure.

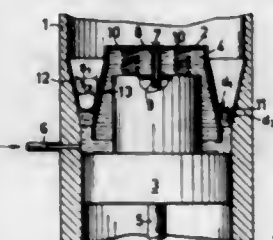
3,339,464

DEVICE INCLUDING AT LEAST ONE SEAL IN THE FORM OF A ROLLING DIAPHRAGM BETWEEN TWO CO-AXIALLY ARRANGED RELATIVELY MOVABLE ELEMENTS

Johan Adriaan Rietdijk, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 3, 1964, Ser. No. 415,711

Claims priority, application Netherlands, Dec. 13, 1963, 301,824

3 Claims. (Cl. 92—98)



1. An apparatus comprising a cylinder, at least one reciprocable piston in said cylinder, a rolling diaphragm seal connected to said piston and said cylinder and defining two separate spaces, one of said spaces containing an incompressible liquid column, means being provided for maintaining a pressure difference across said rolling diaphragm seal which is substantially constant during each stroke of said piston, the adjacent walls of said piston and cylinder which form the gap containing said rolling diaphragm seal being convergent with respect to one another towards the space to which the convex side of said rolling diaphragm seal is adjacent, said rolling diaphragm seal assuming the configuration of said converging walls, said convergent walls extending so that the quotient d/s has the same value for any length of said rolling diaphragm seal, d being the thickness of said rolling diaphragm seal in the part thereof which does not engage said convergent walls, and s being the width of the gap at the location where the rolling diaphragm seal disengages from said walls.

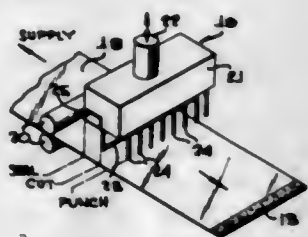
3,339,465

PERFORATED BAG FOR USE AS A DISPENSING UNIT

Henry C. Laub, Jr., Omaha, Nebr., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Apr. 9, 1963, Ser. No. 271,684, now Patent No. 3,246,803, dated Apr. 19, 1966. Divided and this application Feb. 11, 1966, Ser. No. 566,190

5 Claims. (Cl. 93—35)

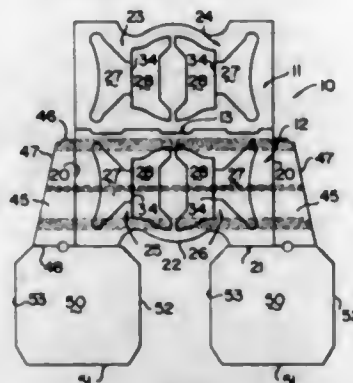


1. A method of forming a dispensing bag comprising the steps of forming a tube, and simultaneously cutting off a length of the tube, punching dispensing openings in the tube adjacent the line of cut-off, and sealing the then new end of the tube at the line of cut-off.

METHOD OF FORMING A SEPARATOR George S. Holmes, Middlesex, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Oct. 22, 1963, Ser. No. 317,878, now Patent No. 3,269,636, dated Aug. 30, 1966. Divided and this application Aug. 23, 1966, Ser. No. 574,415

10 Claims. (Cl. 93—37)



1. A method of forming a separator comprising the steps of providing a blank having connecting panels joined between one of a pair of partition panels and opposite end flanges along respective first and second fold lines, applying adhesive to the one partition panel and the connecting panels, and folding the blank along at least the second fold lines to bring the end flanges and associated connecting panels into adhesively contacting relationship.

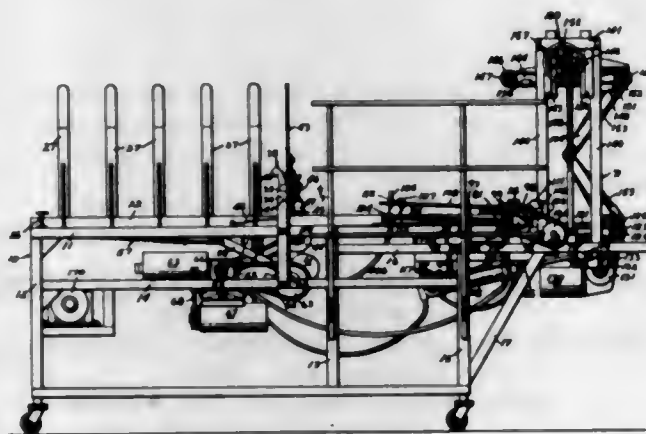
3,339,467

MACHINE FOR SETTING UP OPEN ENDED CARTONS

Reinhold A. Pearson, E. 304 2nd Ave.,
Spokane, Wash. 99202

Filed Mar. 29, 1965, Ser. No. 443,295

11 Claims. (Cl. 93—53)



4. A machine for setting up open ended cartons, comprising:

- a supporting framework;
- carton blank storage means on said framework to hold a stack of collapsed carton blanks;
- carton blank feed means on said framework to selectively move individual collapsed carton blanks from said carton blank storage means to a station on said framework spaced therefrom;
- carton blank guide means fixed to said framework to contact and support the side edges of a carton blank moved by said carton blank feed means;
- a movable stop carried on said frame located between said carton blank guide means, said stop being movable from a first position obstructing motion of a carton blank supported by said carton blank guide means to a second position clear of such blank;

carton blank erecting means on said framework to grasp opposite panels of each carton blank when in contact with said stop at said station and to expand the carton to a rectangular configuration; and a pair of delivery belts mounted on said framework having inwardly facing flights parallel to one another and spaced so as to frictionally receive said opposite panels of each expanded carton, said stop being located on said framework intermediate the longitudinal ends of said belt flights.

3,339,468

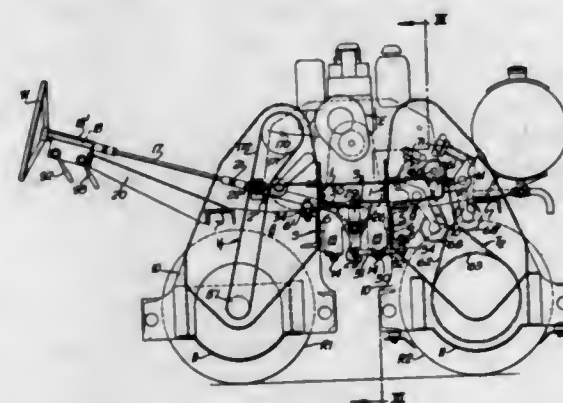
VIBRATORY ROLLERS

John Peel Hall, Bath, England, assignor to Stothert & Pitt Limited, Bath, England, a corporation of the United Kingdom

Filed Feb. 8, 1965, Ser. No. 431,147

Claims priority, application Great Britain, Feb. 26, 1964, 8,085/64

9 Claims. (Cl. 94—50)



1. In a vibratory roller structure including a main frame, two vibratory roll frames, means mounting said roll frames on said main frame for independent angular steering displacement about spaced pivots on the fore-and-aft axis of said main frame, roll shells respectively mounted for rotation on said roll frames, vibratory means for vibrating said roll shells, and power and transmission means for rotating said roll shells for traction drive of said roller structure and for operating said vibratory means;

the improvement that the power and transmission means for rotating said roll shells comprises:

- (a) a single motor mounted on said main frame on an axis transverse to said fore-and-aft axis thereof;
- (b) a gear box mounted on said main frame on said transverse axis and in alignment with said motor;
- (c) a driving connection between said motor and said gear box;
- (d) two gear box output members located symmetrically with respect to said gear box and said transverse axis;
- (e) elements respectively mounted on said roll frames, both on the same side of said roller structure, and being connected respectively to said roll shells for rotating the latter;
- (f) two angular displaceable Cardan shafts extending transversely of said roller structure; and
- (g) universal couplings coupling opposite ends of said Cardan shafts respectively to said members and said elements,
- (h) the power transmission means for transmitting power to said vibratory means being connected to said vibratory means at said same side of said roller structure as the connection of the power transmission means to said elements which rotate said roll shells.

842 O.G.—4

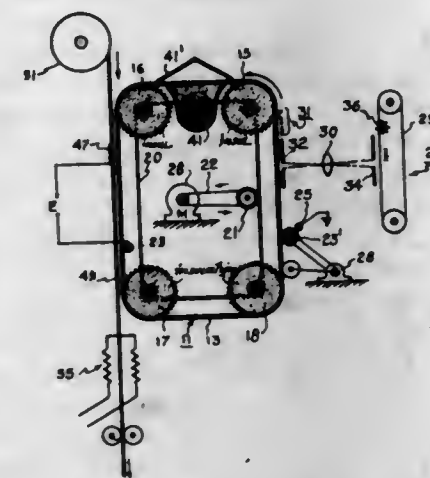
3,339,469

ELECTROSTATIC PRINTING APPARATUS

Samuel B. McFarlane, Summit, N.J., assignor to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware

Original application Aug. 6, 1962, Ser. No. 214,950, now Patent No. 3,220,833, dated Nov. 30, 1965. Divided and this application Aug. 23, 1965, Ser. No. 481,624

5 Claims. (Cl. 95—1.7)



1. In apparatus for electrostatic deposition printing, the combination of an image carrier in the form of a grid; means for forming an electrostatic latent image on the grid; means for powdering the image with marking material through the grid; means for establishing an electrostatic field having an air gap; and means for introducing the powdered image into the air gap along with a transfer medium in spaced-apart relation whereby the marking material is projected through the air gap to reproduce the image on the transfer medium.

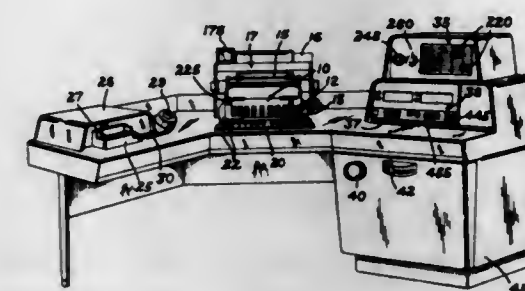
3,339,470

PHOTOCOMPOSING SYSTEM

Richard C. O'Brien, Huntington, N.Y., and Ralph A. Proud, Jr., Somerset, N.J., assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Apr. 12, 1965, Ser. No. 447,203

29 Claims. (Cl. 95—4.5)



1. In a phototypesetting system of the character described, the combination of a first machine including a keyboard for preparing a coded record of a selected succession of characters and interword spaces forming a line of composition to be produced, a record member adapted to be marked in coded form by said first machine, means for producing on said record member a coded representation identifying each character in the sequence selected, means for marking said record member to indicate the location of interword spaces, first computing means responsive to the selection of each character for computing the actual width of its character image to be reproduced, means for recording on said record member the number of interword spaces in a

line, means in said first machine maintaining a summation of the actual space to be occupied by the character images during preparation of the coded record of a line, means for marking on said record member a coded representation of the actual space not occupied by character images in a line of predetermined length, a second machine comprising a photographic unit including means responsive to character identification codes on said record member for projecting image bearing light beams of the individual characters along a common optical axis in the order of recording on said record member and at a predetermined point size for each character image as determined during preparation of said record member, second computing means responsive to projection of each character image to compute the actual space occupied by the character image, carrier means for mounting a photosensitive member upon which the character images are focused for recording thereof to form lines of composition, means controlled by said second computing means to produce relative spacing movement between said projecting means and said carrier means in the direction of composition to allot the computed space to each character image, and justifier control means in said second machine responsive to information on said record element relating to the number of interword spaces and the amount of space not occupied by characters in a line of predetermined length for producing relative movement between said carrier means and said projecting means wherever said record element indicates the location of an interword space to apportion said unoccupied space among the word spaces and thus to produce a justified line of the predetermined length.

3,339,471

PHOTOGRAPHIC APPARATUS FOR EXPOSURE CONTROL

Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Jan. 27, 1965, Ser. No. 428,368
Claims priority, application Germany, Jan. 31, 1964, G 39,750
8 Claims. (Cl. 95—10)

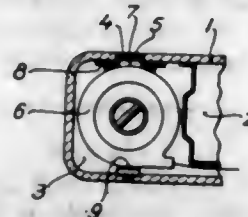


1. Photographic apparatus comprising:
 - (a) an objective lens;
 - (b) a focus control for setting said objective lens;
 - (c) a diaphragm having different aperture sizes;
 - (d) a selective setting member for controlling the aperture of said diaphragm and having two exposure setting ranges, one a complete exposure setting range and the second a limited exposure setting range, the resulting diaphragm apertures when said selective setting member is operating in said limited range being smaller than the largest aperture of said objective lens;
 - (e) and means interconnecting said focus control and said selective setting member for preventing said selective setting member from operating in said limited range unless said focus control occupies a predetermined position in which the largest possible diaphragm setting in said limited range produces a depth of focus which extends from a fixed near distance to infinity.

3,339,472

PHOTOGRAPHIC CAMERAS

Ludwig Leitz, Wetzlar (Lahn), Germany, assignor to Ernst Leitz GmbH, Wetzlar, Germany, a corporation of Germany
Filed Feb. 23, 1965, Ser. No. 434,366
2 Claims. (Cl. 95—11)

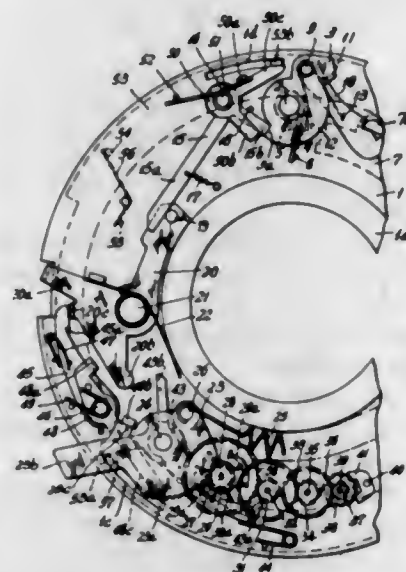


1. In a photographic camera having a light proof housing, there being a chamber in the housing for receiving a film cartridge, the improvement comprising: means defining a window in said camera housing positioned to register with said indicating means on said cartridge when inserted into said chambers; and resilient means in said housing for positioning a film cartridge when inserted into said chamber, said resilient means including a member having an opening registering with said window, said cartridge when inserted bearing against said resilient means and light tightly closing the ring space of said member thereby rendering a portion of the wall of the cartridge visible through said window without permitting light to enter from the window into the rest of the camera housing.

3,339,473

PHOTOGRAPHIC INTRA-LENS SHUTTER WITH DELAYED ACTION DEVICE

Richard Wurster, Hofen (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Feb. 8, 1965, Ser. No. 431,081
Claims priority, application Germany, Feb. 15, 1964, G 39,860
7 Claims. (Cl. 95—53.3)



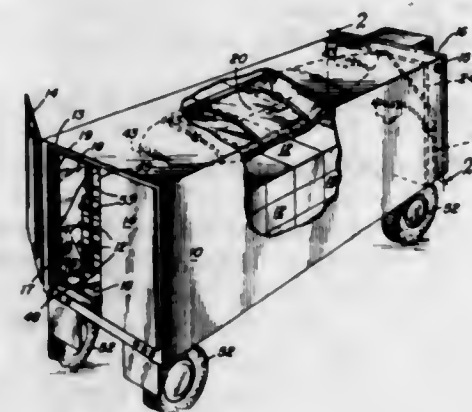
1. A photographic intra-lens shutter comprising: a delayed action device; means for selectively cocking said delayed action device; a shutter blade driving mechanism; a shutter release; first arresting means responsive to said shutter release for restraining said shutter blade driving mechanism and for releasing said shutter blade driving mechanism upon actuation of said shutter release;

second arresting means for maintaining the restraint upon said shutter blade driving mechanism after said first arresting means has released said shutter blade driving mechanism and until said delayed action device has run down; and a biased release mechanism responsive to said delayed action device for positioning said second arresting means to maintain the restraint upon said shutter blade driving mechanism when said delayed action device is cocked and after release of said shutter blade driving mechanism by said first arresting means and for actuating said second arresting means to release said shutter blade driving mechanism after said delayed action device has run down.

3,339,474

APPARATUS FOR TRANSPORTING PLANT AND ANIMAL MATERIALS

James K. Lamp, Jr., San Jose, and Jack I. Anderson, Downey, Calif., and Richard G. Hagenauer, Hatboro, Pa., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,735
5 Claims. (Cl. 99—271)



1. Apparatus for storing, preserving and transporting perishable plant and animal materials such as food materials, comprising: a movable container for said materials and a selected preserving atmosphere having an access opening and subjected to changing internal and external pressure conditions, said container being leakable under severe internal-external pressure differential; a receiver in said container; and a conduit to said receiver with an entrance communicating with ambient air, said receiver having means expansible to receive ambient air when internal pressure in said container is less than ambient air pressure and thereby prevent substantial dilution of said atmosphere with said ambient air, and collapsible when said internal pressure in said container is greater than ambient air pressure to expel ambient air from said receiver, said container being subjected to ambient air flow over the container during said movement thereof creating positive or negative pressure conditions of varying intensity adjacent different portions of the exterior of said container, said entrance of said conduit being located at a portion of said exterior where said pressure conditions are at most of minor extent.

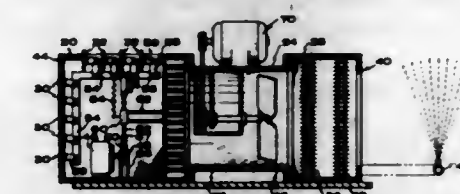
3,339,475

POTATO STORAGE TREATING APPARATUS

Robert T. Martin, 1708 East 4800 South, Salt Lake City, Utah 84117
Filed Oct. 7, 1966, Ser. No. 585,106
11 Claims. (Cl. 99—271)

1. In combination with an enclosed storage structure for storing vegetables, an air treating device comprising blower means with an inlet side and an exhaust side for

circulating air under pressure in the interior of said structure; a first duct connected between said inlet side of said blower and an air source located outside said storage enclosure; first shutter means positioned in said first duct for controlling the flow of air through said first duct; a second duct connected between said inlet side of said blower means and the interior of said storage enclosure; second shutter means positioned in said second duct for controlling the flow of air through said second duct; activa-

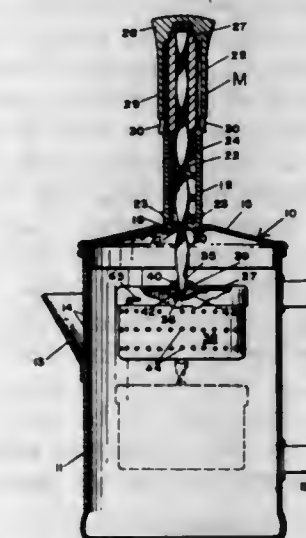


tion means connected to said first shutter means and said second shutter means for opening said first shutter means while simultaneously closing said second shutter means and for closing said first shutter means while opening said second shutter means; ozone producing means provided in communication with said inlet side of said blower means for producing ozone which is drawn into said blower means; and exhaust duct means secured to the exhaust side of said blower for passing ozone enriched air from said blower into the interior of said storage enclosure.

3,339,476

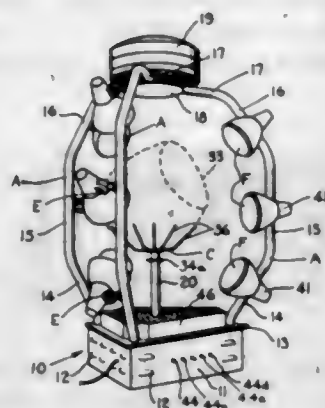
COFFEE MAKER

Michel R. De Troya, 138 SE. 14th Lane, Miami, Fla. 33131
Filed Oct. 18, 1965, Ser. No. 496,940
3 Claims. (Cl. 99—287)



1. In a coffee maker having a receptacle and a cover for said receptacle, the combination comprising a first tubular member mounted on said cover, a second tubular member telescopically mounted on said first tubular member and normally extending upwardly beyond the free end of said first tubular member, elongated spinning means secured at one end to said second tubular member and extending through said cover into said receptacle, means cooperatively engaging said elongated spinning means upon the sliding of said spinning means downwardly into said receptacle causing said spinning means to revolve, beverage containing means mounted on the lower end of said elongated spinning means within said receptacle and spring means yieldingly urging said second tubular member in its extended position whereby upon said second tubular member being forced to slide downwardly on said first tubular member to its retracted position, said elongated spinning means and said coffee containing means are simultaneously spun and lowered in said receptacle.

3,339,477
DISPLAY COOKING APPARATUS
 Robert G. Wilson, 643 E. Faris Road,
 Greenville, S.C. 29605
 Filed Mar. 7, 1966, Ser. No. 532,327
 3 Claims. (Cl. 99—341)



1. In a display cooker provided for cooking, displaying and serving meat including: a base member; a plurality of circumferentially spaced vertical support members carried on said base member; a rotatable vertical shaft extending upwardly from said base member, said rotatable vertical shaft being disposed intermediate said spaced support members and terminating within an intermediate portion of said spaced support members; a meat carrier open at its top positioned on said rotatable vertical shaft, said carrier including a base portion for receiving and encompassing a lower portion of said meat while permitting said meat to be accessible for cooking and for carving; power operated means driving said vertical shaft for continuously rotating said meat while cooking within said spaced vertical supports; a plurality of spaced pivotal mounting devices being carried by said vertical support members; an infrared lamp and the like being carried on each of said pivotal mounting devices for focusing infrared rays from said lamp on desired areas of said meat so as to cook selected areas of said meat to desired degrees of doneness as the meat turns within the vertical support members; said vertical support members being spaced so that the intermediately disposed meat is accessible from all sides; whereby said meat carrier securely supports meat simply placed thereon for rotation intermediate the infrared lamps so that the meat is displayed while it is cooking and meat of desired degrees of doneness can be carved and served from the meat carrier with minimum obstruction from the vertical support members and the meat carrier.

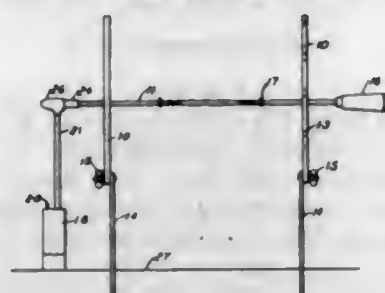
3,339,478
DISPOSABLE SHISH-KEBAB HOLDER
 Rodney M. Crow, % Northwest Hospital & Clinic,
 2100 Highway 183, Fort Worth, Tex. 76106
 Filed Aug. 6, 1965, Ser. No. 477,793
 9 Claims. (Cl. 99—355)



1. In combination, an elongated heat-conductive cooking skewer having a tubular end portion and a pointed end portion, a skewer carrying handle adapted to slidably receive either of said end portions of the cooking skewer and mounted on one end thereof, and a holder

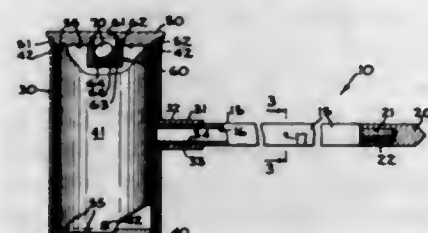
including an elongated shank received within said tubular portion of the cooking skewer and a drip cup connected to the shank in spaced relation to the cooking skewer having a grip portion projecting therefrom on one side opposite the shank.

3,339,479
PORTABLE SPIT
 Archie V. Miller, Carl Muller, and Paul H. Richards,
 Spokane, Wash.; said Miller and said Muller assignors
 to said Richards and Paul Brown, Torrance, Calif.
 Filed Sept. 7, 1965, Ser. No. 485,292
 3 Claims. (Cl. 99—421)



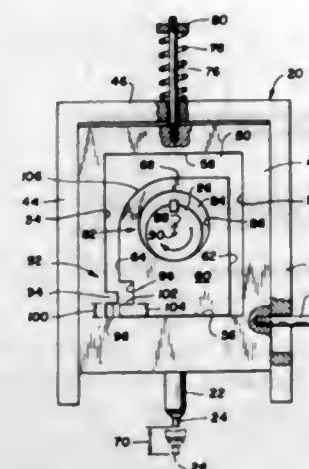
1. A portable cooking apparatus, comprising:
 a pair of upright standards positioned at opposite sides of a heat source located on a supporting surface;
 a spit rotatably journaled on said standards about a transverse horizontal axis;
 a driving unit operatively connected to said spit, comprising:
 a motor and transmission unit having a rotatable driven shaft;
 a rigid extension mounted on said motor and transmission unit and including a shaft drivingly coupled to the driven shaft of said motor and transmission unit;
 a socket releasably coupled to one end of said spit;
 gear means drivingly connecting said socket and the outer end of said extension shaft, the rotational axis of said extension shaft being perpendicular to the axis of said spit;
 the radial length of said driving unit relative to the axis of said spit being greater than the vertical elevation of the axis of said spit above said supporting surface.

3,339,480
COOKING APPARATUS
 Kizhanatham R. Raman, 834 Sutter Ave., Palo Alto, Calif. 94303, and Sidney N. Bragg, 187 Acalanes, Apt. 2, Sunnyvale, Calif. 94086
 Filed Nov. 12, 1965, Ser. No. 507,453
 6 Claims. (Cl. 99—421)



1. A cooking apparatus comprising a spit, said spit being formed with a channel therein for the passage of flavoring fluid, said spit being formed with a plurality of openings therein communicating with said channel for the discharge of flavoring fluid into food impaled on said spit, means for imparting rotary movement to said spit, a housing connected to said spit in communication with said channel, and a tube disposed within said housing to form a relatively small annular space between said tube and said housing, said flavoring fluid being stored in said tube for passage into said annular space and from said annular space into said channel through said housing.

3,339,481
FREE FLOATING RAM MEMBERS FOR PUNCH PRESSES AND THE LIKE
 Richard E. Lang, 100 Greenbriar Drive,
 Carnegie, Pa. 15106
 Filed Feb. 15, 1966, Ser. No. 527,586
 6 Claims. (Cl. 100—214)

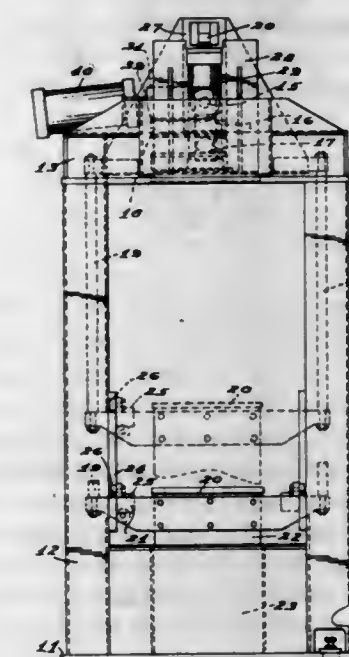


1. In apparatus having a ram member including one end adapted to perform a work-operation on a work-piece disposed adjacent thereto, and a frame supporting said ram member for reciprocal movement wherein during one cycle of operation, said ram member is movable in one direction during a power stroke and in the opposite direction during a return stroke, the improvement comprising: said ram member having a generally rectangular opening whose periphery is defined by opposed side faces and upper and lower end faces; a pitman member residing within said opening and having a generally rectangular configuration corresponding to the configuration of said opening; eccentric rotary means slidably engaged with said pitman member for moving the same in a circular path and, hence, sequentially toward one of said side faces and then into engagement with said lower end face during said power stroke, and then toward the other of said side faces during said return stroke; said pitman member being smaller than said opening and having sides which are spaced from the corresponding side faces of said opening when said pitman member is in a centered position relative to said opposed side faces, said ram member being freely movable in its direction of reciprocation whereby the position of said ram member relative to said workpiece may be adjusted prior to said power stroke; cooperating catch means operable only during the said return stroke for moving said ram member in said opposite direction; and drive means including actuating means for rotating said eccentric rotary means through a single revolution and, hence, for moving said ram member through a single reciprocation.

3,339,482
MACHINE LIFT OR PRESS MECHANISM
 Walter L. Jewett, Royal Oak, Mich., assignor to Allied Welder Corporation, Detroit, Mich., a corporation of Michigan
 Filed Mar. 30, 1966, Ser. No. 538,690
 8 Claims. (Cl. 100—271)

5. A press comprising
 a frame,
 a crankshaft on said frame,
 a crank on said crankshaft,
 a platen in said frame reciprocating on a linear axis,
 a connecting rod between said crank and said platen;
 said crank having opposite dead center positions when lying parallel to said linear axis defining the open and closed positions of said platen;

a torque arm on said crankshaft normal to said crank; in the open position of said platen said crank lying parallel to said linear axis and said torque arm lying normal to said linear axis;
 a fulcrum shaft on said frame diametrically between said crankshaft and platen,
 a lever pivoted on said fulcrum shaft at a mid-angle relative to said linear axis (such as 45°) on one side of said linear axis in the open position of said platen;
 said lever extending outwardly past the axial plane of said crankshaft; said lever lying adjacent said torque arm;
 said torque arm having a radially outer end and a radial cam track;
 in the open position of said platen said lever crossing said torque arm adjacent its outer end;
 a cam on said lever on a relatively long radius from said fulcrum shaft lying in said torque arm cam track adjacent said torque arm outer end in the open position of said platen;
 said lever having a radially outer end; and
 a power cylinder on said frame connected to said lever outer end;



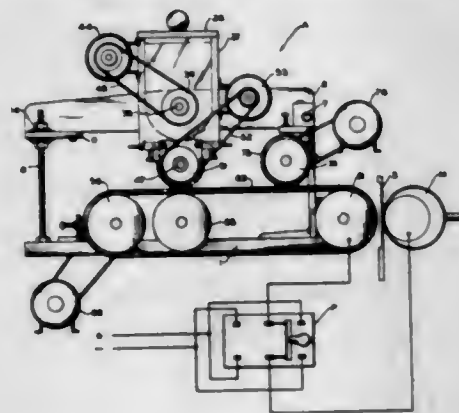
said cylinder pivoting said lever from said stated mid-angle position on one side of said press linear axis, through a position parallel to said linear axis, to a mid-angle position on the other side of said linear axis;
 said lever swinging said cam in a path arcuate relative to said fulcrum shaft;
 said cam path describing an ellipse relative to said crankshaft;
 said cam path ellipse being eccentric relative to said torque arm;
 the axial spacing of said crankshaft and said fulcrum shaft and the length of said cam radius being such that said cam path ellipse extends 180° angularly of said crankshaft;
 pivotal movement of said lever from the open position of said platen sliding said cam in said cam track and swinging said torque arm with maximum cam advantage and torque arm leverage and minimum angular movement adjacent the dead center position of said crank so that compound harmonic motion gradually accelerates platen speed of movement from the open position and gradually decelerates platen speed of movement toward the closed position,

said lever in its first 45° of angular movement moving said cam through 90° of angular movement relative to said crankshaft and said crank 90° to move said platen to a travel position midway between its open and closed positions with said torque arm lying parallel to said linear axis and said crank lying normal to said linear axis and with said arm being at a flat cam angle relative to said cam and said crank being at maximum throw so that said compound harmonic motion is at maximum speed of movement at the mid-travel position of said platen.

3,339,483

INK DELIVERY SYSTEM FOR ELECTROSTATIC STENCILING DEVICE

Evan W. Pittenger, St. Louis, and James W. Edwards, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 6, 1965, Ser. No. 453,706
6 Claims. (Cl. 101-114)



1. An ink delivery apparatus for electrostatic printing systems and the like which employ a screen and a counter electrode forming element, said apparatus comprising base means, an ink containing housing operatively mounted on said base means and containing a charge of electroscopic ink, said housing having a discharge slot on its underside for metering a predetermined fixed quantity of ink particles, a metering roller operatively mounted on said base means and being located beneath said ink containing housing, a fabric pile surface on said metering roller, said metering roller being so located so that a portion of the fabric pile surface extends through the discharge slot of said container into the interior of said container and being adapted to accumulate a selected amount of ink as it rotates, a plurality of supporting rollers operatively mounted on said base means, a continuous delivery belt trained around said supporting rollers for rotatable movement with respect to said base means, and a fabric pile surface on said belt and being in intimate contact with the pile fabric surface on said metering roller to receive the ink particles as they are discharged from the metering roller, one of said supporting rollers being located in close proximity to said screen to bring said belt toward and away from said screen during movement thereof causing a tangential line of closest approach and departure with respect to said screen.

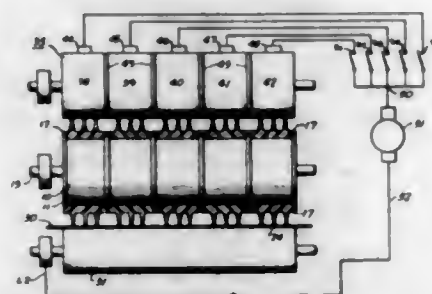
3,339,484

ELECTROSTATIC CODE PRINTING OR ETCHING MEANS

Ralph A. Pannier, McCandless Township, Allegheny County, Pa., assignor to The Pannier Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 20, 1965, Ser. No. 473,286
12 Claims. (Cl. 101-219)

12. A device for marking a continuously moving metal strip preceding the application of tin plate thereto which includes a rotary drum gripped by a series of selected

expandable elastomer printing bands each having at least one annular printing surface with reference points and on one side thereof a specific code to display and print a selected code symbol on the metal strip, a matched chart to identify the selected code symbols on the drum and selected code printed symbols on the metal, an electroconductive elastomer on and connecting at least



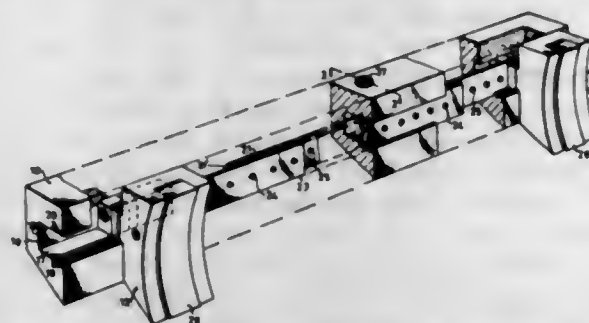
the printing surfaces of each printing band, means to supply an electric marking liquid to said printing surfaces prior to their engagement with said metal strip, and an electrode means mounted for engagement with said printing surfaces after their engagement with said metal strip, and a second electrode engaging said metal strip to close an electrical current path therethrough to aid in imprinting the code thereon.

3,339,485

ADJUSTABLE INK SUPPLY DEVICE IN ROTARY PRINTING PRESSES

Rune Evert Rytterholm, Vällingby, Sweden, assignor to AB Bonnierforetagen, Stockholm, Sweden, a corporation of Sweden

Filed June 14, 1965, Ser. No. 463,627
Claims priority, application Sweden, June 15, 1964, 7,268/64
2 Claims. (Cl. 101-363)



1. An inking device comprising a longitudinal back piece, two side pieces and a bottom plate defining the back, sides and bottom respectively of an ink trough, the front wall of the trough being formed by a rotary printing roller adapted to sealingly fit with the forward surfaces of said side pieces and the forward edge of said bottom plate, said back piece having a longitudinally extending internal chamber having an inlet for receiving ink from a source under pressure, said inlet being associated with a valve controlled by a device sensing the level of ink in the trough and being provided to close said valve when the ink reaches a predetermined level and to open said valve when the level decreases below said predetermined level, said internal chamber being formed by a groove in the front side of the back piece closed at its open front by two overlapping strips provided with through holes and being slidably and sealingly guided in grooves in the upper and lower walls of said groove each of the strips being substantially less in extent than the back piece and, one of said strips being secured to one of said side pieces which is slidable in the internal chamber to form one end wall thereof, and the other of said strips being secured to the other side piece which is also slidable in the internal chamber to form the other end wall thereof.

3,339,486

CAP WIRE CATCHER

Timoteo Rodriguez, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,509
5 Claims. (Cl. 102-22)



1. A cap wire catcher comprising a tube cut in half lengthwise and hinged along one cut and having a first and second end, an adjusting means attached to opposing edges of the unhinged cut of said tube, a plurality of spikes attached in spaced relationship to the outside wall of said first end portion of said tube, a support means attached to said tube, a means for rigidly securing the unhinged cut of said tube at said second end, a deflector means, and a means for attaching said deflector means at an angle to a plane normal to the axis of said tube and intersecting the axis of said tube.

3,339,487

CARTRIDGE

Hans Stadler, Nurnberg, Heinz Gawlick, Furth, Bavaria, and Hans Umbach, Stadeln, near Nurnberg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Filed Jan. 6, 1965, Ser. No. 423,785
Claims priority, application Germany, Feb. 28, 1964, D 43,751
7 Claims. (Cl. 102-41)



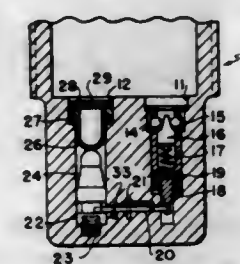
1. A cartridge for firing over short distances, comprising a one-piece structure of plastic material and including a substantially tubular cartridge case, a bullet portion and a substantially tubular neck portion connecting the cartridge case with the bullet portion, propellant powder within said cartridge case, a bottom piece closing the rearward end of said cartridge case, means effectively constituting between the rearward end of the bullet portion and the forward end of the neck portion a separating zone where the bullet portion separates from the neck portion upon firing of the cartridge, and means in said neck portion effectively constituting a plurality of bursting grooves substantially extending in the direction of the cartridge axis operable to readily burst open throughout their lengths and quickly release the gases produced by the ignition of said propellant powder for equalizing the pressure within said cartridge case and outside said cartridge case immediately after said bullet portion separates from said neck portion.

3,339,488

PNEUMATIC SAFETY AND ARMING MECHANISM FOR FUZES

Julius A. Borchers, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware

Filed Apr. 18, 1966, Ser. No. 543,404
6 Claims. (Cl. 102-78)



1. In a missile fuze, the combination of a setback slide mechanism, an arming delay slide mechanism, a movable detonator carrier mechanism having unarmed and armed conditions, and a housing formed to mount said mechanisms,

in which the setback slide mechanism comprises:

a longitudinally extending setback slide mounted for linear displacement, releasable locking means for normally locking the setback slide against displacement but responsive to acceleration forces to unlock said slide, said slide then being displaced by acceleration forces,

and a first lever normally engaging and restraining the arming delay slide mechanism but being cammed out of engagement therewith by the setback slide as the setback slide is displaced;

in which the arming time delay mechanism is in spaced parallelism and in a row with the setback slide mechanism and comprises:

a longitudinally extending delay slide member engaged by said first lever, a first spring means tending to displace the delay slide, regulating means for delaying the displacement of the delay slide member, and a second lever normally engaging and restraining the detonator carrier mechanism but being cammed out of engagement with the detonator carrier mechanism by the delay slide as the delay slide is displaced;

and in which the detonator carrier mechanism comprises:

a detonator carrier normally disposed in unarmed position, and a second spring means for urging the detonator carrier into armed position when the second lever is disengaged from the detonator carrier.

3,339,489

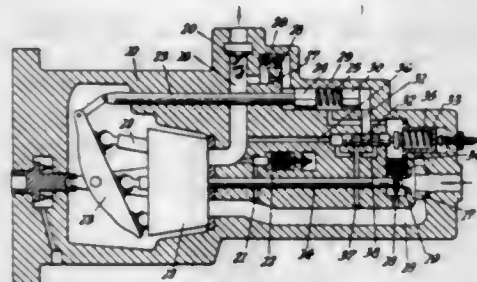
HYDRAULIC PUMPS

Dorian Farrer Mowbray, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed May 25, 1965, Ser. No. 458,531
3 Claims. (Cl. 103-38)

1. An hydraulic pump comprising a body, a rotor mounted within the body, the rotor having a plurality of angularly spaced bores, plungers disposed in the bores respectively, the body having an inlet and an outlet for hydraulic fluid, an angularly adjustable swash plate mounted in the body against which the ends of the plungers abut, means for rotating the rotor so that as the plungers reciprocate by contact with the swash plate, liquid is pumped between the inlet and the outlet and a piston and cylinder type servo mechanism for varying the angle of the swash plate in accordance with the pressure in the

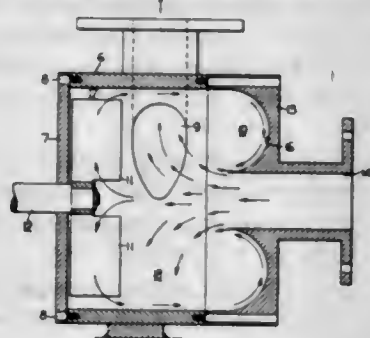
outlet, the cylinder at one side of the piston being in communication with the outlet from the pump, a spring acting between the opposite side of the piston and a further piston in the cylinder, and a valve, the position of which



is dependent upon pressure conditions in the pump outlet, said valve being arranged to control flow of fluid to or from the end of the cylinder adjacent to the side of said further piston remote from the spring.

3,339,490 ROTARY PUMP

Kenneth E. Glass, Fort Thomas, Ky., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 4, 1966, Ser. No. 539,786
3 Claims. (Cl. 103-103)



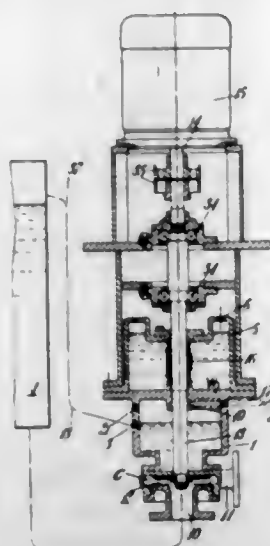
1. A rotary pump comprising front and rear walls connected together by a circumferential end wall to define a pumping chamber, said end wall having a single continuously smooth inner surface, a pump impeller supported for rotation within said pumping chamber, an inlet opening through said front wall permitting access of fluid to be pumped into said pumping chamber, a discharge opening in said end wall permitting fluid to exhaust from said pumping chamber, and a pocket formed by a continuation of the single continuously smooth inner surface of said end wall defining an annular chamber in said front wall tangent to and located about said inlet opening, said annular chamber being open to said pumping chamber whereby a portion of the fluid therein enters said annular chamber and is redirected into said pumping chamber tangentially to the fluid entering said inlet opening.

3,339,491
VERTICALLY MOUNTED ROTARY PUMPS
Alexander Stirling Malloch and James Foulds Noble, Newark, England, assignors to Worthington-Simpson Limited, Newark, England, a British company
Filed July 14, 1965, Ser. No. 471,936
Claims priority, application Great Britain, July 17, 1964, 29,232/64

6 Claims. (Cl. 103-111)

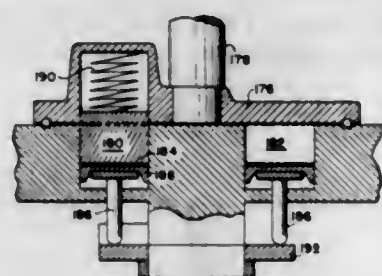
1. A rotary machine for handling aggressive liquids comprising a rotor shaft, means defining a lower sealing chamber and a pumping chamber in communication with said lower sealing chamber, means defining an upper sealing chamber above said lower sealing chamber and having a common wall therebetween, said rotor shaft extending through said chambers and into said pumping chamber, an impeller on said rotor shaft for pressurizing

liquids in said pumping chamber, a mechanical seal about said rotor shaft and engaging said common wall located in said upper chamber, a sealing liquid in said upper chamber about said mechanical seal, gaseous means communicating with said upper and lower chambers whereby



flow from said pumping chamber into said lower sealing chamber is restricted by the gas pressure applied on the aggressive liquid by said gaseous means, and means for releasing gas pressure in said lower chamber at a pre-selected value.

3,339,492
ROTARY FLUID UNIT
Lawrence G. Brown, Montreux-Territet, Switzerland
(120 Canyon Acres Drive, Santa Barbara, Calif. 93105)
Filed Feb. 11, 1965, Ser. No. 431,874
5 Claims. (Cl. 103-120)

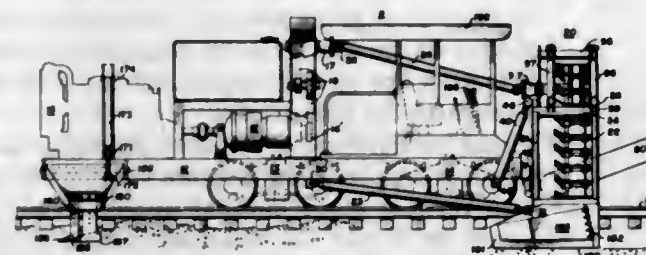


1. A rotary fluid unit comprising a housing having an annular chamber formed therein, wall means radially positioned to divide said chamber into sections, at least two retractable elements connected to a central rotor to rotate within said sections and act upon fluid received therein, a disc element fixed on said rotor and slidable therealong to vary the volume of said chamber to provide an infinite variation of the torque available from the fluid acted upon, and a bypass conduit located within said housing to allow communication between parts of the annular chamber on either side of said wall means to prevent fluid pressure acting on said retractable elements.

3,339,493
RAILROAD BALLAST HANDLING SYSTEM
John F. Bryan, Jr., Dallas, Tex.
(Box 176, Irving, Tex. 75060)
Filed Aug. 3, 1964, Ser. No. 387,144
12 Claims. (Cl. 104-7)

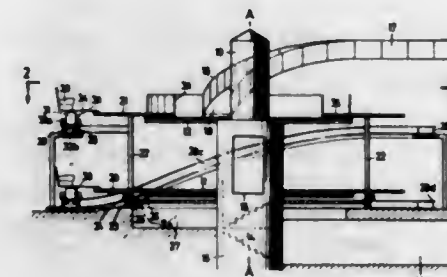
1. A system for removing ballast from beneath railroad ties which comprises:
(a) a wheeled frame powered for travel along a railroad track,

- (b) a cutting head having a cutting chain therein adapted to be driven along a path, the lower course of which is generally horizontal and located beneath said ties,
(c) at least three elongated towbars extending generally in parallel relation between points intermediate the length of said frame and three distributed coupling points on said cutting head to tow said cutting head behind said frame and crowd said chain into said ballast,



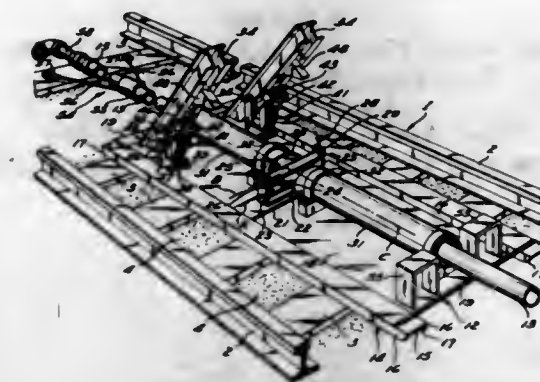
- (d) drive means for driving said chain in said cutting head,
(e) means connected between said frame and said cutting head for bodily raising and lowering said cutting head to control the elevation of said lower course, and
(f) means connected between said cutting head and said frame for adjusting the lateral position of said cutting head.

3,339,494
RAILROAD STATION LOADING ARRANGEMENT
Ernst Lauber, Thun, Switzerland, assignor to Firma Maschinenfabrik Habegger, Thun, Switzerland
Filed Apr. 5, 1965, Ser. No. 445,439
Claims priority, application Germany, Oct. 20, 1964, M 62,816
17 Claims. (Cl. 104-20)



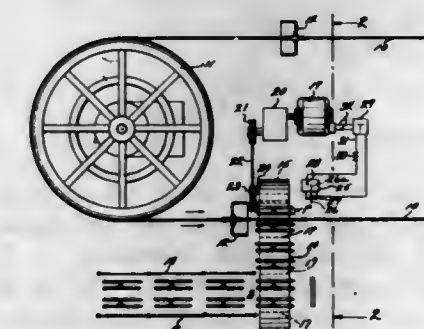
6. A railroad station loading arrangement comprising, in combination, rotary platform means including an upper rotary platform and a lower rotary platform having parallel circular peripheries and being mounted for rotation about a common vertical axis; continuous track means including a higher curved track and a lower curved track respectively extending about parts of said peripheries of said rotary platforms, a connecting track connecting said higher and lower curved tracks, and track portions leading toward and away from said curved tracks; and train means moving along said track means and having in the region of said curved tracks speeds substantially equal to the peripheral speeds of said rotary platforms whereby passengers can alight from said train means onto one of said rotary platforms, and other passengers can board the same train means on the other rotary platform without stopping of said train means.

3,339,495
FLUID ACTUATED MOVING APPARATUS
James J. Wright, Bratenahl, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed May 18, 1965, Ser. No. 456,720
10 Claims. (Cl. 104-162)



1. Apparatus for moving a vehicle along a track bed, said apparatus comprising a length of elongated collapsible hose that is anchored at one end to prevent longitudinal movement of said hose relative to said track bed while permitting the remainder of the hose length to be unanchored, and a carriage adapted to move along said track bed and be propelled along said hose, said carriage including a base adapted to move along said track bed under said hose and to support the portion of the hose extending over said base, means on said base adapted to compress said hose, car-engaging means carried by said base between said compressive means and one end of said base, said car-engaging means being adapted to be raised to a position in which said means can engage said car and to be lowered to a position in which it clears said car, and buffer means carried by said base between said compressive means and the other end of said base, said buffer means being located adjacent said hose and having a portion extending above said hose to prevent said hose from contacting said car; and means for supplying fluid under pressure to the interior of said hose at a location therein at the side of said carriage facing said anchored end of said hose length so that said fluid produces a propellant force acting on said compressive means through the hose to move said carriage along said hose.

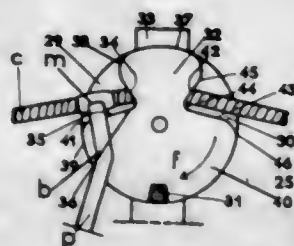
3,339,496
APPARATUS FOR LOADING PASSENGERS ON A SKI TOW
William R. Sneller, 21800 St. Clair Ave., Cleveland, Ohio 44117
Filed Sept. 27, 1965, Ser. No. 490,192
3 Claims. (Cl. 104-173)



1. In combination with a ski tow having moving seats spaced substantially regularly therealong for carrying passengers along a path at a predetermined speed, conveyor means at an angle to said path and intersecting the same and adapted to carry passengers in an upright position on said conveyor means to a loading point aligned with said

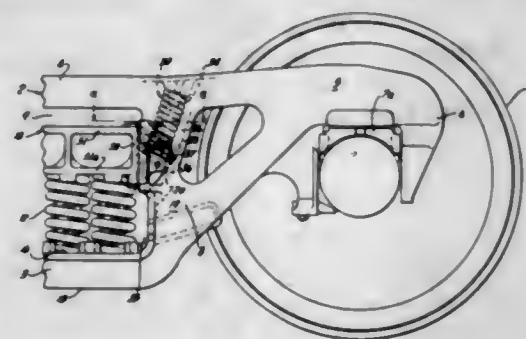
seats in said path at a height where said passengers may occupy said seats, power means for moving said conveyor means, and control means for causing said power means to move said conveyor means to deliver passengers to said loading point only in the time interval between two successive seats passing said loading point.

3,339,497
SKI-LIFT PULLEY ARRANGEMENTS
 Guy Henri Bancel, 83 Rue Petit,
 Paris 19e, France
 Filed Apr. 5, 1965, Ser. No. 445,404
 Claims priority, application France, Apr. 6, 1964,
 969,920; Oct. 7, 1964, 990,631
 9 Claims. (Cl. 104-197)



1. A device adapted to support and to guide a cable to which are secured cranked end portions of draw-poles, said device comprising a pulley mounted for rotation about a horizontal axis, said pulley having a groove which is adapted to receive a cable therein, a first annular frusto-conical flange integral with the pulley and having an inner face which is a continuation of said groove at one side surface thereof, and a second annular flange having an inner face which is a continuation of the groove at the other side surface thereof, said second flange being mounted for rotation relative to said pulley about the axis of rotation of the latter, said second flange having an outer edge in which are provided two notches defining a smaller and a larger lobe, said notches providing passage for the cranked portions of the poles.

3,339,498
SNUBBED CAR TRUCK BOLSTER
 Hans B. Weber, Bedford, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
 Filed June 17, 1964, Ser. No. 375,731
 8 Claims. (Cl. 105-197)



1. A snubbed railway car truck comprising:
 (A) a side frame having a pair of vertical columns spaced in the lengthwise direction of the frame to define a bolster opening, and a pair of side walls;
 (1) each column comprising portions of both walls, and each wall merging with a vertically elongated flange projecting laterally outward from the side walls and cooperating therewith to define a substantially planate column wear face partially forming the periphery of said opening with both faces of a column being in the same general vertical transverse plane,

(2) each flange having a lateral outwardly facing surface generally coextensive with the face thereof;

(B) a bolster with its longitudinal axis arranged transversely of said frame having an end portion extending through said opening for guided vertical movement with respect to the side frame;

(1) said bolster comprising a pair of vertical guide lugs on each side of said axis extending outwardly therefrom and into flanking relation with the flanges of the adjacent column,

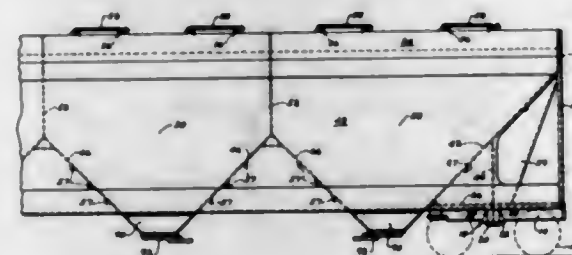
(2) each pair of lugs having opposed vertical surfaces with each surface spaced in juxtaposed relation, at a predetermined clearance, with one of said flange surfaces and engageable therewith to restrict the lateral displacement of the bolster relative to the side frame,

(3) said bolster having disposed between said lugs, a pair of spaced planate guide surfaces in a common vertical plane parallel to said axis,

(4) each guide surface being immediately adjacent one of said lugs and in spaced opposed relation, at a predetermined distance, with one of said faces and engageable therewith to restrict the horizontal movement of the bolster lengthwise of the frame; said predetermined clearance exceeding said predetermined distance; and

(C) wherein the bolster is adapted to angle horizontally with respect to said side frame an angular amount as determined by the sum of the predetermined distances between both sides of the bolster guide surfaces and the column wear faces divided by the overall width of contact of the side frame wear faces and the opposing guide surfaces of the bolster, said angle being in the range of tangent $0^{\circ}42'$ to tangent $2^{\circ}6'$.

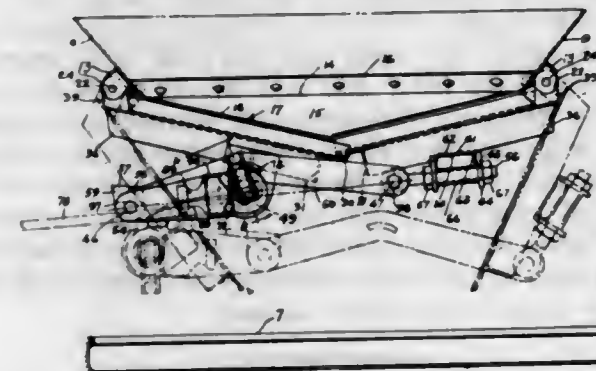
3,339,499
RAILWAY HOPPER CAR
 Asa Franklin Charles, Bridgeton, and Richard A. Lee, Florissant, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
 Filed Sept. 28, 1964, Ser. No. 399,498
 8 Claims. (Cl. 105-248)



1. A covered hopper railway car having a cross-sectional area with AAR clearance limits comprising, a separate stub center sill structure adjacent each end of the car, an arcuate side sheet on each side of the car struck from a constant radius having its center at a substantial distance outside the confines of the car and being without any separate external vertical reinforcing members, the outer surface of each sheet at its maximum lateral extent being substantially at the AAR clearance limit with the sheets being spaced from each other a distance at said lateral maximum extent of around ten and one-half feet, a side sill secured along the outer surface of the lower marginal portion of each side sheet, a top chord member secured along the upper marginal portion of each side sheet and extending in a direction longitudinally of the car, each top chord member having a generally laterally extending upper portion, a roof secured between the upper portions of the top chord members, an end sill at each end

of the car extending transversely of the car between the side sills and over the adjacent stub center sill structure, a plurality of hoppers spaced at intervals along the length of the car, a bottom hopper outlet structure for each hopper positioned centrally of the width of the car between the stub center sill structures, a bolster assembly at each end of the car secured to the adjacent stub center sill structure and including a generally horizontally extending shear plate over the subjacent center sill structure extending between and secured to the side sills, an end hopper slope sheet for each end hopper including an inclined sheet portion and an upper vertical sheet portion, said inclined sheet portion extending from its associated bottom outlet structure upwardly adjacent and inwardly of the inner end of the adjacent stub center sill structure to a position over the subject shear plate to provide each end hopper with a hopper portion overhanging the shear plate, said upper vertical sheet portion being at the end of the car generally in vertical alignment with the associated end sill and extending upwardly to the roof, and external load carrying means at each end of the car extending from the associated end slope sheet in the area of the corner junctures of the inclined sheet portion with the vertical sheet portion and secured between the associated end slope sheet and shear plate for transmitting loads therebetween.

3,339,500
OVERCENTER TOGGLE LATCH OVERLAPPING HOPPER DOORS
 George B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada
 Filed Nov. 23, 1964, Ser. No. 412,952
 6 Claims. (Cl. 105-253)



1. In a railway car having an opening for discharge of lading and oppositely swinging doors movable to overlapping closed position with one of the doors having its swinging end adapted to extend beneath the other door in meeting relation, means for moving said other door to closed position in advance of said one door comprising:

(a) an operating shaft rotatably mounted on one of the doors,
 (b) arms at each end of the shaft non-rotatably mounted on the shaft,

(c) links pivotally connected to the distal end of the arms and to said other door,

(d) said arms and links being foldable to form an over center toggle locked connection between the doors,

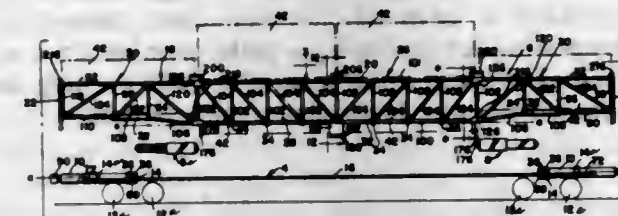
(e) operating bar gripping means carried by the arms comprising:

(f) an open ended box shaped socket for holding an end of the operating bar and a post spaced from the pocket to engage the bar,

(g) said socket and post being so located as to compel insertion of the operating bar in prolongation of the arms whereby

(h) force applied to close the doors will react against the shaft and exert retarding force on said one door until said other door approaches closed position.

3,339,501
RAILROAD CAR SUPPORTING STRUCTURE
 Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
 Original application Aug. 31, 1965, Ser. No. 484,059, now Patent No. 3,319,583, dated May 16, 1967. Divided and this application Oct. 18, 1965, Ser. No. 497,207
 2 Claims. (Cl. 105-454)



1. A railroad car having a car body means, and having a car underframe for supporting the car body, means thereon, said underframe comprising:

a pair of end stub draft sill assemblies supported on trucks and carrying the car body means,

a pair of laterally spaced longitudinally extending flexible ribbon sill members interconnecting the stub draft sill assemblies and connecting with the car body means along the longitudinally extending portions thereof, said ribbon sill members being guided by said body means and supported thereby whereby the ribbon sill members and the body means cooperate to withstand the buff forces transmitted to the draft sill assemblies,

means for supporting the car body means on the stub draft sill assemblies for longitudinal movement with respect to the underframe,

said members forming with said draft sill assemblies a generally unobstructed open rectangular body receiving space,

said flexible ribbon sill members being adapted to be guided by the car body means to take the buff forces transmitted to the draft sill assemblies,

each draft sill assembly comprising an end stub center sill having a transverse bolster and a transverse outrigger disposed outwardly of the bolster,

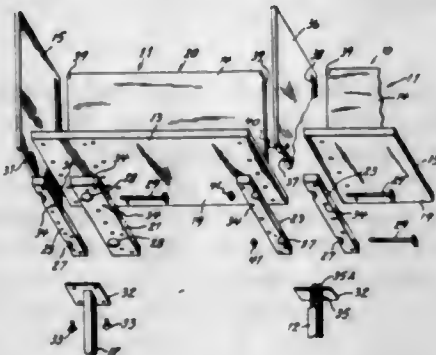
each bolster having means for attaching the same to the car body means,

said assemblies each further having a pair of diagonally extending force-transmitting elements connecting a respective end stub center sill with a respective outrigger and a respective bolster and a respective ribbon sill member whereby draft forces imposed upon the car body means are transmitted by way of the end stub center sills to the bolster to the ribbon sill members to the car body means and also by way of the end stub center sills to the car body means by way of the bolsters and further in sequence from the end stub center sills to the force transmitting members to the outriggers to the bolsters to the ribbon sill members to the car body means.

3,339,502
CARRELL UNITS
 William E. Fyffe, Herkimer, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
 Filed Nov. 9, 1965, Ser. No. 506,957
 1 Claim. (Cl. 108-64)

In equipment of the class described,
 (a) a pair of carrell units,
 (b) each of said units including a top panel with the top panels of both carrell units arranged in adjacent side-by-side coplanar relationship,
 (c) pairs of cleat means on the underside of each of said top panels with first cleat means of both carrell units disposed in adjacent aligned coplanar relationship,

- (d) means joining said adjacent first cleat means to interconnect said carrell units,
 (e) a supporting leg for said interconnected carrell units and adapted for attachment to said joined first cleat means,
 (f) said joined first cleat means including conjointly provided positioning means,
 (g) said positioning means including bushing means provided in each of said first cleat members, said supporting leg including a plate member on one end thereof adapted to be secured to said bushing means in each of said first cleat members, and



- (h) said first cleat members having registering recesses formed in the surfaces, said supporting leg including a portion projecting beyond said plate members and disposed within said registering recesses of the joined cleat members,
 (i) and a second pair of cleat members comprising a pair of elongated rectangular-shaped members extending transversely of said underside from front to rear thereof and each in engagement with one of the cleat members of the said pair of cleat members, and means on each of said engaged cleat members mounting supporting legs.

3,339,503

COLLAPSIBLE TABLE

Dick Arne Fredrik Flodell, 11 Strandvagen,
 Saltsjobaden, Sweden

Filed Mar. 21, 1966, Ser. No. 535,915

Claims priority, application Sweden, Apr. 28, 1965,
 5,594/65

6 Claims. (Cl. 108—153)



1. A collapsible table, comprising
 a leaf forming a table top,
 a base having only two spaced, parallel legs,
 each leg comprising a transverse foot at its bottom, and
 a transverse leaf support at its top,
 a cross-stay interconnecting the two legs, said legs being rotatable relative to the cross-stay, and
 cooperating means on said leaf and the two leaf supports for releasably securing said leaf to said leaf supports, and operative in response to a spring force exerted thereon by said base, to hold said leaf against movement on said base.

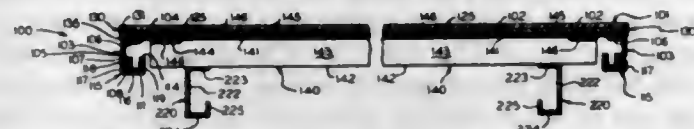
3,339,504

TABLE CONSTRUCTION

Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon
 Metal Products, Incorporated, Aurora, Ill., a corpora-
 tion of Illinois

Filed May 9, 1966, Ser. No. 548,758

16 Claims. (Cl. 108—156)



1. A table comprising a top including a substantially flat top plate, an edging extending around the periphery of said top plate and disposed adjacent to the underside thereof, said edging including an inwardly extending attachment flange and a dependent side flange on the outer edge thereof and extending downwardly therefrom, means interconnecting said attachment flange and said top plate at points spaced inwardly with respect to the outer periphery of said top plate, a continuous reinforcing sheet disposed adjacent to the underside of said top plate and being substantially co-extensive with the area of said top plate within said edging, said reinforcing sheet including a plurality of longitudinally extending spaced apart attachment portions disposed adjacent to the underside of said top plate and a plurality of longitudinally extending reinforcing ribs disposed between adjacent pairs of said attachment portions and spaced from the underside of said top plate, means securing said attachment portions to the underside of said top plate and to the underside of the adjacent one of said attachment flanges, an apron assembly arranged adjacent to the underside of said top and including longitudinally extending front and rear aprons and a pair of laterally extending side aprons all disposed within the outer periphery of said depending side flange, said front and rear aprons each having a mounting flange on the upper side thereof and disposed against respective ones of said attachment portions, means securing said mounting flanges to the underside of the associated attachment portions to mount said apron assembly upon said top, and a plurality of legs respectively secured only to said apron assembly to support said table upon an underlying support surface.

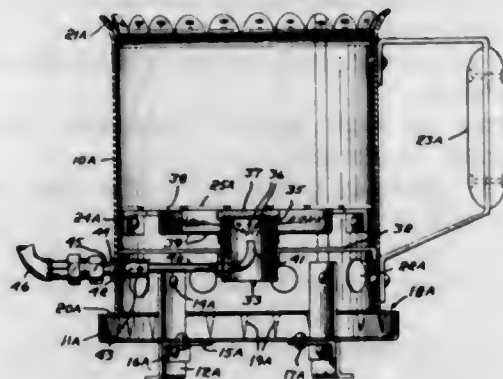
3,339,505

BRIQUETTE IGNITERS

George G. Bean, P.O. Box 335, Topsham, Maine 04086

Filed Apr. 21, 1965, Ser. No. 449,746

1 Claim. (Cl. 110—1)



- In a portable device for igniting and burning charcoal and like briquettes, a cylindrical sleeve-like body, an ash receiving base to which one end of the body is attached in vertically spaced relationship thereto to provide an annular draft inlet and width the axis of said body being vertical with respect to said base, a transverse grate supported by said body between the ends thereof, and a gas burner supported by said body below said grate and

spaced inwardly from said body, said body having a series of circumferentially spaced draft inlet ports between said grate and said lower end and wherein the burner includes a portion having a series of outwardly opening ports and a layer of insulation between its upper end and the grate, and an annular pan member surrounding said portion below the ports thereof.

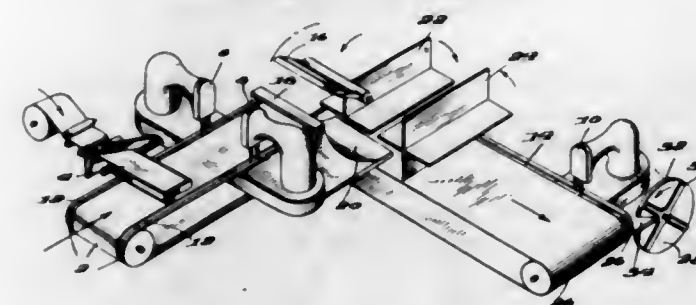
3,339,506

APPARATUS FOR THE CONVERSION OF FLAT NETTING INTO LABELED BAGS

Donald R. McGregor, New Providence, N.J., assignor to
 E. I. du Pont de Nemours and Company, Wilmington,
 Del., a corporation of Delaware

Filed Feb. 18, 1965, Ser. No. 433,579

1 Claim. (Cl. 112—10)



An apparatus for converting flat netting into labelled bags comprising means for continuously advancing a double layer of said flat netting, means for applying a label to said advancing double layer of flat netting, whereby said label extends substantially from edge to edge thereof, means for sewing each edge of the advancing double layer of netting and the corresponding edges of the label, means for cutting the continuous sewn netting to sever said netting into individual labelled bag lengths sewn on each side, means for arranging and continuously advancing said individual labelled bag lengths in side-to-side relationship and means for sewing one edge of the advancing side-to-side labelled bag lengths to close one end thereof and form labelled bags sewn on three sides and open on one side.

3,339,507

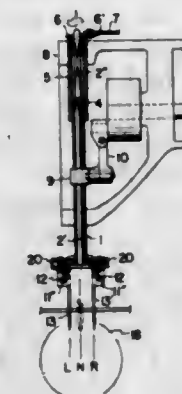
DOUBLE NEEDLE ACTION, NEEDLE-BAR DEVICE IN FANCY-STITCHING SEWING MACHINE AND FLAT-TANG NEEDLE THEREFOR

Bunsaku Taketomi, 9 2-chome, Uchiyama-cho,
 Chikusa-ku, Nagoya-shi, Japan

Filed Oct. 23, 1964, Ser. No. 406,033

Claims priority, application Japan, Oct. 27, 1963,
 38/57,798

2 Claims. (Cl. 112—158)



1. In a sewing machine of the type having a main driving mechanism and a mechanism for producing zig-zag movements, a double-needle action needle-bar device

comprising a tubular needle bar driven in vertical reciprocating motion by the main driving mechanism; needle holding means comprising a horizontally disposed flat plate fixed to the lower end of the needle-bar device and extending rearwardly, moving vertically together with the needle bar, and left and right needle holders in parallel and symmetrical disposition adapted to hold two needles constantly in vertical alignment parallel to said motion of the needle bar but with freedom to undergo motion horizontal and transverse to the principal sewing direction of the machine; each said needle holder being pivoted at its rear end by a pin supported by the rear end of the flat plate so as to be free to undergo horizontal oscillatory motion toward and away from the other needle holder; said needle holders vertically holding respective needles; a drive transmission comprising a thin shaft inserted within said tubular needle bar and provided, at its lower end, with a cam to cause said oscillatory motion of each needle holder; and drive means to drive the thin shaft in accordance with said zig-zag movements.

3,339,508

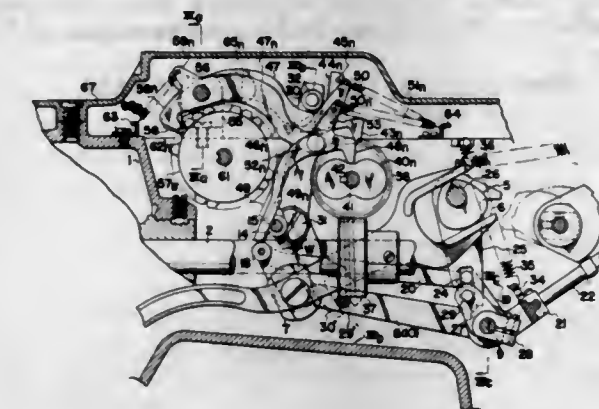
DEVICE FOR AUTOMATIC SELECTION OF DISC CAMS FOR COMPOSITE ZIGZAG PATTERNS IN SEWING MACHINES

Kelzo Yanagibayashi, Hamamatsu-shi, Japan, assignor to
 Rhythm Friend Seizo Kabushiki Kaisha, Shizuoka-ken,
 Japan, a joint-stock company of Japan

Filed Mar. 15, 1965, Ser. No. 439,835

Claims priority, application Japan, July 22, 1964,
 39/41,625

2 Claims. (Cl. 112—158)



1. In a zigzag sewing machine having a moving part and a needle bar oscillating mechanism, a built-in device for automatic selection of disc cams for composite zigzag pattern stitching, said device comprising a group of needle position changing cams, a group of amplitude changing cams, groups of cam followers respectively corresponding to said cams, transmission means driven by said moving part of the sewing machine to transmit movements controlled by said cam followers to said needle bar oscillating mechanism, and a group of pattern selection tappet cams for selectively placing at least one of said cam followers in operative condition, said group of tappet cams being rotated to effect automatic and simultaneous changing of needle position line and amplitude, thereby to cause automatic stitching of a wide variety of composite zigzag stitching patterns.

3,339,509

FEED MECHANISM FOR SEWING MACHINES

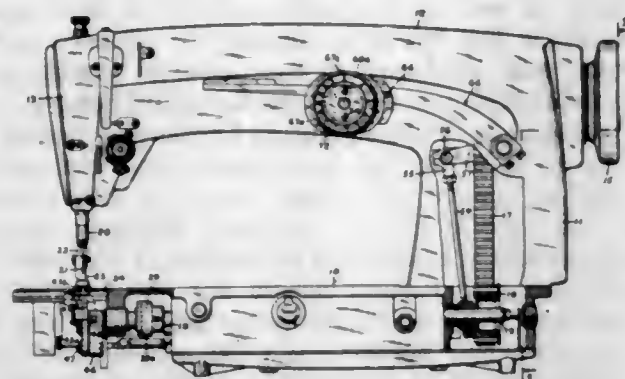
Clarence C. Smith, Chicago, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 4, 1965, Ser. No. 423,022

13 Claims. (Cl. 112—210)

1. In a sewing machine having a frame comprising a base, a vertical standard and an overhanging arm, a main drive shaft journaled in said frame, means driven by

said shaft for feeding the work, means comprising a rotary member carried by said overhanging arm adjustably revolvable through an angle of at least 180° for controlling the extent of feeding of the work, a supporting base secured to said arm and on which said rotary member is



mounted for adjustment, manually operable means comprising a lever passing at least partially through said supporting base and readily operable by the operator of the machine, and connections from said last mentioned means to said first mentioned means for reversing the direction of feed of the work.

3,339,510 NEEDLE GUIDES

Eugene S. Clarke, Georgetown, Herbert L. Elwell, Rockport, Roy P. Hatch, Jr., Essex, and Stephen P. Lotarski, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed June 21, 1965, Ser. No. 465,524
4 Claims. (Cl. 112-227)



1. A needle guide for reinforcing a curved needle comprising a ferrous body, a hard insert bonded to the ferrous body and having a pair of exposed outer end faces and a curved guideway extending between the end faces and contained entirely within the insert.

3,339,511

MARINE PLATFORMS AND SEA STATIONS
Alan F. Daniell, Birkenhead, England, assignor to Cammell Laird and Company (Shipbuilders and Engineers) Limited, Shipbuilding & Engineering Works, Birkenhead, Cheshire, England, a British company

Filed Mar. 25, 1966, Ser. No. 537,376
Claims priority, application Great Britain, Apr. 10, 1965, 15,344/65

21 Claims. (Cl. 114-5)



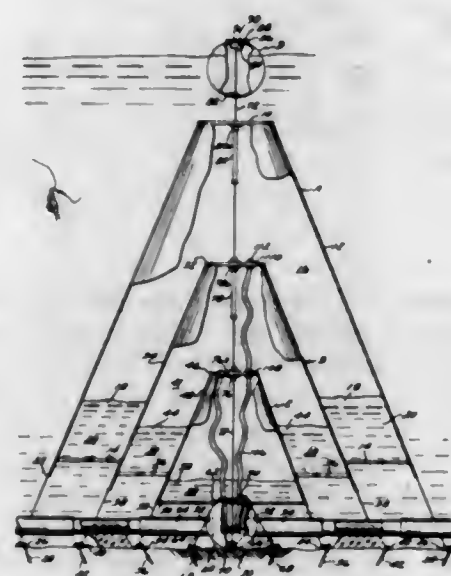
1. A sea station comprising an elongated tubular hull capable of floating horizontally or vertically, and when floating vertically having its centre of gravity below its

centre of buoyancy and a substantial part of its length immersed, means whereby one end of said hull can be flooded and its ballast thereby adjusted to bring it to the vertical, a keel-like member fixed to and extending from the exterior of said hull so as to control the swing thereof, as it is being brought to the vertical, and means for releasing a part at least of the weight of said keel-like member as the hull approaches the vertical.

3,339,512 MULTIPLE STORAGE AND REDISTRIBUTION FACILITY

Gilbert Siegel, 12282 Moana Way, Garden Grove, Calif. 92640

Filed June 17, 1966, Ser. No. 558,443
8 Claims. (Cl. 114-5)



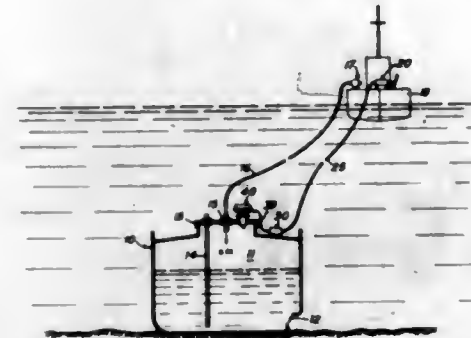
1. A storage facility for a first liquid immiscible with water and of lesser specific gravity, which facility is at all times submerged in a natural body of water and includes:

- a first frusto-conical container for said liquid having a top and a continuous side wall that tapers downwardly and outwardly therefrom, with said container being open at the bottom;
- circumferential reinforcing means on the lower portion of said side wall;
- a plurality of circumferentially spaced tie-down cables depending from said reinforcing means;
- first means for anchoring the lower ends of said tie-down cables below the floor of said body of water;
- a hollow body disposed below said container;
- a first cable extending upwardly from said body;
- a buoy secured to the upper end of said first cable;
- first combined guide and sealing means in said top through which said first cable extends;
- a first pipeline for carrying said first liquid, which pipeline extends through oppositely disposed openings formed in said hollow body;
- a flexible first conduit in communication with said first pipeline within said hollow body, which first conduit extends upwardly through said hollow body to communicate with the interior of said first container, with said first pipeline and first conduit cooperating to permit said first liquid to be discharged into or withdrawn from the interior of said container and said first liquid prior to filling said first container and lending sufficient buoyancy thereto as to at all times tend to urge said first container upwardly and maintain tension on said tie-down cables.

3,339,513 PRESSURE STABILIZING AIR VOLUME CONTROL SYSTEM

Charles C. Cloutier, Box 885, Morgan City, La. 70380

Filed Aug. 10, 1965, Ser. No. 478,721
19 Claims. (Cl. 114-50)



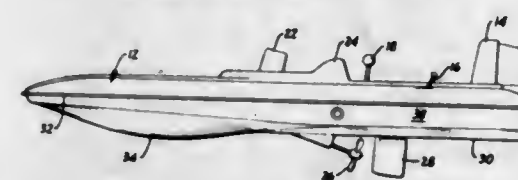
1. Pressure and gas volume control system for regulating the pressure and gas volume inside a closed vessel submerged in a liquid at varying depths comprising; means to supply a gas to said vessel; communication means between said liquid and a first low point inside said vessel to permit flow of liquid to and from said vessel; a second communication means having a biased reverse flow preventing means therein between said liquid and a second point inside said vessel above said first point for releasing gas from said vessel; and means to vary the bias on said reverse flow preventing means thereby controlling the flow of gas from said vessel by changing the pressure differential required to open said reverse flow preventing means; said biased reverse flow preventing means comprising an underside valve face seatable against a valve seat in said second communication means and subjected to the gas pressure in said vessel, an upper valve side having a closed container attached thereabove and subjected to the external liquid pressure, and a connection to said container through which a second liquid is supplied and withdrawn by said means to vary the bias thereby varying said bias by varying the weight of said valve and attached container.

3,339,514

HYDROFOIL BOAT

Nicholas A. Skuce II, 16300 E. Arrow Highway, Irwindale, Calif. 91706

Filed Dec. 27, 1965, Ser. No. 516,282
2 Claims. (Cl. 114-66.5)



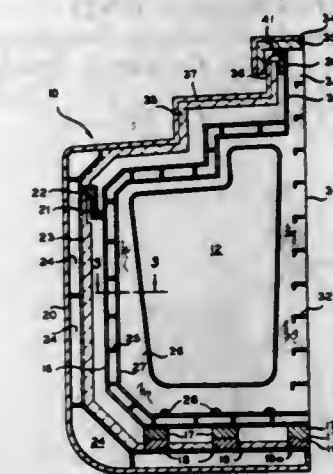
1. A hydrofoil having a transversely extending planing bow, a stern, deck, and hull, said hull having its point of maximum draft located about 1/4 of the distance from the bow of the boat, said hull decreasing in draft thereafter and reaching a point of minimum draft at a point between the point of maximum draft and the stern of the boat, said hull also having generally vertical topsides joining the said deck, the hull having generally horizontal longitudinally extending portions and a keel, said generally horizontal portions thereof extending concavely between the said keel and the said topsides, said topsides at points along their length extend lower than the uppermost portions of said concave portions of said hull whereby to form channels between said topsides and said keel and the depth of said concavity decreasing gradually

from said point of maximum draft to the stern, while the width of said channels remains substantially the same between said points.

3,339,515

ATMOSPHERIC PRESSURE STORAGE AND TRANSPORTATION OF VOLATILE LIQUIDS

Edwin E. Reed, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 6, 1965, Ser. No. 469,409
7 Claims. (Cl. 114-74)



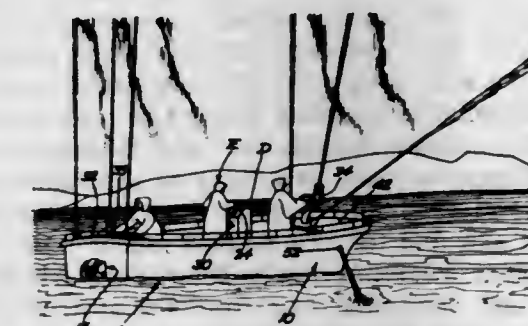
2. In the method of fabricating a tank for confining a volatile liquid in a ship hull at atmospheric pressure wherein longitudinal horizontal stiffening plates are attached normal to the inner surface of the tank shell the improvement comprising positioning a second shell within the tank shell; securing the second shell to the stiffening plates; positioning the tank on a plurality of load-bearing insulation blocks on the bottom of the ship hull; anchoring the tank at about its center point on said blocks; and applying a layer of insulation between the tank and the ship hull.

3,339,516

JET PROPELLED FIRE FIGHTING BOAT

Victor Lenci, San Raphael, Calif., assignor to The Dorsett Plastics Co., Inc., Sunnyvale, Calif., a corporation of California

Filed Dec. 6, 1965, Ser. No. 511,644
3 Claims. (Cl. 115-12)



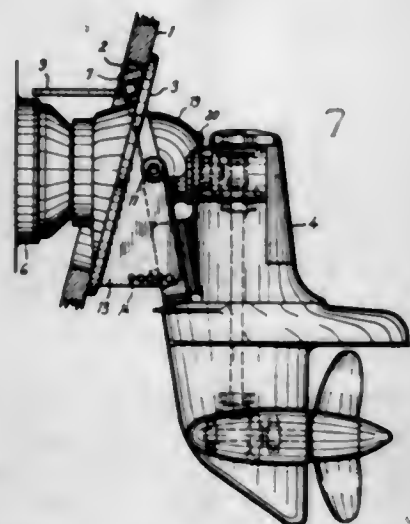
1. A jet drive fire fighting boat comprising, in combination with a hull, jet drive mechanism comprising a high speed, large volume water pump with an inlet and an outlet installed in the hull, the pump inlet communicating with water on which the boat is afloat, and means for forming the water discharged by the pump outlet into a jet and discharging the jet rearwardly from the hull; an elongated pipe loop mounted horizontally, in longitudinally centered relation in the hull and closely adjacent the hull bottom said pipe loop communicating with the pump outlet ahead of the jet forming means,

a control valve mounted between the pipe loop and the jet forming means for proportioning the flow of water discharged by the pump between the pipe loop and the jet discharging means,
a large, diameter riser pipe communicating with each of the forward and rearward portions of the loop, and
a nozzle mount on the upper end of each riser pipe.

3,339,517

STEERING MECHANISM FOR INBOARD-OUTBOARD UNIT

Karl Abdon Bergstedt, Goteborg, Sweden, assignor to AB Volvo Penta, Goteborg, Sweden
Filed Mar. 2, 1965, Ser. No. 436,432
12 Claims. (Cl. 115-41)



1. In a marine propulsion unit including a propeller shaft housing adapted to be located outboard of the hull of a vessel and to be drivably connected to an engine mounted on the vessel, means for supporting said housing on said vessel for tilting movement about a horizontal axis and for pivotal movement about a generally vertically extending steering axis, a rudder post, means rotatably mounting the rudder post with the axis of the rudder post fixed relative to said vessel, the axis of the rudder post and said steering axis lying in a common vertically extending plane, the axis of said rudder post extending at right angles to and intersecting said horizontal axis, a member mounted for movement with said rudder post about the axis of the post, a second member pivotally mounted on said first member for movement relative thereto about an axis lying with said horizontal axis in a common horizontally extending plane, and pivot means connecting said second member to said housing, said pivot means having a pivot axis lying in said common vertical plane and extending through the intersection of said horizontal axis and the axis of said rudder post, the axis of said pivot means normally being angularly displaced about said horizontal axis from the axis of said rudder post and from said steering axis.

3,339,518

LUBRICATION AND WARNING SYSTEM FOR RAILROAD JOURNAL BEARINGS

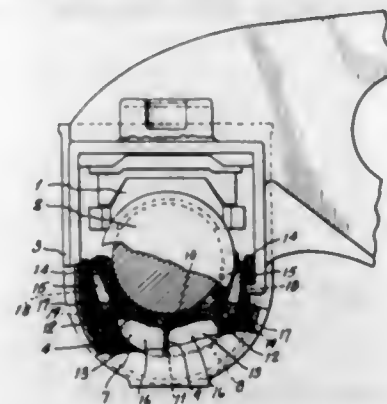
Harvey R. Effer, New York, N.Y., assignor to The Journapak Corporation, New York, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,547

9 Claims. (Cl. 116-114.5)

1. In a lubricating and warning device for railroad journal bearings or the like the combination of a pad assembly of wicking material comprising a central pad portion for disposition beneath a journal and adapted

to contact said journal, a pair of wing pad portions extending laterally from said central pad portion and adapted to partially wrap around said journal, and means for emergency lubrication and warning disposed within each of said wing pad portions, said means comprising a



distributor member, a container carrying a lubricant, warning material and a liquid for conversion to gas on the application of heat to said container, a conduit in fluid communication with said distributor member and container, and a pressure rupturable seal in said conduit to confine fluid in said container.

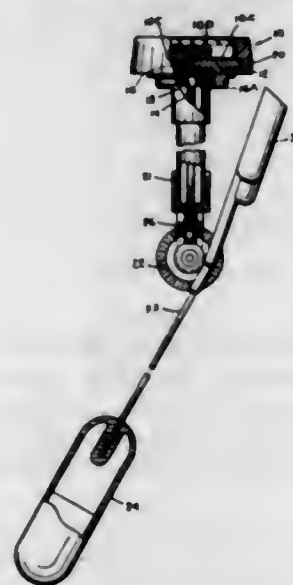
3,339,519

LIQUID LEVEL GAUGE

Leta S. Taylor, Paul B. Johnson, and Eugene D. Huskey, Garland, Tex., assignors to J. Y. Taylor Mfg. Company, a corporation of Texas

Filed July 6, 1965, Ser. No. 469,724

1 Claim. (Cl. 116-118)



A gauge head for a magnetic type liquid level gauge comprising a metal portion for closing and sealing the opening in a storage tank, said metal portion having a central recess in its lower side, an adapter closing said central recess, spaced openings in said adapter, and means adjacent the periphery of said central recess for connection to said adapter for closing said central recessed portion, said means comprising a plurality of spaced integral projections extending through respective said openings in said adapter, said projections being deformed to lock said metallic portion in operative relation, said metal portion also including a plurality of upwardly extending bosses, each said boss being provided with an opening therein for reception of a mounting bolt for securing the gauge head in operative position over the opening in the storage tank, said adapter having an opening therein and a drive shaft extending into said central recessed portion through said opening in said adapter, a drive magnet in said central recessed portion and operatively connected

to said drive shaft, a non-metallic head surrounding and substantially enclosing the peripheral portion of said metal portion and forming a chamber on the side of said metal portion opposite said central recessed portion, a scale in said chamber and an indicator pivotally mounted in said chamber relative to said scale and actuated by said drive magnet.

3,339,520

POINTER ASSEMBLY

Adolf Maler, St. Georgen, Black Forest, Germany, assignor to Firma Prazisions Erzeugnisse A. Maler KG, St. Georgen, Black Forest, Germany

Filed July 19, 1966, Ser. No. 566,368

Claims priority, application Germany, May 20, 1966,

P 39,497

7 Claims. (Cl. 116-136.5)



1. A pointer assembly for a measuring instrument or the like, comprising a pointer and adjusting means operatively connected to the pointer for angularly adjusting the latter with respect to an instrument which carries the pointer, said adjusting means being carried in its entirety by said pointer and including a rotary support defining a turning axis for the pointer and rotatably carried by said pointer, said rotary support being adapted to be fixedly mounted on a shaft of the measuring instrument to support the pointer for turning movement with the latter shaft, and said adjusting means further including a manually operable drive transmission extending between and operatively connected with said pointer and said rotary support for turning said pointer and rotary support one with respect to the other, said drive transmission having components which frictionally engage each other with a force of friction sufficient to maintain the pointer in its adjusted position without requiring the use of any additional structure, so that the pointer is maintained in its adjusted position exclusively by the components of said drive transmission.

3,339,521

APPARATUS FOR MAKING SHEET MATERIAL

Virgil Spencer, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Dec. 23, 1964, Ser. No. 420,735

7 Claims. (Cl. 118-4)



7. Apparatus for making sheet material comprising means to supply sheet material, means to provide a design on said sheet material, means to provide a reference on said sheet material, means to provide a design on said sheet material, means to provide a reference on said sheet material.

said sheet material in predetermined relationship to said design thereon, means for embossing said design, means for moving said embossing means with respect to said design on said sheet material, means for moving said sheet material intermittently through said design providing means, said reference providing means and said embossing means, registration means associated with said means for moving said embossing means to align said embossing means with said design prior to the embossing thereof, said registration means including means for sensing the alignment of said reference, and control means to cause said material moving means to intermittently terminate movement of said sheet material, said alignment sensing means to be energized during periods of non-movement of said sheet material, said means for moving said embossing means to align said embossing means with said design in response to said alignment sensing means, said embossing means to emboss said design, and said material moving means to again move said sheet material so that at least one other portion of said design is in rough alignment with said embossing means whereupon a similar sequence of aligning and embossing operations may take place.

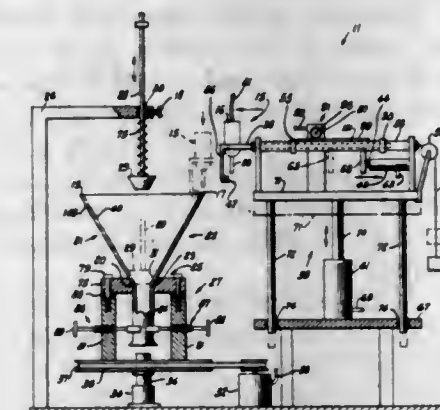
3,339,522

FRIT DISPENSING DEVICE

Paul C. Shaffer, Seneca Falls, and Kenneth E. Stratton, Waterloo, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

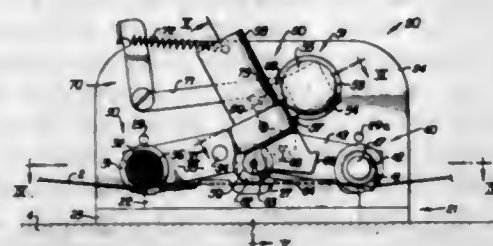
Filed Dec. 28, 1964, Ser. No. 421,536

6 Claims. (Cl. 118-6)



1. In the manufacture of cathode ray tubes having separable funnel and face panel portions, a device for applying a bead of frit material to the sealing edge of said funnel portion comprising the combination of: funnel portion support means adapted for rotation and formed to hold said funnel with said sealing edge uppermost in a substantially horizontal plane; rotatable means linked to said support means to provide rotation thereto; dispensing means formed to provide a uniform issue of frit material; positioning means formed to hold said frit dispensing means and orient the same to a position relative to said sealing edge, said positioning means being adapted to provide substantially placement movement thereto; cam follower means affixed to said positioning means and oriented to contact said funnel adjacent to the edge thereof in a manner to substantially follow the contour of said rotating funnel to guide said dispensing means therealong and facilitate the application of said bead of frit material to said sealing edge, and speed control means associated with said funnel rotatable means to vary the speed thereof and facilitate the uniform application of said frit material.

3,339,523

FILM STRIPING APPARATUSJoseph J. Herrera, 2301 W. Silver Lake Drive,
Los Angeles, Calif. 90039Filed Oct. 15, 1962, Ser. No. 230,594
6 Claims. (Cl. 118-12)

1. An inexpensive, simple striping apparatus adapted to rapidly lay a uniformly thin stripe of constant thickness of a viscous liquid suspension on the surface of a length of tape without soiling or scratching the remainder of the tape surface, comprising:

- (a) a track means for slidably positioning said length of tape to move on a straight path through said striping apparatus;
- (b) a first rotatable drum means mounted at the entrance and adjacent to said track means for maintaining said length of tape in said track means;
- (c) a second rotatable drum means mounted at the exit and adjacent to said track means for maintaining said length of tape in said track means;
- (d) a frame means pivotally mounted adjacent said track means between said drum means, said frame means having:

(I) a hopper mounted thereon for containing said liquid suspension,

(II) a rotatable wheel mounted thereon, said wheel having a first portion of its rim adapted to be brought into and out of frictional contact with the surface of the tape in said track by the rotation of said frame and having a second portion of its rim in said hopper in contact with the liquid suspension therein, said hopper having a slit in its walls adapted to slidably receive said wheel, and

(III) a catch pan mounted thereon for receiving the excess liquid suspension from said wheel; and

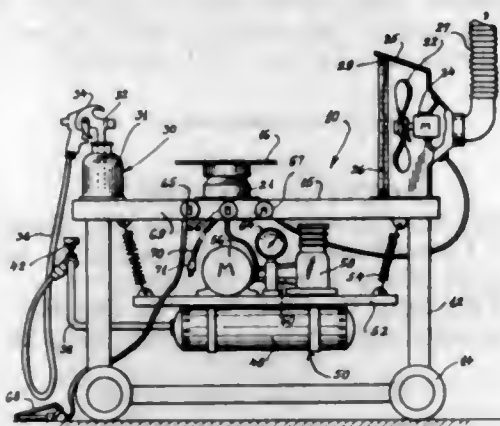
- (e) a spring-biased lever means mounted adjacent said frame means for holding said frame means so that said wheel is removed from the surface of said tape and alternately for maintaining said frame means so that said wheel is in substantial frictional contact with the surface of said tape.

3,339,524

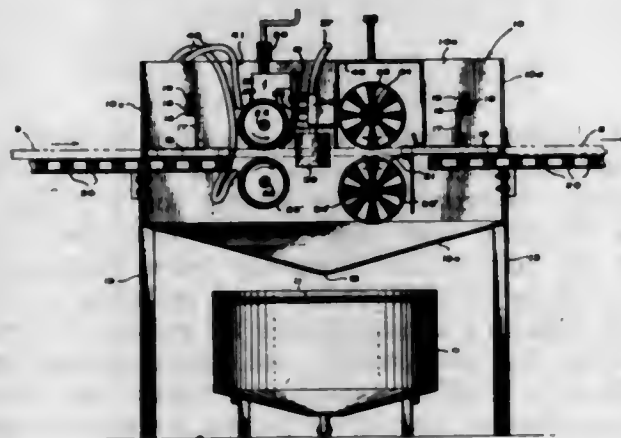
APPARATUS FOR GLAZING CAKESAdolph Benz, 1808 W. Fredonia Ave.,
Peoria, Ill. 61606Filed Oct. 22, 1965, Ser. No. 500,781
10 Claims. (Cl. 118-24)

1. Apparatus for applying a glaze to a cake, comprising a horizontal table, a horizontal turntable mounted on said table for mounting a cake thereon, a first motor rotating said turntable, a manually operable spray gun having a container for a liquid glaze to be applied to the cake while the turntable is rotating, an air compressor assembly, spring means supporting the compressor assembly under the table in a floating mounting; said assembly including a tank for containing air under pressure, an air compressor connected to the tank to charge the same with air under pressure, a pipe connecting said tank and sprayer, a second motor driving the compressor; an exhaust fan, a hood on the table, said fan being mounted in the hood for drawing fumes away from the turntable, said hood having an open front and closed back, an exhaust conduit connected to the back of the hood for

exhausting said fumes to outside atmosphere, a screen filter in the open front of the hood to catch fluid drops from said spray, a third motor in the hood driving the



3,339,525

APPARATUS FOR THE APPLICATION OF STAINFrank D. Roberts, 751 S. Michigan St.,
Seattle, Wash. 98108Filed Apr. 28, 1966, Ser. No. 546,048
6 Claims. (Cl. 118-63)

1. Apparatus for the application of liquid to the horizontal surface of boards, said apparatus comprising a housing with guideways mounted in opposite ends thereof for the guided endwise advancement of the boards there-through, paired driven draw rolls mounted transversely in the receiving end portion of said housing to receive said boards flatwise between them, means for the delivery of liquid onto the roll that engages the top surfaces of the boards, an air delivery manifold with means for supplying air under pressure thereto, said manifold having a discharge slit extending to the length of the roll for discharge of air forcibly against the surface of the board at the contact line of roll and board counter to the direction of rotation and movement of the board.

3,339,526

APPARATUS FOR DIP-COATING

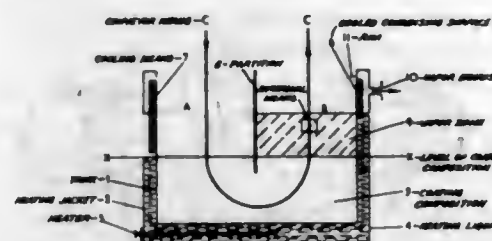
Anthony Bradley, Harry Hyman Topper, and Gerald Yeats, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Apr. 15, 1964, Ser. No. 359,853
Claims priority, application Great Britain, Apr. 22, 1963,
15,838/63

2 Claims. (Cl. 118-429)

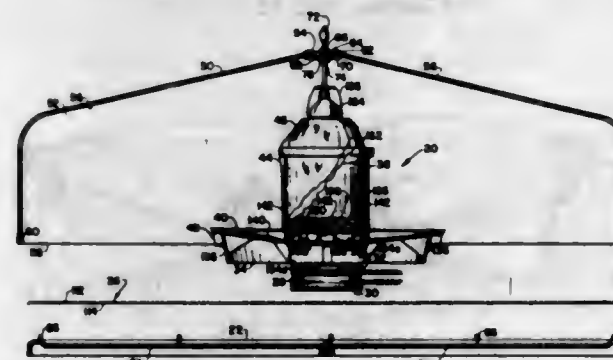
1. An apparatus for coating polyolefinic homopolymer and copolymer articles with a lacquer or paint which comprises a tank adapted to contain in a lower portion

thereof a body of a volatile liquid, a vertical partition dipping below the liquid level and dividing a portion of the tank which is above the liquid level into two upper compartments, means for heating said liquid, means for condensing vapour from said liquid in one upper compartment adapted to prevent the accumulation of vapour in said compartment, means for condensing vapour in the other upper compartment spaced away from the liquid



level so as to allow the establishment of a zone of concentrated vapour from said liquid between the liquid level and the condensing means in said other upper compartment, means for heating said zone of concentrated vapour, and means for conveying articles downwards into the tank through the vapour-free space on one side of the partition, into the liquid, across the tank, up through the heated zone of concentrated vapour on the opposite side of the partition and out of the tank.

3,339,527

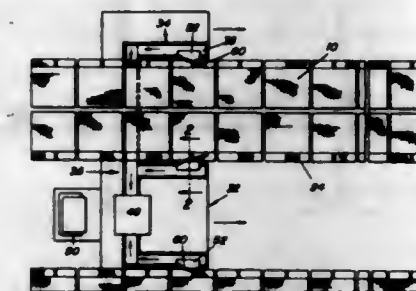
ANIMAL TOILETAustin C. Burroughs, 6632 Beacon Lane,
Falls Church, Va. 22043Filed Sept. 2, 1965, Ser. No. 484,534
19 Claims. (Cl. 119-1)

1. An animal toilet combination comprising: a large flat base platform; a urine collecting butler means positioned on said platform having a top opening; a urine collecting collar means located and disposed over said butler means and having a large central opening the edge of which constitutes a liquid directing lip overhanging the top of said butler means; an animal relief device centrally located on the upper side of and covering said central opening in said collecting collar means; and means enabling drainage through said relief device to enable fluid flow from said relief device to said collar means and from said collar means to the interior of said butler means.

3,339,528

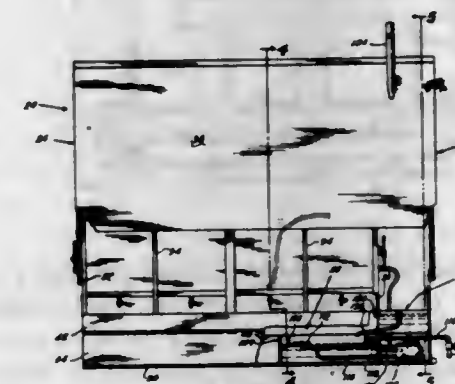
EGG GATHERING DEVICEBenjamin F. Summerour, 237 N. Peachtree St.,
Norcross, Ga. 30071Filed Jan. 5, 1966, Ser. No. 518,962
8 Claims. (Cl. 119-48)

1. An egg gathering device for use in combination with a battery of egg laying cages orientated in alignment with each cage having an egg tray including a longitudinal discharge edge and an egg retaining gate overlying the egg tray and retaining eggs on the egg tray, a carriage movable longitudinally of the cages, said egg gathering



device comprising belt egg conveyor means mounted on said carriage and including a longitudinal run disposed alongside of the longitudinal discharge edge of the egg trays on the cages, and a combined egg sweep arm and

3,339,529

METHOD AND APPARATUS FOR PROCESSING GRAINWallace H. Holste, Rte. 1, Box 13, Massena, Iowa
50853, and Lloyd B. Weston, Atlantic Hotel, Atlantic,
Iowa 50022Filed Sept. 21, 1964, Ser. No. 397,923
15 Claims. (Cl. 119-51.5)

9. A method for inducing the sprouting of grain which includes:

providing a source of control water supply maintained at a temperature within a predetermined range, moving a supply of grain directly from a storage area into and through a processing area to an animal feeding trough,

determining the moisture content of the grain as it moves through said processing area and selectively moistening said grain from said water supply only in said processing area to maintain a predetermined moisture content,

determining a temperature limit for the grain as it moves through said processing area and providing moisture to the grain in said area from said water supply relative to said temperature limit,

aerating the grain in said processing area, and collecting the residue moisture after it has permeated the grain and passed through the feed trough and returning it to said water supply for reuse in the processing area.

3,339,530

ANIMAL FEEDING SYSTEM WITH REVERSING AUGERAllen K. Gillette, Belvidere, Ill., assignor to
Starline, Inc., a corporation of IllinoisFiled Apr. 29, 1965, Ser. No. 451,745
11 Claims. (Cl. 119-56)

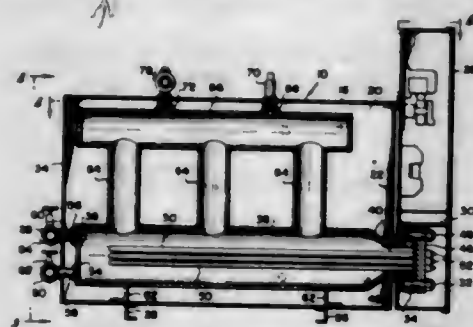
1. The method of operating an auger type feeder having a housing with an opening along one side to fill a feed bunk, comprising the steps of: rotating the auger in said

housing in a first direction to convey material along the closed side of said housing; and reversing the direction of



rotation of said auger to discharge material laterally from the opening in the side of said housing.

3,339,531
FLASH-TYPE STEAM GENERATORS
William J. Fitzgerald, 16 N. Edison St.,
Arlington, Va. 22203
Filed June 29, 1965, Ser. No. 467,877
4 Claims. (Cl. 122—32)

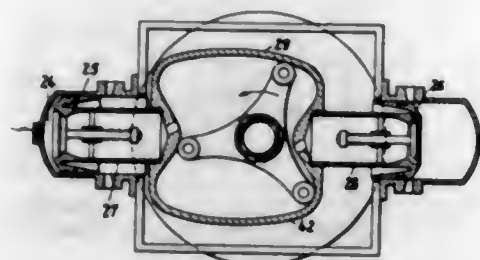


1. A multiple unit flash-type steam generator comprising a plurality of side by side sections each consisting of a lower horizontal water drum and a parallel upper steam drum in vertical alignment with said lower water drum, and at least three laterally spaced, vertical risers, said risers being in the same plane with each other, said risers having their upper ends connected to the bottom of said steam drum and their lower ends connected to the top of said water drum, a feed water inlet connected in each water drum and a steam outlet connection in each steam drum, and feed water inlet cross connection means for connecting the feed water inlet connections together, and steam outlet cross connection means for connecting the steam outlet connections together, a substantially rectangular casing enclosing said sections, and each water drum has a necked front end extending out of an opening in said casing, an annular flange disposed outwardly of said casing on said necked front end, and the ends of each said steam drum are closed off and the rear end of said water drum is closed off, and said flange forms an open end, and a closure member is bolted to each said flange to close it off, whereby a single or a plurality of steam units can be joined together to generate various amounts of steam.

3,339,532
MACHINE OF THE ROTARY PISTON TYPE
Reinhold Loescher, Pfingsthalde 14, Eybach, Germany
Filed Nov. 10, 1965, Ser. No. 507,117
Claims priority, application Germany, Nov. 12, 1964,
L 49,272
5 Claims. (Cl. 123—8)

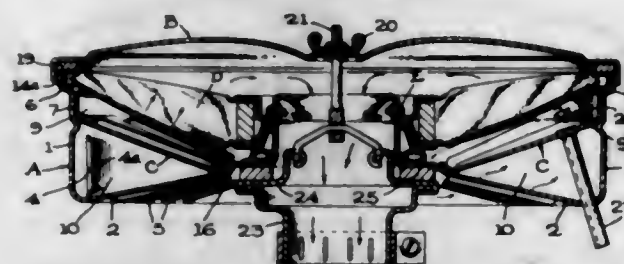
1. A rotary piston machine comprising an annular casing adapted to reciprocate along a predetermined elongated path and the inner surface of which forms a runway including two inwardly projecting diametrically opposed wedge-shaped sections, sidewalls parallel with said path and closing laterally the casing, a rotary piston

including a plurality of substantially radial projections engaging said runway and forming with the latter a plurality of closed chambers, said piston being adapted to revolve inside the casing round a stationary axis perpendicular to the side walls to thereby ensure a positive relationship between the reciprocation of the casing and the rotation of the piston to thereby constrain the closed



chambers to vary in volume, each extreme position of the casing on its path corresponding to the formation, between the wedge-shaped section located at the end of the path leading to said extreme position and the surface of the piston facing last-mentioned wedge-shaped section, of a chamber of a minimum volume while the other wedge-shaped section is operatively engaged by a radial projection on the piston.

3,339,533
AIR FILTER FOR INTERNAL COMBUSTION ENGINES
Per Ingemar Nordstrom, Entre Rios 913,
Buenos Aires, Argentina
Filed Jan. 26, 1967, Ser. No. 611,943
3 Claims. (Cl. 123—119)



1. An air filter for carburetors of internal combustion engines comprising in combination:

- a substantially cylindrical casing A including a sidewall 1, a bottom wall 2 of truncated conical shape, and a removable cover B providing a top wall for the casing, said bottom wall having a centrally disposed air outlet opening 3 and a plurality of elongated, louvered, air inlet openings 5 tangentially disposed relative to said central opening 3, said louvered air inlet openings 5 all being oriented in the same direction to impart a whirling motion to air passing therethrough,
- a partition C including a convex bottom wall portion disposed within said casing A and spaced above said casing bottom wall 2 to provide a first air receiving chamber 10 therebetween, said partition C provided with a central opening concentric with said air outlet opening 3 and a plurality of elongated louvered openings 12 in its bottom wall, some of said last mentioned louvered openings oriented in an opposite direction relative to the air inlet openings 5 in said casing bottom wall, and at least one of said louvered openings in said partition bottom wall oriented in the same direction relative to the air inlet openings 5 in said casing bottom wall,

a filter element 13 provided with a central opening concentric with the central openings in said casing 1 and partition C, said filter element disposed within said casing above and spaced from said partition C to provide a second air receiving chamber 9 therebetween,

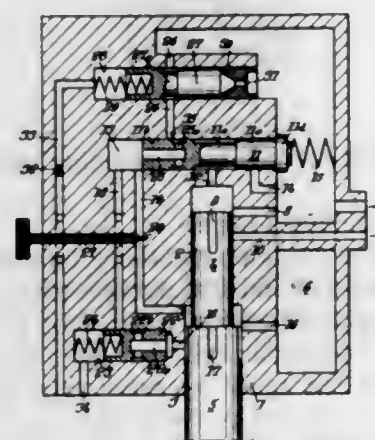
means 20, 21, 22, 23, 24, 25 connecting said casing A and cover B to the air intake of the carburetor,

a tube 27 secured at one end to the bottom wall of said partition C adjacent an opening therein, and communicating with said second air receiving chamber 9, said tube extending through said first chamber 10 and through the bottom wall 2 of the casing,

conduit means 28 connected at one end to the lower end of said tube 27 and connected at its other end to the crankcase of said engine, the vapors from the crankcase of the engine being drawn through said conduit means and said first mentioned tube 27 into said second chamber 9 to moisten said filter and impregnate dust particles entrained in the air being filtered in said second chamber,

whereby air aspirated through the louvered air inlet openings 5 in said bottom wall is submitted to a whirling centrifugal movement in one direction in the first chamber 10, then passes upwardly through the louvered openings 12 in said partition C into said second chamber 9 and flows in a reverse centrifugal direction, through the filter element 13 and into the air intake of the carburetor.

3,339,534
FUEL INJECTION RECIPROCATING PUMPS
Franz Eheim and Gerald Höfer, Stuttgart, Claus Köster, Unterweissach, Württemberg, and Horst Wegener, Kornwestheim, Württemberg, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Mar. 15, 1965, Ser. No. 439,584
7 Claims. (Cl. 123—140)



1. For use with an internal combustion engine, a pump for feeding fuel to said engine which comprises, in combination,

- a fixed frame,
- a main cylinder rigid with said frame,
- a main piston slidable in said cylinder so as to limit therewith a variable volume main pump chamber,
- at least one delivery conduit starting from said pump chamber,
- an auxiliary cylinder rigid with said frame,
- an auxiliary piston slidable in said auxiliary cylinder in synchronism with the movement of said main piston in said main cylinder, said auxiliary piston limiting with said auxiliary cylinder a variable volume auxiliary pump chamber,
- a structure forming a cylindrical housing fixed with respect to said frame,

a shuttle slidable in said housing, said shuttle limiting in said housing a variable volume shuttle chamber,

a first conduit extending from said auxiliary pump chamber to said shuttle chamber,

means for permitting the flow of liquid through said first conduit only in the direction from said auxiliary pump chamber to said shuttle chamber,

a second conduit extending from said shuttle chamber to said auxiliary pump chamber,

means in said second conduit forming a throttled passage,

means fixed with respect to said frame forming a closed space,

means for placing said closed space under a pressure variable in accordance with the number of revolutions per minute of said internal combustion engine,

spring means for urging said shuttle in the direction for which the volume of said shuttle chamber is reduced,

a first spill conduit element forming a communication between said main pump chamber and said shuttle housing,

a second spill conduit element forming a communication between said shuttle housing and said space,

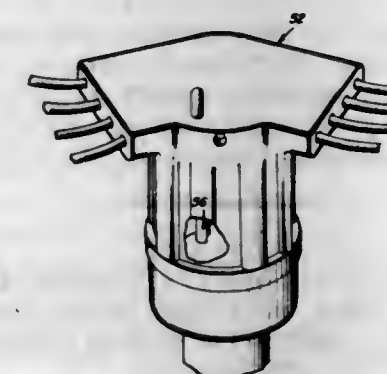
said shuttle being shaped to connect said spill conduit elements together in response to an increase of the volume of said shuttle chamber,

conduit means for connecting said auxiliary pump chamber with said space to prevent the action of said auxiliary pump on said shuttle,

valve means in said conduit means for the opening and closing thereof, and

means responsive to variations of the number of revolutions per unit of time of said internal combustion engine for bringing said valve means into conduit means opening position for low values of said number of revolutions per unit of time and into conduit means closing position for higher values of said number of revolutions per unit of time.

3,339,535
DISTRIBUTOR CAP ATTACHMENT
James E. McClure, South Shore, Ky.
(P.O. Box 98, Lesage, W. Va. 25537)
Filed Dec. 16, 1964, Ser. No. 418,619
5 Claims. (Cl. 123—148)



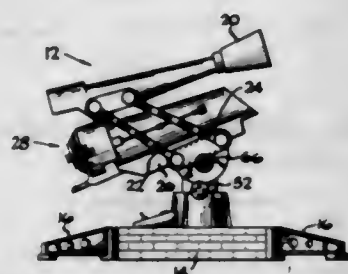
1. In combination, a multicylinder combustion engine including a plurality of spark plugs arranged in widely spaced linear pattern and having a distributor of the type including a rotor driven by said engine and having an electrode end portion swingable through a circular path, said distributor also including a cap telescoped over said rotor and including a first set of a plurality of terminals disposed in a pattern spaced circumferentially about a circular path, said circular paths being disposed in generally parallel planes and being concentric, said electrode end portion being swingable through positions at least

closely adjacent said terminals, said cap including a second set of a plurality of terminals closely adjacent said pattern and readily accessible from the exterior of said cap and having the input ends of a set of elongated secondary circuit conductors of said engine readily removably electrically connected thereto, said second set of terminals being arranged in linear pattern with the terminals of said second set of terminals in each pattern being closely spaced apart relative to each other, each linear pattern of said second set of terminals corresponding to and generally paralleling the linear pattern in which said spark plugs are arranged relative to each other, the output ends of said conductors being electrically connected to the spark plugs of said engine corresponding to the second set of terminals from which said conductors extend, and a second set of plurality of elongated conductors embedded in said cap, electrically insulated from each other, and electrically connecting the terminals of the first set of terminals with the terminals of the second set of terminals in a manner whereby successive registry of said electrode end portion with said first set of terminals will actuate the second set of terminals in sequence corresponding to the correct firing order of said spark plugs.

3,339,536

TOY CANNON WITH SEPARABLE FRONT AND REAR BARREL SECTIONS
Marvin I. Glass, Chicago, and Leonid Kripak, Villa Park, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Apr. 16, 1965, Ser. No. 448,659
8 Claims. (Cl. 124-29)



1. A toy cannon comprising a supporting mount structure, a tube structure carried by said mount structure for movement relative thereto in both horizontal and vertical directions, said tube comprising a front section and a rear section, and means connecting said front and rear sections in a manner providing for relative movement of said front section between an operative position of axial alignment and a position wherein said front tube section is disposed in overlying relation to said rear section.

3,339,537

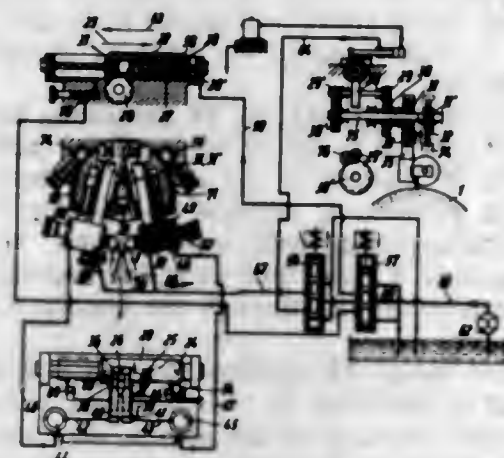
PROFILE GRINDING WHEEL DRESSING DEVICE
Gerhard Stade, Berlin, and Günter Reppin, Offenbach am Main, Germany, assignors to Herbert Lindner G.m.b.H. & Co., Berlin-Wlittenau, Germany

Filed Sept. 3, 1964, Ser. No. 394,179
Claims priority, application Germany, Oct. 3, 1963, L. 46,012

13 Claims. (Cl. 125-11)

1. Apparatus for automatically controlled dressing of profile grinding wheels by dressing diamonds comprising, in combination, a longitudinally displaceable tool slide; a tool holder slidably supported in said tool slide for displacement in a direction perpendicular to the direction of displacement of said tool slide; a longitudinally displaceable template slide spaced from said tool slide and arranged to have templates interchangeably secured thereon; a stylus cooperable with a profiled edge of a template on said template slide; mechanical transmission

means interconnecting said tool slide and said template slide for coordinated movement; and a hydraulic fluid-



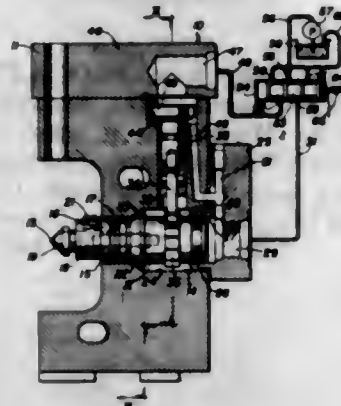
filled line directly interconnecting said stylus and said tool holder for coordinated movement of said stylus and said tool holder.

3,339,538

DRESSING APPARATUS

Frederick A. Hohler, Holden, and Gordon B. Rule, Shrewsbury, Mass., assignors to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Nov. 23, 1964, Ser. No. 413,019
3 Claims. (Cl. 125-11)



1. Dressing apparatus for a grinding machine, comprising
(a) a body having a bore,
(b) a diamond holder rotatably mounted in the bore and having a cylindrical portion which engages a correspondingly cylindrical portion of the bore,
(c) a first hydraulic cylinder for turning the holder relative to the body by producing incremental unidirectional rotation of the holder, and
(d) locking means including a second hydraulic cylinder for preventing rotation of the holder on occasion, the bore being provided with an internal conical surface and the holder being provided with an external conical surface, the second hydraulic cylinder pressing the conical surfaces together on occasion to prevent relative rotation between the holder and the body.

3,339,539

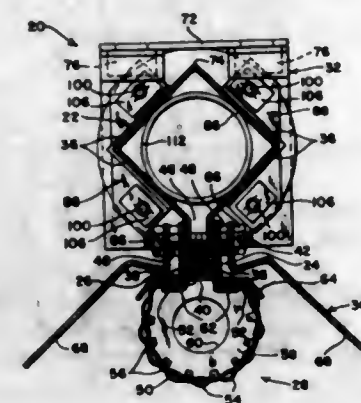
INFRA-RED GAS BURNER STRUCTURE

John J. Fannon, Jr., Grosse Pointe Park, Mich., and Marc Resek, Shaker Heights, Ohio, assignors, by mesne assignments, to Fosterla-Fannon, Inc., a corporation of Ohio

Filed Sept. 21, 1964, Ser. No. 397,775
11 Claims. (Cl. 126-92)

1. In a burner of the combustion type:
(a) an elongated fuel-air mixture distribution tube;

(b) clamping angles at the ends of said tube, each clamping angle having a first leg fixed to said distribution tube and a second leg extending at right angles to the first leg and to the longitudinal axis of the distribution tube with the second legs of the angles at each end of said tube aligned transversely of said tube; and



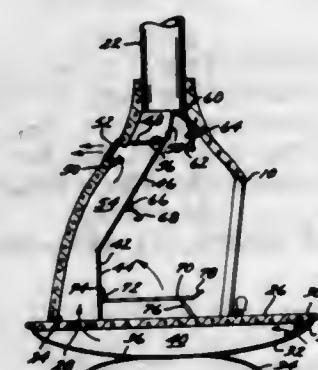
(c) a support for said burner removably fixed to the second legs of the clamping angles at each end of said distribution tube, said support being a separate member from the clamping angles to which it is fixed and having a leg spanning and forming a closure for the end of the distribution tube at which it is located, said leg abutting said tube end and the second legs of the clamping angles thereadjacent.

3,339,540

PORTABLE PRE-CAST FIREPLACE

Peter A. Kreider, 1307 Denise Court, Brea, Calif. 92621

Filed Sept. 7, 1965, Ser. No. 485,400
10 Claims. (Cl. 126-121)



1. A portable pre-cast fireplace, which includes:

- (a) a base of noncombustible material through which a horizontal cool air passage extends that develops at the rear end thereof into an upwardly extending passage;
- (b) a pre-cast shell of lightweight concrete of low heat conductivity and high temperature resistance that rests on said base, and in the forward portion of which shell a symmetrical fireplace opening is formed, with the upper portion of said shell developing into a tubular neck that can be connected to a flue pipe;
- (c) a transversely positioned metallic firewall disposed in said shell that divides the interior thereof into a rear confined space that is in communication with said upwardly extending passage in said base and at least one warm air discharge opening formed in the upper rear portion of said shell, with the forward portion of said divided shell being utilized for the consumption of fuel;

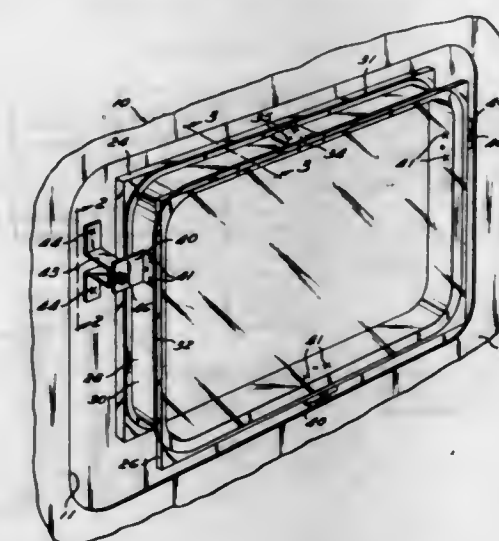
- (d) two abutting doors that fit within the confines of said fireplace opening;
- (e) means for so movably supporting each of said doors that they can first be withdrawn from said opening and then pivoted in a direction to permit access to the interior of said shell;
- (f) a grate supported from said firewall in said forward portion of said shell; and
- (g) a damper adjustably supported from said firewall in said forward portion of said shell for regulating the draft to which fuel burning on said grate is subjected, which burning fuel heats said firewall to in turn heat said cool air entering said confined space from said passage, with the air heated in said confined space rising to pass from said warm air discharge opening, with said cool air as it rises and is heated in said confined space serving to absorb substantially all the heat radiated thereto by said firewall and by so doing preventing any substantial heating of said shell rearwardly of said firewall.

3,339,541

OVEN DOOR WINDOW

Vincent J. Evans, Rocky River, Ohio, assignor to The Columbus Stove Company, Columbus, Ohio, a corporation of Ohio

Filed Jan. 7, 1966, Ser. No. 519,203
5 Claims. (Cl. 126-200)



1. A window unit for an oven door comprising a pair of spaced transparent panels, a spacer frame between said panels, said spacer frame extending continuously about an air space between said panels and with said panels substantially sealing said air space, said spacer frame having a pair of peripheral lips extending continuously about said spacer frame, one adjacent each of said panels, an adhesive layer between each of said lips and the adjacent panel securing and sealing said panel to said spacer frame, and mounting means on said spacer frame for mounting said window unit on an oven door, said adhesive layers and said mounting means constituting the sole means supporting said panels on said oven door.

3,339,542

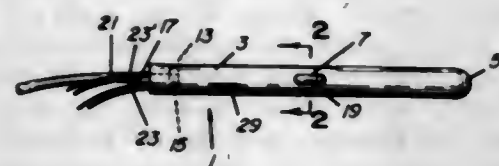
APPARATUS FOR USE IN DIFFERENTIAL CLINICAL THERMOMETRY

William L. Howell, 3562 Macomb St. NW., Washington, D.C. 20016

Filed Feb. 3, 1964, Ser. No. 342,128
13 Claims. (Cl. 128-2)

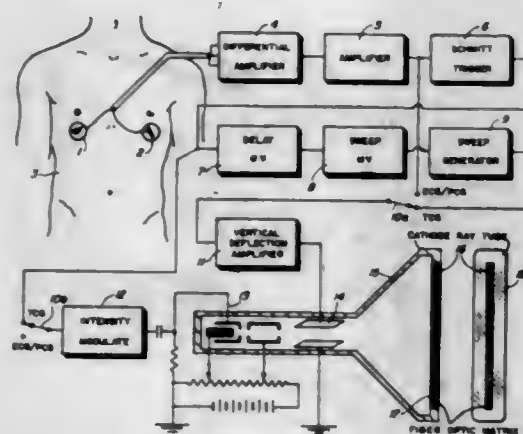
1. A device for determining temperature differential between different areas of the body, including in combination, a single carrier member, electric temperature sensing devices, unitary means mounted on said single carrier

member and mounting each of said electric temperature sensing devices in spaced positions thereon for contact with the different areas of the body, and said unitary means providing unitary pressure equalizing means insuring the contact of each of said electric temperature sensing devices with the different areas of the body at the



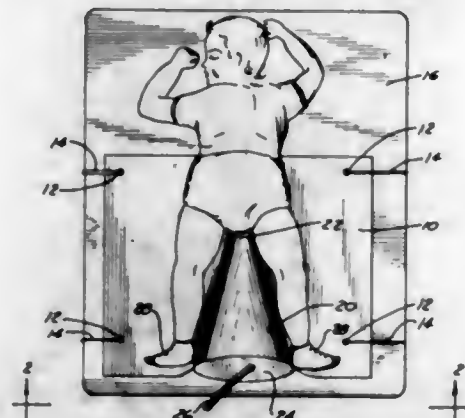
same pressure, electric means located exteriorly of said single carrier member for indicating temperature differential between said electric temperature sensing devices, leads carried by said single carrier and electrically connected to said electric temperature sensing devices and to said electric means.

3,339,543
PULSE INTERVAL RECORDING APPARATUS
Joseph D. Richard, 3613 Loquat Ave.,
Miami, Fla. 33133
Filed Mar. 19, 1964, Ser. No. 353,171
10 Claims. (Cl. 128-2.06)



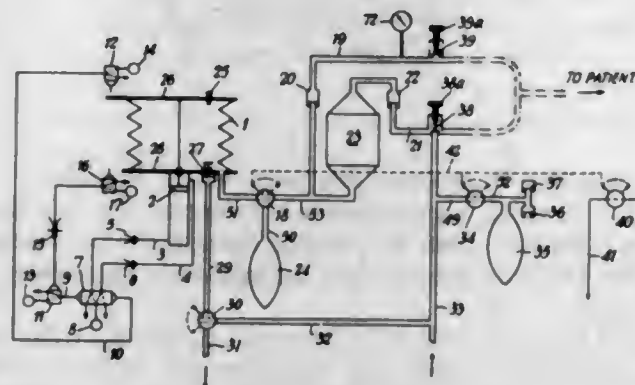
1. Apparatus for graphically recording the time intervals between successive electrical pulses comprising: an input for receiving a succession of electrical pulses; a cathode ray tube including means for deflecting an axial beam of electrons laterally across a faceplate in response to a triangular wave; a sweep generator having a triangular wave output of predetermined duration; triggering means responsive to a first electrical pulse from the said input for initiating the said sweep generator; means for intensifying the electron beam current of the said cathode ray tube coincident with the reception of a second electrical pulse from the said input; a target element disposed within the faceplate of the said cathode ray tube for converting energy of the said electron beam into electromagnetic radiation; a transparent element disposed adjacent the said target element for passing the emitted electromagnetic radiation through the aforementioned cathode ray tube faceplate; and an elongated paper strip having a photosensitive surface disposed against the outer surface of the said cathode ray tube faceplate, a spot image thereby being printed on the said paper when the electron beam is intensified by an electrical pulse, the lateral displacement of the spot image being a measure of the time interval between the aforementioned first and second electrical pulses.

3,339,544
SHAPED MATTRESS TOP FOR CORRECTING PEDAL DEFORMITIES IN CHILDREN
Harvey Kravitz, 9243 Avers Ave.,
Skokie, Ill. 60076
Filed Dec. 11, 1964, Ser. No. 417,718
7 Claims. (Cl. 128-80)



5. Means for correcting pedal deformities in children comprising the improvement of a shaped mattress top for supporting a child in rest position upon its stomach, a tubular member extending longitudinally of said mattress top, and centrally thereof from one end of said mattress top, said tubular member being tapered from said one end of the mattress, when the mattress top is seen in plan view, toward the center portion of the mattress, the wider portion of the tubular member being at said one end of the mattress, such that the child's legs straddle said tubular member when the child is in the rest position, said tubular member being formed with an external arcuate configuration having its highest elevation along the central longitudinal axis of said member so as to cause the feet of the child to be maintained in the toed-out position when the child is resting on its stomach upon said mattress top.

3,339,545
RESPIRATORY APPARATUS
Geoffrey Barnett Burchell, 10 Nelmes Road,
Hornchurch, Essex, England
Filed Mar. 16, 1964, Ser. No. 352,088
Claims priority, application Great Britain, Mar. 20, 1963,
11,149/63
15 Claims. (Cl. 128-145.8)



1. A respiratory apparatus comprising a container, an exhalation duct connected to said container for communicating said container with a patient's lungs, wall means of said container movable to contract the interior of said container and to expand said interior to draw exhalation gas through said exhalation duct, driving means for moving said wall means to expand and contract said interior, conduit means leading from said interior to a location at which there is substantially atmospheric pressure, valve means serving to control the flow of gas through said conduit means, means for use in producing positive pressure in said lungs, actuating means co-operating with said

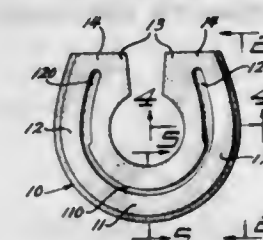
valve means for opening said valve means during each breathing cycle when there is, in said lungs, approximately maximum positive pressure which is greater than the pressure at said location, thereby to connect said lungs to said location by way of said exhalation duct and said interior, and for maintaining said valve means open, thereby to cause the pressure in said container to drop sharply to approximately the pressure at said location, and adjustable, pneumatic control means for adjustably controlling the time interval over which said valve means is open.

3,339,546
BANDAGE FOR ADHERING TO MOIST SURFACES

James Ling Chen, Milltown, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 13, 1963, Ser. No. 330,271
8 Claims. (Cl. 128-156)

1. A bandage comprising a water impervious film having secured to one surface thereof an adhesive gum-like bonding composition comprising a blend of a water soluble or swellable hydrocolloid admixed with a water insoluble viscous gum-like elastic binder.

3,339,547
TOPICAL ARCH TRAY
Alexander J. Drabkowski, 5565 Forman Drive,
Birmingham, Mich. 48010
Filed Nov. 27, 1964, Ser. No. 414,948
3 Claims. (Cl. 128-260)



1. A topical arch tray for use in topical treatment of the teeth and/or adjacent gum areas of a dental patient comprising:

a resilient substantially non-absorbent element of a sponge-like pliable material generally horseshoe shaped having a front closed anterior portion and contiguous side posterior portions with free inner ends,

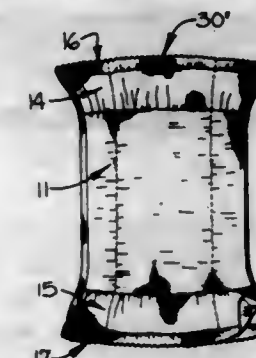
the said anterior and posterior portions having a contiguous vertical groove formed in the top thereof formed to accommodate a topical agent and receive neatly a patient's teeth, said groove having a substantially wider lateral dimension at said posterior portions than at said anterior portion, the said groove terminating short of the free ends of said posterior portions,

the said anterior and posterior portions having a continuous reservoir formed at the bottom of said groove, said reservoir communicating continuously and uninterruptedly with said groove over the full length thereof.

3,339,548
DIAPER CONTOURED BY SHRINKING
Norman L. Seltzer, Princeton, N.J., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Apr. 27, 1964, Ser. No. 362,785
16 Claims. (Cl. 128-284)

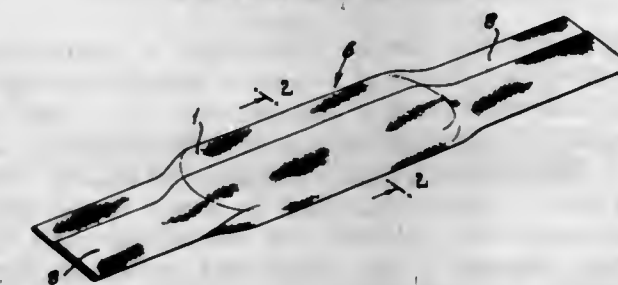
1. An elongate, interwoven, multi-layer, absorbent diaper comprising non-raveling sections defining opposite ends of the diaper, intermediate sections between and connected to said non-raveling sections, and a medial

section between said intermediate sections and connected thereto, said diaper sections each comprising layers of fabric each formed of interwoven sets of warp and filling yarns, one set of said yarns being cellulosic and extending laterally of said diaper and at least in said medial section, as originally woven in the fabric, having a high twist with the twist multiple thereof being between 4.50 and 7.50 to enhance the shrinkability thereof, each of the layers of fabric in said medial section, as originally woven, having



less yarn interlacings per inch than each layer of fabric in said non-raveling and intermediate sections, and said fabric of the diaper being shrinkable with fabric in said medial section having greater shrinkability in the direction of said one set of yarns than the fabric in said non-raveling and intermediate sections to provide a concave curvature to opposite side edges of the diaper after the diaper is shrunk for obtaining a better and more comfortable fit for a wearer.

3,339,549
SANITARY NAPKIN WITH KNITTED WRAPPER
Edward A. Morse, Fanwood, N.J., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
Filed Nov. 2, 1959, Ser. No. 850,405
5 Claims. (Cl. 128-290)

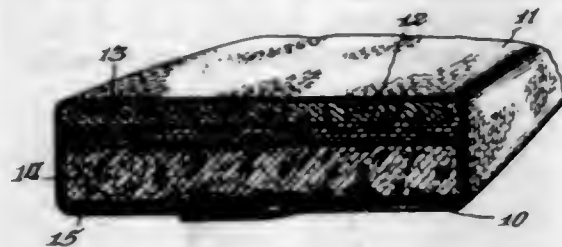


1. A sanitary napkin comprising an absorbent core, an open mesh warp knit fabric cover around said core, the ends of said cover extending beyond the ends of the core forming attaching tabs, said cover comprising two sets of warps, one of said sets being in the form of a plurality of spaced, parallel, knitted loops extending in the direction of said tabs, the other of said sets being in the form of a series of threads deflected left and right through said parallel set, the forming loops between adjacent parallel warps, the loops of said deflected threads being interlaced with loops of adjacent deflected threads, some of said interlaced loops being disposed in an interrupted manner along the wales of the fabric.

3,339,550
SANITARY NAPKIN WITH CROSS-LINKED CELLULOSIC LAYER
Carole C. Van Haaften, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 7, 1964, Ser. No. 357,946
8 Claims. (Cl. 128-290)

1. An absorbent bandage comprising a fluid absorbent pad, a fluid pervious outer wrapper, and, between the fluid absorbent pad and the outer wrapper, a layer of

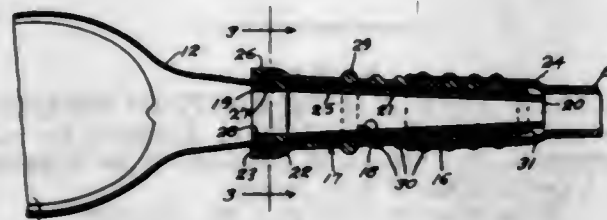
fibers in mass form, said fibrous mass comprising a loose assembly of cross-linked cellulosic fibers, said fibers being cross-linked while in the collapsed dry state to a degree wherein said fibers are not readily plasticized by contact



with aqueous fluids, said fibrous mass being characterized by a larger pore size than the pore size of said absorbent pad and a capacity to rapidly wick fluids therethrough into contact with, and absorption by, said absorbent pad.

3,339,551 CONNECTION FOR AN EVACUATION DEVICE

Guy H. Stoutenburgh, Delray Beach, Fla. (630 N. Road, Harbor Estates, Boynton Beach, Fla. 33435)
Filed Mar. 19, 1965, Ser. No. 441,148
6 Claims. (Cl. 128-295)



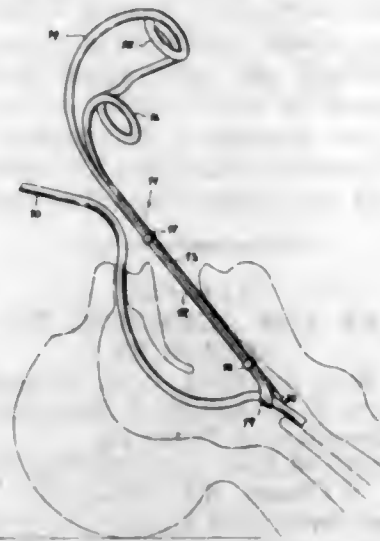
1. An evacuation device comprising, in combination with an elongated sheath of elastomer material having an open end adapted to receive and encase a male organ and an opposite end provided with a restricted opening, and a flexible drainage tube having an inlet end and an outlet end; a connection for connecting the sheath to the drainage tube comprising a tubular core and tubular shell, said core being disposed in the sheath and having an outlet end extending through said restricted opening, and said sheath encased core being detachably disposed in extending through the shell for clamping a part of the sheath, disposed adjacent said restricted opening, between the shell and core, said outlet end of the core and a portion of the shell disposed adjacent thereto being detachably secured by a press fit engagement in said inlet end of the drainage tube for providing a leakproof union between the restricted opening of the sheath and said drainage tube.

3,339,552 PHARYNGEAL TUBE CLAMP

René Aillon, 765 North St., Pittsfield, Mass. 01201
Filed Aug. 12, 1964, Ser. No. 389,107
8 Claims. (Cl. 128-351)

1. A pharyngeal tube clamp comprising a continuous piece of spring wire shaped into straight portions and a looped intermediate portion forming a resilient hand-grip, said straight portions terminating in generally transverse lower extremities forming an upper and a lower clamp jaw, respectively, said upper jaw being normally maintained spaced above said lower jaw by said hand-grip and being manually displaceable toward said lower jaw, said upper jaw being lightly curved with a downward concavity, said lower jaw being oppositely curved

with a generally upward concavity in a plane inclined with reference to the plane of curvature of said upper



jaw whereby in a position of mutual approach of said jaws there is defined by the curvature thereof a passage with an axis skew to said straight portions.

3,339,553 WOMEN'S SLIP

Gerald J. Ritter, New York, N.Y., assignor to The Bar-bizon Corporation, New York, N.Y., a corporation of New York
Filed July 7, 1965, Ser. No. 470,038
12 Claims. (Cl. 128-454)

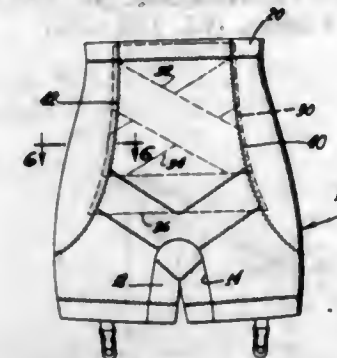


1. A women's garment of three fabric panels combined together to form the garment comprising a front panel having a skirt portion, a midriff portion and an upper bust portion, the midriff portion having cut-out portions with curved lower edges extending inwardly from opposite side edges, and the upper bust portion having tucks whose edges are joined to define upper curved edges for said cut-out portions and breast cups in said upper bust portion, a rear panel of fabric corresponding substantially in shape to the skirt portion of said front panel and joined along its side edges to corresponding side edges of the skirt portion and having upper curved edges, and a unitary bodice panel of expansible fabric having a rear portion whose lowermost edges are substantially complementary in shape with and joined to the upper curved edges of said rear skirt panel, and said bodice panel having oppositely extending flaps complementary in shape to the cut-out portions of said front panel, said flaps extending around the

sides and toward the front to fit into said cut-out portions and being joined to the latter along the upper and lower curved edges thereof.

3,339,554 GIRDLE

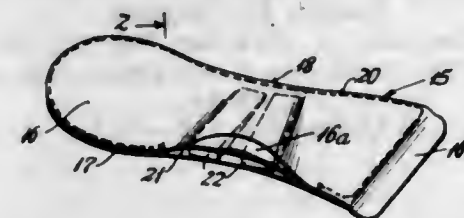
Vestal L. Nobbe, 3334 Hacienda Blvd., Hacienda Heights, Calif. 91745
Filed Aug. 9, 1965, Ser. No. 478,128
6 Claims. (Cl. 128-528)



1. In a girdle: a body-encircling girdle member; a generally U-shaped buttocks sling having sides extending downwardly along the side portions of said girdle and having a central portion extending along the lower back portion of the girdle member; said sling also having frontally extending portions substantially overlying the hip region of the wearer; an abdominal control panel located on the inside of the girdle member, and having side edges attached to spaced portions of the girdle member and along said frontally extending portions of said sling sides; the girdle member and the control panel both being circumferentially resiliently stretchable.

3,339,555 ADJUSTABLE ARCH SUPPORT DEVICE

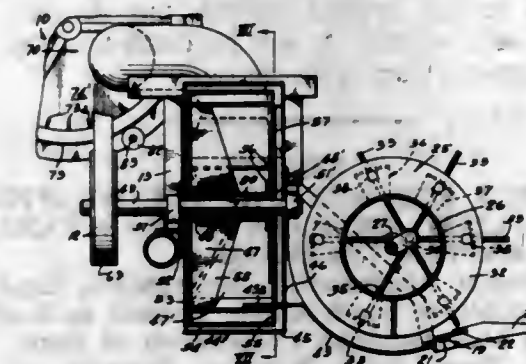
Russell Rotko, 69 1/2 Pleasant St., Danbury, Conn. 06810
Filed Sept. 15, 1964, Ser. No. 396,509
2 Claims. (Cl. 128-606)



1. An adjustable arch support device adapted to be positioned within a shoe and disposable over an arch portion thereof comprising superposed deformable panels secured together about the periphery thereof to provide an envelope of a length extending over the arch portion of said shoe, said envelope being opened solely along a portion of its edge corresponding to the inner edge of the shoe and adjacent the arch portion thereof, and wedge means disposed within said envelope through said open edge for deforming at least one of said panels by spacing the same, said wedge means comprising a plurality of elongated, laterally spaced, narrow wedge members, each tapering to a thin edge at one end thereof and having a width less than one-half of the length of the pocket, said wedge members being insertable thin edge first through said open edge and extending across the pocket and being readily movable sideways within the pocket along the length of the pocket for establishing the desired spacing between said panels whereby at least one of said panels is predeterminedly deformed so that the surface contour of the envelope is controlled.

3,339,556 AGRICULTURAL IMPLEMENT

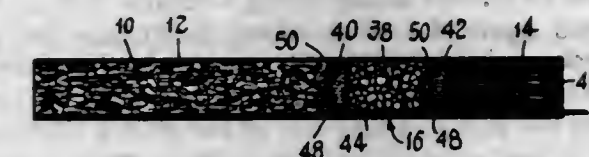
Aaron F. Sammet, Box 163, Princerville, Ill. 61559
Original application Nov. 28, 1961, Ser. No. 155,370, now Patent No. 3,188,786, dated June 15, 1965. Divided and this application Nov. 18, 1964, Ser. No. 412,006
8 Claims. (Cl. 130-27)



1. An agricultural implement including a housing having an inlet and an outlet at one side, a rotary structure disposed in said housing at one side of said outlet including a drive shaft having a first set of hammers mounted circumferentially thereon, threshing bars carried at the perimeter of said structure with said hammers being adapted to cast material thereagainst, and a second set of hammers mounted on said rotary structure and extending radially outwardly of said threshing bars in close proximity to said housing for beating up material and casting it through said outlet.

3,339,557 CIGARETTE AND SMOKE FILTER AND FLAVOR MEANS

Lew W. Karalus, 925 William St., Bridgeport, Conn. 06608
Filed Mar. 12, 1965, Ser. No. 439,184
13 Claims. (Cl. 131-4)



8. A filter cigarette comprising, in combination: (a) a mass of compressed charcoal, (b) a frangible, moisture-containing capsules disposed outwardly of and at opposite sides of the mass, and (c) a wrapper surrounding said charcoal mass and capsules, and (d) tobacco in the wrapper, adjacent one of the moisture-containing capsules.

3,339,558 SMOKING ARTICLE AND FILTER THEREFOR CONTAINING VITAMIN A

Nelson J. Waterbury, Palm Beach, Fla., assignor of five-tenths to F. Barry Haskett, Ocean City, N.J.
Filed Oct. 28, 1966, Ser. No. 590,392
2 Claims. (Cl. 131-10.1)



1. A method for introducing vitamin A into the mouth and respiratory tract of a smoker which comprises locating a rupturable capsule in the mouth end of a cigarette having a tobacco charge and a filter medium downstream

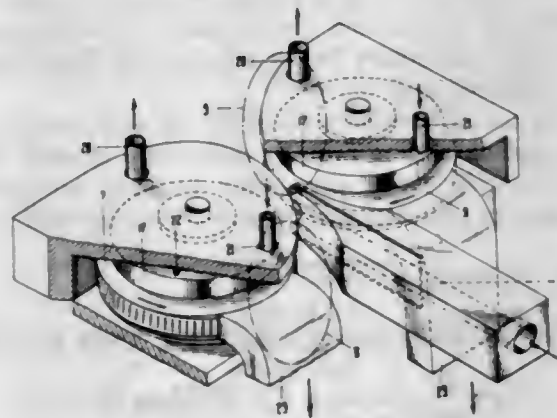
from said tobacco charge, said rupturable capsule being in contact with said filter medium and containing a controlled amount of vitamin A in an aqueous solution, applying pressure to said rupturable capsule to break the capsule immediately before smoking thereby releasing the vitamin A solution for exposure to the smoke passing through the said filter medium so that after the cigarette is lit and suction applied thereto, tiny droplets or an aerosol of said vitamin A will be carried in the smoke to the respiratory tract of the smoker.

3,339,559

APPARATUS FOR SLITTING THE WRAPPER OF ROD-SHAPED ARTICLES AND SEPARATING THE WRAPPER THEREFROM

John P. Rupert, Mostertsdraif, Stellenbosch, Cape Province, Republic of South Africa, assignor to Rembrandt Tobacco Manufacturing Corporation of South Africa Limited, Paarl, Cape Province, Republic of South Africa

Filed Feb. 25, 1965, Ser. No. 435,230
Claims priority, application Republic of South Africa, Feb. 25, 1964, 64/856
8 Claims. (Cl. 131-96)



1. Apparatus for unwrapping rod-shaped articles, such as cigarettes, consisting in means to propel each of a succession of articles axially along a straight path at high speed, two opposed cutting edges penetrating the path to a predetermined depth and running in the direction of the path, and a pair of suction wheels with flat treads straddling the path to either side of the cutting edges each adapted to peel off a slit half-wrapping from its core, the path being continuous and uninterrupted for a distance beyond the cutting and peeling-off points.

3,339,560

TOBACCO SMOKE FILTERS

John E. Kiefer and Clarence E. Tholstrup, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 19, 1964, Ser. No. 390,699
1 Claim. (Cl. 131-267)



A filter element of a cylindrical tube of film having adhesively attached to the inner surface thereof a plurality of synthetic fibers having an average length greater than the radius of said tube, said film and fibers being selected from the group consisting of cellulose acetate; polyethylene; polypropylene; polystyrene; and terephthalic acid, ethylene glycol, and bis(hydroxy methyl) cyclohexane polyesters, the adhesive being selected from the group consisting of glycerol mono-, di-, and triacetate; glycerol mono-, di-, and tri-propionate; acetate and propionate esters of the polyoxyethylenes; phthalic acid esters of

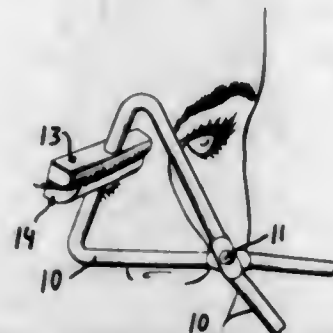
alkyl alcohols and triethyl citrate; neoprene glues; epoxy glues; polyvinyl acetate; polyvinyl chloride and butadiene-styrene resins, and said fibers further extending substantially perpendicularly from the tube surface in such a manner as to essentially completely fill the tube interior.

3,339,561

EYEBROW CURLER

Lillian L. Brickner, 13712 Hanwell Ave., Bellflower, Calif. 90706

Filed June 15, 1964, Ser. No. 375,113
3 Claims. (Cl. 132-32)



1. An eyebrow curler including handles pivotally secured to each other, an upper jaw secured to the upper end of one handle being of generally semi-elliptical shape in cross section and having a flat top surface and being covered about the sides with a layer of rubber and having a serrated edge adjacent to said surface, and a lower jaw secured to the upper end of the other handle having a rounded side to which the handle is secured and a flat top surface aligned with the flat top surface of the upper jaw having a serrated edge suitable to mesh with the serrated edge of the upper jaw and having a downwardly directed concave side suitable to co-act with one side of the upper jaw, said upper and lower jaws having a length of an average eyebrow.

3,339,562

EMERY BOARDS

Colin Lenton Rowe, Adams House, 37 Gowers Walk, London E1, England

Filed June 22, 1964, Ser. No. 376,700
Claims priority, application Great Britain, Jan. 28, 1964, 3,580/64
3 Claims. (Cl. 132-76.5)



1. A manicure implement comprising a body made of a resiliently flexible material and including an elongated and relatively thin flat blade having opposed major

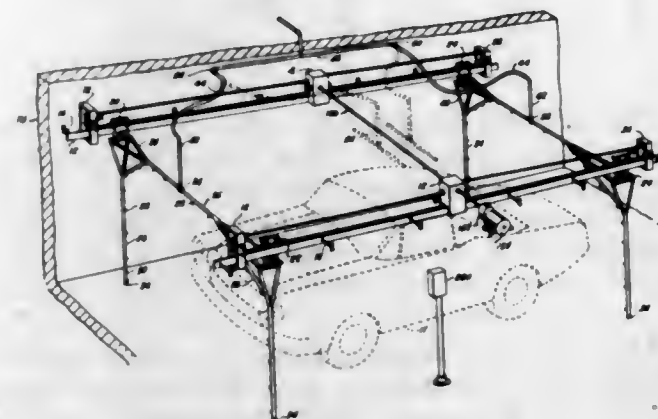
faces, said blade merging at one end into a flat plate-like handle, said blade portion tapering in width in the direction away from said handle portion, and a sheath of flexible sheet material engaged as a push fit onto the blade for the major part of the length of the blade, said sheath being constituted by two opposed flat parallel portions of abrasive-covered sheet material of greater width than the blade disposed one on each major face of the blade and each having a flange area lying beyond the blade edge and secured to the adjacent flange area of the other portion.

3,339,563

CAR WASHING APPARATUS

Armando R. Ordonez, 2636 Trinity St., Irving, Tex. 75060

Filed Oct. 22, 1965, Ser. No. 511,267
22 Claims. (Cl. 134-57)



1. A car wash system comprising:
(a) at least one track rail supported in a horizontally disposed position, said track rail being of a length greater than the length of the motor vehicle to be washed;
(b) first and second spray arcs;
(c) each of said spray arcs being of a substantially inverted U-shaped configuration and including a cross pipe and two downwardly extending legs adapted to receive a vehicle therebetween;
(d) first and second trolley means for supporting a respective one of said spray arcs for movement along said at least one track rail;
(e) said first and second trolley means each normally being positioned toward opposite ends of the track rail whereby the vehicle can be positioned between said first and second spray arcs; and
(f) means effective when actuated for driving said first and second trolley means in opposite directions along said at least one track rail toward the median point of said track rail and thereafter reversing the direction of movement of said first and second trolley means to return said trolley means to the normal position.

3,339,564

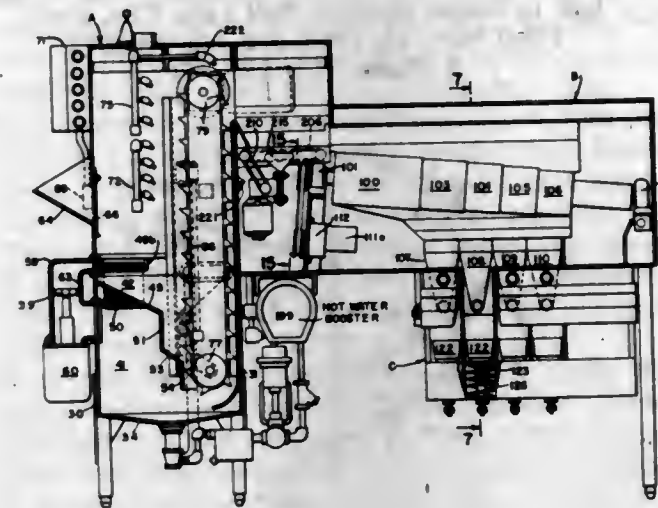
MACHINE FOR CLEANING AND ASSORTING TABLE SILVER AND CONTROL MECHANISM THEREFOR

Robert W. Kraefft, 60 Commercial Ave., Moonachie, N.J. 07074

Filed Oct. 18, 1965, Ser. No. 497,424
11 Claims. (Cl. 134-58)

1. In a machine for cleaning table silver and the like:
(a) cleaning means,
(b) an electrically-controlled drive for the cleaning means,
(c) conveying means related to the cleaning means for conveying off the cleaned silverware,
(d) an electrically-controlled drive for the conveying means,

(e) a first timer activated with the starting of the drive for the cleaning means, and



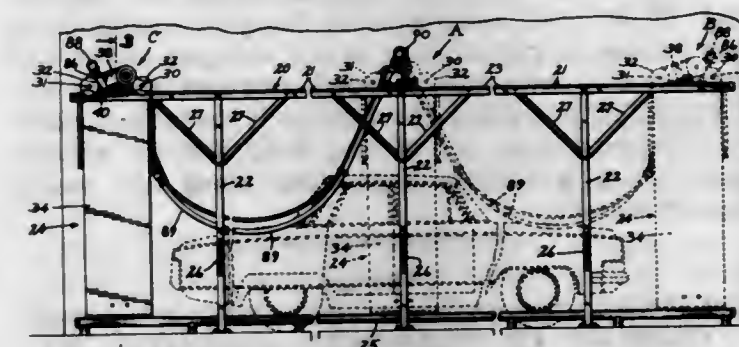
(f) a second timer activated only after an appreciable time delay from the first timer for activating the conveying means drive and timing the length of operation of the conveying means and the further length of operation of the cleaning means.

3,339,565

VEHICLE WASHING APPARATUS

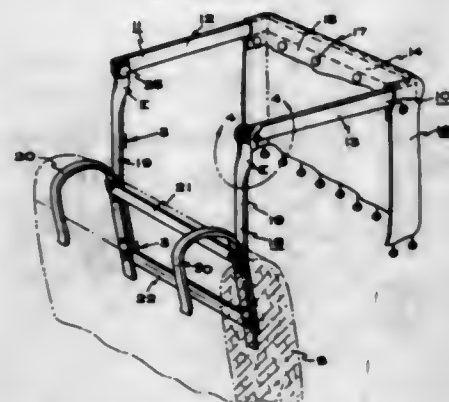
Joe Williams, Box 337, Gettysburg, S. Dak. 57442

Filed Oct. 22, 1965, Ser. No. 501,289
6 Claims. (Cl. 134-58)



4. Control means for an automatic vehicle washing apparatus comprising:
(a) reversible motor means operatively attached to said vehicle washing apparatus;
(b) pumping means adapted to be connected to suitable sources of energization, cleaning solution, and water, said pumping means including an output for cleaning solution and an output for water upon suitable application of energization;
(c) a plurality of manually controllable multiposition switches connected in parallel and having means connecting said pumping means to each position for providing a different output from said pumping means in each position of said switches;
(d) stepping switch means having a plurality of steps each connected to a different one of said manually controllable switches and adapted to be connected to a source of energizing power in a manner to provide energizing power to each of said steps sequentially; and
(e) means for energizing said stepping switch means at desired intervals to cause said stepping switch means to move and energize the next sequential step thereby providing various washing operations chosen by the manual settings of the manually controllable switches, said energizing means also energizing said reversible motor means and causing said motor means to reverse each time said stepping switch means moves to the next sequential step.

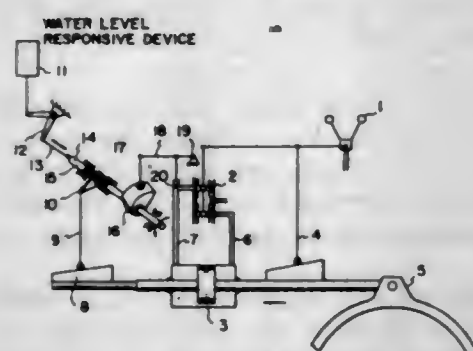
3,339,566
CHILD'S AWNING DEVICE FOR AUTOMOBILES
 Angela P. Bowden, Salt Lake City, Utah, assignor of one-half to Blaine Bowden, Salt Lake City, Utah
 Filed Nov. 19, 1965, Ser. No. 508,810
 1 Claim. (Cl. 135-5)



In a child's awning device for vehicles including, in combination, a U-configured awning support member having a bight portion and a pair of parallel legs; means for releasably mounting said awning support member upon the back of a vehicle seat; and an awning mounted to and depending from said awning support member in front of said seat back; said mounting means comprises a pair of mutually-spaced, inverted U-shaped members constructed for engagement positioning over said seat back bracing means connecting said U-shaped members together, elongate means secured to and upstanding from said U-shaped members and pivotally secured to the legs of said awning support for enabling the pivotal displacement of the latter, and means for fixing the positioning of said awning support relative to said elongate means, said awning being releasably snapped over said awning support member and being of substantially the same horizontal dimension than that of said bight portion, whereby said awning is slidably displaceable along said awning support member.

3,339,567
METHOD AND SYSTEM FOR ADJUSTING THE CLOSURE OF FLOWRATE ADJUSTING DEVICES FOR HYDRAULIC TURBINES, PUMP TURBINES, PUMPS, AND THE LIKE
 Shunichi Fukasu, Hideo Ebisawa, Hidenori Tonooka, Asao Oishi, Tsuneo Takashima, and Takashi Hosogai, Hitachi-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
 Filed May 5, 1964, Ser. No. 364,942
 Claims priority, application Japan, May 6, 1963, 38/22,587; June 15, 1963, 38/31,866; July 9, 1963, 38/35,243

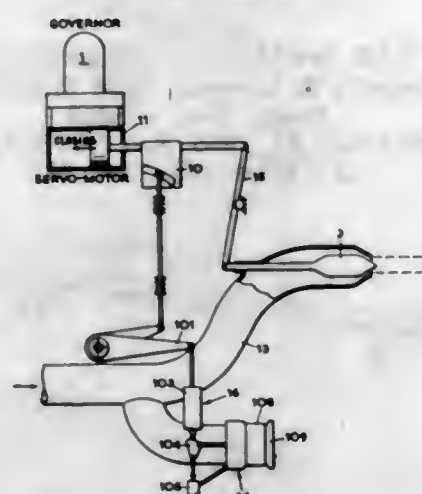
10 Claims. (Cl. 137-12)



1. A method for automatically adjusting the closure of the flowrate adjusting devices of hydraulic turbines, pump turbines, pumps, and the like operating under fluctuating head condition, which comprises automatically setting the closure characteristic of each of said flowrate adjusting devices in accordance with the fluctuation of

the head and with the degree of opening of said flowrate adjusting device.

3,339,568
REGULATION OF HYDRAULIC TURBINES
 Gleb Kerensky, Netherton, England, assignor to The English Electric Company Limited, London, England, a British company
 Filed Sept. 16, 1965, Ser. No. 487,760
 Claims priority, application Great Britain, Feb. 27, 1959, 6,865/59
 6 Claims. (Cl. 137-25)

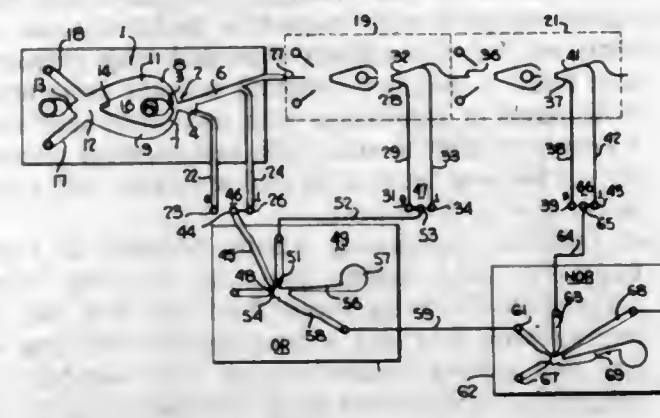


1. A device for the regulation of a water turbine operating under a substantial head of water and having a penstock of substantial length, comprising a speed governor driven by said water turbine; a quantity-controlling mechanism operatively connected to said speed governor and controlling the area available to the mass flow of water through said penstock to said turbine as a direct function of the control movements of said speed governor; secondary regulating means comprising a relief valve of maximum discharge capacity of the same order of magnitude as the flow to said turbine and connected to said penstock to discharge therefrom; a control element controlling the position of said relief valve; a linkage between said speed governor and said control element, said linkage including dashpot means, said dashpot means including a cylinder and a piston in said cylinder; resilient means loading said dashpot means in the sense to collapse said dashpot means; connecting conduit means between parts of said dashpot cylinder on each side of said piston, whereby to allow collapsing action of the dashpot, which in turn causes resetting of the relief valve in the other sense after movement thereof in one sense as a result of a control movement of said speed governor; and control valve means in said connecting conduit means, to restrict communication between said parts of said dashpot cylinder, whereby when said control valve means is closed said collapsing action of the dashpot, and consequently the resetting movement of the relief valve, is restricted, whereby the relief valve opens in response to smaller and slower governor movements than when said control valve means is open.

3,339,569
PRESETTABLE DECODER
 Peter Bauer, Bethesda, and John R. Colston and Edwin U. Sowers III, Silver Spring, Md.; said Bauer and said Sowers assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware, and said Colston assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
 Filed May 8, 1964, Ser. No. 365,996
 14 Claims. (Cl. 137-81.5)

1. A presettable, pure fluid decoding mechanism comprising an array of pure fluid pulse converter stages each having a first and a second input channel and at least

first and second output channels, means for applying a distinct unit of a code each to a different one of said converter stages, decoding means connected to various ones of said output channels for producing an output signal when a specific code is presented to said array of converter stages, said decoding means including further



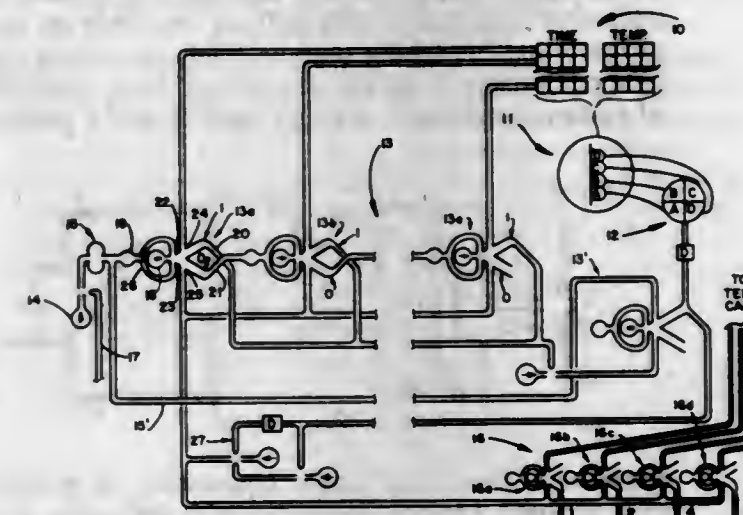
means for varying the code to which said decoding means is responsive, said further means comprising a fluid switch having at least one fluid input passage, and at least one fluid output passage and an operable slide movable between first and second positions, said slide including aperture means for directly interconnecting said input passage and said output channel in said first position only.

3,339,570
FLUID LOGIC TIME TEMPERATURE PROGRAMMER
 Richard W. Hatch, Jr., Norwell, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
 Filed June 24, 1964, Ser. No. 377,612
 1 Claim. (Cl. 137-81.5)

A dynamic, continuous flow fluid logic time-temperature programmer system for use with operating means comprising a fluid ring counter operable from a fluid input signal, and fluid manifold and time-temperature punch cards operable with respect to said ring counter to provide working output signals from said operating means,

said system comprising, in combination,
 a fluid logic time function binary counter system subject to time function setting signals from said operating means,
 a fluid logic temperature function binary memory system subject to temperature function setting signals from said operating means,
 an output fluid logic flip-flop system operable to produce a working output signal in response to a predetermined final condition of said counter system, a connection from said working output to said operating means, and a delay in said working output connection,
 a reset pulse generator system for simultaneously resetting all of the units of said time function binary counter system, and at the same time simultaneously resetting all of the units of said temperature function binary memory system,
 an oscillator system for applying fluid pulses at a fixed frequency to the input of said time function binary counter,
 and switch means for shutting off the output of said oscillator to control application of said fixed frequency to said counter,
 said time function counter system comprising a series of fluid logic oscillator flip-flop units, each of said units having a power flow input, an output to the next step in the counting action of said series, an output to said output flip-flop system, a transverse

set control input from said time function operating means, a transverse reset control input from said reset pulse generator system, and a signal input yoke connected from said input oscillator system, with two control inputs oppositely and transversely opposed to each other across the flip-flop unit, said temperature function binary memory system comprising a series of fluid logic temperature flip-flop units, a power flow input to each of said units, a control set input to each of said temperature units from said temperature function operating means, a control reset input to each of said temperature units from said reset pulse generator system, and a readout output from each of said units, said output flip-flop system comprising a single fluid logic flip-flop unit, said single unit having a power flow input, a vent output, a working output through said operating connection to said operating means, a connection from said working output to said reset pulse generator system, a control input to said single flip-flop unit from the output of said oscillator system, and a second control input to said



single unit, said second control input comprising a power flow, a fluid switch for controlling said power flow, and fluid control means for said fluid switch connected to manifold from the output therefor in each of the units of said time function counter system, and
 said reset pulse generator system comprising a main power flow input connected in manifold to the reset input control of each of the flip-flop units of said time function counter system, and in manifold to the reset input control of each of the flip-flop units of said temperature function memory system, a fluid switch in said reset power input, a first fluid control input to said last named fluid switch from said working output connection of said single unit output flip-flop system, a delay in said last named control input, a second control input to said last named fluid switch, a power flow input to said last named control input, a fluid switch in said last named power flow input, and a control input to said last named switch from said last named first fluid control input at a point prior to said last named delay.

3,339,571
FLUID AMPLIFIER ANALOG CONTROLLER
 Richard W. Hatch, Jr., Norwell, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
 Filed June 24, 1964, Ser. No. 377,653
 1 Claim. (Cl. 137-81.5)

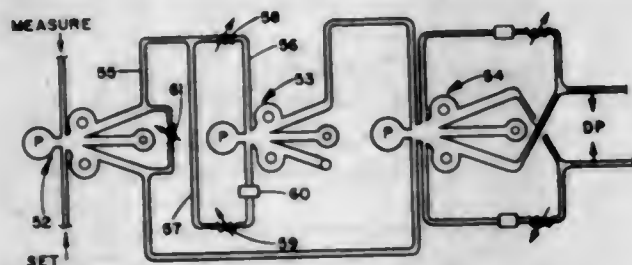
A fluid powered and operated continuous flow three term analog controller, wherein an operating output in the form of a differential pressure is produced in representation of the differential action of a measured value against

a set value as applied to a fluid power flow in a fluid logic system incorporating a combination of proportional, reset, and derivative action,

said controller comprising, in combination, three fluid amplifiers in an operatively interconnected series combination wherein the first and input amplifier provides proportional function, the second and intermediate amplifier provides derivative function, and the third and output amplifier provides reset function,

said proportional amplifier comprising a fluid power flow input, two branching outputs to which said power flow may be selectively directed, a set point control input to one side of said input amplifier, a measurement control input to the other side of said input amplifier, and an adjustable fluid resistance connected across said two branching outputs as a proportional adjustment for said proportional amplifier,

said derivative amplifier comprising a fluid power flow input, two branching outputs to which said power flow may be selectively directed, and a pair of opposed control inputs to said derivative amplifier, an operative connection system from one only of said proportional branching outputs, said connection system comprising a single connection from said one of said proportional branching outputs, and a parallel



connection from said single connection to provide said opposed control inputs to said derivative amplifier, a fluid resistance in one side of said parallel connection, and a fluid resistance and fluid capacity in the other side of said parallel connection, input, two branching outputs to which said power and said reset amplifier comprising a fluid power flow may be selectively directed, a first pair of opposed control inputs to said reset amplifier, an operative connection from an output of said derivative amplifier to one of said first pair of reset control inputs, an operative connection from the output of said proportional amplifier which is not connected to said derivative amplifier to the other of said first pair of reset control inputs, a second pair of opposed control inputs to said reset amplifier, a single cross-over feedback connection from one of said reset outputs to only the one of said second pair of control inputs which is opposite in said reset amplifier to said one of said reset outputs, a single cross-over feedback connection from the other of said reset outputs to only the other of said second pair of control inputs, a fluid resistance and fluid capacity combination in each of said cross-over feedbacks, and a signal output pair in the form of an output connection from each of said branching outputs of said reset amplifier.

3,339,572

ELECTRO-HYDRAULIC SERVO VALVE

Carroll G. Gordon, 3 William Court, Menlo Park, Calif. 94025, and William F. Stoesser, 3366 Fayette Drive, Mountain View, Calif. 94040

Filed Jan. 25, 1965, Ser. No. 427,852

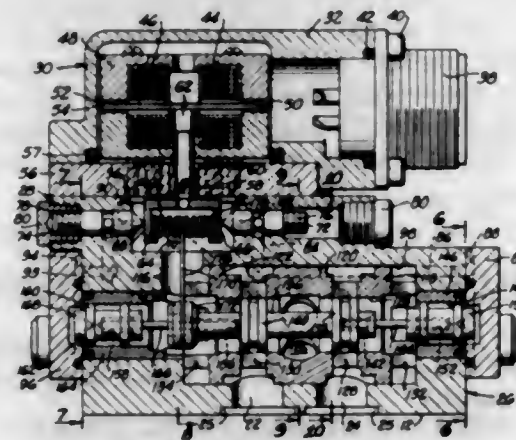
3 Claims. (Cl. 137—85)

1. An electro-hydraulic servo valve, said electro-hydraulic servo valve comprising:

an electro-mechanical torque motor, a mechanical-hydraulic amplifier, a hydraulic-mechanical motor and a mechanical-hydraulic main valve;

said torque motor comprising electromagnetic coils and an armature movably mounted within said torque motor so as to be acted upon by magnetic flux caused by electrical energization of said coils, said electro-hydraulic servo valve having a body, said coils being rigidly mounted with respect to said body and said armature being resiliently mounted with respect to said body, a member mounted on said armature so as to move in accordance with motion of said armature with respect to said coils, said member comprising an element secured to said armature and a yoke secured to said element;

said amplifier comprising means adapted to supply hydraulic fluid under pressure, dividing means adapted to divide hydraulic fluid into first and second streams, first and second nozzles directing said first and second streams against said member, said first and second nozzles being mounted on said body, said member being so positioned with respect to said



nozzles that motion of said member with respect to said body changes the relative pressure in said first and second streams;

said hydraulic-mechanical motor comprising movable means movable with respect to said body and connected to said first and second streams so that said movable means moves with respect to said body in response to changes in hydraulic fluid pressure in said first and second streams, said movable means being connected to said main valve to control the position of said main valve;

said main valve comprising a spool mounted within said body, lands on said spool and ports in said body, hydraulic fluid connection conduits in said body connected to said ports, said lands being related to said ports so as to control flow of hydraulic fluid between said ports, and resilient means connected between said spool and said member, said resilient means comprising a leaf spring secured to said spool and first and second compression springs engaged within said yoke and engaging said leaf spring so that motion of said spool caused by said movable means resiliently urges said member.

3,339,573

FLOW CONTROL VALVE

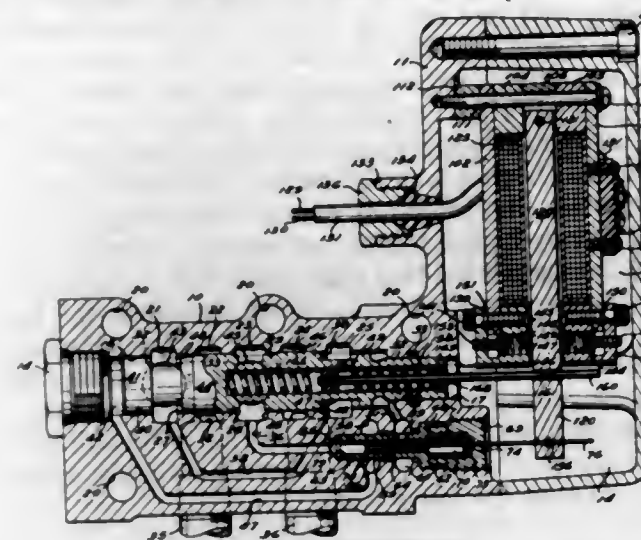
Eugene Bahnluk, Seven Hills, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 15, 1965, Ser. No. 439,895

14 Claims. (Cl. 137—85)

1. A fluid-operated flow control valve having an output flow whose direction and magnitude are responsive to one or more of a plurality of input signals, said valve comprising a valve body having an internal bore provided

with an inlet port adapted to receive a fluid under pressure, a drain port, and a pair of cooperating ports through each of which a fluid may reversibly flow, a spool member adapted for reversible axial movement in the chamber, said spool having a plurality of axially spaced annular lands and grooves adapted upon axial movement of the spool member to selectively connect said inlet port to one of said cooperating ports and the other of said cooperating ports to said drain port, a pilot valve spool carried by the valve body operable to position said spool



member in the chamber, an arm member movably supported with respect to the valve body for movement responsive to at least one of a plurality of input signals, first connecting means between said arm member and said pilot valve spool, second connecting means having a lost-motion action interconnecting said arm member and said spool member, whereby movement of said arm member in response to an input signal moves said pilot valve spool to determine a movement of said spool member producing a force tending to shift said arm member in opposition to said input signal.

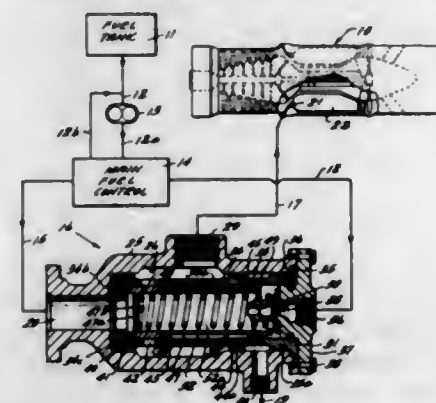
3,339,574

PRESSURIZING AND DRAIN VALVE

Dale M. Erb, Cincinnati, and Howard B. Kast, Fairfield, Ohio, assignors to General Electric Company, a corporation of New York

Filed May 29, 1964, Ser. No. 371,228

5 Claims. (Cl. 137—102)



1. A pressurizing and drain valve for use in a fluid supply system comprising a pressurized fluid source for supplying fluid to a manifold or the like, and a reference pressure source, said valve comprising:

- a housing,
- a valve element shiftable therein,
- said valve element and housing forming in combination opposed chambers,
- a port for connecting one of said chambers to said reference pressure source to thereby urge said element to a first position,

an intake for connecting the other of said chambers to said pressurized fluid source whereby when the pressure force on said element in the second chamber is greater than in the first chamber, the valve element will be shifted from said first position, a pressurized fluid outlet, opening into said second chamber for flow of fluid to said manifold, a drain outlet,

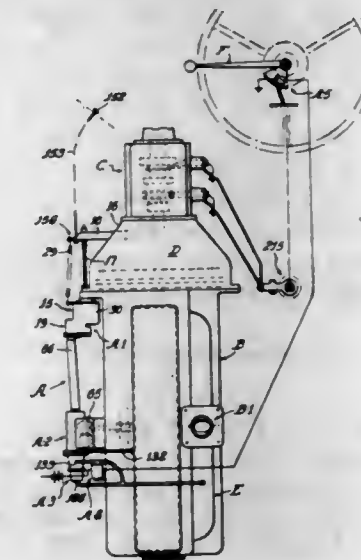
internal passageway means between said outlets, said element blocking flow of fluid to said fluid outlet and permitting fluid flow from said fluid outlet to said drain outlet when in its first position, said element, when displaced from said first position a given distance, permitting flow of fluid to said fluid outlet, said element when displaced beyond a lesser given distance preventing flow of fluid between said outlets,

whereby the pressure of the fluid source may be regulated when there is fluid flow and the manifold automatically drained when there is no fluid flow.

3,339,575

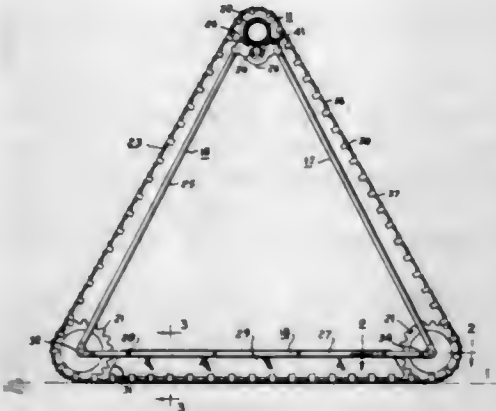
CONTROL VALVE FOR AUTOMATIC CLUTCH CONTROL

Richard L. Smrl, La Grange, Michyslaw J. Wacławek, Olympic Fields, and John W. Adelman and Edward F. La Buda, Chicago, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Aug. 2, 1961, Ser. No. 128,916, now Patent No. 3,263,782, dated Aug. 2, 1966. Divided and this application Dec. 9, 1963, Ser. No. 336,332
3 Claims. (Cl. 137—115)



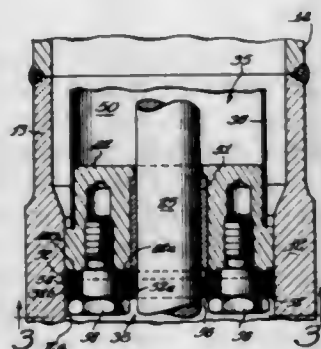
1. Mechanism for controlling engagement of a friction engaging device arranged to provide for transmission of torque between a drive member and a driven member, comprising means for supplying pressurized fluid, a casing having a control chamber for receiving the pressure fluid means for applying engaging force to the engaging device graduated in accordance with the fluid pressure in said chamber, manually controlled means for relieving the pressure in the said chamber for disengaging the friction device, and a primary valve control means for regulating the fluid pressure in said chamber, said control means being particularly characterized by a by-pass orifice provided in said casing and communicating said chamber with said supply means so that pressure in said control chamber will build up parabolically in accordance with increase in pressure of said supply means, and a pre-load valve means adapted to maintain said orifice closed until a predetermined pressure is reached thereby enabling the friction engaging device to be lightly engaged when the pressure of said supply is substantially reduced.

3,339,576
IRRIGATION PIPE SUPPORTING CARRIAGE
 Thurman Q. Skains, 1616 E. Cardwell,
 Brownfield, Tex. 79316
 Filed July 14, 1965, Ser. No. 471,858
 15 Claims. (Cl. 137-344)



1. A carriage for movably supporting an irrigation pipe including a frame having a pair of upright end sections, an upper substantially horizontal frame section connecting the upper end portions of the upright frame sections and adapted to extend longitudinally of an irrigation pipe, a lower substantially horizontal frame section connecting the lower end portions of said upright frame sections and having portions adapted to project transversely of the irrigation pipe, means at the upper end portions of said upright frame sections for rotatably supporting the irrigation pipe, rotatable means mounted on the projecting portions of the lower substantially horizontal frame section, sprocket means adapted to be fixed on the irrigation pipe intermediate the means for rotatably supporting said pipe, and endless track means trained over the rotatable and sprocket means for imparting travel to the carriage upon rotation of the irrigation pipe and having a lower flight portion underlying said lower frame section and extending between said rotatable means for engaging the ground.

3,339,577
VALVE CONSTRUCTION
 James W. Teegarden, McKinney, Tex., assignor to Fisher Governor Company, a corporation of Iowa
 Filed Oct. 1, 1965, Ser. No. 492,245
 7 Claims. (Cl. 137-375)



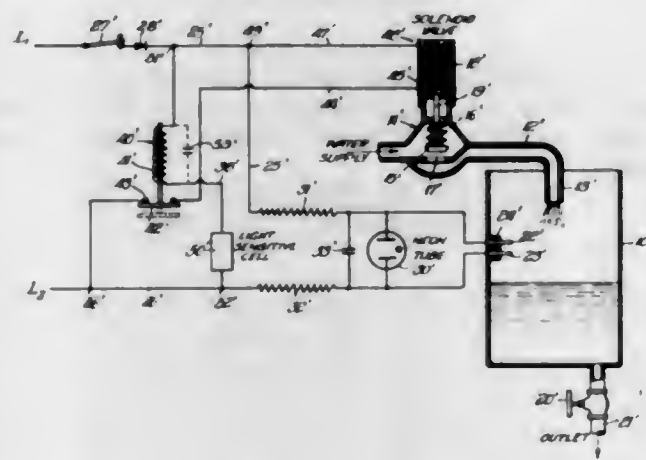
1. In a valve adapted for use at cryogenic temperatures comprising a valve body having a flow passage therethrough, extension tubing affixed at one end to said valve body, and a bonnet affixed to the end of the extension tubing remote from the valve body, and valve means including a valve stem reciprocable within said valve, the improvement comprising baffle means for sealing between

the valve stem and the valve body comprising guide bushing means having a bore therethrough for slidably receiving a valve stem, said guide bushing means being adapted to be received in a bore in the valve body at normal temperatures, an annular plastic cup ring U-shaped in cross section disposed adjacent said guide bushing means, the base of the cup ring abutting the guide bushing means and the legs extending outwardly therefrom, one leg of the cup ring being adapted to cooperate with said valve stem and the other leg of the cup ring being adapted to cooperate with said bore in the valve body, an internal support ring for holding said cup ring in place on the guide bushing means, an energizing ring disposed between the cup ring and the internal support ring, and means for retaining said internal support ring, said cup ring, and said energizing ring on said guide bushing means, said energizing ring being fabricated from a material having low thermal expansive properties, the materials of the valve body and the cup ring having higher thermal expansive properties than those of the energizing ring and valve stem, respectively, whereby at cryogenic temperatures of operation, the wall defining the bore in the valve body will contract inwardly to a greater extent than the energizing ring so as to cause sealing engagement between said wall and said other leg of the cup ring and the leg of the cup ring will contract to a greater extent than the valve stem to sealingly engage said one leg with the valve stem.

3,339,578
LEVEL SENSING MEANS FOR ELECTRICALLY CONDUCTIVE MATERIALS

Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
 Continuation of application Ser. No. 463,462, May 26, 1965. This application July 29, 1966, Ser. No. 568,975

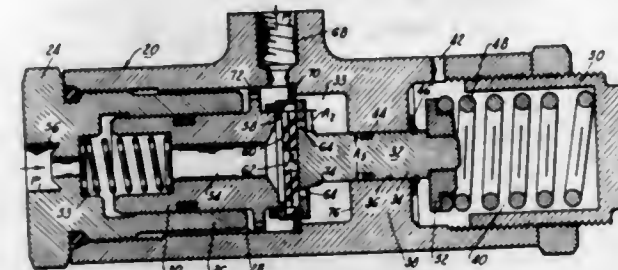
15 Claims. (Cl. 137-392)



1. In a device of the character described, the combination comprising, a container adapted to contain electrically conductive materials, first circuit means operative with relatively low current flow, a pair of spaced electrodes associated with said container for contact by the materials at a predetermined level of material in said container, second circuit means operative with relatively high current flow, and an electrically energized element included in said first circuit means having a first electrical condition responsive to a predetermined voltage, said electrodes electrically connected in parallel to said electrically energized element for creating a short circuit to said electrically energized element when a circuit is completed between said electrodes, said electrically energized element responsive to the state of completion of a circuit between said electrodes for assuming a second electrical

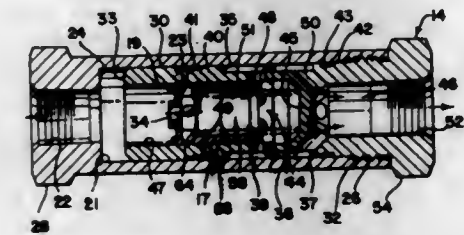
condition to effect a change in the energization of said second circuit means.

3,339,579
PRESSURE HOLD OFF VALVE
 Richard L. Lewis, Charles M. Barnes, and Donald W. Smith, St. Joseph, Mich., assignors to The Bendix Corporation, a corporation of Delaware
 Filed Aug. 27, 1965, Ser. No. 483,045
 4 Claims. (Cl. 137-493.2)



1. A pressure hold off device comprising: a housing having a bore therein, a first valve member and a second valve member mounted in said bore for substantial slidable movement therein, said bore including an inlet chamber and an outlet chamber, said second valve member having a first effective area exposed to pressure in said outlet chamber, first passage means carried by said first valve member communicating a second effective area on said second valve member and said outlet chamber with said inlet chamber, said first effective area being so arranged that outlet pressure acting thereon will urge said second valve member in one direction and into engagement with said first valve member, said second effective area being greater than said first effective area and so arranged that inlet pressure acting thereon will urge said second valve member in the opposite direction, cooperating valve means on said valve members effective to cut off communication between said first passage means and said outlet chamber in closed position when said valve members engage each other and to communicate said inlet and outlet chambers in open position when said valve members are disengaged from each other, second passage means communicating said outlet chamber to said inlet chamber, check valve means located in said second passage means constructed to allow flow only from said outlet chamber to said inlet chamber, first stop means, first resilient means urging said second valve member in said one direction against said first stop means, second resilient means weaker than said first resilient means urging said first valve member in said opposite direction into engagement with said second valve member, second stop means, abutment means carried by said first valve member for engagement with said second stop means, third stop means, abutment means on said second valve member for engaging said third stop means, said valve members being so constructed that when said second valve member is against said first stop means said abutment means on said valve members are spaced in said one direction from their respective stop means with said abutment means on said second valve member being spaced further away from said third stop means than said abutment means on said first valve member is spaced from said second stop means, said valve members and said outlet chamber being so constructed and arranged to define a decreasing chamber when said valve members are moved in said opposite direction against the force of said first resilient means.

3,339,580
FLOW REGULATOR
 Robert Cutler, Parma, and John H. Mueller, Olmsted Township, Ohio, assignors to Republic Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
 Filed Mar. 22, 1965, Ser. No. 441,585
 2 Claims. (Cl. 137-504)

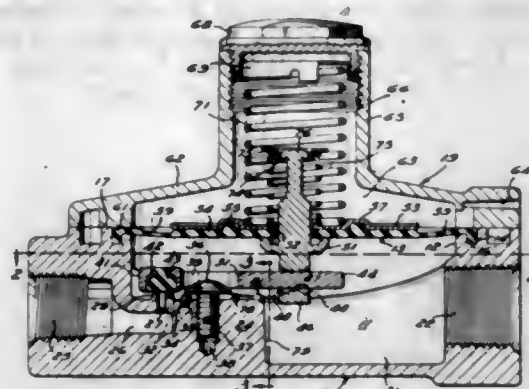


1. A free reverse flow regulator comprising in combination a main valve housing having a longitudinal passageway therethrough, said passageway being adapted to receive a mating body member having a longitudinal passageway therethrough, said passageway in said body member being interrupted by a transverse wall member separating the passageway in said body member into an upstream chamber and a downstream chamber, said chambers being interconnected by radial apertures and an annular passage formed between the passageway in the main valve housing and the periphery of the mating body member, the upstream chamber in said body member having innerfitted therein a hollow reversible piston, said piston being biased away from said transverse wall member in the body by means of a spring, the passageway in said main valve housing having an enlarged bore near said upstream end, said bore being larger than said piston diameter and said upstream chamber, said housing having a restricted passageway smaller than said bore and said piston diameter, said piston having end undercut portions in said upstream end communicating with said enlarged bore, said piston further having radial apertures downstream from said end undercut portions, whereby under conditions of free reverse flow said piston provides fluid connections from said radial apertures into said enlarged bore and through said end undercut portions, whereby under the conditions of controlled flow said piston travels into said upstream chamber blocking said radial apertures in said piston head preventing fluid from flowing through said radial apertures.

3,339,581
FLUID PRESSURE REGULATOR VALVE
 Louis B. Courtot, Euclid, Ohio, assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Rhode Island
 Filed June 15, 1965, Ser. No. 464,038
 7 Claims. (Cl. 137-505.46)

1. A fluid pressure regulator comprising a body defining a fluid chamber having an open side, a diaphragm closing said open side and movable responsive to the fluid pressure in said chamber, spring means biasing said diaphragm into said chamber, an outlet from said chamber, an inlet on said body, passage means interconnecting said inlet and said chamber and including a valve seat, a lever pivotally mounted in said chamber, a valve closure member movable to and from said valve seat by said lever, linkage means interconnecting said lever and said diaphragm, and stop means engageable by said lever when

said valve closure member is away from said valve seat, said stop means being operable when engaged by said

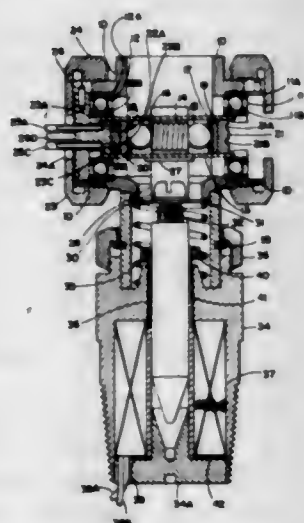


lever to positively restrain said lever against lateral movement and pivotal movement in one direction.

3,339,582

CHROMATOGRAPHIC SWITCHING VALVES
Edwin L. Karas, Sharon, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts

Filed July 23, 1965, Ser. No. 474,354
10 Claims. (Cl. 137-624.13)



1. A rotary switching valve comprising:

- a stationary member having a working face with passages extending therethrough and terminating at the surface of said working face,
- a rotatable member having a complementary face adapted to sealably abut against said working face and having at least one channel therein bridging selected portions of said complementary face so that relative rotation of said complementary face to said working face in the plane of the abutting faces periodically form a bridging connection of a pair of said passages by a said channel,
- a resilient body bearing against said rotatable member at portions thereof opposed to said complementary face,
- pressure means consisting of a compression spring urging said resilient body against said rotatable member thereby obtaining a uniform seal between said abutting faces,
- holding means being a cylindrical member enclosing said rotatable member and said resilient body and said spring for axially aligning said resilient body and said rotatable member,
- means for keying said rotatable member to said holding means in angular alignment so that rotation of said holding means results in rotation of said resilient body and said rotatable member, and

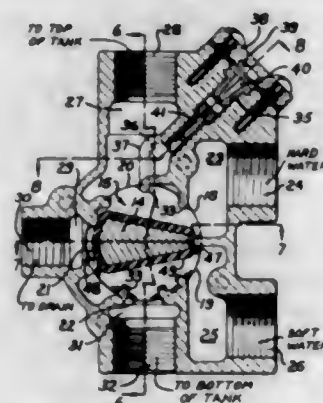
actuation means for periodically rotating by a predetermined amount said holding means thereby causing said rotatable member to turn its complementary face relative to said working face of said stationary member.

3,339,583

ROTARY DIAPHRAGM VALVE FOR WATER SOFTENERS

Lambert W. Fleckenstein, 4445 N. 135th, and Andrew J. Fleckenstein, 13650 Squirrel Drive, both of Brookfield, Wis. 53005

Filed Sept. 21, 1964, Ser. No. 397,906
5 Claims. (Cl. 137-625.29)



3. A multi-port water softening valve including a valve body having an operating chamber therein, said body having a plurality of ports opening into said chamber and spaced at equal radial distances with respect to said chamber, one of said ports being positioned closely adjacent to another port so as to provide hard water inlet and service outlet passages adjacent to one another, others of said ports being connectable to separated inlet and outlet portions of a softener tank and to drain connection, and a rotary valve operating member positioned within and for rotation about a central axis of said chamber, said valve operating member having radial dimensions such as to span the valve chamber between two opposed ports while serving to partition said hard water inlet port and soft water outlet ports from one another in one position of the valve and while allowing communication between said hard water inlet port and one portion of a softener tank and communication between said service outlet port and another portion of said softener tank, said operating member having a medial portion of tapered form with one side portion of said member of sufficient dimensions to span and close any one of said valve ports while the opposite side portion of said operating member is of smaller dimensions which are insufficient to span and close any one of said valve ports, said valve member having another position connecting said hard water inlet port to said another portion of said softener tank while also connecting the hard water inlet port to said service outlet port to provide backwashing and while connecting said drain connection to said one portion of said softener tank.

3,339,584

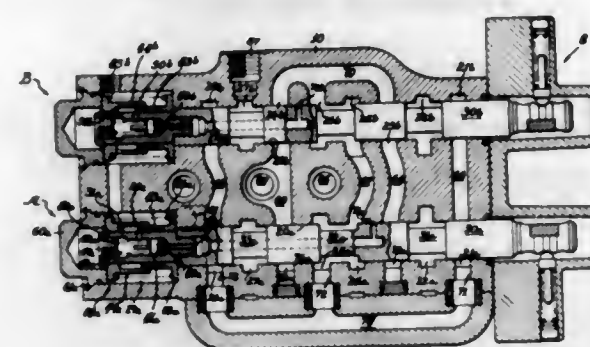
DIRECTIONAL CONTROL VALVE

Wayne J. Long, Auburn, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 25, 1964, Ser. No. 377,907
4 Claims. (Cl. 137-625.69)

1. A directional control valve comprising a valve body having a spool bore therein; a plurality of spaced apart passages in said valve body in communication with said spool bore; a valve spool positioned within said spool bore including a plurality of spaced apart lands; said spool

being operative in combination with said valve body to assume a neutral, a lift, and a drop position; a chamber formed in said valve body at one end of said spool bore; a passage formed in said spool extending from one end thereof longitudinally therein providing for communication with one of said spaced-apart ports with said spool in said lift position and with another of said spaced-apart ports with said spool in said drop position; a pilot valve body connected to said one end of said spool defining a shoulder between said pilot valve body and said one end of said spool; a pilot valve passage extending within said



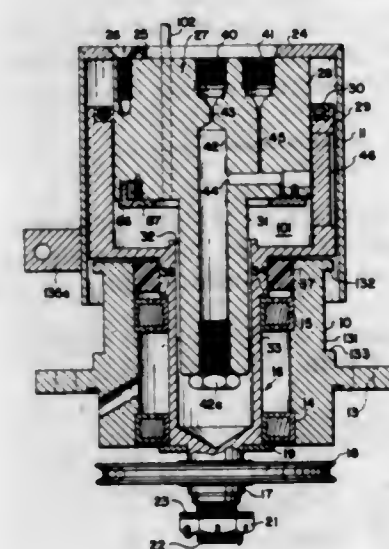
pilot valve body providing communication between said passage and an exterior portion of said pilot valve body; a pressure relief valve formed in said pilot valve passage; said chamber providing a first shoulder and a second shoulder, a cylinder assembly positioned on the exterior portion of said pilot valve body including concentrically arranged inner and outer sleeve members defining a chamber in communication with said pilot valve passage; said cylinder assembly operatively arranged to engage said first shoulder and said second shoulder, and resilient means associated with said cylinder assembly to urge said valve spool toward said neutral position.

3,339,585

SEQUENTIAL DISTRIBUTOR CONTROL VALVES

Richard P. Heintz, Kalamazoo, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Sept. 7, 1965, Ser. No. 485,332
13 Claims. (Cl. 137-627)



1. A fuel injection control valve comprising valve housing means, a stator operatively connected to said housing therewithin and spaced therefrom to define an annular opening, said stator being formed with an axial supply passage and a plurality of fuel outlet passages, each of said plurality of fuel outlet passages communicating with said supply passage through a transverse passage

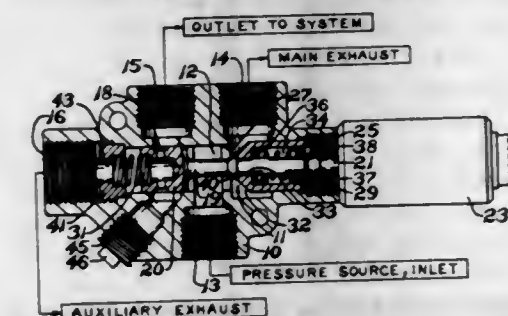
formed in said stator, poppet means and cam follower means mounted in each of said transverse passages for controlling the supply of fuel from said supply passage to the associated fuel outlet passage, said cam follower means being biased by the pressurized fuel to a position wherein the radially outer end thereof extends into said annular opening, rotor means mounted for rotation within said housing and having an annular upper end portion extending into said annular opening between said stator and said housing, said rotor having mounted thereon a separately formed cam member extending inwardly from the bore of said upper end of said rotor section and adapted to engage during rotation of said rotor the radially outer end of said cam follower for moving said cam follower and said poppet means radially inwardly toward said supply passage, and means cooperating with said poppet means for shutting off the flow of pressurized fuel from said supply passage to said associated outlet passage when said poppet means has been actuated by said rotor cam to such radially inward position.

3,339,586

MOTOR CONTROLLED SEQUENTIALLY OPERATED PLURAL VALVES

Wayland A. Tenkku, Mentor, and Frank Hribar, Jr., Kirtland, Ohio, assignors to Fluid Regulators Corporation, Painesville, Ohio, a corporation of Ohio

Filed May 27, 1964, Ser. No. 370,469
2 Claims. (Cl. 137-628)



1. A valve comprising a casing with inlet, outlet, main exhaust and auxiliary exhaust ports; a plunger reciprocative in the casing providing three-way directional control action between said ports; means for biasing said plunger to a position in which said inlet port is normally in communication with said main exhaust port, and said outlet port is in communication with said auxiliary exhaust port; a motor for displacing said plunger to a position to communicate said inlet port and said outlet port and to block communication between both the latter said ports and both said exhaust ports; and said plunger including a sleeve movable with the plunger for directional control of said fluid between said inlet, outlet and main exhaust port, and means for yieldingly connecting said sleeve to said plunger for movement of said sleeve relative to the plunger, whereby said sleeve is adapted, to modulate the pressure of said medium by selectively recommunicating said inlet and main exhaust port in response to a predetermined pressure of said medium.

3,339,587

DISCHARGE DEVICE FOR AN AUTOMATIC WASHING MACHINE

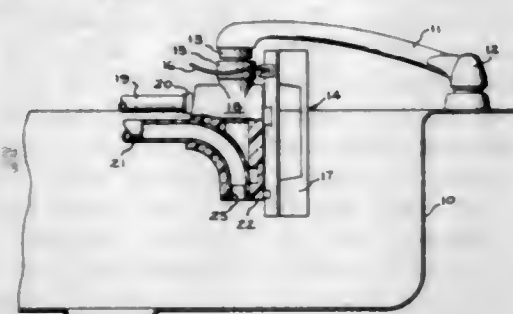
John A. Dicken, Jr., Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Apr. 6, 1964, Ser. No. 357,653
4 Claims. (Cl. 137-801)

1. A device to direct the flow from the discharge conduit of an automatic washing machine into a receptacle comprising:

- (a) a housing,
- (b) means to support said housing above the receptacle,

(c) said housing adapted to receive therein a portion of the discharge conduit,



(d) said housing having an internal surface to form at least a part of said portion into a smooth curve whereby the terminal end of the conduit is directed toward the receptacle.

3,339,588

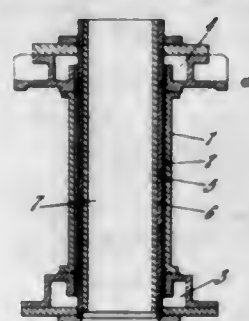
CONTINUOUS CASTING MOLD

Paul Nilles, Embourg, Belgium, assignor to Centre National de Recherches Metallurgiques, Brussels, Belgium, a Belgian company

Filed June 11, 1965, Ser. No. 463,147

Claims priority, application Luxembourg, June 13, 1964, 46,316

6 Claims. (Cl. 138-145)



1. An ingot mold for the continuous casting of metals, the ingot mold having metal-contacting faces formed of cobalt.

3,339,589

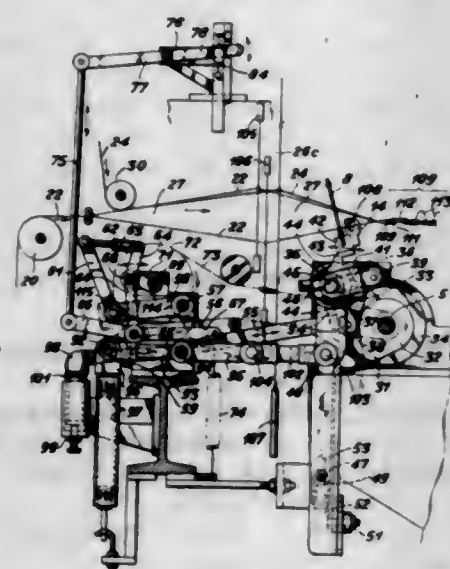
SLEY MOTION FOR TERRY LOOM

Hans Götz and Julius Drewitz, Steinhagen, Westphalia, Germany, assignors to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

Filed Sept. 17, 1965, Ser. No. 488,174

Claims priority, application Switzerland, Sept. 18, 1964, 12,059/64

7 Claims. (Cl. 139-26)



4. A terry loom sley motion comprising a frame, a sley shaft journaled in said frame, means to oscillate the sley shaft arcuately about its own axis, means affixed to the

sley shaft and having bearing surfaces on opposite sides of the axis of the sley shaft defining a path of parallel rectilinear motion transversely of the sley shaft, and a sley engaging said bearing surfaces for motion transversely of the sley shaft.

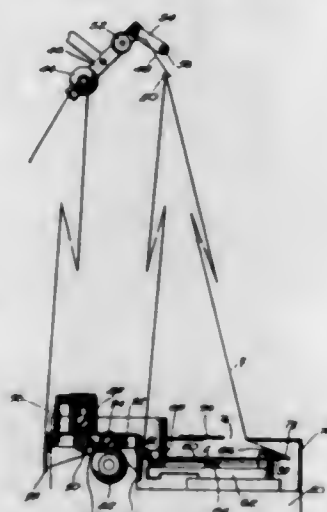
3,339,590

MECHANISM FOR REGULATING FILLING FEED

Carl F. Libby, Stoughton, Mass., assignor to John D. Riordan, Hopkinton, Mass., and Gertrude C. Libby, Stoughton, Mass., trustees of the Libby family trusts

Filed Oct. 14, 1965, Ser. No. 495,816

5 Claims. (Cl. 139-122)



1. In a narrow web loom having a finger with an eye in one end for filling yarn and means for actuating said finger to move said end to describe a closed curve, said actuating means comprising a finger guide through which the finger slidably extends, said guide being rockable about a vertical axis, a crank with a pin to which the other end of the finger is operatively connected, said crank having a crankshaft rotatable about a vertical axis; a second guide eye carried by said finger at a point remote from the first said eye, a yarn guide member supported over said crank, said guide having an aperture the edge of which is engaged by a filling yarn traveling down from above the member and through said aperture to said second guide eye and on through the first said guide eye to said web, the shape of said aperture being such that the sum of the length of yarn from said edge to said second guide eye and the length of yarn from the first said guide eye to said web increases at a substantially constant rate during each cycle of operation of said finger.

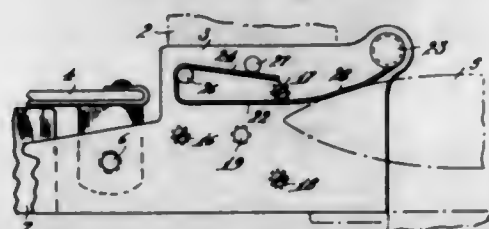
3,339,591

SHUTTLE CHECK FOR LOOMS

Lloyd G. Urquhart, Westboro, Mass., assignor to H. F. Livermore Corporation, Boston, Mass., a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 476,572

1 Claim. (Cl. 139-183)



For controlling a shuttle as it enters a shuttle box having a lay, a leaf spring, means for mounting the spring over a lay with one side facing the lay, with its front end fixed and its rear end free to flex away from the lay and with the spring inclining downwardly from the fixed end

into the path of the shuttle, thereby yieldingly to deflect the shuttle toward the lay and check its flight, a stop at the free end of the spring to restrict movement of the spring, thereby to increase the checking effect of the spring as it is flexed, and a second stop intermediate the ends of the spring to restrict further movement of the spring after it has been flexed a predetermined amount, the forward end of the spring being bowed downwardly and having a concave portion, said concave portion being shaped to conform approximately to the longitudinal curvature of the shuttle when it is first engaged by the shuttle.

3,339,592

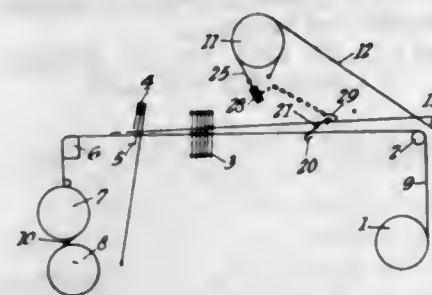
WOVEN FABRICS

Edward Glendinning, Huddersfield, England, assignor to Glendinning Bros. Limited, Huddersfield, England, a British company

Filed Feb. 18, 1965, Ser. No. 433,550

Claims priority, application Great Britain, Mar. 3, 1964, 9,001/65

3 Claims. (Cl. 139-421)



1. A method of making a fabric including the steps of providing at least one ground warp of non-elastic yarn, a warp of elastic yarn, and a weft, effecting in the elastic yarn a tension sufficient substantially to stretch the yarn, weaving together the weft and warps while continuously comparing the tension in the elastic warp yarn with the tension in the non-elastic warp yarn, controlling the ratio of the tension of the elastic warp yarn to the tension of the non-elastic warp yarn at a predetermined value to form a fabric having an edge containing said elastic yarn, and relaxing the tension in said elastic yarn to form folds in the rest of the fabric.

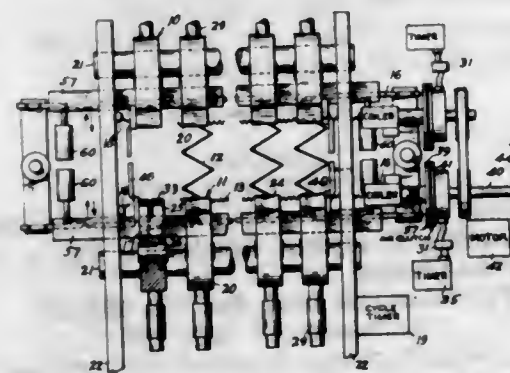
3,339,593

SPRING ASSEMBLING MACHINE

Edwin G. Krakauer, Roslyn Heights, and Daniel Krakauer, Great Neck, N.Y., assignors to Kay Manufacturing Corp., a corporation of New York

Filed May 7, 1965, Ser. No. 453,965

20 Claims. (Cl. 140-92.8)



1. In a spring assembling machine, means for intermittently forming and intermittently advancing a helical, a jaw unit having closeable spring-holding jaws, means responsive to the insertion of a spring into the machine for closing the jaws and means responsive to the closing of the jaws for controlling the intermittent operation of the first mentioned means.

3,339,594

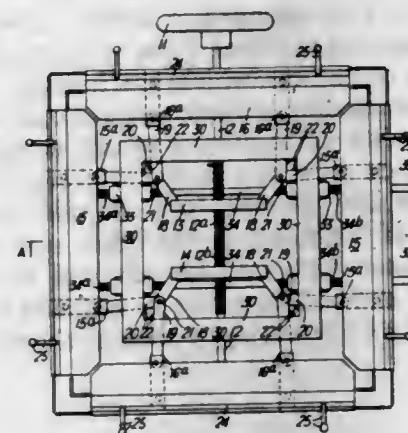
TENSIONING OF SIEVES, SCREENS AND THE LIKE

Kenneth L. Elliott, Cranford, Castle Donington, near Derby, England, assignor to Cranco Engineering Limited, Long Eaton, England, a company of Great Britain

Filed July 28, 1964, Ser. No. 385,591

Claims priority, application Great Britain, Sept. 17, 1963, 36,450/63

8 Claims. (Cl. 140-109)



1. A tensioning apparatus comprising a base, a shaft carried in the base, left and right-hand screw-threaded portions on the shaft, two brackets mounted on the shaft, one on the left-hand screw-threaded portion and the other on the right-hand screw-threaded portion, means for rotating the shaft, said shaft by virtue of the screw-threaded portions when rotated causing the brackets to move in opposite directions, pivotally movable linkages connected to the brackets, gripping members connected to the linkages, the gripping members being in the form of four straight channels at 90° angles to each other, each gripping member being movable outwards under the action of the linkages, whereby a sheet of flexible material gripped by them is tensioned, a frame supported by the base at a level below a sheet of flexible material gripped in said gripping members, and means connected to the frame for lifting it up into contact with tensioned flexible material.

3,339,595

APPARATUS FOR TRANSFERRING MEASURED QUANTITIES OF PULVERULENT MATERIAL

Wilhelm Pechmann, Burscheld, Germany, assignor to H. Strunck & Co., Cologne-Ehrenfeld, Germany

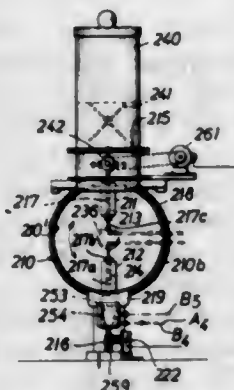
Filed Aug. 15, 1963, Ser. No. 302,273

Claims priority, application Germany, Aug. 16, 1962, St 19,596

11 Claims. (Cl. 141-44)

1. An apparatus for transferring measured quantities of pulverulent material from a source of such material to an evacuating station, comprising a rotor having a cut-out including a sector shaped first section and an axially extending second section, a peripheral surface, and at least one axially parallel row of measuring chambers each having an open end at said peripheral surface and each extending radially inwardly toward said second section; a plurality of manually actuable adjusting means mounted in said rotor and each associated with one of said measuring chambers and including an adjusting portion adjustably arranged in the respective measuring chamber and an actuating portion located in said second section of said cutout, said actuating portions arranged in said second cutout section spaced from each other in axial direction thereof and accessible through said sector-shaped first cutout section for manual actuation thereof; and drive means for oscillating said rotor back and forth between a plurality of angularly spaced positions in one of which the open ends of said chambers are located at the source and in another of which the open ends of said chambers are located at an evacuating station.

5. An apparatus for filling bottles or similar containers with measured quantities of comminuted material, comprising a rotor arranged to rotate about a horizontal axis and having a peripheral surface provided with two spaced axially parallel rows of measuring chambers, each of said chambers having an open end at and extending substantially radially inwardly from said peripheral surface; a source of comminuted material located above said rotor and having an underside through which the material may descend by gravity; a row of funnels located at a level below said rotor and arranged to convey measured quantities of comminuted material from one row of chambers at a time into containers which are located therebelow; drive means arranged to oscillate said rotor back and forth between a plurality of angularly spaced positions in one of which the open ends of chambers in one of said rows are located beneath the underside of said source while the open ends of chambers in the other row are located above and register with said funnels and in another of which the open ends of chambers in said one row register with said funnels while the open ends of chambers in said



other row are located beneath the underside of said source; a suction generating device arranged to draw comminuted material by suction into that row of chambers whose open ends are adjacent to the underside of said first mentioned source; a source of compressed gas arranged to expel material from that row of chambers whose open ends register with said funnels; a filling member surrounding said funnels and defining a gas-receiving space around each funnel, said filling member comprising sealing partitions dividing each of said gas-receiving spaces into an upper zone and a lower zone; first conduit means connecting the upper zones of said gas-receiving spaces with said source of compressed gas, at least a portion of each of said funnels consisting of gas-permeable material so that a gas admitted into the upper zones of said gas-receiving space passes through and separates comminuted material from said funnels; and second conduit means connecting said suction generating device with the lower zones of said gas-receiving spaces so as to draw the material into the funnels by evacuating air from the funnels and from the respective containers while the material flows from a row of chambers into the funnels.

3,339,596 CHAIN SAW

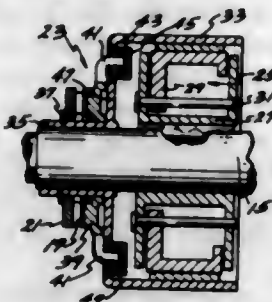
Hayo Deelman, Peterborough, Ontario, Canada, assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,491

5 Claims. (Cl. 143-32)

1. The combination of a chain saw engine including a crankshaft, a cutter bar extending from said engine, a chain sprocket, means on said engine rotatably supporting said chain sprocket, a clutch having a driving member and a driven member, drive means connecting

said driven clutch member and said sprocket including a resilient connection, means on said sprocket and on



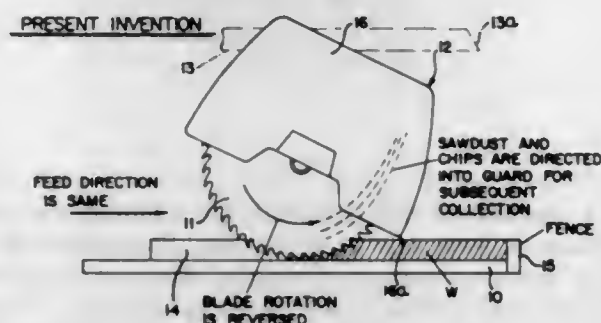
said driven clutch member for limiting flexure of said resilient connection, and a saw chain trained around said sprocket and said cutter bar.

3,339,597

DUST-COLLECTING SYSTEM FOR SAW MACHINE
Samuel H. Kohler, Timonium, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed Oct. 22, 1965, Ser. No. 500,646

5 Claims. (Cl. 143-47)



1. In a saw machine, a sawdust collection system, comprising:

- a table for supporting a workpiece;
- a saw blade traversable towards the front of the table in making a cut in the workpiece;
- supporting means at the front of the table for preventing movement of the workpiece as the cut is made;
- means for rotating the saw blade in a counter-clockwise direction when viewed from the side of the machine with the supporting means being at the right;
- blade guard means having a front portion in close proximity to the top surface of the workpiece;
- whereby the rotation of the saw blade directs the sawdust into the guard means; and
- receptacle means for collecting the sawdust directed into the guard means.

3,339,598

SAW STRUCTURES

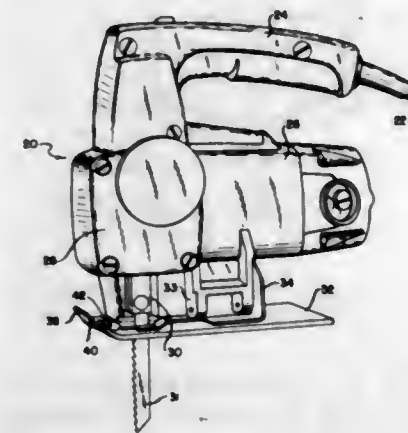
Lars Frostad, Syracuse, N.Y., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 12, 1964, Ser. No. 389,082

5 Claims. (Cl. 143-68)

1. In a portable power operated bayonet saw having a base adapted to engage and move along the surface of a workpiece and means adapted to move a saw blade in a cutting stroke and a return stroke through an opening in said base, said blade having teeth projecting from the front edge thereof, a transparent insert having a blade receiving slot, the width of said slot being not substantially greater than the width of said blade, and cooperating tongue and groove means on said base and said

insert mounting said insert in said base opening to dispose the sides of said slot closely adjacent the sides of said blade and the closed end of said slot closely adjacent said teeth at least on said cutting stroke to prevent separation of portions of the workpiece along the saw kerf, said cooperating tongue and groove means being adapted to permit relative movement between said transparent insert and said base in the plane of the base while



preventing substantial vertical movement of the insert whereby said insert is adapted to move freely relative to the base to follow any twisting and lateral motion of the blade during the cutting action, said blade slot being open at its rearward end and the opening in said base extending to the front edge of said base to permit removal of said insert from said base without prior removal of said blade, and means to detachably retain said insert in said base opening.

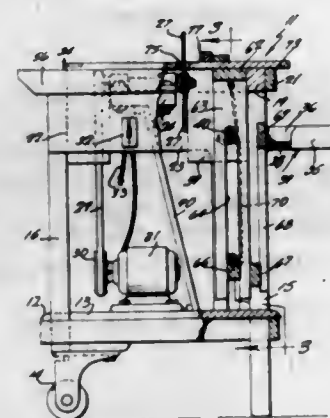
3,339,599

ADJUSTABLE SAW TABLE

Dosh A. Dean, Jr., 18656 Revere St., Detroit, Mich. 48234

Filed Mar. 26, 1965, Ser. No. 443,158

4 Claims. (Cl. 143-132)



1. In a table saw assembly, a main supporting frame, a saw arbor mounted horizontally on said frame, a saw blade mounted on said arbor, a motor on the frame, means drivingly coupling said motor to said saw arbor, a work-supporting table disposed over the saw blade and having a slot to at times provide clearance for said blade, means on the frame defining a vertical guideway, a depending vertical projection secured to said table, said projection extending adjacent said guideway and having a transversely extending element slidably received in said guideway, said projection having a vertical slot aligned with said guideway, a rotary shaft journaled in said frame and extending through said vertical guideway and through said vertical slot, flexible force-transmitting

means connecting said shaft to the lower portion of said projection and adapted to be wound up on said shaft when the shaft is rotated, whereby to move the table upwardly relative to said frame responsive to rotation of the shaft, a ratchet wheel secured on the shaft, and a pawl pivoted to the frame and engaging the periphery of the ratchet wheel to normally prevent rotation of the shaft in one direction, whereby to support the table when it is elevated.

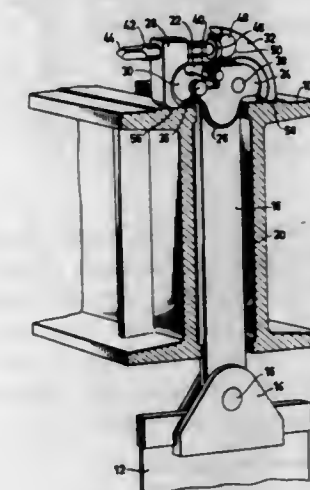
3,339,600

TAB UNITS FOR THE STRETCHING OF SAW-BLADES IN A GANG SAW

Erik Harding Tannerstål, Soderhamn, Sweden, assignor to Aktiebolaget Iggesunds Bruk, Iggesund, Sweden, a corporation of Sweden

Filed Jan. 25, 1965, Ser. No. 427,853

6 Claims. (Cl. 143-156)



1. A tab unit for setting or tensioning saw blades in the loose frame of a gang saw of the type including spaced horizontal bar means, said unit comprising a blade clamping means having an upper portion passing through the space between said bar means, laterally spaced side members rigidly secured to the upper portion of said clamping means, horizontally spaced pins carried by said side members, two arms disposed between said side members and each pivotally mounted on one of said pins, each arm having an abutment adapted to apply a pressing force in a direction toward said bar means, one of said arms having a recess therein extending transversely of and above the pin associated with said one arm, and an axially movable setting member movably supported in said recess and having an end portion engaging the other arm so that when said setting member is moved in a direction toward said other arm the two arms are caused to rotate in the opposite direction about the axes of said pivot pins so as to stretch a saw blade associated with the blade clamping means.

3,339,601

APPARATUS FOR WOODEN DOORS AND DOORJAMBS

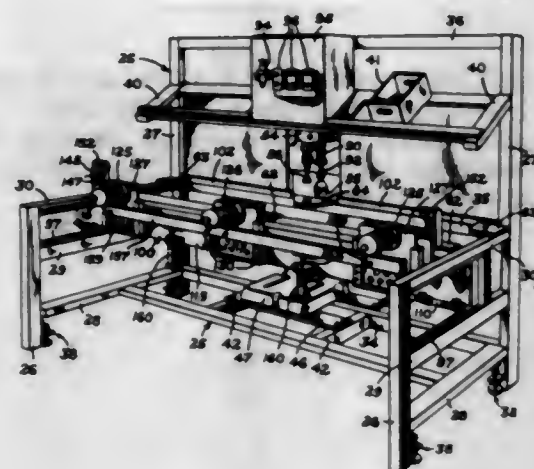
Carl E. Christman and Thomas S. Ferguson, Piqua, Ohio, assignors to Inland Homes Corporation, Piqua, Ohio, a corporation of Ohio

Filed May 7, 1965, Ser. No. 453,985

11 Claims. (Cl. 144-2)

1. An apparatus for preparing wooden door components for the attachment of hinges, comprising a frame structure having means for supporting a door component, clamping means for rigidly securing the components to said frame structure so one edge of the door component is disposed in a predetermined position, an elongated support member slidably secured to said frame structure for

free horizontal movement back and forth on said frame structure parallel to the one edge of the door component, a plurality of router support plates mounted at spaced intervals along the length of said support member and adapted to move vertically thereon perpendicular to the one edge portion of the door component, a power routing tool secured to each said support plate each with its



axis of rotation insubstantially the same horizontal plane, connecting bar means fastened to each of said router support plates for moving said tools simultaneously as a unit in a vertical direction to route the one edge portion of the door component thereby to receive the hinges, and bias means for assisting the smooth movement of said routing tools in a vertical direction.

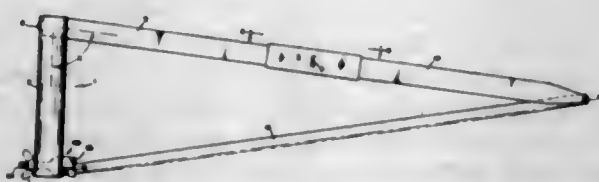
3,339,602

COLLAPSIBLE SAW

David A. Wilson, Box 652, St. Helens, Oreg. 97051

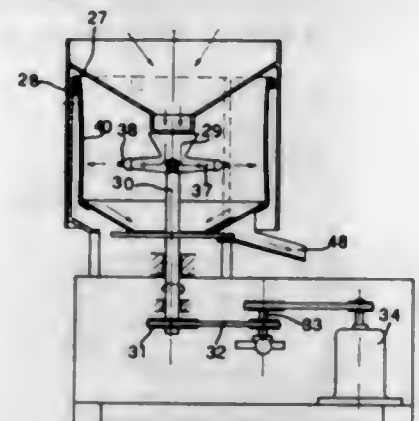
Filed Sept. 21, 1965, Ser. No. 488,945

2 Claims. (Cl. 145—33)



1. A collapsible saw of knockdown type construction comprising in combination;
a saw blade,
an upright hollow cylindrical handle defining adjacent both its top and bottom ends a rectangular opening and an open ended slot in opposed relationship,
elongated frame means supported at one of its ends at the top end of said handle, said frame means terminating at said one end in a longitudinal projection for occupying engagement within the opening adjacent the top end of said handle and at its opposite end terminating in supporting engagement with said saw blade, and
blade tensioning means carried at the bottom end of said handle and comprising a plate slidably disposed within the open-ended slot defined by said bottom end, said plate including a threaded extension extending outwardly of said handle through the rectangular opening in said bottom end of the handle and receiving a nut element for tensioning of the blade resulting in said projection being brought into locked engagement with the perimeter of the occupied opening.

3,339,603
TOMATO PEELING MACHINE
Franco Dall'Argine and Ermes Ghirelli, both of
Strada Mercato 81b, Cornocchio-Parma, Italy
Filed Dec. 12, 1963, Ser. No. 330,090
5 Claims. (Cl. 146—47)

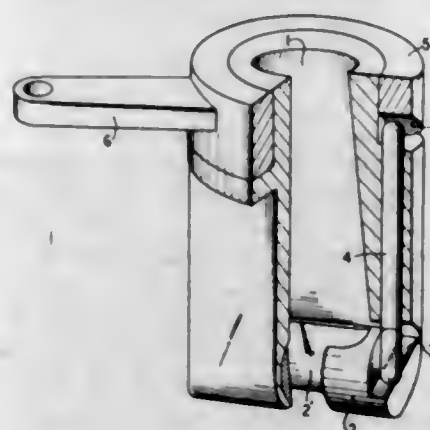


1. A machine for removing the peel from an object having a central pulp surrounded by said peel, said machine comprising means for slicing a section of peel from diametrically opposed portions of the surface of said object, means for scalding said object, a resilient sleeve having at least one transverse dimension less than the corresponding dimension of said object, a passageway through which said object is led to said sleeve, the diameter of said passageway diminishing as it approaches said sleeve, and means for projecting said scalded object into one end of said sleeve with sufficient momentum to carry said pulp completely through said sleeve and out the other end while said peel is frictionally arrested by the inner surface of said sleeve, said projecting means comprising a receptacle connected to receive scalded objects from said scalding means and from which a plurality of said passageways project radially outward, with each passageway terminating in a sleeve, together with means for rotating said receptacle passageways and sleeves as a unit so that a scalded object delivered to said receptacle is projected through one of said passageways into one of said sleeves by centrifugal force.

3,339,604
APPARATUS FOR PACKING MERCHANDISE IN
THE FORM OF PIECES

Friedrich Heinrich Michael Schmitt, Frankfurt am Main, Germany, assignor to FKF-Werke Friedrich Schmitt & Cie, Frankfurt am Main, Germany, a German firm
Filed Mar. 16, 1965, Ser. No. 440,254
Claims priority, application Germany, Mar. 19, 1964, F 42,364

6 Claims. (Cl. 146—106)



1. Apparatus for filling containers of various shapes with a mass containing pieces, which comprises a feed tube having a profile adapted to the profile of the con-

tainer to be filled, and cutting means comprising at least one cutting edge, and means to move said cutting edge over the mouth of the feed tube in a direction which is a component of a vertical motion and a lateral reciprocal motion, thereby cutting said mass and simultaneously closing the mouth of said feed tube.

3,339,605
LID-COVERED CONTAINER
Rolf Lennart Ignell, Lund, Sweden, assignor to
Anders R. Rausing, Blentarp, Sweden
Filed Feb. 25, 1966, Ser. No. 530,020
Claims priority, application Sweden, Mar. 18, 1965, 3,492/65
5 Claims. (Cl. 150—5)



1. A container having a cylindrical side wall portion formed of a yielding, flexible synthetic plastic material of substantially uniform thickness, a closed bottom portion and a top opening extending to said side wall and a resilient lid for said opening having an annular edge-shaped marginal portion of slightly greater diameter than said opening and a central disk portion lying substantially in the same plane, and a substantially non-yielding sleeve tightly surrounding said cylindrical side wall at least in the region adjacent to said top opening.

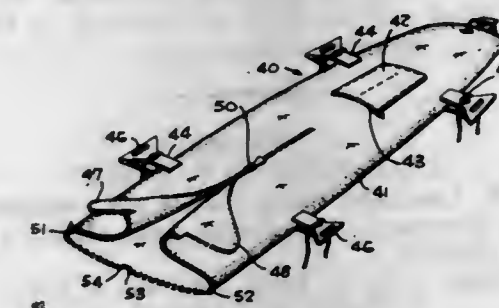
3,339,606
SLIDE CLOSURE
Emanuel Kugler, 124 Richmond Place,
Lawrence, N.Y. 11559
Filed June 14, 1966, Ser. No. 477,701
3 Claims. (Cl. 150—3)



1. A flexible package having a first wall and a second wall in superposed relationship which are joined together at their respective side edges and bottom edge to form

the container, said upper edges of said first and second walls defining an opening, the upper edges of said walls being moveable between a closed, touching position in which said container is closed and an open, separated position in which said container is open, said first and second walls having releasable securing means for releasably holding them in said closed position comprising a transversely extending tongue on said first wall, a transversely extending groove in said second wall, the thickness of said tongue being less than the width of said groove, said tongue and said groove being oriented such that when the upper edges of said first and second walls are brought together into said closed position said tongue is received within said groove, and a layer of pressure sensitive releasable adhesive in the bottom of said groove for releasably and adhesively securing said tongue within said groove to releasably close said container.

3,339,607
SURFBOARD COVER
Larry J. Howard, Los Angeles, Calif.
(Box 5122, North Hollywood, Calif.)
Filed Sept. 20, 1965, Ser. No. 488,522
13 Claims. (Cl. 150—52)

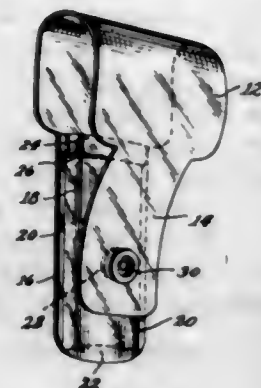


1. A protective means for a surfboard having a structural fin protruding from one surface thereof comprising: an elongated sleeve of flexible material adapted to receive and enclose the surfboard therein so that all surfaces of the surfboard including the fin are covered;
said sleeve having an opening at one end thereof extending between the opposite edges thereof and leading into its interior through which one end of the surfboard is introduced into said sleeve;
closure means carried on said sleeve operable to selectively close said sleeve opening to retain said sleeve about the surfboard;
said sleeve including a pocket portion lying substantially on the central longitudinal axis of said sleeve at a location in close proximity to said sleeve opening and having a pair of cooperating flaps being adaptable to receive, protect and enclose the fin, said closure means operable to secure said pair of flaps; and
a plurality of tiedown means carried on opposite edge marginal regions of said sleeve about the periphery thereof for securing the sleeve enclosed surfboard to a rack or carrier.

3,339,608
PROTECTIVE COVERING FOR SAFETY
RAZORS AND THE LIKE
Murry J. Brenner, 2024 S. Wabash Ave.,
Highland Park, Ill. 60035
Filed July 8, 1965, Ser. No. 470,478
2 Claims. (Cl. 150—52)

1. A protector for a safety razor or the like which has a handle and a shaving head for receiving a blade, said protector formed of a plastic pliable material having a sleeve at one end, a body portion extending outwardly of the sleeve and a reduced extension extending outwardly

of the body portion, said sleeve being narrower than the width of the body portion and the reduced extension being of a width substantially that of the sleeve, said sleeve adapted to receive the handle with the body portion adapted to be folded to cover the head and with the reduced extension positioned adjacent the sleeve and extending below the top of the sleeve, having a fastening element below the top of the sleeve, said reduced extension having a complementary engageable fastening element to hold and lock the body portion in its folded-over position over the head of the razor and prevent manual contact with the head and blade of the razor while the fastening elements are interlocked.

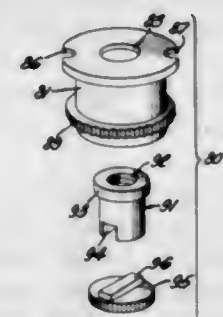


3,339,609

FLOATING NUT INSERT

Kenneth V. Cushman, Santa Ana, Calif., assignor to The Delron Company, Inc., Santa Ana, Calif., a corporation of Nevada

Filed Aug. 2, 1965, Ser. No. 476,400
2 Claims. (Cl. 151-41.7)



1. For use in a light-weight panel having a honeycomb core and skin sheets secured to the edges thereof, said panel having a hole beginning with a circular opening in one of the said skin sheets and continuing through the said core to the opposite skin sheet; an insert comprising a shell having an outer head in the form of a flat circular radial flange receivable in said circular opening for closing the outer end of the said hole, the said insert having an inner head of radial flange form spaced axially from the said outer head, and adapted to be positioned near the other skin sheet at the bottom of said hole, said insert being of tubular formation, the outer head having a central opening for receiving a fastener bolt, said insert having a nut within it including an internally threaded sleeve portion received within the said tubular insert, said insert comprising parts joined together whereby to retain the said nut within the tubular part of the insert, the said nut and one of the parts of the insert having portions configured to mutually interfit with each other whereby the nut is held from rotation within the body of the insert with the nut engaged within the insert with circumferential clearance so as to have a floating self-aligning action in receiving the end of a bolt extending through said outer head opening, said insert being configured to be anchored by a body of solidified plastic

material molded around the said shell and within the said hole with the said molded body having keyed rotation resisting engagement with said honeycomb core and adhering to said shell to resist rotation of said shell in said panel, said shell in turn securing said nut against rotation by the interfitting engagement of said nut with said insert, one of the said parts of the insert comprising a closure member at the end of the insert, said nut and closure member having a relatively interfitting slot and key relationship whereby the nut is held against rotation in the insert, the said closure member having an integral axially projecting key, said insert nut having a keyway at its lower end for interfittingly engaging said key whereby rotation of said nut is prevented.

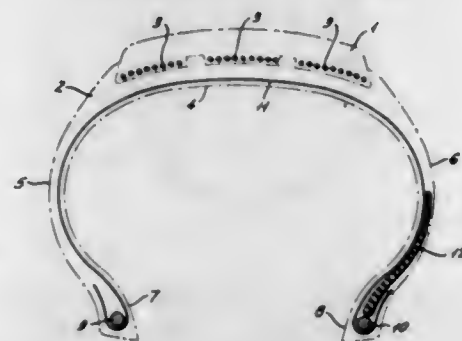
3,339,610

PNEUMATIC TIRES HAVING ASYMMETRICAL STRUCTURE

Fulcleri Fausti, Monza, and Giulio Cappa, Milan, Italy, assignors to Pirelli S.p.A., Milan, Italy
Filed Aug. 31, 1965, Ser. No. 483,959

Claims priority, application Italy, Apr. 14, 1965,
3,509/65

7 Claims. (Cl. 152-354)



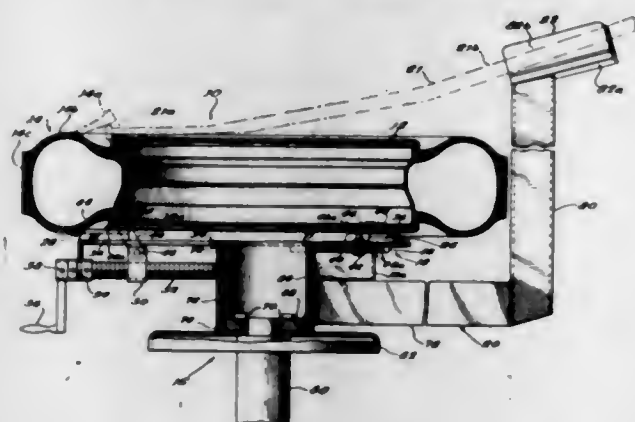
1. A pneumatic tire for vehicle wheels comprising a tread provided with a resisting stiffening structure, a first sidewall and a second sidewall, said first sidewall having a strip of hard, rigid rubber extending from the bead thereof towards said tread so that said first sidewall is more rigid than said second sidewall.

3,339,611

TOOL HOLDER FOR TIRE CHANGING STAND

Ray A. Scott, Fort Dodge, Iowa, assignor to The Coats Company, Inc., a corporation of Iowa
Filed Aug. 3, 1965, Ser. No. 476,985

3 Claims. (Cl. 157-1.24)



1. In a tire changing stand having a supporting standard, a tire supporting platform mounted above the standard, and means on the platform for securing a vehicle rim thereto, means for guiding and carrying a tire tool about the rim for progressively mounting and demounting a tire relative to the rim, comprising: an arm member having a collar portion telescoped about the standard

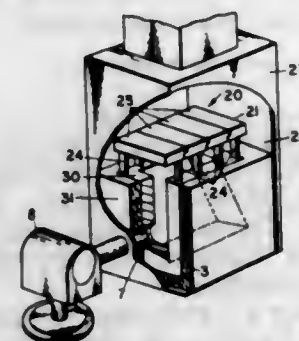
below the supporting platform to mount the arm member for swingable movement about the standard and platform; an upright member at the outer end of said arm projecting upwardly above the tire supporting platform; and an open tool holding saddle at the free end of said upright for receiving and holding a tire tool to form a substantially rigid structure including the arm member, the upright member and the tire tool so that rotation of the arm about the standard will swing the tire tool through a tire demounting path about the tire supporting platform.

3,339,612

HEATING APPARATUS

Luitpold Feldmeier, Morriston, Ontario, Canada
Filed Oct. 19, 1965, Ser. No. 498,049

1 Claim. (Cl. 158-1)



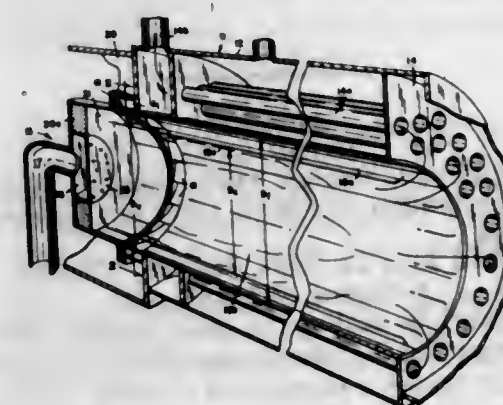
A furnace comprising an upper part constituting a heat transfer chamber, a combustion chamber below said heat transfer chamber, said combustion chamber having a bottom, a perpendicular front wall and perpendicular side walls and a rear wall opposing said front wall, said rear wall being inclined upwardly from said bottom towards said front wall and spaced therefrom to provide an outlet to said heat transfer chamber, a fuel supply member leading through said front wall of said combustion chamber, a nozzle carried by said fuel supply member directed towards said inclined rear wall, a plurality of refractory legs standing on said combustion chamber walls in circularly spaced relation, and a refractory member supported on a horizontal plane by said legs, said refractory member being of greater diameter than the said outlet from said combustion chamber and having a diameter less than said heat transfer chamber to provide a passage for heat upwardly around said refractory member.

3,339,613

FLAME STABILIZATION

Atto P. Saha, Jamesville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,251

5 Claims. (Cl. 158-1.5)



1. An apparatus for burning dispersible fuel comprising a furnace having a combustion chamber, a nozzle at an end of said furnace for passing dispersible fuel into

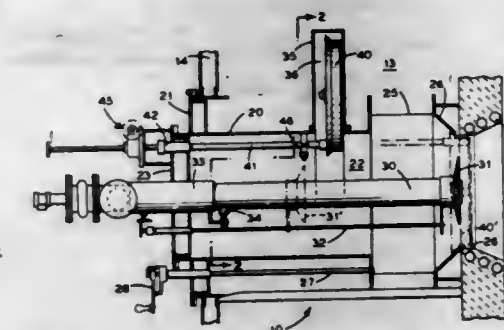
said combustion chamber of the furnace to mix with air and generate a flame, means including an air inlet between said nozzle and said combustion chamber for providing in said combustion chamber a vortex of air moving axially therethrough and generally along the wall thereof and mixing with said fuel, and means for receiving said vortex and providing a quiescent zone stabilizing and effectively preventing lifting of the flame at the nozzle including a pocket about said nozzle extending from said nozzle to the annular origin of said air stream at said air inlet.

3,339,614

FUEL BURNER PLUG

Francis W. Fleck, Gladstone, Mich., and Ray O. Gange-were, Wadsworth, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 20, 1965, Ser. No. 514,916
9 Claims. (Cl. 158-1.5)



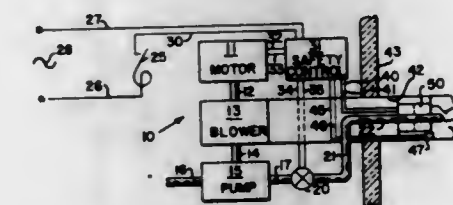
1. Fuel burning apparatus for firing through a port in a wall of a combustion chamber comprising means defining a burner throat aligned with said port, a burner housing enclosing a passage communicating with said port, means for directing combustion air through said port including a register adjacent said throat and circumscribing said passage, a fuel introduction element mounted on said housing for introducing fuel in mixing relationship with the air flowing through said port, a burner plug disposed within said housing and engageable with said throat, said housing formed with walls enclosing a laterally extending plug storage cavity, and means for positioning said plug within said throat to close said port.

3,339,615

FUEL BURNER APPARATUS

Richard W. Brown, Excelsior, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Jan. 20, 1966, Ser. No. 521,928
5 Claims. (Cl. 158-28)



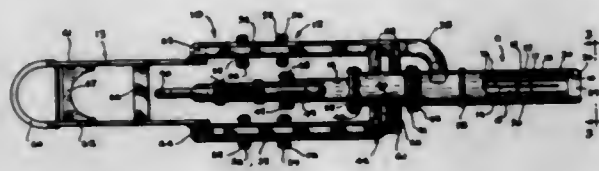
1. In a fuel burner including an air tube into which a combustion air source is directed, a source of fuel under pressure connected to conduit means carried within the air tube, air diversion means near an outlet end of the air tube to direct the combustion air into a relationship with fuel carried by the fuel conduit means for proper combustion of the fuel, electrode means for ignition of the air and fuel mixture at the outlet end of the air tube, the improvement comprising: said air diversion means including voltage step-up transformer means to supply an

ignition potential to said electrode means; and said transformer means forming a center portion of said air diversion means and substantially filling the center portion of said air tube to provide said air diversion means with a generally annular air flow passage adjacent said air tube; said transformer means being cooled by said combustion air passing over said transformer means in progressing through said annular air flow passage prior to said air mixing with said fuel for combustion.

3,339,616

APPARATUS FOR COMBUSTION OF FUELS AND BURNER THEREFOR

Bert G. Ward, Jr., Niles, and Donald M. Gettig, Elk Grove Village, Ill., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed June 3, 1965, Ser. No. 460,985
7 Claims. (Cl. 158—109)

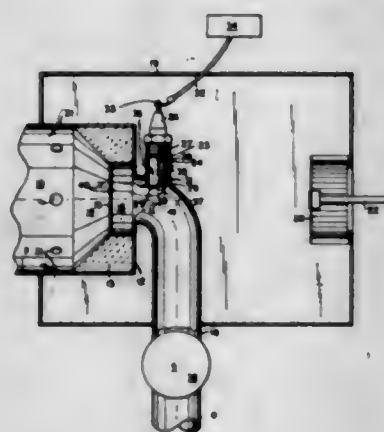


1. An apparatus for burning large volumes of combustible fluid fuels with minimum noise comprising a first central chamber, second and third chambers substantially coaxially aligned with said first chamber, combustible fuel inlet means communicating with said first and third chambers, oxidizing gas inlet means communicating with said second chamber, all of said inlet means communicating with said chambers at one end thereof, said chambers opening away from said inlet means to define a nozzle portion for delivering fluid fuel and gas streams from all of said chambers in a substantially coaxial manner outwardly from said apparatus, a plurality of tubular members disposed in said third chamber in longitudinal alignment with said chambers and cooling means in heat exchange relationship with said nozzle portion to cool same.

3,339,617

BURNER

Aatto P. Saha, Jamesville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 436,007
4 Claims. (Cl. 158—115)



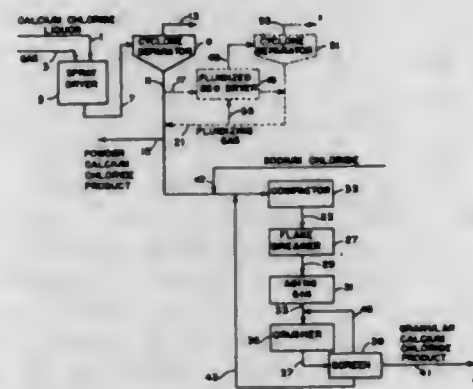
1. A gas burner including a nozzle for the passage of gas into a combustion chamber, gas supply means for passing the gas through said nozzle and into the combustion chamber during normal operation of the burner and for passing substantially less than the quantity of gas

passed during normal operation to provide pilot gas for igniting the burner, air supply means including a plenum for passing air into the combustion chamber to mix with the gas and form a combustible mixture during normal operation of the burner, and means for igniting the combustible mixture including, spark-generating means comprising a pair of electrodes generally converging from free ends toward a spark gap and then generally diverging from said spark gap, whereby a spark originates at said spark gap, and means including a tube extending longitudinally about said electrodes from a portion communicating with said plenum to a portion past said spark gap and communicating with said gas supply means generally at said free ends for the passage of combustion air from said plenum along said electrodes past said spark gap and into said gas supply means to mix with the pilot gas and form a combustible mixture and to fan the spark into the resultant combustible mixture in said gas supply means and ignite the mixture.

3,339,618

PROCESS FOR PREPARING POWDER AND GRANULAR CALCIUM CHLORIDE PRODUCTS

John H. Bowden, Wyandotte, Mich., and Clifford T. Terry, Windsor, Ontario, Canada, assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
Filed June 13, 1963, Ser. No. 287,593
6 Claims. (Cl. 159—48)



4. A process for preparing granular anhydrous calcium chloride by initially drying an aqueous solution of calcium chloride, the said drying consisting solely of spraying an aqueous solution of calcium chloride containing about 35% to 60% by weight of calcium chloride into an essentially dry gas stream at a temperature of at least about 400° F. to produce finely divided anhydrous calcium chloride powder, and further comprising compacting said powder at a temperature of about 200 to 375° F. into a sheet of compacted anhydrous calcium chloride, breaking said sheet into flake-like particles, crushing said particles to the desired particle size, and screening the crushed particles to separate a product of desired particle size.

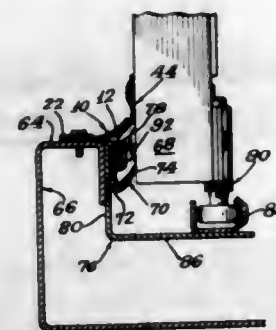
3,339,619

DOOR SEAL

Flay D. Crosswell, Marion, Ohio, assignor to Overhead Door Corporation, Hartford City, Ind., a corporation of Indiana
Filed June 22, 1964, Ser. No. 376,698
5 Claims. (Cl. 160—40)

5. Apparatus for sealing the space between the sides of a door opening and the lateral edge portions of a vertically slidable door having a plurality of hingedly connected flat panel sections spanning the opening laterally and no wider than the opening and tracks adjacent to the opening guiding the door between a vertical closed position and a horizontal elevated open position, said apparatus comprising

resilient strips of sealing material secured to the sides of the door opening and normally extending toward the door substantially at right angles to the flat panels, rigid projections mounted on the lateral edge portions of each of the panels and extending outwardly therefrom at acute angles to the planes of the panels, the projections engaging and deflecting the strips when the door is in closed

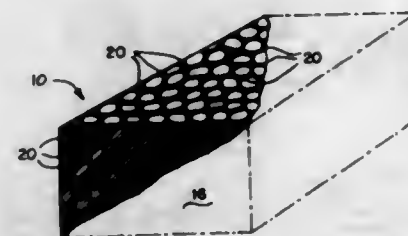


position to form a seal therebetween and being slidable relative to the strips during raising and lowering of the door and means cooperating with the upper ends of said strips and the lower ends of the projections on the lowermost panel section to cause engagement of the projections with the outer surfaces of the strips when the door is moved downwardly.

3,339,620

CAVITYLESS CASTING PATTERN AND METHOD OF MAKING SAME

Erich M. Krzyzanowski, Ludwigshafen (Rhine), and Heinz Schweikert, Ludwigshafen-Rheingonheim, Germany, assignors to Full Mold Process, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,757
8 Claims. (Cl. 164—24)



1. A pattern suitable for use in a cavityless casting process which comprises
a base made of expanded plastic granules which are gasifiable at the elevated temperature of a molten casting charge, said base having small gaps in its outer surfaces, and
a wax-like composition placed only in said gaps on the surfaces of the pattern to provide in conjunction with the exposed pattern surface-defining surfaces of the granules a smooth outer surface on the pattern and substantially none of said composition being on said exposed surfaces.

3,339,621

METHOD OF MAKING A CASTING MOLD

Ary Bolk, Wilhelmus Cornelis Petrus Maria Meerman, and Petrus Johannes Buysman, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 395,563, Sept. 10, 1964. This application Nov. 14, 1966, Ser. No. 594,256
Claims priority, application Netherlands, Sept. 11, 1963, 297,791

8 Claims. (Cl. 164—26)

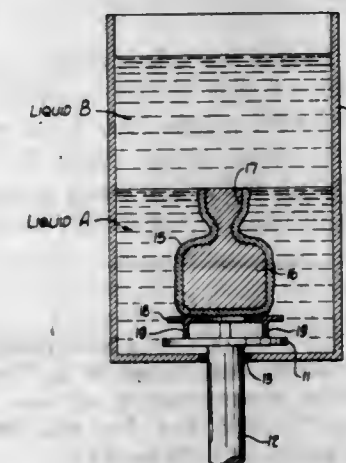
1. In the method of making a mold for casting metal articles, comprising the steps of coating a pattern with a layer of fine-grained refractory powder containing a bind-

ing agent, applying to said coating layer while externally wet a coarser grained refractory powder, solidifying said coating layer, placing the so-coated pattern in a molding box, wetting the solidified coating layer with a binder, and surrounding the so-coated pattern with a binder-free granular refractory powder serving to support the so-coated pattern such that the majority of said binder-free granular refractory powder may subsequently be removed from said molding box in its original binder-free condition.

3,339,622

METHOD OF REMOVING PATTERNS FROM INVESTMENT MOLDS

Robert A. Horton, Chesterland, Ohio, assignor to Precision Metalsmiths, Inc.
Filed May 26, 1965, Ser. No. 458,905
6 Claims. (Cl. 164—36)

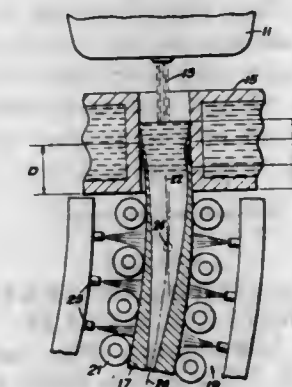


6. In a process of investment casting wherein a refractory mold is formed around a pattern, a method of destroying the pattern without cracking the mold comprising the steps of placing the mold in a first medium which is a liquid at a temperature below that which would cause the pattern to expand and crack the mold, providing a second medium which is at a temperature high enough to melt the pattern, and incrementally melting the pattern by moving the mold from the first medium into the second medium.

3,339,623

THERMAL BENDING OF CONTINUOUS CASTINGS

Fredrick W. Rys and Rufus Easton, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed July 10, 1964, Ser. No. 381,620
12 Claims. (Cl. 164—83)



1. Apparatus for use in forming a continuous strand of cast metal comprising:

(a) an oscillatable vertical mold having planar surfaces forming a mold cavity and a substantially vertical axis;

(b) means for pouring molten metal into the mold and forming therein a continuous strand of cast metal;
 (c) means for continuously withdrawing the strand from the mold; and
 (d) strand supporting means having an arcuate axis lying substantially in the plane of the vertical axis and disposed concavely thereto so as to intersect the vertical axis at a point below the bottom of the mold, said strand supporting means urging one surface of said strand against one wall of the mold whereby said surface is cooled substantially more than another opposite surface and the strand thermally bends away from said cooler surface.

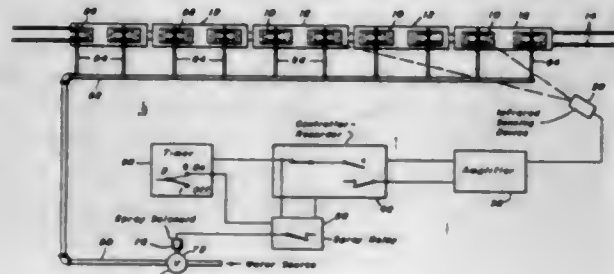
2. A method for forming a continuous strand of cast metal comprising the steps of:

- pouring molten metal into an oscillatable vertical mold having planar surfaces forming a mold cavity and a substantially vertical axis, and forming in said mold a continuous strand of metal;
- continuously withdrawing the strand from the mold; and
- urging said strand laterally toward said mold so that one surface of said strand is cooled upon contacting a cooled wall within said mold whereby said strand thermally bends away from the cooled surface of said strand and away from a vertical downward direction toward a horizontal attitude.

3,339,624

APPARATUS FOR COOLING MOLDS

Colin C. Cowgill, Gary, Ind., assignor to United States Steel Corporation, a corporation of New Jersey
 Filed June 17, 1965, Ser. No. 464,790
 4 Claims. (Cl. 164—154)



1. An accelerated cooling apparatus suitable for cooling hot molds from which ingots have been removed comprising a narrow band infrared sensing means for sensing radiant energy emission in the wave length range of 1 to 7 microns from a plurality of hot molds and to give an indication of the temperature relative thereto, a cooling system for spraying liquid coolant on said hot molds responsive to said sensing means such that below a maximum sensed radiant energy level and corresponding temperature range the coolant system is activated and below a minimum sensed radiant energy level and corresponding temperature range the coolant system is deactivated.

3,339,625

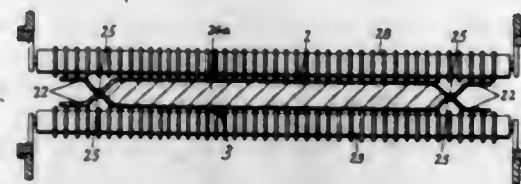
CONTINUOUS CASTING APPARATUS HAVING BENT-EDGE BELTS

Elmer D. Scherrer, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Jan. 28, 1965, Ser. No. 428,664
 12 Claims. (Cl. 164—278)

1. In apparatus for casting metal strip directly from molten metal wherein the molten metal is deposited in a casting cavity defined between flexible upper and lower traveling casting belts having coating flights mounted

one above the other for longitudinal movement in the same direction, the improvement which comprises a pair of upper and lower casting belts formed from spring steel, said belts having their opposite marginal side edges bent outwardly away from each other along permanently set lines of bend with the marginal side edges of the



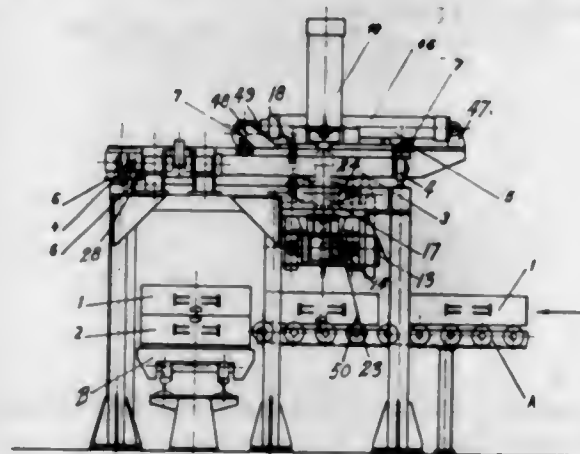
belts angularly disposed with respect to the portions of the belts lying between said lines of bend, the lines of bend in the upper and lower belts being in vertical alignment so as to contact each other when the belts are restrained between compressing members acting to urge the belts toward each other.

3,339,626

MOLD PART CONVEYING AND JUXTA-POSITIONING APPARATUS

Erwin Bühler, Breitenstrasse 164, Schaffhausen, Switzerland, and Max Wernli, Schaffhausen, Switzerland; said Wernli assignor to said Bühler
 Filed June 2, 1965, Ser. No. 460,780
 Claims priority, application Switzerland, June 5, 1964, 7,381/64

11 Claims. (Cl. 164—339)



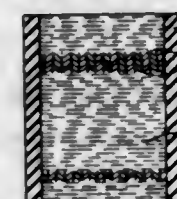
1. A mold part conveying and juxtapositioning device comprising means for continuously moving a first mold part along a feed path, means for conveying a second mold part along an assembly path, a frame overlying a portion of each of said feed path and said assembly path, a truck movable on said frame between said feed path and said assembly path and also being movable in a direction parallel to and overlying said feed path, means for shifting said truck when it overlies said feed path to a position overlying said assembly path, a lifting device carried on said truck movable downwardly to said assembly path to engage a mold part thereon and upwardly to lift the mold part, means for shifting said truck from said assembly path to said feed path and for shifting said truck along said feed path in the direction of feed of the mold parts on said feed path, said lifting device being movable downwardly onto said feed path to position the mold part which is lifted thereby onto the mold part being conveyed on said feed path, and means for moving said truck along said feed path at substantially the same speed as said first mold part is moved to position said mold part carried by said lifting device on said mold part being conveyed on said feed path.

3,339,627

REGENERATOR

Johannes Rudolphus van Geuns and Jan Mulder, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 444,099
 5 Claims. (Cl. 165—4)

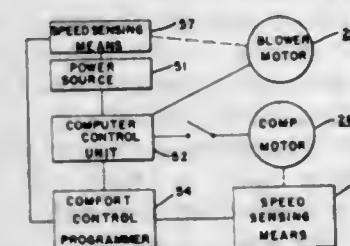


1. A regenerator comprising a housing, a filling mass constituted of a plurality of stacked metal gauzes, said metal gauzes being provided with a coating constituted of a first metal layer having a comparatively high specific heat below 100° K. and a second layer of a metal having a greater hardness than said first layer.

3,339,628

ELECTRICALLY CONTROLLED HEATING SYSTEM

William L. Sones, Dayton, James O. Elliott, Xenia, and George A. Neyhouse, Kettering, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
 Original application Aug. 31, 1964, Ser. No. 393,202, now Patent No. 3,267,994, dated Aug. 23, 1966. Divided and this application Aug. 15, 1966, Ser. No. 572,551
 4 Claims. (Cl. 165—39)



1. In an environmental conditioning system, the combination of, means for heating a mass of air, means including electric motor means for circulating the mass of air in heat transfer contact with said heating means and for distributing the mass of air to an environment to be conditioned, circuit means for operating said heating means, said circuit means including computer control means having semiconductor switch means in power supply relationship with said motor means, means for deriving a control voltage in response to predetermined operating conditions of said motor means, said computer control means including means for processing said control voltage to control the conductivity of said semiconductor switch means for maintaining said electric motor means at a predetermined speed norm, and comfort control means for varying the conditioning effect of said heating means by infinitely varying the effect of said control voltage on said semiconductor switch means within predetermined limits.

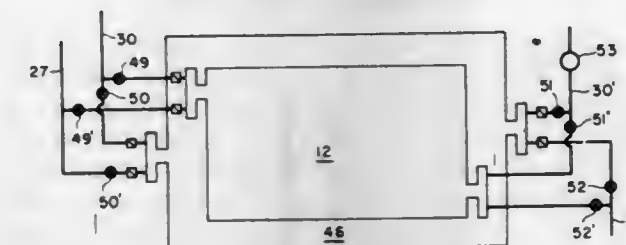
3,339,629

GROUND STORAGE MEANS FOR STRUCTURE HEATING AND COOLING SYSTEMS

David E. Herve, Elm City, N.C., assignor to Industrial Institution International, Ltd., Elm City, N.C.
 Original application May 20, 1963, Ser. No. 281,629, now Patent No. 3,262,493, dated July 26, 1966. Divided and this application May 24, 1966, Ser. No. 552,474
 5 Claims. (Cl. 165—45)

4. In a heating system for a structure having walls and incorporating the storage of heat obtained from first natural sources in a defined block of generally undisturbed

earth surrounded on its vertical perimeter by a defined storage area of lesser temperature concentration obtained from second natural sources; the improvement comprising a temperature conducting media; means for transferring

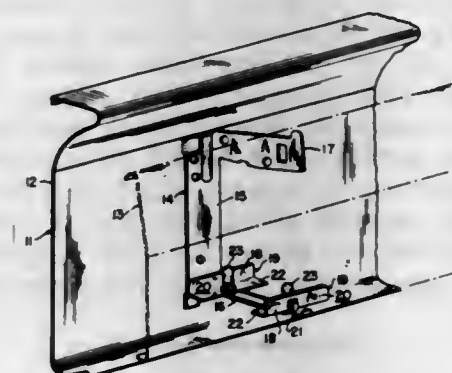


said media from said perimeter storage area through the walls of said structure and back into the area whereby the amount of temperature needed from said block to heat said structure is greatly reduced.

3,339,630

EDGE GUIDE FOR FINNED TUBE BASEBOARD HEATERS

Karl O. Schlentner, Westchester, Ill., and Horace Wells Williams, Johnstown, Pa., assignors to Crane Company, Chicago, Ill., a corporation of Illinois
 Filed Oct. 15, 1965, Ser. No. 496,525
 7 Claims. (Cl. 165—55)



1. An edge guide in a baseboard heating unit, said unit having a heat exchange unit having a medium conducting tube with a plurality of fins mounted at close intervals on the outer surface of the tube and extending at an angle to the tube, said fins having bottom and side edges and adjacent fins having opposed faces, an enclosure for the heat exchange unit, and a support within the enclosure for the heat exchange unit, said support having a horizontal arm extending beneath the bottom edges of the fins to support said heat exchange unit, said guide comprising

(A) an angle shaped nonmetallic parting member adapted to be positioned between the horizontal arm of said support and the bottom edges of said fins and having

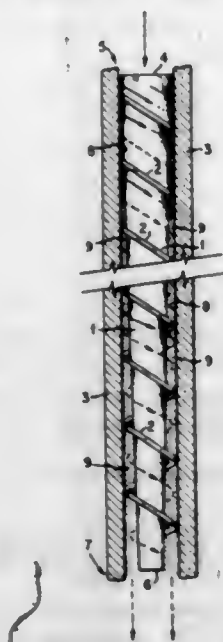
- a vertical component to extend along the side edges of said fins, and
- a horizontal component to extend along and in contact with the bottom edges of said fins
- said angle-shaped member having a length greater than the width of the horizontal arm of said support, and

(B) a stud element extending vertically upward from said horizontal component between adjacent fins and to frictionally engage the opposed faces of said fins to hold the edge guide on the fins.

3,339,631

HEAT EXCHANGER UTILIZING VORTEX FLOW
James A. McGurty and William C. Necker, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

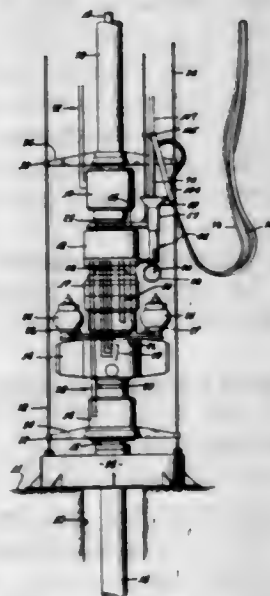
Filed July 13, 1966, Ser. No. 565,009
3 Claims. (Cl. 165—109)



1. Apparatus for increasing the burnout heat flux in a heat exchange member wherein liquid coolant is passed through a cylindrical passageway in said heat exchange member and vaporized, comprising: an elongated insert disposed coaxially within said coolant channel and extending along the length thereof, said passageway having an inlet end for receiving liquid coolant and an exhaust end for discharging vaporized coolant, said insert comprising a uniformly tapered shank portion having a circular cross section and a helical rib spiralling around said shank portion, the larger diameter end of said shank portion being disposed at the inlet end of said passageway, said helical rib having a radial periphery whose diameter is substantially equal to the diameter of said passageway.

3,339,632

UNDERWATER CONNECTOR
George E. Lewis, Arcadia, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio
Filed Jan. 21, 1964, Ser. No. 339,235
36 Claims. (Cl. 166—6)



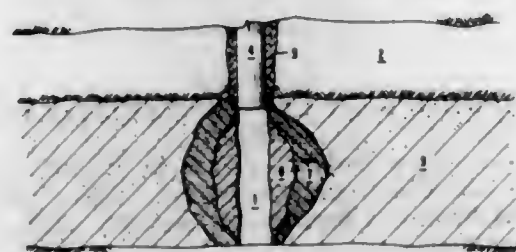
1. Apparatus of the character described, comprising underwater axially extending socket and spear members adapted for relative movement between uncoupled and

coupled positions, said members carrying electrical terminals that interfit when the members are coupled and having fluid passing ports that intercommunicate when the members are in coupled position, one of said members having a recess at the terminus thereof containing a flowable waterproof material protectively overlying the member electrical terminals and adapted to be displaced as the terminals of both members interfit, and said members having guide surfaces for guiding member relative advancement and rotation about said axis as the members undergo said relative movement into coupled position.

3,339,633

POLYEPOXIDE CONSOLIDATION OF EARTHEN MATERIALS
Edwin A. Richardson, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed July 27, 1965, Ser. No. 475,094
18 Claims. (Cl. 166—33)



1. An improved process for consolidating loose earthen materials contiguous to a penetrating borehole in oil-bearing reservoirs comprising:

- (a) injecting into a portion of such a reservoir to be consolidated through a penetrating borehole a polymerizing mixture of polyepoxides and polyamines dispersed in a solvent vehicle;
- (b) subsequently injecting at least an equal volume of an overflushing liquid in which said solvent vehicle is miscible and in which said polymerizing mixture of polyepoxides and polyamines is substantially immiscible whereby said polymerizing mixture is partitioned and said solvent vehicle is extracted from the resulting partitioned polymerizing mixture; and
- (c) retaining said overflushing liquid within said portion of said formation being consolidated until said polymerizing mixture has cured.

3,339,634

INITIATION OF COMBUSTION IN A SUBTERRANEAN FORMATION
Orville E. Van Meter, Jr., Fullerton, and Theodore A. Bertness, Whittier, Calif., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Mar. 5, 1965, Ser. No. 437,589
14 Claims. (Cl. 166—39)

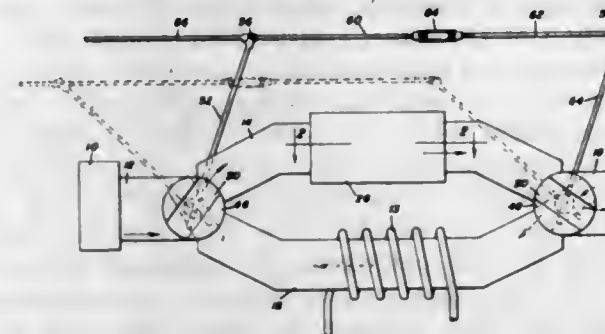
1. A process for initiating combustion within a subterranean formation containing hydrocarbon material and penetrated by an input means comprising at least one input well and output means comprising at least one output well, one of said wells being an ignition well, comprising:
 - (a) passing into said formation through said ignition well a hydrocarbon solvent in which said hydrocarbon material is soluble and which has a viscosity lower than that of said hydrocarbon material whereby said hydrocarbon material is dissolved and its viscosity reduced and is displaced from the vicinity of said well,
 - (b) passing into said formation through said well a solvent which has mutual solubility for hydrocarbons and water whereby said hydrocarbon solvent and said hydrocarbon material are displaced from the vicinity of said well,

- (c) passing into said formation through said well water whereby said solvent which has mutual solubility for hydrocarbons and water is displaced from the vicinity of said well, and
- (d) thereafter initiating combustion within said formation at said well in the presence of an oxidizing fluid.

3,339,635

METHOD AND APPARATUS FOR FORMING AND/OR AUGMENTING AN ENERGY WAVE
Clarence W. Brandon, Tallahassee, Fla.
(2641 E. 59th St., Tulsa, Okla. 74105)
Application Apr. 28, 1964, Ser. No. 376,285, now Patent No. 3,247,901, dated Apr. 26, 1966, which is a division of application Ser. No. 431,246, May 20, 1954, now Patent No. 3,133,591, dated May 19, 1964. Divided and this application Oct. 22, 1965, Ser. No. 501,906

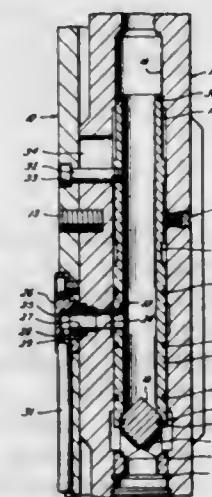
52 Claims. (Cl. 166—40)



6. A process for increasing the energy content of an energy-carrying medium comprising dividing the medium into two components; producing an energy-carrying wave in both said components but with its compression phase in one component and with its rarefaction phase in the other component, and applying heat directly to the medium at a controlled phase angle in one of said components whereby to vary the energy content of the energy-carrying wave.

3,339,636

WHIPSTOCKS
Thomas M. Frisby, Houston, Tex., assignor to Eastman Oil Well Survey Company, Houston, Tex., a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,446
7 Claims. (Cl. 166—117.5)

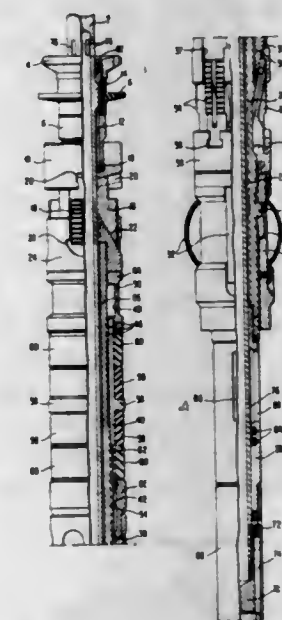


1. A sidetracking assembly comprising: a whipstock, a drill collar having a bore therethrough, a valve seat in said bore, a sleeve slidable relative to said drill collar, a valve member carried by said sleeve and cooperable with said valve seat to prevent flow through said bore with the sleeve in one position relative to the drill collar,

means including a bypass in the collar in fluid communication with the bore with said sleeve in said one position conducting fluid to the lower end of the whipstock, a first securing means securing the drill collar to the whipstock and operable upon downward movement of the drill collar relative to the whipstock to release said first securing means, a second securing means securing the sleeve to the whipstock and extending through the drill collar with a lost motion connection which permits release of the first securing means and movement of the sleeve to a second position within the drill collar to unseat the valve member from said valve seat prior to release of the second securing means, said second securing means being operable upon further downward movement of the drill collar relative to the whipstock to release said second securing means, and means on said sleeve closing said bypass when said sleeve and said drill collar are in said second position.

3,339,637

WELL PACKERS
John C. Holden, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 496,039
12 Claims. (Cl. 166—128)

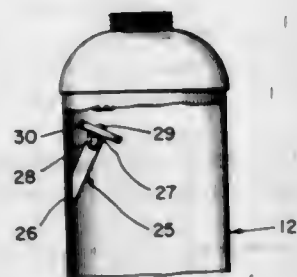


1. Packer apparatus comprising:
 - (a) a first mandrel;
 - (b) a packer mandrel mounted in telescoping relation over said first mandrel, said packer mandrel being movable longitudinally relative to said first mandrel;
 - (c) a deformable packer element, said element being in the form of a ring and being mounted on the exterior of said packer mandrel;
 - (d) means forming shoes at opposite ends of said packer element, said packer mandrel having a flange engaging said packer element, piston means on opposite ends of said packer mandrel, one of said piston means being exposed to fluid pressure at one end of said packer element and the other of said piston means being exposed to fluid pressure at the opposite end of said packer element;
 - (e) means for selectively anchoring one of said shoe forming means against a casing upon axial movement of said first mandrel, and means for moving the other of said shoe forming means toward said one shoe forming means to expand said packer element;

(f) said packer element including a plurality of sub-elements, one of said sub-elements being substantially softer than other sub-elements, whereby an effective casing seal may be formed.

3,339,638 CORROSION ARRESTOR FOR FIRE EXTINGUISHER

Charles K. Huthsing, Jr., 1685 Shermer Road,
Northbrook, Ill. 60062
Filed June 9, 1965, Ser. No. 462,505
1 Claim. (Cl. 169—30)

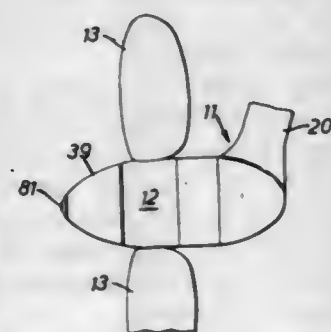


In a fire extinguisher designed to receive a liquid extinguisher agent and having a stainless steel shell including an upper opening, a corrosion arrestor designed for mounting in said shell, said corrosion arrestor comprising: a bracket having one portion securely connected to the interior sidewall of said stainless steel shell proximate said upper opening so that access may be had through said opening, another portion of said bracket being designed to receive a screw; a substantially flat member made of metal higher in the electrochemical scale than stainless steel connected at a central portion to said another portion of said bracket by said screw and in contact therewith such that said flat member is in metal to metal contact with said bracket whereby said flat member acts as a sacrificial anode relative to said stainless steel shell so that the flat member is eaten away generally in a direction from its periphery towards its central portion receiving said screw as a result of any electrolytical action from said liquid rather than the stainless steel shell and whereby said flat member may be replaced by removing said screw when eaten away as a sacrificial anode.

3,339,639 WIND MOTORS

Robert T. Elmes, Birdlip, and John A. Chilman, Painswick, England, assignors to Dowty Rotol Limited, Gloucester, England, a British company
Filed Sept. 2, 1965, Ser. No. 484,605
Claims priority, application Great Britain, Sept. 9, 1964, 36,919/64

14 Claims. (Cl. 170—160.21)



1. A wind motor designed so as to be suitable for use in vehicles, such as aircraft for driving accessories, for example, hydraulic pumps, and being movable from a

stowed inoperable position within the vehicle to an extended operable position externally of and in the slipstream of the vehicle, and being retractable from the extended position to the stowed position, said wind motor comprising in combination:

- a body portion, having pivotal mounting means to afford the wind motor its extendability and retractability,
- a bladed rotor mounted for rotation upon the body portion, such rotation occurring when the wind motor is in its extended condition,
- positioning means operable to ensure that the bladed rotor is stopped in a predetermined rotational position so that the wind motor presents its overall smallest cross-sectional area to an opening in the wall of the vehicle for retraction of the wind motor through that opening, and,
- speed-governor-controlled hydraulically-operable pitch-changing mechanism for adjusting the pitch of the blades to maintain substantially constant speed operation of the rotor, a piston-and-cylinder device, forming part of said mechanism, being operably connected to the blades and having displaceable stop means which, when the governor is overridden to initiate stopping of the rotor prior to retraction, permits movement of the blades just into the reverse pitch range, but which, when the rotor has been stopped in said predetermined rotational position and after retraction has commenced, is automatically displaceable then to move the blades just back into the positive pitch range.

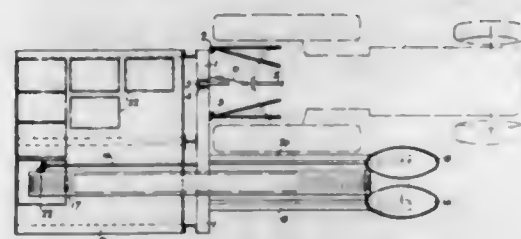
3,339,640

AGRICULTURAL AND LIKE MACHINES

John Clement Hawkins, Clophill, and Philip Whyte, Bedford, England, assignors to National Research Development Corporation, London, England, a British corporation

Continuation of application Ser. No. 337,892, Jan. 15, 1964. This application June 2, 1966, Ser. No. 554,899
Claims priority, application Great Britain, Jan. 23, 1963, 2,932/63

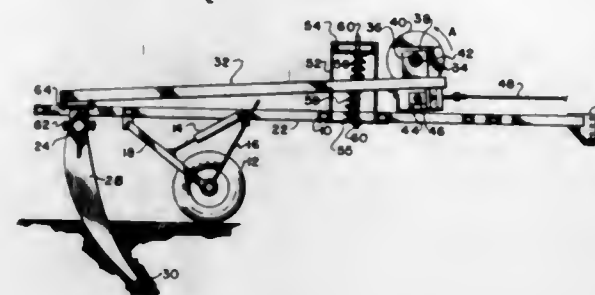
3 Claims. (Cl. 171—58)



1. The combination of a tractor and a soil-working implement for the disturbance of soil in the harvesting of root crops, comprising: a tractor having a driving motor and at least two spaced power driven, soil-engaging driving wheels driven by the motor; a soil-working implement, said implement comprising a frame, a pair of soil-working interactive disc-like rotors constituting the working members of the implement, mounting means supporting said disc-like rotors on said implement frame so as to have their general planes converge downwardly, and drive train means for one of said disc-like rotors; attachment means for securing said implement frame to and supporting said implement frame from said tractor so as to place the soil-working position of said disc-like rotors laterally outwardly relative to the laterally outermost ground engaging driving wheels of the overall combination of tractor and soil-working implement, whereby the side drag effect caused by the soil working of said rotors laterally outwardly of any driving wheel is compensated by driving

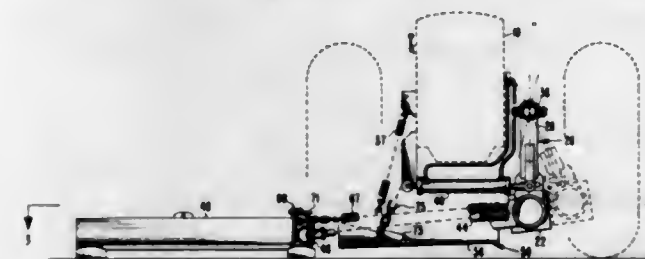
one of said soil-working rotors; and coupling means by which the said drive means for one of said rotors is connected to a power output from the driving motor to rotate the one of said rotors at a desired speed and in a direction such that the lowermost edge of the rotor moves in the direction opposite to the normal direction of travel of the tractor, thus compensating for said side drag effect.

3,339,641
VIBRATING PLOWS
Orvil L. Carter, 1125 S. Amherst,
Perryton, Tex. 79070
Filed Dec. 23, 1964, Ser. No. 444,880
9 Claims. (Cl. 172—40)



1. An erosion control soil working machine comprising a support frame, a first transversely extending hollow ballast receiving cylindrical drum rotatably mounted on said frame, circular cutter blades fixed to said drum at longitudinally spaced points therealong, said circular cutter blades projecting radially outward from said drum for mulch embedding engagement with the ground, a second transversely extending hollow ballast receiving cylindrical drum, means mounting said second drum on said frame parallel to and rearward of the first drum, said second drum being mounted for rotation about its longitudinal axis, and relatively smooth surfaced circular packing means surrounding said second drum along substantially the full length of the second drum for mulch packing engagement with the ground, the means mounting said second drum on said frame consisting of a pair of elongated arms having the forward ends thereof pivotally fixed to the opposite sides of the frame for swinging movement in parallel vertical planes, said arms projecting rearward of the frame, said second drum being rotatably mounted between the rear ends of said arms for vertical movement therewith, and means engaged between and fixed to the arms and the frame for vertically swinging and selectively locking said arms, and thereby the second drum, into any one of a plurality of pivotally adjusted positions about the pivotally mounted forward ends of the arms between two extreme positions, one where only the cutter blades engage the ground and the second where only the packing means engages the ground.
2. Vibrating plow apparatus for use in connection with a draft vehicle, said apparatus comprising: an elongated frame having left and right side members, a front end, and a rear end, said front end being arranged for connection to the draft vehicle; a pair of spaced, rotatable ground engaging wheels pivotally attached to said frame; an elongated tool bar extending between said left and right side members and journaled therein; a pair of arms having one end connected with said tool bar and extending toward the front of said frame; resilient means disposed between said frame and arms; a plow member rigidly connected with said tool bar; and means mounted on said arms for vibrating said arms and said plow member.

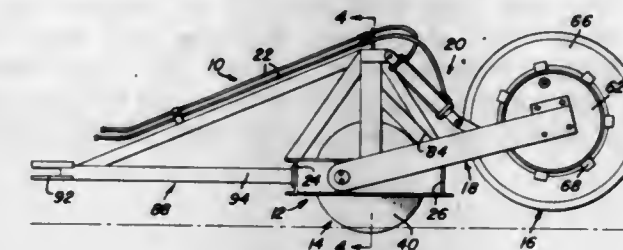
3,339,642
CULTIVATOR AND THE LIKE
Russell S. Pounds, Winter Garden, Fla., assignor of one-half to James Herbert Pounds, Winter Garden, Fla.
Filed Aug. 17, 1964, Ser. No. 389,847
9 Claims. (Cl. 172—79)



1. In combination with a tractor having a body and a power takeoff, an agricultural implement disposed on one side of the tractor body and having a drive shaft, an articulated frame assembly extending from one end at the other side of said body and underneath said body toward said implement, means connecting the other end of said frame assembly and said implement for movement laterally of said body, means mounting said one end of said frame assembly on said other side of said tractor body for pivotal movement about a fixed horizontal axis extending longitudinally of the tractor, said

frame assembly having at least one additional horizontal pivot axis intermediate its ends and disposed below said first axis, means for moving said frame assembly laterally of said tractor body, and means drivingly connecting said implement drive shaft and said power takeoff.

3,339,643
SOIL WORKING MACHINE
Troy Scarborough, 711 S. May Ave.,
Brooksville, Fla. 33512
Filed Sept. 11, 1964, Ser. No. 395,781
5 Claims. (Cl. 172—184)



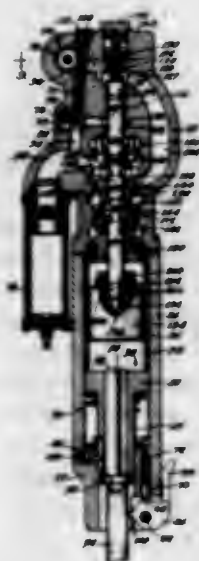
1. An erosion control soil working machine comprising a support frame, a first transversely extending hollow ballast receiving cylindrical drum rotatably mounted on said frame, circular cutter blades fixed to said drum at longitudinally spaced points therealong, said circular cutter blades projecting radially outward from said drum for mulch embedding engagement with the ground, a second transversely extending hollow ballast receiving cylindrical drum, means mounting said second drum on said frame parallel to and rearward of the first drum, said second drum being mounted for rotation about its longitudinal axis, and relatively smooth surfaced circular packing means surrounding said second drum along substantially the full length of the second drum for mulch packing engagement with the ground, the means mounting said second drum on said frame consisting of a pair of elongated arms having the forward ends thereof pivotally fixed to the opposite sides of the frame for swinging movement in parallel vertical planes, said arms projecting rearward of the frame, said second drum being rotatably mounted between the rear ends of said arms for vertical movement therewith, and means engaged between and fixed to the arms and the frame for vertically swinging and selectively locking said arms, and thereby the second drum, into any one of a plurality of pivotally adjusted positions about the pivotally mounted forward ends of the arms between two extreme positions, one where only the cutter blades engage the ground and the second where only the packing means engages the ground.

3,339,644
HYDRAULIC HAMMER
Ernst F. Klessig, Racine, Wis., assignor to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin

Filed Apr. 1, 1965, Ser. No. 444,742
12 Claims. (Cl. 173—127)

1. A hydraulic hammer comprising
 - (a) a casing having a bore, an inlet port, a pair of connected outlet ports, and a channel,
 - (b) a piston mounted for reciprocation within said bore, said piston having a pair of opposed operating surfaces of differing size, said channel communicating at one end thereof with the larger of said operating surfaces, said inlet port communicating with the smaller of said operating surfaces, a portion of said piston bearing first and second separate passages,
 - (c) a hammer on one end of said piston,

(d) an annular spool valve within said casing and mounted about the passage bearing portion of said piston for reciprocating movement relative to both said casing and said piston, said spool valve having first and second annular grooves about its outer surface and positioned such that for one position of said spool valve within said casing, said first annular groove will connect said inlet port and the other end of said channel for fluid passage therethrough, and for another position of said spool valve within said casing said second annular groove will connect said other end of said channel to one of said outlet ports for fluid passage therebetween; said first annular groove further being positioned to be in communication with said inlet port for all positions of said spool valve within said housing; said spool valve further including first, second and third separate ducts formed in its inner surface, said first duct being in continuous communication with said first annular



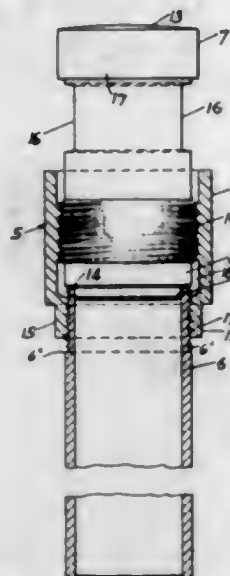
groove and thus said inlet port; said third duct being positioned to be in substantially continuous communication with the other of said pair of outlet ports; said first and second passages on said piston and said first, second and third ducts being arranged with respect to each other such that for one position of said spool valve relative to said piston, said first passage will establish fluid communication between said first and second ducts, and for another position of said spool valve relative to said piston, said second passage will establish communication between said second and third ducts,

(e) spool valve positioning means including a pair of opposed surface means of differing size on said spool valve, the largest of said pair of surface means being in communication with said second duct, the smallest of said pair of surface means being in communication with said first annular groove, whereby when said inlet port is connected to a source of fluid under pressure, said hammer will be cyclically reciprocated.

3,339,645
PIPE DRIVING ATTACHMENT
Martin G. Stromquist, 123 S. London Ave.,
Rockford, Ill. 61108
Filed Feb. 1, 1965, Ser. No. 429,275
2 Claims. (Cl. 173-132)

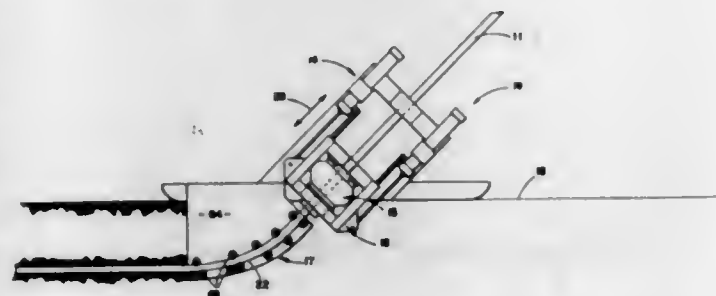
1. A two-piece pipe driver attachment for application to and use in driving a pipe that is threaded on the end that is to be hammered, said two-piece attachment comprising an elongated sleeve having a main body portion and a reduced end portion, there being a multiplicity of

internal threads of one diameter in the main body portion and another multiplicity of internal threads of a smaller diameter in the reduced end portion, the reduced end portion being threadable on the threaded end of the pipe so that the pipe projects into the main body portion of said sleeve, and an elongated, generally cylindrical, solid plug-shaped driver body having an enlarged outer end which is adapted to receive the hammer blows, the other end portion of said plug being enlarged and externally



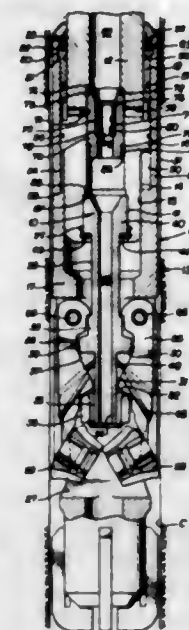
threaded to thread in the main body portion of said sleeve, the latter end portion of said plug having a reduced cylindrical extremity with a flat end surface thereon normal to its axis abutting a flat end surface on the threaded end of the pipe in inwardly spaced relation to the reduced end portion of the sleeve, whereby the force of the hammer blows is distributed mainly between the two multiple thread threaded connections recited and the intermediate surface to surface abutment of the reduced extremity of said plug on the threaded end of said pipe.

3,339,646
SONIC DRIVING SYSTEM FOR BENDABLE LINES
Albert G. Bodine, Jr., 7877 Woodley Ave.,
Van Nuys, Calif. 91406
Filed Feb. 1, 1965, Ser. No. 429,490
10 Claims. (Cl. 175-62)



1. A device for driving a bendable elongated line through the ground comprising guide means for bending said line to change the direction of travel thereof from a first initial direction to a second final direction, means for driving said line in said initial direction, and sonic oscillator means for vibrating said line to both fluidize the ground through which said line is being driven and to stress relieve the material from which said line is fabricated so as to facilitate the bending of said line.

3,339,647
HYDRAULICALLY EXPANSIBLE DRILL BITS
Archer W. Kammerer, Jr., Fullerton, Calif., assignor of one-fifth to Jean K. Lamphere, Fullerton, Calif., and three-fifths to Archer W. Kammerer, Fullerton, Calif.
Filed Aug. 20, 1965, Ser. No. 481,308
17 Claims. (Cl. 175-268)

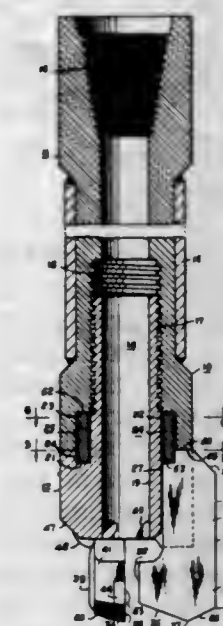


1. In a rotary drill bit to be lowered through fluid in a well bore on a drill string: a body structure having a passage through which drilling fluid is adapted to flow; cutter means mounted on said body structure for expansion laterally outwardly thereof; fluid actuated means responsive to the pressure of fluid in said passage for expanding said cutter means, said fluid actuated means being responsive to the hydrostatic head of fluid in the well bore externally of the drill bit which tends to resist expansion of said cutter means by said fluid actuated means; means for maintaining fluid pressure within the drill bit, and acting on said fluid actuated means, at a substantial lower value than the external hydrostatic head of fluid acting on said fluid actuated means during lowering of the drill bit in the well bore to prevent expansion of said cutter means; and means for rendering said maintaining means ineffective to permit said cutter means to be expanded by said fluid actuated means.

3,339,648
DRILL BIT ASSEMBLY HAVING DETACHABLE BLADES
Roscoe J. Blanton, Dallas, Tex., assignor to Gold Digger Bit Co., Greenville, Tex., a corporation of Texas
Filed June 25, 1965, Ser. No. 466,972
11 Claims. (Cl. 175-412)

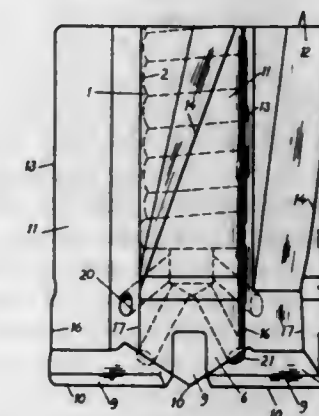
1. A drill bit assembly including a body having upper and lower tubular sections, a tubular pin upstanding axially from the lower section and screwthreaded in the bore of the upper section for connecting the body sections to each other, the lower end of the bore of said upper body section being enlarged to provide an annular downwardly opening recess surrounding the lower end portion of the pin, an annular downwardly facing shoulder at the lower end of said upper body section surrounding its recess, said lower body section having an annular upwardly opening recess in its upper end surrounding the lower end of said pin, the recesses being substantially complementary and in communicating alignment for forming an annular chamber in coaction with said pin, said lower body section having a plurality of spaced longitudinal grooves coextensive with its exterior and communicating with its recess, cutter elements having shanks complementary to and removably mounted in the grooves, arcuate heads at the inner portions of the

upper ends of the shank and extending transversely thereof for engagement within the chamber when said shanks are mounted in said grooves, the heads being complementary to said chamber and coacting to circumscribe said pin, said heads and chamber being of substantially equal radial width, and upwardly facing shoulders at the



upper ends of said shanks externally of said heads for engaging the downwardly facing shoulder of said upper body section, said heads having upper and lower faces adapted to engage the top and bottom walls of said chamber simultaneously with the engagement of said shoulders whereby the cutter elements are confined against axial, radial and rotational displacement.

3,339,649
ROCK DRILL BITS
Torsten Stig Lennart Forssén, Klinten, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Jan. 19, 1965, Ser. No. 426,504
8 Claims. (Cl. 175-418)

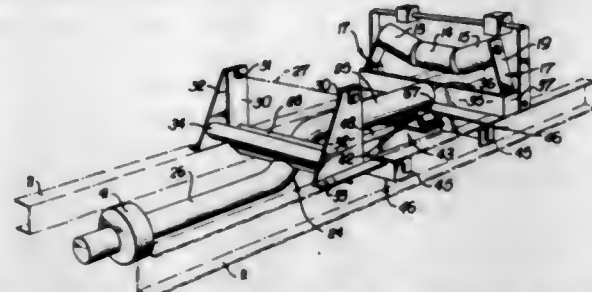


1. A rock drill bit having radial wings which carry rock cutting means defining the gauge diameter of the bit at a cutting end face of the bit and having flushing fluid passages opening adjacent said cutting means for removing the chips from the bottom of the bore hole, characterized by reaming bit portions extending rearwardly axially from at least two of said wings at points relatively close to the cutting end face of the bit and rearwardly of said cutting means at substantially the gauge diameter of the bit and tapering peripherally towards a rearwardly directed cutting edge.

3,339,650

CONVEYOR WEIGHING SCALE

Louis B. Carr, Cloudcroft, N. Mex., assignor, by mesne assignments, to Automated Equipment Corporation
Filed Aug. 10, 1964, Ser. No. 388,506
4 Claims. (Cl. 177-16)



1. In weighing apparatus for combination with an installed belt-type conveyor system having a conveyor frame, the improvement comprising a pivoting frame and port legs through which weight imposed on the idler by material carried on the belt is transmitted to the conveyor frame, the improvement comprising a pivoting frame and means to carry the pivoting frame for transmitting variable loading, the frame having a pivot axis extending generally transversely relative to the lengthwise direction of the belt, said axis being spaced from said idler in said direction, said pivoting frame having a bracket portion located for connection to the idler support legs in spaced relation to the belt to independently carry said legs and the idler with material weight imposed thereon by the belt whereby the pivoting frame is free to pivot with said idler in response to variations in the weight of belt transported material imposed on the idler, said pivoting frame having stretches extending at opposite sides of said axis in said lengthwise direction, a load cell and means supporting said cell to receive loading transmitted by the pivoting frame for detecting said weight variations, said load cell comprising a liquid containing chamber having a plunger remaining presented to receive loading imposed by one of said stretches. movement of the plunger in response to loading variations being communicated by said liquid as pressure variations, stop means to limit plunger actuating movement under overload conditions, and including converter means to detect said liquid pressure variations, said cell having ducting forming at least one restriction in the path of liquid pressure variation communication to said converter means thereby to damp said communication, said converter means being carried with said chamber for simultaneous bodily movement relative to said one stretch, said converter means comprising a hollow body and diaphragm means therein defining gas and liquid sub-chambers respectively at opposite sides of the diaphragm means, the liquid sub-chamber communicating with said load cell chamber whereby liquid pressure variations are communicated to one side of said diaphragm means, means for metering gas under pressure to increase and decrease gas admission to the gas sub-chamber in response to opposite loading exerted on the diaphragm means in correspondence with liquid pressure variations whereby a change in liquid pressure exertion on said one side of the diaphragm results in a balancing change in gas pressure exertion on the opposite side of the diaphragm, and means to maintain gas flowing to said metering means and to detect changes in the gas pressure exerted at the diaphragm.

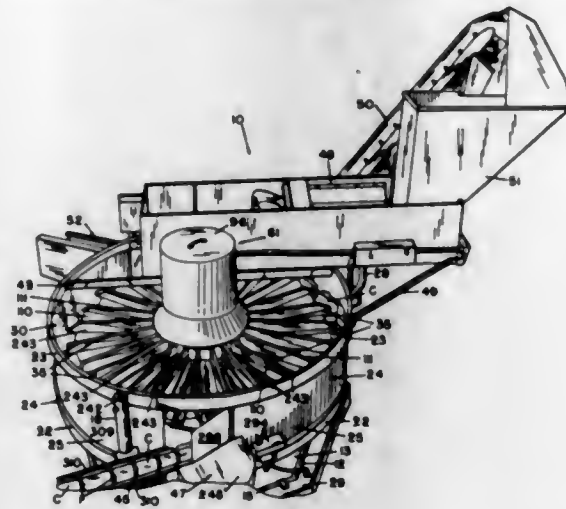
3,339,651

WEIGHING APPARATUS

Donald W. Garnett, Grand Ledge, Mich., assignor to The Olofsson Corporation
Filed Nov. 6, 1964, Ser. No. 409,503
17 Claims. (Cl. 177-55)

1. Apparatus for weighing materials, comprising a continuously traveling weigher head, a material receptacle, said weigher head having a scale beam supporting

said receptacle, and means to operate the receptacle during a phase in the cycle of head travel to trim off therefrom an overweight of material, means to adjustably balance the scale beam, including a master weight carried by the scale beam and adapted to variably counterpoise the latter, and a spring biasing the scale beam, and means adapted to vary the bias of said spring on the beam, including electrical contact means having an armature contact moving in response to movement of said scale beam

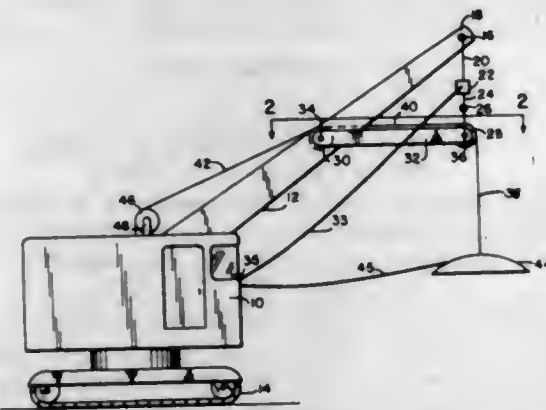


and a contact coacting with said armature contact and adapted to be engaged and disengaged by said armature contact to open and close said contact means, means to vary the counterpoise effect of said master weight on the beam in a phase of the head travel following said trim-off phase, and means operating not prior to said counterpoise varying phase and in response to opening and closing of said contact means to actuate said spring bias varying means to alter the bias of said spring.

3,339,652

LOAD WEIGHT INDICATOR INSTALLATION FOR CRANES, DERRICKS AND THE LIKE

Robert J. Price, 1311 Hacienda, El Cajon, Calif. 92020
Filed Sept. 26, 1966, Ser. No. 582,153
9 Claims. (Cl. 177-136)

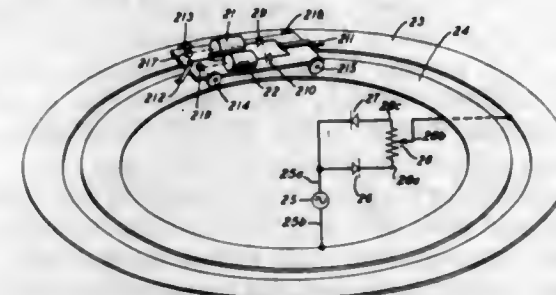


1. A load weight indicator installation for cranes, derricks, and the like comprising, a boom for carrying a load, cable means for lifting said load, sheave means positioned directly above said load for carrying a portion of said cable means and said load, weighing means for vertically supporting said sheave means, suspension means for suspending said weighing means from said boom, and positioning means cooperating with said cable means and interconnected between said boom and said sheave means for substantially eliminating all but the vertical force component on said sheave means when said load is lifted.

3,339,653

CONTROL CIRCUIT FOR ELECTRIC-POWERED VEHICLE

George Chaplenko, Edison Township, Middlesex County, N.J. (73 Alexander St., Metuchen, N.J. 08840)
Filed Sept. 1, 1965, Ser. No. 484,217
10 Claims. (Cl. 180-2)

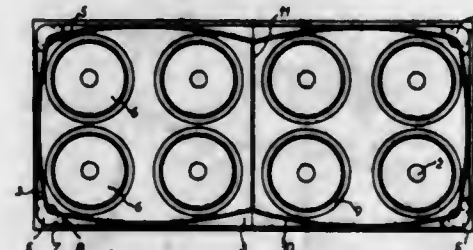


1. An electrical circuit comprising means for supplying a bidirectional current to two leads; a unidirectional current apparatus; a pair of control conductors, a first one of said conductors being connectable to a first one of said leads; potentiometer means for controlling the current magnitude of each directional segment of said bidirectional current over said conductors and having a first terminal connectable to a second one of said pair of conductors, a second terminal serially connected through said apparatus to the other one of said leads, and a third terminal serially connectable with said other one of said leads; a pair of electroresponsive devices selectively operable under control of the currents supplied over said conductors; and a pair of unidirectional current elements each connected oppositely-poled in circuit with an individual one of said electroresponsive devices between said pair of conductors, a second unidirectional current apparatus serially connectable between said third potentiometer terminal and said other one of said leads and being oppositely-poled to said unidirectional current apparatus connected to said second potentiometer terminal, and said potentiometer means being actuable for selectively increasing and decreasing the magnitude of the operating current on said conductors for one of said pair of devices and in the opposite sense concurrently decreasing and increasing the operating current on said conductors for the other one of said pair of devices.

3,339,654

FLEXIBLE SKIRT FOR AIR CUSHION VEHICLES

Jean Henri Bertin, Neuilly-sur-Seine, and Paul Francois Gulenne, Paris, France, assignors to Bertin & Cie, Paris, France, a company of France
Filed July 6, 1965, Ser. No. 469,818
Claims priority, application France, July 7, 1964, Patent 980,972
12 Claims. (Cl. 180-7)



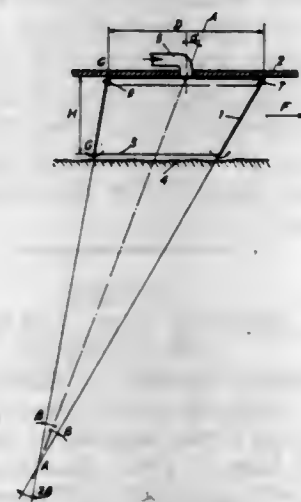
1. A ground effect machine or like body movable along a bearing surface and having a rigid frame and a fluid-pressurizable skirt made of thin, sheet-like, flaccid, fluid-tight material and extending from said rigid frame toward said surface, wherein the improvement comprises resiliently yieldable, skirt stretcher corner-posts projecting from said rigid frame toward said surface and engaging longitudinally said skirt at spaced locations thereof to

stretch transversely said skirt between said corner-posts and to determine relatively sharp corners along the plan-form outline of said skirt with substantially circular arcuate sides thereof extending laterally from said corners, whereby said skirt outline assumes the general shape of a curvilinear-sided polygon, the apices of which are positioned at said corner-posts.

3,339,655

SKIRTS FOR SURFACE EFFECT DEVICES TO REDUCE DRAG AND AIR CUSHION DISTURBANCES

Paul Francois Gulenne, Paris, France, assignor to Bertin & Cie, Paris, France, a company of France
Filed Oct. 18, 1965, Ser. No. 497,165
Claims priority, application France, May 26, 1965, 18,558
4 Claims. (Cl. 180-7)



1. A pressure gas cushion sustained movable body comprising a platform with an underface, and a wall depending from said underface and adapted to enclose laterally said cushion, said wall being in the shape of a frustum of a cone having a closed top larger base attached to said platform and an open bottom smaller base facing the surface over which said body is designed to move, the axis of said frustum of a cone as well as the rearmost generatrix thereof being inclined from top to bottom towards the rear of said body.

3,339,656

LOG-SKIDDING AIR PAN

Joseph E. Blonsky, Summerville, S.C., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,639
3 Claims. (Cl. 180-7)



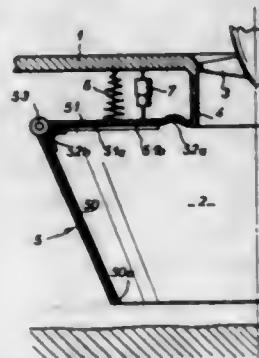
1. In combination with a tractor, a log-skidding air pan of generally rectangular plan view that receives power from, and is towed by, the tractor, comprising: (A) a plenum shell enclosing a plenum chamber, comprising a skirt, whose lower edge is closely adjacent to the ground, and a top wall that is joined without leakage to the upper edge of the skirt, (B) a power-receiving means delivering air under pressure to said plenum chamber,

- (C) a load ramp, upon which the front ends of skidded logs rest, that is the upper surface of said top wall, slopes upwardly from the rear end to the front end of the air pan, and is bordered by side barriers,
- (D) attachment means that transmit towing loads of air pan and logs to said tractor,
- (E) at least two skidders that are capable of functioning as rigid rudders for said moving air pan and of supporting the rear end of said air pan when power is not being supplied by the tractor, each skidder comprising:
- (1) a generally vertical rudder column that is attached at its top end to the underside of said top wall, near to the rear end of said air pan,
 - (2) a smoothly curved rudder that is attached at one end to the underside of said top wall, forwardly of the rudder column, and is attached, on the concave side and near to the other end of said rudder, to the bottom end of said rudder column, whereby the convex side of said rudder contacts the ground when said air pan is not receiving power from the tractor, and
 - (3) a side brace that is attached at one end to the underside of said top wall, generally transversely of said rudder column, and is attached at the other end to the bottom of said rudder column.

3,339,657

WALL DEVICE FOR BOUNDING AN AIR CUSHION

Jean Henri Bertin, Neuilly-sur-Seine, and Marc Henri Jean Faure, Saint-Maur-Des-Fosses, France, assignors to Bertin & Cie, Paris, France, a company of France
Filed May 4, 1966, Ser. No. 547,633
Claims priority, application France, May 7, 1965, 16,284
9 Claims. (Cl. 180-7)



1. A ground effect machine movable along a bearing surface and comprising a rigid structure having a side facing said bearing surface and including a rigid portion protruding from said structure toward said bearing surface and fixedly secured to said rigid structure with a projected section spaced from said side, and wall means for confining laterally a pressure fluid cushion formed against said bearing surface, wherein the improvement comprises a system for supporting said cushion confining wall means relatively to said protruding portion, comprising:

a pressure responsive, deformable plate device in the general shape of an annulus with an inner periphery adjacent said projected section of said protruding portion and an outer periphery adjacent said cushion confining wall means, said plate device extending to form a substantially fluidtight, cushion bounding physical wall on the side of said pressure fluid cushion opposite to said bearing surface whereby said pressure fluid cushion is bounded endwise by said plate device and said bearing surface and sidewise by said confining wall means, said plate device being deflectable conical-wise upon exertion of pressure

thereon with said outer periphery thereof moving bodily toward and away from said rigid structure while said inner periphery thereof remains in proximity to said projected section of said protruding portion, whereby said outer periphery of said plate device extends entirely on a same side of said inner periphery thereof,

first means for hingedly connecting said inner periphery of said plate device to said projected section of said protruding portion in spaced relationship with said rigid structure whereby said plate device is deflectable conical-wise to adopt generally V-shaped cross sections of varying angular extents, and second means for hingedly connecting said outer periphery of said plate device to said cushion confining wall means, whereby said wall means move bodily with respect to said inner periphery upon conical-wise deflection of said deformable plate device.

3,339,658

CONTROLS FOR EARTHMOVING SCRAPERS CONNECTED IN TANDEM

Robert A. Peterson, San Leandro, Calif., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 2, 1964, Ser. No. 415,525
1 Claim. (Cl. 180-14)

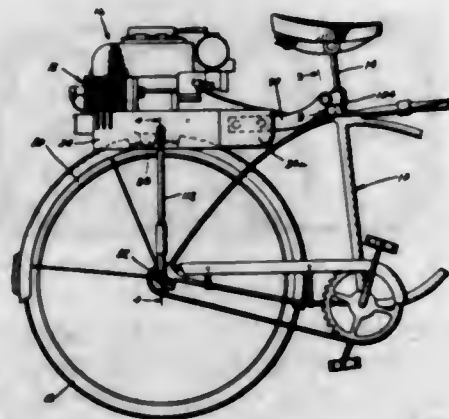


Controls for earthmoving machines connected for operation in tandem in which each machine has independent power and braking means and individual controls therefor, auxiliary control circuits extending between the machines, and controls on one machine for actuating its power and braking means or the power and braking means selectively on other machines whereby each machine is independently operable upon breaking of its tandem connection, each machine including a forward and a rear engine, two accelerator controls on one machine, said controls comprising two foot pedals sufficiently close to be simultaneously pressed by an operator's foot, one of said pedals controlling the forward engine of the forward machine, and the other pedal controlling all other engines on all machines.

3,339,659

POWERED FRICTION-DRIVING DEVICE FOR VEHICLES

Walter A. Wolf, 317 N. Hillcrest Drive, Logansport, Ind. 46947
Filed Nov. 22, 1965, Ser. No. 509,014
20 Claims. (Cl. 180-33)



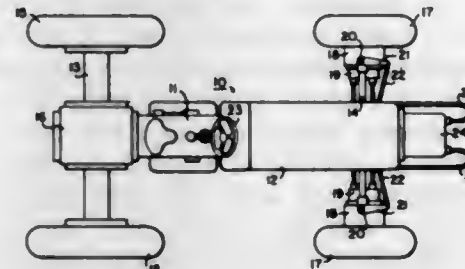
1. In combination with a vehicle having supporting framework and a tire-equipped driving wheel; a power unit comprising a frame attached to said framework, a motor mounted on said frame, two drive cones mounted

in straddling relation of the tire on said wheel, means operatively mounting said cones on said frame for rotation about spaced apart axes, respectively, means for positioning said cones in frictional engagement with opposite side portions, respectively, of said tire, and means connecting said motor to said cones for imparting opposite rotation thereto whereby said wheel is correspondingly rotated.

3,339,660

HYDROSTATIC MECHANISM

Tadeusz Budzich, 80 Murwood Drive, Moreland Hills, Ohio
Filed Sept. 14, 1964, Ser. No. 396,047
48 Claims. (Cl. 180-44)

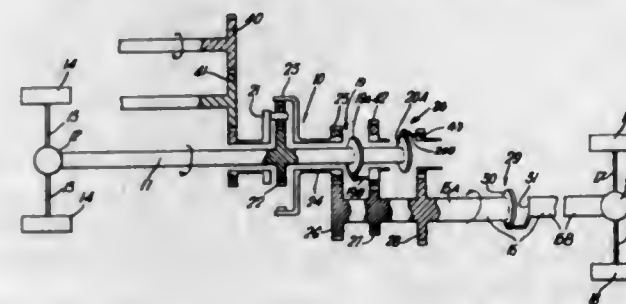


43. A fluid power transmitting circuit comprising, a variable flow fluid pump, a variable fluid motor connected to said pump, said motor including power generating means and control means, said control means including means to vary the capacity of the power generating means, biasing means normally urging said means to vary the capacity of the motor into minimum torque output position, fluid pressure responsive actuating means disposed to oppose said biasing means and urge said motor into maximum torque output position, whereby at pressure levels at or above a given level the capacity of the motor will be a maximum and the torque capacity of the motor will be reduced with reduction in the pressure delivered to said fluid pressure responsive actuating means.

3,339,661

MULTIPLE WHEEL DRIVE VEHICLES WITH MEANS PREVENTING TORQUE BEING TRANSMITTED BACK TO THE ENGINE

Claude Hill, Kenilworth, and Anthony P. R. Rolt, Stratford-on-Avon, England, assignors to Harry Ferguson Research Limited
Filed Apr. 21, 1965, Ser. No. 455,033
Claims priority, application Great Britain, Apr. 21, 1964, 16,428/64
6 Claims. (Cl. 180-44)

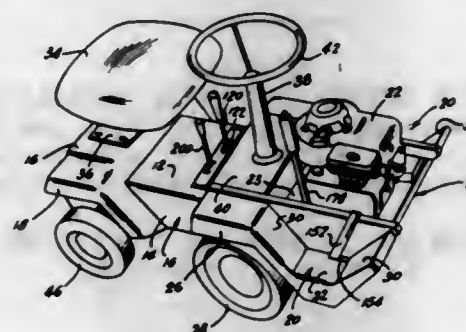


1. A vehicle transmission for an all wheel drive vehicle having an engine, said engine having an output, and said transmission having a centre differential having an input and two outputs and means to limit difference in speed between said last mentioned two outputs to a predetermined value, a first driving connection between the engine output and the centre differential input, a front differential gear having two outputs adapted to be respectively drivingly connected to a pair of front ground wheels, a rear differential gear having two outputs adapted to be respectively drivingly connected to a pair of rear ground

3,339,662

TRACTOR STRUCTURE

Rudolph A. Hanson, Edward J. Ziegler, and John E. Fischer, Jackson, Mich., assignors to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Filed June 19, 1964, Ser. No. 376,416
5 Claims. (Cl. 180-54)

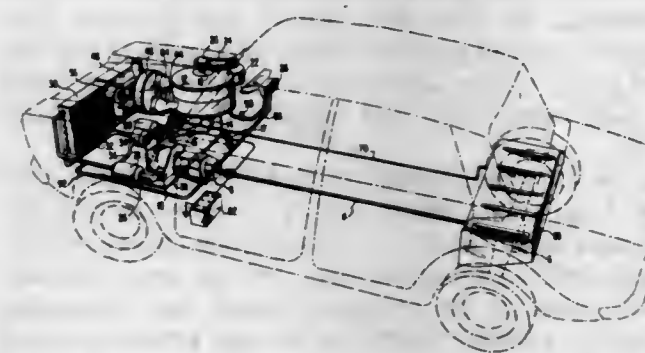


1. A lawn tractor comprising, in combination,
 - (a) a frame including a front portion and a rear portion,
 - (b) drive wheels rotatably mounted upon and supporting said frame front portion,
 - (c) fender portions defined on said frame front portion located adjacent said drive wheels, said fender portions including foot-receiving wells defined therein disposed ahead of said drive wheels,
 - (d) at least one steerable wheel means rotatably mounted upon and supporting said frame rear portion,
 - (e) an engine mounted upon said frame front portion,
 - (f) drive means operatively connecting said engine with said drive wheels,
 - (g) a seat mounted upon said frame rear portion, and
 - (h) steering means mounted upon said frame operatively connected to said steerable wheel.

3,339,663

VEHICULAR POWER PLANT

James H. Anderson, 1615 Hillock Lane, York, Pa. 17403
Filed June 9, 1964, Ser. No. 373,661
12 Claims. (Cl. 180-67)



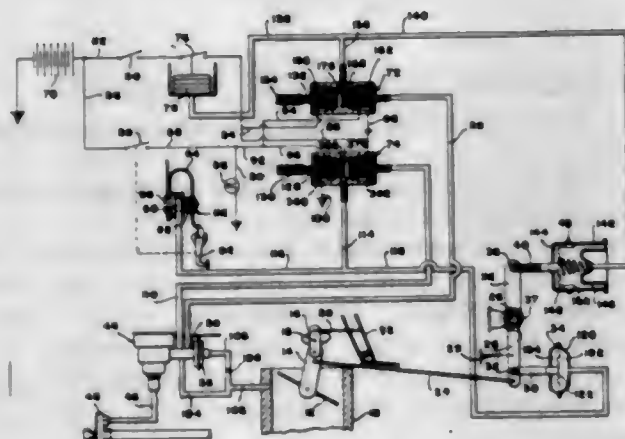
11. A prime mover for a vehicle comprising power application means for applying the power from said primer mover to propel said vehicle, a power turbine assembly

mounted in and carried by said vehicle, power transmission means connecting said turbine to said power application means, a boiler having a portion of a vapor tube assembly thereof mounted for rotation therein, means to rotate said assembly, means to heat said boiler, a condenser, a fluid circuit interconnecting said boiler, said turbine and said condenser, said circuit having a fluid therein vaporizable by said boiler, said circuit delivering vapor from said boiler to said turbine to provide power therefore while transmitting exhaust vapor from said turbine to said condenser for condensation therein and conveying liquid from said condenser to said boiler for vaporization therein, means in said circuit to circulate said fluid, means to control the prime mover, said portion of the vapor tube assembly comprising a continuous vapor tube helically wound to form a cylinder, and said cylinder being mounted for rotation about a vertical axis in said boiler.

3,339,664

VEHICLE SPEED CONTROL MECHANISM
Thomas R. Beveridge, Spencerport, N.Y., and Benjamin N. Snyder, Orchard Lake, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 29, 1965, Ser. No. 429,100
15 Claims. (Cl. 180—108)



1. A vehicle speed warning and speed maintaining system in a vehicle having an engine and an engine throttle and throttle control linkage including an accelerator pedal and a throttle closing spring, said system comprising: means sensing vehicle speed and a reference speed and generating a vehicle speed error signal; a master valve moving in accordance with said speed error signal; a first source of atmospheric pressure and a second source of pressure different from atmospheric pressure; slave valve means including a slave valve and a valve body receiving said slave valve and having pressure inlet means and first and second pressure outlet means controlled by said slave valve, said pressure inlet means receiving pressures from said pressure sources, and power means connected to move said slave valve in said valve body and controlled by said master valve; said slave valve means generating a first modulated pressure from said pressure source pressures in said first pressure outlet means at a first predetermined vehicle speed error signal indicating a vehicle speed substantially equal to the reference speed, and connecting only the pressure from the second pressure source to said first pressure outlet means at a second vehicle speed error signal indicating a vehicle speed greater than the reference speed, and generating a second modulated pressure from said pressure source pressures in said second pressure outlet means at the first

predetermined vehicle speed error signal, said modulated pressures varying in accordance with variations in the vehicle speed error signal; a first pressure actuated servomotor connected with said linkage to exert a force thereon when actuated urging said linkage toward a throttle closing position; a second pressure actuated servomotor connected with said linkage to exert a force thereon when actuated urging said linkage toward a throttle opening position; and means selectively connecting said first pressure outlet means in pressure communication with said first servomotor and closing said second pressure outlet means and connecting said second servomotor in pressure communication with said first pressure source to deactivate said second servomotor and establish a speed warning mode of system operation, and selectively connecting said second pressure outlet means in pressure communication with said second servomotor and closing said first pressure outlet means and connecting said first servomotor in pressure communication with said first pressure source to deactivate said first servomotor and establish a speed maintaining mode of system operation.

3,339,665

POWER ACTUATED VEHICLE CLOSURES
Theodore H. Johnstone, New Baltimore, and George A. Skillin, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 13, 1964, Ser. No. 410,940
17 Claims. (Cl. 180—113)



1. In a vehicle having a motor, the combination of a closure member maneuverable between open and closed positions relative to an opening in the vehicle, the closure member having a window slidably mounted therein for movement to open and closed positions, closure member and window operating power means for maneuvering the closure member and the window between the open and closed positions thereof, and control means for the power means, the control means including vehicle operating condition responsive means for rendering the power means inoperative until the vehicle is stationary and motor operating condition responsive means for controlling the power means in accordance with motor operation and means responsive to the positions of the window and the closure member for determining a sequence of operation for the power mechanisms.

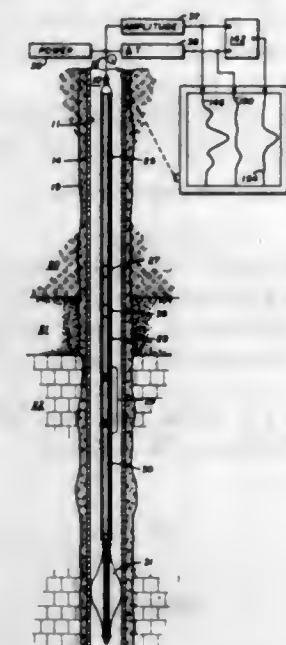
3,339,666

PULSED HIGH FREQUENCY ACOUSTIC LOGGING

Pat McDonald, 319 Leonhardt Bldg., Oklahoma City, Okla. 73102
Filed Oct. 27, 1964, Ser. No. 406,777
9 Claims. (Cl. 181—5)

1. An acoustic system for logging a cased borehole which comprises: (a) a transmitter and receiver mounted adjacent one another,

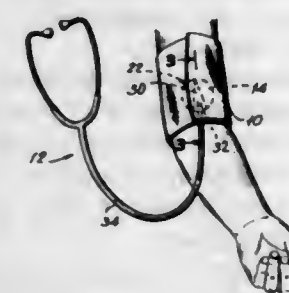
- (b) means for exciting said transmitter with time-spaced pulses of ultrasonic frequencies whose wavelength in steel is twice the thickness of the borehole casing, and



- (c) a detecting system connected to said receiver for generating an output signal representative of the integral of all energy received following a predetermined time gate after each transmitted pulse.

3,339,667

STETHOSCOPE
Irving A. Speelman, Roslyn Heights, N.Y., assignor to Propper Manufacturing Company, Inc., Long Island City, N.Y., a corporation of New York
Filed Aug. 2, 1966, Ser. No. 569,661
6 Claims. (Cl. 181—24)



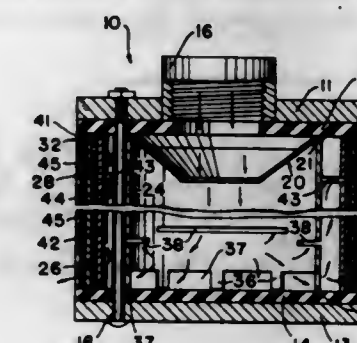
1. In a stethoscope, a receiver having a front face adapted to be placed against that part of the body from which sound is received and a rear face opposed to said front face, and wedge-shaped means carried by said receiver at said rear face thereof for facilitating in combination with said rear face insertion of said receiver into a confined space such as the antecubital space beneath a sphygmomanometer cuff and for retaining said receiver in said confined space until said receiver is withdrawn from the space, said receiver having an outer rim at the periphery of said front face thereof and said means having a leading end of substantially the same thickness as and merging smoothly into said rim, said means having distant from said leading end thereof at a part of said rim which is opposed to that part where said leading end of said means is situated a trailing end substantially thicker than said leading end and said means being of a gradually increasing thickness from said leading toward said trailing end thereof so that said means at its leading end together with said rear face of said receiver form a relatively thin structure capable of being easily inserted into a confined space, said receiver having between said front

and rear faces thereof a hollow interior which has a maximum depth at a central region of said front face behind the latter and said means being solid and formed with a bore extending from said trailing end thereof through said means in communication with said hollow interior space of said receiver at the region where its depth is at a maximum for providing a central pick-up of sound at the central region of the receiver where its hollow interior is of a maximum depth.

3,339,668

AIR EXHAUST NOISE ATTENUATOR
John B. Trainor, Madison Heights, Mich., assignor to C. W. Morris Company, Detroit, Mich., a corporation of Michigan

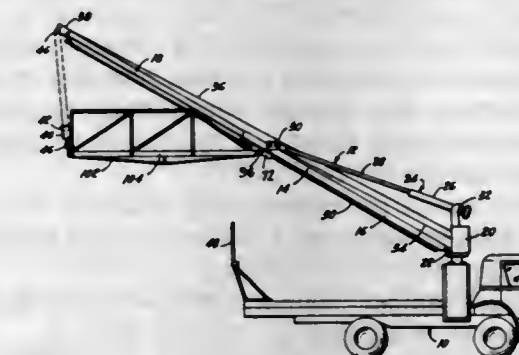
Filed Mar. 18, 1965, Ser. No. 440,693
27 Claims. (Cl. 181—37)



1. A sound attenuation device comprising a tubular plural shell type muffler structure having an apertured closure at one axial end thereof at which said device may be communicated with a gas pressurized unit to receive gas to be muffled from the latter, and another closure at the opposite axial end of said structure against which the gas may impinge in flow from said unit, said structure comprising apertured, telescoped and radially spaced tubular shells defining an axially extending gas flow passage therebetween, at least the innermost of said shells having circumferentially elongated slots of relatively slight axial width formed therein in a spaced circumferential relationship of the slots to one another, through which slots the gas may pass radially outwardly of said innermost shell to said flow passage, corresponding shell ends providing radial openings of substantial axial and circumferential extent adjacent one of said closures, through which openings the gas may flow outwardly for an axial flow through said first named passage between said shells.

3,339,669

PLATFORM ASSEMBLY FOR A CRANE
Alvin H. Wilkinson, Tulsa, Okla., assignor to Auto Crane Company, Tulsa, Okla., a corporation of Oklahoma
Filed June 2, 1966, Ser. No. 554,722
3 Claims. (Cl. 182—36)



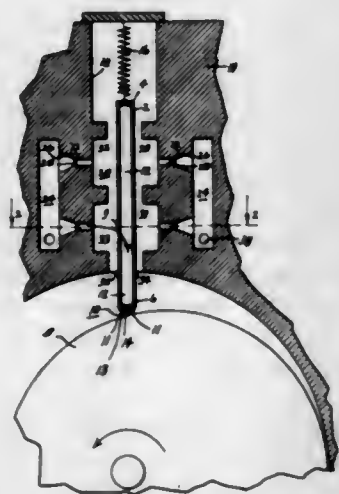
1. A platform assembly for a crane of the type having a longitudinally extensible boom including an inner boom section connected to said crane and an outer boom section

slidably connected to said inner boom section and movable longitudinally outwardly and inwardly with respect to said inner boom section, means for moving said outer boom section inwardly and outwardly with respect to said inner boom section, a cable extending from said crane to the outer end of said outer boom section, a hook means attached to the outer end of said cable adjacent said outer end of said outer boom section and means for moving said cable inwardly and outwardly with respect to said crane so as to move said hook upwardly and downwardly with respect to the outer end of said outer boom section, said platform assembly comprising a longitudinally extending platform having one end pivotally connected to said boom and its other end adapted to be connected to said hook means, said one end of said platform being slidably associated with said boom such that said one inner end of said platform moves inwardly and outwardly with respect to said inner boom section in conjunction with the inward and outward movement of said outer boom section.

3,339,670

GAS SUPPORTED CAM FOLLOWER SYSTEM
John M. McGrew, Jr., and Gerald R. Fox, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Aug. 25, 1964, Ser. No. 391,878
5 Claims. (Cl. 184-6)



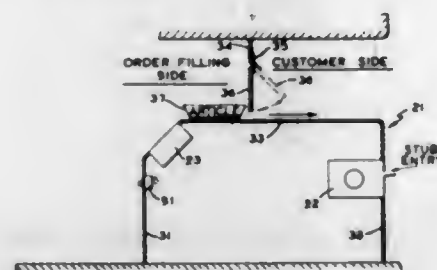
1. A cam follower comprising a tubular member having a hollow cavity therein with an entrance opening on one side thereof, a base member having an opening in which said tubular member is positioned, a rounded end of said tubular member having a plurality of apertures therein, a gas supply source in said base member for supplying pressurized gas into said opening in said base member for supporting said tubular member in a vertical position and for supplying this same gas through said entrance opening and out said plurality of apertures to form a film between said tubular member and a cam associated therewith to provide proper lubrication between the two, and resilient means for maintaining said end of said tubular member adjacent a cam associated therewith.
2. A cam follower comprising a tubular member having a hollow cavity therein with an entrance opening on one side thereof, a base member having an opening in which said tubular member is positioned, a concave end of said tubular member being of the same curvature as the cam associated therewith and having a plurality of apertures therein,

a gas supply source in said base member for supplying pressurized gas into said opening in said base member for supporting said tubular member in a vertical position and for supplying this same gas through said entrance opening and out said plurality of apertures to form a film between said tubular member and a cam associated therewith to provide proper lubrication between the two, and resilient means for maintaining said end of said tubular member adjacent a cam associated therewith.

3,339,671

ARTICLE DELIVERY SYSTEM WITH CODED CHECK CONTROLLED ANNUNCIATOR
Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut

Filed Feb. 23, 1966, Ser. No. 529,556
8 Claims. (Cl. 186-1)



1. An article delivery system comprising:
 - a plurality of article receiving positions, each including a check receiving means for receiving a code bearing check and including means for providing a signal responsive to such code;
 - a conveying means comprising sections disposed for conveying articles disposed on respective sections to said positions; each of said sections including a check receiving means for receiving a code bearing check and providing a signal responsive to such code;
 - means coupled to said conveying means for causing said conveying means to consecutively convey said sections past said positions;
 - means coupled to said respective check receiving means for causing a comparison of said code responsive signals as each section having a code bearing check passes one of said positions and upon determining the existence of correlation of said respective signals causing an output signal;
 - delivery means coupled to said conveying means and adapted to be actuated responsive to said output signal for causing the article to be conveyed from said conveying means to the respective position whose check code responsive signal correlates with that of the article, and
 - control means coupled to said respective check acceptance means for causing responsive to said output signal the check accepted by said acceptance means associated with said position to be rendered inaccessible for surreptitious removal therefrom, and for causing the check accepted by said check acceptance means associated with said respective article conveying section to be delivered with such article to said position.

3,339,672

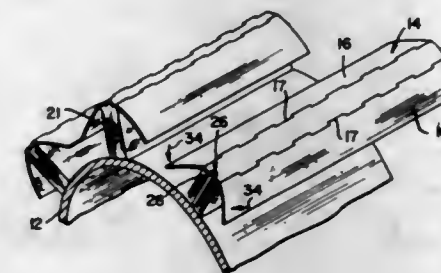
TRANSMISSION CONTROL SYSTEM
Richard E. Crandall, Portland, Oreg., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Nov. 29, 1965, Ser. No. 510,328
19 Claims. (Cl. 187-9)

1. In a lift truck having a driven wheel, hoist means, an engine for supplying power to said wheel and said hoist means, a transmission including fluid-actuated clutch

means for alternatively transmitting or interrupting engine power to said wheel and driving said wheel in either a forward or reverse direction, and clutch-operating means,

said clutch-operating means comprising:

- clutch fluid passage means for directing a pressure fluid from a source of supply to said clutch means,
- pump means for pumping fluid under pressure through said passage means to said clutch means for engaging the same,
- and pressure-responsive modulator means operable under a predetermined fluid pressure build-up in said passage means just sufficient to close up said clutch means but insufficient to cause clutch lock-up, to restrict said passage means thereafter and thereby slow the build-up of fluid pressure at said clutch means beyond said pre-

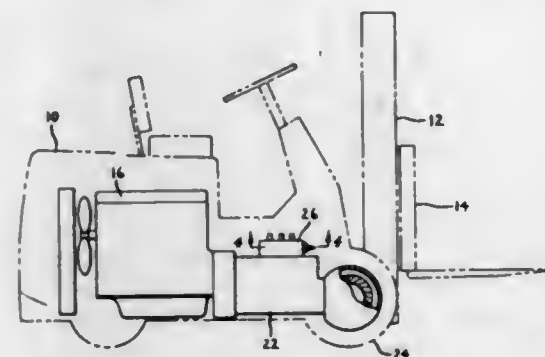


non-resilient body is distributed by said top section and flaps and transmitted to said energy absorbing honeycomb material.

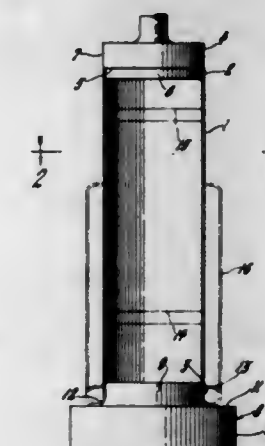
3,339,674

ENERGY ABSORBING DEVICE
Charles K. Kroell, Royal Oak, Mich., and Ralph E. Siegrist, Montclair, Calif., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 12, 1965, Ser. No. 439,326
3 Claims. (Cl. 188-1)



- determined pressure so as to cause a smooth but fast clutch engagement,
- said pump means being driven by said engine and having an output which varies with the speed of said engine, part of said output being used to operate said hoist means and another part of said output being used to operate said clutch means,
- and flow control means in conjunction with said pump means establishing a substantially constant flow rate in said passage means throughout the speed range of said engine so that operation of said modulator means to restrict said passage means occurs automatically at substantially the same time relative to clutch lock-up at all engine speeds, whereby clutch engagement is both fast and smooth at both high and low engine speeds.



1. An energy absorber consisting of a tube of relatively stiff but ductile material and of circular cross-section, means for axially loading one end of the tube in thrust, the opposite end of said tube being open, and a rigid member having an annular die surface coaxial with and facing said open end of the tube, said die surface initially flaring the open end of the tube by circumferentially elongating adjacent peripheral sections of the tube without exceeding the ultimate tensile strength of the tube material to maintain the peripheral continuity of the tube, and thereafter, without exceeding the ultimate tensile strength of the tube material to continue maintenance of the peripheral continuity of the tube, progressively reversely bending the adjacent peripheral sections of the tube as the axial loading means move relative to the die surface to form the open end of the tube into a coaxial extension of the tube.

3,339,673

VOLUMETRICALLY EXPANDABLE ENERGY ABSORBING MATERIAL
John P. Schafer, Orinda, Calif., assignor to Hexcel Corporation, a corporation of California
Filed Feb. 11, 1965, Ser. No. 431,927
5 Claims. (Cl. 188-1)

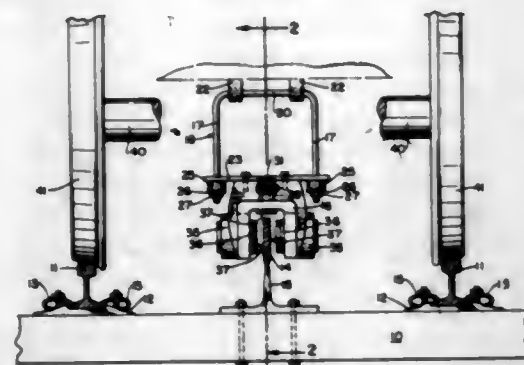
1. A protective cover for cushioning a relatively freely moving object against impact with a relatively large, immovable and non-resilient body, comprising: at least one section of volumetrically expandable and energy absorbing honeycomb material; and a frame secured to the surface of said object for enclosing each said section of material in compacted condition, said frame comprising a top section, a flap section hinged to each side of said top section and held releasably in a closed position to restrain said section of honeycomb in compacted condition and normally urged to an open position to cause the honeycomb to expand volumetrically away from said frame, each said flap section shaped to have uniform contact with the outer surface of said honeycomb section

3,339,675

RAILROAD TRACK WITH BRAKING SURFACES FOR HIGH SPEED TRAINS
Sidney H. Bingham, 109 E. 35th St., New York, N.Y. 10016
Filed July 28, 1966, Ser. No. 568,501
7 Claims. (Cl. 188-43)

1. In combination with a high speed vehicle for operating on rails, a longitudinally extending plate mounted between the rails, a rigid saddle member detachably

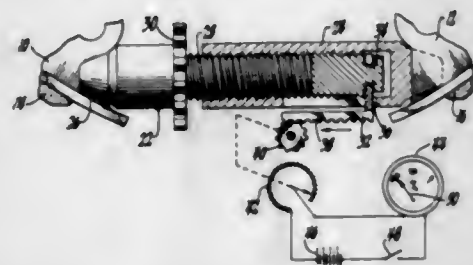
mounted on the vehicle above the plate, and means carried by the saddle member and positioned adjacent and nor-



mally out of contact with said plate for movement against said plate for exerting braking pressure thereagainst.

3,339,676
BRAKE LINING WEAR INDICATOR BY SENSING ADJUSTMENT LINK CONDITION
Clark E. Quinn, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,498
6 Claims. (Cl. 188-1)



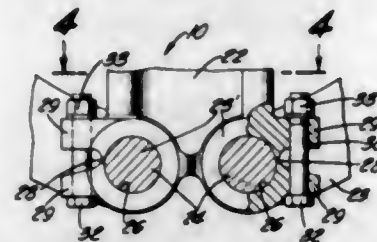
1. A brake lining wear measuring device comprising: an expandable sleeve and screw arrangement operatively disposed between opposite ends of brake shoes, said screw movable relative to said sleeve in response to a force exerted on said screw to take up the variance between the brake shoes as lining wear occurs thereon after repeated brake actuations; a leg carried by said screw and arranged to move linearly therewith as said screw is turned; and electrical means carried in fixed relationship with respect to said sleeve and screw and engageable by said leg to indicate a progressively moving screw and to convert this mechanical movement into an electrically induced visual indication of brake lining wear.

3,339,677
BRAKE SPIDER AND SHOE ASSEMBLY
Arnold F. Behnke, Rosemead, Calif., assignor to Kay-Brunner Steel Products, Inc., Los Angeles, Calif., a corporation of Delaware

Filed Aug. 10, 1964, Ser. No. 388,656
1 Claim. (Cl. 188-78)

In a vehicle wheel braking mechanism of the type having a brake drum secured to a wheel, a pair of arcuate brake shoes disposed on diametrically opposed sides of the brake drum and provided with shoe actuating means operable to expand said shoes into high-pressure contact with said drum, that improvement which comprises a rigid brake shoe supporting bracket fixed to the vehicle axle housing with one arm thereof projecting generally radially from the axle housing between the opposite lateral edges of said brake shoes, the outer end of said arm extending between the bifurcated ends of said shoes, the opposite lateral edges of the outer end of said arm each having a pair of spaced-apart ears projecting outwardly therefrom and lying generally normal to the edges of said

one arm, a large diameter cylindrical opening through each outer end corner of said one arm with their axes lying parallel to one another and to the axis of said brake drum, a slot opening radially throughout the length and along the remotely spaced sides of each of said cylindrical openings into the space between the associated pair of said ears, aligned openings through said pairs of ears lying normal to the plane of said slots and generally parallel to one another and the adjacent lateral edge of said one arm and each pair of aligned openings accommodating a separate clamping bolt and nut assembly for forcing the associated pair of said ears toward one another independently of the other pair of ears as the nut is tightened, separate cylindrical pivot pin means seated in said cylindrical openings with their midportions having a generally snug fit therein and their opposite ends extending outwardly through aligned openings in the bifurcated ends of an

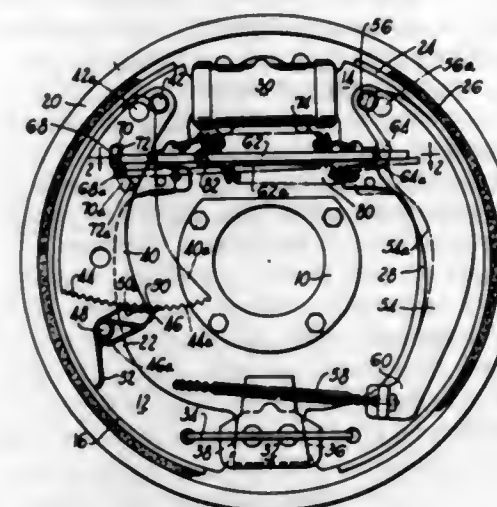


associated one of said brake shoes, the nuts of said separate clamping bolts being located on the inner end of said bolts, the space axially forward of said nuts being unobstructed and freely accessible to the open end of a socket-type wrench inserted past the inner radial portions of said brake shoes, and each of said bolt and nut assemblies being operable independently of one another as the same are wrenched to clamp and to unclamp the associated one only of said pivot pins without affecting the clamped or unclamped condition of the other of said pivot pins whereby each of said brake shoes can be installed, rigidly clamped and serviced entirely independently of the other brake shoe and its supporting pivot pin, and each of said pivot pins being clampable by its respective clamping bolt to the same degree of tightness despite substantial differences between the looseness of the pins in their respective openings before tightening their respective clamping bolts.

3,339,678
AUTOMATIC ADJUSTER FOR NON-SERVO BRAKE
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,573
12 Claims. (Cl. 188-79.5)

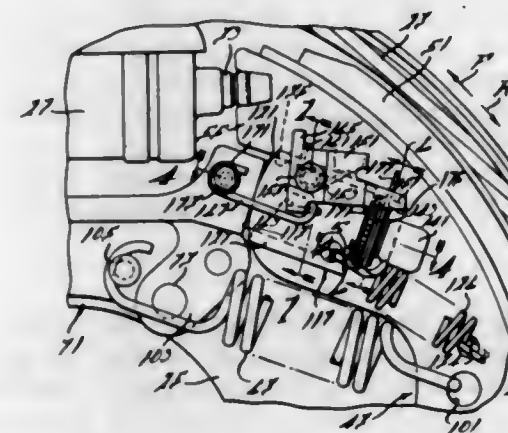
1. A brake assembly comprising: a support member, a pair of brake shoes slidably mounted on said support member in end to end relationship, actuating means disposed between one pair of adjacent shoe ends, stationary anchoring means fixedly secured to said support member and disposed between the other pair of adjacent shoe ends, an adjusting member pivotally mounted on one of said shoes, a ratchet connection between said one brake shoe and said adjusting member constructed to allow pivotal movement of said adjusting member relative to said one shoe in a direction toward the other of said shoes and prohibiting relative movement therebetween in the opposite direction, a strut extending between said brake shoes and having abutment surfaces thereon on which said shoes anchor during shoe released position, said adjusting member engaging one of said abutments on said strut, said one shoe anchoring on said strut through said adjusting member, resilient means interconnecting said shoes for urging said shoes into released position, a lost-motion connection between said adjusting member and strut for pivoting said adjusting member relative to said

one brake shoe upon spreading of said shoes beyond a predetermined amount fixed by said lost-motion connection, means maintaining an operative connection between said strut and the other of said brake shoes, whereby upon



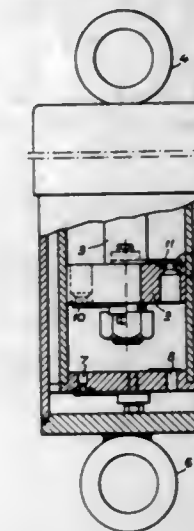
spreading of said shoes beyond said predetermined amount, said adjusting member is pivoted relative to said one shoe to assume a new position thereon thereby adjusting the released position of said brake shoes.

3,339,679
AUTOMATIC BRAKE ADJUSTER
David T. Ayers, Jr., Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 14, 1966, Ser. No. 565,215
10 Claims. (Cl. 188-79.5)



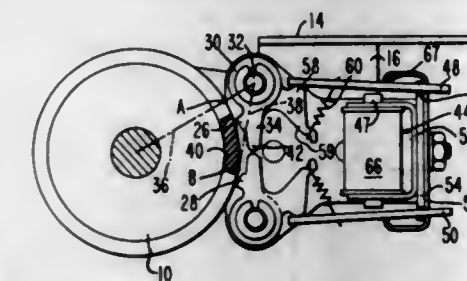
1. In a brake of the type having a rotatable brake drum, a fixed torque resisting means and a brake shoe within said drum engageable with said torque resisting means and movable into engagement with said drum, variable length means carried by said brake shoe and including first and second longitudinally adjustable members engaging said torque resisting means and said brake shoe, resilient means normally biasing one of said members toward said brake shoe, lever means carried by said one member and operatively engageable with the other of said members to adjust it longitudinally relative to said one member upon movement of said lever means a predetermined amount relative to said variable length means in one direction, link means interconnecting said lever means and said torque resisting member, said link means being operable to move said lever means in said one direction relative to said variable length means and oppose the biasing force of said resilient means to elongate said variable length means upon movement of said brake shoe away from said torque resisting member.

3,339,680
HYDRAULIC SHOCK ABSORBER
Eskil Tuneblom, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Dec. 28, 1964, Ser. No. 421,313
9 Claims. (Cl. 188-96)



1. In a hydraulic shock absorber having a damping liquid therein and having through-flow control means for said damping liquid, said control means comprising a part having a through-flow duct therein, said part having in one face means forming, an annular valve seat surrounding a part of said through-flow duct, the portion of the face around the valve seat receding away from the valve seat, a valve body, and resilient means urging said valve body against said seat, the portion of said through-flow duct adjacent said valve seat being considerably narrower than its other parts, said control means being so dimensioned that at the highest calculated absorbing speed of the shock absorber in normal operation the dynamic pressure drop in the gap between said valve body and said valve seat is between 75 and 99 percent of the total pressure drop in the through-flow means.

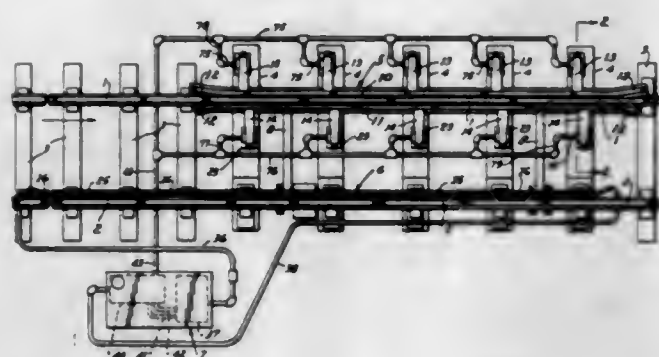
3,339,681
SOLENOID ACTUATED ONE WAY BRAKE
Forrest E. Holladay, Plymouth, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 23, 1966, Ser. No. 552,184
5 Claims. (Cl. 188-163)



1. A brake mechanism comprising a rotatable brake drum having a resilient periphery, supporting means, a brake shoe pivoted on said supporting means outwardly of the periphery of said drum with the axis of rotation of said drum and shoe substantially in parallel relationship, said shoe positioned laterally of its axis in a direction counter to the direction of rotation of said drum to engage said drum periphery between said axis and a point of tangency with said drum periphery of a plane passing through said axis, a power element operatively connected to said shoe and operable to pivot the latter

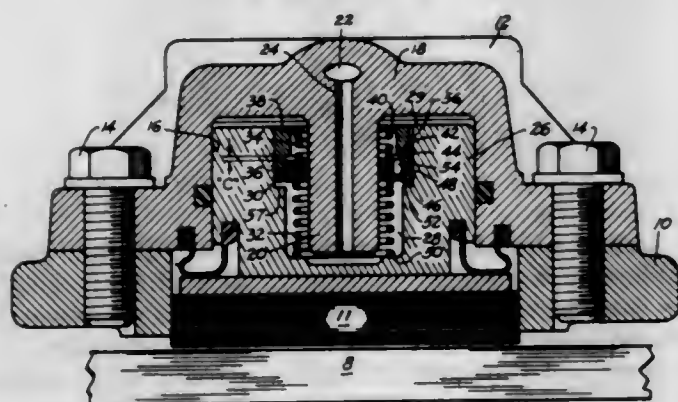
into engagement with said drum periphery, and a restraining member pivotal with said shoe into engagement with the periphery of said drum to restrain rotation of said shoe by said drum.

3,339,682
CAR RETARDER
Thomas H. Engle, 488 E. 129th St.,
Cleveland, Ohio 44108
Filed Apr. 14, 1964, Ser. No. 366,938
13 Claims. (Cl. 188—180)



1. In combination, a stretch of railway comprising a running rail, brakeshoe means associated with a running rail, said brakeshoe means being operable to be maintained in braking relation in which said brakeshoe means can exert on a car wheel on said running rail a braking force and to be released so said brakeshoe means cannot exert appreciable braking force, means for sensing the speed of a car traveling along said stretch of railway, said speed-sensing means comprising movable wheel-contacting means located adjacent a running rail and adapted to be rollingly contacted and moved independently of the rail by a portion of a car wheel rolling on said rail that is free of contact with said rail, said speed-sensing means operating to produce an output control signal that has a characteristic related to the speed of said car wheel traveling on said rail and contacting said wheel-contacting means, and means controlled by said speed sensing means for maintaining said brakeshoe means in braking relation when said car is traveling faster than a predetermined speed and for releasing said brakeshoe means when said car is traveling slower than said predetermined speed.

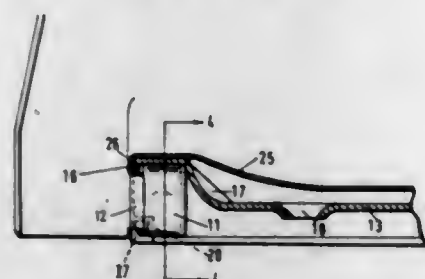
3,339,683
AUTOMATIC ADJUSTER
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Jan. 8, 1965, Ser. No. 424,234
6 Claims. (Cl. 188—196)



1. In a disk brake or the like: a cylinder housing having a bore closed at the rear end thereof and open at the front end thereof, a piston slidably mounted in said bore having a recess opening onto the rear face thereof,

a fixed member secured to the closed wall of said bore and extending forwardly therefrom into said recess, an adjusting member surrounding said fixed member and gripping the same, a pair of abutments carried by said piston, said abutments being spaced with one in front of the other, a retainer member having a portion located in front of said one abutment for engagement therewith and another portion located in front of said adjusting member for engagement therewith, said other of said abutments being located rearwardly of said adjusting member and arranged for thrust engagement therewith to overcome the gripping connection between said adjusting member and fixed members to move said adjusting member to a new gripping position on said fixed member during forward movement of said piston, a resilient member acting on said piston and said retainer urging the latter rearwards into engagement with said one abutment, whereby upon rearward movement of said piston during a kick-back condition, said retainer will be engaged with said adjusting member and prevented from rearward movement thereby and said piston and abutments will move rearwardly relative to said fixed member and said retainer against the force of said resilient member and upon subsidence of said kick-back condition said piston will be returned forwardly by said resilient member until said retainer member is engaged by said one abutment member.

3,339,684
HANDLES FOR ARTICLES OF LUGGAGE
William Ernest Chance, Sutton Coldfield, England, assignor to C. W. Cheney & Son Limited, Hockley, Birmingham, England, a British company
Filed Sept. 16, 1965, Ser. No. 487,668
Claims priority, application Great Britain, Oct. 7, 1964, 40,826/64
3 Claims. (Cl. 190—58)

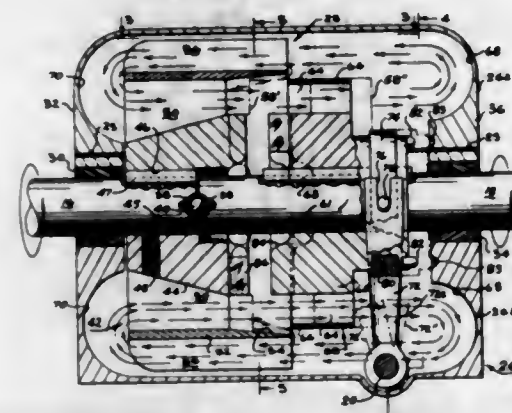


1. A handle for an article of luggage, comprising: (1) a relatively rigid handle proper 10, having (a) a longitudinally extending portion 10a to be gripped by a user's hand, (b) a pair of depending portions 10b, 10c, integral with the longitudinally extending portion 10a, (c) and a pair of trunnions 11, each trunnion integral with a corresponding depending portion 10b, 10c, the trunnions being co-axial and extending towards one another generally parallel to the longitudinal portion 10a, and each trunnion having an encircling groove 12; (2) and a mounting plate which: (a) extends between the two handle portions 10b, 10c, (b) overlaps both trunnions, (c) is of tubular shape and embraces both trunnions so as to be rendered captive to the trunnions and hence to the handle, and (d) has its end edges inturned and engaged in the two grooves about the said trunnions.

3,339,685
TRANSMISSION
Harry J. Cornwall, Long Beach, and Ralph A. Le Gault, Lakewood, Calif., assignors to Con-Serv Inc., Long Beach, Calif., a corporation of California
Filed Sept. 28, 1964, Ser. No. 399,793
19 Claims. (Cl. 192—3.22)

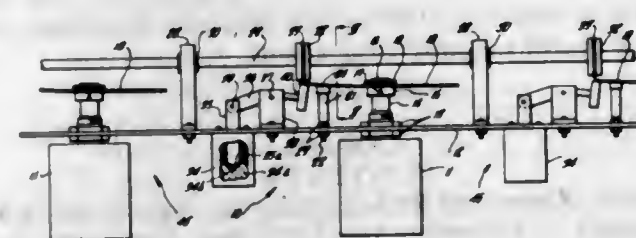
1. A transmission comprising:
a hollow housing defining a fluid chamber;

a drive shaft extending through a forward end of said housing into said chamber, said drive shaft being adapted for rotation about its longitudinal axis;
a driven shaft extending through a rear end of said housing into said chamber, said driven shaft being adapted for rotation about said longitudinal axis;
pump means mounted on said drive shaft for pumping fluid in response to rotation of said drive shaft in a pressurized and substantially axial stream with respect to said drive shaft;
fluid driven means mounted on said driven shaft for producing a rotation of said driven shaft in response to said axial stream of fluid from said pump means



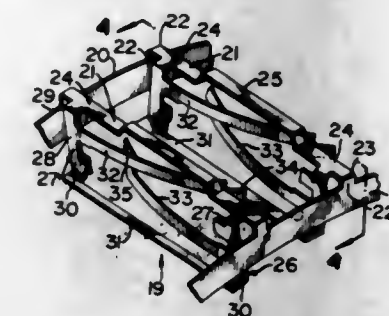
striking said driven means, at least one of said pump means and fluid driven means being movable toward and away from the other thereof along the axis of said drive and driven shafts;
an annular shroud within said chamber at spacing from the walls thereof and dispersed around said pump means, said shroud extending rearwardly at least partially over said fluid driven means; and
selectively operable means for so moving said one of said pump means and fluid driven means to vary the distance between said pump means and said fluid driven means along said axis, thereby varying the degree of response of said driven means to said axial stream of fluid.

3,339,686
POTENTIOMETER DRIVE SYSTEM
Monroe A. Miller, Coral Gables, Fla., assignor to Milgo Electronic Corporation, Miami, Fla., a corporation of Florida
Filed Nov. 5, 1965, Ser. No. 506,517
8 Claims. (Cl. 192—4)



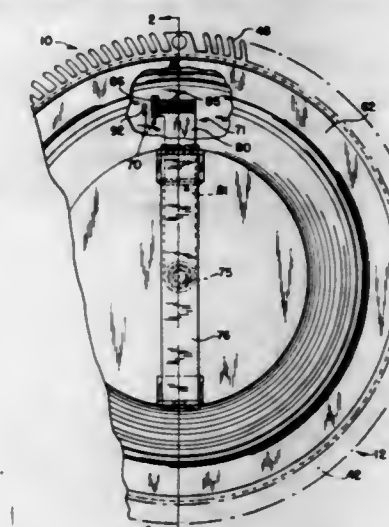
1. A potentiometer drive system, comprising: a potentiometer having a rotatable shaft; means engageable with the shaft for rotating the shaft to adjust the potentiometer; and means for applying a force to the shaft in a direction transverse to the shaft axis of rotation whereby the shaft is at all times subjected to a bending moment tending to prevent unwanted creep of the shaft after it is rotated to a desired position.

3,339,687
RETAINER FOR OVERRUNNING CLUTCH ROLLERS
John H. Cowles, Forestville, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Oct. 24, 1965, Ser. No. 504,784
10 Claims. (Cl. 192—45)



1. A retainer for an overrunning roller clutch comprising a pair of side rims, cross bars extending between said rims at the outer edges thereof, an arm depending from each cross bar adjacent each rim, a roller support bar connecting together inner ends of axially adjacent arms, and a spring extending from each arm, said springs of axially adjacent arms extending in opposed relation and being radially offset.

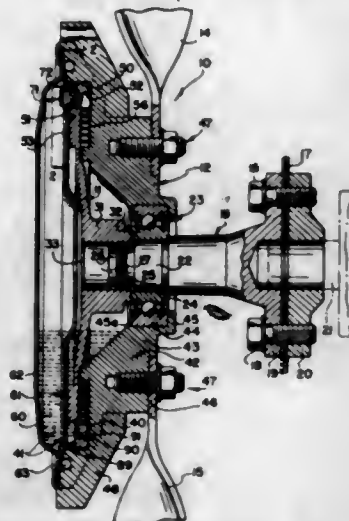
3,339,688
COUPLING DEVICE
John H. Harvey, Detroit, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Sept. 20, 1963, Ser. No. 310,320
26 Claims. (Cl. 192—58)



1. A fluid coupling comprising a first rotatable member, a second rotatable member disposed adjacent said first rotatable member, said first and second rotatable members having spaced opposed surface portions defining a shear space therebetween cooperable with a fluid shear medium within said shear space to provide a shear-type fluid drive between said members, a fluid reservoir chamber adjacent said shear space, means providing fluid conducting means communicating said fluid reservoir chamber and said shear space, said fluid conducting means providing for fluid flow between said shear space and said fluid reservoir chamber, and a pumping element supported on one of said members and movable axially of said one of said members in a first axial direction to allow for fluid flow into said space through said fluid conducting means and in a second axial direction opposite said first axial direction to effect movement of fluid from said shear space through said fluid conducting means into said reservoir chamber.

3,339,689 TEMPERATURE RESPONSIVE FLUID COUPLING DEVICE

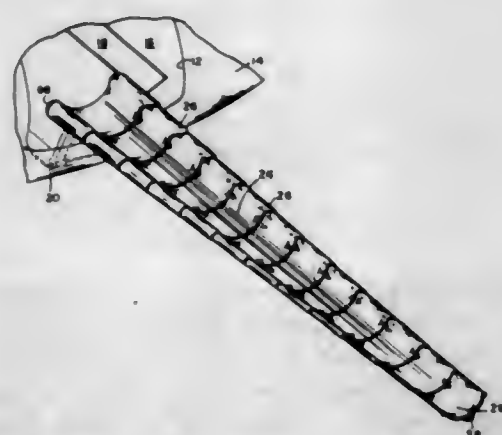
Alex Sutaruk, Hazel Park, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Oct. 25, 1963, Ser. No. 318,951
25 Claims. (Cl. 192-58)



1. A fluid coupling comprising a first rotatable member defining a fluid chamber means, a second rotatable member having a portion of the periphery thereof rotatable in said fluid chamber means, said first and second rotatable members having spaced opposed surface portions defining a shear space therebetween and cooperable with a fluid shear medium within said shear space to provide a shear type fluid drive between said members, a flow producing member movable in a first direction to allow for fluid flow into said shear space and in a second direction opposite said first direction to effect fluid flow from said shear space, and temperature responsive means located wholly within said chamber means for moving said member in said first and second directions.

3,339,690 EVACUATION SLIDE

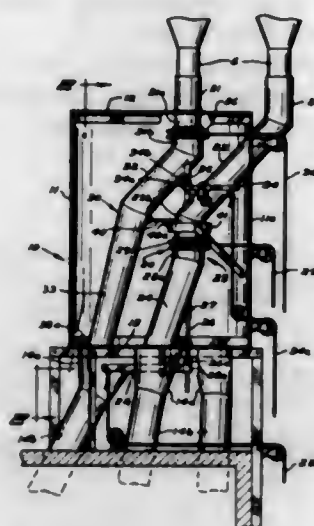
Roger G. Craig, Box 231, Collinsville, Okla. 74021
Filed Oct. 23, 1965, Ser. No. 503,734
6 Claims. (Cl. 193-6)



1. In an airplane having a fuselage with a side opening and an interior floor and an opening in said floor adjacent said side opening,
a telescoping evacuation slide pivotally mounted within said floor opening and beneath said floor, said slide movable from a stored position beneath said floor to a telescoped position through said side opening, and
a telescopic drive tube connected to said slide to cooperate telescopically with said slide in both an extended position and an inoperative position, said drive tube being extendible by fluid means.

3,339,691 GRAIN DISTRIBUTOR

William A. Schlagel, Jr., Minneapolis, and Alfred H. Huehn, Cambridge, Minn., assignors to Schlagel, Inc., Cambridge, Minn., a corporation of Minnesota
Filed July 21, 1965, Ser. No. 473,648
5 Claims. (Cl. 193-23)



1. A grain distributor for use in receiving grain from an elevating apparatus and discharging the same into selected storage bins comprising:

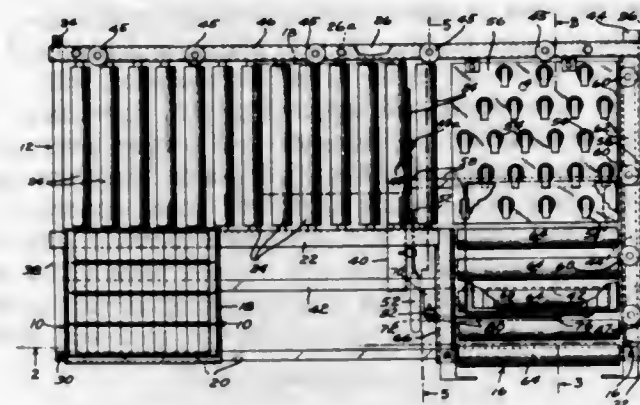
- (a) a housing member having a plurality of discharge spouts arranged in substantially planar relation in the lower end thereof which discharge spouts are arranged to deliver grain into individual storage bins;
- (b) a pair of grain transfer conduits arranged within said housing each having a receiving end to receive grain from an elevating apparatus a discharge end arranged to deliver grain into a selected discharge spout;
- (c) a substantially vertical telescoping section provided in each of the transfer conduits arranged axially of said housing, the respective upper ends of said telescoping sections being fixedly attached to the housing permitting full circular rotation of the lower discharge ends therearound;
- (d) the discharge end of a lower of said conduits being radially spaced more closely to said axis than the discharge end of the upper of said conduits such that the units will be free to rotate;
- (e) means for independently actuating each of said telescoping sections of said transfer conduits to shift the respective discharge ends thereof and permit placement thereof partially within the discharge spouts; and
- (f) means for independently rotating each of said discharge ends to position the same for discharge into any one of said discharge spouts.

3,339,692 CONVEYOR

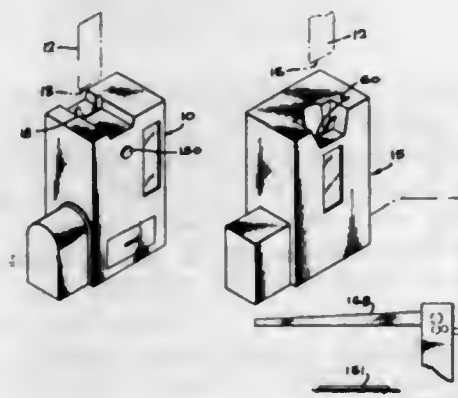
Richard E. Zipser and Rudolf Orthwine, New York, N.Y., assignors to Orthwine Merchandising Associates, Inc., New York, N.Y., a corporation of New York
Filed Jan. 28, 1965, Ser. No. 428,770
1 Claim. (Cl. 193-36)

In a conveyor system, a pair of inclined bar members, a plurality of rollers journaled in said bar members and providing a first conveyor track, an inclined support disposed at the end of said bar members, roller means laterally and vertically disposed in said support, castors swivably journaled in said support and in inclined second conveyor track having roller elements disposed to receive objects being gravity fed from said castors and providing

a feed path angularly disposed to said first conveyor track, a first removable stop located at the end of said first conveyor track, said stop being pivotally mounted beneath said track and adapted to swing from a position



3,339,693 CARD CONTROLLED AUTO PARK Herbert B. Mueller, 7767 Hollywood Blvd., Hollywood, Calif. 90040 Filed Dec. 30, 1965, Ser. No. 517,619 5 Claims. (Cl. 194-4)

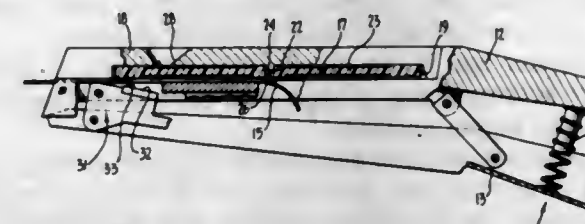


1. A key card control system, comprising:
a key card having first and second end edges;
a validator means for receiving said card first end first and producing two key coded areas on said card in spaced relationship to said first end edge;
(a) one key coded area being a fixed distance from said first edge, and
(b) the other key coded area being at a distance from said first edge which is a function of time;
control means for accepting said key card second end first and using the form thereof to control an output circuit, said control means including a limit stop engageable with said second end edge, a stationary switch means located a fixed distance from said limit stop for establishing a circuit in conjunction with said coded area (a), and a traveling switch means located from said limit stop a distance which is a function of time for establishing a circuit in conjunction with said coded area (b); and
electrical circuit means including said switches as control members.

3,339,694 EMBOSSING ARRANGEMENT WITH RESILIENT DEFORMABLE PLUG USED AS A DIE MEMBER

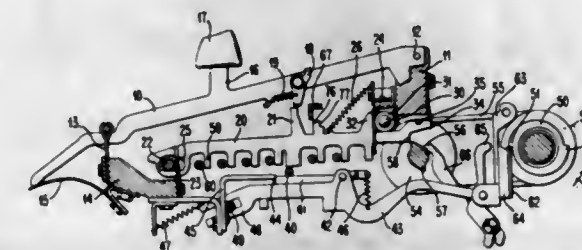
Dalny Travaglio, Kensington, Calif., assignor to Dymo Industries, Inc., Emeryville, Calif., a corporation of California
Continuation of abandoned application Ser. No. 426,948, Jan. 21, 1965. This application Jan. 3, 1967, Ser. No. 606,618

8 Claims. (Cl. 197-6.7)



1. In an embossing device having a body member having guide means for guiding a strip of embossable material to an embossing station of said body member, the improvement comprising a selector disk mounted for rotation relative to said body, said disk having a plurality of circumferentially spaced different indicia female dies formed in a face thereof and respectively positionable at said embossing station upon rotation of said disk, a resilient deformable element disposed at said embossing station, an actuating member coupled to said element for responsive movement of the latter into engagement with said disk at the position of a die at said embossing station, one of said dies comprising an enlarged recess for freely receiving said deformable element, and a cut-off die in radial alignment with said enlarged recess and radially spaced therefrom to effect a transverse cutting of the strip.

3,339,695 REPEAT MECHANISM FOR PRINTING DEVICE Leon E. Palmer, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York Filed July 22, 1966, Ser. No. 567,302 11 Claims. (Cl. 197-17)



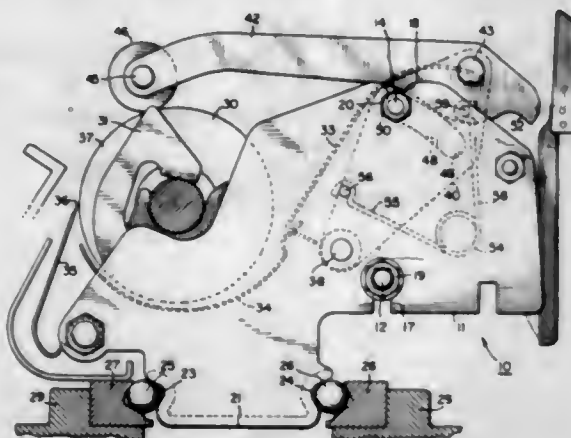
1. A repeat mechanism for a printing machine having a print element orientable to a plurality of positions to bring selected characters to a printing point comprising:
a plurality of character interposers mounted in aligned side-by-side relation;
each of said character interposers being individually actuatable in a first plane from an initial to an actuated position;
an actuating bail extending transversely of and movable by any actuated one of said character interposers when moved in said first plane;
a cyclic driving means actuated in response to movement of said actuating bail;
means for latching any actuated one of said character interposers when moved in said first plane in a position to be engaged and driven by said cyclic driving means;

a plurality of character selection bails extending transversely of said character interposers and controlling the orientation of said print element;
 said cyclic driving means moving any actuated and latched one of said character interposers in a second plane generally transverse to said first plane to actuate selected ones of said character selection bails and unlatch said actuated character interposer;
 means for returning any actuated one of said character interposers to its initial position after actuation of said character selection bails;
 a repeat bail extending transversely of said character interposers and movable in said first plane between a retracted position and a repeat position;
 said repeat bail being disposed in the path of travel of any actuated one of said character interposers when in said repeat position;
 said repeat bail being engaged by and preventing return movement of any actuated one of said character interposers to its initial position and maintaining said actuated character interposer in a character interposer repeat position where the actuating bail and the character selection bails are actuated; and
 said repeat bail and said means for returning causing any actuated one of said character interposers to move in said first plane to disengage said actuating bail prior to causing movement of said actuated character interposer in said second plane to release said actuated character selection bails when said repeat bail moves to said retracted position.

3,339,696

PAPER BAIL STRUCTURE FOR TYPEWRITERS AND THE LIKE

Thurston H. Toeppen, Poughkeepsie, N.Y., assignor to Friden, Inc., Rochester, N.Y., a corporation of Delaware
 Filed July 12, 1965, Ser. No. 471,087
 4 Claims. (Cl. 197-138)



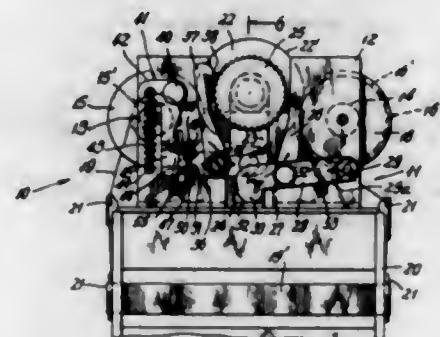
1. In a typewriter, in combination with a platen and frame structure carrying said platen, a paper bail structure comprising a torque shaft journaled for rotation about its axis in said frame structure in axially parallel relation to said platen; a pair of torque arms respectively fixedly secured to said torque shaft adjacent opposite ends of said platen for rotation with said torque shaft providing forward and rearward pivotal movement of said torque arms relative to said platen, at least one of said torque arms having a slot extending in the direction of pivotal movement of said torque arms, said slot having a forward end and a rearward end; a fixed stop member projecting from said frame structure through said slot in said one torque arm for engaging said forward end of said slot to arrest rearward pivotal movement of said torque arms and engaging said rearward end of said slot to arrest forward pivotal movement of said torque arms; a pair of bail arms respectively pivotally secured to said torque arms for downward and upward pivotal movement

relative to said torque arms, that one of said bail arms which is mounted to said one torque arm having a projecting portion disposed to engage said stop member upon upward pivotal movement of said bail arms to a preselected upward position thereby to arrest upward displacement of said bail arms at said preselected position; a bail member secured to and extending between said bail arms in axially parallel relation to said platen and disposed to be carried into and away from engagement with said platen by downward and upward pivotal movement of said bail arms at all positions of said torque arms; and spring means acting between said frame structure and said bail arms for biasing said bail arms downwardly when said bail arms are in a downward position and upwardly when said bail arms are in said preselected upward position while biasing said torque arms rearwardly at all positions of said torque arms and said bail arms.

3,339,697

REVERSING RIBBON ADVANCING MECHANISM

Maurice D. Telchener, New Canaan, Conn., assignor, by mesne assignments, to Practical Automation, Inc., Shelton, Conn., a corporation of Connecticut
 Filed Mar. 19, 1965, Ser. No. 441,204
 9 Claims. (Cl. 197-161)



1. A reversing ribbon advancing mechanism comprising means for supporting a pair of spools for rotation in spaced apart relation with a ribbon being interconnected between the two spools to be windable and unwindable on each spool, each of said spools having an axial core about which the ribbon is wound, each of said spools being mounted on their cores for free rotational movement about the axis of the cores, a driving wheel mounted for rotational movement, means upon actuation for incrementally rotating the driving wheel, means for supporting the driving wheel for pivotal movement between the cores of the two spools, means for causing the periphery of the wheel to be urged against the periphery of the ribbon wound on one spool to effect winding of the ribbon on said spool upon rotation of said wheel, and means for pivoting the wheel from being urged against the one spool to being urged against the other spool to engage the periphery of the ribbon wound on the other spool to effect winding of the ribbon on the other spool when the one spool has become substantially full of ribbon.

3,339,698

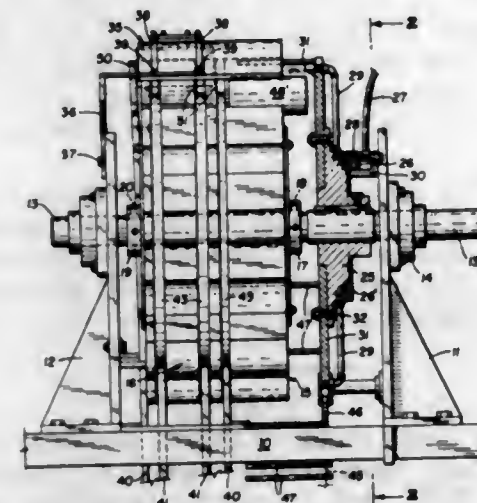
CAN UNLOADING AND TRANSFERRING MACHINE

Ruben J. Hartmeister, Golden, Danny L. McMillin, Denver, and Norman G. Pennington, Arvada, Colo., assignors to Coors Porcelain Company, Golden, Colo., a corporation of Colorado

Filed Feb. 4, 1966, Ser. No. 525,246
 5 Claims. (Cl. 198-22)

1. A can unloading and transferring machine adapted to unload cans closed at one end from a conveyor and to transfer the cans from the machine, comprising:
 (a) a pin and chain type conveyor,

(b) a rotated wheel provided with can receiving pockets extending axially of the wheel in its peripheral surface, said pockets having axial length approximately double the length of the cans to be received therein, said wheel having its receiving side adjacent the conveyor and moving at the same linear speed in position to receive cans in said pockets from said conveyor,



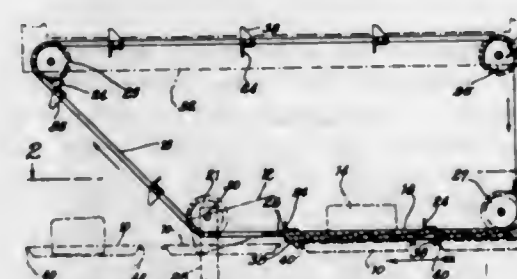
(c) a pressurized air manifold adjacent said wheel provided with air ports each communicating with a pocket for delivering air into a can in a pocket and thereby moving the can axially in the pocket out of engagement with the conveyor,
 (d) a back stop mounted on the wheel at the side opposite the air manifold against which cans are pushed by the pressurized air, and
 (e) means for receiving the cans from the wheel after they have been moved out of engagement with the conveyor.

3,339,699

ARTICLE FEEDING MEANS FOR CONVEYORS

Walter G. Harrison, Westchester, Leo A. Gary, Chicago, and Allan C. Audet, Arlington Heights, Ill., assignors to The Spra-Con Company, Chicago, Ill., a corporation of Illinois

Filed Apr. 19, 1965, Ser. No. 449,203
 5 Claims. (Cl. 198-23)



1. A construction for delivering articles to a conveyor comprising a table situated above the path of movement of the conveyor, said table defining an article supporting surface positioned substantially parallel with the article carrying surface of the conveyor and defining a discharge end with the conveyor moving beneath said discharge end, and endless pusher means located above said table and movable adjacent said table, said pusher means including pusher elements attached to the pusher means in spaced apart relationship with respect to each other, said elements traversing said table for pushing articles along the table surface and toward said discharge end and then onto said conveyor, and means operatively connecting said conveyor and said pusher means for moving the pusher means in response to movement of the conveyor, and wherein said conveyor comprises a plurality of individual,

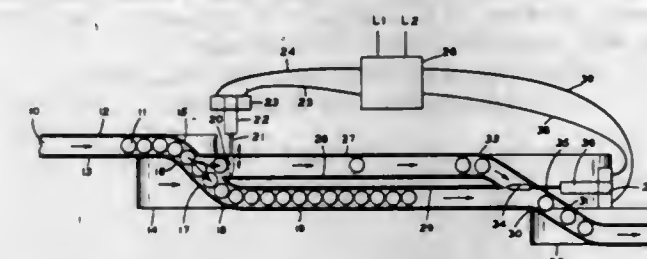
spaced-apart trays, and including means associated with said pusher means extending into the path of movement of said trays as the trays move beneath said table, said last mentioned means operatively engaging said trays whereby the pusher means move in response to movement of the trays.

3,339,700

SAMPLING APPARATUS

Donald G. Wells, Millville, N.J., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Sept. 24, 1965, Ser. No. 489,935
 3 Claims. (Cl. 198-31)



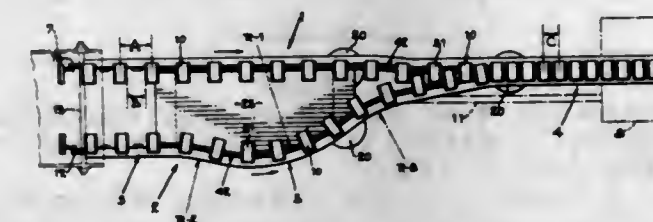
1. Sampling apparatus comprising a main line conveyor for carrying a plurality of articles past a sampling area, means for guiding articles on said conveyor, article diverting gate means and a receiving area before the gate means, said gate means and said receiving area forming means to retain a sample of the conveyed articles and to permit the sample to act as a part of the means for guiding articles on said conveyor, timer means to control said gate means to effect periodical opening and closing thereof to release the sample from the receiving area, means associated with said gate means for receiving articles passing therethrough when said gate means are open so that articles may be diverted periodically from said guiding means to said sampling area.

3,339,701

PHASE CONVERSION CONVEYOR SYSTEM

Robert J. Weichand, Fort Wright, Ky., assignor to R. A. Jones & Company, Inc., Covington, Ky., a corporation of Kentucky

Filed Oct. 3, 1966, Ser. No. 583,790
 12 Claims. (Cl. 198-32)



1. A conveyor system adapted to transport articles relative to a plurality of stations comprising:
 a plurality of conveyor runs extending between said stations and arranged to serve said stations;
 a plurality of article carriers spaced apart from one another along said runs, said carriers being joined to said conveyor runs and arranged to transport articles relative to said stations;
 said conveyor system including a first conveyor section wherein said runs are displaced laterally apart from one another, said article carriers being arranged to advance in phase with one another along said first conveyor section;
 said conveyor system including a contiguous section wherein said runs are disposed generally in parallelism with and adjacent to one another;
 one of said conveyor runs having an irregular section interconnecting one of said first laterally spaced runs to one of said contiguous runs;

said irregular section adapted to increase the developed length of the said conveyor run a sufficient distance to throw said in-phase article carriers of said first, laterally displaced conveyor runs out of phase with respect to one another upon advancement along the irregular section, whereby said article carriers merge alternately with one another into interleaved relationship during advancement along said contiguous section for transport of the carriers sequentially with respect to one of said stations.

3,339,702

DEVICE FOR ORIENTING BOTTLES

Richard F. Novak, High Bridge, and Frank Zabroski, Convent Station, N.J., assignors to Simautics, Inc., Hillside, N.J., a corporation of New Jersey
Filed Oct. 22, 1965, Ser. No. 502,117
10 Claims. (Cl. 198—33)

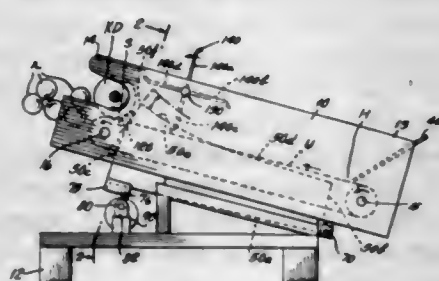


1. Bottle orienting apparatus comprising: means forming a channel for the passage of bottles aligned vertically end to end and either neck up or neck down; a plurality of moving members, a central one of said members moving in one direction and side members spaced on each side of said central member moving in the opposite direction, said channel having its exit end adjacent to, and above, said moving members, said side members being at a higher level than said central member to engage outer portions of the bottoms of bottles that are neck up and move the bottoms of the bottles in said opposite direction thereby tipping the bottles backwardly into a lying position, said central member engaging the ends of the necks of bottles that are neck down to displace the neck portions of the neck down bottles in said one direction thereby tipping the bottles forwardly into a lying position, the said side members extending sufficiently far beyond the said exit end to engage the body portion of bottles tipped into lying position by said central member so as to carry said last named bottles away in said opposite direction.

3,339,703

APPARATUS FOR REARRANGING RANDOMLY ORIENTED ELONGATED ARTICLES INTO ENDWISE ORIENTATION

Jesse R. Pinkham and John R. Everhart, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed Mar. 1, 1966, Ser. No. 538,465
12 Claims. (Cl. 198—33)



1. Apparatus for rearranging randomly oriented elongated articles into endwise orientation comprising:
(a) a driven belt having an upper surface including a plurality of upwardly facing spaced grooves therein, each of said grooves extending in the direction

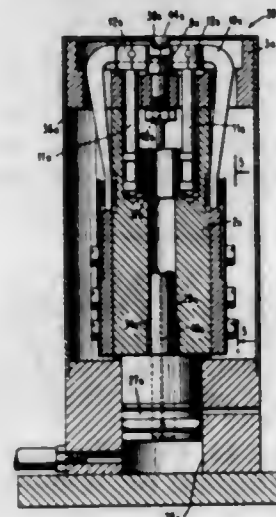
of movement of said belt, one upstream location on said belt constituting an input station, and one downstream location on said belt constituting an output station;

- (b) a plurality of elongated members, one each extending intermediate and essentially parallel to each adjacent pair of said grooves, each elongated member being mounted for movement in cycles upwardly from said belt upper surface and downwardly at least to coplanarity with said belt upper surface;
(c) means for reciprocally driving said plurality of elongated members upwardly and downwardly so that adjacent elongated members exhibit a phase difference in their upward and downward motion; and
(d) driven means adapted to move in an arc from the vicinity of said output station downwardly between each adjacent pair of elongated members, but spaced upwardly from said belt and belt grooves, and upwardly toward said input station.

3,339,704

CHIP ORIENTATION SENSOR

Kendall Clark, Poughkeepsie, Eugene J. Creighton, Wappingers Falls, and Joseph G. Drop and George R. Santillo, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 27, 1965, Ser. No. 459,380
6 Claims. (Cl. 198—33)



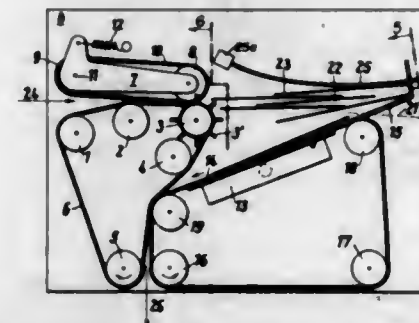
1. An apparatus for successively sensing the angular position of semiconductor chips having three ball contacts arranged in a triangular relation comprising, a base, a head mounted on said base, a blade guide mounted on said head and having a concave depression and four relatively thin radially arranged slots, four pivoted L-shaped arms, means pivotally supporting said arms adjacent said blade guide, each of said L-shaped arms arranged with a relatively long leg portion extending downwardly and a relatively short leg portion directed inwardly generally in alignment with one of said slots, a relatively thin blade mounted on each of said arms on the short leg thereof with a portion disposed in one of said slots in said blade guide, an electrical switch associated with each of said blades, each of said electrical switches having a first flexible electrical contact on said base positioned in overlying relation to the end portion of a downwardly extending long leg portion of one of L-shaped arms, and second electrical contact on said base positioned in spaced relation to said first flexible electrical contact, means for aligning a chip relative to said blades comprising, a pair of slidable diametrically positioned guide jaws on said head, chip engaging portions on said jaws positioned above and adjacent said blade guide, resilient means biasing said jaws inwardly, means for

opening said jaws, said last mentioned means having L-shaped levers, each lever having one end in abutting engagement with one of said jaws, a piston and cylinder, a piston rod in operative actuating engagement with the opposite ends of said levers, an air passage communicating with said cylinder and terminating in said blade guide, said apparatus in use adapted to sense the angular position of the chip when the chip with the ball contacts down is moved downwardly guided by said jaws into contact with said blades, and produce an electrical signal with the electrical switches in response to actuation of said blades by the ball contacts.

3,339,705

ARTICLE CONVEYING

Gisbert Burkhardt and Hans Rappaport, Constance, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Dec. 28, 1965, Ser. No. 516,909
Claims priority, application Germany, Dec. 28, 1964, T 27,718
10 Claims. (Cl. 198—34)



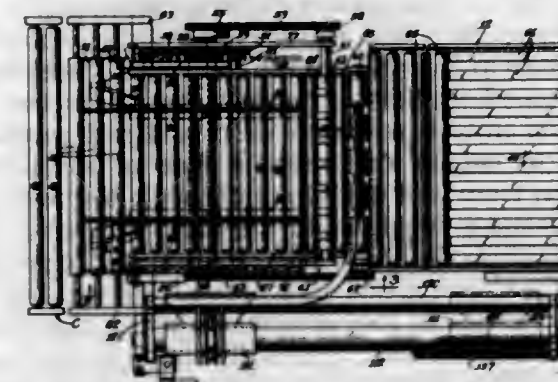
1. A method for converting a random flow of flat items into a flow having a uniform density and a regular arrangement, comprising the steps of:

- (a) conveying the random flow in a first direction;
(b) halting the items at an intercepting plane and temporarily storing them adjacent such plane whenever the rate of random flow in said first direction exceeds a desired flow rate;
(c) bringing that end of each successive item which was trailing during said conveying step within the region of influence of a suction conveyor zone; and
(d) moving the items at the desired flow rate and at a uniform flow density in succession along the suction conveyor zone in a second direction which forms an angle of between approximately 120° and 180° with said first direction.

3,339,706

PACKAGE HANDLING MECHANISM

Bengt A. Arvidson, Villa Park, Ill., assignor to Corley-Miller, Inc., a corporation of Ohio
Filed Apr. 21, 1966, Ser. No. 544,151
7 Claims. (Cl. 198—34)

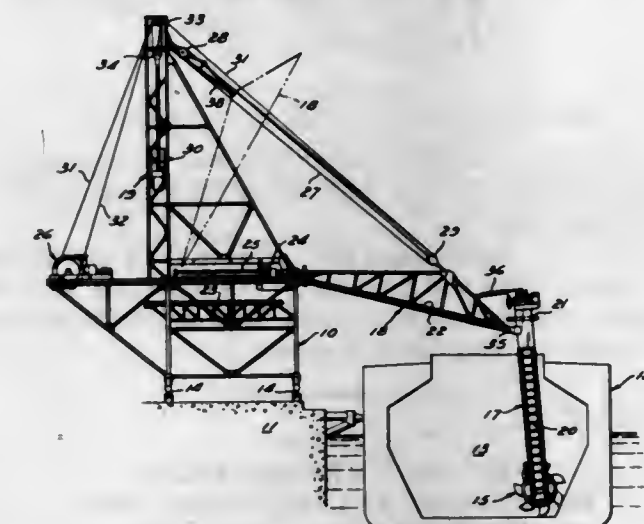


1. A package indexing device for obtaining spaced delivery of packages to a station having a scale platform comprising, a package stop in advance of said station,

3,339,707

MATERIAL HANDLING APPARATUS

Carl Ludwig, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Co., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 4, 1966, Ser. No. 525,209
11 Claims. (Cl. 198—77)



1. In a hoisting apparatus a support means, a boom, means pivoting said boom relative to said support means, hoist means, means supported by said support means and connecting said hoist means to said boom, a movable counterweight assembly, means connecting said counterweight assembly to said boom to move said counterweight in response to movement of said boom, said counterweight assembly including a plurality of separable weights, a support member positioned in the path of movement of said counterweight assembly, at least one of said separable weights being constructed to contact and rest upon said support member when said boom is raised to a predetermined position, and snubber spring means disposed between said one separable weight and said support member to absorb the landing shock of said one of said separable weights and to assist in accelerating said weight as it is raised from said support member.

3,339,708

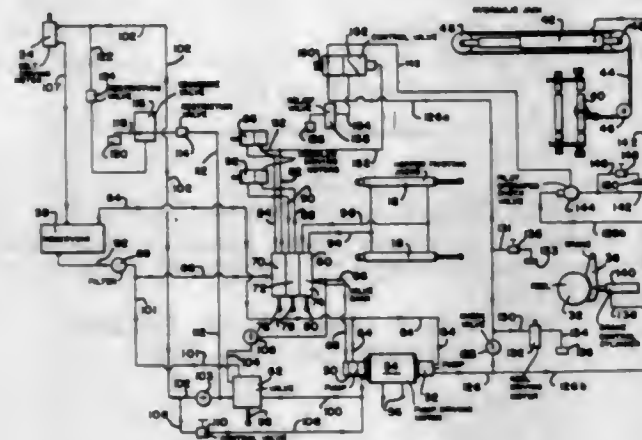
CONTROL SYSTEM FOR CONVEYORS

Thomas Luksich, North Charleroi, Pa., assignor to Lee-Norse Company, Charleroi, Pa., a corporation of Delaware

Filed July 6, 1966, Ser. No. 563,213
18 Claims. (Cl. 198—139)

1. In a control system for an extendible conveyor which comprises a plurality of relatively movable frame sections, a conveying belt extending longitudinally between said frame sections, belt storage means connected to said conveying belt and operable to vary the effective length of said conveying belt during relative movement of said frame sections, and a fluid motor connected to said belt storage means to operate said belt storage means, the combination of:
a source of pressure fluid;

conduit means connecting said fluid motor with said source of pressure fluid for supplying pressure fluid from said source to said fluid motor and exhausting pressure fluid from said fluid motor;
valve means interposed within said conduit means for alternatively directing pressure fluid through said con-



duit means to said fluid motor and exhausting pressure fluid from said fluid motor through said conduit means; and
a valve for maintaining the pressure fluid in said fluid motor, when said fluid motor is exhausting, at a pressure sufficient to cause said fluid motor to maintain tension on said conveying belt.

3,339,709

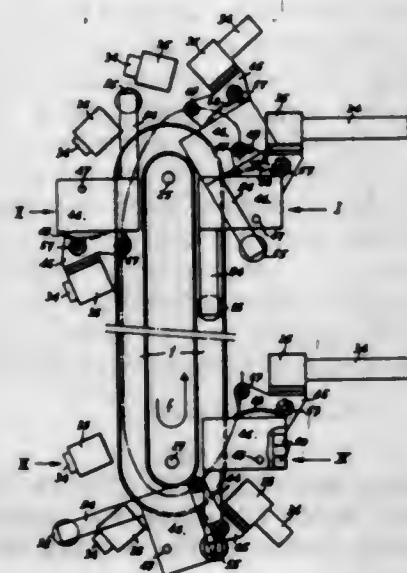
VERTICAL TRANSPORTER

Roger Bajulaz, 13 Chemin Pierre Grise,
Genthod-Geneva, Switzerland

Filed July 13, 1965, Ser. No. 471,692

Claims priority, application Switzerland, July 21, 1964,
9,504/64

10 Claims. (Cl. 198—157)



1. A vertical transporter comprising a flexible driving member, means for moving the flexible driving member in an endless path, a plurality of supporting members carried by the driving member and having upper support surfaces disposed at a substantially common level, and means mounting the supporting members on the driving member for extending and retracting movement relative to the driving member about vertical axes spaced a substantial distance from the driving member.

3,339,710

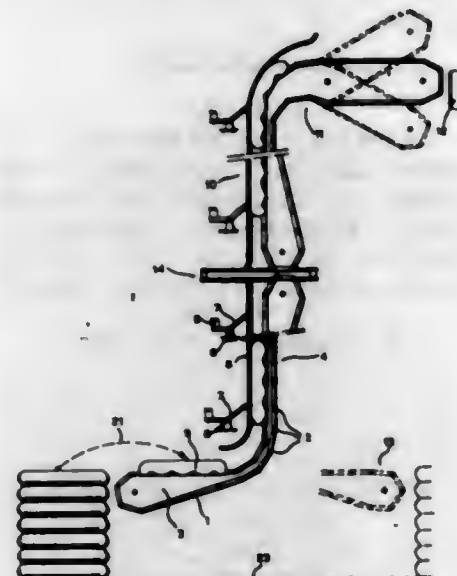
ENDLESS CONVEYOR

Karel H. Migglese, Heerlen, and Arnoldus J. Reijnders,
Voerendaal, Netherlands, assignors to Stamicarbon
N.V., Heerlen, Netherlands

Filed May 21, 1965, Ser. No. 457,549

Claims priority, application Netherlands, May 21, 1964,
64—5,624

3 Claims. (Cl. 198—160)



1. Apparatus for transporting a deformable object having two opposite faces, such as a flexible-walled bag filled with flowable material, from a first level to a second level, comprising: means defining an uneven carrying surface movable throughout a two-segment path wherein during a first segment the uneven carrying surface is generally horizontal and upwardly presented and a second segment the uneven carrying surface is generally steeply canted and faces generally horizontally; means for moving said uneven carrying surface throughout said path including means for canting said uneven carrying surface at the juncture of said first and second path segments; means defining alternating projections and recesses on said uneven carrying surface proceeding transversely thereof and spaced from one another longitudinally thereof respecting said path; successive projections and recesses being closer to one another than the length of one face of said deformable object; said uneven carrying surface being constructed and arranged to receive said deformable object facewise within the first segment of said path and to deform the one face of said deformable object presented thereagainst into substantial conformance with a plurality of said projections and recesses under the force of the weight of said deformable object on the uneven carrying surface within said path first segment; means defining a smooth wall arranged adjacent the second segment of said path and being substantially coextensive therewith; said smooth wall being constructed and arranged to face said uneven carrying surface throughout the second segment of the path thereof; means maintaining said smooth wall so close to said path second segment as to engage the opposite face of said deformable object from said one face sufficiently to prevent substantial relative longitudinal slippage between the deformed deformable object one face and said uneven carrying surface during said path second segment yet allow sliding movement of said deformable object opposite face along said smooth wall; means defining a second uneven carrying surface movable throughout a second two segment path wherein during a lower first segment the second uneven carrying surface is generally steeply canted and faces generally horizontally and an upper second

segment the second uneven carrying surface is generally horizontal and upwardly presented; means for moving said second uneven carrying surface throughout said second path including means for canting said second uneven carrying surface at the juncture of said second path first and second segments; means defining alternating projections and recesses on said second uneven carrying surface proceeding transversely thereof and spaced from one another longitudinally thereof respecting said second path; successive projections and recesses being closer to one another than the length of one face of said deformable object; said second uneven carrying surface being constructed and arranged above and in longitudinal alignment with the second segment of the path of the first-mentioned uneven carrying surface to receive said deformable object facewise from the first-mentioned uneven surface at the lower end of the first segment of the path of said second uneven carrying surface and to receive the face of said deformable object presented thereagainst in substantial conformance with a plurality of said projections and recesses; means defining a second smooth wall arranged adjacent the first segment of said second path and being substantially coextensive therewith; said second smooth wall being constructed and arranged to face said second uneven carrying surface throughout the second path first segment; means maintaining said smooth wall so close to said second path first segment as to engage the opposite face of said deformable object from the face received by said second uneven carrying surface sufficiently to present substantial relative longitudinal slippage between the deformed face of the deformable object and said second uneven carrying surface during said second path first segment yet allow sliding movement of said deformable object opposite face along said second smooth wall; and means supporting said first mentioned and said second uneven carrying surface and maintaining said first mentioned uneven carrying surface path second segment in longitudinal alignment with the first segment of said second path; said supporting and maintaining means being constructed and arranged to provide at least 180 degrees of relative rotation between the first-mentioned uneven carrying surface with respect to the second segment of the path thereof and the second uneven carrying surface with respect to the first segment of the path thereof.

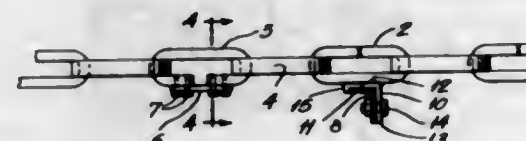
3,339,711

CONVEYOR CHAIN

Georges Lacoste, St. Jean-Baptiste de Rouville, Quebec,
Elphège Petit, St. Valerien, Quebec, Donatien Racicot,
St. Paul d'Abbotsford, Quebec, and Hector Vincent,
St. Valerien, Quebec, Canada, assignors La Cle Hy-
drolle Vincent Ltee, St. Valerien, Quebec, Canada

Filed Nov. 5, 1965, Ser. No. 506,531

2 Claims. (Cl. 198—175)



1. A conveyor chain for a stable-cleaning system consisting of chain disposed in substantially perpendicular planes, each link consisting of a bar bent back over itself to form an elongated loop, said bar having an exactly semi-circular and uniform cross-section with the convex face of the steel bar disposed in the interior of the loop and the flat face of the bar disposed at the exterior of the loop, the ends of the bar being aligned and secured one to the other, fixation elements secured to

certain ones of said links, said fixation elements consisting of a piece providing two mutually perpendicular flat wings, the first one of said wings being secured flat against the flat exterior face of the link transversely to the latter and disposed in a plane perpendicular to the plane of the loop of said link, and a blade, of L-shaped cross-section, inserted at one end within said fixation element in such a manner that the flanges of said blade be in contact with the wings of said fixation element respectively, and means for removably securing said blade to said fixation element and, wherein said first one of said wings of said fixation element is provided at its free edge with a lip adapted to overlap the free edge of the flange of said blade in contact with said first-named wing on said fixation element, and said means for securing said blade to said fixation element comprises a bolt passing through aligned holes made at one end of said blade and in the second wing of said fixation element, and a nut screwed on said bolt, said blade being provided with a second hole made at its other end to enable securing said blade to the right or left of said chain.

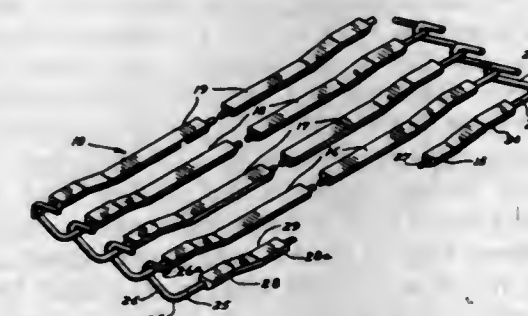
3,339,712

CONVEYOR BELT DODGED LINK CONSTRUCTION

William S. Anderson, Braham, Minn., assignor to Braco,
Inc., Braham, Minn., a corporation of Minnesota

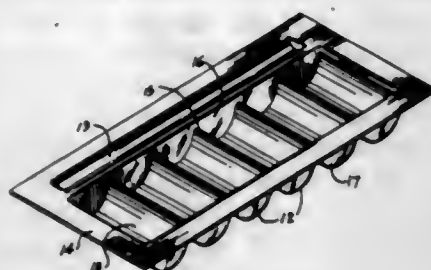
Filed Oct. 20, 1965, Ser. No. 498,321

1 Claim. (Cl. 198—195)



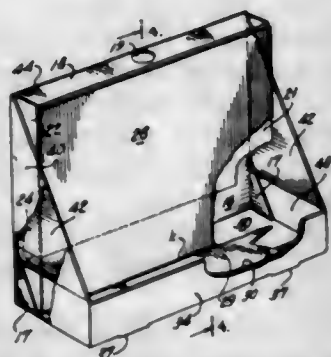
A conveyor belt construction having in combination, an endless belt comprising a plurality of links, means interengaging said links, pairs of axially spaced sprocket wheels having said belt pass thereover, said sprocket wheels each having uniformly spaced teeth thereabout, each link comprising an elongated rod having a central dodged portion downwardly disposed with respect to the terminal portions of said rod, said terminal portions of said rod having axially aligned centers and being received between said teeth of said sprocket wheels for equal spacing between said terminal portions of adjacent said links in passing over said sprocket wheels, a member comprising a body of material embracing said dodged portion of each link and extending upwardly of said dodged portion and substantially defining a circle in cross section having a center in axial alignment with the aligned centers of the terminal portions of each link, the upper surface of said body of material forming a chord of said defined circle overlying said center thereof whereby said body of material of each of said links of said endless belt has its axis moving in alignment with the aligned axes of the terminal portions of the respective links to maintain equal spacing between adjacent axes of said bodies of material in passing over said sprocket wheels.

3,339,713
DISPLAY PACK-MIXING TRAY
 Albert B. Landau, 511 Lafayette Blvd.,
 Long Beach, N.Y. 11561
 Filed Apr. 19, 1966, Ser. No. 543,562
 6 Claims. (Cl. 206-1.9)



1. A combined package, display, and non-deformable tray assembly for shipping, displaying and using sets of materials such as paints and the like without intermixing thereof comprising a plurality of individual containers of material, and container enveloping means in releasable engagement, said containers comprising a backing and a transparent, non-deformable tray having the perimetral edge of one face thereof secured to said backing in releasable engagement therewith, said tray having means on the opposite, outside face thereof forming a stable, horizontal base thereon whereby said tray, when released from said backing, may be placed down on a support and used as a paint tray, said tray having a plurality of liquid-tight, non-deformable wall members equally spaced from one another and extending in the direction of said backing in substantially right-angled relationship thereto and forming a plurality of substantially equal-sized compartments therein receiving and retaining said individual containers of paint and the like in separate relationship from one another thereby positioning said containers in fixed relationship during shipment and display, said compartments being liquid-tight and non-deformable whereby said compartments may be used as mixing and dispensing wells for loose liquid when said tray is separated from said backing and used as a paint tray, said wall members having dimensions of sufficient magnitude such that the containers formed thereby each have a depth operable to store a substantial quantity of said material in loose form during use thereof as a tray, said dimensions also being of sufficient magnitude to prevent spill-over from one compartment to another during said use as a tray.

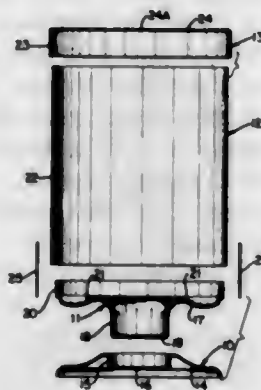
3,339,714
SHIPPING AND DISPLAY CONTAINER
 Joseph Thompson, Upper Saddle River, N.J., assignor to Consolidated Cigar Corporation, New York, N.Y., a corporation of Delaware
 Filed July 6, 1965, Ser. No. 469,528
 12 Claims. (Cl. 206-44.11)



1. A shipping and display receptacle comprising a tray member including a base section and rear outer wall projecting upwardly from the rear edge of said base section and a rear inner wall spaced forwardly of said rear outer

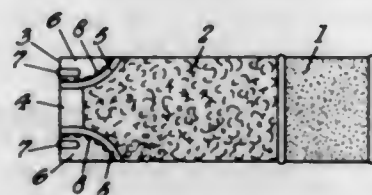
wall and hinged along its lower edge to said base section along a line forward of the rear edge thereof, a slide member disposed between said rear outer and inner walls and vertically movable relative thereto, and means limiting the upward movement of said slide member to a point above the upper edge of said inner rear wall.

3,339,715
KNOCK-DOWN CONTAINER
 Edward C. Bruno, 1880 S. Monaco,
 Denver, Colo. 80222
 Filed June 15, 1964, Ser. No. 375,102
 10 Claims. (Cl. 206-45.31)



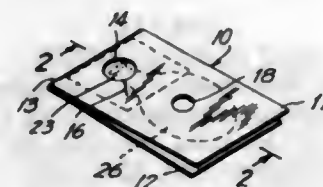
1. A container comprising a base portion including a recessed central portion, an annular, longitudinally extending portion having an inner surface the diameter of which is substantially greater than the diameter of the recessed portion and an outer surface the upper part of which has a substantially constant diameter, said latter diameter being equal to or greater than the diameter of the remaining outer surface portion, and a generally radially extending, annular portion interconnecting said recessed portion and said longitudinally extending portion; a flexible, annular cylindrical portion open at both ends, said cylindrical portion being constructed for and having one end thereof peripherally mounted upon said longitudinally extending portion of said base portion; and pressure sensitive means to hold said base portion and said cylindrical portion in an assembled condition to prevent inadvertent longitudinal separation thereof.

3,339,716
PACKAGING OF LIQUIDS
 Neil James Taylor, Dunmow, England, assignor to E. M. Cromwell and Company Limited, Hertfordshire, England, a British company
 Filed Aug. 19, 1965, Ser. No. 481,136
 6 Claims. (Cl. 206-47)



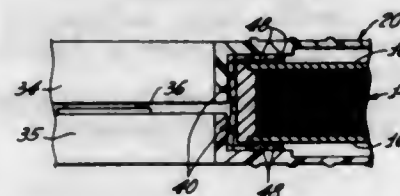
1. A multiple compartment sachet comprising a sealed elongated envelope of thermoplastic film having side and end edges having a first portion thereof folded over at least a part of the remaining portion along a transverse line so as to define two individual compartments each containing a liquid and welds located inwardly of the side edges of the envelope in the area of the transverse line forming a relatively narrow neck portion providing liquid communication between the compartments when the thermoplastic film between the welds and side edges of the envelope is removed so that such liquids are mixed.

3,339,717
MACHINE-DISPENSABLE BALLOON PACKAGE
 Abraham H. Rakowitz, 1275 E. 5th St.,
 Brooklyn, N.Y. 11230
 Filed Sept. 23, 1965, Ser. No. 489,583
 9 Claims. (Cl. 206-47)



1. A machine-dispensable balloon package comprising a pair of stiff bendable panels in facing relation, hinge means connecting together one pair of adjacent edges of said panels for relative swinging movement of said panels into and out of said facing relation, said panels each having a first opening adjacent to said hinge means in registry with each other, said panels each having a second opening in registry with each other and spaced from said first opening, a pair of facing inner sheets removably interposed between said panels extending across said first openings, and a balloon removably interposed between said panels and having its mouth interposed between said sheets within said first openings.

3,339,718
REEL CASE
 Beverly W. Geler, Torrance, Calif., assignor to Comdata Corp., Los Angeles, Calif., a corporation of California
 Filed Feb. 28, 1966, Ser. No. 530,486
 6 Claims. (Cl. 206-52)



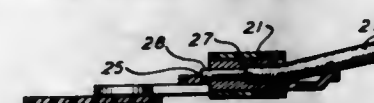
1. A ring member for use in one of two releasably interlocking complementary sections of a case for enclosing a reel of tape or the like, wherein the reel has a central circular hub opening and two side faces and wherein each of the two complementary sections of the case has an inner cylindrical hub flange to telescope into the hub opening of the reel and further has a radial wall to extend over one face of the reel,

said ring member having a first portion of generally cylindrical configuration to embrace a hub flange of a section of the case inside the hub opening of the reel and having a second adjacent continuous outwardly extending portion to fit between a face of the reel and the radial wall of the corresponding section of the case, the inner circumferential surface of the ring member being continuous in the region of the juncture of the two portions, said first portion of the ring member being formed with a circumferential series of axially outwardly extending fingers,

said ring member being made of resiliently flexible plastic material and said second portion of the ring member at the unrestrained configuration of the ring member being at an acute angle to the first portion and extending from said juncture away from the radial wall of the corresponding section of the case whereby flattening of the second portion by closing the two sections of the case against the reel

causes the second portion of the ring member to serve as a retainer to retain the reel against movement in the case and causes the ring member to contract radially in said region into tight contact with the hub flange of the corresponding section of the case and further causes said fingers to flex radially outwardly of the ring member to retain the inner circumferential surface of the hub opening of the reel against movement.

3,339,719
TERMINAL TAPE
 Harold J. Bush, Matawan, N.J., assignor to The Thomas & Betts Co. Inc., Elizabeth, N.J., a corporation of New Jersey
 Filed Oct. 12, 1965, Ser. No. 495,065
 16 Claims. (Cl. 206-56)



1. A tape for positioning terminals having conductor receiving ferrule portions therein, said tape having spaced parallel longitudinal edges defining therebetween an elongated web portion, apertures provided in said web portion for receiving the ferrule portions, constricted portions formed in said apertures, the parts being so proportioned that on insertion of a conductor in and through the ferrule, the conductor will abut the constricted portion of the aperture, to thereby align the conductor in the terminal.

3,339,720
METAL FASTENER STRIP
 Fayette Herbert Barnes, 16 Rainbow Trail,
 Mountain Lakes, N.J. 07046
 Filed Dec. 28, 1965, Ser. No. 516,860
 3 Claims. (Cl. 206-56)



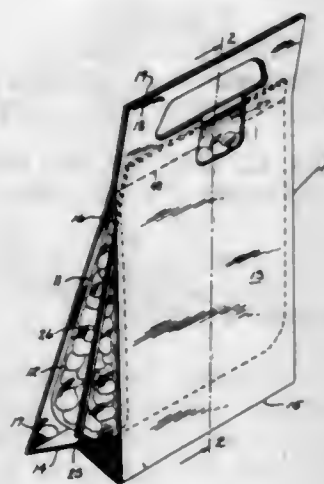
1. A U-shaped elongated strip of metallic fasteners, each of said fasteners being of U-shape and disposed in side-by-side abutting relation, said fasteners having surface irregularities which define minute spaced surface projections, spaced projections of one fastener being resistance welded to opposed spaced surface areas of the fasteners immediately adjacent said one fastener by passing an electrical current from one end of the strip to the other, the spacing between the welded fused areas of one pair of adjacent fasteners being of a different pattern from that of another pair of adjacent connected fasteners so that adjacent fasteners are in discontinuous abutment, whereby said fasteners are retained in strip form yet allowing individual fasteners to be readily separated from the fasteners immediately adjacent thereto by fracture of the welded metal portions connecting said fasteners together.

3,339,721
BAG CARRIER
 Edwin W. Goldstein, Scarsdale, N.Y., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
 Filed Feb. 8, 1966, Ser. No. 525,901
 3 Claims. (Cl. 206-56)

1. A package comprising, in combination; a bag having a bag cavity packed with commodity and a carrier for holding the bag;

said carrier consisting of a bottom panel, a front wall panel hinged to one edge of the bottom panel, and a rear wall panel hinged to an opposite parallel edge of the bottom panel;

the front and rear wall panels being folded about the bottom panel to an upright position in which an upper portion of the front wall panel faces an upper portion of the rear wall panel, the bottom panel being divided along a medial line into two portions



which have an included angle of less than 180° between them when the carrier is erected; the top of said bag being joined to the carrier along the upper portions of the front and rear wall panels so that the bag is suspended in the carrier, the carrier forming an open-ended outer holder for the bag which stands upright along the aforesaid edges of the bottom panel to which the front and rear wall panels are hinged.

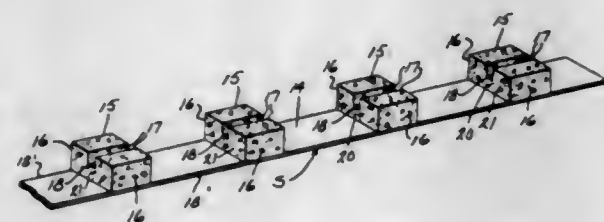
3,339,722

PACKAGE AND CUSHIONING STRIP FOR FRAGILE ARTICLES

Lloyd D. Van Antwerpen, Milwaukee, Wis., assignor to Vanant Company, Inc., Milwaukee County, Wis.

Filed Oct. 8, 1965, Ser. No. 494,091

1 Claim. (Cl. 206-62)



A package for fragile articles, mirrors and the like comprising in combination, a carton having side, end, bottom and top walls of a size and configuration to receive and completely encompass the article in spaced relation to all of said walls, a cushioning strip including an elongated flexible base strip, a series of spaced resilient cushioning blocks secured to one surface of said strip, each block having a groove therein extending completely from one side to the other to provide side walls and a bottom supporting surface intermediate said base strip and upper block portion, said strip being placed about the peripheral edge of said article with said grooved side walls and bottom surface engaging respective portions of said mirror, each block being of similar construction and having a substantially rectangular shape with its side walls terminating adjacent the side edges of said strip, the dimensions of said strip and blocks having a size and configuration that

when placed about the peripheral edge of said article will engage the respective adjacent portions of the sides of said carton, whereby the weight of said article will compress the lower portion of said block and pull said grooved side walls to firmly grip the respective adjacent portions of said mirror.

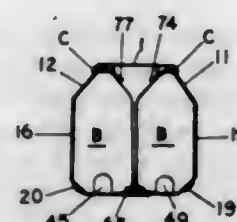
3,339,723

BOTTLE CARRIER

Prentice J. Wood, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio

Filed Oct. 30, 1964, Ser. No. 407,728

6 Claims. (Cl. 206-65)



1. A wrap-around type of bottle carrier comprising a main central panel, a sloping panel foldably joined to a side edge of said main central panel, a loop panel of generally arcuate semi-circular configuration struck at least in part from said sloping panel and defining a notch therein for receiving a part of a neck of a bottle, said loop panel being swung inwardly into enveloping relation to a bottle neck thereby to restrain it against a substantial transverse movement in any direction relative to the carrier.

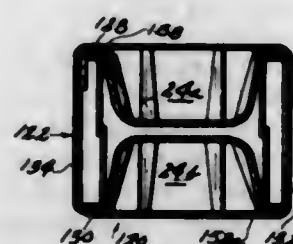
3,339,724

PACKAGING

Robert J. Hickin, Seville, Ohio, assignor, by mesne assignments, to Packaging Corporation of America, a corporation of Delaware

Filed Dec. 1, 1964, Ser. No. 415,043

19 Claims. (Cl. 206-65)



6. A skeletal support frame for a plurality of receptacles and providing a high degree of visibility of such receptacles supported therein, said support frame being formed of foldable sheet material and comprising a series of foldably connected panels comprising two opposed side wall panels and elongated top and bottom wall panels, each of said top and bottom panels being formed with a plurality of spaced openings therein opposite such openings in the other of said top and bottom panels, a strut member joined to said top wall and said bottom wall between each adjacent pair of such opposed openings, an end flap foldably joined to each end edge of each of said top, bottom and side panels and secured in the plane of the respective end of said frame at a substantial angle to the respective panel to which it is connected, each of said end flaps being of a length substantially less than one-half the dimension of said frame as measured parallel to the direction of extension of said flap whereby said end flaps define a substantial opening in each end of said frame.

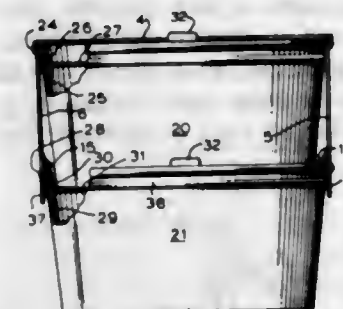
3,339,725

CONNECTOR FOR CONTAINERS AND PACKAGE

Joseph Portola Hamilton, 1006 47th St., Emeryville, Calif. 94608

Filed Feb. 25, 1965, Ser. No. 435,188

13 Claims. (Cl. 206-65)



1. A connector for securing together a pair of axially aligned containers in superposed relation each of the type having downwardly and inwardly slanted sidewalls with a radially outwardly projecting bead at its upper edge and a top closure spaced below said bead and with the lower end of the upper container of said pair supported on the top closure of the lower container and spaced within the bead of the latter, said connector comprising:

- a single elongated cardboard blank formed with a pair of spaced similarly extending fold lines extending transversely thereacross dividing said blank into a central section and terminal end extensions projecting oppositely therefrom and foldably joined thereto along said fold lines;
- said extensions being swingable downwardly from positions planar with said central section along said fold lines to opposed relation at opposite sides of such pair of containers, and said extensions being of lengths to extend downwardly past the bead on the lower container of said pair and to terminate in free downwardly facing edges below said last-mentioned bead when said central section is supported horizontally on the bead of said upper container;
- bead engaging means integral with said extensions movable into holding engagement with the bead in said lower container when said extensions are in said opposed relation to each other with said central section supported on the bead of the upper container for holding such containers together one above the other in axial alignment against separation.

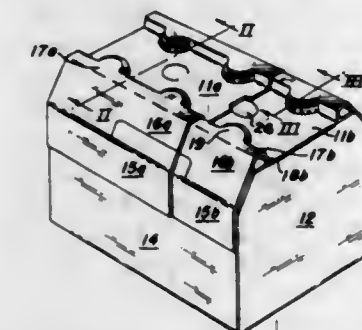
3,339,726

CARRIER

Norman H. Moore, Palo Alto, Calif., assignor to Fibre-board Paper Products Corporation, San Francisco, Calif., a corporation of Delaware

Filed May 10, 1965, Ser. No. 455,052

9 Claims. (Cl. 206-65)



1. A carrier comprising a horizontally disposed top panel, vertically arranged and opposed side panels, a bottom panel connecting said side panels and panel portions connected between said top panel and each of said

side panels, said top panel having a width substantially less than that of said bottom panel, said panel portions comprising a first panel portion arranged in diverging relationship with respect to a side panel, a second panel portion horizontally disposed and arranged in raised relationship with respect to said top panel and a third panel portion connecting said second panel portion to said top panel.

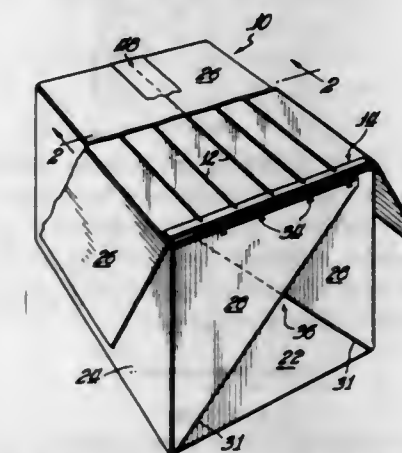
3,339,727

COMBINATION MOLD-SHIPING CONTAINER FOR SLABBED MOLDABLE MATERIAL

Allan E. Foote, Ambler, Pa., assignor to Container Corporation of America, a corporation of Delaware

Filed May 17, 1965, Ser. No. 456,290

5 Claims. (Cl. 206-65)



1. A container for slabs formed of material having a relative low melting temperature, the container initially acting as the mold for forming the slabs from the heated liquid material and thereafter acting as the shipping container for the slabs, the combination comprising:

- a single blank of liquid-proof paperboard folded to provide a bottom wall, opposed pairs of side walls hinged to opposite edges of the bottom wall, and liquid-tight corner constructions in the form of triangular panels hinged between adjacent edges of the side walls and to each other and folded over the outer surfaces of one pair of the side walls and releasably secured in face-to-face relation thereto;
- vertically positioned partitions formed of liquid-proof paperboard disposed within the receptacle and defining separated chambers open at the tops for receiving the liquid material which thereafter sets as the slabs, said partitions serving to separate the slabs from one another;
- closure means for covering the open top of the receptacle after it has been filled with the liquid material for providing a shipping container for the slabs when the same have set;
- said slabs being accessible, when desired, simultaneously on the top and sides thereof upon opening the closure means and upon separating the triangular panels from the one pair of side walls and folding the side walls and triangular panels away from the slabs.

3,339,728

BLISTER PACKAGE AND FILE SYSTEM

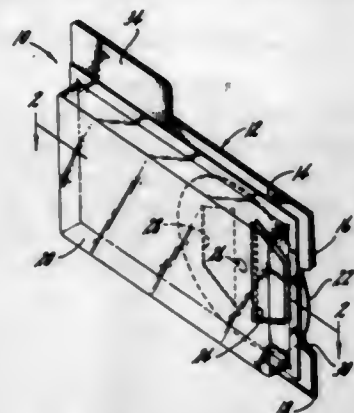
Heinz Werner, Chicago, Ill. (77 Kampenstrasse, 59 Siegen, Westphalia, Germany)

Filed Jan. 20, 1966, Ser. No. 521,927

14 Claims. (Cl. 206-78)

1. A blister package for storing and filing relatively small items and the like in a predetermined order in filing arrangement comprising a base member, a blister dome secured to said base member so as to form a packaging area therebetween, said base member having a first aperture therein which has a size and shape such that said

items can easily pass therethrough and a closure member associated with said base member, said closure member being mounted with respect to said base member so as to permit relative movement therebetween, and having a second aperture therein which has a size and shape such that said items can easily pass therethrough, said



closure member being movable relative to said base member so that said second aperture can be moved into and out of register with said first aperture and means associated with said base member receiving identifying indicia for arrangement and identification of said package in said order when in said filing arrangement.

3,339,729

BAND ATTACHMENT PACKAGING DEVICE

Raymond F. Becker, 134 S. Butte St.,
Willows, Calif. 95988
Filed Feb. 16, 1965, Ser. No. 432,958
5 Claims. (Cl. 206-79)



1. In combination: first and second elements each having substantially planar indicia bearing surfaces; legs and body integrally formed by said first element, said second element having a pair of apertures spaced opposite a distance equal to the width of the body of said first element; the body being on one side of said second element and the legs extending through said slits to the opposite side of said second element; said legs bent toward the second element to cause pressure on the second element to hold said two elements in substantially fixed position.

3,339,730

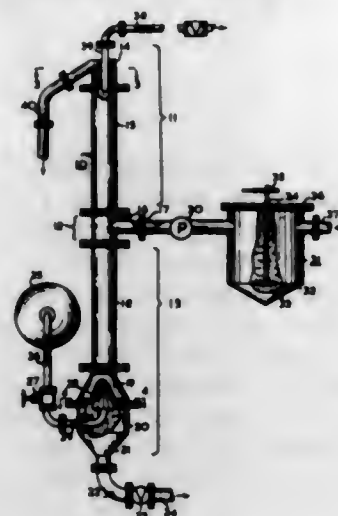
FROTH FLOTATION METHOD WITH COUNTER-CURRENT SEPARATION

Pierre Boutin, Ottawa, Ontario, and Remi J. Tremblay, Atikokan, Ontario, Canada, assignors to Column Flotation Co. of Canada, Ltd., Ottawa, Ontario, Canada, a company of Canada

Filed June 19, 1963, Ser. No. 288,931
Claims priority, application Canada, July 14, 1962, 853,771; June 4, 1963, 877,145
13 Claims. (Cl. 209-166)

1. A froth flotation method for the separation of one constituent from another constituent in a comminuted mixture of said constituents wherein a constituent thereof, which is at that time hydrophobic, is withdrawn as a froth with air, said method comprising:

- establishing and maintaining a downwardly flowing stream of aqueous medium within a vertically aligned, elongated zone, said aqueous medium being introduced at an upper portion of said zone;
- establishing and maintaining an upwardly moving stream of air bubbles originating at a lower portion of said zone, wherein the downward velocity of said aqueous medium is not greater than the upward velocity of said stream of air bubbles;
- establishing an aqueous slurry of said comminuted mixture and at least one conditioning agent which renders a selected said constituent hydrophobic;



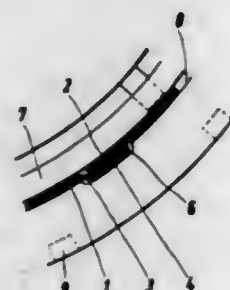
- introducing said slurry into said zone at a region in said zone above said lower portion but below said upper portion at such a rate that the solids content of said slurry is greater than the solids content in said zone;
- withdrawing constituent rendered hydrophobic and air as overflow at the upper region of said zone at a point above said downwardly flowing stream, said constituent rendered hydrophobic and said air moving co-currently to said upper portion;
- withdrawing said other constituent and aqueous medium as underflow at the lower region of said zone at a point below the introduction of said upwardly moving stream, said other constituent and said aqueous medium moving co-currently to said lower portion.

3,339,731

SCREEN DRUM

Herbert Alfred Merges, 2 Werkstrasse, Wolfgang, Germany, and Hans Georg Krestin, Wolfgang, Germany (3 Feldstrasse, Ostheim, Germany)

Filed Apr. 22, 1964, Ser. No. 361,696
Claims priority, application Germany, Apr. 26, 1963, C 29,771
3 Claims. (Cl. 209-406)



1. A screen drum, particularly for use in pulverizers or mills, said drum comprising:
a cylindrical screen plate;
overlapping end portions of said plate extending axially along said drum to form a seam;

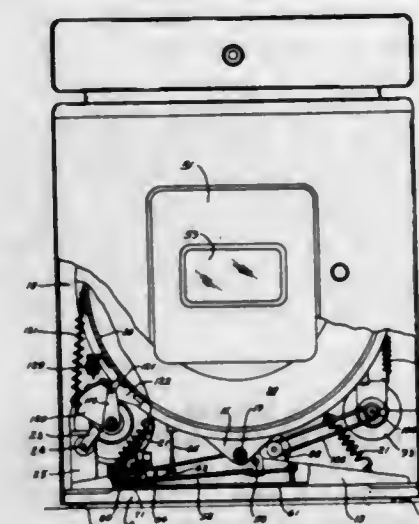
one of said end portions of said cylindrical screen plate being radially peripherally offset at said seam so as smoothly to overlap the other non-offset end portion;
outer axially spaced screen supporting rings;
a transverse axial connecting member between said rings, securing said rings in position;
inner lateral plate retaining slot recesses in said supporting rings; and
the offset end portions of said screen plate engaging into said slot recesses in said supporting rings.

3,339,732

CENTRIFUGAL FLUID EXTRACTION

Charles T. Bergman, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed May 31, 1966, Ser. No. 554,033
6 Claims. (Cl. 210-78)



1. The method of centrifugally extracting fluids from fabrics while substantially obviating residual fabric adhesion in a laundry apparatus having a container revoluble about a non-vertical axis and controlled through a cycle of operations by sequencing means to provide a plurality of speeds including fabric tumbling and fluid extraction speeds, comprising the steps of: effecting a preliminary extraction of fluid from saturated fabrics including accelerating to and maintaining operation at a relatively low extraction speed, said preliminary extraction being effected below at least one of the variables of speed and period at which fabrics normally continue to adhere to the wall of said container after said fabric tumbling speed is resumed, said low extraction speed being above the minimum speed at which fabrics become arranged around the inner periphery of the container and plastered thereto and below the critical operating speed of said laundry apparatus; decelerating said container from said low extraction speed toward a lower speed not greater than said tumbling speed for permitting said fabrics to fall free of the wall of said container; effecting a secondary fluid extraction including accelerating to and maintaining operation at an intermediate extraction speed, said secondary fluid extraction being effected above said minimum adhesion speed and period at which fabrics normally continue to adhere to the wall of said container after said tumbling speed is resumed when said secondary fluid extraction is not preceded by said preliminary extraction; effecting a second deceleration of said container for permitting said fabrics to fall free of the wall of said container, said preliminary and said intermediate extractions and said deceleration toward said lower speed being effective for achieving removal of a portion of retained fluid from said fabrics while effecting release of said fabrics

from the wall of said container prior to high speed fluid extraction to substantially obviate residual fabric adhesion following the subsequent high speed fluid extraction; and effecting a primary fluid extraction including accelerating to and rotating said container at a relatively high fluid extraction speed for removing additional fluids from said fabrics.

6. In a laundry apparatus operable through a series of operations including a fluid extraction, the combination comprising: a support; a casing movably mounted on said support; a fabric container revolubly mounted within said casing on a non-vertical axis and adapted to receive fabrics; drive means for rotating said container at a plurality of speeds including a fabric tumbling speed, a relatively low extraction speed, and at least one higher extraction speed, said low extraction speed being below and said higher extraction speed being above the adhesion speed at which fabrics normally continue to adhere to the wall of said container after said fabric tumbling speed is resumed; a circuit means including sequencing means operable through a series of predetermined time increments for controlling said laundry apparatus through said series of operations; unbalance control means responsive to unbalanced fabric loading in said container for controlling the speed of said container and including means for sensing said unbalanced loading, switch means responsive to said sensing means for altering the energization of said drive means, and auxiliary timing means selectively energizable upon sensing an unbalance for effecting a predetermined time delay following actuation of said switch means; a first circuit portion included in said circuit means in parallel to said switch means for bypassing said switch means and energizing said auxiliary timing means independently of said switch means upon initiation of a preselected one of said time increments prior to said extraction operation; and switch operating means associated with said auxiliary timing means for controlling actuation of said switch means to energize said drive means through a preliminary fluid extraction including at least one short predetermined time period of acceleration to and operation at said low extraction speed for removing a portion of the retained fluid from the fabrics followed by deceleration to and operation at said tumbling speed for effecting release of said fabrics from said container wall prior to a primary fluid extraction at said higher extraction speed to prevent residual fabric adhesion following said higher speed extraction.

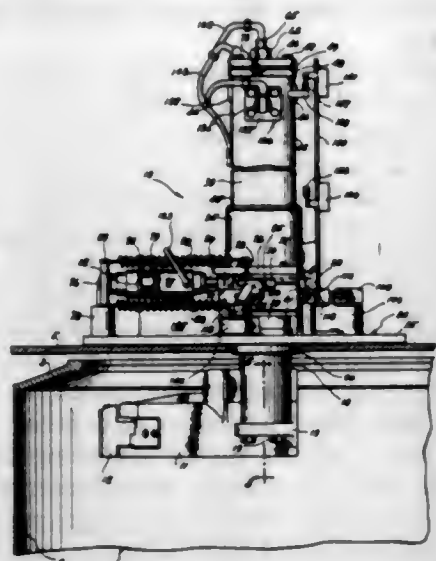
3,339,733

CENTRIFUGAL DISCHARGER MECHANISM
William Grieselhuber, Hamilton, Ohio, assignor to The Western States Machine Company, Hamilton, Ohio, a corporation of Utah

Filed Mar. 29, 1965, Ser. No. 443,386
19 Claims. (Cl. 210-91)

1. A discharger mechanism for removing solids from a centrifugal basket rotatable within a fixed curb, said mechanism comprising a mounting means adapted to be fixed on the curb top over an opening in the latter, a vertical ram extending axially through the opening of the curb top and carrying a discharger shoe within the basket, said ram being movably supported by said mounting means to move said shoe outwardly to and axially along the basket side wall to discharge solids from the basket and then back to an elevated rest position spaced inwardly from the basket side wall, yieldable means urging said ram in one direction for moving said shoe inwardly away from the basket side wall, fluid pressure operated actuating means adapted to act on said ram in the direction opposed to, and with a force exceeding the force of said yieldable means so as to move said shoe outwardly to the basket side wall, other fluid pressure operated actuating means for displacing said ram so as to move said shoe downwardly along the basket side wall

for discharging solids from the basket and then upwardly for cooperating with said yieldable means in returning the shoe to said rest position, control means for supplying fluid under pressure to operate both said actuating



means, and latch means normally engaging said ram to prevent movement of said shoe from said rest position and being releasable by fluid under pressure from said control means.

3,339,734

FRANGIBLE VALVE MEMBER FOR FUSE FILTER

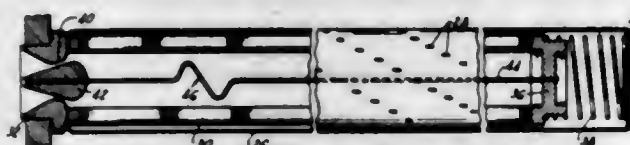
Walter Kasten, Madison Heights, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 596,990
10 Claims. (Cl. 210-96)



1. A filter unit comprising a housing having a plurality of inlet ports and a single outlet port therein, a tubular filtering element located within said housing for permitting flow of fluid therethrough from the outside of the element to the inside of the element, said tubular element having one end thereof in abutment with said housing and in alignment with said outlet port, and valve means in abutment with and closing the other end of said tubular element and including a detachable valve member, said valve member having one side thereof communicating with the fluid outside the tubular element and other side thereof communicating with the fluid inside the tubular element, said valve member co-acting with said tubular element and said outlet port so that when the differential pressure thereacross increases above a predetermined value the valve member will be detached and moved from the end of said tubular element into said outlet port to prevent further flow therethrough.

3,339,735 FILTER UNIT WITH PRESSURE RESPONSIVE VALVE MEANS

Walter Kasten, Madison Heights, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 491,650, Sept. 30, 1965. This application Dec. 22, 1966, Ser. No. 604,067
12 Claims. (Cl. 210-100)

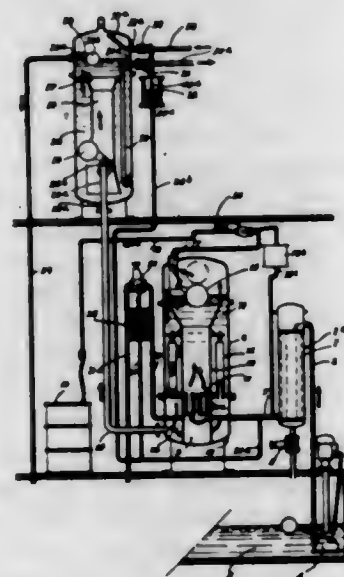


11. A filter unit comprising a housing having a plurality of inlet ports and a single outlet port therein, a compressible tubular filtering element located within said housing for permitting flow of fluid therethrough from the outside of the element to the inside of the element, said tubular element having one end thereof in abutment with said housing and in alignment with said outlet port, means for placing said tubular element under a predetermined precompression, a movable member operatively connected to said tubular filtering element, said member being movable when the differential pressure across said tubular filtering element increases above a predetermined value, and valve means operatively connected to said member for closing said outlet port at differential pressures above a predetermined value and after closure at all subsequent differential pressures below said predetermined value.

3,339,736

AUTOMATIC OIL SEPARATOR

Jacques Muller, La Garenne-Colombes, France, assignor to Rellumit Inter, S.a.r.l., La Garenne-Colombes, France, a corporation of France
Filed Oct. 15, 1964, Ser. No. 403,990
Claims priority, application France, Oct. 24, 1963, 951,580
10 Claims. (Cl. 210-104)



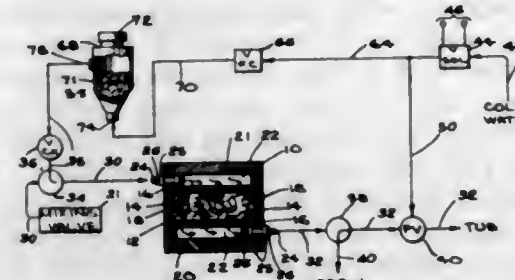
1. Equipment for separating immiscible fluids of two different densities comprising a plurality of filter tanks including a first and a second filter tank, a conduit connecting said tanks, means to force such fluids under pressure into said first of said tanks, filter means in said first tank to effect a first separation of such fluids, filter means in said second tank to effect an additional separation of such fluids, an outlet from said second tank for the fluid of lesser density, an outlet from said second tank for the fluid of heavy density, a flush tank having an inlet connected to the outlet of said second tank for the fluid of

heavier density, and means responsive to a drop in pressure below a predetermined amount in the conduit between said filter tanks to force the fluid of heavy density from said flush tank through said filter tanks to clean the filter means therein.

3,339,737

WATER SOFTENER REGENERATING MEANS

Anthony J. Kiscellus, 5301 N. Lockwood, 60630; Medard W. Swiercz, 5348 N. Luna 60630; and George F. Hamilton, 5629 N. Austin Ave. 60646; all of Chicago, Ill.
Filed Mar. 15, 1963, Ser. No. 265,429
6 Claims. (Cl. 210-134)

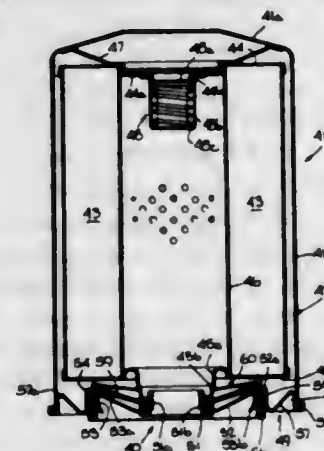


1. A water softener adapted for association with an electrically controlled water utilization device comprising a tank including a bed of ion exchange resin, means for permitting a flow of water to be softened through said tank to said utilization device whereby said water is softened, selectively operable regenerating means for permitting a flow of brine through said tank to regenerate said resin, said regenerating means including a salt chamber, an electrically operable valve for admitting water to said salt chamber and passing said salt through said tank, and a hydraulically operable valve responsive to said electrically operable valve to disconnect said tank from said utilization device and to operatively connect said tank to a drain.

3,339,738

ANTI-DRAINBACK VALVE FOR FILTER

John R. Wilhelm, Perth Amboy, and Charles J. Casaleggi, New Monmouth, N.J., assignors to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Nov. 13, 1963, Ser. No. 323,309
2 Claims. (Cl. 210-136)



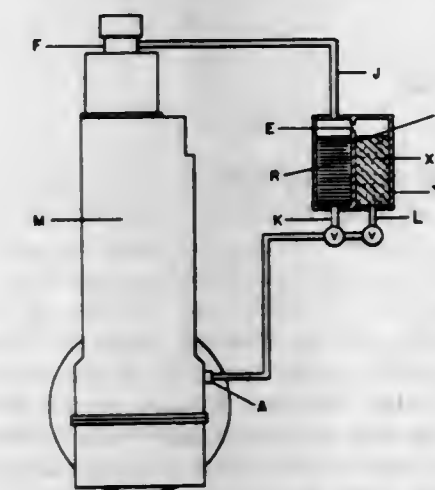
1. A fluid filter device comprising a casing having an open end portion; a filter element disposed within said casing; a cover member for closing said open end portion, said cover member having a central outlet opening and a substantial cone-shaped portion diverging from said outlet opening toward the interior of said casing and terminating in an annular periphery disposed between the central axis of said casing and the inner surface thereof, said cone-shaped portion having at least one inlet opening therein

adjacent said annular periphery; a flexible valve disc overlying the surface of said cone-shaped portion facing the interior of said casing, the central portion of said disc being secured adjacent said outlet opening of said cover member and spaced apart from and overlying said cone-shaped portion at a location positioned further from the interior of said casing than said annular periphery, said valve disc being adapted to flex and abut said surface adjacent the annular periphery of said inner cone-shaped portion to block flow from the interior of said casing toward said inlet opening; and a diaphragm spring overlying the surface of said valve disc facing the interior of said casing, means for positioning said spring with the central portion of said spring spaced apart from said valve disc and the outer peripheral portion of said spring urging said valve disc toward the surface of said cone-shaped portion adjacent said annular periphery thereof.

3,339,739

LUBRICATION APPARATUS

Russell V. Dye, Liberty, Mo. 64068
Filed Feb. 4, 1963, Ser. No. 256,047
1 Claim. (Cl. 210-168)



In a motor vehicle engine lubricating system, a combined oil filter and oil primer comprising a tank mounted in an upper portion of said system whereby oil may flow by gravity from said tank to said system, said tank having a filter compartment containing filtering means and an oil reservoir, outlet conduit means connecting the top of said reservoir with the oil sump in said system, and first and second inlet conduit means connecting the bottoms of said reservoir and said filter compartment, respectively, in parallel flow relation with the pressure side of said system, said filter compartment communicating with the reservoir on the outlet side of the filter means, bidirectional flow restrictions means, said first inlet conduit means and an anti-drainback check valve positioned in said second inlet conduit means.

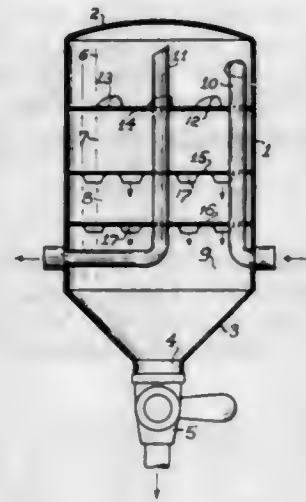
3,339,740

CENTRIFUGAL-TYPE OIL RECONDITIONER HAVING DEFLECTING AND SETTLING PARTITIONS

Boris Starzyk, 60 Palmer Road, Branford, Conn. 06405
Filed Apr. 30, 1964, Ser. No. 363,709
2 Claims. (Cl. 210-195)

1. An oil reconditioner comprising a cylindrical casing adapted to hold oil under pressure and having four chambers; a receiving chamber occupying the top portion of said casing; an intake pipe extending from the outside of the casing to the interior of said receiving chamber to deliver oil into said receiving chamber, the end of said intake pipe within said receiving chamber forming a horizontal nozzle tangentially arranged to cause the circulation of the oil within said receiving chamber by the force

of the incoming oil; an outlet pipe located in the central portion of said receiving chamber and extending to the outside of said casing to deliver oil from said receiving chamber to the outside; a deflecting chamber located under said receiving chamber; a deflecting partition separating said receiving chamber from said deflecting chamber, and being provided in its peripheral portion with deflectors having their entrance openings facing the circulating oil and curved back walls deflecting said oil downwardly into said deflecting chamber, said deflecting partition being provided also with holes in its central portion



tion for the return of the clean oil into the receiving chamber; a settling chamber located under said deflecting chamber; an upper settling partition separating said deflecting chamber from said settling chamber and a lower settling partition forming the bottom of said settling chamber, said settling partitions being provided with conical holes permitting the passing of the contaminants of the oil; a sludge chamber located in the lowest portion of said casing and being provided with a conical bottom, a drain hole and a drain valve for the complete draining of the sludge from said sludge chamber.

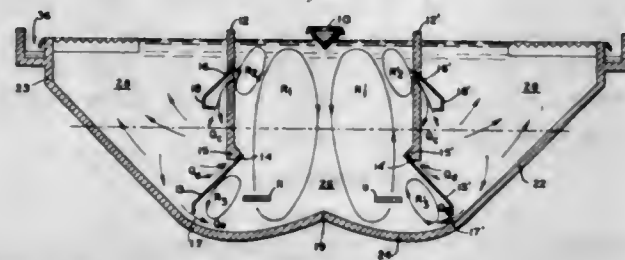
3,339,741

APPARATUS FOR THE BIOLOGICAL PURIFICATION OF WASTE WATER

Jacques J. P. Bernard, Port-Marly, and Jean L. H. Beblin, Franconville, France, assignors to Degremont S.A., Suresnes, France, a corporation of France

Filed June 22, 1965, Ser. No. 465,890

Claims priority, application France, Jan. 7, 1965, 1,113 5 Claims. (Cl. 210-195)



1. A device for the purification of waste and sewage waters utilizing the activated sludge process, comprising: a decanting zone; an aeration zone located centrally with respect to said decanting zone; bottom wall means for said aeration zone having ridge means including a flow deflecting surface; means to introduce water to be purified into the central portion of the upper portion of said aeration zone, and including flow deflecting surfaces; means to withdraw purified water from the upper portion of said decanting zone;

wall means separating said aeration zone from said decanting zone, said wall means comprising a vertical upper section and an inclined lower section, said lower section being inclined outwardly and downwardly from its top to its bottom towards said decanting zone;

first passageway means for flow of liquid from said aeration zone to said decanting zone through said upper wall section;

second passageway means between the lower portion of said upper wall section and the upper portion of said lower wall section;

third passageway means for flow of sludge from said decanting zone to said aeration zone below the lower portion of said lower wall section; and

means disposed within said aeration zone adjacent said third passageway for introducing air into said aeration zone, said air introducing means being disposed between said inclined lower wall means and said ridge means and between the said water introducing means and said ridge means, whereby flow of water is induced upwardly past said second passageway to effect flow of water through said second passageway from said decanting zone to said aeration zone.

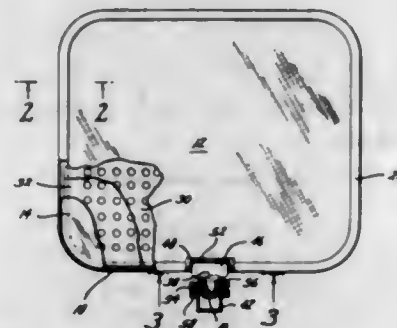
3,339,742

SPACED WALL FILTER ELEMENT HAVING ASSEMBLING MEANS

Aloysius C. Kracklauer, Conroe, Tex., assignor to Sparkler Mfg. Company, Montgomery County, Tex., a corporation of Illinois

Filed June 17, 1964, Ser. No. 375,740

8 Claims. (Cl. 210-232)



1. A filter plate amenable to easy assembly and disassembly, said filter plate comprising a frame having at least one radial hole therein with a filtrate outlet means mounted on said frame over said hole, said outlet means comprising a header having portions overlapping the laterally opposite faces of said frame and a nozzle on said header suitable for connection with an outlet manifold, said frame having a pair of grooves oppositely disposed in its laterally opposite faces and extending substantially completely from near one side of said overlapping portions of said header around said frame to near the other side of said overlapping portions; a pair of filtering means each disposed against one of said faces to effect an interior space into which filtrate can flow, a portion of each of said filtering means fitting into one of said grooves; a pair of splines each fitting over one of said filtering means and into one of said grooves substantially tightly for substantially the total length of said grooves; a substantially U-shaped member disposed over said frame and extending from near one side of said overlapping portions around said frame to near the other side of said overlapping portions, with the legs thereof fitting over said filtering means, said splines, and said laterally opposite faces; and means for releasably clamping said filtering means near said overlapping portions sufficiently to prevent free passage of solids into said interior space.

3,339,743

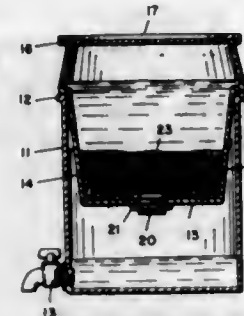
PORTABLE WATER PURIFIER

Morris A. Bealle, 1018 18th St. NW.,

Washington, D.C. 20006

Filed July 16, 1964, Ser. No. 383,153

1 Claim. (Cl. 210-256)



A water purifying apparatus, comprising in combination a lower container for purified water, said lower container having an upper edge provided with an outturned annular lip, an upper container removably superposed on said lower container, the upper end portion of said upper container being radially inwardly stepped to provide a downwardly facing annular shoulder removably seated on said lip of the lower container, said upper container having a bottom and the lower end portion of the upper container extending downwardly from said shoulder being of such vertical dimension that said bottom of the upper container is spaced above the bottom of the lower container when the containers are superposed, said lower end portion of the upper container extending downwardly from said shoulder being downwardly tapered toward said bottom and thereby radially inwardly spaced from the side wall of the lower container, a purifying agent comprising a mixture of anion and cation resins provided in the upper container, and a screened outlet provided in the bottom of the upper container whereby water placed in the upper container and purified by said purifying agent may drain into the lower container, said bottom of the upper container being provided with a central aperture, said screened outlet comprising a plug formed with a central passage and including an externally screw-threaded body portion extending through said aperture and an enlarged head seated on the upper surface of said upper container bottom, a keeper nut provided on said screw-threaded body portion of the plug at the underside of said bottom for removably retaining the plug in position, and a screen secured to said head of the plug in overlying relation to said passage, said plug and said screen being removable as a unit from the bottom of the upper container upon removal of said nut from the plug.

3,339,744

TIE RACK

Arthur Ginsberg, Roosevelt, N.Y., assignor to Royal London, Ltd., New York, N.Y., a corporation of New York

Filed June 1, 1966, Ser. No. 554,404

10 Claims. (Cl. 211-1.5)



1. A rack for displaying ties comprising a frame including a casing; at least one tie displaying head, dependently mounted on the frame for rotation about a vertical axis, having a plurality of tie supporting bars extending outwardly

from the head substantially in a plane generally perpendicular to the axis of rotation, the outermost end of the supporting bars extending upwardly preventing slippage from the bars; means for attaching the frame to a substantially vertical wall for positioning the axis of rotation substantially parallel to the wall including at least one leg extending away from the frame a distance sufficient to prevent interference between the wall and the tie supporting bars; battery driven motor means, in the casing, for selectively drivingly rotating the tie displaying head for sequentially exposing the tie supporting bars on one side of the frame, and switch means for selectively energizing and deenergizing said motor.

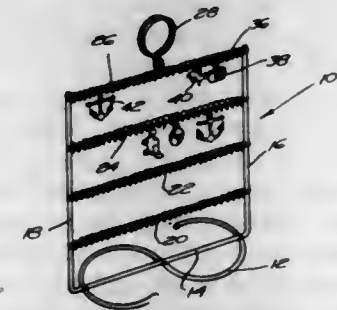
3,339,745

JEWELRY DISPLAY RACK

Nathaniel H. Sugerman, Cranston, R.I., assignor to Beatrix Jewelry Co., Providence, R.I., a corporation of Rhode Island

Filed Apr. 12, 1965, Ser. No. 447,142

3 Claims. (Cl. 211-13)



1. In a rack for displaying articles of jewelry thereon, a base, a vertical standard joined to said base, a plurality of horizontal arms joined to said standard at the upper end thereof and radiating outwardly with respect thereto, a circular supporting rod joined to said arms, and a helical coil mounted on said supporting rod and conforming to the circular configuration thereof, said jewelry articles being suspended from said helical coil and being movable thereon by rotation on said coil and with respect to the supporting rod on which said coil is mounted.

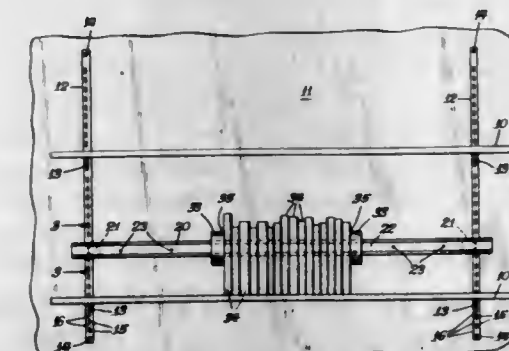
3,339,746

WALL MOUNTED BOOK HOLDER

Lennard McCabe, Winnetka, Ill., assignor to Merlin Manufacturing Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 16, 1965, Ser. No. 479,995

1 Claim. (Cl. 211-43)



Apparatus for holding objects such as books, phonograph records and the like and for use with bookshelves supported from at least two vertical wall strips at the back sides of the shelves and wherein said strips have

openings spaced vertically therealong to receive the hangers of shelf supporting brackets, said apparatus including:

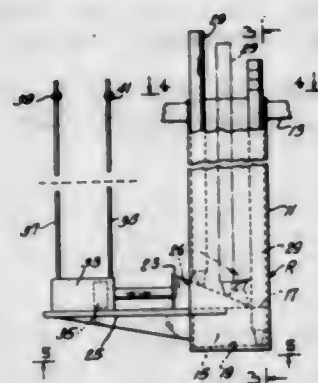
a rail formed as a portion of an extension which portion is of a length to extend between two of said strips with the back of the rail in juxtaposition to said strips and the front of the rail facing away from the strips, the rail having a longitudinal front face with a front way at each longitudinal edge of the face, said front ways being parallel to each other and extending the length of the portion, said ways being in the form of slots positioned at an angle to each other such that at the face the slots are closer together than they are rearwardly of said face, said rail at the rear thereof defining flanges extending the length of each edge of the rail, said flanges extending toward each other from the edges to define with the back of the rail therebetween a T-shaped slot, said rail having a plurality of holes extending from front to back there-through, said holes being spaced along the length of said face;

two holder means releasably connecting the rail to the strips, each holder means including a generally flat head slidably received in said T-shaped slot and held therein by said flanges against removal in a direction normal to said rail, and a clip connected to said head and extending outwardly from said rail portions at approximately right angles to said rail, said clip extending into said openings and hooking onto the strip to attach the holder means to the strip;

two holders in the form of a band of material with object supporting edges, each band terminating in two adjacent feet, the feet being the two ends of the bands, one foot being received in one front slot and the other foot being received in the other front slot to secure the holder against a pivotal movement with respect to the rail, said band extending outwardly from the feet at approximately right angles to the rail, said feet being movable toward and away from each other by flexing said band to enable the feet to be disengaged from the rail.

3,339,747

PIPE RACK FOR WELL DRILLING APPARATUS
George D. Sherman, Houma, La., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed June 14, 1965, Ser. No. 463,665
2 Claims. (Cl. 211-60)

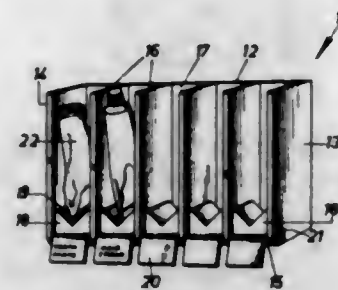


1. A pipe rack for well drilling apparatus mounted on a floating platform and comprising an elongated hollow box having an upper end adapted for mounting on said platform and a lower end closed by a floor, said floor being an inclined plane having an upper edge at one side of said box and a lower edge at the opposite side of said box, a pipe distributing member located near the lower end of said box and reciprocally movable transversely

of said box, said distributing member having a planar top surface inclined at substantially a right angle to the direction of inclination of said floor, said top surface having a lower edge at about the same level as said upper edge of said floor.

3,339,748

RACK FOR COLLAPSIBLE TUBES
Horst A. Boesch, Montreal, Quebec, Canada, (111 Delson Blvd., Delson, La Prairie County, Quebec, Canada)
Filed June 10, 1965, Ser. No. 462,877
2 Claims. (Cl. 211-81)

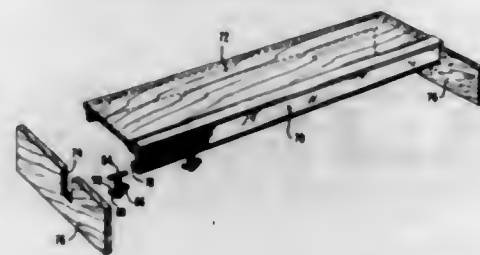


1. A paste tube rack comprising an elongated horizontal base having a front edge, a rear edge and two end edges, a rear wall extending vertically upwards from said rear edge, two end walls extending vertically upwards, one from each of said end edges of said base, at least one dividing wall located between said end walls and in parallel relationship therewith, providing at least two compartments in said paste tube rack, a horizontal axle located substantially towards said forward edge of said base between said end walls and extending through said dividing wall, each said compartment being supplied with a V-block pivotably located on said axle, said V-block resting upon said base in paste tube storage position, the V in said V-block facing upward and being in substantially horizontal position upon said V-block being in said storage position, said V-block having a forward end forward of said axle, said forward end of said V-block being supplied with a forward and downward extending lever, said front edge of said base is provided with a cut-out for each said lever to permit limited movement of said lever to a stop upon said lever abutting said edge of said cut-out, upon downward and rearward directed pressure exerted to bias said V-block out of its horizontal storage position for dispensing of a paste tube located thereon.

3,339,749

COMBINATION SHELF AND COAT HANGER SUPPORT

John C. Odegard, Chamblee, and Rafael T. Bustos, Atlanta, Ga., assignors, by mesne assignments, to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,530
4 Claims. (Cl. 211-94)



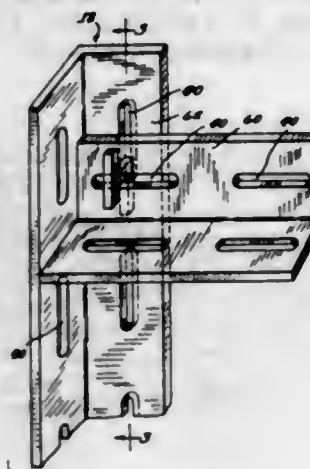
4. Channel means for strengthening and decorating the front edge of a closet shelf and for slidably supporting coat hanger slider means, comprising

a rigid body having a vertical web portion the length of which is generally equal to the length of the shelf, said body including adjacent its upper edge a pair of vertically spaced, rearwardly extending horizontal shelf strengthening flanges adapted to engage the upper and lower surfaces of the shelf when the rear surface of the web portion engages the front surface of the shelf, said body including also a horizontal first portion extending rearwardly from said web portion, and a vertical second portion extending downwardly from said first portion and terminating opposite the lower edge of said web portion, the lower extremities of the web and second portions containing inwardly directed horizontal flanges extending longitudinally the length of said web portion and cooperating to define horizontal slider supporting surfaces, said body member including also parallel horizontal retaining rib means extending forwardly adjacent the lower and upper edges of the front face of said web portion, respectively;

a decorative insert mounted on the front face of said web portion between said retaining ribs; and
a coat hanger slider mounted for sliding movement along said rigid body, said slider including at its upper end a transversely extending mounting portion supported by said slider supporting surfaces, said slider extending downwardly between said flanges and including at its lower end a coat hanger receiving portion including a pair of obliquely arranged surfaces at least partially defining a pair of recesses, respectively, for receiving coat hangers.

3,339,750

STRUCTURAL CONNECTOR
Horatio John Nelson-Hawkins, Park Ridge, Ill., assignor to Hana Corporation, a corporation of Illinois
Filed Aug. 9, 1965, Ser. No. 478,229
2 Claims. (Cl. 211-176)



2. In a framing structure for fabricating racks and the like and including:

a pair of slotted angle irons having overlying contiguous flanges disposed to present superimposed overlapping intersecting slots defining an aperture extending through said flanges, and joinder means for firmly interconnecting said pair of slotted angle irons;

the improvement wherein said joinder means consists of a high-strength, rigid, deformation-resisting boltless connector extending through said aperture in said flanges of said angle irons, said connector engaging opposed outer surfaces of corresponding said flanges to preclude lateral separation of said flanges from each other,

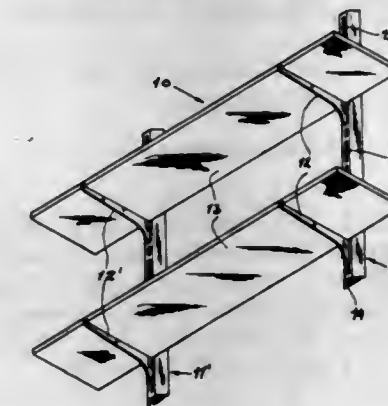
said connector comprising a generally h-shaped, load-supporting structural key consisting of spaced parallelly disposed first and second rod-like legs and a

transversely extending rod-like cross leg integrally formed with said first and second legs and joining an end of said first leg to said second leg at a position intermediate opposed ends thereof, said legs and said cross leg defining a downwardly opening generally U-shaped anchor slot;

said cross-leg of said connector extending through said overlapping intersecting slots in said flanges of said angle irons with opposed facing inner surfaces of said parallel first and second legs contacting and firmly abutting opposite outside surface of said contiguous flanges of said angle irons to retain said irons in positive load-supporting engagement.

3,339,751

STANDARD FOR SHELF ASSEMBLY
Martin Bard, 953 45th St., Brooklyn, N.Y. 11219
Filed Sept. 9, 1965, Ser. No. 486,033
7 Claims. (Cl. 211-176)



1. A wall-mounted standard for the support of shelves and the like, comprising an elongated upright bar with a flat forward face forming a vertical land provided with a plurality of vertically spaced mounting holes and formations engageable by shelf-supporting brackets, said standard further including a sheath receiving said bar and provided with a pair of lateral vertical strips of similar transverse cross-section flanking said forward face and defining a wall-contacting rear surface, each of said strips having a width and a depth substantially equal to the width of said forward face, said strips and sheath being integral with one another, and fastening means passing through said mounting holes, said strips being interconnected by a bridge portion traversed by said fastening means.

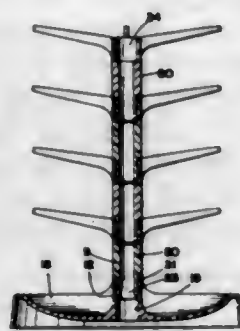
3,339,752

DISPLAY STAND AND STORAGE RACK
Joseph J. Trogan, 904 S. Michigan Ave., Saginaw, Mich. 48602
Filed Nov. 30, 1965, Ser. No. 510,552
7 Claims. (Cl. 211-177)

1. A display or storage mechanism comprising:

a base portion having a flat lower surface and an upper surface having one or more concave compartments formed by one or more partitions extending from a central boss to the outer edge of said base, said boss having a central socket receiving an upstanding column element having a plug portion adjacent one end thereof defining an external peripheral shape which is complementary to the internal peripheral shape of said socket, said column element having a socket in the end thereof opposite said plug end, said column element socket having the same peripheral shape and size as the socket of said boss, a plurality of arms extending radially from said column element at a slight angle from the horizontal plane and having a flat upper surface and a tapered lower surface flowing into the outer wall of said column element,

said arms decreasing in thickness from said column element to the ends remote therefrom, a plurality of identical column elements having identical plug portions and sockets in engagement with the

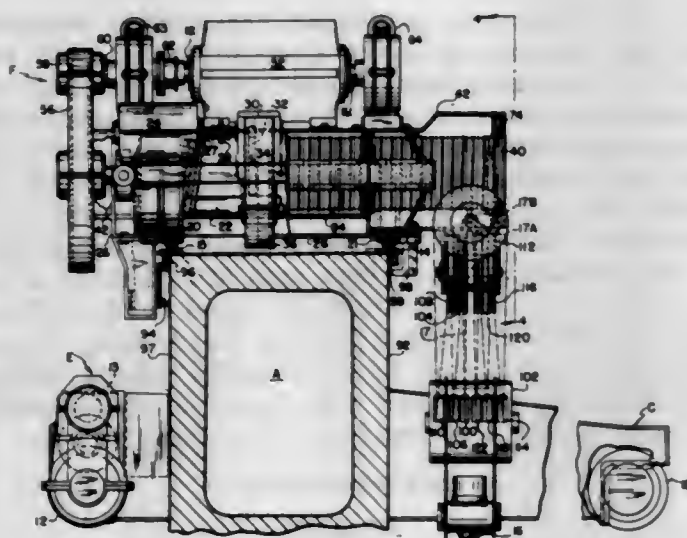


plug portions and sockets of adjacent column elements, a top column element having its plug in the socket of its adjacent column element.

3,339,753

MATERIAL HANDLING APPARATUS

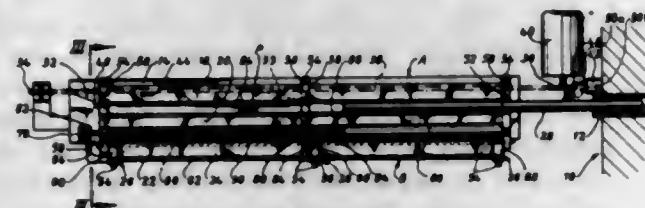
Klaus W. Forster, Brecksville, and Donald William Schaper, Alliance, Ohio, assignors to Kerma Corporation, Alliance, Ohio, a corporation of Ohio
Filed Sept. 30, 1965, Ser. No. 506,615
6 Claims. (Cl. 212-20)



1. In a material handling system, an elongated overhead support means, trolley means mounted on said support for movement along the upper side thereof, hoisting apparatus including a hoist cable drum carried by said trolley means, means supporting said drum for rotation about an axis extending substantially horizontal and at right angles to the length of said support means and for linear movement along said axis of rotation and with one end of said drum projecting to one longitudinal side of said support means, hoist cable means connected to said drum and having a portion depending therefrom closely adjacent to said one side of said support means adapted to carry a load and be wrapped on and unwrapped from said drum in response to drum rotation, drive means for rotating said drum, and means effecting linear movement of said drum equal to the pitch of said cable on said drum per revolution of said drum whereby said depending cable portion is maintained at substantially the same close position to said one side of said support means as said cable is wrapped on and unwrapped from said drum.

3,339,754
ATTACHMENT FOR FEEDING WORKPIECES TO MACHINE TOOLS

Gerhard Foell, Esslingen (Neckar), and Martin Ebinger, Winnenden, Germany, assignors to Index-Werke KG, Hahn & Tessky, Esslingen (Neckar), Germany
Filed May 24, 1965, Ser. No. 458,109
Claims priority, application Germany, May 23, 1964, J 25,891
13 Claims. (Cl. 214-1.4)

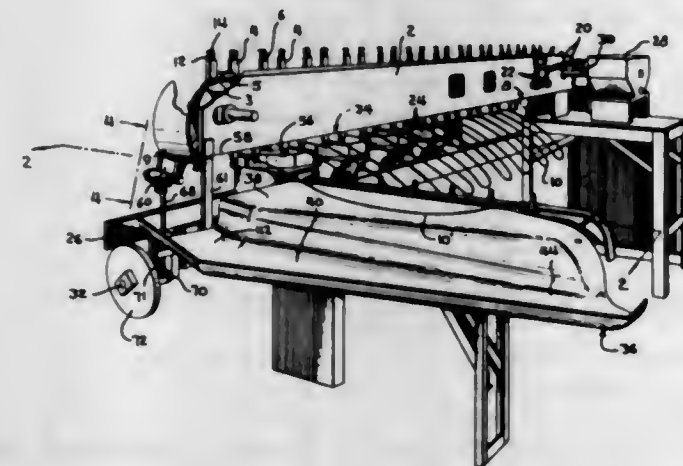


1. An attachment for feeding elongated rods and similar blanks to turning lathes and other types of machine tools, comprising an elongated guide assembly including a fixed portion and a second portion movable with reference to said fixed portion between two positions, said portions defining between themselves an elongated blank-receiving channel when said second portion is moved to one of said positions and said channel being exposed in response to movement of said second portion to the other position so that a blank may be placed into said channel; feeding means carried by said second portion and extending into said channel in the one position of said second portion; and advancing means including a motion transmitting member engaging said feeding means in the one position of said second portion and arranged to shift the feeding means in said channel to thus advance the blank.

3,339,755

LEAD-STACKING MEANS

Glendon Henry Schwalm, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 10, 1965, Ser. No. 512,869
5 Claims. (Cl. 214-6)

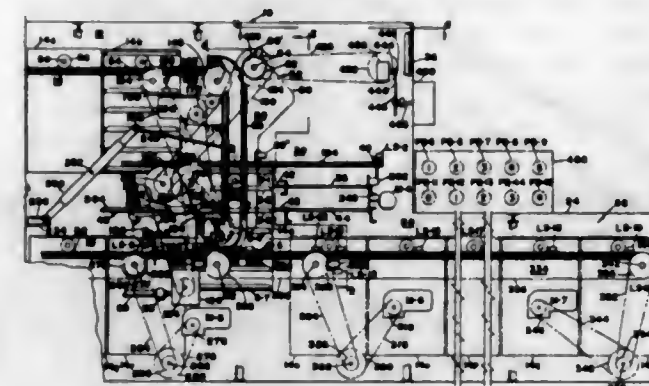


1. In a conveyor of the type having means for gripping individual electrical leads and carrying said leads along a conveying path to a release station at which said leads are released, the improvement comprising, lead-combing means movable along a path extending laterally of the path of movement of said conveyor, said lead-combing means intersecting said conveying path at a location adjacent to, but upstream from, said release station, the speed of said combing means being sufficient to comb out an individual lead during the interval required for transporting the end of said individual lead from said upstream location to said release station whereby, said leads are combed out and stacked in an orderly arrangement at said release station.

3,339,756

RACK TYPE DOUGH PROOFER

David F. Howard, York, Pa., assignor to Read Corporation, York, Pa., a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,807
17 Claims. (Cl. 214-16.4)



1. In an article treating apparatus, a plurality of article carriers having vertically spaced shelves, means for conducting a succession of carriers in a closed loop including a pair of vertically spaced upper and lower track means and elevating and lowering means respectively disposed at opposite ends of said track means, a pair of vertically spaced article supports disposed exteriorly of said closed loop between the upper and lower ends of said elevating means and in the proximity of the path of the article carriers being elevated thereby, said lower track means having track extensions projecting from said closed loop in spaced relation below said article supports, track shoe means adjacent the lower end of said elevating means movable between a position for guiding carriers in said closed loop from said lower track means to said elevating means and a position permitting carriers to be moved from said lower track means onto said track extension out of said closed loop beneath said article support means.

3,339,757

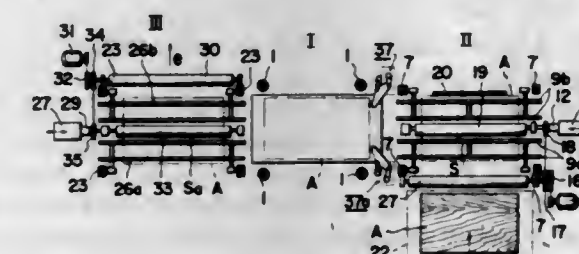
SHEET MATERIAL FEEDING AND REMOVING APPARATUS IN COMBINATION OF LOADER, MULTIPLATEN HOT PRESS, AND UNLOADER
Noriyuki Nagaoka, Nagoya-shi, Japan, assignor to Kabushiki Kaisha Taihei Selsakusho, Nagoya-shi, Japan, a joint-stock company of Japan

Filed Nov. 4, 1964, Ser. No. 408,941
Claims priority, application Japan, Nov. 9, 1963, 38/60,190; Nov. 20, 1963, 38/62,069
2 Claims. (Cl. 214-16.6)

1. A system for feeding, pressing and delivering large size sheet material such as boards, including in combination

- (1) a multi-platen hot press,
- (2) loader means disposed on one side of said hot press and extending longitudinally thereof and comprising
 - (2a) a frame,
 - (2b) a board-receiving multiple rack means vertically reciprocally movable within said frame between an uppermost position in which the racks are horizontally aligned with the platens of the press and a lowermost board receiving position, and
 - (2c) a pushing means operable to push boards received on the racks of said board-receiving multiple rack means onto the platens of said multi-platen hot press,
- (3) unloader means arranged on the side of the multi-platen hot press remote from said loader means, extending longitudinally of said multi-platen hot press and including

- (3a) another board-receiving multiple rack means vertically reciprocally movable between an uppermost position horizontally aligned with the platens of the press and a lowermost position, and
- (3b) pulling means for pulling pressed boards out of said press and placing the same on said second board-receiving multiple rack means,
- (4) feed means for feeding boards to be pressed onto said first-mentioned board-receiving multiple rack means of the loader means,
- (4a) said feed means being disposed longitudinally along one side of said loader means and being operable to feed boards laterally to the loader means,
- (5) a stop member for stopping boards fed onto the multiple rack means of the loader means,
- (5a) said stop member being arranged along the side of said loader means opposite said feed means,
- (6) a conveyor means arranged longitudinally of a lateral side of the unloader means for moving pressed boards laterally from the unloader,
- (7) means for delivering pressed boards received on the multiple rack means of the unloader means onto said conveyor means, and



- (8) at least one pushing mechanism for pushing pressed boards supported on the platens of the multi-platen press toward the pulling means of said unloader means, said pushing mechanism comprising a common vertically arranged driving shaft, a common vertically arranged driven shaft, and a plurality of pushing devices each for cooperation with each platen of the multi-platen press, each pushing device comprising a link lever, a link fixed at one end to one of said shafts and pivoted at its other end to an intermediate portion of said link lever, another link fixed at one end to the other of said shafts and pivoted at its other end to one end of said link lever, the other end portion of said link lever being operable to push against a rear board edge, and means for oscillating said shafts so as to carry out oscillating movement between a predetermined angular range so that upon moving in one direction said link lever is retracted to a position outside the path of board movement during pushing of said boards from the loader onto the platens of said multi-platen press and upon movement of said shafts in the other direction said link lever is turned to the position abutting and pushing against the rear edge of the board on the platen of the press to push said board a short distance from the associated platen of the press toward the pulling means of the unloader means.

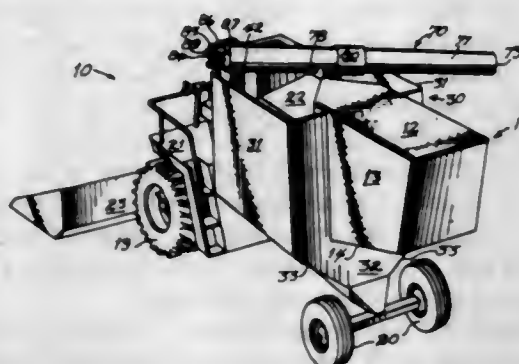
3,339,758

COMBINE GRAIN TANK LOADING AND UNLOADING SYSTEM

Clarence A. Hubert, Chicago, and James R. McGirk, Medinah, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,441
10 Claims. (Cl. 214-17)

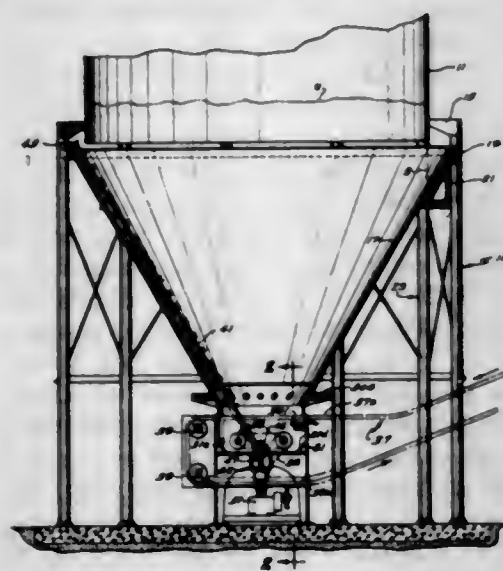
1. In an agricultural harvesting machine the combination comprising; a longitudinally extending threshing, separating and cleaning unit, having a pair of side walls,

a top wall and a bottom wall, a clean grain exit formed in said bottom wall; a generally U-shaped grain storage tank, the legs of said U-shaped tanks extending upwardly and parallel to said pair of side walls, the upper ends of said legs defining the upper edge of said U-shaped tank, and the bight portion of said generally U-shaped tank extending beneath said longitudinally extending threshing, separating and cleaning unit and forming the bottom of said U-shaped tank, said bottom of said U-shaped tank



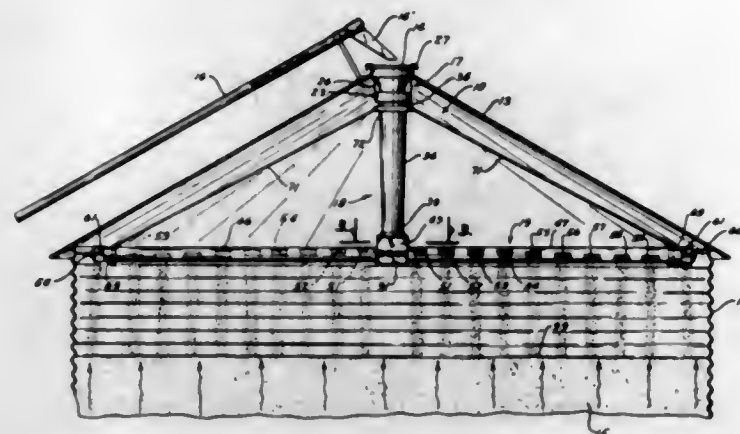
positioned such that said grain exit overlies said bight portion of said U-shaped tank; means directing the clean grain from said clean grain exit into the bottom of said U-shaped tank; means having an upper and lower portion for elevating grain from the bottom of said U-shaped tank up one of the tank's legs to the upper edge thereof; distributing means at the upper portion of said means for elevating grain that functions to either deposit grain selectively into the legs of the U-shaped tank or to deposit grain at a point alongside the harvesting machine.

3,339,759
SILLO UNLOADER
Charles L. Wellons, 4400 SW. Sunset Drive,
Lake Oswego, Oreg. 97034
Filed Sept. 17, 1965, Ser. No. 488,183
17 Claims. (Cl. 214-17)



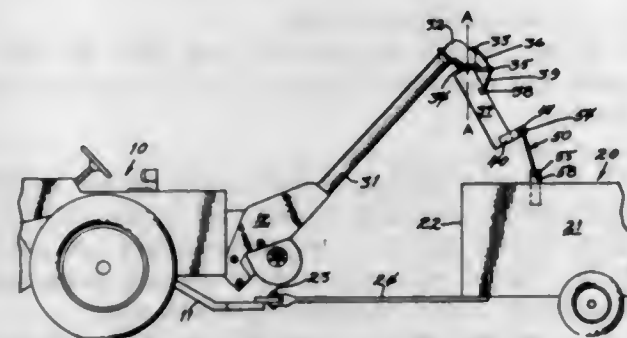
1. In a silo for particled material, a silo member including a hopper portion and an upright bin portion in concentric superposed relation to the hopper portion, said hopper portion extending outwardly beyond the lower end of said bin portion in spaced relation thereto and defining an annular clearance space therewith, an elongate agitator extending from the lower central portion of said hopper upwardly to a point which is outwardly of the lower end of said bin and into said clearance space, and means for causing gyration of said agitator around said hopper portion.

3,339,760
GRAIN BIN LEVEL FILLER
Robert A. Louks, Gilman, Iowa 50106
Filed Oct. 24, 1965, Ser. No. 504,469
3 Claims. (Cl. 214-17)



1. Apparatus for discharging granular material to level fill a grain bin or the like comprising in combination: hopper means open at the top and bottom ends thereof; support means suspended from the top of the grain bin and rotatably supporting said hopper means; an elongated auger tube in communication with said bottom end of said hopper means and attached thereto for receiving material therefrom; said auger tube having a plurality of material discharge openings formed therein in longitudinally spaced relation; auger means rotatably disposed in said tube; said auger tube being in communication with said bottom end of said hopper midway between the ends of said auger tube, and the ends of the tube and the outer ends of said auger means are spaced inwardly an equal distance from the respective adjacent walls of the grain bin and are in non-contacting relation therewith; and, power means disposed inside said hopper means and operatively connected to said auger means for rotating same and simultaneously rotating said auger tube about the grain bin.

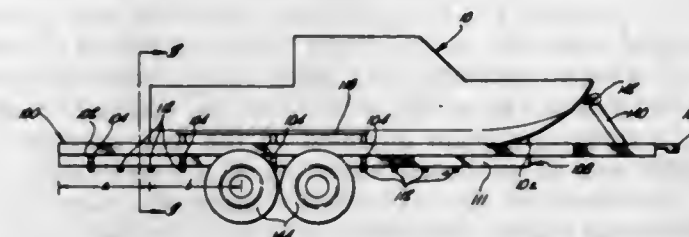
3,339,761
AUGER ELEVATOR DISCHARGE CHUTE GUIDE
Winston Roland Keith, Bettendorf, Iowa, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed June 14, 1966, Ser. No. 557,459
10 Claims. (Cl. 214-42)



1. A field traversing farm implement having a trailing wagon hitched thereto, said trailing wagon having upright side and end walls defining a box, a material elevator extending upwardly from and along the longitudinal axis of said implement and terminating in a discharge end above said trailing wagon,

a downwardly directed discharge chute carried by said elevator such that it receives material from said discharge end and can swing with respect thereto about a substantially vertical axis, said downwardly directed discharge chute terminating in a free end adapted to overlie said trailing wagon within the confines of said side and end walls, means carried by said free end forming a substantially horizontal bearing, a guide rod including a bight portion and a pair of legs, said bight portion journaled in said bearing and said legs terminating adjacent the upper edges of said upright side walls, swing straps carried by the terminal ends of said legs and adapted to extend downwardly along the inner surfaces of said upright side walls.

3,339,762
BOAT TRAILER
William E. Fox, 874 Highland Drive,
Flintridge, Calif.
Filed Oct. 18, 1965, Ser. No. 497,100
7 Claims. (Cl. 214-84)

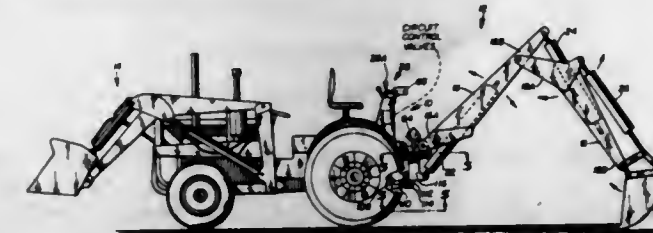


1. In a trailer for a boat the combination comprising, a rigid frame having front and back ends and sides including a central support structure in between the sides in said frame, an elongated keel support structure extending along said central support structure having a front end terminating towards the front end of said frame and a back end terminating at the back end of said frame, said keel support structure including a pair of parallel members positioned along the length thereof and spaced apart, a series of rollers connected in between said parallel members on which a keel member of a boat mounted in the trailer rolls and including a roller at the back end of said keel support member to guide such a boat off the trailer without striking said frame, a plurality of substantially parallel rocker members rotatably connected between said keel support structure and said central support structure, and means connected between said frame and said keel support member for moving said keel support member relative to said central support structure causing said rocker members to rotate and lift such boat in the trailer and allow same to roll along said rollers off the back end of said frame.

3,339,763
AUTOMATIC BACK HOE CONTROL SYSTEM
James A. Caywood, Birmingham, Mich., and Dean M. De Moss, Ernest C. Fitch, Jr., Ronald F. Osborn, and James O. Matous, Stillwater, Okla., assignors to Oklahoma State University of Agriculture & Applied Science, Stillwater, Okla., a corporation of Oklahoma
Continuation of application Ser. No. 480,860, Aug. 19, 1965. This application Oct. 14, 1966, Ser. No. 587,385
22 Claims. (Cl. 214-138)

1. A back hoe machine comprising:
(a) a tractor;
(b) a boom consisting of
(1) a lift arm pivoted at one end to said tractor,
(2) a crowd arm pivoted at one end to the other end of said lift arm, and
(3) a bucket pivoted to the other end of said crowd arm;

(c) a double acting hydraulic lift jack pivotally affixed at one end to said tractor and at the other end to said lift arm whereby said lift arm is pivotally positioned relative to said tractor to increased or decreased digging attitude;
(d) a double acting hydraulic crowd jack pivotally affixed at one end to said lift arm and at the other end to said crowd arm whereby said crowd arm is pivotally positioned relative to said lift arm to increased or decreased digging attitude;
(e) a double acting hydraulic curl jack pivotally affixed at one end to said crowd arm and at the other end to said bucket whereby said bucket is pivotally positioned relative to said crowd arm to increased or decreased digging attitude;
(f) a source of hydraulic pressure carried by said tractor;
(g) a hydraulically operated lift power valve controlling hydraulic fluid flow to said lift jack;
(h) a hydraulically operated curl power valve controlling hydraulic fluid flow to said curl jack;

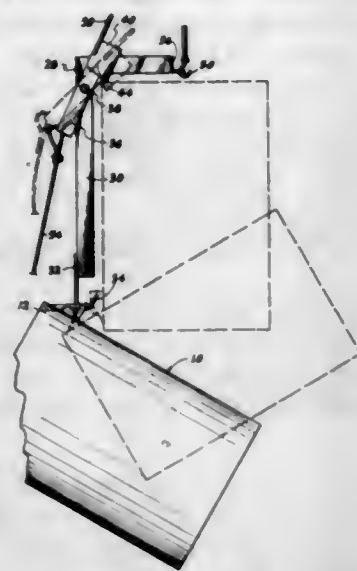


(i) a crowd overload signal valve in communication with and sensitive to the hydraulic pressure in said crowd jack and providing hydraulic signal when the pressure in said crowd jack exceeds a preselected level as said crowd jack moves said crowd arm to increased digging attitude, said hydraulic signal coupled to said curl power valve whereby overload in said crowd overload signal valve actuates said curl power valve to control said curl jack to decrease the digging attitude of said bucket;
(j) a curl overload signal valve in communication with and responsive to the hydraulic pressure in said curl jack and actuating to provide a hydraulic signal when the pressure in said curl jack exceeds a preselected level as said curl jack pivots said bucket to increased digging attitude; and
(k) a pilot operated valve actuated by hydraulic signal from said crowd overload signal valve and said curl overload signal valve providing a hydraulic lift control signal upon occurrence of said two signals, such lift control signal actuating said lift power valve to control said lift jack to decrease the digging attitude of said lift arm.

3,339,764
BARREL DUMPER
Howard E. Stanfield, Tulsa, Okla., assignor to Auto Crane Company, Tulsa, Okla., a corporation of Oklahoma
Filed Oct. 15, 1965, Ser. No. 496,462
2 Claims. (Cl. 214-315)

1. A tilting apparatus for a container and comprising a bracket assembly secured to the outer periphery of the container in the proximity of the lower end thereof, a lifting device for cooperation with the bracket and comprising a substantially L-shaped independent support member, a substantially hook shaped stirrup member rigidly secured to one end of the support member for engaging the bracket assembly to provide a pivotal connection therebetween, means provided at the opposite end of the support member for receiving one end of a hoisting chain, a bifurcated lever member pivotally secured to the support member and interposed between the opposite ends thereof, substantially aligned projection members carried by the lever

member for engagement with the upper end of the container in one position of the lever member, lanyard means provided on the lever member for facilitating pivoting thereof to provide alternate engaged and disengaged positions for the projection members with respect to the con-



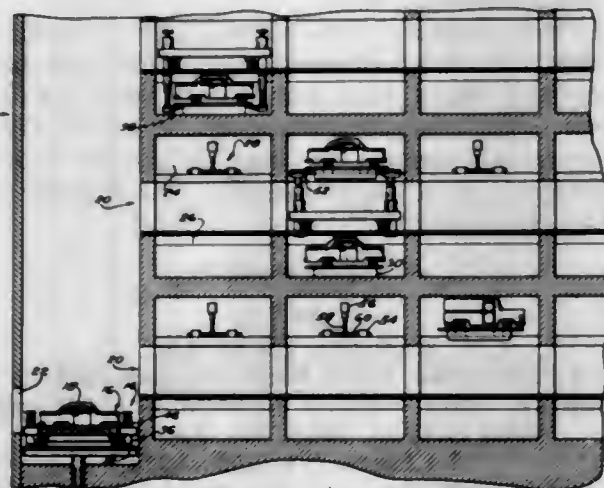
tainer, said lifting device and container being movable as a unit in the engaged position of the projection members wherein said container may be moved freely in universal directions, and said container being freely pivotal about the bracket and stirrup connection in the disengaged position of the projection members.

3,339,765

STORAGE SYSTEM

John W. Frangos, 2 Brimbal Hill Drive,
Beverly, Mass. 01915

Original application Sept. 11, 1964, Ser. No. 395,769, now
Patent No. 3,294,260, dated Dec. 27, 1966. Divided and
this application Dec. 23, 1966, Ser. No. 604,379
7 Claims. (Cl. 214—390)

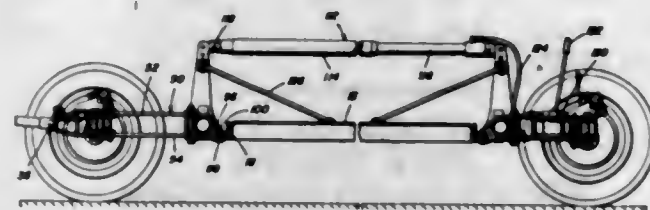


1. A load carrying mechanism, comprising in combination a platen adapted to carry a load and a movable dolly having a deck adapted to carry said platen, said dolly being formed with a central opening vertically therethrough dimensioned to accommodate said platen, and individual load lifting and lowering means carried on said dolly adjacent each corner and mounted above and below said deck for elevating said platen and its load above the deck or lowering them through said opening below the deck.

3,339,766 PALLET LIFTING AND TRANSPORTING DEVICE

George M. Fulmer, Silver Spring, Md., and Kirwan Y. Messick, Falls Church, Va., assignors, by mesne assignments, to Giehner Mobile Systems, Inc., a corporation of Maryland
Continuation of application Ser. No. 248,444, Dec. 31, 1962. This application Sept. 8, 1965, Ser. No. 490,765

13 Claims. (Cl. 214—394)



1. A device for lifting and transporting a load carrying pallet comprising a front wheeled assembly and a rear wheeled assembly, a transverse beam supported on the front wheeled assembly and being spaced rearwardly of the rotational axis of the wheels on the wheeled assembly, a transverse beam mounted on the rear wheeled assembly and being spaced forwardly of the rotational axis of the wheels on the rear wheeled assembly, each transverse beam having upstanding arms on the respective ends thereof, each beam including means engageable with the edges of a pallet disposed therebetween, a connecting member extending between the lower ends of the arms for retaining the means on the beam engaged with the pallet, and an expansible unit interconnecting the upper ends of the arms for urging the upper ends of the arms apart thus swinging the beams about the rotational axes of the wheels on the wheeled units and thereby elevating the pallet.

3,339,767

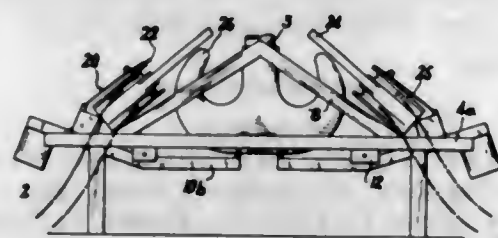
DEVICE FOR ENGAGING SLINGS OR LIKE MEMBERS OVER LIFTING HOOKS

Jacques Humbert, Manosque, and Raymond Pelardy, Perthuis, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed July 1, 1965, Ser. No. 468,679

Claims priority, application France, July 16, 1964,
981,786

5 Claims. (Cl. 214—628)



1. Device for engaging slings or like members over lifting hooks, said device comprising a support for the terminal sling-shackle in the vertical position, a rocking lever which is pivotally attached to said support, one end of said lever being fitted with a balance-weight for restoring to the rest position and the other end of said lever being adapted to cooperate with the lifting hook, the pivotal motion of said lever under the action of said lifting hook resulting in the tilting of said sling-shackle and the engagement of said hook in said shackle.

3,339,768 FLEXIBLE POWER-SUPPLY CONNECTIONS BETWEEN TELESCOPING MEMBERS

John David Dixon, Basingstoke, England, assignor to
Lansing Bagnall Limited, Basingstoke, England, a
British company

Filed Mar. 29, 1965, Ser. No. 443,468

Claims priority, application Great Britain, Apr. 1, 1964,
13,493/64

4 Claims. (Cl. 214—730)



1. A load-lifting truck having an upright extensible mast comprising first and second telescoping sections, each section comprising a pair of spaced apart uprights, a load bearing carriage mounted for up and down movement on the second mast section, a flexible power supply connection which is a single continuous length and which extends between anchor points on the first mast section and on the carriage, ram means located between the uprights of the mast sections for raising or lowering the carriage relatively to the second mast section and for raising or lowering the second mast section relatively to the first mast section, a first pulley for paying out and taking in the flexible connection during said movement of the carriage, which first pulley is located between the ends and within the confines of the mast sections and is mounted on the said ram and round which first pulley the flexible connection is led in its path from the first mast section to the carriage, a second pulley for paying out and taking in the flexible connection during raising or lowering of the second mast section, which second pulley is located between the ends and within the confines of the mast sections and is located below and in alignment with the first pulley and round which second pulley the flexible connection is led in its path from the first mast section to the first pulley, and a tensioning cable which extends in the opposite direction round the second pulley from the first mast section to the second mast section.

3,339,769

TRACTOR LOADER

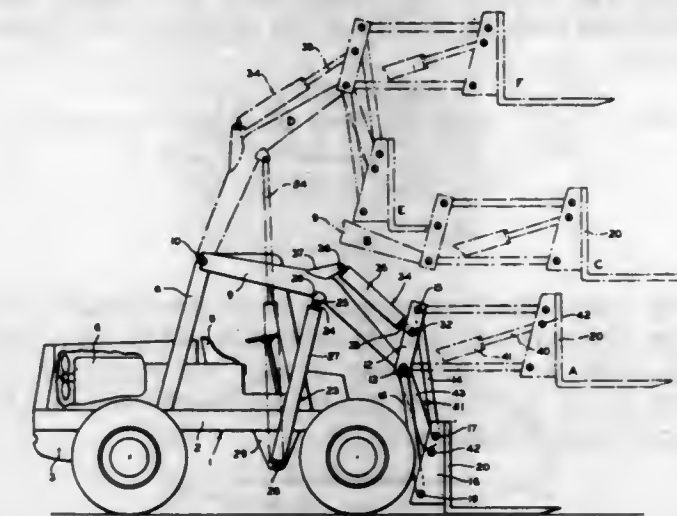
Marcus L. Conrad, Stevensville, Mich., assignor to Clark
Equipment Company, a corporation of Michigan

Filed Sept. 17, 1965, Ser. No. 488,211

4 Claims. (Cl. 214—770)

1. In a tractor loader, a mobile vehicle, pantograph structures at opposite sides of said vehicle pivotally mounted thereon and extending forwardly thereof, a load carrying member mounted on said structures at the forward ends thereof, and means for selectively extending and collapsing said structures to the same extent and to different extent effective for moving said member upwardly and forwardly away from said vehicle and downwardly and rearwardly toward said vehicle, extending

and collapsing of said pantograph structures to different extent being effective for imparting twist to said struc-



tures and thereby lowering one side of said member relative to the other side thereof.

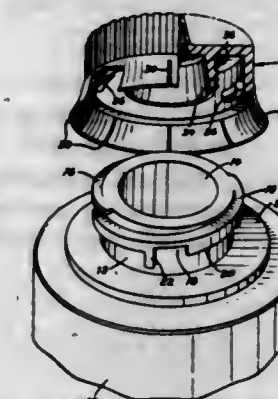
3,339,770

CONTAINER CLOSURE

Bruno Weigand, Toronto, Ontario, Canada, assignor, by
direct and mesne assignments, to Tamper-Proof-Tops
Industries Ltd., Toronto, Ontario, Canada, a corpora-
tion of Ontario

Filed July 12, 1965, Ser. No. 471,323

10 Claims. (Cl. 215—9)



1. In combination with a container provided with a mouth portion: a cap having a cylindrical side wall applicable to the mouth portion of the container, circumferentially-spaced side lugs carried by the cap on the inside thereof, climbing cams carried by the mouth of the container and peripherally disposed thereon for engagement by said lugs when the cap is turned in the closing direction to draw the cap down, recess means for engagement by the lugs to preclude the cap from turning in the opening direction, and tensionable means depending from said side wall for securing the lugs in the recess means, said tensionable means including an annular extension member in the vicinity of said mouth portion in the applied position of the container, said extension member having a resilient wall portion disposed to extend alongside of said mouth with a free edge curved outwardly therefrom for spreading under tension by contact with a relatively fixed surface when the cap is turned in its closing direction.

3,339,771

INFANT FEEDING CONTAINER AND CAP ASSEMBLY

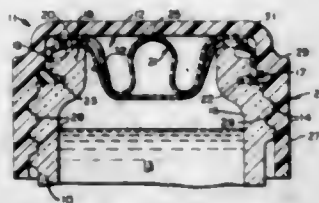
Gene Ballin, 3045 Shore Drive,
Merrick, N.Y. 11566

Filed May 17, 1966, Ser. No. 550,809

7 Claims. (Cl. 215—11)

1. A cap and nipple assembly for a liquid-containing vessel having a mouth, comprising a flexible nipple, means

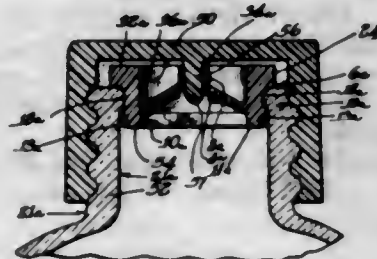
for mounting said nipple on said mouth, an insert apertured adjacent its periphery, means on said nipple for retaining the edge of said insert with its aperture communicating with the interior of the nipple and the interior



of the vessel when said nipple is in an erect position, and a cap structure cooperating with said nipple and vessel to sealably force said insert against the mouth of said vessel to seal said insert against said vessel when said cap structure is in a sealed position.

3,339,772 CONTAINER CAP

Christian F. Miller, Palos Park, Ill., assignor to Formold Plastics, Inc., Blue Island, Ill., a corporation of Illinois
Filed Nov. 16, 1964, Ser. No. 411,442
3 Claims. (Cl. 215-40)



1. A cap device comprising: a spout closure of comparatively resilient material, including a tubular skirt and a generally annular member, said skirt having an outer surface sized to sealingly and affixably engage a container neck and said annular member spanning said skirt and having a central throat defining a dispenser orifice; and a cap element of comparatively rigid material, including a cup-shaped body and a central stem portion extending from the floor of said body coaxial with the walls thereof; said stem portion slidably stretchably entering said throat whereby to permit pre-assembling said spout closure and said cap element before affixing same to a container, said stem portion having a greater axial extent than said throat whereby said stem portion acts to clean residual dispensed material from the walls of said throat each time said cap element is replaced on a container neck in which said closure has been mounted.

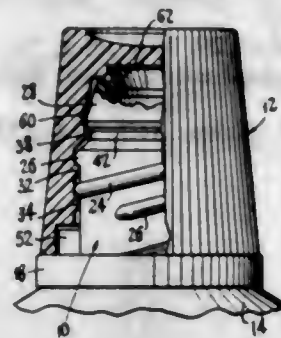
3,339,773 SCREW CLOSURE

Morton B. Stull, Boonton, N.J. (% Stull Engraving Company, 221-23 Banta Ave., Garfield, N.J. 07026)
Filed May 11, 1966, Ser. No. 549,323
9 Claims. (Cl. 215-40)

1. A screw closure construction comprising, in combination:

- a tubular body member having a discharge passage through it, and having means for attaching it to the mouth of a container,
- said body member having external screw threads surrounding the discharge passage, and having an orifice portion beyond said screw threads,
- a screw cap member adapted to be screwed onto said body member and having internal threads engageable with said external screw threads, and
- cooperable detent means on said members, including a yieldable part on at least one member, tending to initially constrain the said screwing-on of the cap,

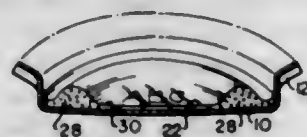
(e) said detent means being so organized as to terminate said constraint prior to the screw cap member attaining its fully screwed-on position representing a fully-assembled condition of the members, thereby providing to the user a tactual indication of such screwed-on position by virtue of an easier ultimate turning action.



ing a fully-assembled condition of the members, thereby providing to the user a tactual indication of such screwed-on position by virtue of an easier ultimate turning action.

3,339,774 PLASTIC SEALING LINER HAVING A TRANSPARENT CENTRAL PORTION

William C. Rainer, Barrington, R.I., assignor to Chemical Products Corporation, Providence, R.I., a corporation of Rhode Island
Original application July 31, 1964, Ser. No. 386,660, now Patent No. 3,265,785, dated Aug. 9, 1966. Divided and this application June 1, 1966, Ser. No. 554,594
6 Claims. (Cl. 215-40)



1. A sealing closure for a container comprising a closure member containing therein a plasticized, fused vinyl plastisol liner bonded to the interior of the closure member, said liner having a central web portion and an outer ring portion, the central web portion containing a relatively thin transparent area and a predetermined relatively thick, expanded, cellular, opaque design, and the outer ring portion being relatively thick, expanded, cellular, opaque, resilient, and capable of being placed in sealing contact with the container.

3,339,775 WIRE CORK-CAGE

François Valentin, Epernay, Marne, France, assignor to Etablissements F. Valentin, Epernay, Marne, France, a corporation of France

Filed Apr. 28, 1966, Ser. No. 546,071
Claims priority, application France, Nov. 17, 1965, 38,741

8 Claims. (Cl. 215-94)



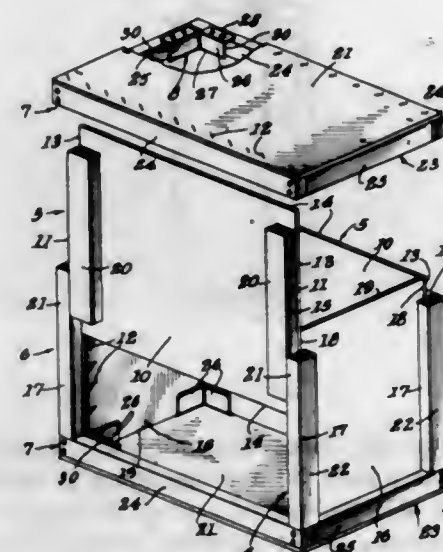
6. A wire cork-cage comprising a looped first wire member comprising a single wire having ends which are interwound to form a closed loop adapted to encircle the

neck of a bottle or similar container, a second wire member having a generally circular portion which is spaced from the said first wire member and a circular cap adapted to seat against the upper surface of a cork or stopper for the said bottle or similar container and having an undercut groove in its upper surface in which the second wire member is engaged, the said second wire member being formed by two wires which are twisted together along longitudinal extents thereof extending from said circular portion and having adjacent untwisted wire end portions which diverge from each other away from the axis along which the wires are twisted, the untwisted wire end portions being connected to said first wire member at respective locations thereof spaced apart from each other along the circumference of the loop formed by said first wire member.

3,339,776 COLLAPSIBLE CRATE

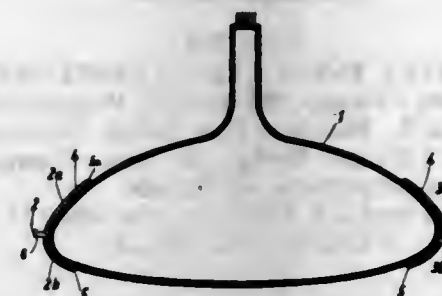
Kelley R. Young, West Covina, Calif., assignor to Precision Component Packaging Co., Los Angeles, Calif., a corporation of California

Filed Sept. 7, 1965, Ser. No. 485,499
2 Claims. (Cl. 217-12)



1. A container comprising:
 - a pair of side sections,
 - a pair of end sections,
 - a bottom section and a top section,
 - said side sections having on the outer surface of their end portions elongated cleats shorter than the width of the side panel portions and positioned intermediate the end edges of said panel portions with the outer faces of the cleats and panels flush,
 - said end sections having on their end portions cleats shorter than the width of the end panels and positioned intermediate the edges thereof and projecting beyond said side edges a distance equal to the combined thickness of the cleats and panel at the ends of the said side panels to overlie the same when the end panels and side panels are assembled,
 - top and bottom cap frames for enclosing the side and end panels and adapted to seat upon the ends of the cleats on the side and end panels,
 - a closure for each of said cap frames secured to the outer face of each frame, and
 - metal angle pieces fixed to each corner of said cap frames comprising flanges fixed to the outer faces of the frames at each corner and inwardly projecting flanges spaced from the inner faces of the top and bottom cap frames a distance to receive and support the marginal portions of the side and end panels.

3,339,777
CATHODE RAY TUBES
Günter J. Barz, Johannes Küffer, and Hugo Halder, Ulm (Danube), Helmut Thiele, Senden (Iller), and Johannes Ritter, Herrlingen, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Mar. 6, 1963, Ser. No. 263,152
Claims priority, application Germany, Mar. 8, 1962, T 21,718; Mar. 21, 1962, T 21,798
25 Claims. (Cl. 220-2.1)



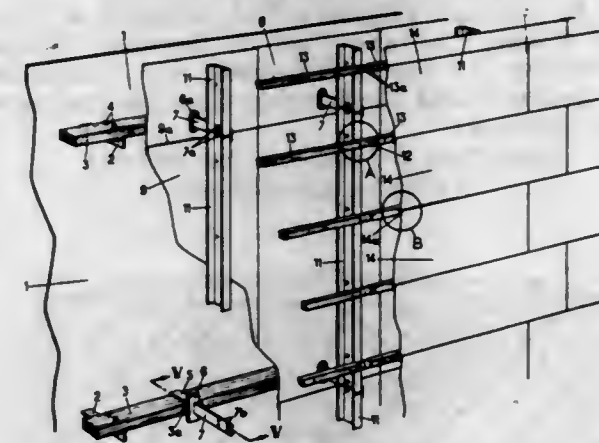
1. An implosion protective device for cathode ray tubes comprising a rigid frame encompassing the tube in the region of its maximum diameter and being spaced from the wall of the tube, so as to form an interspace therebetween, and a set filler mass in said interspace, said filler mass being a material which remains solid up to a temperature of at least 80° C., which is highly liquid at temperatures of between approximately 100° C. and 180° C., which, while in solid state, does not volatilize to produce odorous or corrosive vapors, which sets quickly, and whose volume remains substantially unchanged as it goes from liquid to solid state.

3,339,778 INSULATED TANK FOR LIQUIDS AT LOW TEMPERATURES

Pierre Herrenschildt, Neuilly-sur-Seine, Seine, France, assignor to Societe Anonyme des Ateliers et Chantiers de la Seine Maritime, Paris, France, a corporation of France

Filed Apr. 20, 1964, Ser. No. 361,044
Claims priority, application France, Apr. 24, 1963, 932,573, Patent 1,363,994; Oct. 25, 1963, 951,876, Patent 84,587

7 Claims. (Cl. 220-9)

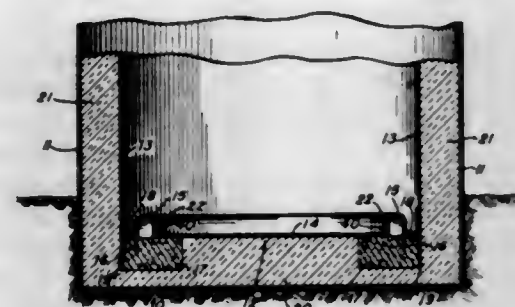


1. A tank for holding gas, said tank comprising an outer wall which is the hull of a ship, an inner wall, and an intermediate wall between said inner and outer walls, a framework within and carried by said outer wall, said framework comprising a group of elongated outer members carried by said outer wall, a group of elongated intermediate members carried by said elongated outer members and a group of elongated inner members carried by said intermediate members, said elongated intermediate members being positioned transversely with respect to the inner and outer elongated members and said elongated intermediate and inner members being mounted

to permit expansion and contraction of said intermediate and inner members relative to each other and said outer members, said inner wall being fastened to said inner elongated members, and said intermediate wall being mounted on said framework to permit expansion and contraction of said intermediate wall relative to said inner and outer walls, and insulation filled containers positioned between said inner and intermediate walls and between said intermediate and outer walls.

3,339,779

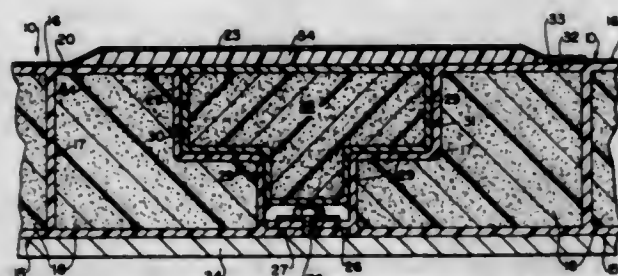
INTERNALLY INSULATED VESSEL-BOTTOM
John T. Horton, Chicago, Whitney H. Waugh, Glen Ellyn, and William L. Hicklen, Oak Brook Terrace, Ill., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Sept. 29, 1964, Ser. No. 400,122
3 Claims. (Cl. 220-9)



1. A cylindrical insulated liquefied gas above-ground storage vessel comprising an outer metal shell and an inner metal shell with insulation between the shells, said inner shell having a circular essentially flat bottom sheet, an essentially smooth side wall sheet joined to the bottom sheet, an annular metal expansion rib in the bottom sheet in the region of its periphery and parallelingly adjacent to, but slightly spaced from, the side wall sheet, and a ring-like metal sealing strip joining the outer wall of the expansion rib to the outer shell side wall, and the bottom edge of the side wall sheet is joined to the sealing strip.

3,339,780

DUPLEX INSULATING PANEL
Charles D. Forman, Elizabeth, N.J., Marnell A. Segura, Baton Rouge, La., and Paul T. Gorman, Chatham, N.J., and Adolph A. Austin, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,491
5 Claims. (Cl. 220-9)

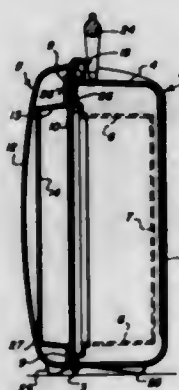


1. A prefabricated duplex insulating panel forming primary and secondary barrier walls and including
(a) a base panel of insulating material having a predetermined high dimensional stability at cryogenic temperatures and forming a secondary barrier wall, said base panel including a polyurethane foam interior and a glass fiber reinforced resin outer shell and

(b) an aluminum metal foil member forming a primary barrier wall and having a predetermined lesser dimensional stability at cryogenic temperatures than said base panel,
(c) said foil having body portions and flap portions,
(d) bonding means including a glass fiber cloth, adhering said body portions of said foil to said base panel, whereby said bonded portions of said foil have an increased dimensional stability at cryogenic temperatures substantially equivalent to that of said base panel,
(e) said flap portions extending beyond the periphery of said base panel and being freely movable relative thereto.

3,339,781

HOLLOW WALL CONTAINER
Peter Taube Schurman, Snyder, and Raymond Carl Confer, Gasport, N.Y., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed Mar. 22, 1965, Ser. No. 441,811
4 Claims. (Cl. 220-9)



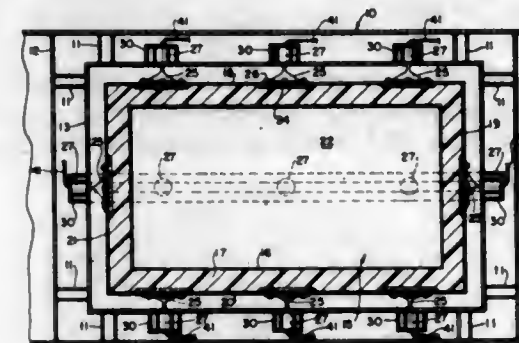
1. An integral one-piece thermoplastic container having mating parts joined by a hinge integral with both of said parts with at least one of said parts being of hollow double-wall construction, a fastener tongue integral with one of said parts, said tongue projecting beyond the said part integral therewith and having laterally projecting ears on opposite sides thereof, the other of said parts having an integral flange projecting therefrom along said tongue beyond the juncture thereof with said one part, the side of said flange opposite said tongue having laterally spaced shoulders undercut for snap-fit engagement with said ears when said tongue is rolled over said flange.

3,339,782

CRYOGENIC TANK SUPPORT
Marnell Albin Segura, Baton Rouge, La., and Charles D. Forman, Elizabeth, and Harold R. Pratt, Ridgewood, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,257
2 Claims. (Cl. 220-15)

1. In a ship hull, a mounting system for a cryogenic cargo tank including
(a) a closed shell having three major axes,
(b) said shell being of predetermined substantially larger dimensions than said cargo tank,
(c) means rigidly securing said shell to said hull; channel members mounted exteriorly of said shell; dashpot means supported in said channel members for sliding motion relative along said shell; said shell defining openings adjacent said dashpot means,
(d) rod-like support means projecting through said openings; said support means connected at one end to said dashpot means,

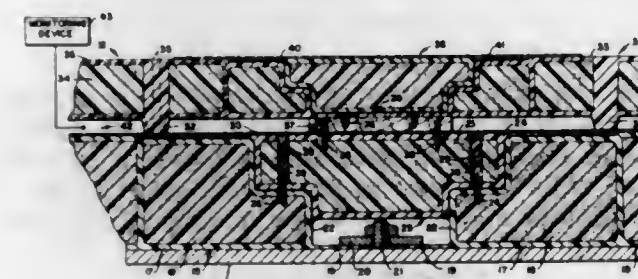
(e) means adapted to secure the other end of said rod-like support means rigidly to said tank,



(f) whereby said tank may be effectively floatingly and universally displaceably supported within said shell.

3,339,783

CRYOGENIC CONTAINER
Paul T. Gorman, Chatham, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Feb. 24, 1965, Ser. No. 434,778
8 Claims. (Cl. 220-15)



1. A cryogenic container including
(a) a rigid support structure,
(b) an impermeable outer tank of a predetermined closed configuration,
(c) said outer tank comprised of a series of outer contiguous stepped panels of polyurethane foam encapsulated by fiberglass reinforced polyester resin,
(d) means securing said outer panels at their outer faces to said support structure,
(e) means interposed between and securely bonding adjacent ones of said outer panels,
(f) outer overlay means superimposed upon the joints between said adjacent outer panels and thereby enhancing the impermeability of said outer tank,
(g) an impermeable inner tank of smaller dimensions than said outer tank but of a predetermined closed configuration similar to said outer tank,
(h) said inner tank comprised of a series of inner contiguous stepped panels of polyurethane foam encapsulated by fiberglass reinforced polyester resin,
(i) anchor block means interposed between said inner and outer tanks and secured to the latter,
(j) means securing said inner panels at their outer faces to said anchor block means,
(k) spacing means integrally associated with at least one of said series of inner and outer stepped panels at opposing faces thereof,
(l) means interposed between and securely bonding adjacent ones of said inner panels,
(m) inner overlay means superimposed upon the joints between said inner panels and thereby enhancing the tank impermeability of said inner tank,
(n) said inner and outer tanks defining a chamber therebetween, and
(o) detection means in communication with said chamber for detecting the presence of cargo therein.

3,339,784

INSULATED STRUCTURE FOR USE IN TRANSPORTATION OF COLD LIQUIDS
Charles George Filstead, Jr., Leahurst, Littleworth Common Road, Esher, Surrey, England
Continuation of application Ser. No. 32,248, May 27, 1960. This application Mar. 15, 1965, Ser. No. 444,903
14 Claims. (Cl. 220-15)



1. A tank for the transportation and storage of cryogenic liquids at temperatures far below the freezing point of water comprising

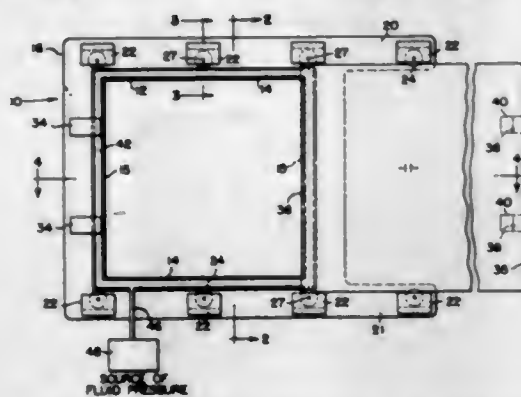
(a) an outer rigid metal housing,
(b) an impervious secondary wall comprising continuous non-metallic panels of structurally strong material,
(c) a plurality of insulating firing spacers secured to said secondary wall and to said housing, said spacers mounting said secondary wall on the inner surface of said outer metallic housing in spaced relation thereto,
(d) a primary thermal insulation barrier consisting of a layer of insulating material of low thermal conductivity mounted on said secondary wall on the opposite side from said spacer members and supported thereby, said primary layer and secondary wall together as a unit being effective to resist penetration by liquid coming into contact with the inner surface thereof so as to maintain the liquid out of contact with the outer metal housing,
(e) a layer of secondary thermal porous insulating material incapable of resisting penetration of liquid coming into contact therewith positioned inwardly of the primary insulation layer and adjacent thereto,
(f) a panel wall secured to both primary and secondary layers, said wall supporting the said layer of secondary insulating material as a layer adjacent the primary insulation layer,
(g) and a primary container of large capacity within said metal housing, said insulation being between said outer wall housing and said primary container.

3,339,785

CLOSURE APPARATUS FOR PRESSURE CHAMBER
John I. Nugent, Rochester, N.Y., assignor, by mesne assignments, to Ritter Pfaudler Corporation, a corporation of New York
Filed June 9, 1965, Ser. No. 462,575
15 Claims. (Cl. 220-41)

1. An improved apparatus for combination with a pressure vessel member having an opening and a door member for closure of said opening, said improvement comprising in combination therewith:
(a) flanged support means between said members along a pair of opposite edges of said door member adapted for slidably supporting said door member for movement between open and closed positions with said opening and for limiting outward movement of said door member at least when in said closed position, and

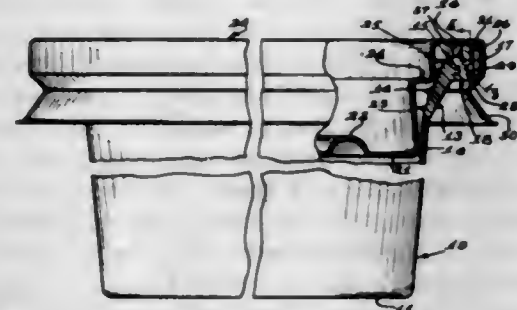
(b) flanged means along a second pair of opposite edges for orienting said door against sliding movement beyond closure and limiting outward movement of said door member at least while in said closed position,



(c) seal means between said members for sealing said members in pressure tight relation around said opening when said members are in said closed position.

3,339,786 CONTAINER AND VENTING CLOSURE CAP FOR SAME

Duane O. Biglin, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 23, 1965, Ser. No. 466,193
3 Claims. (Cl. 220-44)



1. A closure cap comprising a top wall, an upstanding annular side wall at the periphery of said top wall, means in a plane above said top wall and in part above the plane of the side wall and radially outward from both walls forming an annular downwardly facing channel, said channel having an outer wall formed with an annular inwardly downwardly inclined extension to function as part of means for retaining the closure cap on a container, venting means formed internally of at least a portion of said channel comprising a plurality of radial ribs of minute size formed on the interior surface of the top and outer walls of the channel and the container engaging surface of inclined extension and an annular downwardly outwardly inclined straight extension at the lower margin of the inclined extension to facilitate both nesting of a stack of closure caps and their removal from containers.

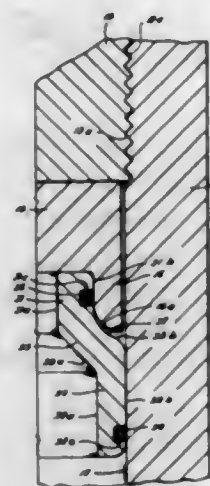
3,339,787 HIGH PRESSURE SEAL

Raymond E. Pechacek, Houston, Tex., assignor to Hahn & Clay, a corporation of Texas
Filed July 6, 1965, Ser. No. 469,698
5 Claims. (Cl. 220-46)

1. A high pressure seal adapted to seal in contact with a radially expansible wall of a pressure vessel, comprising:

- (a) a closure body adapted to be positioned in said pressure vessel,
- (b) a plate extending from said closure body,
- (c) an annular lip on said plate,

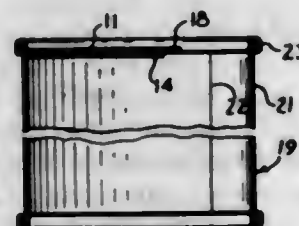
- (d) an annular ring in substantial contact with said lip of said plate and said wall,
- (e) said annular ring having external grooves at the points of substantial contact of said ring with said lip of said plate and said wall,
- (f) an elastic seal ring in each of said grooves for sealing engagement between said ring and said lip of said plate and said ring and said wall of the vessel, and



- (g) said annular ring having a bore which is exposed to pressure in said vessel for expanding that part of said ring in contact with the wall of the pressure vessel radially at least as fast as said wall to prevent extrusion of said seal between said annular ring and said wall.

3,339,788 CONTAINER

Benjamin B. Lipske, Downers Grove, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,117
10 Claims. (Cl. 220-53)

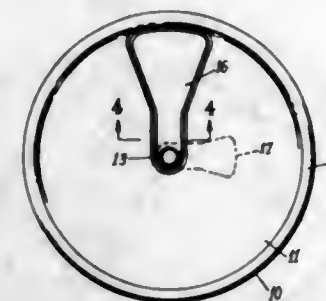


1. A container wall member having an opening, and removable means for covering the opening, said means comprising a gas impermeable metal foil seal member on the exterior surface of said wall member and covering said opening, adhesive means removably securing the foil seal to the exterior surface of the wall member; said adhesive means comprising a coating on the foil seal member and a coating on said exterior surface, each coating comprising a thermoplastic vinyl resin and a thermosetting resin, and a heat-tackifying thermoplastic layer between said coatings; and a seal coating of plastisol material spanning the margin of the opening throughout the extent thereof, said seal coating being bonded continuously adjacent to said margin to the interior surface of said wall member and the interior surface of the foil seal exposed through the opening and being of a thickness sufficiently greater than said wall member at said opening to cover completely said margin.

3,339,789 SCORED METAL CAN

Ralph J. Stolle, Lebanon, and Elton G. Kaminski, Sidney, Ohio, and Frederick J. Close, Pittsburgh, Pa., assignors to The Stolle Corporation, Sidney, Ohio, a corporation of Ohio

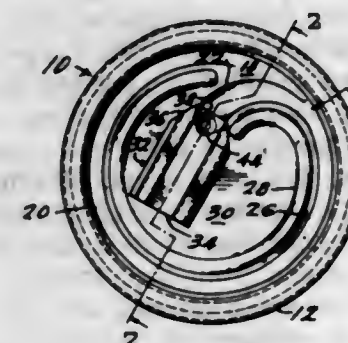
Filed June 14, 1965, Ser. No. 463,499
7 Claims. (Cl. 220-54)



1. A metal can end having a score line defining an area adapted to be torn out by means of a pull tab, said score line lying substantially centrally in a flat bottomed groove, the thickness of said can end in said flat bottomed groove being substantially uniform, whereby the amount of metal remaining under said score line is of substantial uniform thickness for easy removal of said area by tearing.

3,339,790 EASY-OPEN CONTAINER

Robert W. Murdock, Vermillion, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed Sept. 29, 1965, Ser. No. 491,154
8 Claims. (Cl. 220-54)



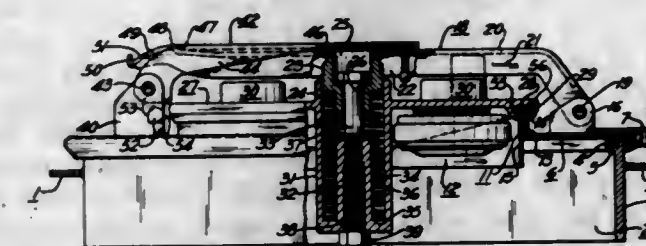
1. An opening tab to be attached to a scored opening strip of a can lid, said tab comprising a sheet of thin metal having a thickness of 0.012 inch to 0.015 inch, said sheet having a pair of straight side edges and a tapered end tapering to a short edge having a length substantially not greater than the width of the corresponding scored strip of the can lid, said sheet having a projection extending from one side thereof a distance of from one thirty-second inch to one-fourth inch, said projection having a radius of curvature from three thirty-seconds inch to one-fourth inch, said projection being at said tapered end near said short edge, and said sheet having reinforcing ridges longitudinally along said side edges and extending at least to positions transverse to a portion of said projection.

3,339,791 EMERGENCY VENTING MANHOLE COVER

Joseph H. De Frees, 414 Liberty St., Warren, Pa. 16365
Filed Oct. 22, 1965, Ser. No. 501,306
3 Claims. (Cl. 220-57)

1. A manhole cover for a liquid container comprising (a) a seat which defines and extends completely around an opening into said container,

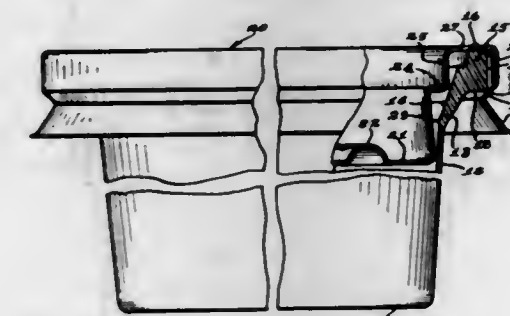
- (b) a cover which closes said opening and is positioned to move into and out of engagement with said seat,
- (c) a lock arm with a pivot mounting upon said container adjacent said seat and disposed to extend over said opening and said cover and being spaced apart from said cover,
- (d) said lock arm including a first spring mounting which extends towards said cover,
- (e) said cover including a second spring mounting substantially in alignment with and spaced apart from said first spring seat,
- (f) spring means disposed upon said two spring mountings,



- (g) adjustable means extending between said two spring mountings, being connected to each and adapted to place a predetermined load upon said spring so that said cover has limited movement on and off said seat independently of movement of said lock arm when pressure in said container exceeds a given amount, said adjustable means effecting an attachment of said cover to said lock arm,
- (h) latch means movable into engagement with said lock arm for maintaining same extended across said opening to position said cover opposite said seat.

3,339,792 CONTAINER AND CLOSURE CAP FOR SAME

Duane O. Biglin, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 23, 1965, Ser. No. 466,194
4 Claims. (Cl. 220-60)



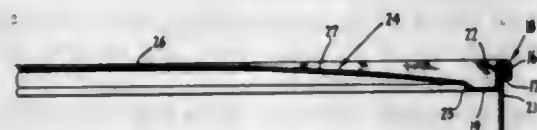
1. In combination, a wide-mouth container comprising a bottom, an annular upstanding wall having a flared upper section of upwardly increasing radial thickness, an annular bead of substantial cross-section at the upper margin of the flared section, said bead having a flat top rim and an external annular corner sealing surface below said rim, a closure cap having a panel portion receivable in the container mouth, an inverted annular channel-like member having an outer annular pendent wall formed with an inwardly sloping sealing section for contact with said corner sealing surface, the spacing between the rim and sloping sealing section being such as to maintain the pendent wall under tension and create a tight seal.

3,339,793

END CLOSURES FOR DRUMS AND EQUIVALENT CONTAINERS

Albert F. Gerlovich, Fanwood, N.J., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California

Filed Dec. 16, 1964, Ser. No. 418,768
6 Claims. (Cl. 220-66)



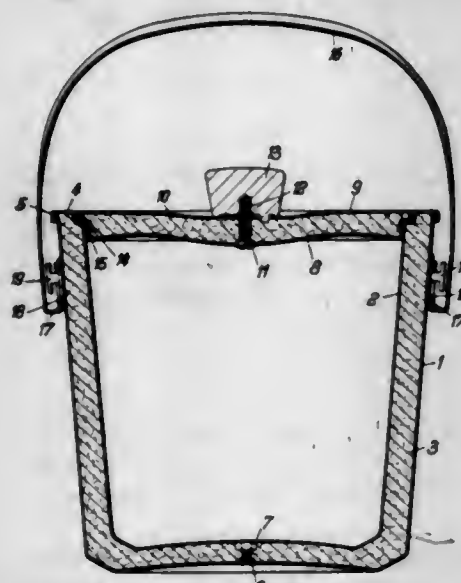
3. A drum comprising a cylindrical tubular body having radially outward longitudinally inward U-shaped bent portions at its opposite ends, and a pair of circular heads respectively disposed in closing relation to the opposite ends of said body, said heads respectively having radially inward longitudinally outward U-shaped bent portions engaging said bent portions of said body in double seam joints, said heads each having a chime extending radially inwardly and longitudinally inwardly from the bent portion of the head, a flat annular region radially inwardly adjacent and perpendicular the longitudinally inner end of said chime, a small radius circumferential knuckle interconnecting said flat annular region and said chime, a longitudinally offset circumferential strengthening section which includes a shallow step portion radially inwardly and longitudinally outwardly inclined from the inner end of said flat annular region, a flat circular central region, and a curved convex annular region interconnecting said central region and said strengthening section.

3,339,794

BAIL EARS FOR PORTABLE INSULATED CONTAINER

Karl Oberländer, Geislingen, and Kurt Radtke, Munich, Germany, assignors to Württembergische Metallwarenfabrik, Geislingen (Steige), Germany

Filed Oct. 23, 1964, Ser. No. 406,009
Claims priority, application Germany, Oct. 26, 1963, W 31,452
3 Claims. (Cl. 220-91)



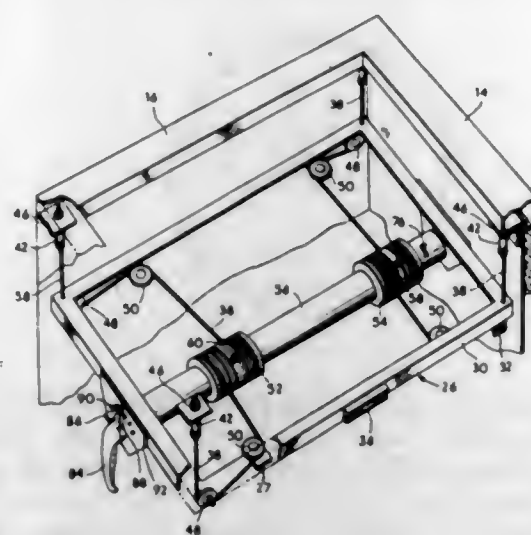
1. A portable insulating vessel, including a carrying handle, which is rotatably mounted on opposite sides of the wall of the vessel, in which the ends of the carrying handle are provided with elongated holes, which cooperate with suspension hooks secured on opposite sides of the shell of the vessel, which hooks have elongated locking plates mounted on hook shafts and conforming to the internal contour of the elongated holes, said locking plates having their longitudinal axes oppositely inclined from a plane passing through the suspension hooks and containing the vertical center line of the vessel.

3,339,795

STORAGE APPARATUS

Ralph E. Cappel, Fort Wayne, Ind., assignor to Lincoln Manufacturing Co., Inc., Fort Wayne, Ind., a corporation of Indiana

Filed Mar. 24, 1965, Ser. No. 442,367
3 Claims. (Cl. 220-93)



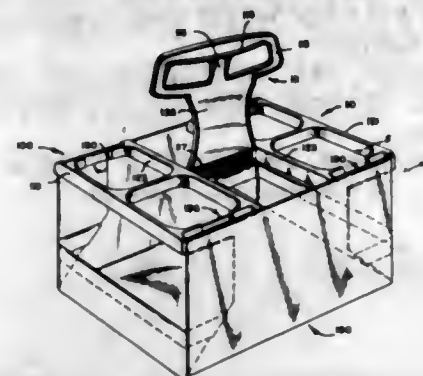
1. In a storage cabinet having a compartment with an access opening, the improvement comprising a weight-responsive elevator adapted to be positioned at a variable vertical level dependent upon the weight of load on said elevator, whereby the upper portion of said load is maintained at a substantially constant location relative to said access opening of said compartment, said elevator comprising a load receiving frame; an elongated, substantially cylindrical element rotatably mounted on said frame; a helical spring positioned within said cylindrical element and extending along substantially the full length of said cylindrical element, said spring having one end fastened to said frame and having the other end fastened to said cylindrical element; first and second flexible cables attached inwardly from the end to said cylindrical element at substantially the same first location, said first and second cables being wound from their locations of attachment in the same direction around said cylindrical element and extending substantially transversely from said cylindrical element in respective first and second directions that are substantially opposite each other; third and fourth flexible cables attached inwardly from the end to said cylindrical element at substantially the same second location spaced from said first location, said third and fourth cables being wound from their locations of attachment in the same direction around said cylindrical element and extending substantially transversely from said cylindrical element in said respective first and second directions; direction changing pulleys mounted on said frame at each of four substantially rectangularly positioned corners for changing the direction of each of said four cables to a substantially vertically upward direction; one of said pulleys being spaced inwardly from the end of said frame and the other of said pulleys being spaced substantially at each corner of said frame, each of said four cables passing over said direction changing pulleys and extending substantially vertically upward from said frame; and means respectively fastening the other end of each of said four cables to said cabinet at each of four substantially rectangularly positioned corners whereby vertically downward movement of said elevator effects rotation of said cylindrical element in a direction which coils said spring more tightly and stores energy therein to effect raising said elevator and its supported load as said load is lightened.

3,339,796

CONTAINER CARRIER

Glenn E. Struble, Hamilton, Ohio, assignor to Diamond International Corporation, a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 406,000
26 Claims. (Cl. 220-117)



1. A container carrier comprising a separator section including a pair of end bars forming opposite edges of said separator section, a cross bar connecting substantially the midpoints of said end bars, locking means located along edges perpendicular to said end bars, a handle extending above and attached to said cross bar, and a paperboard supporting means having locking tabs extending from said paperboard supporting means and bent inward to connect with said locking means.

3,339,797

LABEL DISPENSERS

Kermit B. Knutson, 1316 E. 24th St., Minneapolis, Minn. 55404

Filed Apr. 4, 1966, Ser. No. 540,004
21 Claims. (Cl. 221-73)



1. In a dispenser for dispensing pressure-sensitive labels from a supply of stock consisting of a series of such labels borne by a liner, means for supporting a supply of label stock, a rotatable take-up drum for winding thereon a liner led from the supply of label stock, a movable carrier medium, a stripper element, means for securing the stripper element to said carrier medium, said stripper element being movable forth and back along with the carrier medium in a cycle of movement having a work throw and a return throw, said stripper element having a guide member adapted to be overrun by and to define a bend in the run of a liner extending in a first reach from the supply of label stock to said guide member, and thence, in a second reach to its joiner with the liner-winding on the

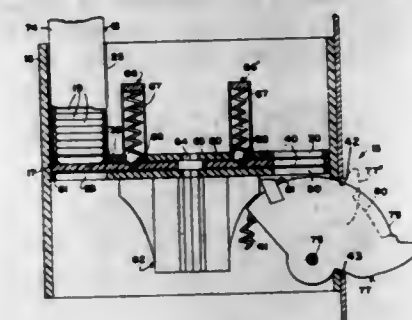
take-up drum means for depriving the take-up drum of rotation on the work throw of the stripper element, said guide member on said work throw of the stripper element, sliding along said run of the liner in retreat from said joiner thereof with the drum's liner-winding, shifting the liner's bend along said liner, causing the liner to traverse said bend and to peel away from a liner-borne label contiguous to said bend, thus freeing such label for delivery from the stripper element, said stripper element, on its said work throw, lengthening said run of the liner, drawing the added length from the supply of label stock, and means for turning the take-up drum on the return throw of the stripper element to restore the relationship existing, at the start of the work throw, between said stripper element and the drum's liner-winding, said stripper element on one of its throws in a cycle of movement, coacting with the take-up drum to effect the wrapping of the liner onto the liner-winding on said drum and take up the said lengthening of said run of the liner.

3,339,798

ARTICLE DISPENSER HAVING A PLURALITY OF ROTATABLY MOUNTED SOURCES WITH ACTUATING MEANS

Jacob Katz, 225 E. 57th St., New York, N.Y. 10022

Filed Nov. 18, 1965, Ser. No. 508,530
1 Claim. (Cl. 221-113)

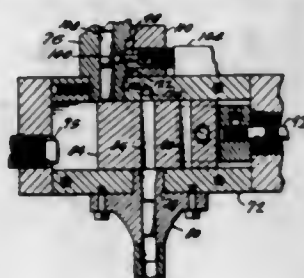


In a device for dispensing identical articles one at a time, a frame, a horizontal plate fixed on the frame, a horizontal disc above and next to said plate, a rotatable shaft extending vertically through said plate, a gear structure below said plate; said disc and gear structure being fixed on said shaft concentrically therewith; said disc having a series of holes equi-spaced around an entire circle which is concentric with the shaft; said plate having a single hole which is in registry with one of the holes of said series; said holes being beyond said gear structure; all of said holes being of a size to hold one of said articles respectively, means fixed to the frame to hold vertical stacks of identical articles which are to be dispensed, free for downward movement, one stack immediately above each hole of said series except the one which is in registry with said single hole in said plate; the number of teeth of said gear structure being the number of holes of said series multiplied by any whole number, a sector-shaped swingable, normally at rest operating member biased towards the normal rest position and accessible to be moved to a second position; said operating member being positioned in a vertical plane and mounted on a horizontal axis on the frame so its arcuate periphery is immediately under said one hole in the plate, and having a socket opening in said periphery and directly under said one hole to receive an article passing through said one hole; said socket being accessible when the operating member is moved from its normal rest position; the gear structure having as many teeth as the number of holes in said series, a pawl extending radially outwardly from the periphery of said operating member and positioned between and in contact with the dedendums of two successive teeth of said gear structure; the cross section of each tooth being substantially rectangular and the cross section

of the addendum of each tooth being substantially triangular with its apex at the periphery of the gear structure; said plate having a second series of holes equispaced around a circle concentric with the shaft; the number of holes in said second series being equal to the number of holes in the first mentioned series multiplied by a whole number, a ball partially entered and fitted within at least one of the holes of the second series and spring-biased towards said plate; said ball and spring being a plunger structure carried on said disc; said pawl being adapted to cooperate with said gear structure at each reciprocation of said operating member to move the gear structure nearly one tooth; said pawl leaving the gear structure before the operating member has reached the second position at which time the ball is not fully seated in a hole of the second series, whereupon the spring biasing the ball, will shift it into concentric seating in said hole of the second series, causing the gear to turn the balance of one tooth movement before the return movement of the operating member; said pawl moving the gear structure only during the return movement of said operating member to its normal rest position.

3,339,799

FASTENER FEED ASSEMBLY INCLUDING FASTENER SIZE ADJUSTING MEANS
Steve Spisak, Elyria, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed Sept. 7, 1965, Ser. No. 485,518
3 Claims. (Cl. 221-176)



1. Apparatus for supplying elongate fasteners to a fastening tool, said fasteners being of uniform length but subject to change in length from time to time when fasteners of different lengths are required, said apparatus comprising means forming a supply passage, means for feeding the elongate fasteners in end-to-end relationship into said passage, a conveying tube in which the fasteners are moved one at a time to the fastening tool, an escape-meant mechanism including a housing, a carrier slidably supported in said housing for reciprocatory movement therein, said carrier having at least one transverse passage, said housing having an inlet opening communicating with said supply passage, said housing having an outlet opening communicating with said conveying tube, means for moving said carrier between two positions with said transverse passage aligned with said inlet opening in one position and with said transverse passage aligned with said outlet opening in the second position, a plunger, means supporting said plunger transversely to said supply passage at a distance from the nearest surface of said carrier which is less than twice the length of the fastener to be supplied and more than the length thereof, means for operating said plunger to clamp an intermediate part of a second fastener from said carrier against the opposite side of said supply passage, means for energizing said moving means to move said carrier from one position to the other to receive the first fastener, means for energizing said operating means to move said plunger to clamp the second fastener, and positioning means associated with said supporting means for moving said plunger and said operating means to at least two different positions spaced longitudinally along said supply passage to enable said plunger to engage an intermediate part of

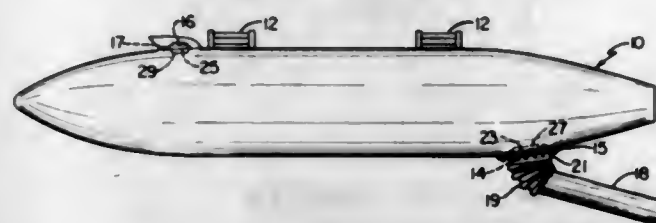
the second fastener even when a change is made to fasteners of different lengths.

3,339,800

METHOD AND APPARATUS FOR SAFE VOIDING OF TANKS FILLED WITH INFLAMMABLE LIQUIDS OR VAPORS

William H. Sustrich, 4022 W. Eastman Ave. 80236, and Gus Francis, 29 Polo Club Circle 80209, both of Denver, Colo.

Filed Sept. 8, 1966, Ser. No. 578,046
15 Claims. (Cl. 222-5)

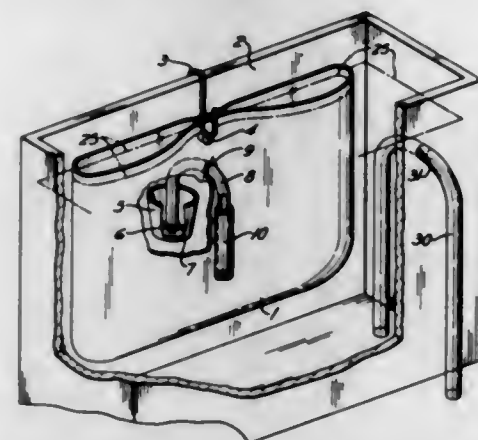


1. Apparatus for rapidly voiding containers of flammable liquids by sequentially cutting holes in said containers comprising: a first explosive cutter to be located at a first position on a container for cutting out a first portion thereof; activating means for said first explosive cutter; a layer of non-inflammable liquid supported on the side of said first portion adjacent said flammable liquid and distal to said explosive cutter; a second explosive cutter to be located at a second position on said container for cutting out a second portion thereof; activating means for said second explosive cutter; a second layer of non-inflammable liquid supported on the side of said second portion adjacent said flammable liquid distal to said second explosive cutter; and actuating means for sequentially actuating said first and second explosive cutters in that order.

3,339,801

FEEDING APPARATUS FOR LIQUID TREATING AGENT

John J. Hronas, Pittsburgh, Pa., assignor to Calgon Corporation
Filed Aug. 20, 1965, Ser. No. 481,358
5 Claims. (Cl. 222-57)



1. Apparatus for feeding a predetermined amount of a liquid treating agent into a liquid to be treated, comprising:

- (a) a tank for holding the liquid to be treated;
- (b) means for filling said tank to a predetermined level and emptying said tank;
- (c) a flexible, water-impermeable container suspended in said tank, at a point no higher than said predetermined level, for holding the liquid treating agent;
- (d) a small reservoir in a fixed position in said flexible container, having a fixed, predetermined effective volume; and

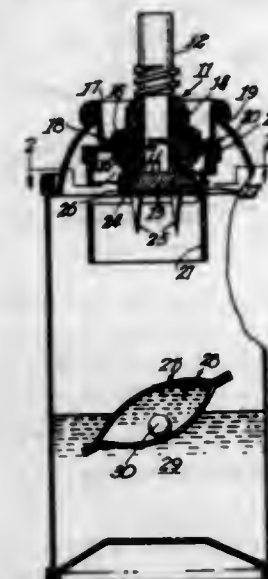
(e) a siphon passing from inside said reservoir to a point in said tank and outside said container.

3,339,802

PRESSURIZED DISPENSING DEVICE

Norman Weiner, Skokie, and Jerome J. Siegel, Lincolnwood, Ill., assignors to Alberto-Culver Company, Melrose Park, Ill., a corporation of Illinois

Filed Mar. 16, 1965, Ser. No. 440,249
8 Claims. (Cl. 222-82)

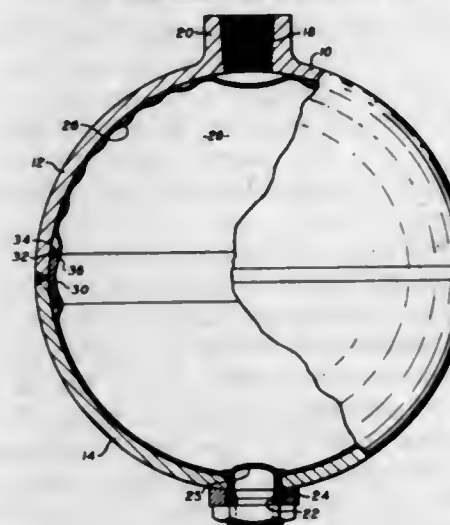


8. A pressurized device comprising: a rigid container equipped with a finger-manipulable valve projecting from said container; a propellant fluid confined in said container; and additional material in said container confined in a freely movable, rupturable enclosure; a puncture element associated with said valve and rigidly supported within said container; and protecting means within said container defining an edge normally disposed between said puncture element and said rupturable enclosure, said protecting means including a tubular member supported in said container about said puncture element and movable to an operative position responsive to rotation of said valve.

3,339,803

FLUID STORAGE AND EXPULSION SYSTEM
Sidney S. Wayne, Englewood, N.J., and Benjamin J. Aleck, Jackson Heights, N.Y., assignors, by mesne assignments, to Arde, Inc., Paramus, N.J., a corporation of Delaware

Filed Mar. 5, 1965, Ser. No. 437,458
17 Claims. (Cl. 222-95)



1. A storage-expulsion system having a container which is substantially symmetrical about a diametral plane, inlet means for said container on one side of said plane, outlet means for said container on the other side of said plane;

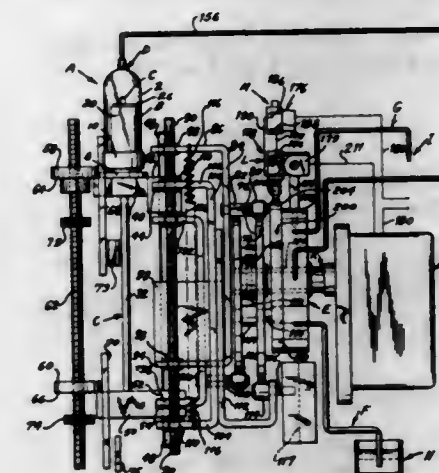
a collapsible metal liner means conforming substantially to the interior surface of the portion of said container on said one side of said plane, and means on said liner for rendering said liner more resistant to uncontrolled buckling than to flexural yielding, whereby to prevent said liner from uncontrolled buckling and to cause said liner to collapse in an orderly fashion by flexural yielding.

3,339,804

PLURAL SOURCE FLUID METERING ASSEMBLY WITH DISCHARGE ASSISTANT FOR EACH SOURCE

Robert E. Bader, New York, N.Y., assignor to York Instrument Corp., New York, N.Y., a corporation of Delaware

Filed Sept. 17, 1965, Ser. No. 488,228
34 Claims. (Cl. 222-135)

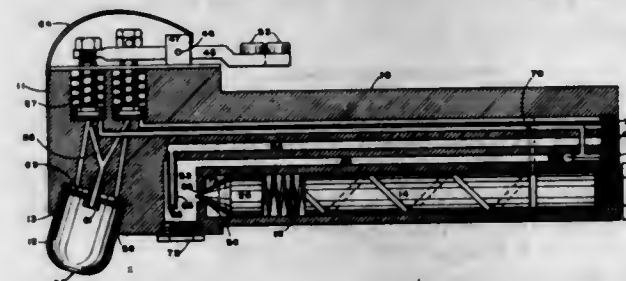


1. A metering assembly comprising a cylinder having side walls defining a chamber and having an inlet to said chamber, a first piston movable in directions into and out from said chamber, a second piston movable through said first piston in directions into and out from said chamber, means for sealing said first piston relative to said cylinder and sealing said second piston relative to said first piston, a valve means in fluid communication with said inlet, means connecting said valve means to first and second supply tubes respectively, said valve means connecting said inlet to said first and second supply tubes respectively in accordance with a predetermined schedule, and means for moving said first and second pistons respectively in accordance with a predetermined schedule.

3,339,805

CARBONATED WATER CARBONATOR AND DISPENSER

Clarence W. Wheeler, 1767 41st St. S., St. Petersburg, Fla. 33711
Filed Sept. 21, 1966, Ser. No. 581,076
3 Claims. (Cl. 222-144.5)



3. A carbonator-dispenser comprising a handle having spaced longitudinally disposed passages extended therethrough and having a head on one end, and a carbonator in the lower side, and positioned between the head and

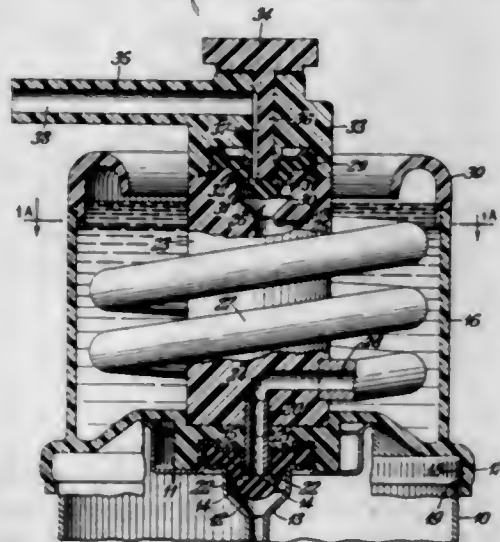
handle, for mixing plain water and CO₂ gas making a high grade of carbonated water, using city water pressure and pressure from CO₂, said carbonator having a mixing cone in the side in which the passages are positioned and also a spiral element for further mixing in said side in which the spiral element is positioned, a mixing chamber being connected in communication with a check valve for preventing the CO₂ gas in the carbonator backing up into the plain water, a plurality of valves in said head and communicating with said passages, and a plurality of manually actuated levers in said head and positioned to operate said valves, and a nozzle in said head and in communication with said valves.

3,339,806

AEROSOL DISPENSERS

Irving Reich, Princeton, and John E. Ayres, Mountain Side, N.J., assignors to Carter-Wallace, Inc., a corporation of Maryland

Filed Aug. 21, 1964, Ser. No. 391,211
3 Claims. (Cl. 222-146)



1. A device for preparing and dispensing heated aerosol foams from a pressurized aerosol-type container provided with a valued outlet member and containing therein a mixture of an aqueous soap solution and a liquefied normally-gaseous propellant, said device comprising:

- a heat-conductive elongated tubular member having a passageway extending therethrough;
- an inlet means on said passageway adapted for interconnection with said outlet member, and having further means maintaining constant continuous communication between the interior of said container and said passageway;
- an outlet means on said passageway having a manually-operated discharge valve for maintaining said passageway under container pressure until said valve is opened and for dispensing the contents from said passageway to the atmosphere; and
- a body adapted to hold a supply of hot water in heat exchange relationship with said heat-conductive elongated tubular member.

3,339,807

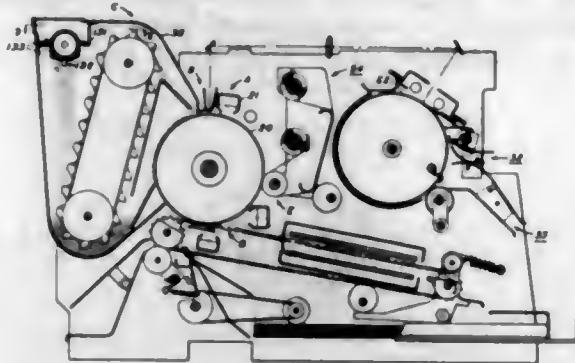
TONER CONTAINER AND DISPENSER

Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 18, 1965, Ser. No. 497,303
1 Claim. (Cl. 222-171)

A toner dispenser including:

a toner package suitable for holding a quantity of toner material having means defining openings therein, two end portions mounted at each end of the body enclosing the body, one of said end portions having a protruding member adapted to engage a drive element

- a stationary grid shaped to allow the package to be positioned thereon and having openings therein
- a second grid having openings therein adjustably attached to the stationary grid to allow relative movement of the adjustable grid and the stationary grid to vary the openings therebetween



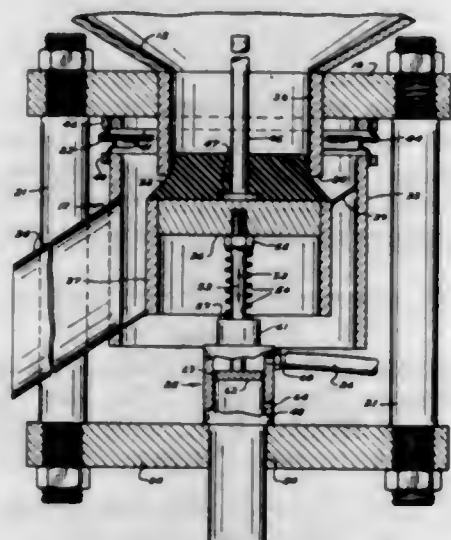
and drive means engaging the protruding portion of the toner package to move the toner package relative to the openings in the grids whereby the openings of the toner package and the openings in the grids are connected thereby dispensing toner from the package.

3,339,808

DISPENSER FOR PARTICULATE MATERIAL

Thomas E. Sterns, Rosemount, Minn., assignor to Ramsey Engineering Company, St. Paul, Minn., a corporation of Minnesota

Filed Oct. 1, 1965, Ser. No. 492,065
8 Claims. (Cl. 222-196)



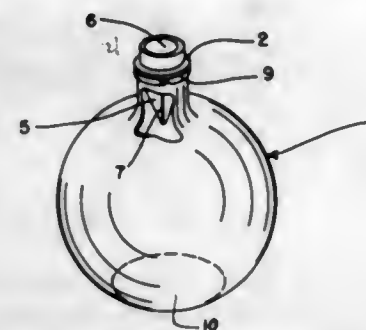
- A dispenser for controlling the feed of particulate material from a bin comprising a discharge valve assembly including means defining a discharge orifice communicating with the interior of the bin, a housing separate from the bin, a plug member mounted at the exterior of said bin in sealing relationship to said housing to form a chamber, said plug member normally closing said orifice, a flexible bellows sealingly attached between the bin and the housing and surrounding the orifice, an outlet defined in the housing and leading from the chamber formed in said housing, an agitator member fixed to said plug member and extending through said discharge orifice to the interior of said bin, fluid motor means for moving said plug member and said housing in direction away from said bin to open said discharge orifice, means to move said plug member and housing in direction to close said orifice and means for supplying fluid pressure to said fluid motor means including pulsator means for alternately and sequentially transmitting fluid pressure to said fluid motor means to move said plug to open the orifice and to release the fluid motor means while the plug is being moved to close the orifice.

3,339,809

SELF-PRESSURIZING CONTAINER WITH VALVE

Richard O. Church, 9 Wendy Road, Greenfield, Reading, Pa. 19601, and William J. Davis, 1059 Terrace Ave., Wyomissing, Pa. 19610

Filed Oct. 23, 1965, Ser. No. 502,898
1 Claim. (Cl. 222-215)



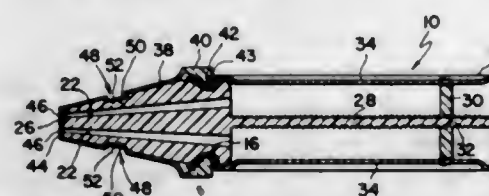
A package comprising an expandable elastic container exerting continuous pressure on the contents, an opening in said container, and valve means associated with said opening for controlling the discharge of material from said container; said valve means including a pair of flexible flap members that extend from said opening into said container and are biased to normally seat in pressure sealing relationship with each other; said flap members having means to unseat and permit the discharge of material from said container when a force is applied adjacent the side edges of said flaps and to reseal in pressure sealing relationship with each other when such force is relieved, said flap members presenting surfaces to the material whereby said resealing is aided by the pressure of said material within said elastic container.

3,339,810

DISPENSING APPARATUS

Charles Block, 1129 Albert Road, North Bellmore, N.Y. 11710, and Leon J. Mintz, 7 Valley Road, Syosset, N.Y. 11791

Filed Jan. 26, 1966, Ser. No. 523,086
6 Claims. (Cl. 222-387)



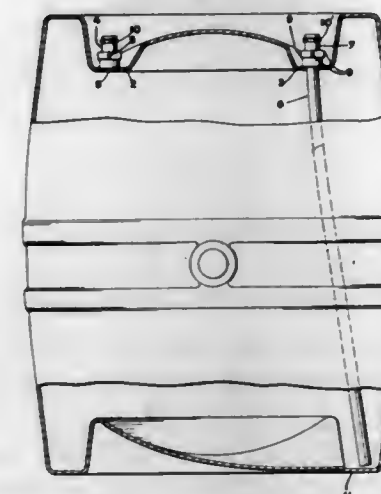
- A dispensing apparatus comprising a tube having an open end, a head rotatably mounted in said tube and closing said open end, at least one through passage in said head communicating with the interior of said tube, means in said tube moving in response to the rotation of said head for causing the contents of said tube to move through said passage, a hollow cap rotatably connected to and enclosing the open end of said tube and encompassing said head to receive the same therein, said cap being movable relative to said head and tube between a first position wherein said cap seals said passage in said head and a second position wherein said cap opens said passage to provide for the flow of the contents of the tube therethrough and to rotate said head with said cap, and lost-motion connecting means between said cap and said head to rotate said head with said cap when said cap is in said second position and

providing free limited rotative movement of said cap relative to said head from said second position to said first position.

3,339,811

BEER KEG

Baron F. Haag, Wickliffe, Ohio (% Brau Supply Co., Inc., 2169 St. Clair Ave., Cleveland, Ohio 44114)
Filed Sept. 7, 1965, Ser. No. 485,304
2 Claims. (Cl. 222-394)



1. A beer keg comprising:

- a body formed of sheet metal having at least one recessed portion in the outer configuration of said body;
- a compressed gas adaptor integrally attached to said body in a said recessed portion said adaptor having a locking means adapted to have quickly and simply locked into flow communicating relationship therewith a connecting means for a supply of compressed air;
- a beer-outflow adaptor integrally attached to said body in a said recessed portion said adaptor having a locking means adapted to be simply and quickly locked into flow communicating relationship with a connecting means for a beer dispensing tube, said beer outflow adaptor being in direct flow communication with the lowermost portion of the bottom of said keg;

each said recessed portion in said outer configuration of said body being recessed sufficiently so that each of said adaptors when integrally attached to said body in said recessed portion does not extend beyond the length of said beer keg;

both said compressed gas adaptor and said beer-outflow adaptor having spring-actuated means for preventing flow of fluid through said adaptor when not attached to a said connecting means and adapted when locked in position with said connecting means to have said spring-actuated closing means displaced from the closed position to an open position whereby flow communication is provided between the interior of said keg and said connecting means.

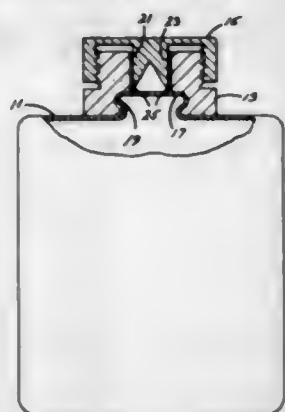
3,339,812

MOLDED CONTAINER HAVING DISCHARGE SPOUT

William E. Meissner, Devon, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Original application Oct. 29, 1963, Ser. No. 319,717, now Patent No. 3,266,658, dated Aug. 16, 1966. Divided and this application Oct. 21, 1965, Ser. No. 499,344
1 Claim. (Cl. 222-566)

A molded container formed of organic plastic material having a completely closed body of seamless, unbroken, unitary construction, including a top wall having a por-

tion thereof spaced above the main portion thereof and connected thereto by re-entrant wall portions, all portions of said container body being of substantially uniform wall thickness, and a spout formed with re-entrant portions adjacent to the entrance end of the spout discharge passage, said entrance end of the spout discharge passage being located abuttingly adjacent to said raised portion



of the container top wall, with the re-entrant portions on the spout being matingly interlocked with the corresponding re-entrant wall portions on the container body, whereby the spout is attached to the container body without reducing its wall thickness and without damaging its unbroken, seamless and unitary construction and said raised wall portion covers the entrance end of the spout discharge passage.

3,339,813

LUGGAGE CARRIER

Bela Barenyl, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz, Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed July 15, 1965, Ser. No. 472,089

Claims priority, application Germany, July 15, 1964, D 44,944

7 Claims. (Cl. 224-42.1)



1. A detachable luggage carrier for the roof of a motor vehicle, said carrier comprising a unitary, concavely curved shell structure, the concavity of said curved shell structure facing upwardly, said concavity constituting the base body of the luggage carrier and said shell structure further including rim portions terminating in downwardly extending web portions, and supporting means including said web portions for supporting said shell structure on said roof, said support means further including rubber strip means in contact with said web portions and said vehicle roof.

3,339,814

BOTTLE AND JAR CARRIER

Joseph C. Carbine, 100 Hewett Road, Wyncote, Pa. 19095

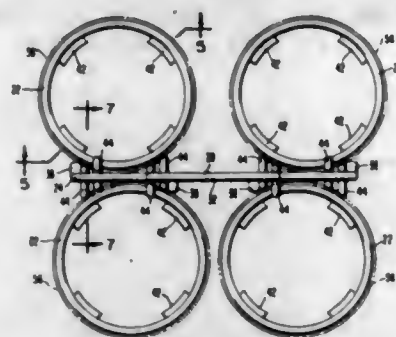
Filed Oct. 20, 1965, Ser. No. 498,936

12 Claims. (Cl. 224-45)

1. An article carrier for transporting a plurality of articles, comprising:

- (A) a carrier member having
 - (1) opposite surfaces closely spaced from each other,
 - (2) pairs of spaced holes,
 - (3) handle means for carrying said member; and

(B) a closed ring member attachable to each of said articles to be carried thereby and having means comprising a pair of spaced pins for releasable engagement with said carrier member by insertion through



a pair of said holes whereby said articles may be releasably attached to said carrier member to be transported thereby and easily released therefrom for use.

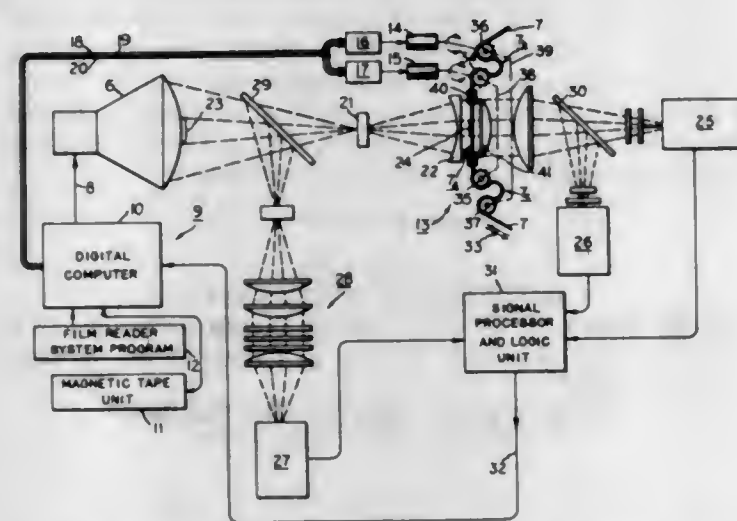
3,339,815

FILM INDEXING METHOD AND APPARATUS FOR HIGH SPEED FILM READING

Edward Fredkin, Natick, Mass., assignor to Information International, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 9, 1965, Ser. No. 506,946

10 Claims. (Cl. 226-2)



1. In apparatus for the scanning of an elongated record medium such as film or the like at a predetermined site, a precision transport mechanism for indexing the positions of the record medium in relation to the said site comprising reversible electrical stepping motor means, means for connecting said stepping motor means in linear driving and holding relationships to the said elongated record medium at spaced positions in relation to an intended path of movement of the record medium on opposite sides of the said site, and means for electrically exciting said stepping motor means and controlling predetermined incremental angular movements thereof and attendant predetermined incremental linear movements of the said record medium in accordance with electrical command signals from the scanning apparatus.

3,339,816

PINCH ROLLER DEVICE FOR TAPE RECORDER

Akira Iribe, % Yasu Electric Co. Limited, 1116 Suenaga, Kawasaki-shi, Kanagawa-ken, Japan

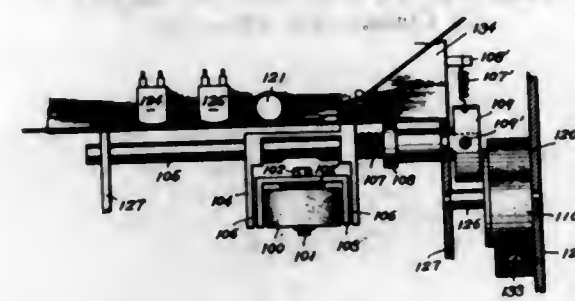
Filed Oct. 22, 1965, Ser. No. 501,983

Claims priority, application Japan, Nov. 18, 1964, 39/64,787

2 Claims. (Cl. 226-90)

1. In a pinch roller device for pressing a recording tape against a capstan roller in a tape recording apparatus, in combination, a rubber pinch roller having a shaft, one

end of said shaft being secured to a first bracket member, a rotatable rod member adapted to mount loosely thereon a second bracket member, said first bracket member being connected by a pin to said second bracket member, a



coil spring having one end secured to said second bracket member and the other end to said rod member and a cam mechanism adapted to cause said rod member to rotate slightly in excess of 90°.

3,339,817

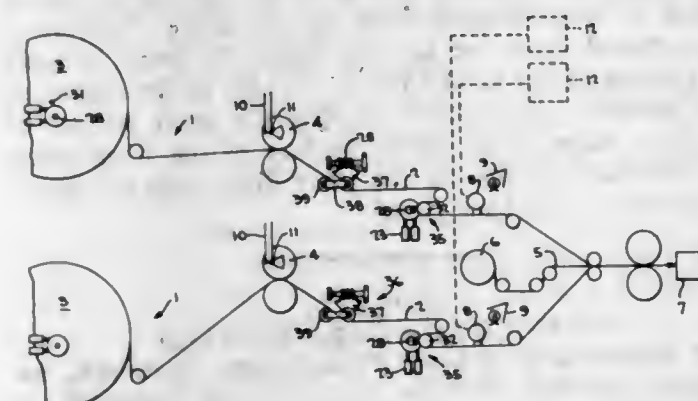
WEB REGISTER CONTROL MEANS UTILIZING A TELEVISION SYSTEM

Denis E. E. French, West Kirby, Wirral, England, assignor to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware

Filed Mar. 5, 1965, Ser. No. 437,519

Claims priority, application Great Britain, Mar. 6, 1964, 9,598/64

5 Claims. (Cl. 226-100)



5. Web register control means comprising means to irradiate a moving web at predetermined intervals in synchronism with the speed of movement of the web, means for scanning the web while the irradiation is projected onto it, means for reproducing the scanned impression of the web, the means for scanning the web comprising a television camera and the means for reproducing the scanned impression comprising a television receiver; and means comprising a slewing roller device to correct any incorrect side adjustment of the web detected by said reproducing means, and means for skewing said device to and from adjusted angular positions in a plane parallel to that of the web.

3,339,818

SELF-CENTERING ROLL

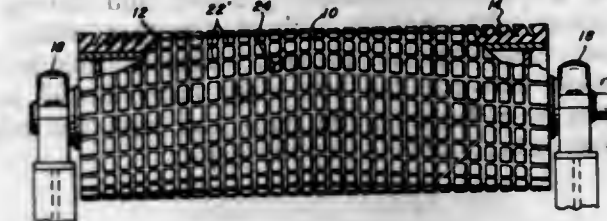
Harry C. Morrow, Bethel Park, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed June 8, 1965, Ser. No. 462,205

3 Claims. (Cl. 226-190)

1. The combination of a rotatable roll and a belt passing around a substantial arc thereof, said roll having a central peripheral groove and a plurality of flexible projections on its outer periphery arranged on both sides of

the central peripheral groove, said projections being inclined toward the axis of the roll away from the said central peripheral groove, said roll having a plurality of



grooves therein extending transversely of said flexible projections, the angle between the belt approach side of at least one of the projections and its peripheral groove side groove being at least 90°.

3,339,819

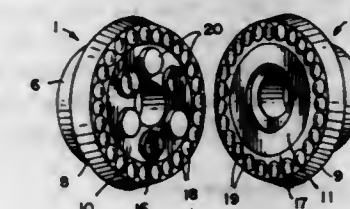
THREAD TRANSPORTING ROLLER

Wolfgang Gollos, Klingenberg, Germany, assignor to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

Filed Feb. 12, 1965, Ser. No. 432,329

Claims priority, application Germany, Feb. 15, 1964, V 15,982

6 Claims. (Cl. 226-190)



1. In a thread transporting roller having a grooved outer circumferential surface adapted to engage a thread or yarn in running contact therewith, the improvement of two roller elements detachably centered on a common axis and having oppositely disposed inner faces, the inner opposing face of one element containing permanent magnets secured thereto and the inner opposing face of the other element containing an annular ring composed of a ferromagnetic material of low remanence and high magnetizability, said magnets being situated in annular positions opposite said ring in the assembled position of the two elements with sufficient magnetic force to couple one element when freely mounted on a rotating drive shaft to the other element when connected firmly for rotation with said drive shaft.

3,339,820

CLOSURE FOR THE OUTER CARRIER IN A COMBINATION PACKAGE

Robert A. Krzyzanowski, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware

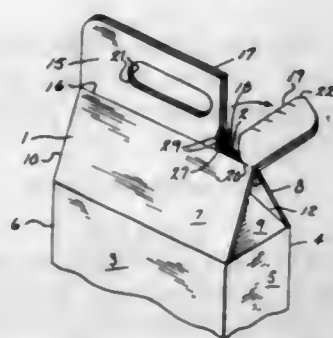
Filed Aug. 18, 1965, Ser. No. 480,644

7 Claims. (Cl. 229-17)

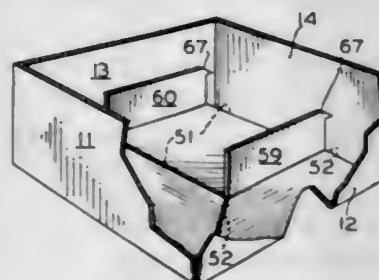
1. In a combination package comprising an outer carrier and an inner container wherein the carrier has at least two opposed wall portions with outer edges defining an end of the carrier, the combination therewith of:

- (1) a closure for said end of the carrier formed by
 - (a) a flap connected to the outer edge of two of said wall portions which oppose each other, there being only two such flaps at the end of the carrier and the flaps being arranged with the inner surface of one facing the inner surface of the other,
 - (b) a severance zone defined in each flap along which at least part of the flap can be severed, the severance zone in one flap being in registry with the severance zone in the other flap;

- (2) the outer carrier being of rectangular cross-section, and the said two flaps being no wider than the wall portions to which they are connected;
- (3) the inner container including opposed walls defining a commodity-receiving cavity and having a marginal edge portion joined together along a closure area, the said marginal edge portion being disposed between the two flaps with all of said closure area between the flaps and with the edge portion entirely covered by the flaps;

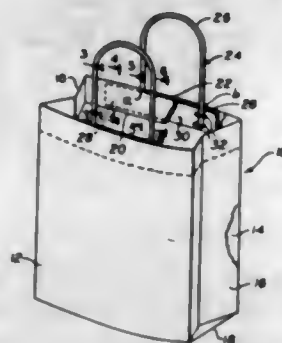


3,339,821
FIBERBOARD SHIPPING CONTAINER
 Richard P. Wojcik, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
 Filed Mar. 15, 1966, Ser. No. 534,517
 11 Claims. (Cl. 229-39)



1. A shipping container comprising two pairs of opposed side wall panels, and end closure means for each end thereof for completely closing the same, each of said end closure means including a plurality of flaps foldable inwardly from said side wall panels about fold lines to flat overlapping positions with respect to each other, said flaps including centrally located tab portions, said tab portions being depressible below the level of a plane containing the fold lines of said flaps to end-closing positions wherein each of said tab portions lies in a plane spaced and substantially parallel to the planes containing the other tab portions and the tab portions associated with each pair of opposed side wall panels are substantially in registration whereby the outwardly exposed concave surface portions of said flaps substantially define the outer contour of an inverted frustum of a pyramid, said flaps completely closing an end of the container when said tab portions are in their end-closing positions; and releasable locking means engageable with said certain of said tab portions for maintaining said flaps in their depressed, end-closing positions.

3,339,822
SHOPPING BAG WITH TUBULAR PLASTIC HANDLES
 Curt Charles Pearl, Forest Hills, N.Y., assignor to Equitable Paper Bag Co. Inc., Long Island City, N.Y., a corporation of New York
 Filed Sept. 13, 1965, Ser. No. 486,943
 10 Claims. (Cl. 229-54)



1. A shopping bag open at its upper end and having front and back panels to which handles are attached, each of the handles being hollow and being a bail having a loop portion extending beyond the upper ends of the front and back panels and having ends secured to the panels, the handles being made of substantially circular cross-sectional tubular plastic material and both ends of each handle being stapled to a common relatively stiff filler piece at spaced locations and by a plurality of staples for each end portion, the hollow tubular material of the handle being clamped against the filler piece by each staple and distorted out of its normal circular cross section by the clamping force of the staple, the staples being spaced from one another along the length of each end portion of the handle below the tops of the front and back panels, and adhesive securing the outer surface of one filler piece to the inside surface of the front panel and the outer surface of the other filler piece to the inside surface of the back panel.

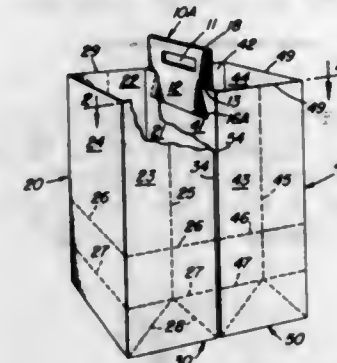
3,339,823
HANDLE FOR CARRIER BAGS
 Axel Bessermann-Nielsen, Copenhagen, Denmark, assignor to A/S Net-Up, Copenhagen, Denmark, a Danish joint-stock company
 Filed Oct. 11, 1965, Ser. No. 494,454
 Claims priority, application Denmark, Dec. 9, 1964, 6,058/64
 6 Claims. (Cl. 229-54)



6. A handle for carrier bags, comprising a first half, a second half and a reinforcement strip arranged at the upper edge of the bag, each half forming together with said reinforcement strip a loop, the length of the loop of said first half in the direction of the reinforcement strip being smaller than the length of the loop of said second half in the direction of the reinforcement strip at the points where said halves adjoin the reinforcement strip so that, after said first half has been carried through the

loop of said second half from the front side to the back side thereof, the two halves lying flush against each other with the side surfaces which originally faced outward disposed in contact with each other, and means to keep said halves in mutual contact in this position.

3,339,824
HANDLED DOUBLE BAG
 Victor S. Luke, Scarsdale, N.Y., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
 Filed Oct. 18, 1965, Ser. No. 496,892
 6 Claims. (Cl. 229-56)



1. A dual-compartment shopping bag which is accessible for loading while being hand-carried, comprising:

(A) a pair of open-mouth paper bags in parallel relationship, each bag having a flat bottom and four upright walls,

(B) a load-supporting handle, made of sheet material, that is interposed between said paper bags and is adhesively attached to the top portions of the adjacent walls thereof, comprising:

(1) top and bottom edges,

(2) side edges that are separated by approximately the width of said adjacent walls,

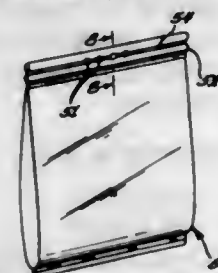
(3) an upper portion that includes a grasping means, and

(4) a lower portion, comprising:

(a) a bag-contacting area above said bottom edge and on each of two flat surfaces of said handle, and

(b) load-separation cuts, each of which is parallel to said top edge, transects a side edge, and extends inwardly at least 10% of the distance between the side edges to define the upper boundaries of the bag-contacting areas.

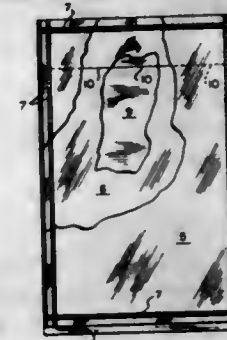
3,339,825
BAG
 John J. Grevich, Star Prairie, Wis., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
 Filed Dec. 8, 1965, Ser. No. 512,488
 7 Claims. (Cl. 229-62)



1. A hand-carriable bag for confining merchandise such as articles and granular material, comprising a tube of flexible sheet material flattened to arrange a pair of panels in confronting relation with each other, said panels having upper portions

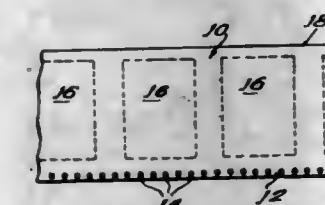
folded downwardly and defining a multiple thickness closure area, said closure area including a seal fusing the thicknesses of sheet material together and along a band spaced downwardly from the fold, and said closure area having a plurality of finger-receiving holes through the band and facilitating manual gripping and carrying.

3,339,826
SHIPPING ENVELOPE
 Stanley J. Beskind, 32 Stony Brook Road, Westport, Conn. 06880
 Filed Aug. 26, 1966, Ser. No. 575,348
 3 Claims. (Cl. 229-68)



1. A substantially water-impervious shipping envelope which is self-sealing and completely self-adherent to other surfaces and which comprises a front wall panel of water-impervious sheet material, a back wall panel of water-impervious sheet material substantially coextensive with and in face-to-face contact with the front wall panel, a water-impervious seal jointing the marginal portions of the front and back wall panels along the complete periphery thereof, a layer of pressure-sensitive adhesive over the entire outer surface of the rear wall panel, a protective but removable layer of sheet material in contact with said layer of adhesive, and a cut line extending through the protective layer, the adhesive layer and the back wall panel and extending transversely across the back wall panel.

3,339,827
SEALED ENVELOPE ASSEMBLY WITH INTERIOR MAILING MATERIAL
 Donald J. Steldinger, Barrington, Ill., assignor to Varco Incorporated, a corporation of Illinois
 Filed Jan. 17, 1966, Ser. No. 521,032
 25 Claims. (Cl. 229-69)



1. An assembly of stuffed envelopes, comprising: overlying continuous plies defining fronts and backs of envelopes, and insert material within each envelope, said envelopes being delimited by cross lines of weakening in the continuous plies for defining a plurality of individual, series connected, envelopes separable from the assembly; means securing spaced portions of the front and back plies together to form an envelope pocket within each envelope for said insert material, said insert material being divided into insert sheets having marginal edges closely adjacent, but unattached to said means securing the plies together to hold the free insert material in desired registration position within the envelope pocket through peripheral confinement of the insert

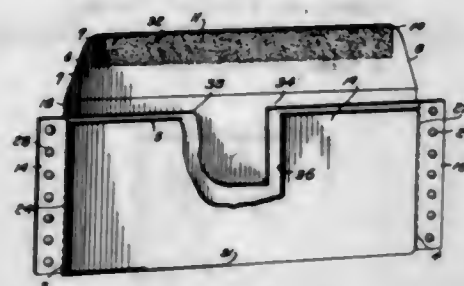
sheet, and means for opening the envelope pocket, and exposing the free insert material for removal from the pocket.

3,339,828

INDIVIDUAL ENVELOPE UNIT FOR USE IN TABULATING AND SIMILAR MACHINES

Walter L. Hirsteiner, Mission, Kans., assignor to Tension Envelope Corporation, Kansas City, Mo., a corporation of Delaware

Filed Jan. 19, 1966, Ser. No. 521,626
8 Claims. (Cl. 229—72)



8. An envelope unit consisting of an envelope for use in tabulating or similar machines having pin assemblages for conveying and holding the envelope unit while the envelope thereof is being printed upon, said envelope unit including:

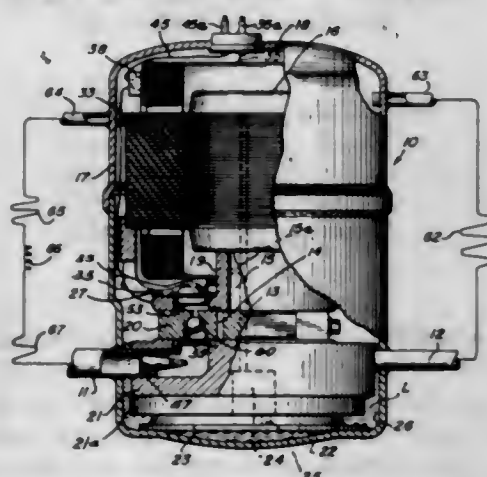
- generally rectangular front and back panels connected along bottom edges,
- means closing side ends of the envelope of said unit, and
- a projecting part forming a part of the closing means of said side ends of the envelope and having a series of holes for accommodating therein the pins of said assemblages,
- said side end closing means including an adhesive between inner marginal faces of said side ends of the panels,
- said projecting parts being ends of a partition panel between the front and back panels, and
- said partition panel is secured by adhesive that connects the side margins of the front and back panels to said partition panel.

3,339,829

COMPRESSOR APPARATUS

Ralph F. Connor, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware

Filed Sept. 2, 1965, Ser. No. 484,701
9 Claims. (Cl. 230—17)



1. In a compressor having a housing, said housing defining a refrigerant fluid space therein, rotary compressor means in said housing, means for rotating said compressor means in a preselected direction of rotation, means defining an inlet to said compressor, means for delivering refrigerant fluid thereto during rotation of the compressor means in said preselected direction, means defining an outlet from said compressor means for delivering compressed

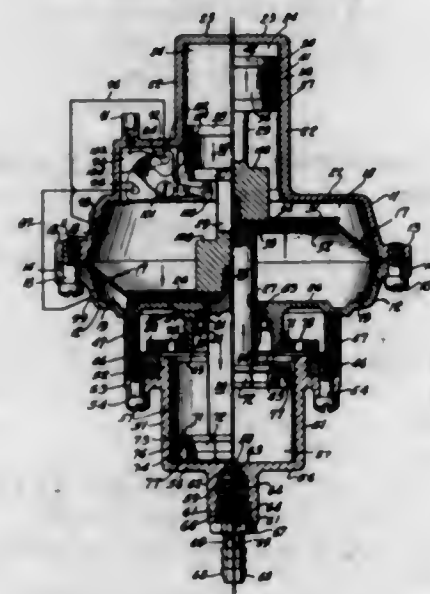
refrigerant fluid therefrom during rotation of said compressor means in said preselected direction, and means for effectively stopping operation of the compressor in the event of rotation opposite to said preselected direction, said stopping means comprising: sensing means in communication with said housing fluid space for sensing the difference between the fluid pressure in said inlet and the fluid pressure in said housing space; and control means responsive to said sensing means for stopping the rotary compressor means in the event said sensing means senses a fluid pressure difference between the fluid pressure in said inlet and the fluid pressure within said housing space indicative of a change in the direction of rotation of said compressor from said preselected direction.

3,339,830

VACUUM OPERATED PUMP

George C. Graham, 76 Crest Road, Ridgewood, N.J. 07450

Filed Oct. 5, 1966, Ser. No. 584,398
17 Claims. (Cl. 230—52)



1. A pump comprising a housing, a flexible diaphragm mounted in said housing and dividing the interior of the latter into first and second vacuum chambers, means for subjecting said first and second vacuum chambers alternately to negative pressure and atmospheric pressure for moving said diaphragm reciprocally within said housing, a pressure cylinder on said housing, a partition between said pressure cylinder and said first vacuum chamber, a piston rod connected to one side of said diaphragm, an aperture in said partition through which said rod moves reciprocally, a portion of said rod extending into said pressure cylinder, a piston mounted on said rod and movable reciprocally within said pressure cylinder, and one-way sealing means mounted between said rod and said partition effectively isolating said first vacuum chamber from said pressure cylinder during the time when said first vacuum chamber is under negative pressure to cause said diaphragm to perform the pressure stroke for said rod and said piston, said one-way sealing means being exposed to and being activated by atmospheric pressure to produce its sealing function.

3,339,831

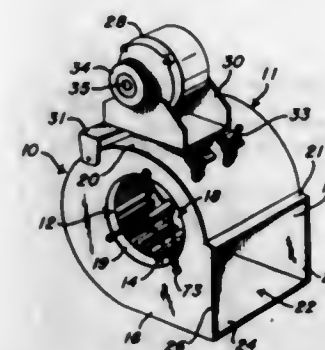
BLOWER

James R. Ranz, Dayton, Ohio, assignor to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio

Filed Oct. 11, 1965, Ser. No. 494,667
8 Claims. (Cl. 230—128)

1. A blower assembly comprising, a double inlet blower wheel having a partition therein for use in supporting the wheel, means defining an inlet in each end of said blower

wheel, a housing for said blower wheel having an inlet opening aligned with each inlet of said blower wheel, an elongated relatively small diameter tubular sleeve extending axially through one of said inlet openings and through the adjacent one of said inlets of said blower wheel to a position adjacent said partition, said sleeve being supported in cantilevered manner by a plurality of spaced brackets, each said bracket including a straight portion which extends radially outward generally in the plane of said one inlet opening from a rigid connection with said sleeve to an outer end portion on the periphery of said one inlet opening, a sloped portion extending from



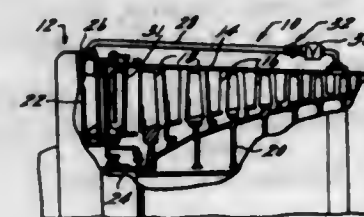
said outer end portion to a rigid connection on said sleeve near the innermost end of said sleeve for adding rigidity and stability to said sleeve with respect to said housing, means to secure said outer end portions of each of said brackets to said housing adjacent said one inlet opening, a shaft having an outer diameter less than the inner diameter of said sleeve and being journaled in said sleeve, an end portion of said shaft projecting from each end of said sleeve, a hub interconnecting said partition and the innermost end portion of said shaft so that said blower wheel rotates with said shaft, a pulley on the other end of said shaft exterior of said housing for driving said shaft, and means for effecting rotation of said pulley.

3,339,832

PIPE CONNECTIONS FOR AIRCRAFT GAS TURBINE ENGINES

John F. Duecker, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Aug. 19, 1965, Ser. No. 481,130
3 Claims. (Cl. 230—132)



1. In an axial flow compressor incorporated in a gas turbine engine for the propulsion of aircraft, said compressor comprising hollow elements at the intake end thereof which are subject to icing, and conduit means conducting pressurized, heated anti-icing air to said hollow elements from an after portion of the compressor, a slip connection interposed in said conduit means, said connection comprising a pair of tubular members respectively connectable at opposite ends to said conduit means and telescope together, the outer tubular member having a smooth bore there-through, the inner tubular member having a pair of spaced circumferential ribs defining at their inner ends a retainer groove,

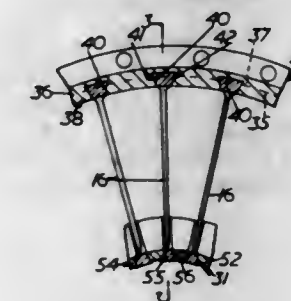
the inwardmost telescoped rib having a circumferential groove, a pair of split sealing rings disposed in said groove and sealingly engaging the bore of the outer tubular member, the split ends of said rings being angularly offset to prevent leakage therepast, said outer tubular member having an enlarged wrenching portion intermediate its length to facilitate its attachment to the conduit means, and a retainer member insertable through said wrenching portion into said retainer groove to limit relative axial movement of the two tubular members.

3,339,833

AXIAL FLUID FLOW MACHINE SUCH AS A COMPRESSOR OR TURBINE

Arthur Bill and Thomas Steel, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Mar. 19, 1965, Ser. No. 441,143
6 Claims. (Cl. 230—133)



1. An axial fluid flow machine comprising concentric inner and outer annular mounting members, angularly spaced apart dove-tail slots in each said mounting member, the slots in one mounting member being inclined and oppositely disposed from the outer and inner sides of the support members with respect to the slots in the other mounting member, a plurality of radially disposed blades extending between said members, each blade having a working portion and having a root portion at each end thereof, the root portions of each blade being of dove-tail shape and being disposed within and extending radially through said dove-tail slots to lock and support the blades against movement radially and axially, said root portions projecting radially from the surfaces of said mounting members remote from the working portion of each blade, and being bonded to the said surfaces of the mounting members.

3,339,834

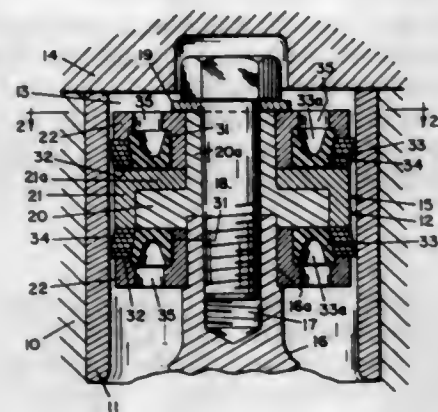
RECIPROCATING PUMP PISTONS

Harry E. Palmer, Calgary, Alberta, Canada, assignor to Golden Arrow Manufacturing Limited, Calgary, Alberta, Canada, a corporation of Canada

Filed Aug. 18, 1965, Ser. No. 480,654
8 Claims. (Cl. 230—172)

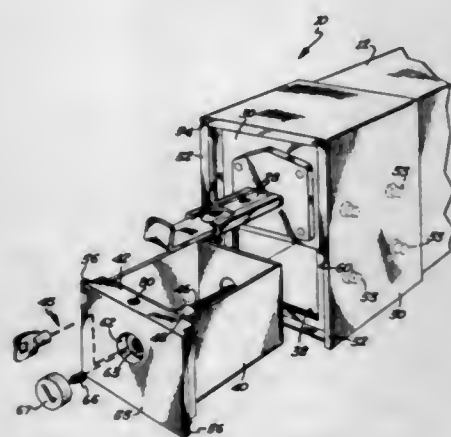
1. In a piston for reciprocating pumps, the combination of a sectional piston body including an intermediate body member and a complementary backing cap held together in assembled relation, said backing cap being recessed to coact with said intermediate body member in providing an annular chamber and a contiguous circumferential slot opening said chamber to the side of the piston body, an annular U-cup seal of elastomeric material positioned in said chamber with its U-cup interior oriented toward said backing cap, and a flat coil piston ring positioned in said slot with its inner edge abutting said U-cup seal, said cap being formed with axially extending opening means communicating with said chamber and with the U-cup interior of said seal;

whereby fluid under pressure entering said opening means in the partition within the housing, said lock means including a portion thereof securing the cover plate to the face of the coin drawer.



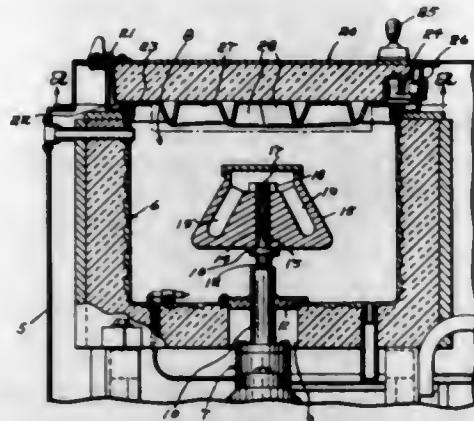
member also being sectional and including a central mounting portion and an annular wear skirt surrounding the same.

3,339,835
REINFORCED COIN BOX CONSTRUCTION
William B. Itman, 1614 Vincent Ave. N.,
Minneapolis, Minn. 55411
Filed June 23, 1966, Ser. No. 559,756
8 Claims. (Cl. 232-1)



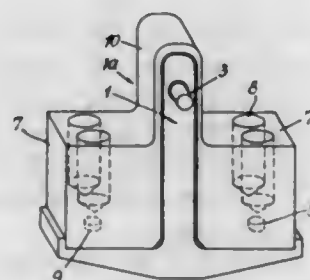
1. A tamper proof coin box for use with a coin operated machine comprising, a housing having a coin receiving chamber and a mechanism chamber therein with a partition in the housing dividing the chambers, a coin inserting mechanism attached to a face of the housing and extending into the mechanism chamber, an aperture in said face of the housing communicating with the coin receiving chamber, a coin drawer slidably positioned in the coin receiving chamber and extending through and filling said aperture in the face of said housing, said coin drawer having a face exposed in said aperture and normally flush with said face of the housing in the closed position, said housing being mounted on a surface of the coin operated machine with mechanism in said mechanism chamber being interconnected with the coin operated machine, a reinforcing structure covering a portion of the housing on surfaces of the same not in contact with the coin operated machine, said reinforcing structure projecting a given distance beyond said face of the housing and the face of the coin drawer, a cover plate connected to the face of the coin drawer and having a thickness dimension substantially equal to the distance the reinforcing structure projects beyond the face of the housing to provide a substantially flush surface therewith, and lock means extending from the exposed surface of the cover plate through the coin drawer to cooperate with securing means positioned

3,339,836
CENTRIFUGES
Robert J. Mitchell, Braintree, and David E. Bulpitt, Holliston, Mass., assignors to International Equipment Company, Needham, Mass., a corporation of Massachusetts
Filed Feb. 2, 1965, Ser. No. 429,808
5 Claims. (Cl. 233-23)



1. A centrifuge comprising an upwardly opening chamber, a rotor in said chamber of frusto-conic form, a drive to rotate said rotor including a driving member axially connected to said rotor within said chamber, said driving member being sufficiently flexible to permit random, low frequency excursions of said rotor, a cover closing said chamber, rotation of said rotor causing the air to flow outwardly from the rotor against the chamber wall and upwardly against said cover, and baffle means in the chamber above the rotor to so intercept the upward air flow and direct it inwardly and provide a downward vertical air flow towards the upper end of the rotor thereby to provide sufficient turbulence to avoid sustained pressure differentials on said rotor, during excursions thereof, as would induce rotor vibrations.

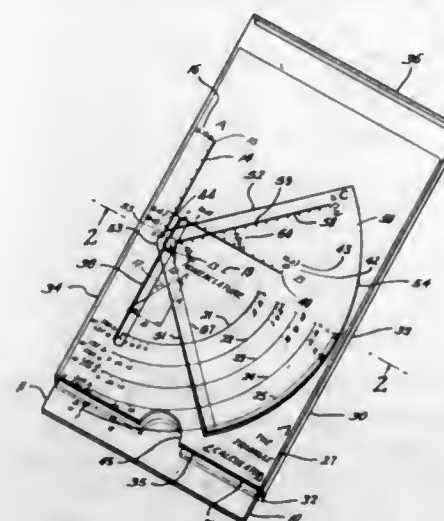
3,339,837
LOAD CARRIERS AND CENTRIFUGES
Norman Richard Harbott, Crawley, Sussex, England, assignor to Measuring & Scientific Equipment Limited, London, England, a British company
Filed Aug. 20, 1965, Ser. No. 481,196
Claims priority, application Great Britain, Aug. 31, 1964, 35,605/64
5 Claims. (Cl. 233-26)



1. A centrifuge specimen carrier arrangement comprising: a carrier comprising an inverted T-shape part providing an upright limb and two horizontal limbs; pivotal supporting means by which said carrier can be pivotally mounted near the free end of said upright limb; and a specimen holder having portions defining aper-

tures in said holder for receiving specimen containers and a portion containing a recess receiving said upright limb whilst said portions defining said apertures rest on said two horizontal limbs.

3,339,838
TRIANGLE CALCULATOR
John E. Skuderna, 871 S. Estes, Denver, Colo. 80226
Filed Feb. 10, 1966, Ser. No. 536,498
4 Claims. (Cl. 235-61)

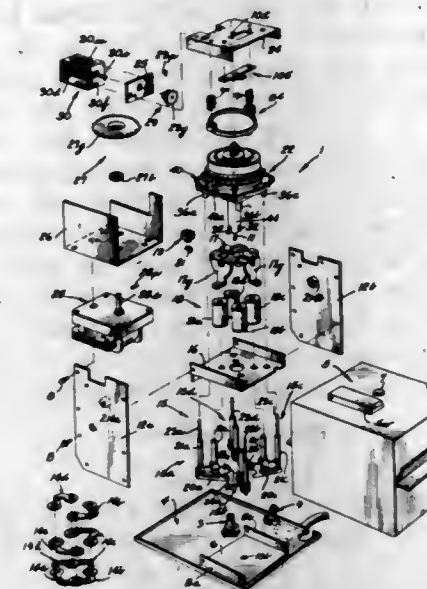


1. Apparatus for solving right triangles, comprising first plate means having pivot means extending from its surface, second plate means movably connected parallel to said first plate means, means for guiding said second plate means in movements back and forth in one direction along said first plate means, third plate means engaging said pivot means and pivotally disposed parallel to said first and second plate means, said first plate means having scale means for indicating lengths from said pivot in said one direction and scale means for indicating the magnitudes of the acute angles of a right triangle and their trigonometric functions over an angle of at least 90° about said pivot, said second plate means having scale means perpendicular to said first scale means for indicating lengths from said pivot perpendicular to said one direction, said third plate means having index line means through said pivot and having scale means for indicating lengths from said pivot perpendicular to said index line means, said third plate scale means intersecting said second plate scale means when said third plate index line intersects said first plate scale means for indicating the magnitudes of the acute angles of a right triangle and their trigonometric functions, said other scale means indicating the respective lengths of the sides of the right triangle.

3,339,839
INCOME TOTALIZING DEVICE
Herman G. Jensen, Chicago, and Joseph E. Wright, Jr., Rockford, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed June 14, 1965, Ser. No. 472,382
32 Claims. (Cl. 235-100)

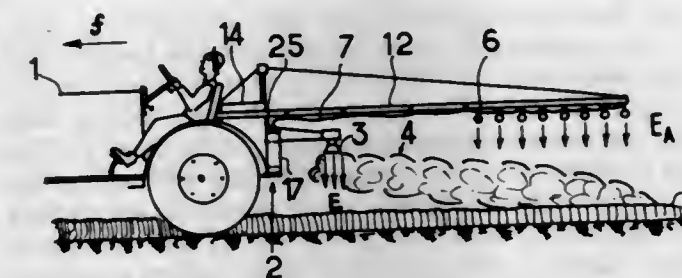
1. A device for totalizing the cumulative value of coins inserted into a coin receiving mechanism comprising:
a shaft;
a housing mounted on the shaft for axial displacement relative thereto;
a coin determinative pawl actuator mounted in the housing for rotation about the shaft;
a ratchet wheel mounted in the housing for rotation about the shaft;
means for rotating the ratchet wheel;

coin signal means for axially displacing the housing to free the ratchet wheel for rotation;
means inter-engaging the coin determinative pawl actuator and the ratchet wheel for rotation;



means limiting the rotation of the coin determinative pawl actuator when it is engaged by the ratchet wheel such that the ratchet wheel rotates by an amount proportionate to the signaled coin value; and means responsive to the rotation of the ratchet wheel to record the signaled coin value.

3,339,840
MOBILE ELECTROSTATIC SPRAYING SYSTEMS
Marcel Auguste Roger Point, Grenoble, France, assignor to Societe Anonyme de Machines Electrostatiques, Paris, France
Filed Mar. 10, 1965, Ser. No. 438,480
Claims priority, application France, Mar. 23, 1964, 4,666, Patent 1,401,990
16 Claims. (Cl. 239-3)



1. Electrostatic spraying apparatus comprising in combination a movable spraying station adapted for continuous motion in relation to target surfaces to be sprayed, means at said station for emitting a cloud of finely divided spray material with a velocity component rearward of the direction of motion of the station so low that the material tends to hang as a substantially stationary floating cloud as the station moves on, means for carrying said material to a high electric potential relative to said target surfaces, and structure supported from and movable bodily with the station and defining an electrically chargeable surface extending a substantial distance rearward beyond said cloud-emitting means in a position to remain spaced from said target surfaces as the station moves in relation thereto, including means for charging said chargeable surface to a high potential similar in

sign to that of said first potential with respect to the target surfaces during emission of said cloud.

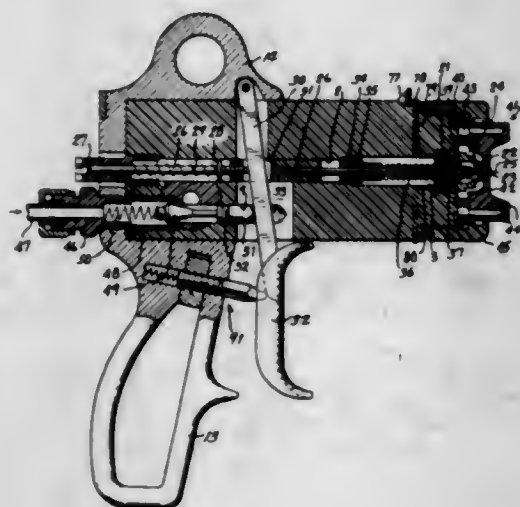
13. The method of spray treating target surfaces from a continuously moving station, which comprises emitting from the station a cloud of divided treating material in a general direction towards the target surfaces with a velocity component rearward of the direction of motion of the station so low that the material tends to hang as a substantially stationary floating cloud as the station advances, carrying said material to a high electric potential with respect to said surfaces as the material emitted, and creating an auxiliary electrostatic field between an electrically chargeable surface of insulating material and said target surfaces which is movable with said station and extends rearward of the point of cloud emission, said field having a lateral extent at least as great as that of said cloud at the point of emission and the field vector being in such a direction as to contribute to directing said material towards said target surfaces as the cloud of material is left afloat behind the advancing station.

3,339,841

ELECTROSTATIC PAINT SPRAY GUN

Howard W. Beach, Jr., 17 Hawthorne Road,
Essex Fells, N.J. 07021

Filed Feb. 12, 1965, Ser. No. 432,301
8 Claims. (Cl. 239-15)



1. An electrostatic paint spray gun including an electrically non-conductive barrel having a central longitudinal passage, electrostatic paint spray means on the front of said barrel adapted to be charged with high voltage electric current, means for supplying paint to the front portion of said passage, the latter communicating with said spray means, a valve adjacent to said spray means for controlling the flow of paint from the front portion of said passage to this spray means, a movable valve actuating rod extending from said valve backwardly through said passage to a location where the rod may be controlled, sealing means spaced backwardly from said passage's front portion and forwardly from said location for preventing the backward flow of paint through said passage, at least the portion of said rod exposed to the paint in said passage between said sealing means and said spray means being electrically non-conductive so that paint supplied to said passage's front portion is electrically isolated from the balance of this rod; wherein the improvement comprises said barrel being made of solid electrically non-conductive material with said central passage formed therein, said paint supply means including a passage formed through said barrel laterally offset from said central passage from the back end of said barrel forwardly and terminated adjacent to the front portion of this barrel and connecting therewith by a branch passage extending from this front portion to the adjacent portion of this offset passage.

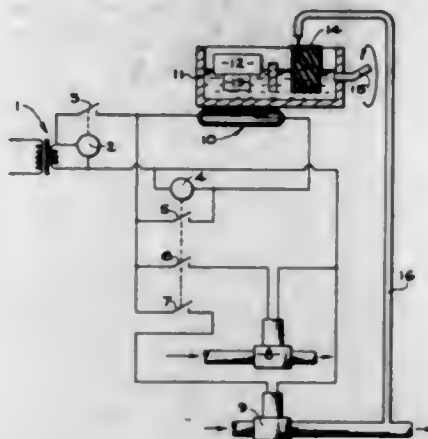
3,339,842

SYSTEMS FOR WATER CONTROL

Raymond W. Hoeppel, P.O. Box 5,
Oak View, Calif. 93022

Substituted for abandoned application Ser. No. 430,323,
Feb. 4, 1965. This application Dec. 5, 1966, Ser. No.
607,112

15 Claims. (Cl. 239-65)



1. A water control system comprising in combination: at least one container for collecting water, at least one container being open to the atmosphere, said water evaporating from said container when the relative humidity of the atmosphere is below 100 percent; at least one valve for controlling the flow of water; valve control means responsive to a first given quantity of water in said container for closing said valve and responsive to a second given quantity of water in said container, less than said first given quantity, for opening said valve, said valve opening upon evaporation of water from said container, from said first given quantity to said second given quantity; timing means automatically responsive to said valve control means upon the opening of said valve to hold said valve open for a predetermined period of time, said valve remaining open for said period of time even though said container is refilled to said first given quantity of water prior to the expiration of said period; means to limit the maximum quantity of water collected by said container to a third given quantity, said third given quantity being at least equal to said first given quantity; and means for transferring at least a portion of the water passing through said valve into said container at a rate fast enough to fill said container with said first given quantity of water before the end of said pre-determined period of time.

3,339,843

DYE MARKER APPARATUS

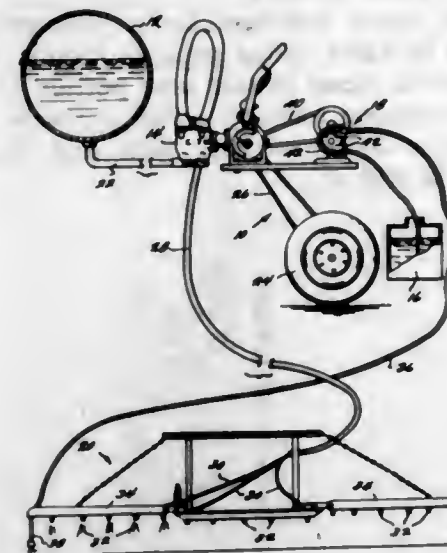
Donelson B. Horton, Madison, Ala., assignor to John
Blue Company, Incorporated, Huntsville, Ala., a corporation of Alabama

Filed Aug. 3, 1965, Ser. No. 476,920
4 Claims. (Cl. 239-157)

1. In apparatus for dispensing fertilizer from a spraying boom and for marking the limits of application of the fertilizer said apparatus being mounted on a vehicle which can be drawn or propelled over the ground, and including a system for conveying liquid fertilizer to spray nozzles associated with said spraying boom, the improvement comprising:

- a relatively small storage tank for containing concentrated dye solution,
- a continuous hose leading from said storage tank to the spraying boom for carrying dye solution to the spraying boom,
- a low capacity squeeze pump interposed along the length of said continuous hose for squeezing said hose and pumping dye solution from said storage tank, through the hose, and to the spraying boom, and

drive means for driving said low capacity squeeze pump, said drive means for the low capacity squeeze pump being connected to a drive means associated with the dispensing system for fertilizer, and including means for relating both drive means to the ground



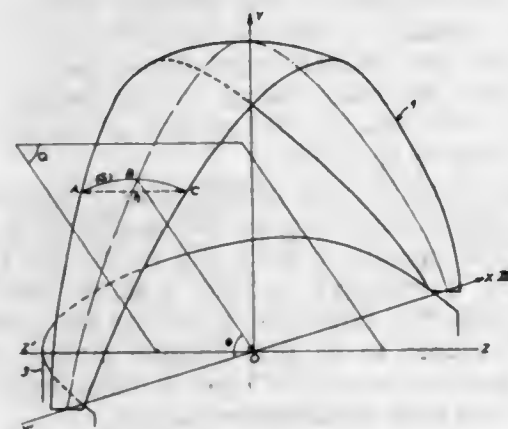
speed of the vehicle on which the apparatus is mounted, whereby the dye solution will be dispensed at a rate which is related to the dispensing rate for the liquid fertilizer and to the ground speed of the vehicle.

3,339,844

JET-DEFLECTING OBSTRUCTIONS OR THE LIKE

Georges Brenet, Crisenoy-par-Guignes-Rabutin, and
Claude Stoltz, Avon, France, assignors to Societe
Nationale d'Etude et de Construction de Moteurs
d'Aviation, Paris, France, a company of France

Filed June 1, 1965, Ser. No. 460,319
Claims priority, application France, June 2, 1964,
976,760
3 Claims. (Cl. 239-265.19)



1. A jet-deflecting obstruction of such shape that, considering its sections on a plane passing through the axis of an ejection duct for the jet with which the obstruction is to be used, and turning about such axis, the radius of curvature of the geometrical locus of the centers of gravity of said sections is in inverse proportion to the chord of the obstruction at any section considered.

3,339,845

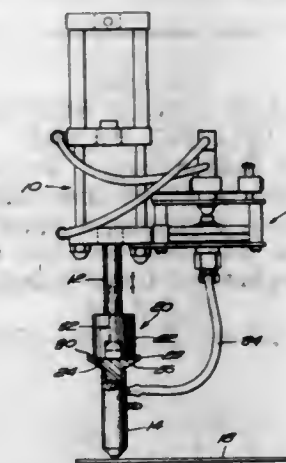
BREAKAWAY CONNECTION

Robert D. Bond, Waltham, Mass., assignor to B. C.
Ames Company, Waltham, Mass., a corporation of
Massachusetts

Filed Dec. 20, 1965, Ser. No. 515,069
1 Claim. (Cl. 239-283)

A breakaway coupling for mounting a nozzle on an air follower, comprising (a) a piston rod operatively

connected to said follower, (b) a tubular air nozzle aligned with said rod in end to end relation when in operating position, (c) adjacent ends of said nozzle being magnetically attractive to one another whereby said nozzle is detachably connected to said rod, (d) the opposing adjacent ends of said nozzle and rod being formed



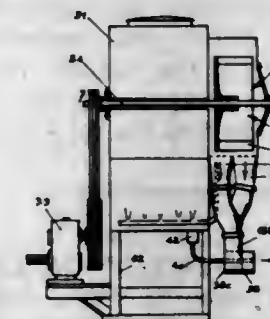
with opposing cooperating flat circular faces for magnetic mating face-to-face engagement, (e) a shoulder having an inclined inner annular surface formed about one of said faces, and, (f) a flexible tubular conduit having one end connected to said follower and the opposite end connected to said nozzle and in communication with the interior thereof for delivering air thereto.

3,339,846

APPARATUS FOR BLOWING COMMINUTED TREATING MATERIAL ONTO PLANTS AND THE LIKE

Robert Charles Marie Guetet, 39 Ave. de Friedland,
Paris, France

Filed Apr. 12, 1966, Ser. No. 542,059
Claims priority, application France, Oct. 24, 1962,
913,260, Patent 1,455,762
6 Claims. (Cl. 239-304)

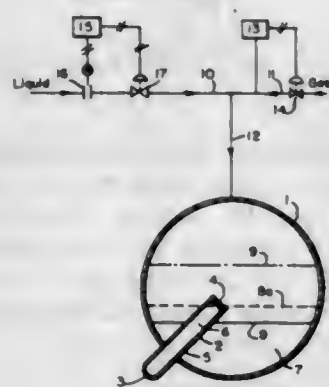


1. An apparatus for delivering into the atmosphere a jet of air carrying comminuted plant treatment material, thereby to direct a blast through the atmosphere onto plants and the like, comprising a carrying structure, a blower secured to said structure, at least one tank carried by said structure and adapted to contain such material to be discharged in comminuted condition, and means including a nozzle body of circular cross-section, said nozzle body having a closed end, an inlet conduit means connected to said blower, said body having its opposite end opened to constitute a discharge end communicating with the atmosphere, said means further including a tube connected to said tank and having a discharge orifice into said nozzle to discharge said material in comminuted condition into the central region of the air flow from said blower through the nozzle whereby an air jet carrying said comminuted material is discharged from the nozzle into

the atmosphere, wherein said nozzle inlet conduit means communicates with the nozzle body in substantially tangential relation thereto and the nozzle body constitutes a means for causing said air flow from the blower to be formed in the nozzle body into a free spiral vortex, whereby the jet discharged into the atmosphere is a rotating jet and the pressures prevailing therein are lower than the atmospheric pressure.

3,339,847 TWO-PHASE SPRAY SYSTEM FOR FILLING TANKS

Etienne Maurice Schlumberger, Boulogne-sur-Seine, France, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Apr. 28, 1965, Ser. No. 451,557
Claims priority, application Great Britain, June 26, 1964, 26,465/64
6 Claims. (Cl. 239—413)



1. A device suitable for spraying a single phase or two phase fluid, comprising a header, means for maintaining liquid at a substantially constant controlled level in said header, at least one spray nozzle having an inlet end and an outlet end connected to the header communicating the interior of the header with the exterior thereof, a constriction within the nozzle upstream of said outlet end restricting the flow of fluid therethrough and a passageway communicating the interior of the nozzle downstream of the constriction with the liquid in the header outside said nozzle, and means for adjusting the constant liquid level in the header from a level below the inlet end of said spray nozzle to a level above the inlet end to thereby control the type of spray emitted by the nozzle.

3,339,848 FUEL INJECTION NOZZLE

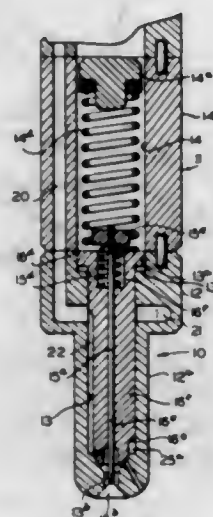
Eugene J. Geiger, Dearborn, Mich., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 20, 1965, Ser. No. 498,297
6 Claims. (Cl. 239—453)

1. A fuel injection nozzle for an internal combustion chamber comprising

- (a) a nozzle body having a central bore extending longitudinally thereof,
- (b) a valve assembly operatively arranged in said bore and including,
- (c) a differential needle valve assembly and a poppet valve assembly arranged in generally tandem relation with one another with their respective valve members arranged in limited mutual sliding relation to and fro along the longitudinal axis of said bore,
- (d) said bore tapering to an anterior throat portion thereby forming a seat for said needle valve member,
- (e) a main fuel ejection orifice in operative communication with said tapering bore portion,

- (f) said needle valve member having a generally frusto-conical nose portion receivable in said seat in valve-closing relation,
- (g) said throat portion flaring generally outwardly to a pilot fuel ejection orifice forming a seat for said poppet valve member,
- (h) said valve members being differentially spring-biased in valve seated position closing said orifices,
- (i) a central recess in said nose portion of said needle valve member forming a fuel pressure chamber, in operative communication with said throat portion and said orifices,



- (j) a fuel supply system comprising a plurality of passages arranged in operative communication with said chamber and said throat portion for delivering a supply of fuel under pressure thereto,

said valve assemblies and their associated parts being so conformed and arranged to operate whereby upon fuel being supplied to said system under pressure, said valve members being seated and said orifices being closed, at a predetermined fuel pressure in said chamber said poppet valve assembly will operate to shift said poppet valve member to a projected second position, opening said pilot fuel ejection orifice thereby to inject a pilot stream of fuel into an associated combustion chamber,

and thereafter at a predetermined higher fuel pressure in said chamber said needle valve assembly will operate to shift said needle valve member to a retracted, second position, opening said main fuel orifice and retracting said poppet valve member to its first position closing said pilot orifice, thereby to inject a main stream of fuel into such combustion chamber,

and subsequently upon the reduction of the fuel pressure in the system, in a predetermined amount, said needle valve assembly will operate to project said needle valve member, closing said main orifice, said pilot orifice remaining closed.

3,339,849

CARD SELECTION NOZZLE

James E. Paulus, Hamilton, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York

Filed Dec. 3, 1963, Ser. No. 327,673
2 Claims. (Cl. 239—572)

1. A nozzle for use in a card selection system in which a fluid stream issuing from the nozzle is used to move a selected card in a deck of cards to a physically discrete position relative to the remainder of cards in the deck, said nozzle having a central conduit and a generally rec-

tangular orifice at one end thereof, said nozzle having an aperture in one side wall opening into said conduit, a pivot rod mounted adjacent said aperture, a pivotally mounted valve plate mounted on said rod and having one section on one side of said pivot rod extending through said aperture into said conduit, said first section being operative in one position to block the flow of fluid through said conduit and in a second position to permit the flow of fluid through said conduit and said orifice, said valve

and including a hub having vanes extending outwardly therefrom in overlying relation with said screen plate, means for driving said rotor, each of said vanes having a leading face portion of substantial area to subject such mixture to hydraulic shear causing separation of the fibers from the plastic coating and reduction of the fibers to particle size small enough to pass through said holes, means maintaining said rotor with said vanes in predetermined spaced relation with the surface of said screen plate providing a clearance therebetween minimizing mechanical attrition of the plastic material

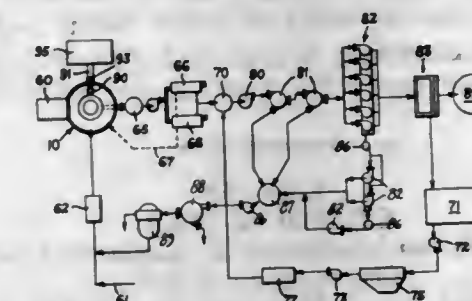


plate having a second section on the opposite side of said pivot rod located outside said conduit, said second section of said plate being operative to act as a fluid pressure counterbalance upon opening of said valve, an abutment plate engageable with said second section of said plate operative to block the flow of fluid through said aperture when said first section of said plate is blocking the flow of fluid through said orifice, and electrically actuated means operable to open said valve and hold it in the open position.

3,339,850

PULVERIZED POLYETHYLENE

Clifton L. Kehr, Ednor, Harry C. Helmlinger, Jr., Baltimore, and Richard W. Bush, Laurel, Md., assignors, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Sept. 21, 1965, Ser. No. 489,062
10 Claims. (Cl. 241—23)

1. A process for comminuting particulate linear polyethylene to an average size of less than 50 microns which comprises subjecting polyethylene having a density of at least 0.950 to a chain scission treatment until the melt index of the polymer is at least 100 and thereafter comminuting the thus treated product.

3,339,851

PAPER MACHINERY

Aloysius J. Felton and Robert F. Vokes, Middletown, Ohio, assignors to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 148,255, Oct. 27, 1961. This application Sept. 8, 1965, Ser. No. 485,872

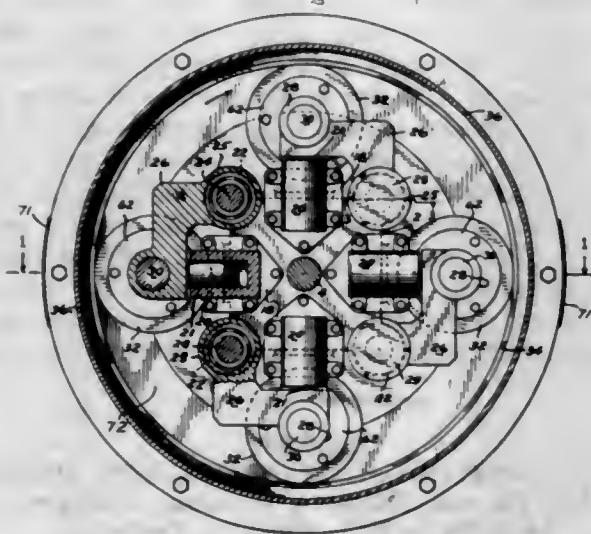
6 Claims. (Cl. 241—46)

1. Apparatus for treating plastic coated waste paper material to separate the fiber from the remainder of the material, comprising a tub for receiving a mixture of said waste material and water, a screen plate forming a part of the bottom of said tub and having multiple holes therethrough, means defining a compartment below said screen plate and communicating with the interior of said tub only through said holes, a rotor mounted for rotation on a central vertical axis within said tub

5. A portable gyroscopic crusher of shallow height, comprising: a base; a generally vertical axle fixedly secured at its lower end to said base; a crusher housing having an inner circumference provided with breaking ribs and being mounted on said base around said axle; said axle and crusher housing forming a breaking chamber; a primary crusher ring separably connected with said crusher housing; means for securely connecting the upper end of said axle with said primary crusher ring;

an eccentric bushing rotatably mounted on said axle and extending along said crusher housing and said primary crusher ring; a crusher head mounted on said bushing and extending along said crusher housing and said primary crusher ring; said crusher ring being unsymmetrically displaced toward one side, with respect to said axle, to form a one-sided bulge chamber means having breaking ribs on said ring for fore-breaking particles too large for said breaking chamber; means for rotating said eccentric bushing being operatively connected therewith above said primary crusher ring and unsymmetrically displaced from said bulge chamber means of said primary crusher ring; a loading funnel mounted directly above said one-side bulge chamber means and having wall means extending toward and ther said axle for protecting said means for rotating said eccentric bushing.

3,339,853
GRINDING MILL
Myron Steven Mischanski, 27 Englewood Road,
Clifton, N.J. 07012
Filed Apr. 9, 1965, Ser. No. 449,678
9 Claims. (Cl. 241-110)

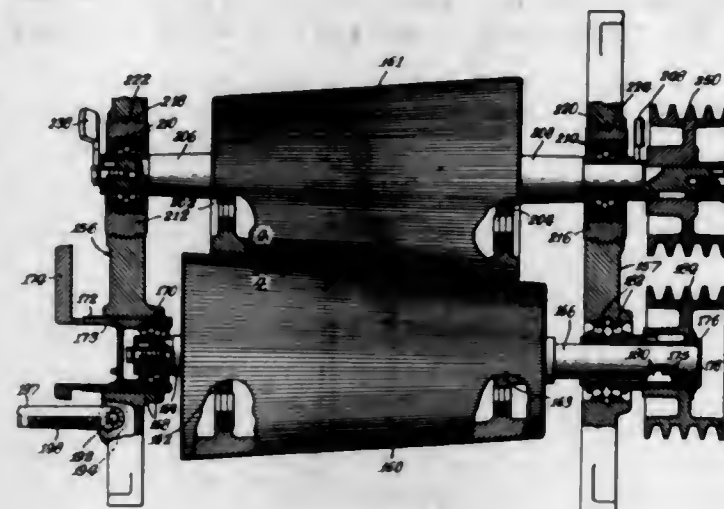


1. In a mill for comminuting solid material, a casing supported in upright relation, a cylindrical grinding ring supported by said casing and having a peripheral inner grinding face, a plurality of arcuately spaced grinding rollers adapted to engage said inner grinding face, a rotatable main shaft, a block mounted on said shaft, said rollers being supported by arms secured to one end of said rollers, said arms being hingedly connected to the block, a plurality of cylinder and piston combinations, each of said pistons being adapted to impart outward thrust against said rollers, means for admitting fluid under pressure in said cylinders for imparting said thrust, and means for driving said shaft in rotation.

3,339,854
MEANS FOR AXIALLY ADJUSTING A CONICAL ROLLER
Robert L. Glidden, Kewanee, Ill., assignor to Kewanee Machinery & Conveyor Company, Kewanee, Ill., a corporation of Illinois
Filed Oct. 26, 1964, Ser. No. 406,430
6 Claims. (Cl. 241-230)

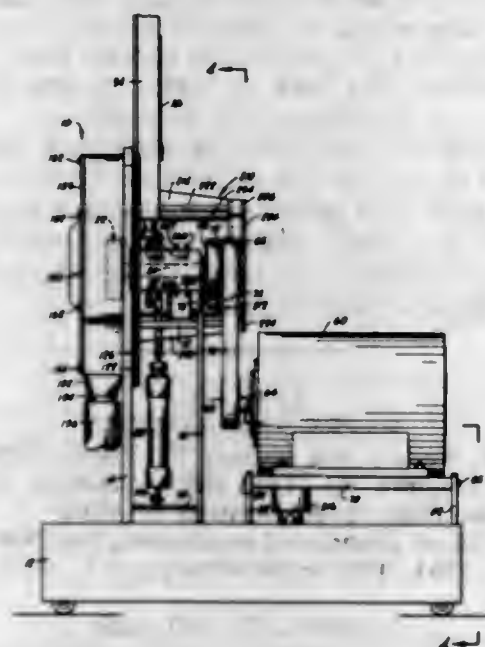
1. For use in a roller mill having a housing with at least two walls, the combination of a pair of cooperating rotatable rolls, at least one of said rolls being conical and having oppositely directed journal ends, said conical roll having one of its journal ends rotatable in and axially movable relative to one of the housing walls and having the other of its journal ends rotatable in a

supporting member, the other of said housing walls having a threaded opening therethrough with a narrow recess interrupting the threads thereof and being bounded by two generally parallel separated wall portions, said supporting member being threaded in said threaded opening and upon rotation serving to move said conical roll



axially for adjusting the spacing between said rolls, and clamp means for urging at least one of said separated wall portions toward the other whereby to foreshorten the circumference of said threaded opening for clamping said supporting member in any predetermined rotative position.

3,339,855
COMMINUTION MACHINE FOR SOLID PLIABLE MATERIAL
Thomas Dugle, Cincinnati, Ohio, George A. Lensky, Grand Rapids, Mich., and Roland W. Wagner, Cincinnati, Ohio, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Original application May 23, 1963, Ser. No. 282,674, now Patent No. 3,211,370, dated Oct. 12, 1965. Divided and this application Apr. 1, 1965, Ser. No. 444,580
2 Claims. (Cl. 241-280)



1. A comminution machine for cutting solid stock into thin chips having a high surface area-to-volume ratio, the machine comprising:

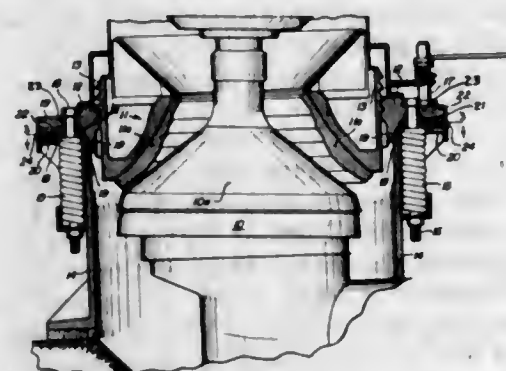
- a first support;
- a main drive shaft journaled on the first support;
- drive means operatively connected to the main drive shaft for rotating the main drive shaft;

a planetary housing journaled on the main drive shaft; at least one cutting element shaft journaled on the planetary housing, each cutting element shaft being offset from and disposed parallel to the main drive shaft;

- a sun gear splined to the main drive shaft;
- a planet gear splined to each of the cutting element shafts and meshing with the sun gear and driven thereby;
- a cutting element splined to each cutting element shaft, the cutting elements being disposed in a common plane; and,
- differential gearing means for rotating the planetary housing about the main drive shaft,

whereby the cutting elements will be rotated about the cutting element shafts and will be rotated in a circular path in a common plane and solid stock moved into the circular path will be cut into a multitude of thin chips.

3,339,856
CONE-TYPE CRUSHERS WITH SHOCK PAD BETWEEN FRAME AND ADJUSTMENT RING
Ivo D. Cook, Hurley, N. Mex., assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Dec. 17, 1964, Ser. No. 419,143
5 Claims. (Cl. 241-290)

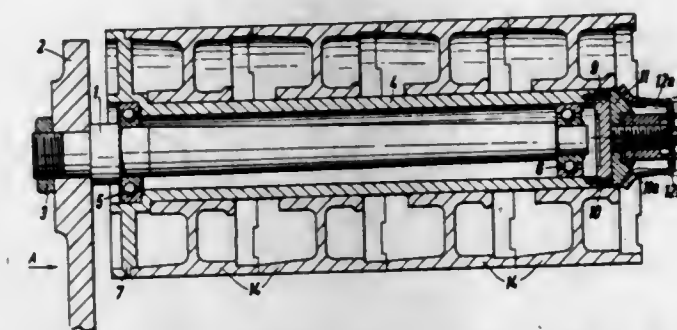


1. In a cone-type crusher which includes a stationary frame having an upper rim, an adjustment ring having a lower rim mated with the said rim of the stationary frame, a bowl mounted within the adjustment ring, a cone-shaped head mounted for gyration within and relative to said bowl, and resilient means normally holding said ring and said frame together with their mated rims in mutually confronting relationship, shock pad means of flexible, resilient, natural-rubber-like material interposed and compressed between said frame and said ring so as to support said ring and maintain said mated rims in substantially non-pressure relationship.

3,339,857
YARN COLLECTING APPARATUS
Arthur Ronald Knibbs, Bedworth, near Nuneaton, and Alan Beecham, Brandon, near Coventry, England, assignors to Courtaulds Limited, a British company
Filed Nov. 17, 1964, Ser. No. 411,796
Claims priority, application Great Britain, Nov. 26, 1963, 46,593/63
7 Claims. (Cl. 242-18)

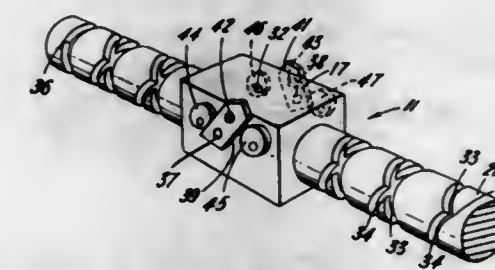
1. Apparatus for the production of yarn packages comprising a frame, an axle secured to and projecting from the frame, a cylinder rotatably mounted coaxially on the projecting axle, a flange on the cylinder projecting radially outwards from the end of the cylinder adjacent to the frame, at least two like spools mounted upon the cylinder, the spools being a sliding fit over the cylinder, an expanding nut on the end of the cylinder remote from the frame for locking the spools on the cylinder whereby movement of the spools in the axial direction is prevented,

the outer cylindrical surface of the spools being unimpeded for yarn collection, complementary castellations on the spools and on the flange of the cylinder for preventing relative rotational movement between any of the spools and the cylinder, the frame being pivoted about an axis substantially parallel to the axis of rotation of



the cylinder, whereby the axle, cylinder and spools assembly may be moved to contact a roller positioned adjacent to the assembly and which is drivable about its axis substantially parallel to the axis of rotation of the cylinder, whereby the spools mounted on the cylinder may be rotated about the axle.

3,339,858
DRIVE REVERSING MECHANISM
Roland William Gordon Somervell, Beaconsfield, England, assignor to S. Davall & Sons Limited, Greenford, Middlesex, England, a British company
Filed June 3, 1965, Ser. No. 461,139
Claims priority, application Great Britain, June 4, 1964, 23,262/64
10 Claims. (Cl. 242-54.1)

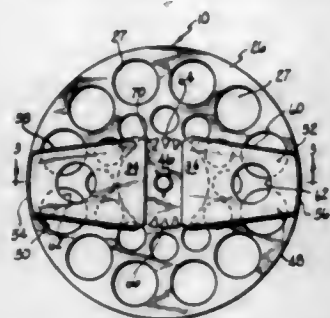


1. A drive reversing mechanism comprising a carriage, two helical guideway tracks having intersections one with the other, a track-follower on the carriage and engageable with either of the tracks, whereby relative rotation of the carriage and the tracks causes relative axial movement thereof, the track-follower being capable of switching from following one track to following the other track at at least one intersection of the track thereby to produce a substantially instantaneous reversal of the said relative axial movement, auxiliary track-following means on the carriage and having two alternative conditions, the auxiliary track-following means imparting positive drive to the carriage at least during transit by the track-follower of an intersection of the tracks, the direction of the said positive drive being reversed when the auxiliary track-following means is changed from one condition to its other condition, whereby the track-follower is caused to follow one track when the auxiliary track-following means is in one condition and the other track when the auxiliary track-following means is in the other condition, and changeover means operable to cause the auxiliary track-following means to change from one of its said conditions to the other at at least one limit of travel of the track-follower.

3,339,859 TAPE REEL

Daniel J. Yomine, Chicago, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Nov. 29, 1966, Ser. No. 597,636
5 Claims. (Cl. 242-74)



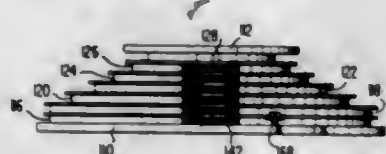
1. A reel adapted for receiving a leading end of a tape and for supporting the tape when wound in a coil comprising, the combination of a flange having a circular configuration with a central axis, a plurality of teeth projecting axially from said flange and spaced circumferentially about said axis, hub means including a wall extending axially from the flange and aligned circumferentially with the teeth, and a flange sector attached to said hub means and axially spaced from the flange and extending radially from the axis for supporting the coil of tape between the flange and the sector.

3,339,860

ROTATING CONTROL DEVICE

William M. Riggles, Jr., Hialeah, Fla., assignor to Wold Aircraft Service Equipment Inc., a corporation of Florida

Filed Sept. 27, 1965, Ser. No. 490,229
5 Claims. (Cl. 242-117)



1. A rotatable device for guiding a control element in a substantially spiral path around a peripheral surface of the device comprising:

- a plurality of first flat plates of circular outline arranged concentric to and in spaced relationship along the axis of rotation of the device, the plates being of varying diameters with the largest diameter first plate followed along the length of the axis of rotation by succeeding first plates with each succeeding first plate having a smaller diameter than the preceding plate,
- a plurality of second flat plates, a second flat plate being interposed between each pair of adjacent first plates, the second plate in each case having a marginal, circumferential edge portion extending beyond the periphery of the larger of the two contiguous first plates,
- means forming a notch in the marginal portion of the periphery of each first plate other than the smallest diameter first plate,
- means forming a notch in the marginal portion of the periphery of the smallest diameter second plate, and
- an inclined surface means extending from the marginal circumferential edge portion of each second plate other than the smallest diameter second plate across the notch in a first plate which is contiguous

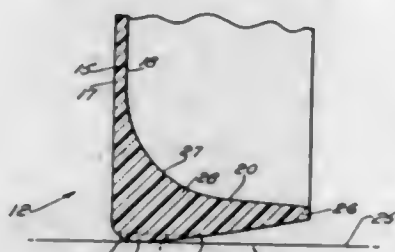
to such second plate, such inclined surface means extending to the adjacent second plate which is contiguous to the next smaller diameter first plate.

3,339,861

PLASTIC REEL WITH SACRIFICIAL AMOUNT OF PLASTIC PROVIDED IN THE HEAD

Edward N. Montesi, Barrington, R.I., assignor to Wanskuck Company, a corporation of Rhode Island

Filed Aug. 10, 1966, Ser. No. 571,494
1 Claim. (Cl. 242-118.7)



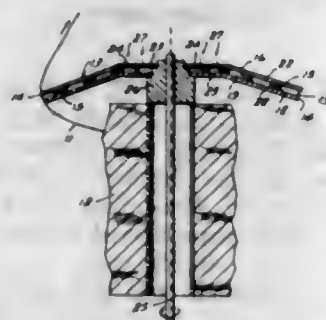
A reel for wire and the like comprising molded plastic head of circular shape having a web in a plane at right angles to the axis of the reel with inner and outer faces, a flange extending outwardly from the outer edge of the annular surface generally inclined toward the axis of the reel and presenting a portion of greatest diameter at right angles to the reel axis in substantially the plane of the outer face of said web, said outer surface of said web and inner surface of said flange defining substantially an annular hollow space, wherein the flange is substantially twice the average thickness of said web and wherein the inner surface of the flange extends along an arc of decreasing diameter at right angles to the reel axis to the outer face of the web providing a thickening and strengthening fillet and the outer surface of the flange decreases in diameter along an arc from said greatest diameter to the outer end of the flange providing with said fillet a portion thick enough to provide the required strength after a considerable portion is worn off.

3,339,862

METHOD OF UNWINDING YARN

Walter Parker, Wilmslow, England, assignor to Ernest Scragg & Sons (Holdings) Limited

Filed Apr. 22, 1965, Ser. No. 472,377
Claims priority, application Great Britain, Apr. 23, 1964, 16,782/64
4 Claims. (Cl. 242-128)



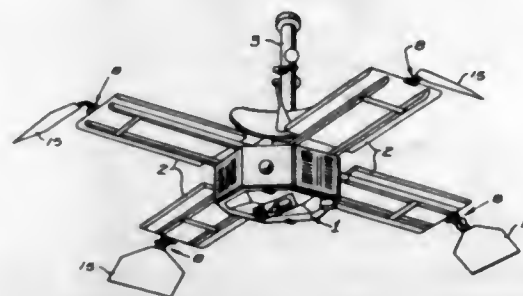
1. A method of unwinding yarn from a wound yarn package in which a strand of yarn is removed overend of said package across yarn deflecting means having a rim, comprising the step of directing a current of fluid against the yarn during unwinding thereof and in such a direction as to move the unwinding yarn away from said rim.

3,339,863

SOLAR VANE ACTUATOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of John C. Nicklas, Arcadia, and James D. Acord, La Canada, Calif.

Filed Sept. 16, 1965, Ser. No. 487,939
8 Claims. (Cl. 244-1)



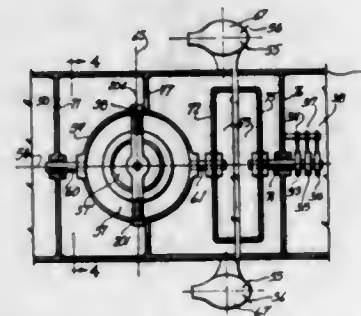
1. A solar vane actuator for a spacecraft comprising: a bimetallic actuating means consisting of a rigidly held structure mounted to said spacecraft and including a rotatable shaft structure therein, a hollow cage structure adapted to enclose said shaft structure, said cage structure being rotatably mounted thereon, a plurality of bimetal spokes operably connecting said shaft structure and said cage in a manner so that said cage structure is rotated about said shaft structure with temperature change, and a vane disposed on said cage structure and positioned with respect to said spacecraft body in a manner so as to damp the oscillatory motion of said spacecraft.

3,339,864

METHOD AND APPARATUS FOR GUIDING AND PROPELLING SPACE VEHICLES IN BOTH ATMOSPHERIC AND PLANETARY FLIGHT

John W. Whitson, New York, N.Y., assignor of one-half to Clare H. Whitson, New York, N.Y.

Filed Mar. 1, 1965, Ser. No. 436,142
27 Claims. (Cl. 244-1)



1. An apparatus for guiding a space vehicle in atmospheric flight and orienting said vehicle in orbital flight comprising in combination: a plurality of normally non-rotating selectively operable control means radially positioned about the thrust axis of said vehicle for selectively controlling a thrust means when it is substantially aligned with the horizon or with a plane coincident with said axis and perpendicular to the horizon; and means for rotating said thrust means about said control means and said axis.

3,339,865

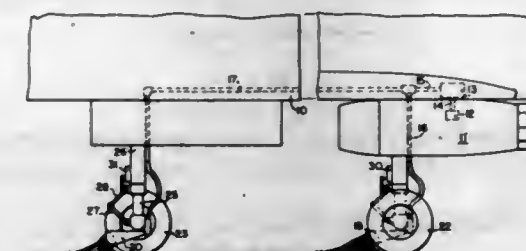
ANTI-HYDROPLANING FOR AIRCRAFT

Forrest T. Nettles, 1128 Queens Road, Charlotte, N.C. 28207

Filed Sept. 2, 1965, Ser. No. 484,610
1 Claim. (Cl. 244-103)

In a turbine powered aircraft, the landing gear apparatus for dispersing water on the runway during landing comprising bleed means for bleeding compressed air from

a high pressure stage of the turbine engine, nozzle means mounted on the landing gear of the aircraft for directing compressed air downwardly with a predetermined pattern in front of the landing gear, duct means connecting said bleed means to said nozzle means, valve means associated with said bleed means and said duct means to control the flow of the compressed air from said bleed means to said nozzle means, said valve means being normally closed and provided with electric control means adapted to be energized to open the valve, and having a source of electrical power, pilot controlled electric switch means, and circuit means connecting said switch means and said



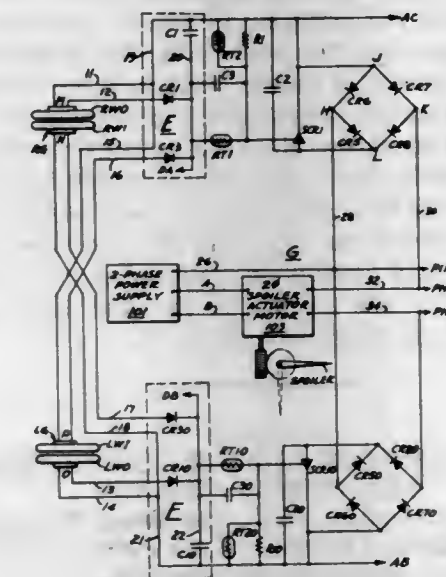
electric valve control means to be energized by said source of power when said switch means is closed, normally open electric switch means mounted on the aircraft landing gear in a manner to be closed in response to the weight of the aircraft supported by the landing gear, and circuit means provided to connect said normally open electric switch means in series with said pilot controlled electric switch means together with said source and said electric valve control means whereby when said pilot controlled switch is closed said valve may be energized to open as said aircraft lands and supported on the landing gear in a manner to close said normally open switch means.

3,339,866

AIRCRAFT SPOILER ACTUATOR AND CONTROL SYSTEM

Charles F. Paluka, Canoga Park, and Robert L. Bryant, Burbank, Calif., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Oct. 23, 1965, Ser. No. 503,585
6 Claims. (Cl. 244-113)



1. An aircraft spoiler actuator system comprising: first means, including first, second, third and fourth individual signal-supplying means for right outboard and inboard wheels and left inboard and outboard wheels, respectively, said signal supplying means being individually responsive to rotation of the respective wheel only to supply a signal representing rotation of the respective wheel; second means, connected to said first means, including first logical "or" gate means connected to receive

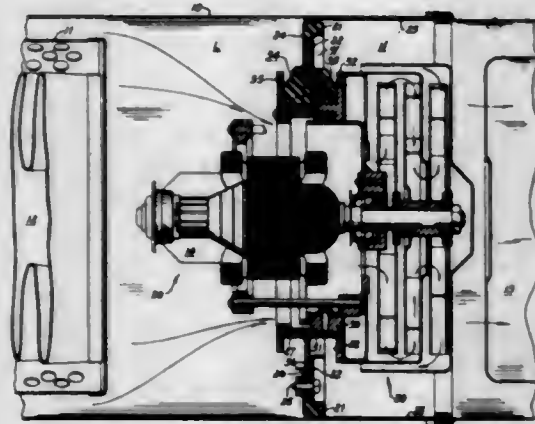
signals supplied by said first and third signal-supplying means and effective only in response to reception of a signal from either thereof to provide a first control signal, said second means further including second logical "or" gate means connected to receive signals supplied by said second and fourth signal-supplying means and effective only in response to reception of a signal from either thereof to provide a second control signal; and third means, connected to said second means, including means effective to act as logical "and" gate means and including therein spoiler-actuating means effective only in response to concurrent reception of both first and second control signals from said first and second logical "or" means to effect operation of said spoiler actuating means.

3,339,867

MOTOR MOUNT

Frank K. Bayless, Darien, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,245
7 Claims. (Cl. 248-2)



1. Apparatus comprising a motor mount consisting of resilient material having an axially extending cylindrical portion defining a central opening, a plurality of discrete radially outwardly projecting mounting blocks integral with said cylindrical portion, said mounting blocks extending over a portion of the circumference of said cylindrical portion and being substantially axially coextensive with said cylindrical portion, a radially extending annular skirt member integral with both said cylindrical portion and said mounting blocks, each said mounting block having a slot therein, each said slot extending radially inwardly of said mounting blocks; a suspension ring having an annular radially extending flange in side by side abutting relation with said skirt portion, said suspension ring flange being received in said slots for placing said blocks in shear when said suspension ring and motor mount are moved relative to one another in an axial direction tending to separate said ring and mount.

3,339,868

REFRIGERATOR MOTOR-COMPRESSOR MOUNTING MEANS

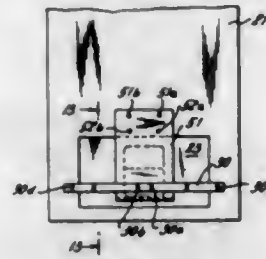
Henry Ehrens, Riverdale, N.Y., and Sidney Weiner, Cresskill, N.J., assignors to Sealed Unit Parts Co., Inc., New York, N.Y., a corporation of New York

Filed May 13, 1965, Ser. No. 455,449
8 Claims. (Cl. 248-14)

1. Mounting means for a cylindrical motor-compressor unit having a housing completely enclosing the motor-compressor unit for a refrigerator cabinet of the type having a machinery compartment, said unit having a predetermined center of gravity, said mounting means comprising:

(1) first means comprising a plurality of elongated support brackets, means for connecting each of said

support brackets to said housing intermediate their ends, each of said support brackets having portions lying in a plane tangent to a point on said housing whereby the ends of each of said plurality of support brackets are spaced from said housing, and at least one aperture adjacent each free end of each of said plurality of support brackets; and



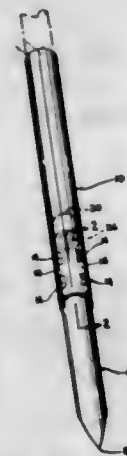
(2) second means comprising a substantially L-shaped bracket having a vertical wall and a horizontally extending base wall connected to said vertical wall and adapted to support said unit thereon, a first plurality of apertures in said vertical wall positioned to be in alignment with the apertures in one of said plurality of support brackets, at least one free end of said vertical wall adapted to overlie and abut the rear wall of the refrigerator cabinet, and a second plurality of apertures in said free end adapted to receive bolts therethrough to connect said L-shaped bracket to the rear wall of the refrigerator cabinet.

3,339,869

SAND SPIKE HOLDER FOR FISHING RODS

Andrew W. Andersen, 266 Secatogue Lane,
West Islip, N.Y. 11795

Filed Oct. 23, 1965, Ser. No. 503,241
5 Claims. (Cl. 248-48)



1. A fishing rod holder of the character described, comprising a tube which is open at both ends, a spike having one pointed and one blunt end, a plurality of lugs provided on the inside wall of said tube in spaced relation thereto, said lugs being arranged in two oppositely disposed groups forming a channel between them, each end of said spike being shaped and proportioned to enter said channel and to engage between said lugs and the adjacent portions of the inner wall of the tube, whereby a friction fit is provided to secure the spike to the holder.

3,339,870

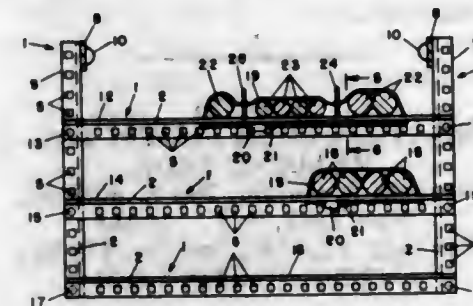
MULTIPLE CABLE SUPPORT

Kjeld Damsgaard, Wallingford, Pa., assignor to Sun Shipbuilding & Dry Dock Company, Chester, Pa., a corporation of Pennsylvania

Filed July 19, 1966, Ser. No. 566,376
1 Claim. (Cl. 248-68)

A support for a run of plural cables, comprising an elongate rigid angle-shaped member adapted to extend transversely to the axis of a run of plural cables and hav-

ing one wall of said angle adapted to support cables of said run with the cables lying atop the upper, external surface of said one wall, said one wall having therein a plurality of spaced apertures each sized to permit the passage therethrough of a flexible band; a length of flat flexible metal band extending lengthwise along the lower, internal surface of said one wall, passing through a pair of said apertures, and encircling the cables of said run, and band clamping means for securing together the ends of said band, said clamping means being arranged to permit tensioning of the band about the cable run whereby



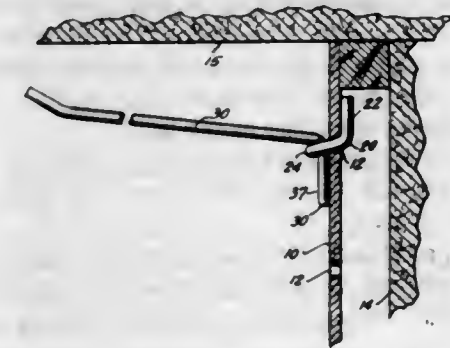
said band is drawn into engagement with the lower, internal surface of said one wall and said cable run is compressively bound to its said external surface; said one wall of said angle having therein, between each respective adjacent pair of said apertures, a smaller opening capable of accommodating a fastening means for fastening the angle member to external supporting structure, and the other wall of said angle having therein a plurality of spaced openings each capable of accommodating fastening means for fastening the support to external supporting structure.

3,339,871

TWO PART PEG HOOK

Robert L. Larson, Auburn, Mass., assignor to Parker Metal Goods Company, Worcester, Mass., a corporation of Massachusetts

Filed Sept. 22, 1966, Ser. No. 581,302
2 Claims. (Cl. 248-225)



1. In the combination of a wall board having perforations in a spaced arrangement and a peg hook mounted in said perforation, said peg hook being a two-part wire body comprising a removable part having L-shaped prongs connected to a cross member, said prongs being insertable through two perforations in the wall board and rotatable to position the prongs vertically and in contact with the rear of the wall and the cross member being spaced from the front of the wall, and a separately detachable goods supporting wire part having an arm provided at one end with a downwardly projecting hooking member removably insertable downwardly at the rear of and supported by said cross member and which hook member engages the front face of the wall and positions the arm, the spacing between said cross member and the wall being such as to provide a snug fit for said hooking member, and said hooking member has its hooking-end shaped as a wire loop sized to fit between and be positioned by and contact with said L-shaped prongs.

3,339,872

LOCKING MEANS FOR UPPER SUSPENSIONS

Cecil H. Eggleton, Jr., Fruitport, Mich., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,287
7 Claims. (Cl. 248-324)



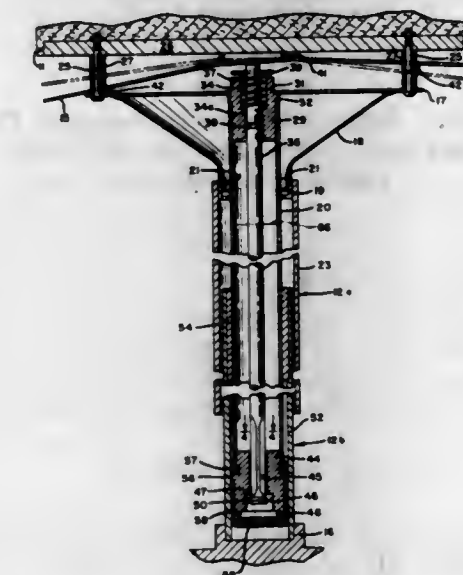
1. A suspension assembly for overhead apparatus, a carrying member shaped for engagement with a main overhead support, an upper block rigidly attachable to the top of the apparatus to be suspended, said block having a transverse slot therein, a stud depending from said carrying member and extending into said block transversely past the region of said slot, a clip slidable in said slot into engagement with said stud in a manner to prevent relative rotation therebetween while being substantially load-free of the suspension load imposed by the apparatus when suspended, and means for removably securing said clip to said block.

3,339,873

STOOL WITH VERTICALLY MOVABLE SEAT

Dean H. Hale, P.O. Box 305, Logan, Utah 84321

Filed Oct. 21, 1965, Ser. No. 500,147
5 Claims. (Cl. 248-404)



1. A vertically movable stool comprising a seat, a vertically extending post supporting said seat and having an upper portion and lower portion, a base secured to said lower portion of the post, said upper portion of the post comprising an elongated vertical tube, a seat supporting plate secured to and extending transversely of said tube adjacent the upper end thereof, a conical housing secured at its maximum dimension to said plate and tapering downwardly to a connection at its minimum dimension to said tube, said plate and said housing defining a

fluid-tight chamber, said tube having an opening in the side wall thereof providing fluid communication between said chamber and the interior of the tube,

means for securing the peripheral portion of said plate to said seat adjacent the periphery of the seat,

a rod coaxially disposed within said tube and supported for axial movement relative to the tube, means for sealing the upper end of the tube, and a head secured to the lower end of said tube,

said head having a central bore with a valve seat and an outer recess,

said rod having a valve head adapted to engage and disengage said valve seat with vertical movements of the rod for sealing and unsealing the interior of the tube,

a disc flow control axially movable within said outer recess between an open position for permitting relatively free flow of fluid through the recess and a relatively closed position,

said disc flow control having an orifice therein for limiting fluid flow through the recess when the disc flow control is in the closed position,

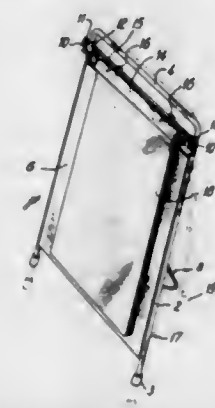
said lower portion of the post comprising an upright cylinder mounted on said base and disposed coaxially about said tube,

means for sealing said head of the tube to said cylinder, and

means for vertically moving said rod whereby fluid under pressure within said tube moves through the bore of the head with minimum resistance to the outside of the tube whereby to move the tube axially out of the cylinder and fluid moves from the cylinder outside of the tube through the bore with maximum resistance to the interior of the tube when the tube is moved axially into the cylinder.

3,339,874 EASELS

Leif Kerstens, 3 Jeppe Aakjaersvej, Aabyhoj, Denmark
Filed Aug. 5, 1965, Ser. No. 477,386
2 Claims. (Cl. 248-463)

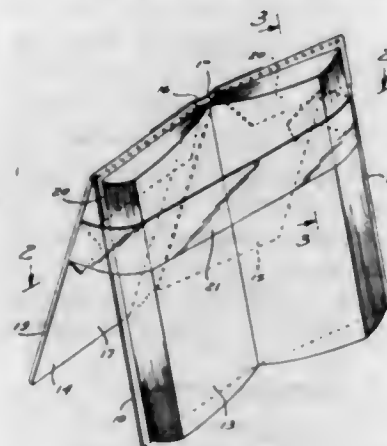


1. An easel comprising a plate member having supporting means for standing on a base surface in a substantially vertical position and bracket means located at each side of said plate member adjacent the top thereof, said brackets having a substantially horizontally protruding bottom portion and a front portion extending upwardly from the outer end thereof, a cross bar having a substantially plane front side being removably supported in said brackets by resting with the lower surface of opposite end portions on said bottom portions of said brackets, said cross bar being provided with protruding surfaces facing opposite side edges of said brackets respectively in order to prevent substantial lateral displacement of said cross

bar in said brackets, said cross bar further being provided with an elongated paper holding rail having a plate portion and a backwardly protruding rib located adjacent the upper edge of said plate portion, the rear edge of said rib engaging said front surface of said cross bar, a number of clamping bolts being interposed between said cross bar and said paper holding rail in the space between said rib and the lower edge of said plate portion of said paper holding rail so as to enable said lower edge to be pressed against the top edge portion of a bunch of paper sheets inserted between said cross bar and said paper holding rail underneath said clamping bolts in response to these bolts being tightened.

3,339,875 COMBINATION BOOK PROTECTOR AND READING PROP

Elizabeth B. Gerald, 203 E. 60th St.,
New York, N.Y. 10022
Filed Aug. 11, 1965, Ser. No. 478,814
6 Claims. (Cl. 248-463)



1. For use with a conventional book having front and back covers and an intermediate spine to which the pages are bound, a combination book protector and reading prop comprising

a pair of stiff panels having a size comparable to that of the book covers and adapted to be placed against the outer surfaces of the book covers respectively, a flexible connector between said panels adapted to extend across the spine of the book, means articulating the upper edges of said panels in hinged relation to the corresponding upper edges of the book covers,

whereby the panels can overlie and protect the book when it is closed and can be swung rearwardly away from the book covers to serve as props when the book is opened, and

a flexible band extending forwardly and adapted to encircle the opened book in a substantially horizontal direction, said band serving to hold the pages down and thus helping to keep the book open when the book is being propped in a standing position by said panels, the ends of said flexible band being secured to said prop panels so that said band serves simultaneously to limit the rearward swing of said panels and to hold the book pages down.

3,339,876 SIDE MOUNT REAR VIEW TRUCK MIRROR

George L. Kampa, Minneapolis, Minn., assignor to J. W. Speaker Corporation, Milwaukee, Wis., a corporation of Illinois

Filed June 29, 1964, Ser. No. 378,575
2 Claims. (Cl. 248-478)

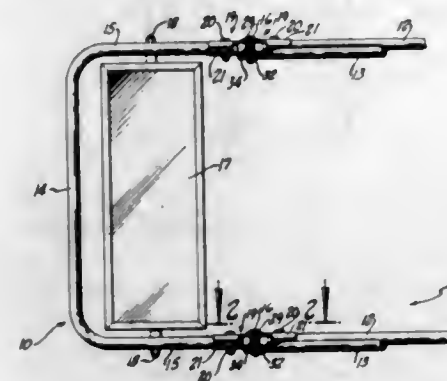
1. A side mount rear view mirror of the type comprising bracket means securable to the side of a truck and having upper and lower arms that project outwardly

from the side of a truck having the bracket means in place thereon, and a mirror supporting frame comprising an upright member and upper and lower arms projecting in the same direction therefrom and having their ends pivotally connected with the outer ends of the bracket arms to enable the frame to be swung about a vertical axis toward and from the side of a truck, wherein said pivotal connections are characterized by the following:

(A) cooperating identical clevises on the end of each frame arm and on the adjacent end of each bracket arm, each clevis comprising

(1) spaced apart substantially flat upper and lower bifurcations projecting from the end of its arm toward the adjacent clevis and flatwise engaged with the respective upper and lower bifurcations of the latter,

(2) and holes in the bifurcations of all the clevises, disposed on said vertical axis;



(B) a separate pivot member passing through the holes in the bifurcations of each pair of adjacent clevises to connect the frame to the bracket means for swinging motion relative thereto about said vertical axis;

(C) cooperating detent means on the clevis bifurcations for releasably holding the frame in each of a number of positions of adjustment about said vertical axis;

(D) a coiled expansion spring encircling each of said pivot members and confined between the axially innermost bifurcations through which its pivot member passes, to maintain detent pressure upon said detent means;

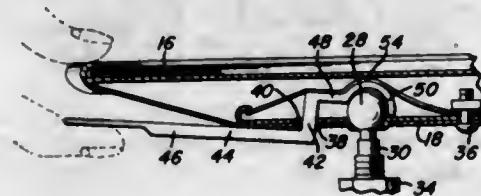
(E) the bifurcations of said clevises being spaced apart the same distance, and the bifurcations on one of each pair of cooperating clevises flatwise engaging the upper surfaces of the bifurcations of its cooperating clevis;

(F) each of said clevises being comprised of a pair of complementary clevis sections each having one of the bifurcations thereon and an arm engaging portion by which it can be attached to its arm;

(G) and bolts securing the clevis sections to their respective arms.

3,339,877 REAR VISION MIRROR CONSTRUCTION

Efren Valenzuela, El Paso, Tex., assignor of one-third to Frank Owen III, El Paso, Tex.
Filed Dec. 12, 1963, Ser. No. 330,185
2 Claims. (Cl. 248-481)

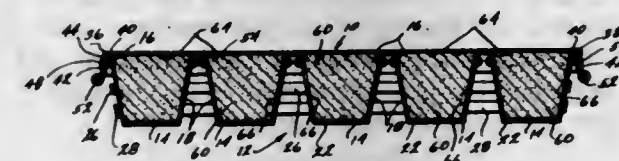


1. A rear vision mirror construction comprising a housing having a mirror element supported therefrom, said housing including first means defining an apertured

spherical socket, a mounting shank having means on one end adapted to be secured to a support member and a partial spherical head on the other end disposed in said socket, said means defining said socket including first and second portions movable relative to and toward and away from each other defining remote portions of said socket, second means yieldingly urging said first and second portions toward each other for clampingly engaging said head therebetween and to retain said housing in adjusted swivelled position relative to said shank, and means operatively connected to one of said first and second portions for selectively displacing said one portion away from the other portion, said housing including a rear wall including portions defining said centrally and inwardly opening apertured partial semi-spherical socket comprising said first portion, said shank extending through said aperture, said rear wall also defining a second aperture, a lever arm extending through said second aperture and having a second partial semi-spherical socket opening toward and spaced from said apertured socket comprising said second portion, said rear wall including an inwardly extending and curved retaining flange, a leaf spring in said housing having one end inserted under the retaining flange, the other end of said spring being adjustably connected to the housing by means of an adjustable fastener, the central portion of said spring engaging said second partial semi-spherical socket for yieldingly urging the latter toward said apertured partial semi-spherical socket and comprising said second means.

3,339,878 FLOATING LIDS FOR BREAD BAKING PANS

Joseph M. Lind, 400 N. Sycamore St.,
Los Angeles, Calif. 90036
Filed Dec. 23, 1965, Ser. No. 515,930
5 Claims. (Cl. 249-82)

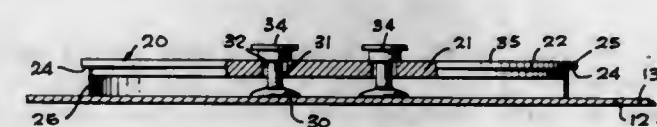


1. In combination with an elongated, open-top baking pan for baking leavened bread which rises during the baking process, lid means comprising:

cover means for covering said open top, said cover means having a mesh construction defining a plurality of openings extending over a substantial portion of said open top, said cover means being displaceable upwardly by said rising bread; and means maintaining said cover means in a taut condition.

3,339,879 MOLD PLUG FOR FORMING SLAB CASTING

Louis Gruber, 4382 Bakman, North Hollywood, Calif. 91602
Filed Sept. 14, 1964, Ser. No. 396,205
4 Claims. (Cl. 249-177)



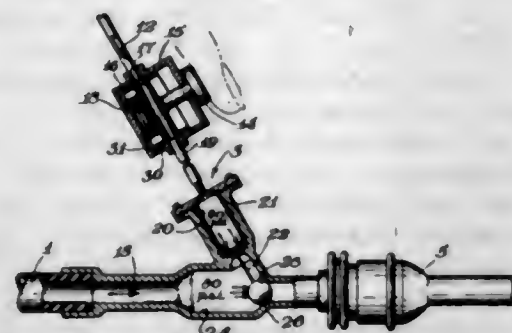
1. A mold plug for use in forming a relatively large opening in a slab casting of artificial stone or the like, comprising a plate-like body having a peripheral surface substantially conforming in contour to the opening desired to be formed in the casting, and means for detachably fastening said body to the wall of a mold including at least one resilient suction cup on the bottom

side of said body, and an element extending through said body from top to bottom and being movable relative to the body and supporting said cup at its lower end.

3,339,880

FLOW CONTROL FOR ABRASIVE MEDIA
Willis J. Physloc III, Boonsboro, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware

Filed Jan. 17, 1964, Ser. No. 338,361
5 Claims. (Cl. 251-25)

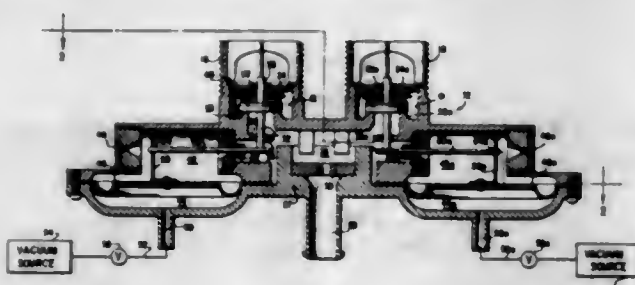


1. A flow control assembly comprising a free flow conduit for dispensing an abrasive medium under pressure, a valve seat axially disposed in said conduit, a free flow valve chamber communicating with said conduit, a valve seat at the juncture of said conduit and valve chamber, multi-seating shut-off means in said conduit movable between said valve seats, said conduit being axially unobstructed when said shut off means is seated at said juncture to permit the abrasive medium to axially flow directly through said conduit, and pressure responsive means in said valve chamber connected to said shut-off means for seating upon said valve seat in said conduit to terminate flow therethrough when the pressure in said valve chamber is made greater than the pressure in said conduit and for seating upon said juncture valve seat to close off communication between said conduit and valve chamber when the pressure in said valve chamber is made less than the pressure in said conduit.

3,339,881

WATER MIXING VALVE ASSEMBLY
Reed A. Palmer, Los Alamitos, Calif., assignor to Robertshaw Controls Company, a corporation of Delaware
Original application Oct. 5, 1961, Ser. No. 143,144.
Divided and this application Mar. 10, 1965, Ser. No. 438,512

5 Claims. (Cl. 251-58)



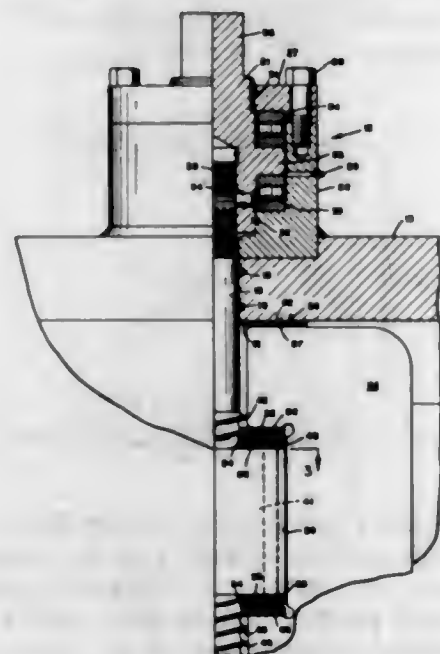
1. In combination, a housing means having an inlet interconnected to an outlet, a valve seat disposed in said inlet, a valve member for opening and closing said valve seat and having a stem passing through said valve seat, a rocker arm pivotally carried by said housing means and having one end engaging said stem, a substantially hat-shaped resilient member carried by said housing and having a disc portion disposed against said housing and a small cylindrical portion extending from one side of said disc portion, said resilient member having a bore passing longitudinally therethrough and telescopically

and sealingly receiving said rocker arm, means compressing said disc portion against said housing to seal said resilient member to said housing, and a pneumatically operated actuator carried by said housing means and being interconnected to the other end of said rocker arm whereby said actuator pivots said rocker arm to open and close said valve seat.

3,339,882

VALVE CONSTRUCTION
Marvin H. Grove, Piedmont, Calif., assignor to M. & J. Valve Company, Houston, Tex., a corporation of Delaware

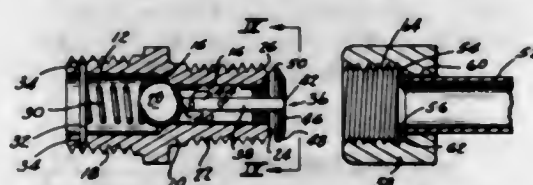
Filed Apr. 22, 1965, Ser. No. 450,048
8 Claims. (Cl. 251-64)



1. In a gate valve construction, a body having flow passages, a flat gate disposed within the body and movable between open and closed positions relative to the flow passages, bonnet means carried by one end of the body, a rotatable operating rod extending through the bonnet means, means forming a thrust bearing for the operating rod, a nut having non-rotatable engagement with one end of the gate, the rod having a threaded portion that is operatively engaged with the nut whereby rotation of the rod effects movement of the gate between open and closed limiting positions, and means in addition to and acting independently of the nut to apply braking torque to the rod when the gate is moved to one of said limiting positions.

3,339,883

PRESSURE CONNECTION ASSEMBLY
Ronald S. Drake, Jackson, Mich., assignor to Acme Industries, Inc., a corporation of Delaware
Filed Jan. 27, 1965, Ser. No. 428,355
5 Claims. (Cl. 251-149.4)



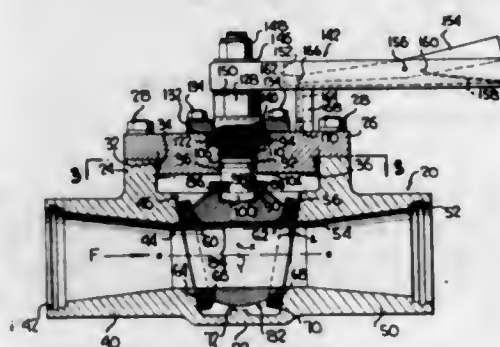
1. A valved fitting adapted to threadedly connect to a flanged conduit and connector nut assembly comprising, in combination:

(a) a body having a first set of threads exteriorly defined thereon and having a bore defined therein, an end defined on said body, said bore intersecting said end,

- (b) a second set of threads exteriorly defined on said body adjacent said end adapted to receive a flanged conduit connector nut for communication with said bore,
- (c) a valve seat defined within said bore,
- (d) a valve movably mounted within said body adapted to selectively engage said valve seat and close said bore against fluid flow therethrough,
- (e) a spring within said bore biasing said valve toward engagement with said valve seat,
- (f) a valve actuator movably mounted within said bore adapted to engage said valve, said actuator including a stem and a head, said stem having a first end adapted to engage said valve and a second end adapted to extend from said bore beyond said body end, said head being mounted on said stem second end and including a peripheral sealing portion normally spaced from said body end and adapted to be interposed between the flange of a flanged conduit connector nut assembly and said body end upon the assembly being threaded upon the body threads, and
- (g) a passage defined through said head.

3,339,884

ADJUSTABLE BALL VALVE APPARATUS
Benjamin T. Smith and Jullan P. Ross, Jr., Newport News, and Joseph E. Trexler, Jr., Hampton, Va., assignors to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Apr. 8, 1964, Ser. No. 358,358
11 Claims. (Cl. 251-161)

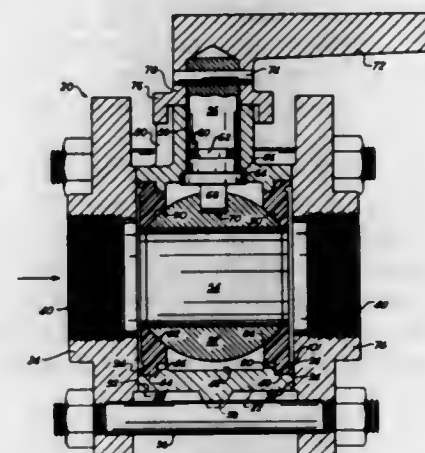


1. Adjustable ball valve apparatus comprising valve body means including an inlet opening and an outlet opening, said inlet and outlet openings being spaced from one another and substantially aligned with one another, said valve body means also including an access opening, a bonnet portion closing said access opening and defining a hole therethrough, said valve body means including land portions each of which is disposed in surrounding relationship to one of said openings, a pair of annular seats, each of said seats being slidably disposed on one of said land portions with the seats disposed at substantially surrounding relation to said openings, a ball valve portion disposed within said valve body means and including an outer surface defining a portion of a spherical surface and adapted to sealingly engage said seats, a valve stem having one end portion thereof operatively connected with said ball valve portion for turning the ball valve portion and for moving the ball valve portion laterally within the valve body means, said valve stem extending through the hole in said bonnet portion and including a valve stem portion extending outwardly of said valve body means and said bonnet portion, said valve stem including an intermediate threaded portion, and adjusting nut means supported by said bonnet portion and having an internally threaded bore formed therethrough, said intermediate threaded portion of the valve stem being threaded within said bore of the adjusting nut means, operating means interconnected with the outwardly extending portion of

said valve stem and being fixed for rotation with the valve stem, and means for interconnecting said operating means with said adjusting nut means to cause the adjusting nut means to turn with said operating means so that the operating means, the valve stem and the nut means will rotate as a unit.

3,339,885

BALL VALVE AND UNSTRESSED SYNTHETIC RESIN SEALS THEREFOR
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Okla. 73129
Filed June 21, 1965, Ser. No. 465,365
17 Claims. (Cl. 251-172)

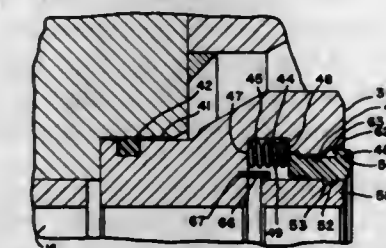


12. A ball valve sealing ring, comprising: an annular shaped body of synthetic resin material having:

- an inner end;
- an outer end;
- a ball-engaging face thereon between the inner end and inner periphery thereof; and
- a circumferential flange formed around the outer periphery thereof having an inner end and an outer end, the outer end of said flange having a portion thereof protruding beyond the outer end of said body to be distorted upon assembly in a valve and having an annular relief groove therein positioned to receive the material of the flange displaced by said distortion to prevent distortion of said body.

3,339,886

VALVE CONSTRUCTION
Marvin H. Grove, Piedmont, Calif., assignor to M. & J. Valve Company, Houston, Tex., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,046
5 Claims. (Cl. 251-174)

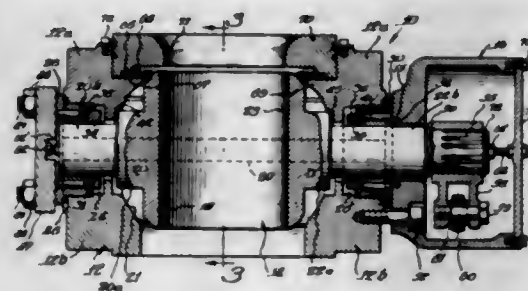


1. In a valve construction, a body part having aligned flow passages, a valve member disposed within the body part and movable between open and closed positions relative to the passages, annular sealing means disposed concentric with the axis of said passages and forming a fluid-tight seal between at least one side of the valve member and the body part in a region surrounding the correspond-

ing flow passage, said sealing means including a sleeve-like seal ring part, means forming a peripheral surface on said body part, the seal ring part being slidably fitted with respect to said peripheral surface for some freedom of axial movement, a plurality of circumferentially spaced coil springs, one of said parts providing an annular space adjacent to said seal ring part within which said coil springs are disposed, said space being a recess defined by an annular peripheral surface concentric with the seal ring and by spaced opposed bottom seating and shoulder retaining surfaces, all of said surfaces being on one of said parts and integral therewith, each of said springs when relaxed having a length greater than the spacing between said bottom and shoulder surfaces and having one end thereof seated on said bottom seating surface and the other end thereof adapted to engage and press against said shoulder surface, the radial dimensioning of said shoulder surface being substantially less than the external diameter of said springs and so dimensioned that the engagement of the springs therewith serves to retain the springs in the recess when the springs are assembled before application of the seal ring part, the other one of said parts having a portion thereof adapted to seat upon the end portions of said springs adjacent said shoulder thereby to receive the thrust of said springs to urge said seal ring part against the valve member when the valve member is within the body part and engaged with the seal ring part.

3,339,887

BALANCED BALL VALVE HAVING PRESSURE REDUCING FLOW RING
Wilbur D. Hutchens, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa
Filed Jan. 28, 1965, Ser. No. 428,761
5 Claims. (Cl. 251-214)



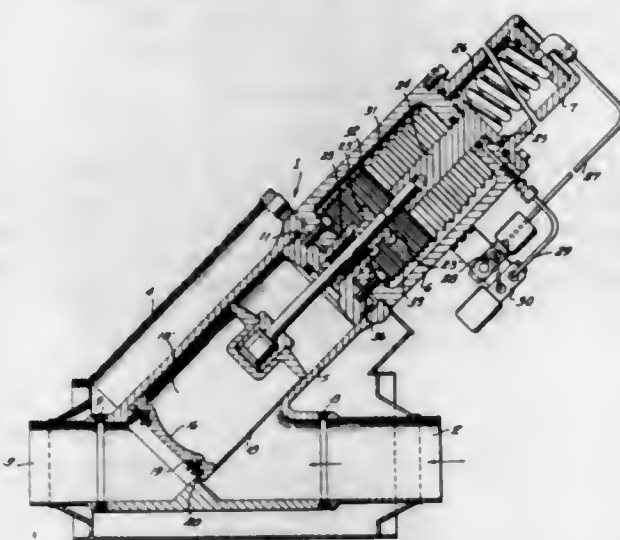
1. A ball valve assembly comprising a unitary valve plug and shaft subassembly including a valve plug having a central opening therethrough and a generally spherical outer contour, and shafts extending outwardly from opposite sides of said valve plug along a common axis for supporting said valve plug for rotation, a valve body having a flow passage therethrough and an enlarged generally spherical recess defined in said flow passage for receiving said valve plug, said valve body including an inlet and an outlet each less in cross-sectional area than the cross section of the valve plug, said valve body also including means defining a pair of aligned bores for receiving said shafts, said valve body being comprised of a pair of sections joined together by a weld in a single plane passing through the axis of the shaft means to form a unitized valve body for permanently retaining the valve plug and shaft subassembly, annular seal means in said valve body abutting said valve plug for preventing flow between the valve plug and the valve body when the valve plug is in the closed position, seal means of the same cross-sectional area for the inner end of each shaft, said shaft seal means equalizing the hydrostatic forces applied to the ends of the shafts and thereby obviating the need for thrust bearings, and actuating means connected to one of said shafts for rotating the valve plug.

2. A ball valve assembly as in claim 1 including bearing means in each bore for journalling a shaft, said shaft seal means being disposed in said bores for sealing said bearing means from fluid in said flow passage, said bearing means and said seal means being removably and replaceably retained in each said bore by cover means detachably connected to said valve body, whereby upon removal of a selected one of said cover means, the associated bearing means and seal means can be replaced.

3,339,888

CRYOGENIC GLOBE VALVE WITH EXTENDED BODY

Robert P. Dumm, deceased, late of Santa Rosa, Calif., by Grace E. Dumm, administratrix, Santa Rosa, Calif., assignor to Pacific Valves, Inc., Long Beach, Calif., a corporation of California
Filed June 29, 1964, Ser. No. 379,040
3 Claims. (Cl. 251-367)



1. A valve of the globe type, particularly for use with cryogenic fluids and including an insulated stem assembly, comprising in combination an elongated sectional body including lower (5), intermediate (6) and upper sections (7),

said lower section (5) having axially aligned intake and outlet ports (2, 3) at the lower end thereof, and a cylindrical portion extending obliquely upwardly from said lower end, a valve seat (20) between said ports and angularly disposed relative thereto,

a plug member (10) including peripheral packing means (13) fitted within the upper portion of said lower section (5) to close the same, said plug member (10) having a central opening; said intermediate section (6) including top and bottom walls each provided with an opening in axial alignment with each other and in alignment with the opening in said plug member; said upper section (7) including a top wall and an open bottom,

a hollow closure member (16, 17, 18) reciprocable within the cylindrical portion of said lower section (5) and in sealing engagement with the side wall thereof, said closure member including lower (16) and upper (17) vertically spaced heads and a tubular shell (18) fixedly attached to each of said heads, a stem (21) having its lower end secured to the upper head (17) of said closure member and having its upper end connected to a piston (25), said piston slidably disposed within said upper section (7), packing means (23) within said intermediate section (6) and surrounding said stem (21),

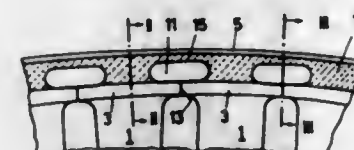
said upper section (7) including means (26) normally urging said piston, stem and hollow closure member downwardly into engagement with said valve seat (20),

and control means (28, 29, 30) to urge the piston (25) upwardly to unseat said closure member 16, 17, 18) against the force of said urging means (26) in said upper section (7) and open the valve.

3,339,889

ATTACHMENT OF ROTOR BLADING FOR AXIAL FLOW TURBO-MACHINES

Ernst Nyffeler, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 8, 1966, Ser. No. 592,917
Claims priority, application Switzerland, Dec. 7, 1965, 16,847/65
7 Claims. (Cl. 253-77)



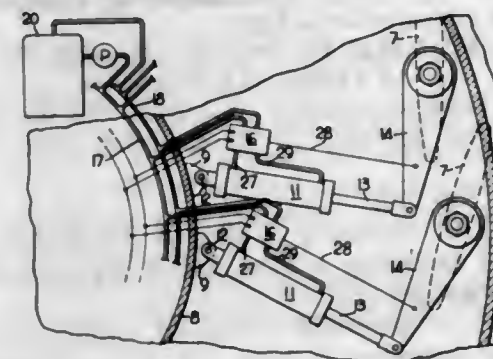
1. A blade interconnecting structure for rotor blading of an axial flow turbo-machine of the type wherein the blades of a circular row include integral enlarged head portions establishing a cylindrical array of mutually abutting cover plates, said blade interconnecting structure comprising a cylindrical cover band surrounding said cylindrical array of cover plates, means providing a circumferential channel between said cover band and cover plates and which extends over a portion of the axial width of said cover plates, a pair of axially spaced circumferentially extending welding seams joining said cover band to said cylindrical array of cover plates, said welding seams being located respectively at each side of said circumferential channel, and means establishing circumferentially spaced axially extending openings through said welding seams in radial alignment with the abutting faces of the cover plates of adjacent blades, said openings reaching inwardly from the outer sides of said welding seams and terminating at and in communication with said circumferential channel.

3,339,890

SPEED CONTROL DEVICE FOR HYDRAULIC TURBINE

Dennis W. Chalmers, Galt, Ontario, Canada, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Feb. 3, 1966, Ser. No. 524,896
1 Claim. (Cl. 253-97)



A device for controlling the position of wicket gates of a hydraulic turbine in response to a speed signal comprising: a fluid pressure operated servomotor connected to each wicket gate for moving same between open and closed positions; a source of pressurized fluid; a valve connected between each servomotor and said source for

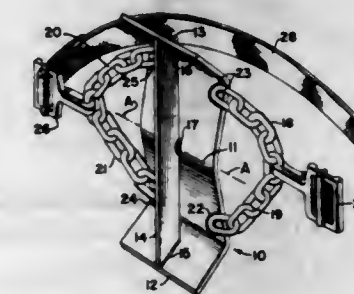
permitting and interrupting the flow of pressurized fluid to said servomotor; a signal comparing means connected to each valve means and responsive to said speed signal to open and close said valve; and feedback means connected to each wicket gate and the corresponding signal comparing means to deliver a signal to said signal comparing means indicating the position of the connected wicket gate, said signal comparing means being capable of comparing said feedback signal to said speed signal to open or close said valve means.

3,339,891

VEHICLE WHEEL LIFTING DEVICE

Douglas K. Clash, Torrance, Calif., and George Popp, Miami, Fla., assignors of fifteen percent to Jack D. McGehee, Redondo Beach, Calif., and five percent to Edmund L. Foard, Inglewood, Calif.
Substituted for abandoned application Ser. No. 358,228, Apr. 8, 1964. This application Dec. 7, 1966, Ser. No. 617,733

2 Claims. (Cl. 254-94)



1. A device adapted to be secured to a peripheral portion of a vehicle wheel to lift said wheel when said wheel is rotated, said device comprising: a generally rectangular plate member having a central bowed section and bent end portions extending away from the concave side of said central bowed section; said member being symmetrical with respect to a transverse axis passing through said central bowed section; a web extending longitudinally along the convex side of said central bowed section, the outer ends of said web being secured to said bent end portions and the center portion of said web being secured to said convex side of said central portion; a flexible securing means connected to opposite longitudinal sides of said plate member and including a belt terminating in buckling means for encircling said peripheral portion of said vehicle wheel to hold said concave side of said central bowed portion against said peripheral portion of said wheel with said transverse axis substantially parallel to the axis of rotation of said wheel, said bent end portions extending away from said wheel such that rotation of said wheel in either direction causes said wheel to be raised up by said concave side of said plate member.

3,339,892

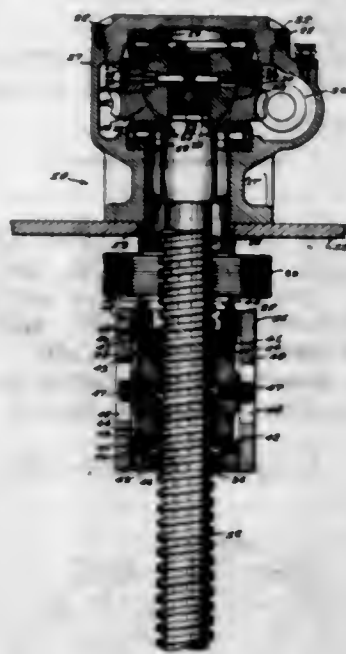
JACK MECHANISM

John J. Dixon, Charlotte, N.C., assignor to Duff-Norton Company, Charlotte, N.C., a corporation of North Carolina

Filed June 3, 1966, Ser. No. 555,092
14 Claims. (Cl. 254-103)

1. A non-binding jack mechanism of the rotating screw type capable of manipulating loads under conditions requiring angular displacement of the jack screw, said jack mechanism comprising an annular drive member, means supporting said drive member for rotation, means for rotating said drive member, a jack screw having connecting means thereon seated in said annular drive member for support of said jack screw whereby, said connecting means including spherically displacement means to permit angular

displacement of said jack screw with respect to said drive member, means keying said connecting means to said annular drive member for driving rotation of said jack screw

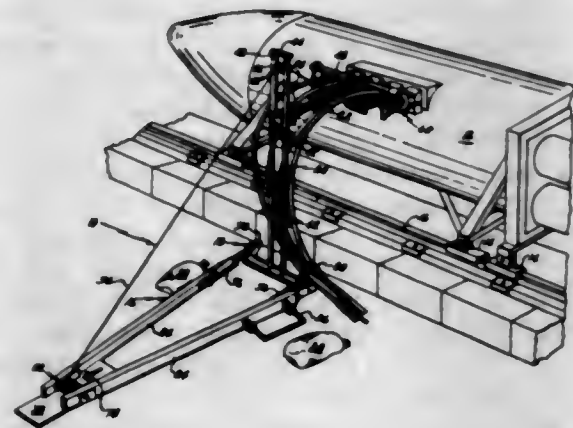


by said drive member, and a non-rotating load-carrying nut threaded on said jack screw for axial movement therealong upon rotation of said jack screw.

3,339,893

FOLDING PULLAWAY SYSTEM

Henry W. Schuette, Baltimore, Md., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 23, 1966, Ser. No. 574,864
4 Claims. (Cl. 254-127)

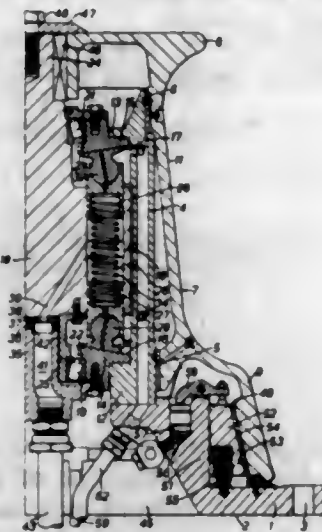


1. A pullaway system for removing plugs and cables attached thereto from a vehicle comprising:
a base,
a vertical support pivotally mounted in said base,
an arm pivotally mounted on said vertical support from a position normal to said support upwardly to a position parallel to said support,
a cable support pivotally mounted to said arm,
means connected with said cable support adapted for attachment to plugs on a vehicle,
cable means connected with said cable support and said base, and
means for shortening the length of cable between said cable support and said base to cause rotation of said vertical support toward said base followed by rotation of said arm toward said base.

3,339,894

WINDING MACHINES

Dennis J. Millard, Finchfield, Wolverhampton, England, assignor to Boulton Paul Aircraft Limited
Filed Nov. 29, 1965, Ser. No. 510,280
Claims priority, application Great Britain, Apr. 23, 1965, 17,290/65
5 Claims. (Cl. 254-150)



1. A winding machine comprising a stationary mounting base, a drum supported for rotation on and defining a space with the base, and hydraulic motor means for rotating the drum, including a plurality of cylinders disposed within the space defined by the drum and the base, on axes offset from but substantially parallel to the axis of rotation of the drum, a swash plate disposed obliquely to the aforesaid axis of rotation opposite the cylinders, pistons slidable in the cylinders to cooperate with the swash plate, and a hydraulic connection with the cylinders which is operable to cause the pistons to cooperate with the swash plate in rotating the drum, the swash plate being secured on the mounting base and the cylinders secured in the drum, and the hydraulic connection having a main feed line in the base and secondary branch lines in the drum which operatively interconnect with the main line on an alternate basis as the drum rotates, to connect first one cylinder and then another with hydraulic pressure.

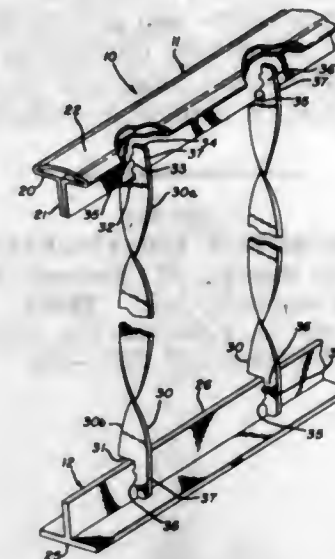
3,339,895

ADJUSTABLE WROUGHT IRON RAILING

Edward J. Kusel and Robert S. Mankin, Akron, Ohio, assignors to Locke Manufacturing Company, Lodi, Ohio, a corporation of Ohio
Filed Mar. 10, 1965, Ser. No. 438,478
3 Claims. (Cl. 256-22)

1. An adjustable railing for mounting on spaced upright support surfaces of the character described, comprising:
(A) a top rail
(1) of generally T-shaped configuration and
(2) including a base and a leg section;
(B) a bottom rail
(1) of generally T-shaped configuration and
(2) including a base and a leg portion;
(C) a plurality of identical spindles
(1) having parallel flat strap-like end portions
(2) being notched to define an L-shaped support pocket that is in turn defined by edge surfaces of said end portions
(3) the edge surfaces of said L-shaped support pockets being fixedly secured in edge abutted relationship to the projecting end and sidewall surfaces of said leg portions whereby the pla-

nar surfaces of said end portions are at right angles to the planar surfaces of said leg portions;

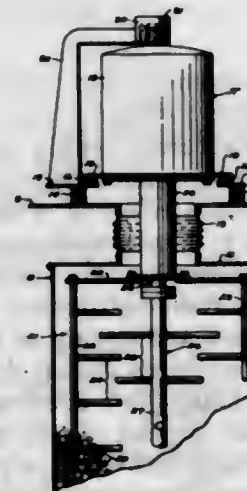


(D) and adaptor brackets connecting the ends of said top and bottom rails to said spaced upright support surfaces.

3,339,896

STIRRING DEVICE

Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California
Filed June 3, 1966, Ser. No. 555,127
7 Claims. (Cl. 259-72)



1. A machine for treating material comprising:
(a) A vertically dispersed container, and
(b) stirring means comprising:
(1) A motor including a casing and a shaft rotatable in opposite direction;
(2) bearing means for mounting said motor casing above said container for free rotation;
(3) a first set of stirring elements connected to said casing and extending into said container for rotation therein; and
(4) a second set of stirring elements connected to said shaft and extending into said container for rotation therein.

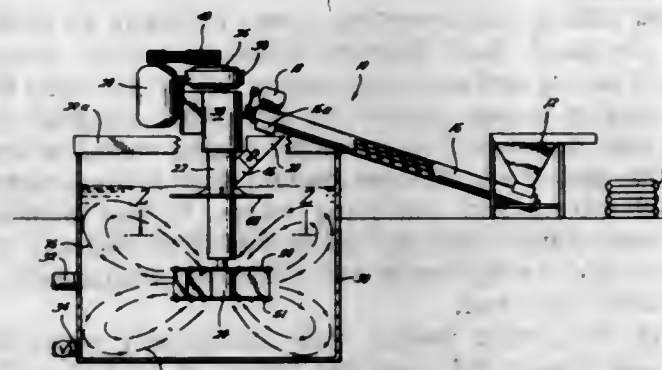
3,339,897

CONTINUOUS MIXING DEVICE FOR DRILLING FLUIDS

Philip E. Davis, Jr., 1423 Maury, Houston, Tex. 77026
Filed May 28, 1965, Ser. No. 459,666
2 Claims. (Cl. 259-96)

1. An agitator for agitating drilling fluids in a container comprising:

(a) a drive shaft extending downwardly into the container;
(b) bearing support means adjacent the upper end of said shaft for supporting said shaft for rotation within said container;
(c) speed reducing means mounted on the upper end of said drive shaft;
(d) means connected therewith for imparting rotation to said speed reducing means and drive shaft;
(e) means mounted on the lower end of said shaft for immersion in the fluid in the container and agitating it when said shaft is rotated;
(f) said last named means including:
(1) a hub mounted on the lower end of said shaft;
(2) said hub having a plurality of flat surfaces on the outer edge thereof;



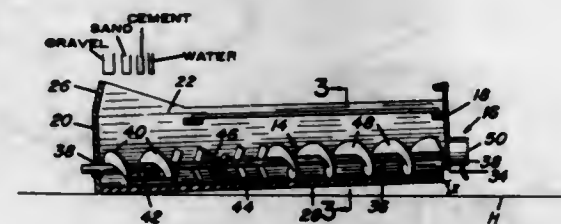
(3) a plurality of blades each having end portions which are secured to said flats on said hub;
(4) a pair of spaced, parallel, circular plates, with one plate secured to the upper edge of said blades and the other plate being secured to the lower edge of said blades to position said blades vertically therebetween and each blade being arcuate in form between said plates from their point of connection with said hub flats to the outer edge of said plates; and
(5) said plates each having an opening centrally thereof and the spaces between said blades at the outer edge of said plates being open and unrestricted whereby drilling fluid may be pulled into the openings in the top and bottom plates and discharged through the open spaces between said blades at the outer edge of said plates.

3,339,898

MIXING METHOD AND MIXING TROUGH CONSTRUCTION

Robert C. Fuddy, Willow Street, and Harold M. Zimmerman, Ephrata, Pa., assignors to Irl Daffin Associates, Incorporated, Lancaster, Pa., a corporation of Pennsylvania

Filed Feb. 17, 1965, Ser. No. 433,269
7 Claims. (Cl. 259-148)



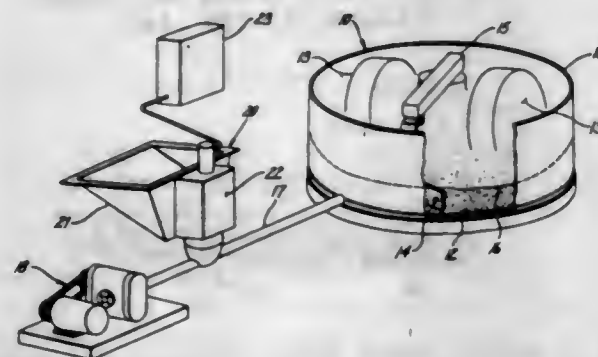
1. A mixing trough means operative to combine dry ingredients with a liquid ingredient to form a homogeneous composition, comprising:
an axially elongated chute means having an inlet end and an outlet end;
said chute means including a pair of spaced opposed axially-extending substantially rigid side walls;

said chute means also including an elastomeric bottom wall connected between said side walls; said side walls converging angularly inward as they extend downwardly toward said bottom wall; pivot mounting means coupled with said chute means adjacent said inlet end; elevating means coupled with said chute means adjacent said outlet end; said elevating means being operative to pivot said chute means to a position whereat said outlet end is disposed at a selected angle above said inlet end; said selected angle not exceeding about 22°; means for introducing at least one dry ingredient and at least one liquid ingredient into said chute means at said inlet end thereof; mixing and conveying means disposed within said chute means; said mixing and conveying means including an axially elongated shaft disposed within said chute means; said mixing and conveying means further including first mixing means secured to said shaft adjacent said inlet end and diverse second mixing means secured to said shaft adjacent to said first mixing means; said mixing and conveying means further including conveying means secured to said shaft adjacent said second mixing means and extending substantially to said outlet end; said elastomeric bottom wall contiguously contacting said mixing and conveying means, at least below the level of said shaft, to thereby assure that the ingredients being mixed and conveyed and forced between said bottom wall and said mixing and conveying means; and drive means connected with said shaft for effecting rotation thereof; said shaft rotation causing said first mixing means to initially combine said liquid and dry ingredients and to transfer the same to said second mixing means; said second mixing means further mixing and combining said liquid and dry ingredients and transferring the same to said conveying means; said conveying means transferring said liquid and dry ingredients axially along said chute means, while also aiding in the mixing thereof, and finally discharging the same through said outlet end as a homogeneously combined composition.

3,339,899

SYSTEM FOR MULLING AND MIXING
FOUNDRY SAND

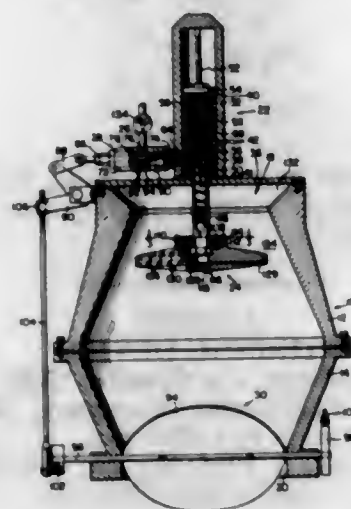
John H. Kauffman, Crystal Lake, Ill., assignor, by mesne assignments, to National Engineering Company, Chicago, Ill., a corporation of Delaware
Filed July 30, 1963, Ser. No. 298,728
7 Claims. (Cl. 259-151)



1. A system for introducing additives such as bonding and like materials into a mass of particulate material such as foundry sand and the like comprising a mixer including crib means adapted to contain said mass of particulate material having a predetermined upper level,

rotor means within said crib means for agitating and mixing said mass of material around said crib means; a conduit having one end in communication with a source of compressed fluid and the other end in communication with said crib means below said predetermined level; and feeder means for periodically introducing metered quantities of additives into said conduit to be carried by said fluid into said mass of particulate material in said crib means.

3,339,900

CARBURETOR ARRANGEMENT
John De Rugeris, 527 Kenneth Ave.,
Campbell, Calif. 95008
Filed July 13, 1964, Ser. No. 382,069
5 Claims. (Cl. 261-50)

3. A carburetor arrangement comprising a tubular housing, a fuel supply valve having an enclosure, a fuel dispensing tube slidably received within said enclosure coaxially therewith for movement from an elevated to a depressed position, means effective when said tube is in said elevated position to block discharge of fuel through said tube, means yieldably holding said tube in said elevated position, and a fuel distributing nozzle rotatably supported from said tube and having an upper surface exposed to the impact of the air drawn through said housing, said nozzle containing fuel distributing channels in communication with the interior of said tube and terminating with discharge orifices located in a peripheral area of said nozzle and air conducting passages extending obliquely from air intake openings in said upper surface to air outlet openings located in said peripheral area adjacent said fuel discharge orifices for currents of air issuing from said passages to entrain the fuel emerging from said orifices upon depression of said nozzle and to impart rotation to said nozzle.

3,339,901

AERATION EQUIPMENT WITH EASY-RAISING
FACILITIES

James Donald Walker, Aurora, Ill., assignor, by mesne assignments, to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 29, 1963, Ser. No. 268,980
11 Claims. (Cl. 261-124)

1. Apparatus for use in connection with a sewage treatment plant having a treatment tank and an air supply line, said apparatus including: air diffuser means in said tank and having a rigid air riser pipe extending upwardly from deep in the tank to the side of the tank above the surface of the liquid in the tank, a first lift connection on said pipe above the liquid surface, and a second lift connection on the pipe a substantial distance below the first connection; a quick-release coupling between the rigid

pipe and line for the supply of air to the diffuser means; and a lift apparatus adapted to be positioned with a working face exposed to, and at the side of, the tank adjacent said diffuser means and including two closely associated lift devices each capable of a lifting movement of less than the vertical dimension of the pipe, each device having connecting means; whereby said diffuser means may be quickly and easily removed from said tank by re-

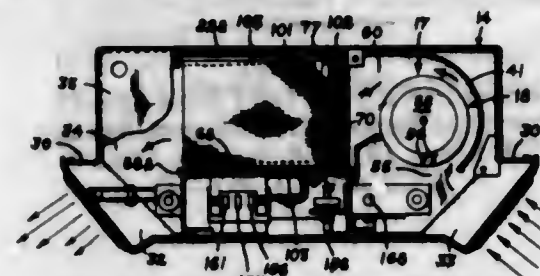


leasing said coupling, positioning said lift apparatus at the side of the tank adjacent said riser pipe, engaging the connecting means of one device with the first connection, raising the diffuser means with the one device, while the other lift device remains disconnected, to a position at which the second lift connection is above the liquid and within reach, engaging the connecting means of the other lift device with the second connection, and completing the raising of the diffuser means with the other device.

3,339,902
HUMIDIFIER

Warner W. Martin, Olmstead Falls, Ohio, assignor to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio

Filed Apr. 29, 1965, Ser. No. 451,716
6 Claims. (Cl. 261-142)



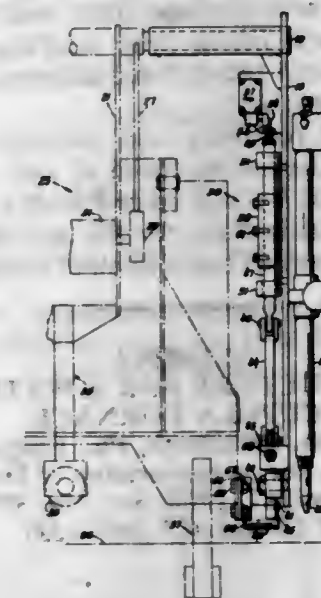
1. A humidifier of the character described comprising, an elongated enclosed inner housing adapted to be mounted between the vertical studs in a wall of a conventional dwelling, said inner housing defining an elongated central chamber having a rectangular horizontal cross-section, a front cover mounted on said inner housing and being disposed outwardly of said wall, means for removing at least a portion of said front cover for access to said inner housing, means defining elongated relatively narrow vertical inlet and outlet openings in the opposite edges of the front of said housing substantially coextensive with the length of said housing, said openings being disposed outwardly of the adjacent wall and at an angle thereto so that said openings face in opposite directions, a media assembly mounted in said central chamber and including support drums mounted in said housing at the bottom and top of said chamber, a highly porous non-stretchable evaporator belt on said drums having a width

substantially equal to the width of said chamber so that said inlet and outlet openings are separated by said belt, drive means for moving said belt along a predetermined path, elongated tangential blower means mounted for rotation in said central chamber adjacent said inlet opening parallel to said evaporator belt for moving air through said inlet opening and through said evaporator belt and outwardly of said housing through said outlet opening, said belt having a length between said support drums which is substantially equal to the length of said openings and to the length of said blower means, reservoir means in said housing at least partially enclosing the lower portion of one of said support drums, means adapted to maintain a preset level of water in said reservoir means so that said belt is wetted as it moves with said support drums, and said blower means and said drive means being correlated so that said belt remains wet at all times during operation of said drive means.

3,339,903

AUTOMATIC TORCH POSITIONING APPARATUS
Kurt Reinfeld and Joseph Rokop, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed May 28, 1964, Ser. No. 370,846
6 Claims. (Cl. 266-23)



1. A continuous casting machine cut-off mechanism in which the cutting means is automatically positioned in correct relationship to the edge of the metal casting at the start of each cutting cycle comprising:

- (a) counting means responsive to a length of said casting;
- (b) a carriage mounted to reciprocate along the line of travel of said casting;
- (c) clamps mounted on said carriage and responsive to said counting means for grasping said casting whereby said carriage travels with said casting;
- (d) a cutting torch;
- (e) a feeler adapted to contact said casting;
- (f) a pivot for supporting said feeler intermediate the ends of said feeler for rotation;
- (g) a support arm for said torch and said pivot;
 - (1) means for rotationally positioning said feeler about said pivot so that the portion of said feeler which is adapted to contact said casting extends below said cutting torch and lies between said cutting torch and said casting;
- (h) a torch lift attaching said support arm to said carriage;
 - (1) said torch lift having a wheel assembly adapted to contact the top of said casting to stop the

lowering of said lift when said torch is at the proper height above said casting to cut said casting;

- (i) a rotary torch actuator for moving said support arm carrying said torch and said pivot for said feeler relative to said lift toward said casting after said torch lift has lowered said torch into cutting position such that said feeler sequentially engages a side and then an edge of said casting and rotates about said pivot until a predetermined rotation is reached;
- (j) a first limit switch adapted to be actuated by said feeler when said predetermined rotation about said pivot is reached such that said first limit switch causes said rotary torch actuator to stop the movement of said support arm toward said casting when said torch is pointed at the edge of said casting, and turns on said torch to preheat the edge of said billet;
- (k) a timer mechanism to be actuated by said first limit switch for adjusting said torch after a predetermined time to cut said casting and simultaneously causing said rotary torch actuator to move said support arm transverse of the direction of casting travel such that said torch cuts said casting;
- (l) a second limit switch adapted to be actuated by the movement of said support arm transverse to the direction of travel of the casting when said torch has completed the cutting of said casting which turns off said torch, causes said clamps to detach said carriage from said casting, causes said torch lift to raise said support arm, and causes said rotary torch actuator to retract said torch arm; and
- (l) means for returning said carriage to its starting position on the line of travel of said casting adapted to be actuated by said second limit switch such that said apparatus is ready for the next signal from said counting means to begin another cutting cycle.

3,339,904

SUPPORT STRUCTURE FOR A WATER-COOLED CUPOLA FURNACE

Edwin R. Richards, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Sept. 17, 1964, Ser. No. 397,254
7 Claims. (Cl. 266—32)



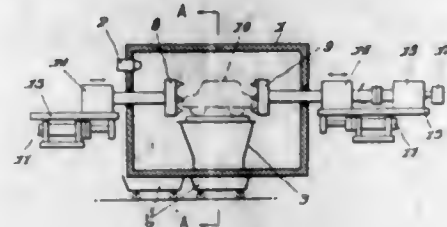
1. A metallurgical type cupola comprising:
 - (a) an upper vertical shell portion;
 - (b) a lower vertical shell portion substantially coaxial with and spaced apart from said upper shell portion;
 - (c) a water-jacketed shell portion disposed coaxially between said upper and lower shell portions;
 - (d) a plurality of vertical members structurally joining together said upper and lower shell portions;

(e) means to flow coolant into and out of said water-jacketed shell portion.

3,339,905

APPARATUS FOR SEPARATING FERROUS AND NON-FERROUS METALS OF A USED CAR OR THE LIKE FROM EACH OTHER AND RECOVERING THEM

Kunitoshi Tezuka, 34, 7 Minami Sunamachi, Koto-ku, Tokyo-to, Japan
Filed July 28, 1964, Ser. No. 385,612
3 Claims. (Cl. 266—33)

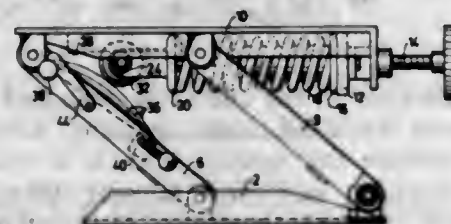


1. An apparatus for separating ferrous and non-ferrous metals of a used car or the like from each other, comprising a heating furnace having a first door for enabling a used car to be placed in and later withdrawn from said furnace, a second door for withdrawing melted metals from said furnace, a pair of opposed car holding plates in said furnace each being provided on its inner face with a plurality of spikes, each of said holding plates being rigidly mounted on a separate shaft, said holding plate being adapted to hold a used car therebetween, means supporting said shafts for rotation, power means for axially retracting one of said shafts with respect to the other of said shafts, prime mover means for rotating one of said shafts, and adjustable heating means provided in said heating furnace wherein the used car containing metallic materials to be melted is heated, the heating being adjusted in increments according to the melting point of the respective material to be melted so that various metals are individually separated from said used car and dropped downwardly in said furnace due to the rotation of said car, thereby permitting recovery of said metals through said second door.

3,339,906

RESILIENT SUPPORT FOR SEATS

Bror Göte Persson, Oskarshamn, Sweden
Filed Sept. 10, 1965, Ser. No. 486,346
8 Claims. (Cl. 267—1)

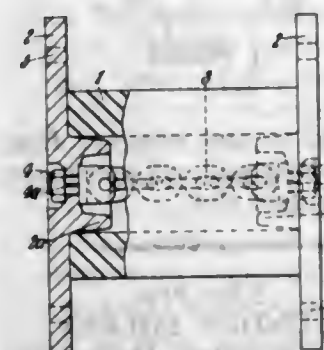


1. Resilient support means for a seat, especially for motor vehicles, said support means comprising a link system, at least one coil spring operative between a fixed point and a movable point of said link system and counteracting downward movement of said seat, a roller mounted at one end of said coil spring, and a cam means, said movable point being the contact point between said roller and said cam means, said cam means including at least two cam surfaces of different shape and being movable to present a selected one of said cam surfaces to said roller.

3,339,907

MARINE FENDER UNIT

Wilfred Samuel Parker, Wombourne, England, assignor to Edge and Sons Limited, Shifnal, England
Filed June 23, 1966, Ser. No. 563,331
Claims priority, application Great Britain, Apr. 17, 1963, 15,157/63
1 Claim. (Cl. 267—1)



In a marine fender of the type using multiple resilient units for accommodating the impact of vessels when berthing; a unit comprising a longitudinally extending tubular rubber element which is longitudinally and laterally, elastically yieldable, the length of said tubular element being approximately one-and-a-half times its outside diameter, the internal diameter of the tubular element being approximately half the outside diameter, and the wall thickness of the tubular element being approximately one quarter of the outside diameter; two metal plates, one at each of the ends of the rubber element, a preloaded flexible tension member within the rubber element and directly connected to the metal plates to limit the spacing of the metal plates to compress the ends of said tubular element against said plates whereby upon misalignment of said metal plates when said fender receives the impact of a vessel said tubular element remains compressed against said plates over its entire surface.

3,339,908

TAPERED LEAF SPRINGS

Rostislav S. Komarnitsky, Bloomfield Hills, Mich., assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 20, 1965, Ser. No. 449,486
11 Claims. (Cl. 267—47)



1. A finished spring leaf comprising a mechanically worked heat treated length of steel having one surface taper rolled to desired contour, and its tension surface and adjacent longitudinal side edge surfaces ground and mechanically worked to introduce beneficial residual stresses.

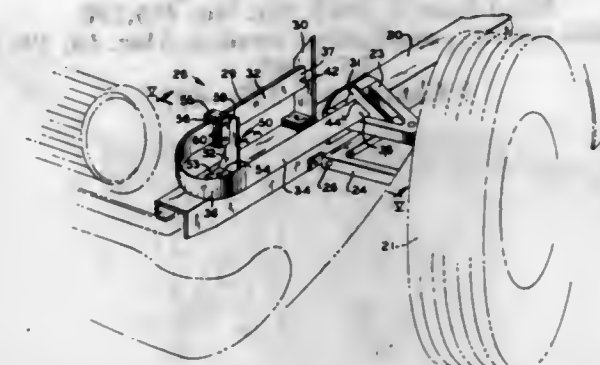
3,339,909

TORSION BAR SPRING SOCKETS

Richard E. Hanslip, Toledo, and James E. Lyon, Perrysburg, Ohio, assignors to The Mather Company, Toledo, Ohio, a corporation of Ohio
Filed Apr. 19, 1965, Ser. No. 448,967
10 Claims. (Cl. 267—57)

1. A socket for the end of a torsion spring having an elongated cross-sectional area at an end thereof, comprising:
 - (A) a torsion spring having two ends,
 - (B) means for attaching one end to one of two relatively movable members,

(C) means for attaching the other end to the other of said two relatively movable members comprising a plate having an elongated slot therethrough of an area slightly greater than that of said elongated cross-section of said other end of said torsion spring whereby said other end may easily project through said slot from one side of the plate member to the

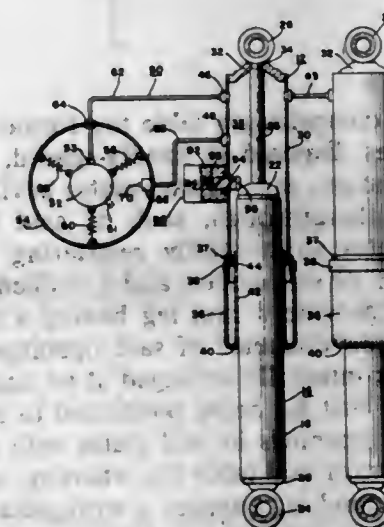


other, said inside surface of said slot being of softer material than the adjacent outside surfaces of the end of said spring in said slot, whereby the twisting action of said end in said slot Brinell's said inside surface of said slot to form its own seat and prevent undue strains on the ends of said torsion spring, and (D) means adjacent said other end for holding said other end in said slot.

3,339,910

AUTOMATIC LEVELING SYSTEM

George W. Jackson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 414,740, Nov. 30, 1964. This application Aug. 22, 1966, Ser. No. 574,254
9 Claims. (Cl. 267—65)



1. In an automatic leveling system for maintaining a predetermined height relationship between a sprung and an unsprung mass, the combination of, a shock absorber unit, fluid spring means supported on said shock absorber unit for adjusting the length of said shock absorber unit to maintain the sprung mass at a predetermined height relationship with respect to the unsprung mass, a source of pressure for inflating said fluid spring means including a compressor, means including a solenoid valve for controlling the pressure level in said fluid spring means, a source of power for driving said compressor, switch means responsive to changes in said load of the sprung mass for selectively operating said compressor and said

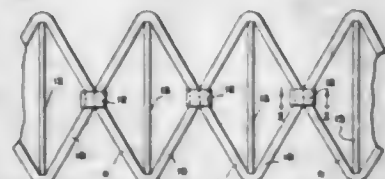
solenoid valve to modulate the pressure in said fluid spring means to maintain the desired height relationship between the sprung and unsprung masses.

3,339,911

ELASTIC CHAIN

Oscar R. F. Af Strom, ICAO (UN) T.A. Mission,
P.M.B. 12608, Lagos, Nigeria
Filed June 1, 1965, Ser. No. 460,390
Claims priority, application Sweden, Mar. 18, 1965,
3,512/65

9 Claims. (Cl. 267-69)



1. A resilient chain comprising a plurality of elastomeric links, means joining each elastic link to the next adjacent elastomeric link, and a rod member in each link disposed at least substantially normal with respect to the longitudinal axis of the chain and of a length sufficient to place the elastomeric material of each link under tension.

3,339,912

CLAMPING TABLE

Cedric C. Stack, 1620 S. I St., Elwood, Ind. 46036
Filed Apr. 19, 1965, Ser. No. 449,173
3 Claims. (Cl. 269-166)



3. A work table comprising a table top formed to provide two rigid plates disposed in fixedly-spaced, substantially registering relation, each of said plates having a plurality of openings therethrough, each of said openings in one of said plates substantially registering with an opening in the other of said plates, and a resilient clamping rod formed to provide a first leg having a diameter less than the common diameter of said openings and to provide a second leg integrally arranged at an acute angle to said first leg, said first leg being positioned to penetrate a registering pair of openings in said plates with said second leg inclining toward said table top whereby, when the distal end of said second leg engages a workpiece on said table top and force is applied to said rod toward said table top sufficient resiliently to spread apart said legs, said first leg will be wedgingly retained in said registering openings.

3,339,913

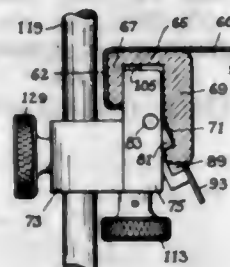
ACCESSORY CLAMPING STRUCTURE FOR SURGICAL TABLES

Edgar L. Anderson, Penfield, N.Y., assignor, by mesne assignments, to Ritter Pfaunder Corporation, a corporation of New York

Filed Oct. 8, 1963, Ser. No. 314,804
18 Claims. (Cl. 269-328)

1. In combination with a table top section or the like a clamping rail extending along at least one side of said section, said rail having a longitudinal slot, and a clamp-

ing member received laterally within said slot means along said rail for permitting said clamping member to

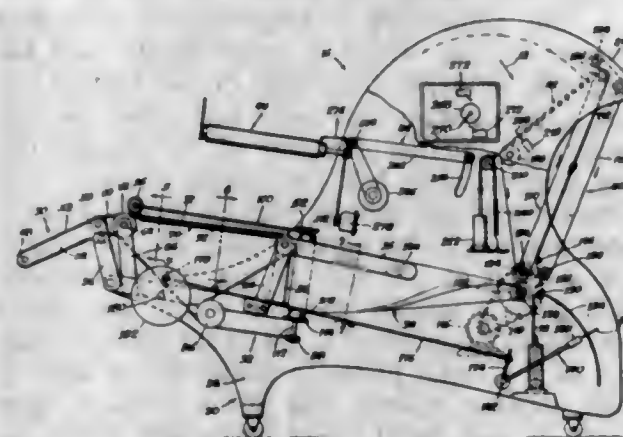


be laterally received in and removed from said slot at multiple positions along said rail and means for latching said member within said slot.

3,339,914

LAUNDRY FOLDER

Frederick W. Grantham, Hollywood, Calif.
(152 W. Pico Blvd., Los Angeles, Calif. 90015)
Filed June 23, 1964, Ser. No. 377,231
36 Claims. (Cl. 270-66)



1. A laundry folder having an inlet end, comprising first conveyor means having a narrow top element running longitudinally into the folder at the inlet end and adapted for receiving a towel thereon and forming a first fold therein without substantial thickness, and in which the laps thereof are disposed vertically and closely adjacent each other, said first conveyor means conveying the towel so folded into the folder, second conveyor means having a receiving end disposed generally vertical and a delivery end disposed substantially horizontal, said receiving end of the second conveyor being disposed adjacent the delivery end of the first conveyor and being disposed for receiving the towel having said first fold therein in position in which the laps thereof are disposed vertically and with the folded towel disposed closely adjacent the vertical surface of the second conveyor at the receiving end of the latter, means cooperating with said second conveyor for moving the towel along said second conveyor and progressively translating it from vertical position to horizontal position whereby the second conveyor is operative for transporting the towel thereoff and therebeyond in horizontal position.

18. A laundry folder comprising, a conveyor adapted to receive a towel and delivering it beyond its delivery end in horizontal position, a folding knife immediately beyond the delivery end of the conveyor and disposed therebelow and operative upon raising movement thereof for engaging the towel and forming a fold therein, elevating conveyor means above said folding knife and adapted to receive the towel in response to folding thereof by the folding knife and movement of the towel by the folding knife into engagement with the elevating conveyor means, the elevating conveyor means including a first and second conveyor respectively having up runs in proximity to each other for receiving the towel folded

as stated and elevating it, wicket means, the elevating conveyor means constraining the towel as carried by said up runs to move onto the wicket means, the wicket means having elements disposed rearwardly from a plane on which the towel is received, and including a portion movable forwardly from said plane and carrying the towel therewith, and means for receiving the towel from said movable portion and transporting it from the folder.

35. A laundry folder comprising conveyor means including an endless belt uniform and continuous in width throughout its length, having a receiving end disposed on a vertical axis, and twisting progressively to a delivery end where it is disposed on a horizontal axis, and means at the receiving end and extending a portion of the distance to the delivery end for supporting a towel in vertical position anterior to the belt and operative for supporting it on the belt at the receiving end portion of the latter, the belt being effective for supporting a towel of a width as great as its own width at all points transversely of the towel throughout its own longitudinal travel.

3,339,915

METHOD AND APPARATUS FOR HANDLING FERROMAGNETIC SHEETS

Maurice Ricard, Saint-Hilaire, France, assignor to Compagnie du Filage des Metaux et des Joints Curty (Cefilac), Paris, France, a French company
Filed June 22, 1965, Ser. No. 465,933
Claims priority, application France, June 26, 1964,
979,813

6 Claims. (Cl. 271-18)



1. Apparatus for transferring flexible sheets of ferromagnetic metal from a stack at a first location to a second location comprising

- (1) a movable conveyer disposed above and spaced from and extending between said locations,
- (2) magnets associated with said conveyer,
 - (a) said magnets establishing a magnetic field in the space between the conveyer and said locations,
- (3) means for lifting, in the topmost sheet in said stack, the end of said topmost sheet remote from said second location into a position within said field where the lifted end of said sheet is magnetically attracted into engagement with said conveyer and successive portions of said sheet progressing toward the end of said sheet adjacent said second location thereupon become magnetically attracted into engagement with said conveyer until the entire sheet is held magnetically in contact with the conveyer against the force of gravity, and
- (4) means for moving said conveyer from above said first location to a position higher than and adjacent to said second location.

3,339,916

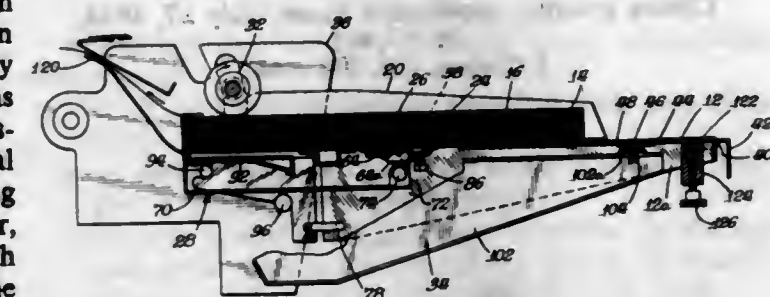
SHEET FEEDING ASSEMBLY

John L. Tregay, Wilmette, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,063
12 Claims. (Cl. 271-36)

1. An assembly for supporting a stack of sheets adapted to be individually fed in a given direction from the top of the stack comprising sheet feed means, a sup-

porting structure mounted in a fixed position relative to the feed means, a sheet receiving means for receiving a stack of sheets and for mounting the stack with the uppermost sheet disposed beneath and engaging the feed means, said sheet feed means including a pair of feed members engageable with the top of the stack at spaced regions along a line transverse to the direction of movement of the sheets, and structure interposed between



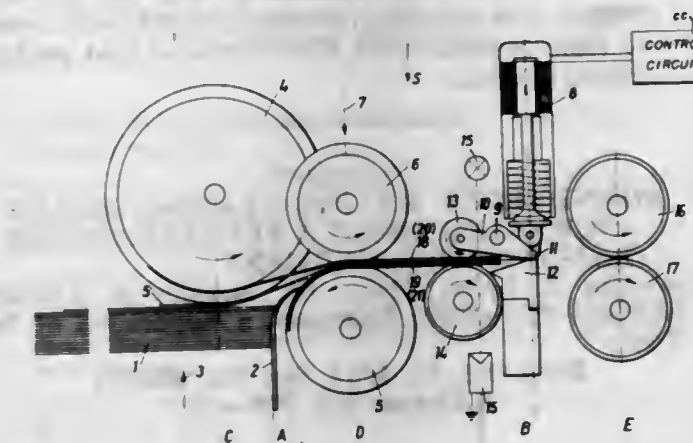
the sheet receiving means and the supporting structure for mounting said sheet receiving means for limited pivotal movement about an axis between said regions and extending generally parallel to the direction of movement of the sheets, said sheet receiving member being pivotally moveable in response to unequal sheet feeding forces applied by said feed members, thereby to equalize said forces and to prevent feeding of sheets in a skewed position.

3,339,917

SEPARATING DEVICE INCORPORATING MEANS FOR SELECTIVELY CONVEYING ONE FLAT ARTICLE AT A TIME FROM A SEPARATING ZONE

Peter Petrovsky, Constance, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Dannbe), Germany
Filed June 10, 1965, Ser. No. 462,871
Claims priority, application Germany, June 10, 1964,
T 26,343

16 Claims. (Cl. 271-36)



1. In a device for the controlled separation of flat rectangular articles, such as documents in particular, using a continuously rotating friction roller which effects the separation and which is situated in the region of a pile of such documents, a restraining member following the friction roller at a distance which is shorter than the length of a document, and a guide member which is arranged opposite to the restraining member at a distance of less than the thickness of two documents, and which jointly with said restraining member, prevents the simultaneous passage of more than one document, the improvement comprising a controllable stop member arranged behind the restraining member in the conveying path, which stop member, in a first position, stops the document and, as a result of a control signal, assumes a second position in which it releases the documents for re-acceleration, and

the distance between the restraining member and the stop member being shorter than the length of the shortest document.

3,339,918

PAPER SHEET COUNTING MACHINE

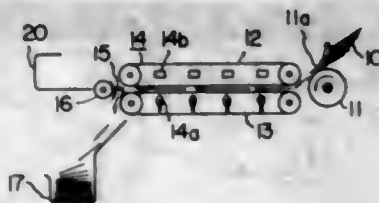
Sajio Goto, Kawasaki-shi, Kanagawa-ken, Japan, assignor to Kabushiki Kaisha Tokyo Koki Seizjo, Tokyo-to, Japan, a joint-stock company of Japan

Filed July 26, 1965, Ser. No. 474,739

Claims priority, application Japan, July 27, 1964,

39/59,403

2 Claims. (Cl. 271-64)



1. In a paper sheet counting machine comprising supply means

adapted to successively supply paper sheets along a predetermined path, a first detector means to detect the existence of closely spaced paper sheets, a second detector means to detect the existence of stacked paper sheets, each of said detectors of the detector means comprising a light source and a photosensitive element which are disposed on opposite sides of said path, a rejecting mechanism which is operated by operation of at least one of said detectors so as to reject abnormally disposed paper sheets into a reject box, and a counter adapted to count the number of paper sheets passing through said path; an improvement comprising relay means adapted to actuate said rejecting mechanism and to deenergize said counter in response to the operation of at least one of said first and second detectors; and means for maintaining said relay means in its operated condition for only a predetermined interval, thereby to restore said rejecting mechanism and said counter to their original states after elapse of said predetermined interval.

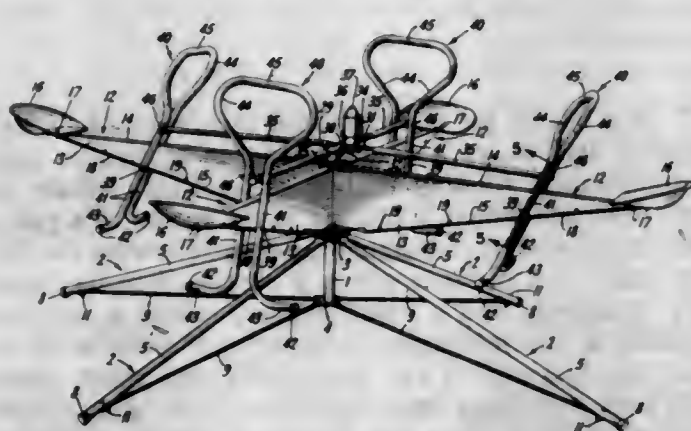
3,339,919

ROUNDOABOUT HAVING SEATING MEANS JOURNALED ABOUT A PREDETERMINED BEARING ARRANGEMENT

Lawrence T. Jones, Olney, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Oct. 23, 1964, Ser. No. 405,991

3 Claims. (Cl. 272-33)



1. In a rotational amusement apparatus, a stationary vertical standard, a pair of vertically spaced cylindrical bearings on said standard, an even multiple of seating members, each seating member extending substantially

horizontally and cantilevered at one end from said standard, a pair of vertically spaced upper and lower journal members on each seating member and each received around a respective one of said bearings, the upper journal members of said seating members being arranged in a first juxtaposed group and the lower journal members of said seating members being arranged in a second juxtaposed group, said seating members being aligned in diametrically opposed pairs with means fastening together the journal members of at least one of said groups to prevent relative movement between the journal members of each of said groups, and lever means coupled between said standard and each of said seating members and hand operable to rotate the seating members about said standard.

3,339,920

CHILD'S COORDINATION TRAINING DEVICE

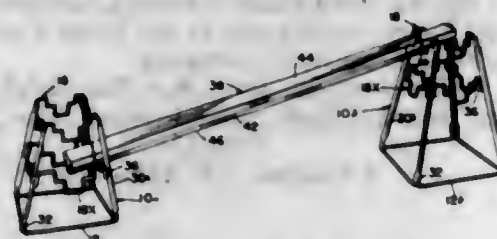
Donald B. Moritz, Arlington Heights, Ill., assignor, by mesne assignments, to Porter-Leavitt Co., a corporation of Delaware

Original application Mar. 10, 1964, Ser. No. 350,901, now

Patent No. 3,258,236, dated June 28, 1966. Divided

and this application Sept. 9, 1965, Ser. No. 495,373

5 Claims. (Cl. 272-60)



1. A child's educational device comprising an essentially frusta-pyramidal stand having a top edge defining a T-shaped recess and an elongated skill exercising means comprising a tread beam having a T-shaped cross-sectional contour mating with said recess, and resting at one end in said recess in weight supported non-tilting relationship.

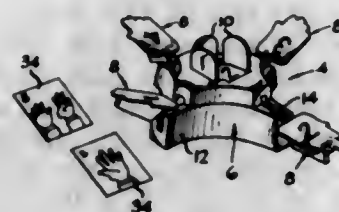
3,339,921

REACTION GAME

Marvin I. Glass, Henry Stan, and Dalia E. Ancevicus, Chicago, and Michael W. Furuta, Fox River Grove, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Sept. 3, 1964, Ser. No. 394,149

3 Claims. (Cl. 273-1)



1. Game apparatus comprising a supporting frame structure, a plurality of levers mounted on said frame for pivotal movement relative to said frame in a generally vertical direction, a plurality of indicating means mounted on said frame for pivotal movement between elevated spaced-apart positions and positions wherein the indicating means are in superposed relation to each other, means connecting each of said levers with one of said indicating means, similar indicia on each connected pair of lever and indicating means to signify which indicating means is connected with a particular lever, spring means biasing each of said levers and its associated indicating means into an elevated position, and means for mounting each indicating means on said frame comprising a pin and slot connection

affording both pivotal and vertical movement of the indicating means, whereby downward movement of a lever results in movement of the associated indicating means to a generally horizontal position and movement of a plurality of the levers causes movement of the associated indicating means to said superposed position with later moved ones overlying earlier moved indicating means.

3,339,922

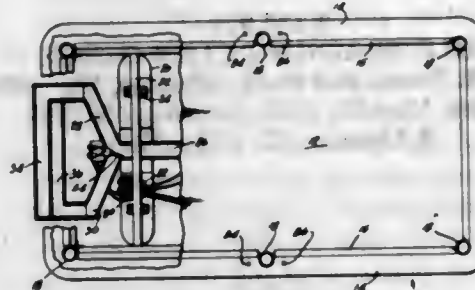
BALL SEPARATOR FOR POCKET BILLIARDS

Raphael W. Miller, 1406 W. Franklin St.,

Jackson, Mich. 49203

Filed Aug. 25, 1964, Ser. No. 391,859

1 Claim. (Cl. 273-11)



A separating device for pocket billiard balls comprising, in combination,

- a primary pocket billiard ball return chute having spaced longitudinal sides,
- a pair of branch ball return chutes intersecting and communicating with said primary chute at a common junction, one of said branch chutes intersecting one of said primary chute longitudinal sides and the other of said branch chutes intersecting the other of said longitudinal sides, said branch chutes extending downwardly with respect to said common junction,
- a guide arm disposed adjacent said junction having a free end and a pivot end, said free end being selectively movable from a position adjacent one of the longitudinal sides of said primary chute to a position adjacent the other longitudinal side,
- pivot means having an upper end and a lower end and pivotally supporting said guide arm pivot end, said pivot means being so located that positioning of said free end adjacent one of said longitudinal sides will guide balls moving along said primary chute into one of said branch chutes and positioning of said free end adjacent the other longitudinal side will guide balls into said other branch chute, said pivot means being obliquely disposed to the vertical and horizontal in a vertical plane centrally disposed between said primary chute longitudinal sides wherein said lower end is closer to the vertical projection of said junction than said upper end whereby said guide arm free end passes through a maximum vertical height as it passes from one longitudinal chute side to the other and gravity forces tend to maintain said arm free end positioned adjacent the desired longitudinal side,
- a pair of solenoids operably connected to said guide arm, a solenoid being connected to said arm on each side of said pivot axis and said vertical plane centrally disposed between said primary chute longitudinal sides, said solenoids adapted to pivot said arm free end from a position adjacent one of said longitudinal sides to a position adjacent the other longitudinal side, and
- manually operated switch means controlling actuation of said solenoids.

3,339,923

RACING GATE FOR MODEL CARS

Walter Nadolny, 1089 Van Buren St.,

Unlondale, N.Y. 11553

Filed Sept. 22, 1964, Ser. No. 398,173

4 Claims. (Cl. 273-86)



4. Starting gate means for racing model automobiles comprising:

- a track of the type having electrical rails and guide slots,
- lever means pivotally mounted under said track adjacent a starting line on said track,
- said lever means being mounted to rotate up through said guide slots to lift the driving wheels of automobiles on said track off the surface of said track, and means to retract said lever means simultaneously and permit said driving wheels of said automobiles to contact said track surface.

3,339,924

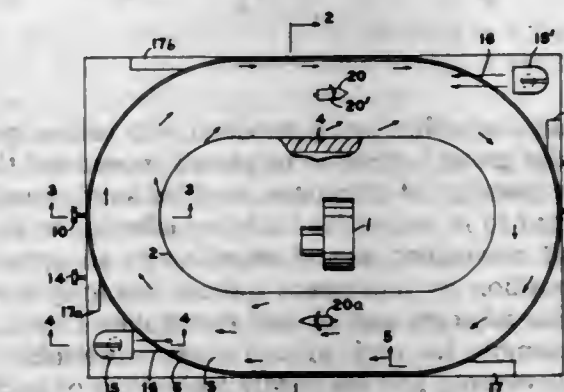
MODEL SAILBOAT RACING GAME APPARATUS

Michael Costagliola, 52 Prospect Ave.,

Sea Cliff, N.Y. 11579

Filed July 13, 1964, Ser. No. 382,123

2 Claims. (Cl. 273-86)



1. Model sailboat racing game means comprising:

- a plenum enclosure chamber,
- an oval water trough forming a closed path mounted adjacent said chamber,
- means to provide air under pressure in said plenum chamber, said chamber having vertical angled slot means disposed about the periphery of said chamber and positioned to blow across the surface of water in said trough,
- a plurality of slot valve means to regulate the air flow from said slots,
- and fixed and manually movable air jet means supplied by said chamber and mounted about the periphery of said trough,
- said slot valve means and said movable jet means thereby providing variable air currents over the surface of said trough,
- and control means to control said slot valve means.

3,339,925

PORTABLE AND DEMOUNTABLE RECREATIONAL APPARATUS

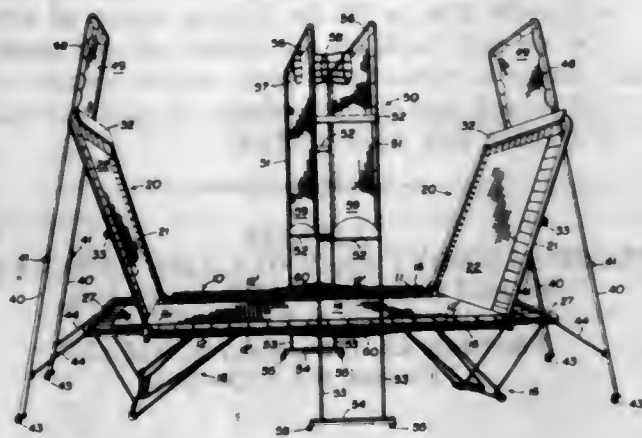
George P. Nissen, Cedar Rapids, Iowa, assignor to Nissen Corporation, Cedar Rapids, Iowa, a corporation of Iowa

Filed Nov. 30, 1964, Ser. No. 414,811

11 Claims. (Cl. 273-95)

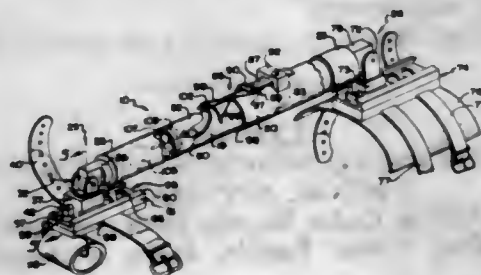
1. Portable recreational apparatus comprising a trampoline having a horizontal bed suspended from a horizontally disposed, generally rectangular trampoline frame

surrounding said bed, an undercarriage depending from said frame and engaging the ground effective to maintain said trampoline in horizontal spaced relation thereabove, a pair of backstops inclining upwardly and outwardly from adjacent the respective ends of said bed, each of said backstops being pivotally secured at its lower end to said trampoline frame effective to permit alteration of the inclination of said backstop relative to said bed, and means operatively associated with said trampoline frame and each of said backstops supporting the latter and optionally rendering said apparatus portable, said means including a support assembly supporting each of said backstops in an inclined position relative to said bed, each of said assemblies inclining downwardly and outwardly from adjacent the upper end of its respective backstop outboard of the adjacent end of said trampoline frame, the lower end of



each of said assemblies being provided with rolling means engaging the ground effective to permit movement therealong in a plurality of directions, each of said assemblies being pivoted to its respective backstop effective to permit its optional movement to and retention in an apparatus portable position by movement thereof inwardly toward its respective adjacent end of said trampoline frame, and a brace assembly for each of said support assemblies inclining downwardly and outwardly from each of said adjacent ends of said trampoline frame to its respective support assembly, said brace assemblies being pivoted to their respective adjacent ends of said trampoline frame and to their respective support assemblies effective to permit said movement of said support assemblies to their respective apparatus portable positions, whereby said trampoline undercarriage is elevated above the ground and said apparatus is wholly supported thereon by said rolling means.

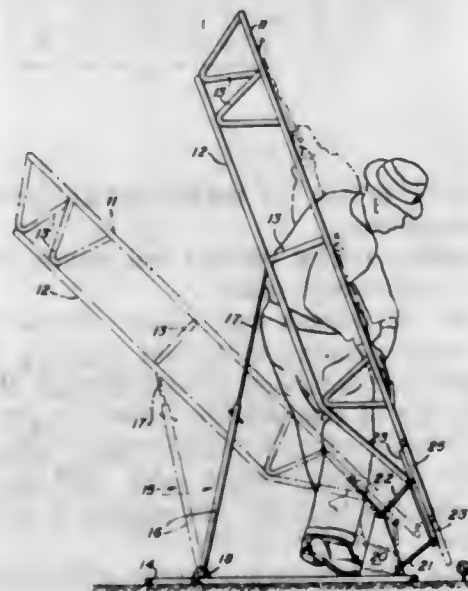
3,339,926
GOLFER'S ARM BEND RESTRAINING DEVICE
Robert B. Coupar, 4447 Narvaez Crescent, Victoria,
British Columbia, Canada
Filed Apr. 28, 1965, Ser. No. 451,409
7 Claims. (Cl. 273-183)



1. A golf swing correcting device for application to a golfer's arm comprising a brace formed of a pair of elongated telescopically arranged members, means to fasten the brace at the wrist and biceps so that it extends

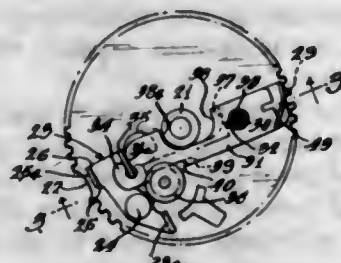
across the inside of the elbow, said members being telescopically movable between extended and retracted positions upon movement of the arm between straightened and bent positions and being relatively rotatable to permit pronation of the hand, and mutually engageable locking means on each member located so as to be operatively effective for locking the members in a predetermined position upon their change in relative positions from a fully extended position effected by the tendency of the arm to bend during the back-swing to thereby prevent bending of the arm and to be operatively ineffective upon said members change in relative positions effected by the pronation of the hand in the follow-through portion of the swing, to thereby permit the members to move a retracted position and thereby permit the arm to bend freely.

3,339,927
GOLF TRAINING CLUB GUIDE
Robert R. Nunn, 684 Bluff, Glencoe, Ill. 60022
Filed May 12, 1965, Ser. No. 455,215
8 Claims. (Cl. 273-191)



1. A golf training device comprising a trackway substantially encircling an open central region and defining an inclined plane, means for adjustably supporting said trackway above a generally horizontal surface to selectively position said trackway at various angles to said surface, and means for constraining said trackway to continuously and substantially pivot about a fixed tee position defined by the intersection of said inclined plane and said horizontal surface.

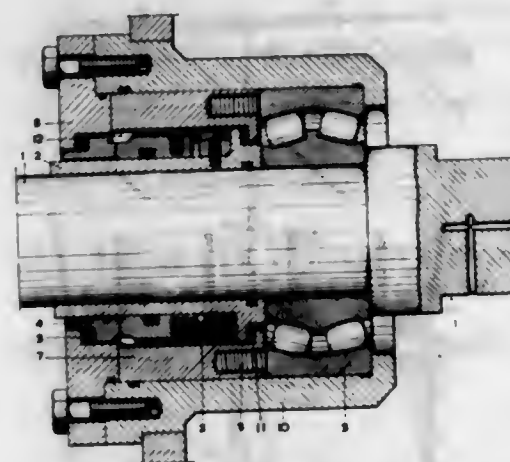
3,339,928
VELOCITY TRIP MECHANISM
Calvin G. Wolthausen, Palatine, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Jan. 12, 1965, Ser. No. 424,897
5 Claims. (Cl. 274-1)



1. In a record changer, a motorboard rotatably mounting a turntable, a tone arm movably mounted on the motorboard and adapted to track a record having a lead

out groove for accelerated movement of said tone arm at the end of record play, a drive gear rotated by said turntable and having a striker, a driven gear normally out of mesh with said drive gear and movable into mesh therewith for rotation thereby to effectuate a record change cycle, and velocity trip means for bringing the drive and driven gears into mesh comprising, a pawl pivotally mounted on the driven gear and having a cam surface and a detent surface each movable to a position to be engaged by said striker, first and second links mounted for rectilinear movement on said driven gear, said second link being mounted for movement relative to said first link, clutch means retaining said first and second links for movement together, means on said second link making rolling and sliding contact with said pawl to pivot the same, and means for transmitting movement of the tone arm through said first and second links to the pawl, whereby said movement transmitting means moves said pawl cam surface into engagement with said striker and said striker moves said pawl and said second link relative to said first link upon each revolution of said turntable until said tone arm tracks said lead out groove whereupon the accelerated movement of said tone arm is transmitted through said movement transmitting means and said links to said pawl to move said pawl detent surface into the path of travel of said striker and move said drive and driven gears into mesh.

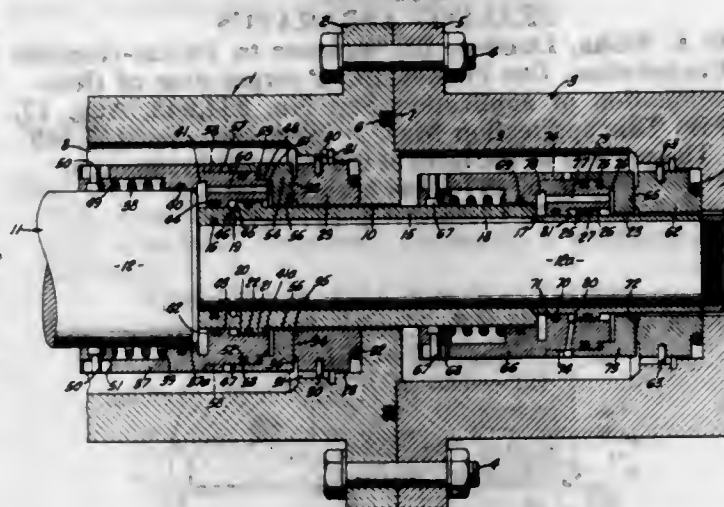
3,339,929
REPLACEABLE SHAFT SEAL
Willem Johannes Stam, Vlijmen, Netherlands, assignor to Grasso's Koninklijke Machinefabrieken N.V.'s, Herengotenbosch, Netherlands, a corporation under Dutch law
Filed Dec. 1, 1964, Ser. No. 415,144
Claims priority, application Netherlands, Dec. 5, 1963, 301,402
1 Claim. (Cl. 277-9)



A shaft seal with replaceable parts comprising a main seal and an auxiliary seal in series with the main seal, in which the main seal comprises a member on the inside of the lid of a shaft seal housing, around the shaft opening of the lid, and a radial sealing surface on a first sleeve which forms a tight and axially slidable joint with the shaft, which surface is pressed under spring action against said member, and in which the auxiliary seal comprises a fixed outwardly extending radial collar on the shaft, a packing mounted on an inwardly extending radial collar of a second sleeve, and normally out of engagement with said radial collar on the shaft, said second sleeve forming a tight and axially slidable seal joint with the housing and the lid and slidably surrounding the first sleeve and being pressed under spring action against the inside of the said lid, the arrangement being such, that when the lid is removed to replace or inspect the main seal, the packing on the internal collar of the second

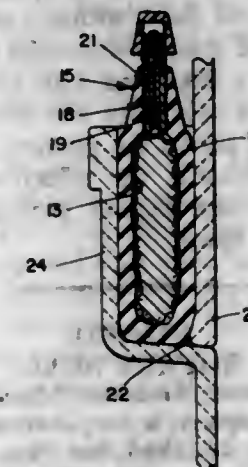
sleeve will be pressed on to the inwardly extending collar on the shaft by the spring action working on the second sleeve before the sealing function of the main seal and of the seal joint between the lid and the housing is lost.

3,339,930
AXIALLY STAGED SELF-ADJUSTING MECHANICAL SEAL
Herbert E. Tracy, Alhambra, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 18, 1965, Ser. No. 440,780
7 Claims. (Cl. 277-27)



1. Sealing means for a shaft opening in a housing containing fluid under pressure and having a rotatable shaft extending therethrough, comprising:
a plurality of axially aligned stuffing boxes about said shaft opening and surrounding said shaft;
means for fluid pressure communication between said stuffing boxes;
mechanical fluid pressure responsive sealing means in each of said stuffing boxes; and
means automatically adjusting each mechanical sealing means responsive to fluid pressures existing in all of said stuffing boxes, whereby each mechanical sealing means bears a proportionate share of the pressure in said housing regardless of the variations thereof.

3,339,931
INFLATABLE GASKET WITH WICK
Donald D. Hundt, Arlington, Francis Paul Gavin, Waltham, and John W. Lefforge, Lynnfield, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Dec. 31, 1964, Ser. No. 422,607
2 Claims. (Cl. 277-34.3)



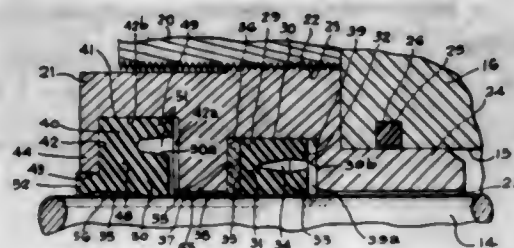
1. An inflatable gasket adapted to seal the joint between a pair of mating members comprising a hollow sheath formed of a resistant, flexible and distortable rub-

ber material, a wick formed of capillary-active substance enclosed within the sheath, the said wick being coextensive with at least one major interior wall area of said sheath, the wick occupying at least 8% of the hollow interior of said sheath, the capillary capacity of the said wick holding and maintaining in uniform distribution a quantity of a resin activator sufficient to cause the hardening of that quantity of a liquid resin necessary to inflate the gasket to joint-sealing dimensions, and a sealable passage connecting the interior of said sheath with the exposed exterior of the gasket.

3,339,932

SEALING APPARATUS

Otto J. Maha, Dundee, Ill., assignor to Parker-Hannifin Corporation, Des Plaines, Ill., a corporation of Ohio
Continuation of application Ser. No. 834,043, Aug. 17, 1959. This application Mar. 1, 1965, Ser. No. 437,348
The portion of the term of the patent subsequent to Oct. 6, 1976, has been disclaimed
16 Claims. (Cl. 277-37)



1. In combination, an inner member mounted for reciprocation in a bore of an outer member, a fluid receiving chamber associated with said members, said outer member having first and second annular grooves open to said bore at spaced points, said first groove being in communication with said chamber, a soft resilient rubberlike sealing ring within said first groove and having a flexible fluid pressure responsive lip in substantial sealing contact with said inner member, a soft resilient rubberlike wiping ring within said second groove in contact with said inner member and adapted to wipe substantially all fluid from the portion of said inner member passing outwardly therethrough during reciprocation of said inner member, a closed hollow space in said outer member and open to said bore between said rings and adapted to receive fluid passing said sealing ring from said chamber and wiped from the rod by said wiping ring, said hollow space having portions communicating with both said first and second grooves and being open to both grooves for the passage of fluid therebetween in both directions, said lip being adapted to lift away from said inner member to permit return of fluid from said space to said chamber when the pressure of fluid within said space is greater than the pressure of fluid within said chamber, said second groove having a fixed end wall substantially at right angles to the axis of said bore and unyieldingly supporting said wiping ring across the greatest portion of the latter's transverse thickness for effectively retaining said wiping ring within said second groove against pressure of fluid within said space.

3,339,933

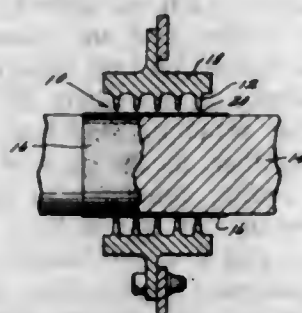
ROTARY SEAL

William Phillips Foster, Andover, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 24, 1965, Ser. No. 434,784
6 Claims. (Cl. 277-53)

1. A rotary seal comprising:
 - a rotating member;
 - a stationary member; and

a surface portion of a bonded high temperature oxide bonded with a first of said members, the high temperature oxide material

- (a) comprising at least 30 weight percent of the surface portion and being an oxide selected from the group consisting of the oxides of aluminum and zirconium,

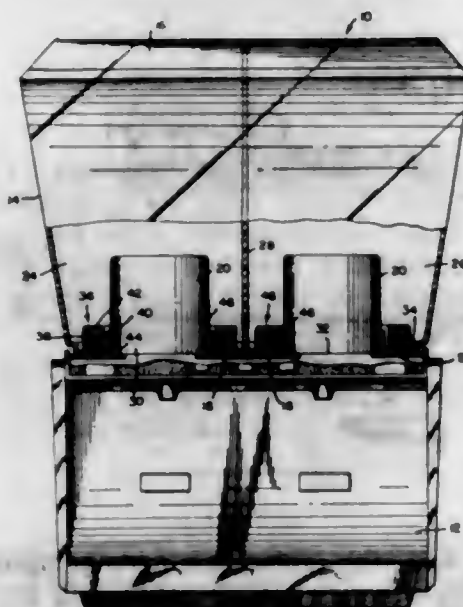


- (b) having thermal insulation characteristics, and
 - (c) being of a hardness during operation greater than the other member so as to be capable of abrading the other member but being non-abradable with respect to the other member;
- the other member including a projection directed toward the surface portion on the first member and co-operating with the surface portion to provide a fluid pressure drop seal between the members.

3,339,934

SEALING GROMMET

Julian D. Gordon, Peabody, Mass., assignor to Jet Spray Cooler, Inc., Waltham, Mass., a corporation of Massachusetts
Filed Feb. 23, 1965, Ser. No. 434,306
4 Claims. (Cl. 277-205)



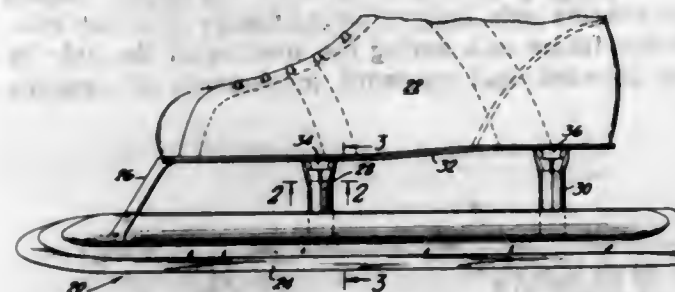
1. In a beverage dispenser,
 - a bowl having a bottom wall with a circular edge defining an opening therein,
 - a downwardly open annular channel provided in the bottom wall of the bowl about the opening,
 - a grommet made of rubber-like material having an annular body disposed in the channel with the body having a plurality of barbs that seal against the side walls of the channel to prevent leakage from the bowl above the body in the channel and to hold the body in the channel,
 - a flange forming an integral part of the grommet and extending inwardly from the body and overlapping the edge of the opening,

and a cooling dome extending upwardly through the opening in the bottom wall of the bowl bending the flange in an upwardly extending position against the outer surface of the dome and forming a seal between the flange and the dome.

3,339,935

ICE SKATE AND ADJUSTMENT MEANS THEREFOR

Charles Weisman, 125 N. Montgomery St., Valley Stream, N.Y. 11580
Filed Oct. 19, 1964, Ser. No. 404,849
15 Claims. (Cl. 280-11.12)



3. Adjustment means for an ice skate having an elongated blade spacedly disposed below and substantially parallel to the lengthwise axis of the shoe thereof, said adjustment means comprising:

- (a) plate means attached to the underside of the shoe;
- (b) elongated front and rear guide means integral with the underside of the plate means, said guide means lying in a plane transverse to that of the blade and having a pair of opposed intersecting transverse bearing faces each at an angle to the plate means forming a pair of V-shaped ways;
- (c) front and rear channel members having elongated and opposed transverse V-shaped bearing faces adapted to slidably mate with the said bearing faces of the said front and rear guide means respectively; and
- (d) means to releasably clamp said channel members to said guide means.

3,339,936

ROLLER SKATE CONSTRUCTION

Jerome F. Hamlin, 158 E. 66th St., New York, N.Y. 10021
Filed Apr. 1, 1965, Ser. No. 444,570
11 Claims. (Cl. 280-11.2)



1. A two-wheeled tandem-type roller skate comprising, in combination, frame means embodying an elongated support plate, a single pair of companion leading and trailing traction wheels oriented and arranged in tandem alignment and balanced and suspended by cooperative plate-supported arm means for free rotation beneath coordinating forward and rearward portions, respectively, of said plate, a boot-type shoe fixed atop said plate and constituting a component of the over-all skate, said plate being flat and rigid, said shoe resembling and being structurally

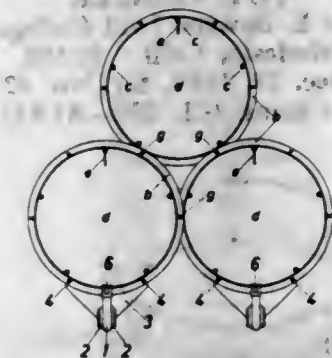
comparable with a shoe of the type used on and in conjunction with a conventional-type ice skate and having a flat sole portion superimposed on and affixed flatwise atop said plate, the rearward underneath side of said plate being provided with a friction brake pad oriented with and situated above and normally spaced from the tread of said trailing traction wheel but capable of being forcibly pressed by the skater while in motion into frictional contact with said tread to achieve the desired retarding and arresting control for said wheel, and, in combination, shock absorbing and brake action adjusting means operatively interposed between a median underneath portion of said plate and a corresponding median portion of said wheel balancing and suspending arm means.

3,339,937

SLIDE RUNNERS FOR A DEVICE FOR LAYING BARBED WIRE COILS

Karl Kirsch, Haunstetten, near Augsburg, and Siegfried Uhl, Augsburg, Germany, assignors to Keller & Knappich G.m.b.H., Augsburg, Germany, a corporation of Germany
Filed Dec. 3, 1965, Ser. No. 511,542
Claims priority, application Germany, Dec. 5, 1964, K 54,716

9 Claims. (Cl. 280-12)



1. An apparatus comprising a plurality of frame members each of said members having spaced end flange portions, means for connecting each end flange portion of each of said frame members to an associated end flange portion of at least one other frame member with the frame members being connected together and having generally parallel longitudinal axes, at least one longitudinally disposed slide runner secured to at least one of said connected frame members, said slide runner being provided with a transverse flange secured to an associated end flange portion.

3,339,938

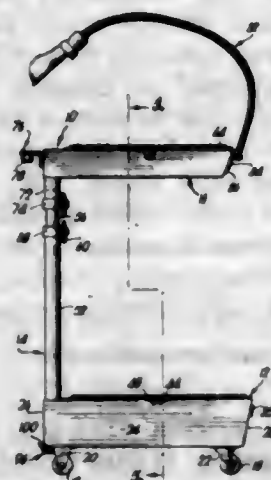
PORTABLE CONTAINER FOR TOOLS

Chris Edmison, 414 W. Meyer, Kansas City, Mo. 64113
Filed Dec. 23, 1964, Ser. No. 420,706
3 Claims. (Cl. 280-79.3)

1. A portable container for tools suitable for use in the open engine compartment of an automobile, comprising:

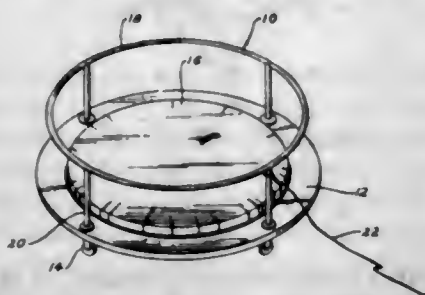
- a wheeled base including a tool box and a vertically disposed tube secured to the box proximal one end of the latter and extending upwardly therefrom;
- a horizontally disposed tool chest including a vertically disposed tube secured to the chest proximal one end of the latter and depending therefrom;
- a shaft interposed between said tubes, one end of the shaft being in telescoped relationship with the tube secured to the tool box, the other end of the shaft being in telescoped relationship with the tube secured to the tool chest whereby to position said box and said chest in vertically spaced horizontal planes, said tubes each being independently rotatable with respect to said shaft; and

clamp means on each tube for releasably clamping the respective tubes in any predetermined, rotated position with respect to the shaft whereby the chest and



the box may be independently swung to any relative positions in their respective horizontal planes within a complete circle about said shaft.

3,339,939
TOY VEHICLE
La Verne E. Bowers, 1611 College Ave.,
Modesto, Calif. 95350
Filed Dec. 29, 1964, Ser. No. 421,821
3 Claims. (Cl. 280—87.01)

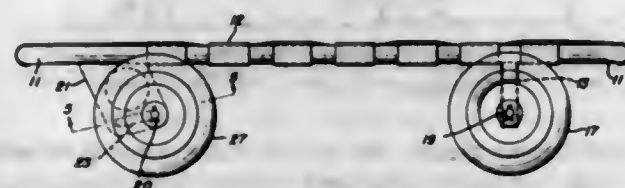


1. A vehicle comprising in combination: a solid base; means including an upholstered portion fixedly mounted on said base to provide a seat for a child passenger in said vehicle, said upholstered portion defining a relatively large flat non-apertured horizontal seating area, said base being of a sufficient diameter to receive the entire body and limbs of said passenger in a sitting position; a plurality of wheels pivotally mounted on said base to permit movement of said vehicle over a floor surface, each of said wheels being rotatable around a vertical axis to permit movement of said vehicle in any desired direction; a plurality of legs fixedly mounted on said base circumscribing said seat in circular spaced relation; and a circular handrail of smaller diameter than said base mounted on said plurality of legs to provide a hand support for said passenger, said handrail in combination with said base and with adjacent of said legs defining spaces of sufficient magnitude to permit said passenger to enter and egress from said vehicle.

3,339,940
COASTING VEHICLE
William A. Anthony, 19522 Coffinberry Blvd.,
Fairview Park, Ohio 44126
Filed Oct. 20, 1965, Ser. No. 498,708
10 Claims. (Cl. 280—87.01)

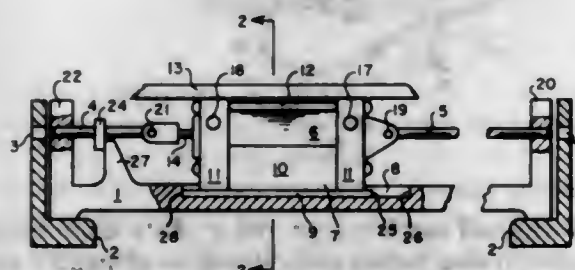
1. In a coasting vehicle, the combination of a body frame, a front steering axle, a pair of front wheels mounted on the steering axle adjacent the ends thereof, respectively, for supporting the forward end portion of the body, a pair of brackets spaced apart in upright parallel planes laterally of the body and secured thereto, said

brackets extending downwardly from said body, each of said brackets having a slot extending therethrough and accommodating said steering axle, said steering axle being freely slidable in said slots and unrestrained between said brackets against movement in a plane common to said slots, the steering axle extending between said brackets and therethrough a lateral distance outwardly from each of said brackets, the wheels on said steering axle being variably spaced from said brackets in accordance with variable angles of the steering axle relative to the longitudinal axis of the body, a pair of sleeve members mounted on said steering axle outwardly of said brackets, one sleeve member being positioned between each wheel and bracket, the slot in each said bracket being extended longitudinally of the frame to permit swinging of said steering axle into variable angular positions relative to the frame axis during the steering of the axle by relative forward and rearward movements of opposite



ends of said steering axle, said slot in each bracket also being inclined downwardly from the plane of said body and forwardly of said body to provide an inclined camming surface defining the top edge of said slot, said camming surfaces supporting said body on said steering axle extended through the respective slot in engagement with said camming surface, said camming surfaces engaged by said axle raising the bracket on the side of the body upon which the axle is moved forwardly at its respective slot, and correspondingly lowering the bracket on the side of the body upon which the axle is moved rearwardly in its respective slot, whereby the forward portion of the body is banked in accordance with the swinging of the axle in said slots, said sleeve members limiting axial movement of said steering axle relative to said brackets and accommodating the variable spacing of said front wheels from said brackets in swinging at variable angles to the longitudinal axis of the body.

3,339,941
LOCK FOR SLIDING FIFTH-WHEEL TRUNNIONS
Ray A. Braunberger, 221 N. La Salle St.,
Chicago, Ill. 60601
Filed May 7, 1965, Ser. No. 454,060
2 Claims. (Cl. 280—407)



1. In fluid operated means for locking in position a trunnion support which slides along tracks on a fifth wheel; two plungers extending thru opposite holes in said trunnion support that are adapted to be moved into holes in the fifth wheel; a fluid operated cylinder connected to one of said plungers, a piston in said cylinder

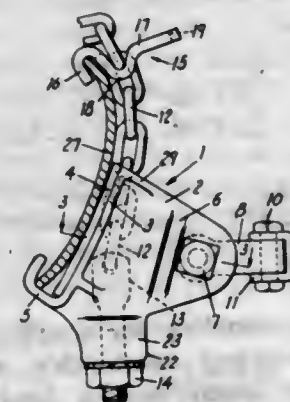
whose piston rod is connected to the other of said plungers, a cross track on said trunnion support located below the cylinder, a cradle supporting said cylinder movable along said cross track, stops limiting the movement of said cradle along said cross track, vertical projections extending upward from said cradle which engage both ends of said cylinder at the level of the piston which transmit the impact when the cradle engages the stop to the cylinder without strain on the piston.

3,339,942
RETRACTABLE WIDE LOAD TRAILER
Melvin Ratkovich, 1555 Ashcroft Ave.,
Sunnyvale, Calif. 94087
Filed Oct. 15, 1965, Ser. No. 496,411
10 Claims. (Cl. 280—423)



1. A wide load retractable trailer adapted to be pulled by a traction vehicle and comprising in combination:
(a) a pair of trailer beds each having a gang wheel unit at its after end for rollably supporting the same;
(b) an intermediate tongue between said traction vehicle and said trailer beds;
(c) a pair of pins extending through the after end of said tongue;
(d) sleeve means on the fore end of said trailer beds each of which is slidably mounted on said pair of pins on either side of the after end of said tongue for rigidly connecting and supporting the fore end of each of said trailer beds in load bearing relation to said intermediate tongue and for limited lateral movement relative thereto; and
(e) means between said trailer beds for spreading and contracting the same between the limits of lateral movement thereof.

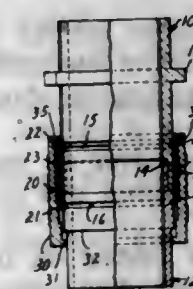
3,339,943
COUPLING HEAD FOR ATTACHING TOWING CONNECTIONS TO AUTOMOBILE BUMPERS
Paul E. Hicks, Three Oaks, Mich., assignor to Pilot Incorporated, Battle Creek, Mich.
Filed Feb. 11, 1966, Ser. No. 526,869
7 Claims. (Cl. 280—502)



1. A coupling head for clamping a towing attachment to an automobile bumper and including a body with a transversely extending hook portion engageable with an edge of a bumper, a loop link chain having one end connected to the end of a tightening bolt, and an adjusting clip having a hooked end engageable with another edge of the bumper and a reversely bent tail portion with a key hole slot opening formed therein and selectively engageable with links of said chain.

said head being characterized by said body having spaced side walls extending outwardly and upwardly from said hook portion, means forming part of a towing connection connected to the outer ends of said side walls, transversely extending and spaced flanges on the inner edges of said side walls having their adjacent edges spaced to receive said bent tail portion of said clip therebetween, and an upwardly opening U-shaped cross portion connecting the lower edges of said side walls and extending below said hook portion, the bottom of said U-shaped cross portion having a hole formed therethrough passing said bolt and acting as an abutment for a clamp nut on the projecting lower end of said bolt.

3,339,944
TUBULAR COUPLER FOR CONDUITS
Donald R. Poague, Crystal, Minn., assignor to Universal Space Corporation, Washington, D.C., a corporation of the District of Columbia
Filed Jan. 28, 1965, Ser. No. 428,793
2 Claims. (Cl. 285—39)



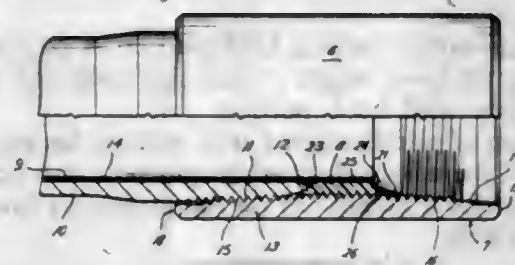
1. Locking mechanism for coupling the ends of first and second mating conduits in coaxial engagement comprising:

- a circumferential groove in the outer periphery of each of said mating conduits;
- a shoulder extending radially outwardly from the periphery of said second conduit and directed away from the end which mates with the first conduit;
- a locking sleeve having an inner diameter approximately equal to the outer diameters of said first and second conduits and having first and second spaced apart, inwardly projecting flanges on the inner surface thereof and longitudinal slots extending from either end thereof to provide radial movement of said flanges, for engagement of said flanges with said grooves when the ends of said conduits are coaxially engaged, and said locking sleeve having one end thereof tapered from approximately the outer periphery thereof radially inwardly and longitudinally toward the other end thereof;
- a hollow cylindrical actuating member with an inner diameter slightly larger than the other diameter of said locking sleeve coaxially positioned so that one end of said actuating member encircles the end of said second conduit and having a flange extending radially inwardly adjacent said one end of said actuating member for abutting engagement with said shoulder on said second conduit; and
- a cam ring coaxially affixed to the inner periphery of said actuating member adjacent the end opposite said one end thereof having an inner diameter slightly smaller than the outer diameter of said locking sleeve and having a cam surface at one end thereof of extending radially outward for slidably engaging said tapered end of said locking sleeve and forcing radially outward said first flange thereby disengaging said first flange.

3,339,945

FUSED TUBULAR MEMBER AND COUPLING ARRANGEMENT

Edwin D. McCrory, Jr., and Walter W. Walling, Houston, Tex., assignors to Plastic Applicators, Inc., a corporation of Texas

Filed Dec. 6, 1965, Ser. No. 511,685
3 Claims. (Cl. 285-55)

1. A tubular member and coupling arrangement comprising:

- a tubular member,
- a coupling,
- a threaded surface on the interior of said coupling and exterior of said tubular member whereby said coupling and tubular member may be threadedly engaged,
- an annular member formed integrally with the interior of said coupling intermediate the ends thereof and providing an annular shoulder against which said tubular member is abutted,
- a synthetic resin layer at the interface of the threaded surface between said coupling and tubular member,
- a synthetic resin coating on the interior of said tubular member extending over the inner surface of said annular member,
- said synthetic resin layer and said synthetic resin coating hardened by heat in situ into a homogeneous mass to fuse said coupling and tubular member together.

3,339,946

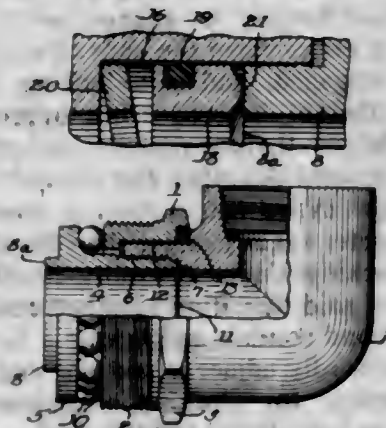
BALL BEARING SWIVEL PIPE JOINT OR COUPLING

Hans Kreidel, Sr., and Hans Kreidel, Jr., Wiesbaden, Germany, assignors to Inventex Ltd. (formerly Inventex A.G.), Aargau, Switzerland, a Swiss company

Filed Mar. 20, 1964, Ser. No. 353,326

Claims priority, application Germany, Apr. 3, 1963, K 49,369

3 Claims. (Cl. 285-272)



1. A ball-bearing swivel joint for fluid lines, comprising a first and a second connecting structure which are constructed for connection to respective elements of the line in which the joint is to be inserted, said connecting structures being rotatable relative to each other, each of said structures comprising a line-connecting member and a bearing member, each bearing member being of tubular

form and having external threads formed at one axial end thereof engaged with cooperable internal threads formed in a bore of the associated connecting member to form respective rigid unitary structures, with one end of the first structure being concentrically disposed within one end of the second structure and said bearing members being disposed in concentric relation, the inner bearing member having an outwardly directed annular flange and the outer bearing member having an inwardly directed annular flange, forming opposed radially extending bearing races disposed to oppose separating movement between the two connecting structures, a plurality of bearing balls disposed between said bearing races, said inner bearing member and the associated connecting member being provided thereon with cooperable sealing means forming a fluid-tight seal therebetween, the inner end of said inner bearing member having a hard, smooth surface of generation forming one end of an annular space defined thereby and the connecting member of said second connecting structure, an annular sealing member disposed in said last-mentioned annular space, formed from a non-compressible material having a low coefficient of friction, and having an annularly shaped portion bearing in sealing relation on said hard, smooth surface of said inner bearing member, radially extending means on said sealing member forming a fluid-tight seal between the latter and an inner wall of the connecting member of said second connecting structure, thereby forming a rotary fluid-tight seal between the two connecting structures, and means disposed between and engageable with said sealing member and the connecting member of said second connecting structure for exerting an auxiliary force on said sealing member to maintain it in sealing relation irrespective of operative internal fluid pressure within the joint, said outer bearing member having externally accessible means for facilitating disconnection of the latter from the associated connecting member to enable access to said sealing member.

3,339,947

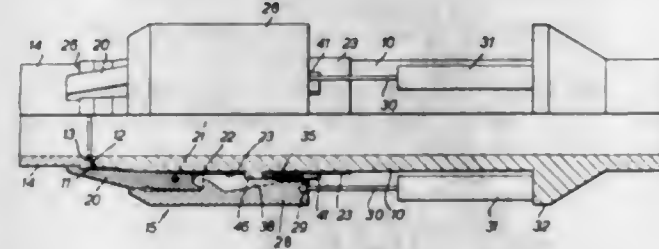
POWER OPERATED RELEASABLE PIPE COUPLING

Albert J. Malsey, Heston, England, assignor to Fairley Engineering Limited, Heston, England, a company of Great Britain

Filed Jan. 25, 1965, Ser. No. 427,672

Claims priority, application Great Britain, Jan. 24, 1964, 3,239/64

4 Claims. (Cl. 285-315)

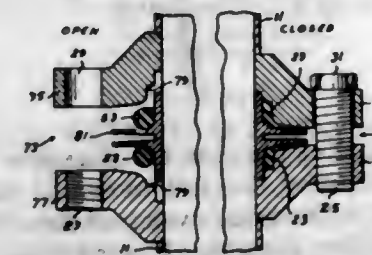


1. A releasable pipe coupling for coupling a pair of pipes together in end-to-end relationship with sealing pressure between them comprising a latch-supporting member embracing the first pipe and slidably mounted thereon for axial movement on and relative thereto, abutment means on the second pipe, a plurality of latch fingers pivoted to the latch-supporting member at points distributed around the first pipe and adapted to be moved pivotally into latching engagement with the abutment means on the second pipe to latch the two pipes in aligned and abutted relationship, an anchorage on the first pipe, and thrust mechanism comprising a collapsible toggle strut linkage connected between the latch-supporting member and the anchorage, and driving means acting on

the toggle strut linkage and arranged when actuated to straighten the toggle strut linkage and thereby to move the latch-supporting member axially along and relatively to the first pipe in the direction away from the second pipe, whereby the actuation of the thrust mechanism when the latch fingers are in latching engagement with the abutment means on the second pipe applies equal and opposite thrust components to the two pipes respectively via the anchorage and the abutment means to provide sealing pressure between the abutted pipe ends.

3,339,948
PIPE COUPLING

Daniel H. Weltzel, Boulder, Colo., assignor to the United States of America as represented by the Secretary of the Air Force

Filed June 25, 1965, Ser. No. 467,150
6 Claims. (Cl. 285-331)

1. A coupler for interconnecting the ends of pipes which carry gas or liquid at temperatures below -150° F. comprising:

- a flange assembly adapted to be secured to the pipe ends to be coupled, said flange assembly including an upper flange member and a lower flange member, said upper flange member incorporating a first, force-transmitting annular step means in operable relation with a second, force-transmitting annular step means in said lower flange member, at least one of said annular step means incorporating an extended extrusion space portion adapted to receive extruded sealing material therein and force-transfer means for subsequently applying a compression force initially applied to couple said flange assembly to said sealing material;
- elastomer O-ring seal means constrained in initial uncompressed condition between said upper and lower flange members; and
- means for initially applying a predetermined coupling force to said flange assembly to move the upper and lower flange members into a coupled position, the force-transfer means of said annular step means thereby moving to a seal-engaged position and being dimensioned relative to the coupled position of said flange members to thereby apply a relatively high compression force to compress said O-ring seal into a thin layer of elastomeric sealing material extruding into the extrusion space provided therefor a predetermined extent sufficient to overcome the inherent unseating of the seal at cryogenic temperatures.

3,339,949

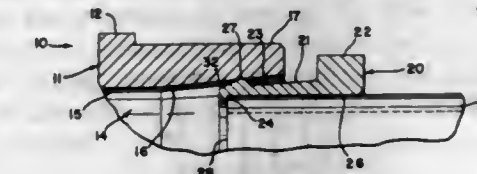
TUBE COUPLING

Zoltan Szohatzky, Mentor Township, Ohio, assignor to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio

Filed Oct. 21, 1965, Ser. No. 499,212
2 Claims. (Cl. 285-342)

1. A micro-coupling comprising:
a coupling body;
a passage through said body adapted to receive a piece of tubing therein;
the passage including an axially extending radially outwardly tapering mouth at one end thereof;

a gripping element including a central bore there-through and being adapted to be received over the end of a piece of tubing;
said gripping element including a longitudinally extending body terminating in a radially inwardly extending flange at one end thereof;
the other end of said body including a radially outwardly extending flange adapted to abut the terminal portion of said coupling body;
a bead formed on said gripping element intermediate said flanges;

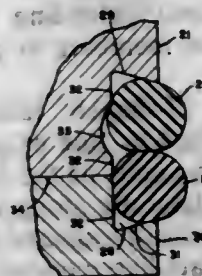


said bead being radially outwardly extending relative to said gripping element and extending circumferentially therearound;
the radial dimension of said bead being greater than the diameter of the axially inner end of said tapered mouth and less than the diameter of the axially outer end of said tapered mouth whereby said gripping member is receivable in said tapered mouth with said bead engaging the wall thereof intermediate its ends.

3,339,950

COUPLING DEVICES

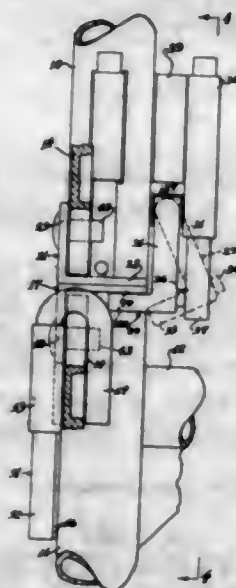
Marvin H. Grove, Piedmont, Calif., assignor to M & J Valve Company, Houston, Tex., a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,566
4 Claims. (Cl. 285-363)

1. In coupling devices of the type employed for making connection between aligned flow passages, a structure having a portion forming an annular planar clamping face and a flow passage surrounded by said face, an annular recess in said portion and opening through the plane of said face, said recess as viewed in section being defined by outer and inner peripheral surfaces that are convergent toward said plane and a bottom surface that is generally parallel to said plane, and a pair of nested concentric resilient seal rings disposed in said recess and in direct physical contact with each other, each ring when relaxed having a radius in section that is less and a diameter greater than the depth of the recess, the diameters of the two rings in section being greater than the radial distance between said inner and outer peripheral surfaces whereby the rings are compressed when positioned in said recess, said rings forming means for making sealing contact with the annular clamping face of a complementary coupling part, said structure comprising a flange having said first named annular clamping face together with a separate annular portion fitted concentrically within the flange and having an annular end surface substantially coincident with the plane of said clamping face, said recess being formed in part in the flange and in part in said annular portion, the circular junction line between the flange and the annular portion being located intermediate the

areas of contact between the sealing rings and said bottom surface, said seal rings having areas of sealing contact with the bottom surface formed on the flange and the portion of the bottom surface formed on said annular portion respectively.

3,339,951
CONNECTOR UNIT FOR SCAFFOLD
 David McDonald, 4347 Powell Ave.,
 Birmingham, Ala. 35222
 Filed Apr. 19, 1965, Ser. No. 449,193
 5 Claims. (Cl. 287—54)



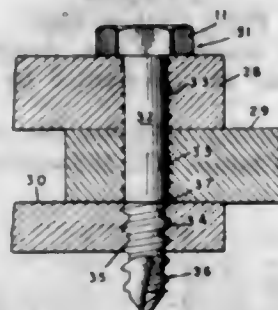
1. In a connector for detachably connecting adjacent ends of vertically aligned members of a scaffold to each other:

- (a) a plate-like member carried by each of said adjacent ends and extending transversely of said vertically aligned members in position to abut each other,
- (b) a generally U-shaped latch having its base pivotally supported by one of said vertically aligned members with the ends of the legs of said U-shaped latch extending laterally along opposite sides of said other of said vertically aligned members in position to engage the plate-like member carried by the other of said vertically aligned members to retain said plate-like members in engagement with each other,
- (c) means interconnecting said plate-like members to each other to limit lateral movement therebetween, and
- (d) releasable means holding said U-shaped latch in engagement with the plate-like member carried by said other of the vertically aligned members.

3,339,952
CONSTRUCTION BOLT OR FASTENER
 Melvin H. Beckman, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
 Filed Apr. 8, 1965, Ser. No. 446,517
 1 Claim. (Cl. 287—189.36)

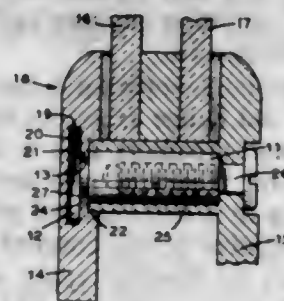
In combination, a construction bolt fastening together adjoining plural members including at least one held member and a holding member each having aligned openings, said bolt comprising a shank having an enlarged head at one end and a thread-forming part at the other end for forming a thread in the opening in each member, said shank having a smooth uninterrupted cylindrical part adjacent the head received in the held member, a spirally threaded part having a full thread of uniform crest and root diameters adjacent said thread-forming part received in said holding member, and a circumferential transverse shoulder between and defining the intersection of the

smooth cylindrical part and the spirally threaded part of the shank, said smooth cylindrical shank and shoulder having a diameter substantially equal to the pitch diameter of the spirally threaded part and of a length corresponding to the thickness of said held member, said thread-forming part successively forming an internal thread in the aligned openings in said held member and then in said holding member, said holding member being joined to said held member with said thread-forming part projecting through and beyond the threaded opening in said holding member, the length of said spirally threaded



part being at least as great as the thickness of said holding member, whereby the full thread is threadably engaged throughout the axial extent of the threaded opening of said holding member, drawing said members together, said shoulder and said smooth cylindrical part of the shank upon entering the threaded opening of said held member engaging and deforming the crests of the internal thread in the opening of said held member with said deformed thread gripping the smooth cylindrical part of said bolt and retaining the bolt against backing out of said opening in the held member, said deformation of the crests being limited to the thread in said held member.

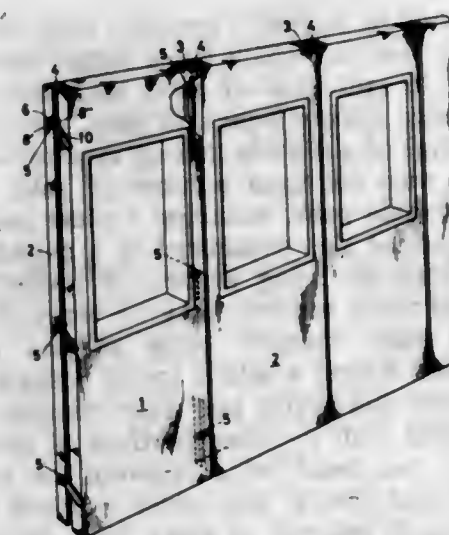
3,339,953
JOINT INCLUDING T-CONNECTOR
 Samuel Bohn, 285 Ayer St.,
 Passaic, N.J. 07056
 Filed May 24, 1965, Ser. No. 458,080
 1 Claim. (Cl. 287—189.36)



In combination;
 an outer frame member having an inner groove defining an enlarged channel disposed intermediate the thickness of said outer frame member,
 said outer frame member having a second groove defining a recess formed in a surface portion on the inner side of said outer frame member,
 said second groove formed on the inner surface of said outer frame member being concentrically disposed with respect to said inner groove,
 means defining an intermediate groove coaxially interconnecting said inner groove and said second groove whereby a shoulder is defined intermediate the thickness of said outer frame member,
 a T connector having a head portion and a connected stem portion,
 said head portion having a greater diameter than said stem portion,

said head portion being received in said inner groove, and said stem portion having formed thereon an annular groove immediately adjacent said head whereby said annular groove defines a recess accommodating the shoulder defined intermediate the thickness of said outer frame,
 said stem portion having a threaded bore extending internally and longitudinally thereof,
 and an inner frame member connected to said outer frame member and associated T connector,
 said inner frame member having a hollow shank receiving the stem portion of said T connector,
 said hollow shank spacing the inner member from the outer member,
 said shank having its inner end received in said second groove formed on the inner surface of said outer frame member,
 and a screw connector received in the bore of said T connector drawing said inner and outer frame members together in the assembled position thereof.

3,339,954
MEANS FOR RELEASABLE CONNECTION OF BUILDING ELEMENTS
 Bror Robert John Hjalmar Alvdén, Göteborg V, Sweden, assignor to Aktiebolaget Gotaverken, Göteborg, Sweden, a corporation of Sweden
 Filed Mar. 28, 1966, Ser. No. 538,093
 Claims priority, application Sweden, Apr. 13, 1965, 4,802/65
 1 Claim. (Cl. 287—189.36)



In a building structural assembly comprising building elements having opposed matching continuous grooves with essentially parallel side walls in their edge portions, each groove extending longitudinally from end to end of the pertaining edge;

- a number of connection members for insertion in said grooves for engaging opposed grooves,
- each member consisting of a central operating body having opposite body faces,
- said operating body being positioned between the edges of the elements,
- said opposite body faces which abut the grooved edges being wider in all dimensions than the opening in said grooves;
- axially aligned first and second dowels oppositely extending from said body faces,
- each dowel being somewhat shorter than the depth of the groove and having two smooth sides and two locking sides arranged essentially at an angle of 90° in relation to each other,
- said locking sides being spaced a greater distance than the smallest width of a groove;

the smooth sides of the first dowel being parallel to each other and spaced from each other by a distance slightly smaller than the narrowest part of the groove, each smooth side of the second dowel being divided into two facets; diametrically opposite facets of the two sides forming pairs,
 a first of said pairs of facets being coplanar with the smooth sides of the first dowel and
 a second pair of facets being arranged to deviate from the first mentioned pair of facets at an acute angle; and
 operating means reaching through the clearance between the elements to engage the operating body for turning the connection members so that the smooth sides of the members will allow removal from between the elements by sliding the members through said groove.

3,339,955
GATE LATCH AND GATE CATCH ARRANGEMENT FOR A HINGED GATE
 Fred L. Leonard, 14720 NW. 8th Court,
 Miami, Fla. 33168
 Filed Dec. 21, 1964, Ser. No. 419,684
 5 Claims. (Cl. 292—60)



1. A gate latch and gate catch arrangement for a hinged gate at a fence opening comprising:

- a hollow rigidly anchored cylindrical fence post, defining a smooth walled interior column, said post being supported in substantially vertical alignment at one edge and in the vertical plane of the gate opening and having a hole intermediate its height communicating with the interior column of the post and opening away from one side of vertical plane;
- a one-piece rigid shaft including a terminal latch portion at one end, said shaft being slidably housed only in the column for linear vertical movement from a first normal latched position with the terminal latch portion within a general horizontal projection of the hole and the other end of said shaft extending out of the top of said fence post, to a second open and unlatched position with the latch portion raised just above the hole projection;
- guide means to limit slidable movement of the shaft to vertical movement and including a top ring fixed to the upper end of the post and having an opening sized for sliding movement of the shaft, and a guide member on the shaft and at all times in the column and sized to slidably abut the fence post interior;
- an operator member carried exteriorly of the post and normally seated on the top ring when the shaft is in the first latched position, said operator member being fixedly connected to said rigid other end of said shaft and operable to transmit vertical forces to the shaft to move the terminal portion from the horizontal projection of said hole and vertically thereabove; and

a gate catch mounted on the distal edge of the gate to swing in a circular path outwardly of the circumference of the swinging distal edge of the gate and said gate opening, said gate catch extending outwardly of the plane of the gate on the same side of said gate as said hole in the fence post and at a companionate height, and extending generally outwardly and beyond of the circumference defined by the swinging distal edge of the gate, and thence inwardly to a terminal end portion generally at the plane of the fence post, the distance of the end portion being spaced from the distal edge of the gate a distance such that the span of the gate plus the said distance is equal to the fence opening plus substantially one-half of the thickness of the said gatepost, so that the end portion is adapted to enter said hole on swinging movement of the gate into the plane of the fence opening, said end portion being sized for close entry through the hole and into the column on closing of the gate, and said end portion including hook means to engage said terminal latch portion of the shaft in hooked-up relation when the shaft is in the lower latched position and free of hooked-up engagement when said latch portion is in said open position; the terminal end of said end portion being spaced from the nearest side of the hook means a distance substantially equal to the distance one-half the column diameter of the fence post so that the terminal end is adapted on swinging closing movement of the gate to stop the swing on impact with the fence post substantially diametrically opposite of the hole and to position the latch portion and the hook means for hooked-up relation;

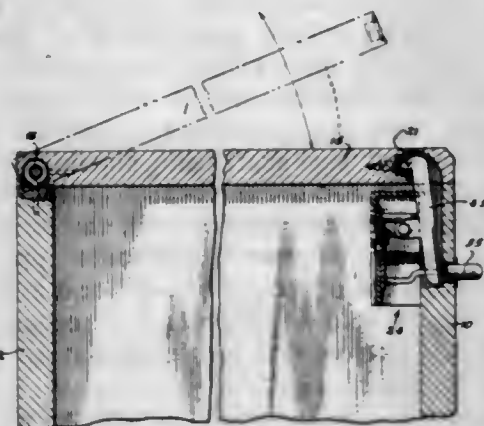
said operator member comprising a decorative top cap for the column and ring opening to raise the terminal latch portion out of engagement with the catch to unlock the gate.

3,339,956

CABINET COVER LATCH

Robert C. Bencene and Malcolm T. Phelps, Jamestown, N.Y., assignors to Weber-Knapp Company, Jamestown, N.Y.

Filed Nov. 17, 1965, Ser. No. 508,282
2 Claims. (Cl. 292-127)



1. In a cabinet or the like having an open face and a cover panel therefor movably mounted thereon and carrying a latch strike device, the improvement comprising:

a latch mechanism mounted on a wall portion of said cabinet for releasable engagement with said cover strike device wherein said latch mechanism comprises;

a base member rigidly mounted on said wall portion of said cabinet, said base member including opposite side walls engaging said wall portion of the cabinet

in outstanding relation thereto, and a back wall joining said side walls and presenting an inner face disposed in spaced relation to said wall portion of the cabinet;

a pivot bracket member mounted on said inner face of said back wall, and including an outstanding arm between said side walls;

a latch member pivotally mounted on said outstanding arm and having a jaw portion adapted to engage in latching relation with said strike member;

spring means biasing said latch member toward strike engaging position;

a sleeve carried by said wall portion of the cabinet;

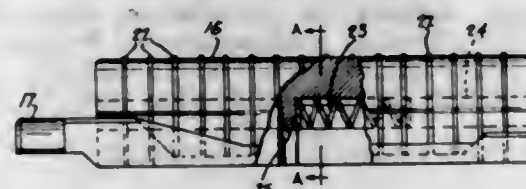
and a latch release having a push button slidably received in said sleeve being bifurcated to provide a pair of legs straddling said latch member and slidably received through said back wall.

3,339,957

WINDOW LOCK

Raymond Marie Dallaire, Levis, Quebec, Canada, assignor to Panoramic Hardware (1965) Inc., Lauzon, Quebec, Canada

Filed Oct. 22, 1965, Ser. No. 501,234
2 Claims. (Cl. 292-145)



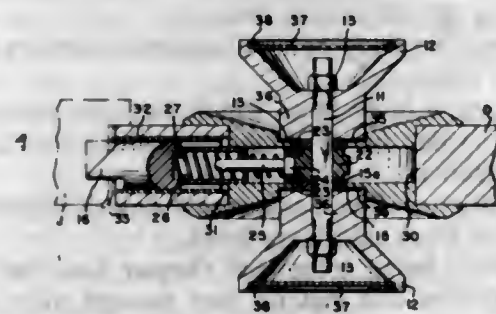
1. In a window having a movable pane of glass provided with a side rail which has a flange extending perpendicularly to said pane of glass, said flange having a bead at its edge remote from said pane, the combination with said flange of a slidable locking member adapted for cooperation with the fixed portions of said window to lock said movable pane, including a slider member having a longitudinal slot terminated in a cylindrical bore, said slider member being formed of resilient material whereby said slider member may be snapped onto said flange, said slider member being adapted for sliding motion on said flange, a helical spring positioned in said cylindrical bore and urging said slider member into locking engagement with the fixed portions of said window, a portion of said bead being removed for cooperation with said helical spring, said slider member having an extended portion adapted to extend into an opening in the fixed portions of said window to lock said movable pane in a closed position.

3,339,958

DOOR LATCH

Robert S. Lint, 7800 Perimeter Road S., Seattle, Wash. 98108

Filed Apr. 12, 1966, Ser. No. 542,078
3 Claims. (Cl. 292-169)



1. A latch assembly comprising, a slide bolt slidable between extended and retracted position, spring means urging said bolt into extended positions, rollback means

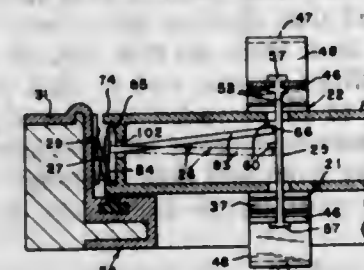
including a boss having a non-circular opening for retracting said bolt in opposition to said spring means, a pair of escutcheons with aligned round central openings surrounded by a pair of recessed annular seats, a non-circular spindle extending freely through said central openings and rollback boss for operating said rollback means responsive to turning of the spindle, said spindle being slidably adjustable along its longitudinal axis relative to said rollback means, handles and bearing means slidably sleeved on the spindle to turn in unison therewith, said bearing means being seated against said recessed annular seats and having respective boss-like protrusions extending into and having a bearing interfit with said central openings in the escutcheons and in substantial contact with said rollback boss, means resisting outward endwise movement of one of said handles relative to the respective end of the spindle, the other end of the spindle being threaded, a nut screwed on said threaded end of the spindle and bearing against the other handle to adjustably hold said bearing means against said seats by pulling said handles toward one another, said other handle having an outwardly opening cavity housing said nut, and a removable cover plate on said other handle for said cavity.

3,339,959

PUSH-PULL DOOR LATCH MECHANISM

Walter M. Krantz, 2355 Lake Shore Blvd., Apt. 304, Mimico, Toronto, Canada

Filed June 2, 1965, Ser. No. 460,752
15 Claims. (Cl. 292-254)



1. Actuator means for door or like latching mechanisms including a spring biased latch element comprising:

(a) a pair of mounting plates each composed of a base portion adapted for connection to the opposite door faces and an angularly related support rib extending from one face of said base portion and terminating in a cylindrical journal beading;

(b) a pair of handle members each composed of an elongated body portion, an angularly related support rib extending from one face of said body portion and terminating in a beading shaped, dimensioned and disposed in parallelism to the two edges of said handle members for mating pivotal cooperation with a respective mounting plate journal beading, and connector means adjacent one of said ends of said handles;

(c) a handle connector member comprising a rod-like member having a body portion shaped for free axial shifting movement in a suitable through aperture provided in the door adjacent respectively aligned ends of said pair of mounting plates and also having respective terminal ends formed to be removably connected to said handle connector means so as to form a push-pull connection between said ends of said handle members;

(d) a latch release member positioned along an edge of said door in juxtaposition to said handle connector member and including a body portion engageable by said handle connector member for movement from a normal rest position to a latch release position upon axial shifting movement of said handle connector member under influence of the pivotal movement of said handles;

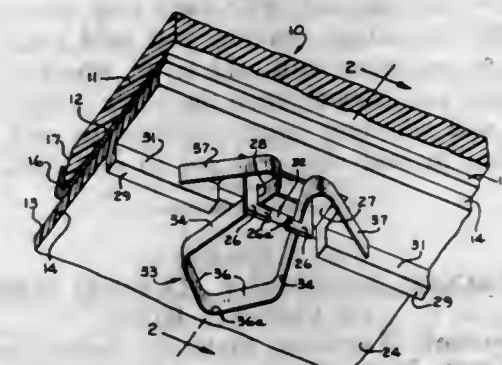
(e) spring means normally yieldingly biasing said latch release member to its normal rest position with its body portion in engagement with said portion of said handle connector member whereby said actuator means is conditioned for uni-directional, latch element releasing movement upon application of a respective pushing force to one of said handles and a pulling force to the other of said handles.

3,339,960

QUICK RELEASE CLAMPING MECHANISM

James A. Gee, Marion, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 24, 1966, Ser. No. 522,426
6 Claims. (Cl. 292-256)



1. A quick release clamping mechanism for releasably holding an object on a surface of a housing having openings therethrough, the mechanism comprising:

a clamping member having at least one clamping edge and two spaced appendages extending through at least one opening in the housing when said member rests on the surface of the housing, one surface of each of said appendages defining a cam surface;

stop means affixed to the housing in spaced relationship with respect to said clamping edge of said member;

spring means having at least two elongated, resilient legs each of which is in continuous engagement with and deflected by said cam surface of an associated one of said appendages, each of said resilient legs both being deflected at a progressively greater angle when said associated, engaged appendage is moved in a direction away from said stop means, and establishing a biasing force tending to move the engaged appendage in a selected direction toward said stop means to facilitate said clamping member and said stop means releasably holding an object therebetween; and

means for restricting movement of said elongated legs of said spring means relative to said housing to only resilient deflection.

3,339,961

LEVER LATCH CONSTRUCTION FOR A SPLIT CLAMPING RING

Edward E. Schaefer, 3813 N. Harlem Ave., Winnetka, Ill. 60093

Filed Aug. 27, 1965, Ser. No. 483,127
5 Claims. (Cl. 292-256.69)



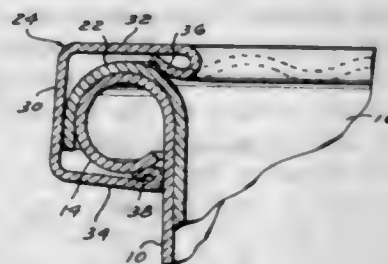
1. In a split clamping ring having spaced ends, a swingable lever hingedly connected to said ring adjacent one end thereof and having a free end, and a link connecting

said lever with the other end of said ring for expanding and contracting the latter, the improvement which comprises a latch construction for holding said lever in a ring-contracted position with at least the free end thereof engaging said ring, said latch construction comprising an upraised housing on said lever adjacent the free end thereof and having an opening therein and an outer wall, and a swingable latch arm mounted on said ring and having a portion engageable with the outside of said lever for retaining the latter in a ring-contracted position, said latch arm including a laterally extending latching tongue movable into said opening and into latching engagement with said housing upon movement of said latch arm into engagement with said lever, said tongue being spaced from said outer wall when in said latching engagement, and said lever having spaced portions at opposite sides of said housing adapted to be disposed in substantial engagement with said ring when said lever is in ring-contracting position and said latch arm is in latching engagement with said lever, whereby said housing protects said tongue when the latter is disposed in said opening and whereby impact applied to said housing is transmitted to said ring and not to said latch arm.

3,339,962

CONTAINER ASSEMBLY HAVING IMPROVED CLAMPING RING

Cesar Santoni, Hamilton, Ontario, Canada, assignor to The Greif Bros. Cooperage Corporation, Delaware County, Ohio, a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 517,051
8 Claims. (Cl. 292-256.69)



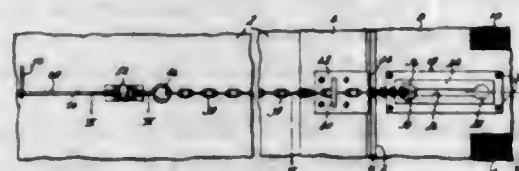
5. An improved drum type container assembly comprising: a container body having an open end with a chime formed therearound and also having a downwardly facing rounded shoulder formed around its exterior a short distance beneath the top of the chime to provide a downwardly facing cam surface; a cover removably applied to the open end of the container and having a peripheral flange with an upwardly rounded shoulder overlapping the top of the chime and forming an upwardly facing cam surface; and a split clamping ring made of a resilient metal assembled around said combined container chime and cover and having a locking assembly connected between the adjacent ends of the ring and shiftable from an open position with the ring in expanded relation so as to be removable from the chime and cover to a locked position with the ring in contracted relation tightly engaging the chime and cover, said ring being formed with a peripheral band portion and having integral flange portions extending for substantially the entire length of the band and projecting radially inwardly toward the axial center of the band in slightly diverging relationship with the marginal edges of the flanges being bent back upon themselves toward the interior surfaces of the flanges to form marginal beads, the length of the respective flanges being such that the beads extend slightly beyond the apex portions of the upper and lower cam surfaces and the spacing between the flanges is such that when the flanges are in a position of rest the distance between the beads is slightly less than the distance between the apex portions of the cam surfaces whereby when the clamping ring is

assembled around the combined chime and cover and is contracted by the locking assembly the flanges are expanded over the cam surfaces with the marginal beads retained beyond the apex portions in compressive engagement with the cam surfaces.

3,339,963

COMBINATION DOOR SAFETY CHAIN AND LOCK

Franklin E. Chambers, 1115 W. 26th St.,
Joplin, Mo. 63804
Filed Sept. 8, 1965, Ser. No. 485,692
4 Claims. (Cl. 292-264)



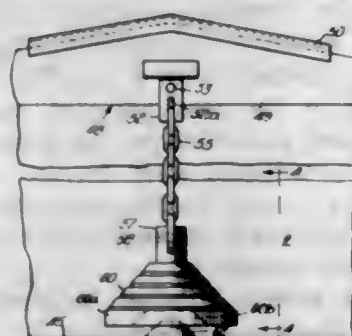
1. For use in connection with a building wall having a door opening therein, and an outwardly opening door controlling said opening and having easily broken panels therein, a safety chain device comprising:

- a horizontally extending slide member adapted to be affixed to the inner surface of said door adjacent the free edge thereof,
- a stud member engaged in and movable longitudinally of said slide member and being disengageable from said slide member only when moved to the end thereof distal from the free edge of the door,
- a chain affixed at one end to said stud member and adapted to be extended horizontally therefrom along the inner surface of said building wall in a direction away from said door opening, to a distance greater than arms length from said door opening, and
- means for attaching the opposite end of said chain to said wall, said attaching means being adjustable to render said chain taut, whereby said door cannot be opened, or to introduce sufficient slack in said chain that said stud may be moved to the distal end of said slide member and disengaged therefrom, or to introduce a lesser degree of slack in said chain whereby said door can be opened slightly but said stud cannot be disengaged from said slide member.

3,339,964

CHARGING BUCKET FOR CUPOLAS

Woodruff A. Morey, Flossmoor, and James M. Dalenberg, South Holland, Ill., assignors to Whiting Corporation, a corporation of Illinois
Filed Jan. 4, 1966, Ser. No. 518,605
12 Claims. (Cl. 294-71)



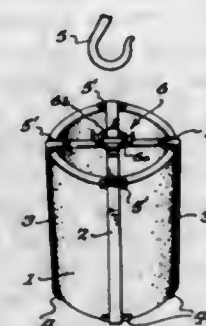
1. A charging bucket for cupolas and the like comprising, an upright, generally cylindrical shell, means on the shell adapting the same to be supported, door means movably secured to said shell adjacent the bottom thereof for movement between closed and opened positions,

which door means close the bottom of said shell when in said closed position and substantially open the bottom of said shell when in said opened position, latch means for releasably holding said door means in the closed position, structural means supported by said shell adjacent the upper portion thereof, an upright conical member having its greatest diameter substantially less than the diameter of said shell at the bottom thereof, and elongated bendable means of fixed length connected to said structural means and said conical member thereby freely suspending the latter centrally in said shell and adjacent said door means in the closed position thereof.

3,339,965

CRUCIBLE SLING

Milton H. Berns, Hamburg, N.Y., assignor, by mesne assignments, to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 27, 1965, Ser. No. 475,167
3 Claims. (Cl. 294-74)



1. A readily handled crucible assembly, comprising:
- a frangible crucible having a substantial percentage of carbon which has an open top defined by a substantially circular peripheral edge,
 - a plurality of spaced longitudinally extending straps tightly engaging the outside of said crucible and which have free end sections passing over said peripheral edge and across the open top of said crucible substantially in a flat plane to engage and support at their ends a centrally disposed adjustable fastening means,
 - said straps being made of combustible material,
 - said fastening means being made of metal and permitting take-up on the straps by pulling on the ends of said straps, whereby tension adjustment and take-up for crucible size may be made by simply pulling on the free end of each of said straps, and
 - said fastening means and said straps are sufficiently taut and strong to permit grasping of said fastening means by a hoist assembly so that the entire crucible assembly may be lifted, transported and accurately inserted in a melting furnace.

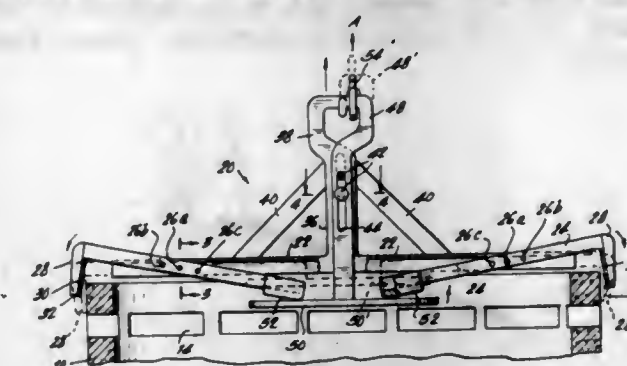
3,339,966

LIFTING GRAPPLE WITH OUTSIDE GRIPPER FOR HANDLING CONCRETE DRAINAGE RINGS

Andrew Clifford Carlson, deceased, late of Huntington, N.Y., by Erna L. Carlson, executrix, 9 Bluff Point Road, Northport, N.Y. 11768
Filed Nov. 23, 1964, Ser. No. 413,369
3 Claims. (Cl. 294-81)

1. A lifting device for handling cylindrical objects, comprising a generally polygonal frame defining apices and having a plurality of radial support arms joined to said frame at respective apices thereof, a plurality of lever arms pivotally mounted on respective ones of said support arms, shoe means mounted at the radial outer ends of said lever arms for engaging an outer wall of the object to be lifted, said lever arms having counterweight means at their inner radial ends for normally urging said

outer ends upwardly, and control means for simultaneously lifting said inner ends of said lever arms in opposition to the weight of said counterweights so as to lower the shoe means into engaging position relative to said out-

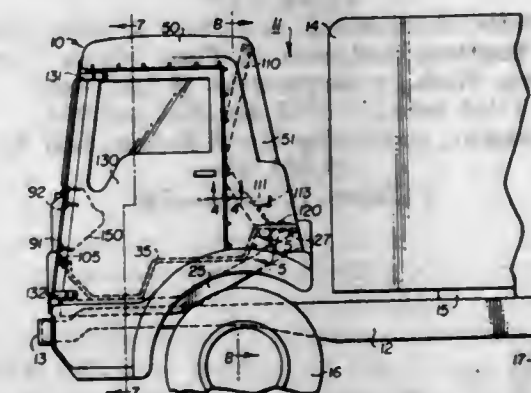


er wall, said counterweight means comprising separate weights attached respectively to said lever arms, said weights each having a U-shaped cross section straddling respective ones of said support arms when the inner radial end of a corresponding lever arm is in lifted position.

3,339,967

VEHICLE CAB

Bert C. Harris, North Olmsted, Ohio, assignor to White Motor Corporation, a corporation of Ohio
Filed Aug. 20, 1964, Ser. No. 390,904
22 Claims. (Cl. 296-28)



1. A truck cab assembly for mounting on a chassis including a frame structure and road wheels, said assembly comprising:

- a plurality of formed sections defining front, side, back, roof, floor, and fender portions;
- frame structure within said sections and both reinforcing and fixing said sections together to provide a cab shell having window and door apertures;
- doors and windows mounted in and closing said apertures to complete said cab; and,
- said frame structure being mounted on top of said floor section with portions of said floor section extending laterally outwardly past said frame structure and past the side portions whereby to shield the frame structure and a joint between the side portions and the frame structure.

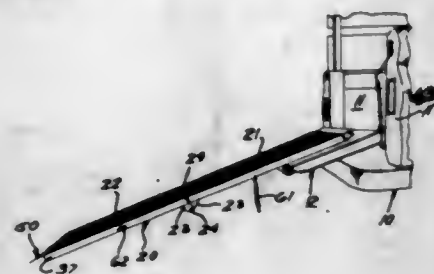
3,339,968

VEHICLE LOADING RAMP

John B. Hall, 3136 Crane Creek Road,
Boise, Idaho 83702
Filed Sept. 29, 1966, Ser. No. 582,951
14 Claims. (Cl. 296-61)

1. In a vehicle having a cargo carrying box with a floor, two sides and a hinged mounted gate adapted to swing from a closed, upright position downwardly about an axis adjacent the edge of said floor to an open position to permit access to said box, the combination comprising: first and second ramp panels pivotally affixed to one another proximate adjacent edges thereof;

stop means for limiting the pivotal movement of said panels with respect to one another when they have been pivoted from a retracted position with their lower surfaces lying generally adjacent to an extended position wherein the upper surfaces of said panels form a continuous, generally planar ramp surface; and



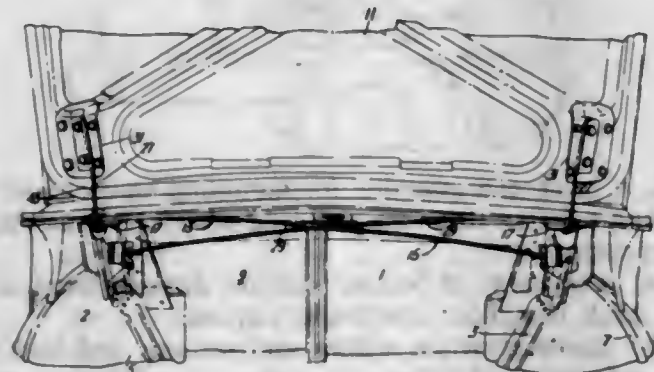
means affixing said first ramp panel in overlapping relationship with respect to the interior surface of said gate for positive movement therewith whereby, when said gate is lowered toward said open position and said ramp panels are pivoted to said extended position, the opposite edge of said second panel will abut the ground on which said vehicle is positioned to form an inclined ramp from said ground to said floor.

3,339,969

LUGGAGE COMPARTMENTS FOR MOTOR VEHICLES

Glynne Bridle, Hornchurch, and Peter T. Hills, Hainault, Ilford, England, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,874
Claims priority, application Great Britain, July 8, 1964, 28,251/64

2 Claims. (Cl. 296-76)

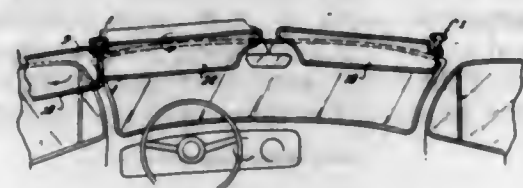


1. A motor vehicle body in which a pivotally mounted lid of a luggage compartment is biased towards its open position by a pair of torsion bars which also act as the hinge pins and arms for the lid;

said torsion bars being crossed over so that the first end of the first torsion bar is anchored in the vehicle body within the compartment at one side of the vehicle body and the second end is anchored in the lid at the other side of the vehicle body, and so that the first end of the second torsion bar is anchored in the vehicle body within the compartment at the same side of the vehicle body as the latter end of the first torsion bar;

the part of each bar anchored in the lid being a first arm comprising two sections in V-shaped configuration at approximately right angles to the axis of a second arm which is subjected to torsional stress, and in which, during opening movement of the lid, said sections engage an abutment on the body spreading the V-sections to stress the same as the lid approaches its fully opened position so as to gradually arrest the opening movement of the lid.

3,339,970
DUPLEX SUN VISOR SUPPORT MEANS
Rex M. Jensen, Torrance, Calif., assignor of one-half to Algerdas N. Cheleden, Sr., Glendale, Calif.
Filed May 10, 1965, Ser. No. 454,398
1 Claim. (Cl. 296-97)

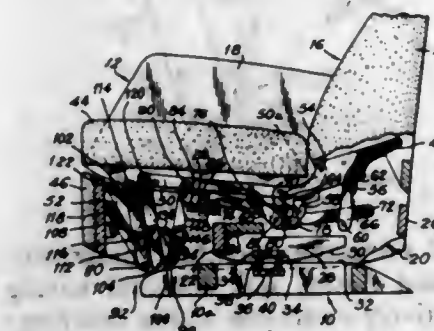


A duplex sun visor support means for a motor vehicle driver compartment defined in part by a windshield, a side window and a ceiling; said support means comprising a base member having means by which attaching devices may secure said base member to the compartment ceiling at a point thereon adjacent the juxtaposed side edges of the windshield and side window, a substantially vertically disposed sleeve portion constituting a tubular bearing carried by said base member, first and second horizontally extending visor supporting arms carried by said base member and including a bearing portion on said first arm journaled on said tubular bearing and a bearing portion on said second arm journaled on said bearing portion of said first arm, said arms having a capacity for movement in unison or independently about the axial line of said tubular bearing between positions adjacent and parallel to the inner surfaces of the windshield and side window, and a single spring interposed with an initial bias between a surface on said base member and an element movable with one of said arms operative by said initial bias to constantly apply frictional resistance to movement of said supporting arms about the axial line of said tubular bearing either in unison or independently one of the other, said bearing portion of said first visor supporting arm including an end portion extending through and upwardly beyond the upper end of said tubular bearing, said spring means comprising a compression spring surrounding said end portion above said tubular bearing, said spring being compressed with resultant creation of an initial bias between the upper end of said tubular bearing and a washer means secured on said portion of said first arm above said tubular bearing, the pivotal mounting of said second visor supporting arm on said bearing portion of said first arm being disposed below said tubular bearing and being held against axial movement thereon by engagement between the lower end of said tubular bearing and a collar means on said bearing portion of said first arm whereby the axial force exerted by the initial bias of said spring serves to provide independent frictional resistance to the pivotal mounting of either or both of said arms between said arms and said base member.

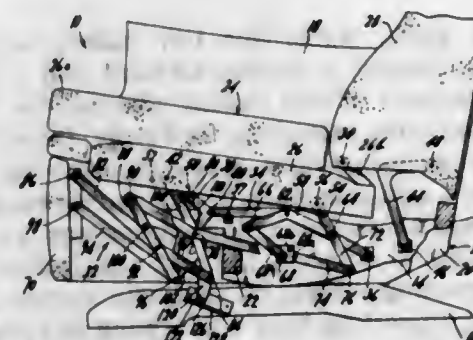
3,339,971
RECLINER-ROCKER CHAIR
Peter S. Fletcher, 200 NW. 15th St., Delray Beach, Fla. 33444
Filed Oct. 21, 1965, Ser. No. 499,303
18 Claims. (Cl. 297-35)

1. A recliner-rocker chair comprising a base, a chair arm frame having a rocker member engaging said base to rock thereon, a body-supporting structure including a seat and back-rest, linkage means movably mounting said seat and back-rest on said chair arm frame for movement relative to the latter from an upright sitting position to an intermediate, tilted sitting position and then to a fully-reclined position, a leg-rest, a leg-rest mounting

linkage including a plurality of interconnected leg-rest links mounting said leg-rest on said seat and extensible to move said leg-rest from a retracted position beneath the seat to an extended position forwardly of the seat in response to movement of said seat and back-rest from said upright sitting position to said intermediate, tilted sitting position, and releasable locking means for locking said seat and back-rest against reclining movement out of said upright sitting position, whereby the body-supporting

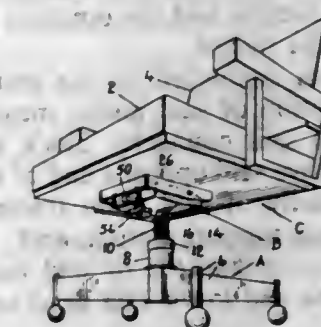


3,339,972
RECLINING AND ROCKING CHAIR
Peter S. Fletcher, 200 NW. 15th St., Delray Beach, Fla. 33444
Filed Feb. 8, 1965, Ser. No. 431,013
10 Claims. (Cl. 297-259)



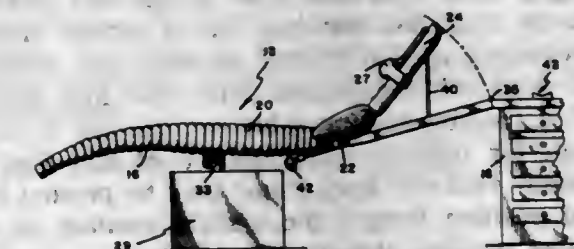
1. A rocking and reclining chair comprising an arm frame unit, body-supporting means including a seat and a back-rest, a mounting linkage mounting said body-supporting means on said arm frame unit for movement with respect thereto from an upright sitting position into a tilted position, a base unit for supporting said reclining chair on a level surface, means mounting said arm frame unit on said base unit in rocking relation thereto, rocker lock means selectively and rigidly interconnecting said base unit and said arm frame unit for preventing rocker movement therebetween in response to movement of said body-supporting means with respect to said arm frame, and recliner lock means selectively engageable with said mounting linkage for preventing movement of said body-supporting means with respect to said arm frame unit in response to rocking movement of said arm frame unit with respect to said base unit.

3,339,973
TORSION SPRING CHAIR CONTROL
Joseph T. Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Ontario, Canada, a corporation of Canada
Filed Jan. 5, 1966, Ser. No. 534,256
6 Claims. (Cl. 297-300)



1. In a chair having a base, posture support members attached thereto comprising a chair seat and a chair back at least one of which is backwardly tiltable about a horizontal axis from a normal position against a stop; a chair control including a first frame member mountable on the base and a second frame member attachable to the tiltable posture support member and pivotally connected to the first member for backward tilting movement from the normal position about the aforesaid horizontal axis, and spring biasing means urging the movable posture support member to its normal position comprising a torsion spring carried by the frame members and coiled around the said horizontal axis, said spring having a first end extending from one end of said coil and secured to the first frame member and a second end of said spring extending from the other end of said coil and biased against the tiltable posture support member, said spring being torsionally loaded under the influence of an external force effectively applied to tilt the movable support member means restraining eccentric displacement of the coils and promoting torsional bending of the spring under load, and a stop limiting the backward tilt of the posture member.

3,339,974
DENTAL CHAIR
Jon K. Park and Robert Craig Park, both of 911 Brown Bldg., Wichita, Kans. 67202
Filed Feb. 14, 1966, Ser. No. 526,991
6 Claims. (Cl. 297-361)



1. In a contour chair having an elongated main frame, a body support section secured to said main frame and a head support section connected to said body support section movable from a lowered position adjacent said main frame to a raised position upwardly therefrom, the improvement comprising:

(a) a hinge member pivotally connecting one end of said head support section to said body support section,

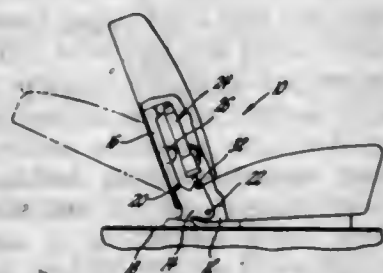
- (b) elevating means mounted on said main frame, said elevating means having an elongated shaft rotatably supported within bearing supports and a connector block having a threaded hole therein mounted on said shaft, said shaft having external threads mounted within said threaded hole in said connector block whereby rotation of said shaft results in movement of said connector block axially thereof,
- (c) an arm member having one end connected to said head support section and the opposite end connected to said elevating means,
- (d) motor means connected to one end of said shaft whereby actuation of said motor means rotates said shaft to move said connector block axially of said shaft and to move said opposite end of said arm member longitudinally of said main frame to raise and lower said head support section, and
- (e) control means connected to said motor means to selectively raise and lower said head support section.

3,339,975

RECLINING SEAT ASSEMBLY

Raymond C. Posh, Livonia, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Apr. 5, 1966, Ser. No. 540,357
23 Claims. (Cl. 297—361)



1. A reclining seat assembly comprising: a seat frame, a seat back frame, means pivotally connecting said seat back frame to said seat frame for allowing said seat back frame to pivot relative to said frame between an upright position and various reclined positions, and power actuated means operatively interconnecting said seat frame and said seat back frame for pivoting said seat back frame relative to said seat frame in either direction upon actuation thereof and for allowing said seat back frame to be pivoted toward said upright position independently of actuation thereof, said power actuated means including first and second members adapted for movement relative to one another, drive means, a first element in positive driven engagement with said drive means and rotatably supported by said first member, and a second element threadedly engaging said second member and normally in driven frictional engagement with said first element for rotation thereby and movable out of said frictional engagement for rotation independently of said first element whereby said seat back frame may be pivoted from a reclined position toward the upright position as said drive means remains stationary.

3,339,976

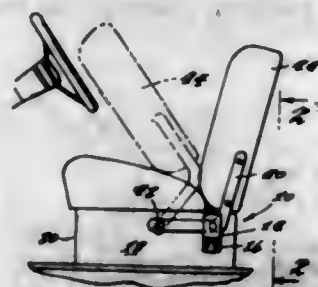
AUTOMOBILE SEAT BACKREST LOCKING DEVICE

Robert Karl, 75—71 185th St., Flushing, N.Y. 11366

Filed May 12, 1966, Ser. No. 549,664
1 Claim. (Cl. 297—379)

In an automobile seat backrest locking device, the combination of a projection member and a receptacle member, said projection member being receivable within said receptacle member, one of said members being secured to an

automobile front seat backrest, and the other of said members having means for movement, for selective engagement or disengagement of said projection member and said receptacle member, said receptacle member comprising a hinge arm pivotally secured at one end to a seat frame, the other end being fixedly secured to said backrest, and said hinge arm having an opening for receiving said



member, said projection member comprising a solenoid secured on said frame, said solenoid having a plunger which is selectively receivable within said hinge arm opening, said solenoid being within an electric circuit comprising a dome light, automobile battery, and door operated switches for energizing the solenoid for retracted said plunger when the door is opened.

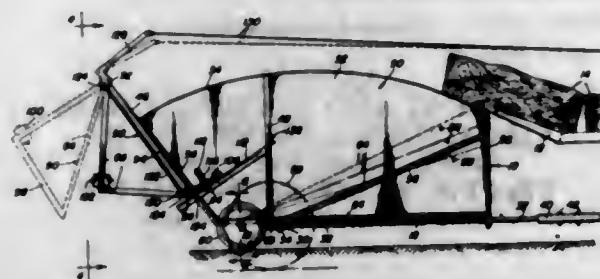
3,339,977

BALE PILING TRAILER FOR HAY BALERS

Sullivan B. Yoho, Rte. 3, Box 66,

Proctor, W. Va. 26055

Filed Oct. 22, 1965, Ser. No. 501,580
11 Claims. (Cl. 298—24)



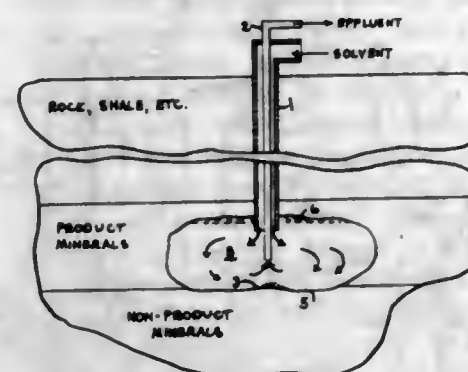
1. A bale piling trailer for hay balers, said trailer comprising a chassis, a chassis forward end supporting tow tongue secured to said chassis adjacent the rear end of said chassis and extending forwardly therefrom for attachment to a towing baler, a pair of side walls secured on said chassis, said side walls diverging rearwardly from each other, said chassis including a transverse axle member secured thereto adjacent the rear end thereof, trailer rear end supporting wheels on said axle member, a bale receiving and supporting floor conforming in shape to the diverging area between said side walls, said floor being supported at its rear wide end on said chassis, means secured between said side walls adjacent their forward ends and substantially above said chassis supporting the narrow forward end of said floor with said floor at a downward incline toward its rear wide end, spaced apart upstanding arms integrally extending rearwardly and upwardly from said chassis at its rear end, a tail gate pivoted at its top to said upstanding chassis arms and cooperating with said floor and diverging side walls to provide a bale confining carrier, and releasable latch means securing the bottom of said tail gate forwardly of its pivoted top in closed position, said chassis comprising spaced apart parallel front and rear frame members, rearwardly diverging side frame members secured to said front and rear frame members, and angular brace members secured adjacent the angles of said side members to said front member and secured to said rear member in spaced apart relationship adjacent the middle of said rear frame member.

3,339,978

PREVENTION OF FLOOR EROSION OF A SOLUTION MINING CAVITY

Edward Phelps Helvenston, Corpus Christi, Tex., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 14, 1965, Ser. No. 455,919
10 Claims. (Cl. 299—4)



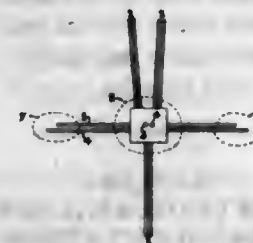
1. The method of inhibiting extraction of solubles adjacent the floor of a solution mining cavity which comprises introducing to the cavity sufficient particulate substantially inert materials more dense than the cavity solution to form a protective layer on the floor of the cavity.

3,339,979

SYSTEM OF PLURAL SOLUTION MINING CAVITIES COMMUNICATING WITH A SINGLE STATION

James Bowen Dahms, New Martinsville, W. Va., and Byron Priestly Edmonds, Regina, Saskatchewan, Canada, assignors to Kallum Chemicals Limited, Regina, Saskatchewan, Canada, a corporation of Canada

Filed May 17, 1965, Ser. No. 456,271
18 Claims. (Cl. 299—4)



1. A solution mining system comprising a station at the surface of the earth and communicating with said station a plurality of sets of fluid-carrying conduits of which sets no more than one extends in a substantially vertical direction to an extraction site in a subterranean extractable deposit and the remainder extend from said station in directions with substantial horizontal components to extraction sites in said deposit but laterally remote from said station.

3,339,980

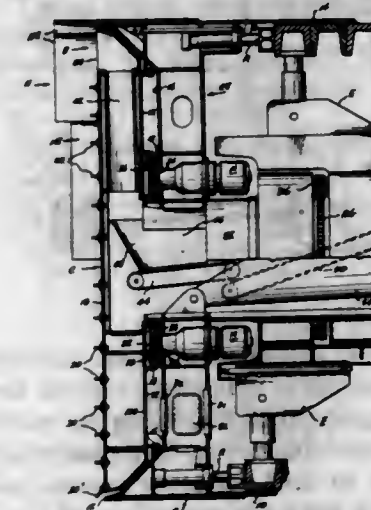
CENTRALLY OPEN CUTTERHEAD SUPPORT FOR A BORING MACHINE

Douglas F. Winberg, Bellevue, Wash., assignor to James S. Robbins and Associates, Inc., Seattle, Wash., a corporation of Washington

Original application May 31, 1963, Ser. No. 284,709, now Patent No. 3,309,142, dated Mar. 14, 1967. Divided and this application Aug. 15, 1966, Ser. No. 572,291
6 Claims. (Cl. 299—33)

1. A cutterhead assembly for a boring machine comprising: a bore wall contacting guide means; a non-rotating transverse cutterhead support structure extending radially inwardly from the bore wall contacting guide means to a central portion of said support structure having a central passageway therein extending axially of

the bore, said support structure extending transversely of the path of travel of the machine and the bore made thereby; a rotary cutterhead on one side of and radially overlying said cutterhead support structure, and including cutter means and means for directing the mined material towards the central passageway in said cutterhead support structure; material receiving means partially situated in the central passageway of said cutterhead support structure, in position to receive the mined material; an annular bearing means between said cutterhead and said cutterhead support structure, in concentric surrounding relationship to the central passageway in said cutterhead support structure, said bearing means rotatively supporting the cutterhead on a forward portion of the cutter-



head support structure; gear means between said cutterhead and said cutterhead support structure in concentric surrounding relationship to the central passageway in said cutterhead support structure, and secured to the cutterhead; at least one drive gear in mesh with said gear means; motor means mounted on said cutterhead support structure radially outwardly of said central opening, and rotating said drive gear; and a non-rotating material removal tube, separate from the cutterhead, extending axially from the central passageway in the cutterhead support structure and away from the cutterhead, with said material receiving means being a mechanical conveyor means in said tube for transporting the material away from the cutterhead area.

3,339,981

COAL WINNING APPARATUS WITH PLANER AND ADJUSTABLE HEIGHT ROTARY CUTTER MEANS

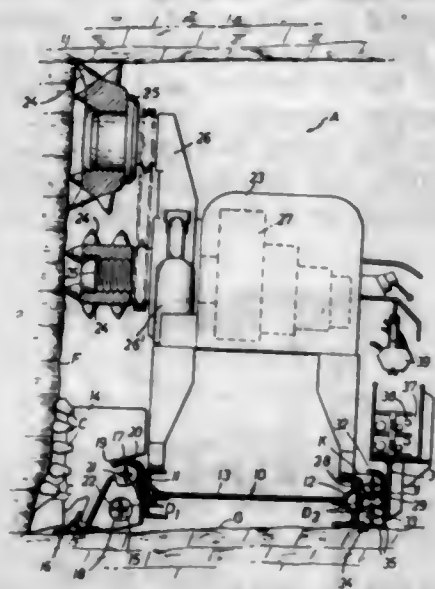
Gunther Dommann, Wethmar, near Lunen, Westphalia, and Werner Mennekes, Lunen, Sud, Westphalia, Germany, assignors to Gewerkschaft Eisenhutte Westphalia, Wethmar, near Lunen, Westphalia, Germany, a corporation

Filed May 5, 1965, Ser. No. 453,524
Claims priority, application Germany, May 6, 1964, G 40,539

12 Claims. (Cl. 299—34)

12. A mineral winning apparatus which comprises an elongated conveyor means adapted to be positioned in front of a mine face and upon a mine floor, a first elongated guide means connected to the mine face side of said conveyor means for extension therealong, a second elongated guide means connected to the side of said conveyor means remote from the mine face for extension therealong, a mineral planer means disposed for movement along the length of the mine face in guided engagement with said first guide means to remove mineral from the mine face along a path extending from the mine floor line to a selected elevation line thereabove, and a rotary cutting mineral winning means disposed for movement

in generally parallel relation to the mine face above said conveyor means and supported thereby in guided engagement with said second guide means to remove mineral from the mine face along a path extending above that produced by said planer means, said rotary cutting mineral winning means being disposed for independent movement

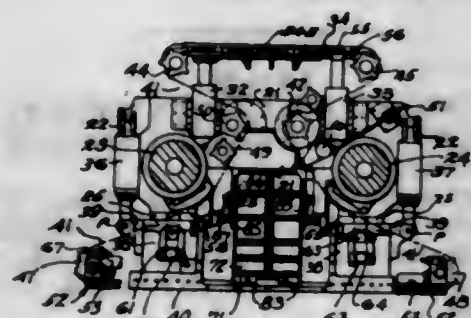


with respect to said planer means and having a rotatable cutter with cutting parts extending toward the mine face for extractive engagement therewith to remove mineral therefrom, said rotatable cutter being adjustable in elevation with respect to said conveyor means and the mine floor to selectively vary the elevation of the mineral removal path produced by its cutting parts.

3,339,982

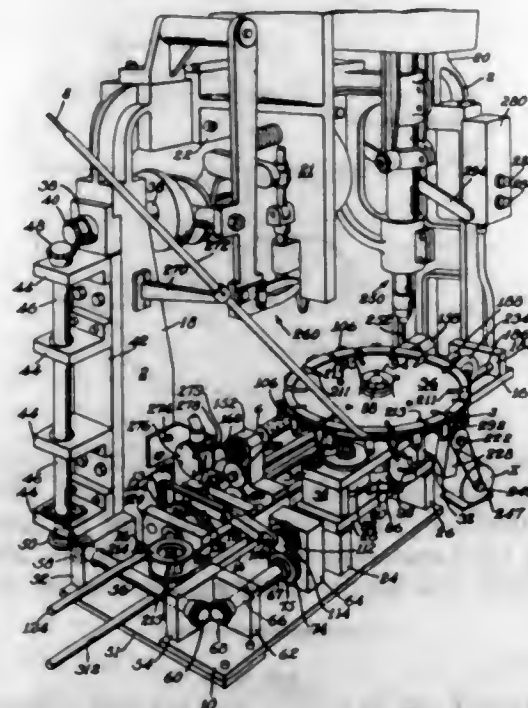
CONTINUOUS MINER HAVING PIVOTAL FLAPS BETWEEN GEAR AND CONVEYOR TROUGH
Jerry Karlovsky, Jr., Clifford C. Conway, and John M. Cookson, Nashville, Ill., assignors to National Mine Service Company, Pittsburgh, Pa., a corporation of West Virginia

Original application July 13, 1964, Ser. No. 382,065, now Patent No. 3,309,143, dated Mar. 14, 1967. Divided and this application Feb. 8, 1967, Ser. No. 614,652
5 Claims. (Cl. 299-57)



1. In a continuous mining machine including a gear case having shafts journaled thereon, radially adjustable cutter arms on said shafts, a conveyor trough below said gear case extending from the lowermost level of said cutter arms rearwardly and upwardly beneath said gear case, said conveyor trough and gear case being movable vertically relative to each other so that in certain positions of said conveyor trough relative to said gear case a gap is formed between the sides of said conveyor trough and said gear case, and closure means pivotally secured to said gear case and operable to close said gap between said gear case and said side wall.

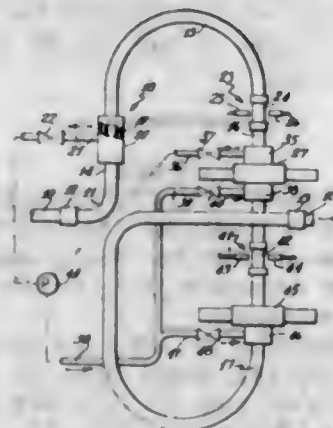
3,339,983
STRING WHEEL BRUSH MAKING MACHINES
Richard B. Maxner and Albert L. Ciman, Bedford, N.H., assignors to S. A. Felton & Son Company, Portland, Maine, a corporation of Maine
Filed Nov. 12, 1965, Ser. No. 507,348
8 Claims. (Cl. 300-3)



1. A brush making machine comprising means for retaining a core piece, a disc having means about its periphery for receiving continuous strands of brush bristle material, finger means for retaining said strands along the periphery of said disc, said disc having radial slots about its periphery, cutter means for severing said strands, means for rotating said disc incrementally about its axis, means for moving said cutter means into said slots whereby to sever said strands into relatively short lengths, and means for attaching said lengths to said core piece.

3,339,984

PUMP BYPASS METHOD AND APPARATUS FOR PIPELINE TRANSPORTATION SYSTEMS
Norbert Berkowitz, Ronald A. S. Brown, Cornelis De Zeeuw, and Erik J. Jensen, Edmonton, Alberta, Canada, assignors, by mesne assignments, to the Research Council of Alberta, Edmonton, Alberta, Canada, a body corporate
Filed Jan. 21, 1966, Ser. No. 522,243
3 Claims. (Cl. 302-14)



1. Apparatus for applying pumping action to a main fluid stream containing solid bodies being transported in a pipeline which comprises a pipe section in said pipeline comprising a loop having a vertically upwardly extending first portion and a vertically downwardly extending

second portion, said pipe section having means in said first portion for withdrawing a body-free stream portion comprising a perforated length of said pipe section, and a cylindrical mantle enclosing said perforated length, a pump having an intake communicating with the interior of said mantle and a discharge communicating with said pipe section, said second portion having a first solid body sensing device, a first valve therein below said first sensing device, a second solid body sensing device, and a second valve below said second sensing device, said pump intake having a third valve therein, a second pump intake leading from said second portion immediately above said first valve, a fourth valve in said second intake, said pump discharge having a first branch leading to said second portion immediately below said first valve and a second branch leading to said second portion below said second valve, a fifth valve in said first branch, a sixth valve in said second branch, said second, fourth and fifth valves being normally open and said first, third and sixth valves being normally closed, means responsive to energization of said first sensing device for closing said second, fourth and fifth valves and opening said first, third and sixth valves, and means responsive to energization of said second sensing device for opening said second, fourth and fifth valves and closing said first, third and sixth valves.

3,339,985

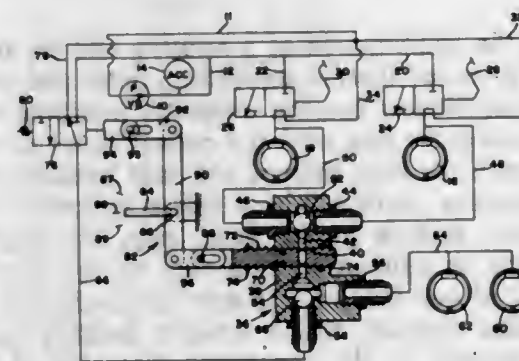
METHOD FOR TRANSPORTING SULFUR BY PIPELINE

Richard L. Every and D'Arcy A. Shock, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed June 4, 1965, Ser. No. 461,537
10 Claims. (Cl. 302-66)

1. A method of transporting sulfur comprising:
(a) forming a pumpable slurry of solid particles of sulfur, wherein an amount effective to reduce precipitation and adherence to the interior parts of a transporting vessel is in the sulfur in amorphous allotropic form; and
(b) pumping said slurry through a pipeline.

3,339,986

HYDRAULIC CONTROL SYSTEM
Kenneth J. Lowin and Robert C. Lehman, Cedar Falls, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 502,133
9 Claims. (Cl. 303-7)

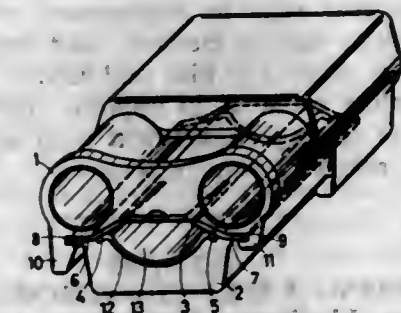


1. A hydraulic brake system for a tractor and a trailing vehicle comprising: a source of fluid pressure; tractor brakes; tractor brake control valve means for selectively supplying said fluid pressure to said tractor brakes; trailing vehicle brakes; trailing vehicle brake control valve means shiftable between a first position wherein it supplies fluid pressure to the trailing vehicle brakes and a second position wherein it disconnects the trailing vehicle brakes from the pressure source; a selector valve means shiftable between a first position wherein it transmits the

tractor brake fluid pressure to the trailing vehicle brakes and a second position wherein it disconnects said tractor brakes and trailing vehicle brakes; and an actuating means operably connected to said trailing vehicle control valve means and said selector valve means for selectively placing both the selector valve means and trailing vehicle valve means in a first position, or placing both said selector valve means and trailing vehicle valve means in their second position, or placing the selector valve means in its first position and the trailing vehicle valve means in its second position.

3,339,987
TRACK LINK UNITS

Otto Körner and Otto Ley, Remscheid, Germany, assignors to Firma Diehl, Remscheid, Germany, a German kommanditgesellschaft
Filed Aug. 27, 1964, Ser. No. 392,519
Claims priority, application Germany, Sept. 14, 1963, D 42,477
3 Claims. (Cl. 305-36)

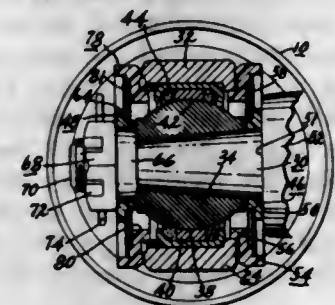


1. A track link unit provided with groove means spaced from each other in the longitudinal direction of said link, ground engaging rubber pad means, and a hollow body including plate means and also including an arched sheet metal part welded to said plate means and having said ground engaging rubber pad means vulcanized thereto, said plate means detachably engaging said groove means for securing said hollow body together with said ground engaging rubber pad means to said track link.

3,339,988

END MOUNTING ASSEMBLY FOR SHOCK ABSORBER

Harold E. Schultze, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,377
1 Claim. (Cl. 308-36.2)



An end mounting assembly for connecting a shock absorber to a suspension component comprising, a support shaft having opposite ends and an axis substantially perpendicular to that of the longitudinal axis of the shock absorber, an inner bearing member supported by the support shaft, an outer mounting ring forming a housing around a part of said inner bearing element in spaced relationship thereto, bearing means supported between said outer mounting ring and said inner bearing

member for allowing a predetermined oscillatable movement therebetween, an inner annular shaped sealing element slidably supported on one end of said support shaft, a larger diameter sealing element supported by said outer mounting ring concentric with respect to said inner annular sealing element and in spaced surrounding relationship therewith, an imperforate spring washer having the form of an annulus with the inner periphery thereof engaging said inner annular sealing element and the outer periphery thereof engaging the outer sealing element, said spring washer being stressed to bias said inner and outer sealing elements in opposite directions into sealing engagement with said support shaft and said outer mounting ring respectively, a fastener on the opposite end of said shaft having an extension thereon, a second inner annular sealing element supported on the extension of the fastener, a second larger diameter sealing element supported by said outer mounting ring in spaced surrounding relationship with said second inner annular sealing element, a second imperforate spring washer having a form of an annulus with its inner peripheral edge in engagement with said second inner sealing member and its outer peripheral edge in engagement with said second larger diameter sealing element, said imperforate spring washer being stressed to bias said second inner and outer annular sealing elements in opposite directions to maintain them in sealing engagement with said fastener and said outer mounting ring respectively.

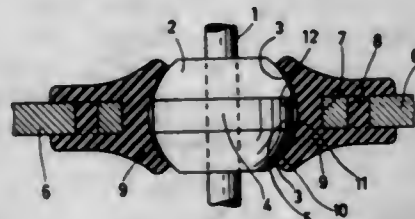
3,339,989

MOUNTING A SELF-CENTERING BEARING
Johan Kraus, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 21, 1965, Ser. No. 426,937

Claims priority, application Netherlands, Feb. 21, 1964, 64-1,621

3 Claims. (Cl. 308-72)



1. A self-centering bearing assembly for a shaft comprising a bearing having a central aperture for receiving a shaft, said bearing having a cylindrical surface portion and a generally semi-spherical surface portion at each end of said cylindrical portion, a bearing support, said bearing support comprising a body of thermoplastic material engaging said semi-spherical surface portions and in spaced relation to said cylindrical portion thereby providing a lubricant reservoir, and means for anchoring said bearing support, said means for anchoring said bearing support comprising a housing wall member having an enlarged opening for receiving said bearing, a plurality of apertures in said housing wall member adjacent said opening, and said body overlying each side of said housing wall member and extending through said aperture.

3,339,990

LUBRICATED BEARING SHOE
Peter G. Wendt, Williamsville, N.Y., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

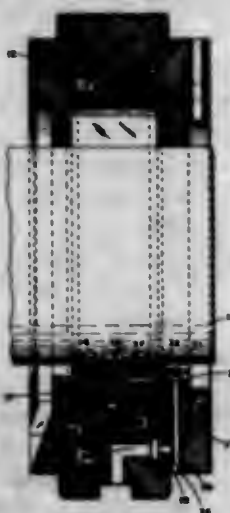
Filed July 13, 1964, Ser. No. 382,125

5 Claims. (Cl. 308-73)

1. A lubricated bearing shoe assembly for a journal bearing that supports rotating equipment comprising:

(a) a housing;

- (b) a bearing shoe in the housing;
- (c) a shaft supported by the bearing shoe;
- (d) a pivot block rockably supporting the shoe in the housing;
- (e) a retainer attached to the housing and defining a side wall therefor;



- (f) a lubricant supply passage through the retainer, generally parallel to the axis of the shaft;
- (g) an axial lubricant passage in the side wall of the bearing shoe, disposed in registration with the end of the supply passage through the retainer;
- (h) an oil recess in the top of the bearing shoe; and
- (i) means communicating the oil recess to the axial passage.

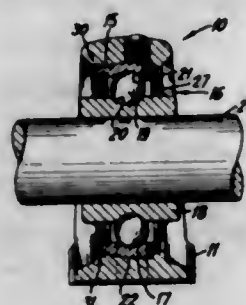
3,339,991

ANTI-SPIN SELF-LOCKING OUTER BEARING RING

Ralph S. Howe, Jr., 74 Hickory Hill Road, New Britain, Conn. 06052

Filed May 7, 1965, Ser. No. 453,947

6 Claims. (Cl. 308-194)



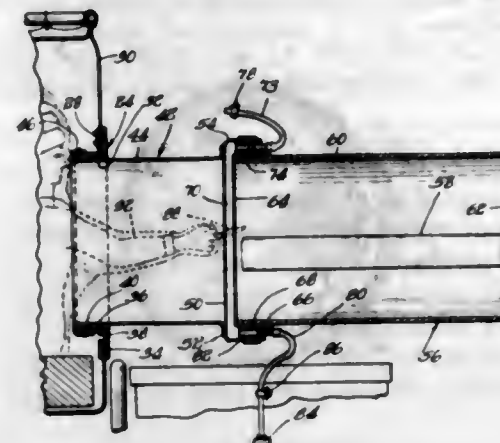
1. In the combination of a housing and an antifriction bearing mounted therein comprising outer and inner rings having antifriction bearing elements interposed therebetween, said outer ring having a convex outer surface concentric with the bore thereof and said housing having an inner concave surface which mates concentrically with the convex surface of the outer ring, the improvement comprising an annular locking cam on the outer peripheral edge of one face of said outer ring adjacent the convex surface thereof, which annular locking cam is eccentric relative to the concentric diameter of the ring, said annular locking cam having a convex surface, and a mating annular locking cam located on a corresponding inner peripheral edge of the housing adjacent the concave surface thereof, which mating cam is eccentric relative to the concentricity of the bore, the convex mating surfaces of the cams being such that the contact force arising out of coaction of the housing with the outer ring is directed substantially within the width of the bearing ring, whereby the outer ring is lockable relative to the bore of the housing by coaction of the eccentrically positioned locking cams.

3,339,992

ISOLATOR METHOD AND APPARATUS
Philip C. Trexler, Stoneham, Mass., assignor to Snyder Manufacturing Company, Inc., New Philadelphia, Ohio, a corporation of Ohio

Filed Aug. 27, 1964, Ser. No. 392,505

13 Claims. (Cl. 312-3)



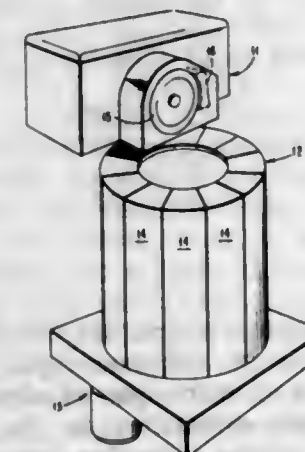
1. In an isolator structure having an enclosure including a port defining member, a closure member sealable to said port member, said closure member including a severable membrane, another enclosure positionable adjacent the first mentioned enclosure and having an opening, means including a second severable membrane closing said opening, means for securing said membranes in adjacent opposing relationship and for providing an annular seal around a space between said membranes, and said membranes being severable for permitting access between said enclosures while maintaining said enclosures sealed from the surrounding atmosphere.

3,339,993

MAGNETIC STRIP STORAGE CELLS
David L. Stoddard, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 4, 1966, Ser. No. 539,808

7 Claims. (Cl. 312-234.1)



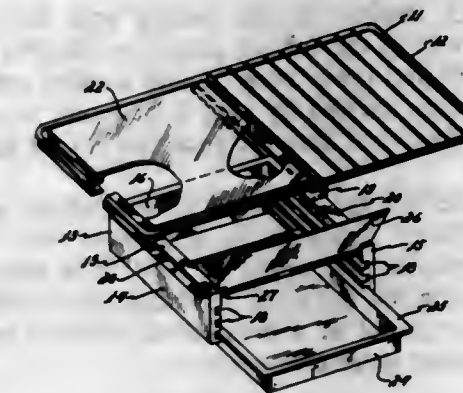
1. For use with a large capacity data storage device which employs strips of flexible tape as a recording medium, an elongated hollow cell having one closed end and one open end, and front and rear sections spaced apart by planar convergent side surfaces, the interior of the cell being provided with pairs of closely-spaced oppositely-extending longitudinal grooves formed in the inner surfaces of the front and rear sections, and strip restraining means protruding from the upper end of the cell in alignment with the longitudinal grooves.

3,339,994

VARIABLE CAPACITY FOOD COMPARTMENT
William E. Reddig, Birmingham, and Harold H. Smith, Detroit, Mich., assignors to American Motors Corporation, Detroit, Mich., a corporation of Maryland

Filed Jan. 20, 1966, Ser. No. 521,979

1 Claim. (Cl. 312-301)



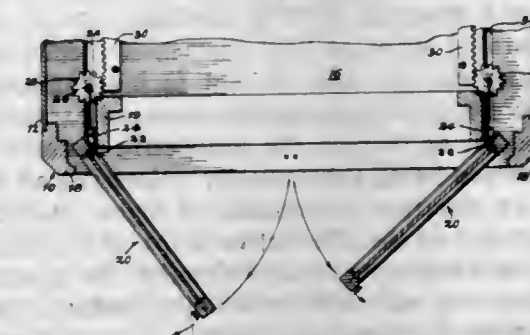
An adjustable compartment for use in a refrigerator comprising in combination, a refrigerator shelf, a bottomless compartment member slidably mounted on said shelf and therebelow, a tray member adapted to provide a slidable bottom closure for said compartment at different selected levels, said bottomless compartment having an open front and opposed grooves formed in the side walls to slidably receive and support said tray member at selected heights therewithin, a door member hinged to said bottomless compartment member to close said open front, and means cooperatively provided on said refrigerator shelf to form a top for said compartment member.

3,339,995

CONSOLE CLOSURE SUPPORT
Robert C. Bencene, Jamestown, N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.

Filed Nov. 17, 1965, Ser. No. 508,281

6 Claims. (Cl. 312-322)



1. In a cabinet of the console type comprising a cabinet structure of open front form and having a door panel mounted thereon to be hingedly movable along one edge between a cabinet-closing position and a forwardly-outstanding cabinet-open position whereupon said closure is in-plane bodily movable rearwardly to a substantially concealed position in said cabinet; the improvement consisting of support mechanism for said door panel comprising: first and second pairs of pivotally interconnected hinge members disposed in spaced relation along said one edge of the door panel and defining a vertical pivot axis for the door panel; each pair having one of said hinge members fixed to said door panel and the other extending rearwardly therefrom; a vertically standing motion control rod carried by the other of said hinge members; said control rod carrying spur gears adjacent the upper and lower ends.

thereof, said spur gears operatively meshing with gear racks mounted respectively adjacent the ceiling and floor structural parts of said cabinet, whereby to equalize the rate of displacement movements of the upper and lower portions of said door panel when moving in and out of concealed positions in said cabinet;

guide track devices in the ceiling and floor portions respectively of the cabinet structure, slidably engaging the upper and lower ends of said control rod;

slide members carried by said door panel in alignment with said vertical axis and received in said guide track devices;

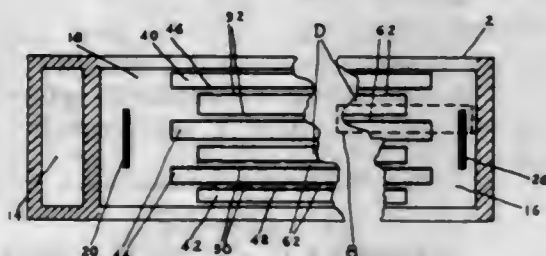
and a guide bracket mounted in the ceiling portion of said cabinet structure in alignment with forward movements of the upper of said slide members for terminating the outward displacement movements of said door panel at a prescribed position relative to said cabinet structure.

3,339,996

ELECTROPLATING LIGHT SHUTTER EMPLOYING PLATING SURFACES HAVING DIFFERING RESISTIVITIES

Solomon Zaromb, 376 Monroe St.,
Passaic, N.J. 07055

Filed Feb. 15, 1966, Ser. No. 527,579
10 Claims. (Cl. 350-160)



1. A light shutter comprising at least one cell including: spaced transparent elements of relatively low electrical conductivity having facing surfaces defining a space therebetween, means operatively related to said elements to confine said space to form a chamber, spaced approximately parallel strips of light-permeable electrically conductive material on one of said facing surfaces, light-permeable electrically conductive material extending over the second facing surface, the conductive material on said second surface being substantially uninterrupted but constituting an electrical conductor of higher surface resistivity than that of the conductive strips on the first of said surfaces, an electrolyte in said chamber for electrochemically interacting with said electrically conductive material on said facing surfaces, and electrical contacts extending into said chamber, said contacts being spaced by said approximately parallel strips, said contacts and strips being so related in said chamber that current will flow between adjacent low resistivity strips along paths through said electrolyte and through portions of said high resistivity material so as to form light-absorbing layers at said facing surfaces upon application of an electrical potential between said contacts.

3,339,997

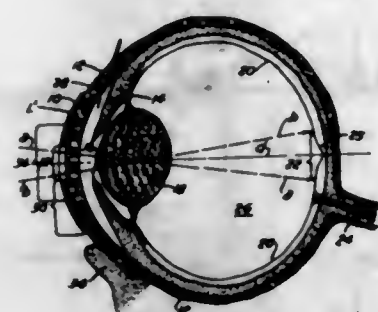
BIFOCAL OPHTHALMIC LENS HAVING DIFFERENT COLOR DISTANCE AND NEAR VISION ZONES

Newton K. Wesley, Chicago, Ill., assignor to The Plastic Contact Lens Company, a corporation of Illinois

Filed July 30, 1962, Ser. No. 213,210
4 Claims. (Cl. 351-161)

1. A bifocal ophthalmic lens for correcting the vision of a patient, said lens having a far zone and a near zone

of the same refractive index, said far zone characterized by being colored in the range of the longer wave-length half of the visible spectrum, the posterior surface of both zones having one common radius of curvature and the anterior surface of both zones having another common radius of curvature relative to said first radius of curvature modified to compensate for the color of said



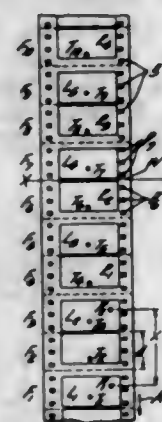
far zone to provide the required correction for distance viewing of the patient, said near zone characterized by being colored in the range of the shorter wave-length half of the visible spectrum and thereby operative to focus rays from a source through said near zone at a shorter distance in the eye than rays from said source through said far zone.

3,339,998

STEREOSCOPIC MOTION PICTURE FILM

Winton C. Hoch, 1491 Stone Canyon Road,
Los Angeles, Calif. 90024

Filed Nov. 23, 1966, Ser. No. 596,568
6 Claims. (Cl. 352-239)



1. A stereoscopic motion picture film having lengthwise thereon a row of alternate right- and left-view images representing a succession of stereoscopic pairs and having the same orientation on the film, the left-right axes of the images extending transversely of the length of the film, corresponding points of the right-view images being spaced apart by a distance equal to twice the normal interframe distance, corresponding points of the left-view images being likewise spaced apart by a distance equal to twice the normal interframe distance, the distance between centers of images forming the respective stereoscopic pairs being substantially constant and being greater than the normal interframe distance, the height of each image being less than the normal interframe distance, the distances between centers of pairs of successive images being alternately a few percent greater than and a few percent less than the normal interframe distance.

CHEMICAL

3,339,999

PROCESS FOR VAT DYEING CELLULOSIC TEXTILE MATERIALS

Arnold Wick, Therwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed June 17, 1963, Ser. No. 288,447
Claims priority, application Switzerland, June 19, 1962, 7,384/62

23 Claims. (Cl. 8-34)

1. In a process for the vat dyeing of cellulosic textile material the improvement which comprises employing as the vat dyestuff a vat dyestuff containing two members of the group consisting of the anthrone, acridone and anthraquinone grouping which may be condensed to a ring system, and an acylamino group containing a phosphoric acid grouping bound to its acyl radical at least two vat-stable systems and at least one vat-stable phosphoric acid grouping.

3,340,000

DYEING COMPOSITION FOR CELLULOSIC AND KERATINOUS MATERIALS

Albert Shansky, Bettsworth, Norwalk, Conn., assignor to Turner Hall Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 14, 1966, Ser. No. 542,457
6 Claims. (Cl. 8-54)

1. For use in dyeing cellulosic and reduced keratinous materials, an aqueous solution of a fiber reactive dye selected from the group consisting of polysulfonated mono-azo halo triazines, mono-azo halo pyrimidines, anthraquinone halo triazines, anthraquinone halo pyrimidines, phthalocyanine halo triazines, and phthalocyanine halo pyrimidines; and from about 3% to about 5% by weight of a minutely particulate pyrogenic colloidal silica.

3,340,001

COMPOSITIONS AND METHOD FOR INHIBITING CORROSION OF METALS IN AQUEOUS SYSTEMS

Raymond Spencer Thornhill, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 15, 1964, Ser. No. 337,743
Claims priority, application Great Britain, Jan. 22, 1963, 2,729/63

8 Claims. (Cl. 21-2.7)

6. A method of protecting metals in contact with water used as a cooling medium in cooling systems from corrosion thereby comprising dissolving in said water at least 0.02% of an alkali metal nitrate, at least 0.03% of an alkali metal nitrite, and at least 0.05% of an alkali metal silicate having the formula $M_2O \cdot (SiO_2)_n$ wherein M represents the alkali metal and n is greater than 1.0, and at least 0.0125% of an organic nitrogen compound chosen from the group consisting of sodium mercaptobenzthiazole and benzthiazole, all said percentages being by weight.

3,340,002

METHOD OF MANUFACTURING GERMANIUM-CONTAINING PRODUCTS SUBSTANTIALLY FREE OF FLUORINE FROM LIQUIDS CONTAINING FLUORINE AND GERMANIUM

Gerardus Johannes Meyst and Adrianus Cornelis Josephus Maria Smeethorst, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,200
Claims priority, application Netherlands, Dec. 4, 1962, 286,332

3 Claims. (Cl. 23-22)

1. A method of producing a germanium compound

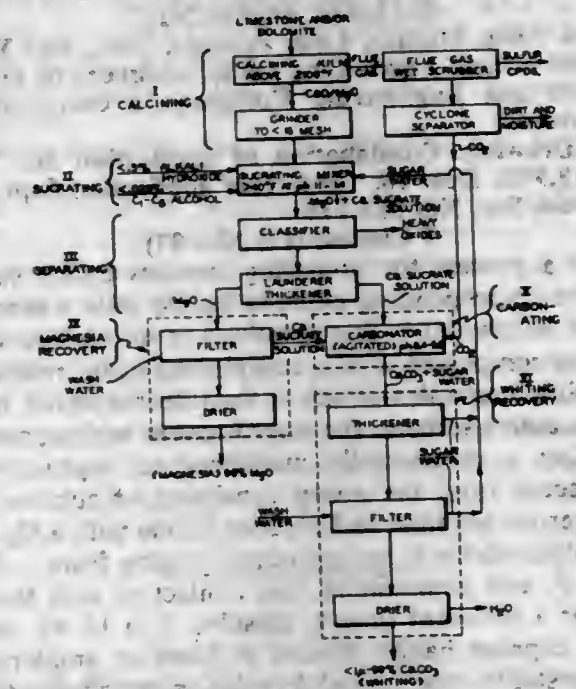
substantially free of fluorine from an aqueous solution of germanium and fluorine ions said method comprising the steps, mixing an aqueous solution containing germanium and fluorine ions with a sufficient quantity of calcium carbonate, while maintaining the pH of said solution at a value of at least 6, until substantially all the fluoride ions have been precipitated out of said solution as calcium fluoride, removing said calcium fluoride precipitate from the solution, adding ammonia and sufficient calcium ion to the resultant filtrate to cause substantially all the germanium ion to be precipitated out of the solution as calcium ammonium germanate, and separating the resultant calcium ammonium germanate from the solution.

3,340,003

PROCESS FOR PRODUCING HIGH PURITY ALKALINE EARTH COMPOUNDS

George G. Judd, Woodville, Ohio, assignor to Ohio Lime Company, Woodville, Ohio, a corporation of Ohio

Filed June 1, 1965, Ser. No. 460,062
18 Claims. (Cl. 23-66)



1. In a process for treating a mixture containing calcium and magnesium oxides by:

- (a) mixing said oxide with an aqueous sugar solution containing between about 5% and 50% by weight of sugar to form a soluble calcium sugar compound and suspended therein particles of water insoluble magnesium oxide;
- (b) separating said calcium sugar compound in solution from said magnesium oxide;
- (c) reacting said calcium sugar solution with carbon dioxide to form an insoluble calcium carbonate and to re-form said aqueous sugar solution;
- (d) separating the resulting sugar solution from said calcium carbonate to produce substantially pure calcium carbonate, the improvement comprising:
 - (1) carrying out the mixing of said oxide with said aqueous sugar solution in the presence of between about 0.01% and 0.025% by weight of a monohydroxy alcohol having from between 1 and 5 carbon atoms per molecule and being soluble in said aqueous sugar solution, and
 - (2) carrying out said reaction of said calcium sugar solution at a pH between about 8.4 and 9.6.

3. A process for producing magnesium oxide and calcium carbonate from natural alkaline earth carbonates and oxides containing impurities, comprising the steps of:

- mixing said magnesium and calcium oxides with an aqueous sugar solution containing between about 5% and 50% by weight of sugar to form a soluble calcium sugar compound and suspended therein particles of water insoluble magnesium oxide, and carrying out said mixing in the presence of between about 0.01% and 0.025% by weight of a monohydroxide alcohol having from between 1 and 5 carbon atoms per molecule and being soluble in said aqueous sugar solution;
- separating said calcium sugar compound solution from said insoluble magnesium oxide;
- reacting said calcium sugar solution with carbon dioxide to form an insoluble calcium carbonate and to reform said aqueous sugar solution, and carrying out said reaction at a pH between about 8.4 and 9.6; and
- separating the resulting sugar solution containing said alcohol from said insoluble calcium carbonate to produce a high purity calcium carbonate.

3,340,004

PROCESS FOR FORMING ACTIVE CUPROUS HALIDE SORBENTS

Edward Allen Hunter, Lake Jackson, Tex., and Warren Alfred Knarr, Ponca City, Okla., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 418,902, Dec. 16, 1964. This application Sept. 21, 1966, Ser. No. 581,115

7 Claims. (Cl. 23-97)

1. In a process for preparing cuprous halide sorbents from the corresponding cuprous halide salts wherein the cuprous halide salt is first dissolved in an olefinic solvent and then complexed with a complexing agent resulting in an insoluble complex which is then decomposed to provide the active sorbent, the improvement which comprises contacting a substantially moisture-free cuprous halide salt selected from the group consisting of cuprous chloride, cuprous bromide and cuprous iodide with a C_3 to C_{10} mono alpha-olefin at temperatures ranging from -30° F. to 10° F. and maintaining said contact at said temperatures for a sufficient time to dissolve 8 to 15 wt. percent of said cuprous halide therein to form an ambient temperature stable cuprous halide solution containing from 8 to 15 wt. percent cuprous halide salt dissolved therein and stable at temperatures of 60° F. to 85° F., contacting said solution with a gaseous complexing agent capable of forming a stable, insoluble complex having a mole ratio of copper to complexing agent greater than 1:1 at temperatures of 60° F. to 85° F., isolating said insoluble complex and thermally decomposing said complex at temperatures of from 140° F. to 200° F. to yield an activated cuprous halide sorbent of which >50 wt. percent has a particle size of $>110\mu$.

3,340,005

ULTRASULFOPHOSPHORIC ACIDS

Ernest Csendes, Atlanta, Ga., and William R. Mustian, Jr., Lakeland, Fla., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed July 17, 1963, Ser. No. 295,647

6 Claims. (Cl. 23-139)

1. As a new composition of matter, wet process ultrasulfophosphoric acid having a phosphorus content of 83-100 weight percent expressed as P_2O_5 equivalent on an impurity-free basis, the sulfo group being present as SO_3 and having sulfur atoms bonded to phosphorus atoms by intermediate oxygen atoms.

4. In a process for preparing ultrasulfophosphoric acid, the steps of adding SO_3 to wet process phosphoric acid containing 1-15 percent metal impurities to bring the total SO_3 content to 6-11 weight percent, and dehydrating the same to a phosphorus content of 83-100 weight percent expressed as P_2O_5 equivalent on an impurity-free basis by heating to a temperature of about 450 - 650° F.

3,340,006

METHOD OF PRODUCING THIN FLAKES OF METAL OXIDE

John M. Mochel, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed May 1, 1963, Ser. No. 277,101

6 Claims. (Cl. 23-144)

1. A method for forming thin flakes of the oxides of titanium, indium, tantalum, zirconium, and tin which comprises the steps of:

- contacting a surface of a heated substrate body with a compound which is decomposable by heat to one of said metal oxides thereby forming in situ an iridized film of one of said metal oxides, said substrate body being selectively soluble with respect to said metal oxide;
- separating said substrate body from said metal oxide film by dissolving said substrate body; and
- recovering said metal oxide film in the form of thin flakes.

3,340,007

PRODUCTION OF ULTRA-FINE FERRIC OXIDE BY REACTING FERRIC CHLORIDE WITH NITROGEN DIOXIDE

William B. Lauder and Raymond L. Copson, Syracuse, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Nov. 21, 1963, Ser. No. 325,414

The portion of the term of the patent subsequent to Aug. 2, 1983, has been disclaimed

4 Claims. (Cl. 23-200)

1. The process which comprises reacting anhydrous ferric chloride in the vapor phase with nitrogen dioxide at a temperature of from 285° to 420° C. to produce a ferric oxide-ferric oxychloride reaction product in the solid phase, and recovering the solid reaction product.

2. The process as defined in claim 1, including the further step of heating the reaction product of a temperature of at least about 900° C. to produce iron oxide.

3. An iron oxide product produced by the process of claim 2, said iron oxide product being comprised of a mixture of alpha and amorphous iron oxide, having a particle size between about 0.05 and 2 microns.

3,340,008

PROCESS FOR THE OXIDATION OF TICI

Earl William Nelson, Lynchburg, and John Peter Wilkswo, Amherst, Va., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 17, 1965, Ser. No. 433,507

6 Claims. (Cl. 23-202)

1. In a process for reacting titanium tetrachloride with an oxygen containing gas by means of diametrically opposed reactant streams to form two opposed parallel laminar flames, the improvement which comprises reacting said materials in the presence of carbon monoxide and a small amount of water in an amount of about .005 to .05 percent by volume of the total gas feed, at a temperature of about 1400° to 1850° C., the volumetric ratio of carbon monoxide to titanium tetrachloride being about 0.1 to 3.0:1, the amount of oxygen being a stoichiometric excess of about 5 to 120% by volume and the volumetric space velocity of the total gas at the inlet to the combustion zone being 15 to 45 cubic feet per minutes per square foot of flow area of the burner inlet.

3,340,009

METHOD OF PRODUCING CRYSTALLINE BORON PHOSPHIDE

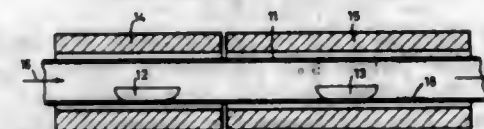
Fritz Wenzel, Nurnberg, and Hans Merkel, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany

Filed Mar. 20, 1963, Ser. No. 266,736

Claims priority, application Germany, Mar. 29, 1962,

S 78,719

1 Claim. (Cl. 23-204)



The method of producing crystalline boron phosphide of high purity, which comprises contacting, in a reaction vessel, boron phosphide starting material in a high temperature zone between 1000° and 1600° C., with a phosphorus vapor current, then passing the vapors to a lower temperature zone to precipitate therein crystalline boron phosphide from the vapors.

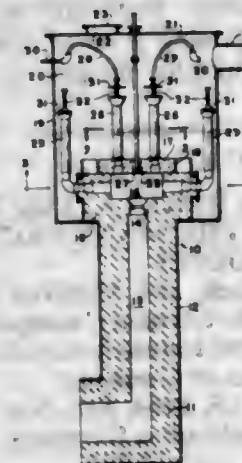
3,340,010

PROCESS AND APPARATUS FOR PRODUCING CARBON BLACK

Frank W. Selfridge, Borger, Tex., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

Filed Sept. 26, 1963, Ser. No. 311,773

6 Claims. (Cl. 23-209.4)



1. A carbon black furnace for producing any type and grade of carbon black within a wide range of types and grades without having to alter the furnace refractory parts so as to provide a different combustion chamber or reaction chamber configuration for each desired type and grade of carbon black, comprising: an elongated refractory cylinder having a reaction chamber extending axially therethrough, a refractory cylindrical body formed on one end of said cylinder and having a combustion chamber axially arranged therein communicating with said reaction chamber, said combustion chamber having the end thereof opposite said reaction chamber open, a refractory head engaging the open end of said cylindrical head closing said combustion chamber, a plurality of burners extending horizontally through said body and opening tangentially into said combustion chamber, a plurality of burners extending vertically through said head into said combustion chamber, an air supply plenum encompassing said body, said head, and all of said burners for supplying air to said burners when in opera-

tion, a feedstock nozzle extending through said head for delivering feedstock into said combustion chamber, means for selectively controlling the flow of fuel and air through each individual horizontal and vertical burner whereby the fuel and air flow can be regulated to flow into said combustion chamber through any of the horizontal and vertical burners or any combination thereof.

3,340,011

HYDROGEN PRODUCTION

James Hoekstra, Evergreen Park, and Vladimir Haensel, Hinsdale, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,662

4 Claims. (Cl. 23-212)

1. A method for effecting the decomposition of a hydrocarbon stream to produce hydrogen which comprises, contacting said stream at a decomposition temperature of at least 1300° F., with a catalytic composite consisting primarily of anhydrous alumina as a carrier material, an alkaline earth component selected from the group consisting of calcium, strontium and barium to improve hardness and attrition resistance, and an active metal of Group VII of the Periodic Table, and recovering the resultant hydrogen.

3,340,012

HYDROGEN PRODUCTION IN A FLUIDIZED BED OF ATTRITION RESISTANT CATALYST

Reno W. Moehl, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 19, 1963, Ser. No. 331,958

3 Claims. (Cl. 23-212)

1. In a process for producing hydrogen by the fluidized contacting of a normally gaseous hydrocarbon stream at decomposition conditions with a subdivided catalyst composite, the improved processing operation for obtaining an optimum conversion of said stream, which comprises, contacting such stream with a fluidized composite which consists of nickel activated attrition resistant essentially alumina base particles of a spray-dried pseudoboehmite form of an alumina precipitate containing from about 0.20 to about 0.30 percent by weight of an acid ion from the group consisting of chloride and nitrate ions.

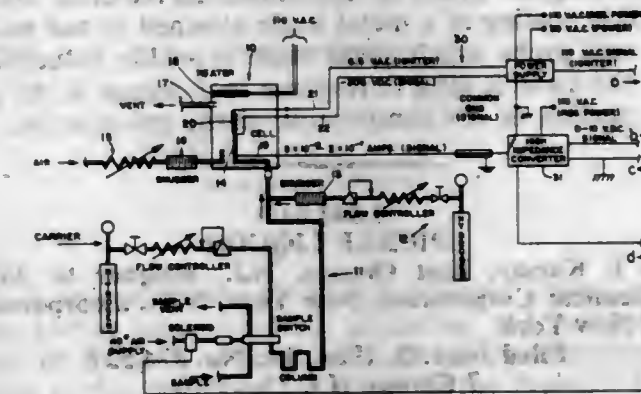
3,340,013

FLAME DETECTOR

Terrence B. Rooney, Walpole, and Willard W. Rice, Jr., Foxboro, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts

Filed Sept. 9, 1963, Ser. No. 307,522

2 Claims. (Cl. 23-254)



1. A flame ionization detector for determining trace hydrocarbon content in a gas mixture further mixed with hydrogen gas and burned in the presence of oxygen within a chamber in said detector comprising,

a housing having a recess therein,
 a mounting member adapted to closely fit with said housing to form an enclosed chamber with said recess,
 a first gas conduit bringing said gas mixture mixed with hydrogen gas through said mounting member into said chamber and being sealably fixed to said member,
 a jet nozzle terminating said first conduit within said chamber for expelling said gas mixture mixed with hydrogen gas into said chamber and said jet nozzle comprising a first electrode,
 a second gas conduit for introducing a gas containing oxygen into said chamber so as to support combustion of said gas expelled from said jet nozzle,
 a second electrode positioned in said chamber in proximity with the combustion area at the exit of said nozzle and being in the form of a coil mounted to said mounting member by conductors connecting with both ends of said coil with said conductors leading through said mounting member and being electrically insulated therefrom with said coil having an electrical resistance,
 a source of electrical energy selectively supplied by means of said conductors to said coil for heating said coil to a temperature sufficient to initiate combustion of said hydrogen gas mixed with said gas mixture, which combustion is supported by said gas containing oxygen, and
 an electrical circuit including said first and second electrodes for measuring the electrical conductivity therebetween affected by the presence of hydrocarbons in said gas mixture thereby providing an indication of a hydrocarbon content of said gas mixture.

3,340,014

STOICHIOMETRIC INDICATOR FOR COMBUSTION OF GAS

Stanford Neal and Lee H. Tomlinson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed July 31, 1964, Ser. No. 386,566
 5 Claims. (Cl. 23-254)



1. A gas mixture indicating device comprising an elongated probe of nonconducting material, and a thin coating of a metal oxide attached to one end of said probe which metal oxide is readily reducible to the metallic state in response to a change in the proportion of the components of the gas mixture.

3,340,015

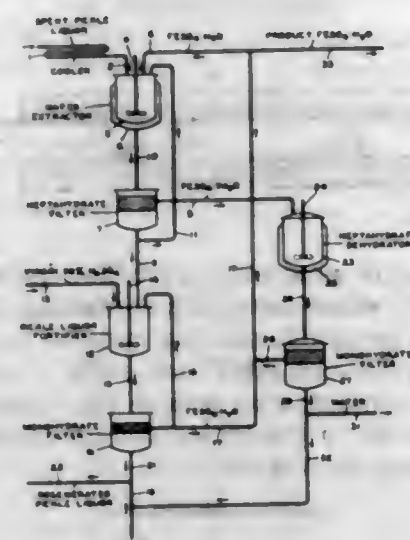
PICKLE LIQUOR

Bela I. Karsay, East Orange, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed June 11, 1964, Ser. No. 374,527
 7 Claims. (Cl. 23-293)

1. A method for regenerating spent pickle liquor comprising an aqueous solution of ferrous sulfate and sulfuric acid by adding a dehydration agent consisting essentially of ferrous sulfate monohydrate to the spent pickle liquor in an amount which is substantially larger than corresponds to its solubility in the spent pickle liquor such

that the resultant slurry of solid ferrous sulfate and spent pickle liquor will contain 20-50% by weight ferrous sulfate based on the weight of the slurry, maintaining the temperature of the slurry within the range of from 130° F. to just above the freezing point of the slurry for a sufficient length of time for the ferrous sulfate monohydrate to extract water from the spent pickle liquor and combine with it to form ferrous sulfate heptahydrate and to thus concentrate the sulfuric acid in the pickle liquor with concurrent decrease in solubility of ferrous



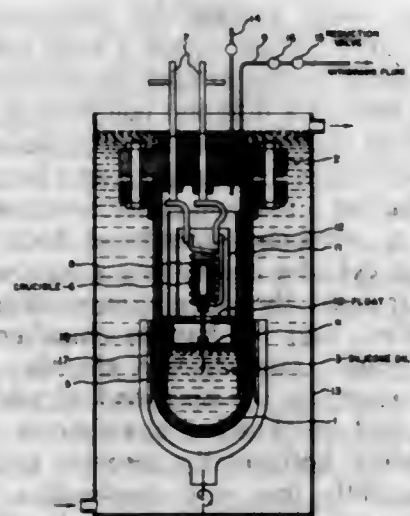
sulfate in the pickle liquor resulting from increased concentration of the sulfuric acid in the pickle liquor and precipitation of ferrous sulfate heptahydrate from the pickle liquor such that the solid ferrous sulfate heptahydrate in the slurry is greater in quantity based on ferrous sulfate than the amount of ferrous sulfate monohydrate added to the spent pickle liquor, and separating the solid ferrous sulfate heptahydrate from the liquid leaving a liquor containing a more concentrated sulfuric acid solution than initially present in the spent pickle liquor.

3,340,016

PRODUCING AND REGULATING TRANSLATORY MOVEMENT IN THE MANUFACTURE OF SEMI-CONDUCTOR BODIES

Heinz Wirth, Strasslach, and Manfred Röder and Wolfgang Dietz, Munich, Germany, assignors to Consortium für Elektrochemische Industrie G.m.b.H., Munich, Germany, a corporation of Germany

Filed Sept. 15, 1964, Ser. No. 396,635
 Claims priority, application Germany, Sept. 26, 1963, C 30,980
 5 Claims. (Cl. 23-301)



1. The combination with a closed pressurized vessel for the manufacture of semi-conductor crystalline bodies

by a seed pulling operation, and means including a vertically movable element inside said vessel for inserting a seed crystal into a melt and pulling said seed crystal from said melt in a crucible to form a semi-conductor body and to build the body in a vertical direction with respect to the vertical movement of said element, of a body of liquid in said vessel, a float seated on said liquid and supporting said element, and means for varying the vertical level of said liquid to move said float and said element in a similar vertical direction.

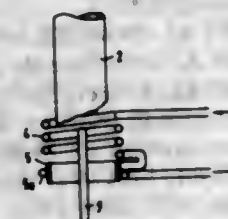
3,340,017

METHOD OF CRUCIBLE-FREE ZONE MELTING

Wolfgang Keller, Pretzfeld, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Apr. 13, 1965, Ser. No. 447,663
 Claims priority, application Germany, Apr. 15, 1964, S 90,543

6 Claims. (Cl. 23-301)



1. In a method of zone melting a polycrystalline rod having a diameter greater than 30 mm. so as to form a monocrystal thereof wherein the rod and a seed crystal of relatively small diameter are supported at the upper and lower end thereof respectively in vertical alignment with each other, the rod overlying the seed crystal and a molten zone is formed in the rod at a junction of the rod, and the seed crystal by a surrounding inductive heater coil energized by current from a high-frequency generator having a flux field, the molten zone being prevented from dripping by a short circuiting ring of electrically conducting material surrounding the rod and located beneath the heater coil at a distance therefrom adapted to induce in the ring a counter current with a flux opposing the flux of the heater coil in the region encompassed by the ring for compensating at least part of the heater coil flux so as to thereby support the molten zone, the improvement which comprises passing the molten zone at least once upwardly along the rod from the junction by relatively moving the rod and the heater coil and thereby simultaneously partly compensating the heater coil flux with the ring, to support the upwardly passing molten zone, and thereafter passing the molten zone upwardly along the rod from the junction at least once with the inductive high frequency heating coil and in the absence of the short circuiting ring thereby without compensating the heater coil flux.

3,340,018

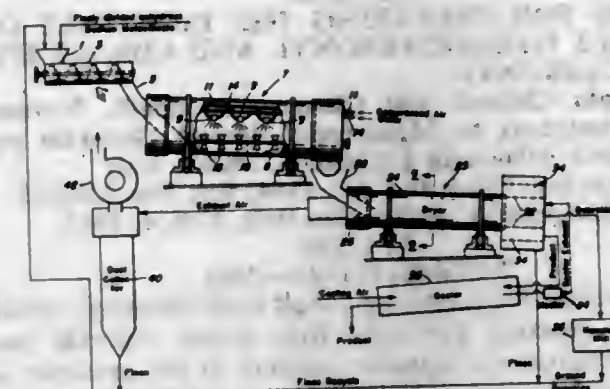
PROCESS FOR AGGLOMERATING ANHYDROUS SODIUM METASILICATE FINES

Joseph V. Otrahalek, Dearborn, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Mar. 31, 1965, Ser. No. 444,108
 10 Claims. (Cl. 23-313)

1. The process of producing agglomerates of sodium metasilicate comprising the steps of subjecting a mass of finely divided sodium metasilicate to a tumbling action by a continuously moving surface substantially at room

temperature, spraying water in an amount of about 1 to 10 percent by weight of the dry sodium metasilicate onto said



tumbling mass of sodium metasilicate and thereafter separately drying said agglomerated sodium metasilicate.

3,340,019

PROCESS FOR THE REPROCESSING OF IRRADIATED COMPACT FUELS BY FLUORINATION

Glencarlo Pierini, Mol, Aldo Francesconi, Turnhout, and Jean Schmets, Mol-Donk, Belgium, assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,634
 Claims priority, application Luxembourg, Nov. 26, 1965, 49,937

5 Claims. (Cl. 23-326)

1. A process for the reprocessing of compact irradiated nuclear fuels consisting substantially completely of uranium dioxide by fluorination, which comprises heating said fuels in a gaseous mixture consisting of nitrogen, fluorine and chlorine trifluoride.

3,340,020

FINELY DISPERSED CARBIDES AND PROCESS FOR THEIR PRODUCTION

Ernst Neuenchwander, Basel, Klaus Schmitt, Zollikonberg, Zurich, and Walter Scheller, Munchenstein, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

Filed Aug. 11, 1964, Ser. No. 388,832
 Claims priority, application Switzerland, Aug. 13, 1963, 9,976/63; Aug. 29, 1963, 10,663/63
 34 Claims. (Cl. 23-349)



1. A process for the production of finely dispersed carbides having non-pyrophoric properties and being composed of elements selected from the group consisting of metals of the 3rd to the 6th group of the Periodic Table and metalloids of the 3rd and 4th group of the Periodic Table, in which process (1) at least one halide of an element selected from the group consisting of a metal of the 3rd to the 6th group of the Periodic Table and a metalloid of the 3rd and 4th group of the Periodic Table, and (2) a hydrocarbon are subjected to the action of a hydrogen

plasma, the two starting materials (1) and (2) being reacted in the gaseous state.

3,340,021

PROCESS FOR PREPARING THE IRON SALT OF COBALT HYDROCARBONYL AND COBALT HYDROCARBONYL

Gian Paolo Chiusoli and Giuseppe Mondelli, Novara, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Jan. 23, 1964, Ser. No. 339,605

Claims priority, application Italy, Feb. 4, 1963, 2,319/63

2 Claims. (Cl. 23—360)

1. A process for preparing cobalt hydrocarbonyl, which comprises reacting powdered iron, cobalt chloride and carbon monoxide in aqueous medium in the presence of sulfur-containing promoters selected from the group consisting of sodium sulfide and sodium thiosulfate at a temperature from 0 to 70° C. and a pressure from 1 to 60 atmospheres, separating the reaction mixture into liquids and solids, acidifying the liquids and displacing the cobalt hydrocarbonyl by a carbon monoxide stream.

3,340,022

TUNGSTEN POWDER BODIES INFILTRATED WITH COPPER-ZIRCONIUM ALLOY

Edward J. Zdanuk, Lexington, and Richard H. Krock, Peabody, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Apr. 21, 1966, Ser. No. 550,077

8 Claims. (Cl. 29—182.1)

1. A composite material having a low volume of gas content for use as an electrical contact material in vacuum switching devices consisting of tungsten particles surrounded by and integrally joined with an alloy matrix of copper-zirconium, said matrix having a high concentration of said zirconium in the interface region between said tungsten particles and said copper-zirconium alloy matrix thereby raising the overall electrical conductivity of said copper-zirconium alloy matrix.

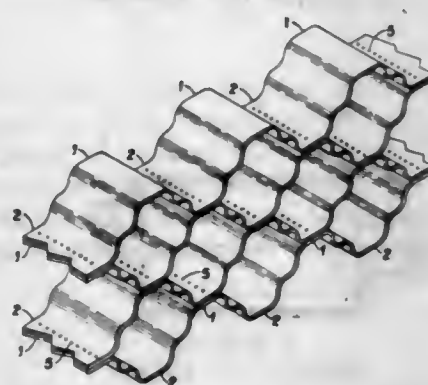
3,340,023

CELLULAR STRUCTURE

William J. Hulsey, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 21, 1964, Ser. No. 398,135

2 Claims. (Cl. 29—183)



1. A cellular core comprising a multiplicity of folded component strips joined in stacked array, each of said metal strips including alternate flat ridge and flat valley portions interconnected by wall portions each having at least one transversely extending corrugation, and means for integrally joining the corresponding ridge and valley portions of adjacent metal strips to form an integral structure.

3,340,024

COMPACTING OF PARTICULATE METALS

John H. Mahar, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 4, 1965, Ser. No. 461,554

15 Claims. (Cl. 29—192)

15. An article of manufacture, comprising a briquette formed and treated by

admixing particulate reduced iron metal with a monohydric primary alcohol containing from about 6 to about 30 carbon atoms, in concentration ranging from about 1 to about 4 percent, based on the weight of the iron,

pressing the mixture between opposing surfaces at pressures ranging from about 20,000 pounds per square inch and higher to form a briquette,

the briquette treated in an oxygen-containing atmosphere at temperatures ranging from about 250° F. to about 600° F. for a sufficient time to cause a chemical change and bring about a final curing of the said alcohol which bonds together the particulate metal.

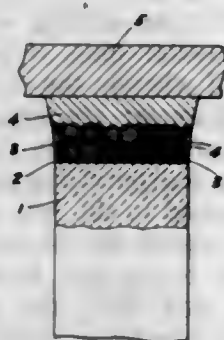
3,340,025

REFRACTORY METAL-TO-CERAMIC SEAL

Alfred Milch, Teaneck, N.J., and Joseph J. Lalak, Briarcliff Manor, and Richard H. Ahlert, Spring Valley, N.Y., assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,739

10 Claims. (Cl. 29—195)



1. A refractory ceramic-metal seal comprising a spongy layer of a refractory metal selected from the group consisting of molybdenum, tungsten, and mixtures thereof adjoining and integrally united with a refractory ceramic body, a layer of a wetting metal selected from the group consisting of rhenium, an alloy of molybdenum and ruthenium, and an alloy of molybdenum and rhodium adjoining and integrally united with the spongy metal layer, and a layer of a refractory brazing metal interposed between and integrally united with the wetted spongy metal layer and a refractory metal surface, said latter refractory metal having a melting point higher than that of said brazing metal.

3,340,026

COMPOSITE ARTICLE OF BONDED REFRACTORY METAL AND A CERAMIC

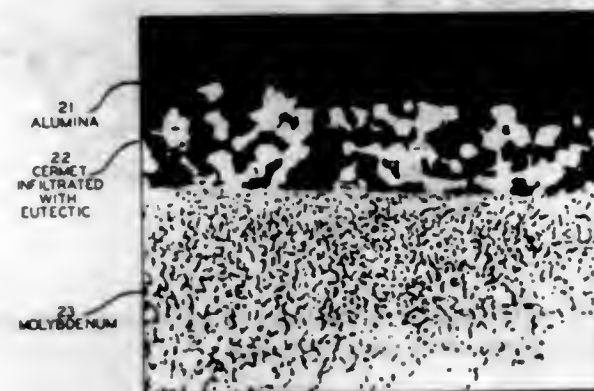
Robert S. Kiwak, Dearborn Heights, Mich., assignor to The Bendix Corporation, a corporation of Delaware

Filed Dec. 3, 1964, Ser. No. 415,725

5 Claims. (Cl. 29—195)

4. A composite article comprising a refractory metal selected from the group of molybdenum, columbium, tantalum and tungsten bonded to a refractory ceramic selected from the group of yttria and alumina, the bonding material consisting of a mixture of a metal selected from

said group in an amount such that said metal constitutes from 40% to 80% of said bonding material, the balance



of said bonding material being alumina and yttria in approximately equal proportions.

3,340,027

COMPOSITE ALUMINUM SHEET

Irwin Broverman, Cheshire, and George Jagaciak, Milford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Original application Oct. 23, 1963, Ser. No. 318,158. Divided and this application July 15, 1966, Ser. No. 574,854

2 Claims. (Cl. 29—197.5)

1. A composite aluminum sheet consisting essentially of (A) a first component sheet of an aluminum base alloy consisting essentially of from 0.15% to 0.45% chromium distributed therein as a finely divided uniform dispersion of chromium aluminide precipitate, balance essentially aluminum,

(B) and a second component sheet consisting essentially of an aluminum base alloy integrally unified with said first component sheet, said second component sheet being substantially free of said finely divided uniform dispersion of chromium aluminide, said sheets having a portion in which the first component sheet is not integrally unified with said second component sheet.

3,340,028

HIGH-TIN TITANIUM WELDING WIRE

Milton B. Vordahl, Las Vegas, Nev., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

No Drawing. Original application July 17, 1964, Ser. No. 383,487, now Patent No. 3,302,282, dated Feb. 7, 1967. Divided and this application Nov. 30, 1966, Ser. No. 597,846

3 Claims. (Cl. 29—198)

1. A weldment comprising an assembly wherein component parts of a titanium-base alloy wherein at least a portion of the microstructure thereof is beta are joined with a weld metal consisting essentially of a tin-containing titanium base alloy, the amount of tin ranging from an amount effective to produce a relatively ductile weld metal free from embrittlement on aging to about 20% by weight.

3,340,029

TOOLING FOR WINDING DYNAMOELECTRIC MACHINE CORE MEMBERS

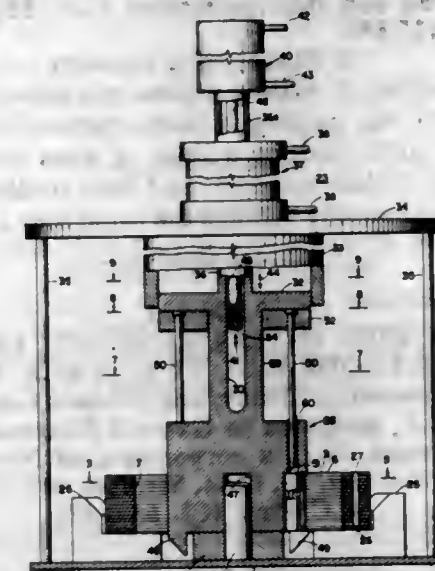
Robert J. Eminger, Fort Wayne, Ind., assignor to Fort Wayne Tool & Die, Inc., Fort Wayne, Ind., a corporation of Indiana

Filed Sept. 2, 1965, Ser. No. 484,582

10 Claims. (Cl. 29—205)

1. Apparatus for attaching a tooth extending member on the end of a tooth of a dynamoelectric machine core member and for removing the same therefrom, said tooth

extending member being generally U-shaped with its leg portions normally spaced so that the ends thereof respectively resiliently engage said tooth end, said apparatus comprising: means for receiving said tooth extending



member; and means selectively insertable between said leg portions for separating the same while said tooth extending member is in said receiving means whereby said tooth extending member may be attached to and removed from said tooth end.

3,340,030

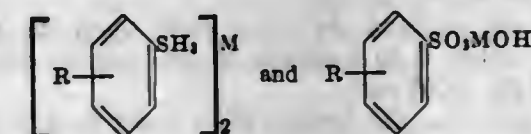
STABILIZED FUEL OIL COMPOSITIONS

Gardner E. Gaston, Tarentum, and Edward Mitchell, Valencia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

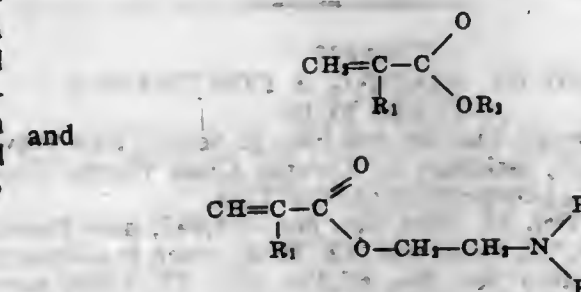
No Drawing. Filed Mar. 27, 1964, Ser. No. 355,495

5 Claims. (Cl. 44—62)

1. A composition comprising a fuel oil at least 20 percent by weight of which is catalytically cracked; at least one sulfonate salt selected from the group consisting of



wherein R represents one or more alkyl groups, at least one of which contains 8 to 18 carbon atoms, and M represents an alkaline earth metal; and a copolymer of



wherein R₁ is hydrogen or a methyl group, R₂ is an alkyl group containing 8 to 18 carbon atoms, R₃ and R₄ are the same or different alkyl groups containing 1 to 18 carbon atoms each, the amino ester comprising about 2 to 35 percent of the copolymer; the ratio of said sulfonate salt to said copolymer being between about 1:9 and 9:1; and said copolymer comprising between about 0.001 and 0.05 weight percent of said composition.

3,340,031

SEAL FOR AND METHOD OF PACKING JOINTS IN A GLASS FURNACE

James T. Zellers, Jr., Charleston, W. Va., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Original application Mar. 31, 1959, Ser. No. 803,220.
Divided and this application Nov. 25, 1964, Ser. No. 415,854

5 Claims. (Cl. 65—27)

1. A method of sealing a joint in a glass furnace structure comprising, packing a heat-resistant fibrous material along said joint, melting a body of glass onto and across the packed fibrous material, and then cooling said melted glass to substantially solidify the same into a sealing layer.

3,340,032

METHOD FOR INTERCHANGING CURVATURE OF CATHODE-RAY TUBE FACE PLATE

Henry Kasperowicz, Clifton, and Michael Gasparik, Ridgewood, N.J., assignors to General Electronics Corporation, Newark, N.J., a corporation of New Jersey
Filed Oct. 28, 1964, Ser. No. 407,031

4 Claims. (Cl. 65—37)



1. A method of converting the face plate inner surface curvature of a television picture tube comprising:

- preparing a mold member composed of dual opposing compressive parts, one having a surface curvature matching the tube inner surface and the other having a surface curvature matching the new tube,
- placing a flat glass plate between the mold parts,
- heating the glass plate to a temperature to cause it to become pliable,
- compressing the mold parts upon the glass plate to cause it to conform to the surface configuration of the mold parts,
- allowing the formed glass insert to cool to become structurally rigid, and
- inserting and adhering the glass plate to the television picture tube to form a television tube having a new surface configuration.

3,340,033

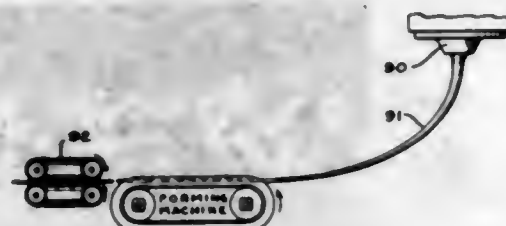
METHOD OF SHAPING A CONTINUOUS GLASS TUBE

Norman Moreau, Lincoln, and John A. Selfert, East Providence, R.I., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Application Oct. 29, 1964, Ser. No. 414,047, now Patent No. 3,245,773, dated Apr. 12, 1966, which is a division of application Ser. No. 65,339, Oct. 27, 1960, now Patent No. 3,181,941. Divided and this application Oct. 19, 1965, Ser. No. 497,835

4 Claims. (Cl. 65—87)

2. The method of modifying the shape of a tubular body of heat-softened glass during its travel from a source to a delivery position, which comprises the steps of embracing a portion of said body along substantially its entire circumference in the vicinity of each end of said portion while embracing an intermediate part of said portion along substantially less than its entire circumference, pressing

a part of said portion inwardly while said part is in a heat-softened state to form an inwardly projecting wall portion.



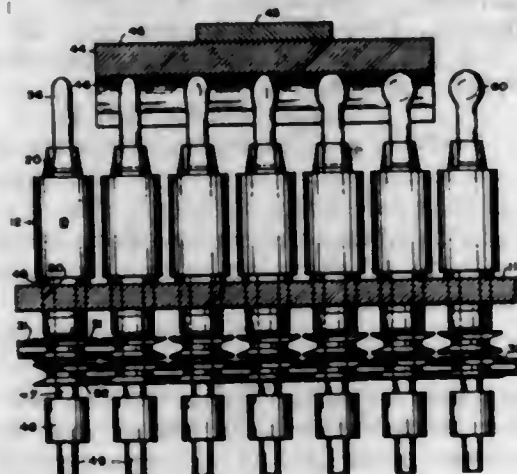
tion in said tubular body, and subsequently removing said portion from such embracement.

3,340,034

METHOD OF AND MOLD FOR FORMING HOLLOW ARTICLES

Elmer L. Anderson, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 11, 1964, Ser. No. 417,590
11 Claims. (Cl. 65—109)



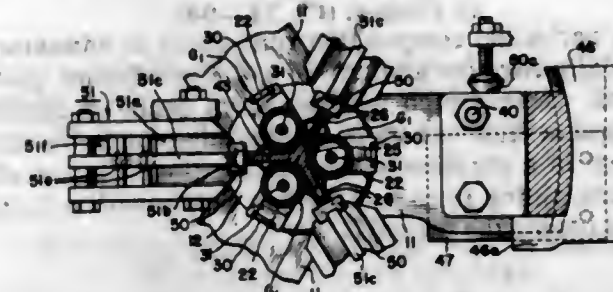
1. A method of forming a radially symmetric bulb-shaped envelope from a piece of thermoplastic tubing closed at one end thereof, such method comprising, evenly heating the portion of said piece of tubing adjacent the closed end thereof to its plastic temperature; rotating said tubing about its longitudinal axis and moving the tubing through a longitudinal cavity extending through a mold body, such cavity including a channel portion through which the open end of said piece of tubing extends exteriorly of the mold, the cavity also having a bilaterally symmetric cross-sectional configuration corresponding to the radially symmetric bulb-shaped configuration for said envelope; and, during at least part of the period of movement through said cavity, supplying, at least intermittently, pressurized aeriform fluid through the open end of said piece of tubing to the interior thereof to enlarge the closed end of such piece of tubing so that it conforms to the bulbular portion of the cavity.

10. A mold for reshaping lengths of thermoplastic tubing, such mold comprising, a mold body provided with a mold cavity passing therethrough from one side of the mold body to another, such mold cavity including a bulbular portion for receiving sealed ends of lengths of thermoplastic tubing to be reshaped and a channel portion through which the open ends of such lengths of tubing may extend exteriorly of the mold, and said mold cavity having a configuration such that any section of the cavity taken at right angles to the axial line of the direction of passage of the cavity through said mold body has a bilaterally symmetric configuration corresponding to any other such section of the cavity.

3,340,035

CATHODE-RAY TUBE MANUFACTURING APPARATUS

Thaddeus J. Hajduk, Chicago, and Fred Kowalski, Park Ridge, Ill., assignors to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 28, 1964, Ser. No. 399,478
11 Claims. (Cl. 65—154)



1. Apparatus for making a three-gun assembly for a cathode-ray tube individually including cylindrical electrodes each of which has a pair of mounting straps angularly spaced approximately 120 degrees on the external periphery thereof, said apparatus comprising:

a workholder including three mandrels positioned at the apices of an equilateral triangle for individually supporting the electrodes and interposed spacing elements of each of said guns to establish therefor a preselected electrode array with predetermined inter-electrode spacings and with said mounting straps of each of said guns in substantial alignment and in approximate parallel relation to straps of the remaining two guns;

three bead holders for individually releasably holding an elongated beading element of insulating material for movement between a heating position and a beading position;

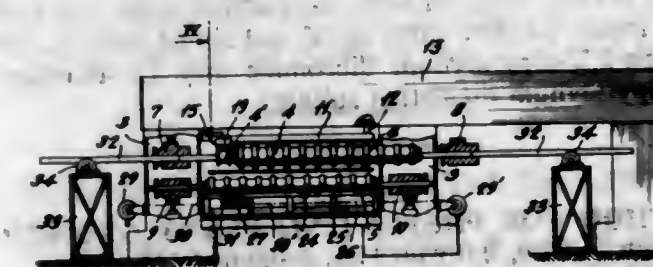
means for heating one surface of each of said beading elements to a softened condition;

and means for simultaneously displacing each of said bead holders from its heating position to its beading position to drive said straps of two of said guns into each of said beading elements and for retracting each of said bead holders from its beading position after a predetermined cooling period.

3,340,036

DEVICES FOR DISMOUNTING AND REMOUNTING DRIVING ROLLERS

Jacques Max Charles Dryon, Auvelais, Belgium, assignor to Ateliers Heuze, Malevez et Simon Reunis Societe Anonyme, Auvelais, Belgium, a Belgian company
Filed Jan. 24, 1963, Ser. No. 253,720
Claims priority, application Belgium, Feb. 5, 1962, 489,382, Patent 613,494
4 Claims. (Cl. 65—253)



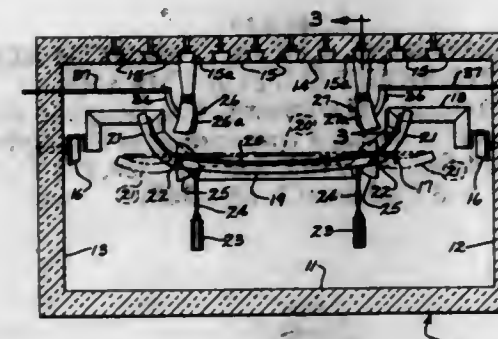
1. An apparatus for removing and replacing vertically spaced parallel rolls, said apparatus comprising an elongated beam mounted above the upper roll parallel to the

axis thereof, a carriage mounted on said beam for axial movement above said upper roll, gripping means on said carriage for engaging and supporting one end of said upper roll, whereby upon movement of said carriage along said beam said upper roll will be moved axially, a pair of spaced, parallel rails mounted below the lower roll parallel to the axis thereof, a cradle slidably mounted on said rails for axial movement, said cradle serving to engage and support one end of said lower roll, and means to move said cradle in either direction to move said lower roll axially.

3,340,037

GLASS BENDING FURNACE WITH BURNER BLAST GUIDE TUBES

Charles K. Stevenson, Oregon, Ohio, assignor to Permaglass, Inc., Woodville, Ohio, a corporation of Ohio
Filed Oct. 21, 1963, Ser. No. 317,630
7 Claims. (Cl. 65—287)



1. In a glass bending furnace having a roof, and conveyor means for moving molds along a path into and out of said furnace, each of said molds having a center section and at least one wing section hinged thereto along a line of sharp bend extending across the sheet of glass bent thereon, at an angle to said path, the improvement comprising, a plurality of laterally spaced, generally, longitudinal rows of stationary gaseous blast burners in said furnace roof, said rows of burners being parallel to said path, said blast guide for each of said burners in a row of burners generally overlying the area of the sharp bend line of said mold, a blast output pivotally attached on the lower end for each of said guides for angular movement relative thereto, and means for individually adjusting the direction of the blast outlet for each of said burners for directing such blasts onto the surface of a glass sheet on said mold along said sharp bend line, whereby the blasts from said blast outlets may extend along sharp bend lines that are angularly oriented relative to said path of movement.

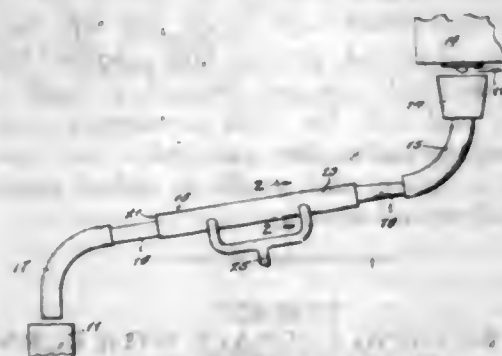
3,340,038

GOB CHUTE WITH FLUID FLOW MEANS

Roy A. Hartman, San Lorenzo, Calif., assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Sept. 21, 1964, Ser. No. 397,945
3 Claims. (Cl. 65—304)

1. In glass mold charge guiding means, an inclined elongated tube through which successive mold charges are to move in part by gravity, said tube having a plurality of apertures through its wall each disposed at an angle to the tube axis such that the inner end of each aperture faces generally in the direction of travel of the charges through the tube, and means for directing a gas or liquid through the apertures into the tube thereby to accelerate advance of the mold charges through the tube, there being a tube-like housing concentric with and enclosing the apertured tube and creating an air pres-

sure chamber entirely enclosing said apertured tube, ring-like closing and spacing means at opposite ends of the

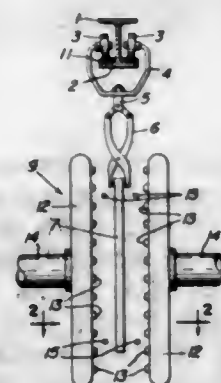


tube holding the tube and housing spaced apart and sealing the chamber, and air pressure supply means connected to said housing.

3,340,039

GLASS TEMPERING APPARATUS WITH RESILIENT SHEET SUPPORT MEANS

William E. Marceau, Havertown, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania
Filed Oct. 31, 1963, Ser. No. 320,374
3 Claims. (Cl. 65—348)



2. In apparatus for tempering glass sheets, a rail extending through a path including a heating station and a quenching station, means on said rail forming a track, a carriage supported for movement on said track, glass supporting means carried by said carriage whereby glass can be moved along said track from in front of said heating station to beyond said quenching station, said carriage being provided with wheels traveling on said track, resilient means between said track and carriage to cushion the travel of said carriage and the glass carried thereby as it moves between and through said stations, said resilient means being a strip of resilient material attached to said track and on which said wheels travel.

3,340,040

METHOD OF TOBACCO SUCKER CONTROL

Tien C. Tso, Beltsville, Md., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application Jan. 10, 1964, Ser. No. 337,100. Divided and this application May 9, 1966, Ser. No. 565,343

14 Claims. (Cl. 71—78)

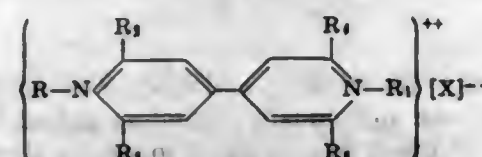
1. A method of inhibiting the growth of suckers in tobacco plants which comprises applying to topped tobacco plants an amount of a lower alkyl ester of a C_8 to C_{18} fatty acid effective to achieve at least about 47% inhibition of sucker growth.

3,340,041 HERBICIDAL COMPOSITION AND METHOD EMPLOYING 4,4'-BIPYRIDILIUM QUATERNARY SALTS

Ronald Frederick Homer, Workingham, and John Edward Downes, Bracknell, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Jan. 27, 1964, Ser. No. 340,509
Claims priority, application Great Britain, Jan. 31, 1963, 49,145/63

12 Claims. (Cl. 71—94)

1. A herbicidal composition comprising in admixture a herbicidally effective amount of 4,4'-bipyridylium quaternary salt wherein each nitrogen atom bears an aliphatic group and at least one carbon atom adjacent to the nitrogen atom in a pyridine nucleus is substituted by an alkyl group containing from 1-4 carbon atoms with a carrier, said salt having the formula:



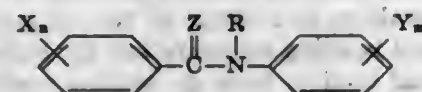
wherein R and R_1 are selected from the group consisting of alkyl of 1-4 carbon atoms and di-lower alkyl-carbamoylmethyl; R_2 , R_3 , R_4 and R_5 are hydrogen or alkyl of 1-4 carbon atoms, at least one of R_2 , R_3 , R_4 and R_5 being alkyl, and X is an anion.

3,340,042

POST-EMERGENCE HERBICIDAL MIXTURE AND METHOD OF USE

Herbert Schwartz, Smaragdplein 186, Utrecht, Netherlands, and Joseph B. Skaptason, 12700 Prospect Ave., Kansas City, Mo. 64146
No Drawing. Filed June 24, 1965, Ser. No. 466,819
26 Claims. (Cl. 71—94)

1. Post-emergence herbicidal compositions comprising a herbicidally effective amount of mixtures of (A) at least one benzanilide of the formula



wherein X is selected from the group consisting of halogen, lower alkyl, lower alkoxy, carbo-lower-alkoxy, amino, cyano, arsono, acetyl and nitro, Y is selected from the group consisting of halogen, cyano, nitro, arsono, carbo-lower-alkoxy and lower alkyl, Z is selected from the group consisting of oxygen and sulfur, R is selected from the group consisting of hydrogen and lower alkyl, and m and n are integers from 0 to 3 except when X and Y are only halogen, m and n are integers from 0 to 5, (B) an aromatic hydrocarbon and (C) an oxygenated organic solvent and (D) a synergistic amount of a herbicide with an oxidizing ion selected from the group consisting of mono-lower alkane arsonic acids, di-lower alkylarsinic acids and their alkali metal, alkaline earth metal and amine salts, 1,1'-diethylene-2,2'-dipyridylium dibromide and 1,1'-dimethyl-4,4'-dipyridylium di(methyl sulfate).

3,340,043

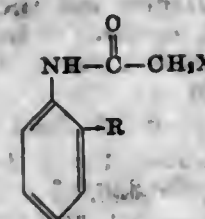
METHOD FOR PREVENTING PLANT GROWTH

John F. Olin, Ballwin, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Original application Aug. 28, 1961, Ser. No. 134,159. Divided and this application June 14, 1963, Ser. No. 293,555

5 Claims. (Cl. 71—118)

1. A method for preventing plant growth which comprises applying to soils normally supporting said growth

a growth-inhibiting amount of an α -haloacetanilide of the formula

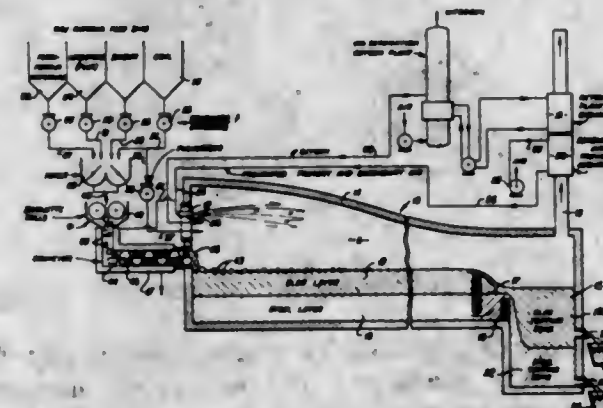


wherein R is tertiary alkyl having at least 4 carbon atoms and X is an halogen atom selected from the group consisting of chlorine, bromine, and iodine.

3,340,044

FURNACE REDUCTION OF PELLETIZED FERRIFEROUS MATERIALS

Merrill W. MacAfee, Huntington, Park, Calif., and Edward M. Van Dornick, 3716 E. Corta Calle, Pasadena, Calif. 91107, Isabel W. MacAfee, executrix of the estate of said Merrill W. MacAfee, deceased, assignor to said Van Dornick
Filed May 11, 1964, Ser. No. 366,462
14 Claims. (Cl. 75—40)



1. The process of obtaining a ferrous product resulting from reaction and reduction of ferriferous materials, that includes maintaining in an elongated stationarily walled high temperature furnace zone a molten horizontal slag layer at a temperature in the range of about 3000° F. to 4000° F., flowing the slag layer horizontally out of said zone, introducing to and floating within said slag layer pelletized bodies of ground ferrous slag forming material admixed with carbonaceous reducing material, maintaining said bodies floating in and flowing with the slag layer throughout a distance so extended as to allow for reduction of the ferrous material, fusion and substantially complete disintegration of the pellets, thereby causing molten iron particles to form and exude out of said bodies into the molten slag while the bodies progressively reduce in size, settling the iron particles from and coalescing the iron particles below the slag layer, and flowing the coalesced iron from said furnace zone.

3,340,045

METHODS OF SLAG AND METAL TREATMENT WITH PERLITE

Alexander H. Colwell, Jr., Buffalo, N.Y., assignor to G. E. Smith, Inc., a corporation of Pennsylvania
No Drawing. Filed Aug. 5, 1964, Ser. No. 387,763
3 Claims. (Cl. 75—53)

1. The method of treating molten metal and slag to coagulate the slag and to insulate molten metal which comprises adding to the molten slag and metal about 1 to 2 pounds of perlite per ton of metal.

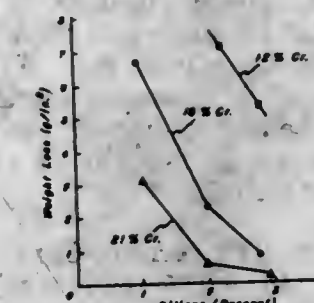
3,340,046

AGE-HARDENABLE AUSTENITIC STAINLESS STEEL

Edward John Dulla, Mount Lebanon, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed Mar. 29, 1965, Ser. No. 446,469

8 Claims. (Cl. 75—126)



1. Age-hardenable austenitic stainless steel consisting essentially of, in weight percent,

Carbon	0.35 to 0.75
Nitrogen	0.35 to 0.75
Chromium	18.0 to 22.00
Manganese	10.5 to 14.0
Nickel	0 to 0.75
Silicon	2.00 to 3.00
Phosphorus	0 to 0.30
Sulfur	0 to 0.40
Vanadium	0 to 1.0
Molybdenum	0 to 2.0
Tungsten	0 to 2.5
Columbium	0 to 1.5
Tantalum	0 to 3.0
Iron	Balance

said steel substantially satisfying the equation

$$C+N > 0.078(Cr+1.4Si+2.3V+1.4Mo+0.63W+2.8Cb+1.4Ta-12.5)$$

where in the above equation the chemical symbol for a given element signifies the content of that element in the steel in weight percent, the total content of the elements vanadium, molybdenum, tungsten, columbium and tantalum being under 7 weight percent.

3,340,047

FORGEABLE CORROSION-RESISTING STEEL WITH HIGH NEUTRON-ABSORPTION CAPACITY

Karl Gerhard Sune Persson, Kedjeasen, Paul Helmer Lindroth, Soderfors, and Lars Ivar Hellner, Karliskoga, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,216

Claims priority, application Sweden, Dec. 8, 1962, 13,250/62

6 Claims. (Cl. 75—126)

1. Forgeable, corrosion-resisting steel, having a high neutron-absorption capacity, consisting essentially of:

	Percent
Carbon, maximum	0.15
Chromium	15-30
Boron, maximum	5
Titanium in weight percent of at least $3.1 \times (\text{weight percent boron}) - 5.8$	
balance essentially iron.	

3,340,048

COLD-WORKED STAINLESS STEEL

Stephen Floreen, Westfield, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 31, 1964, Ser. No. 356,037

5 Claims. (Cl. 75—128)

1. A wrought and heat treated martensitic-structured nickel-chromium-cobalt stainless steel consisting essentially of 3% to about 8% nickel, about 12% to about 17% chromium, about 7% to about 13% cobalt, about 0.01% to about 1% manganese, about 0.01% to about 0.15% carbon, about 0.005% to about 0.1% nitrogen, up to 5% molybdenum, not more than about 0.15% silicon, with the percentages of the aforesaid elements proportioned to characterize the composition with an equivalent nickel index (ENI) of at least 19.5 but not greater than 22 as computed by the formula

$$\text{ENI} = \text{percent Ni} + 0.68 (\text{percent Cr}) + 0.55 (\text{percent Mn}) + 0.45 (\text{percent Si}) + 27 (\text{percent C}) + \text{percent N} + 0.2 (\text{percent Co}) + \text{percent Mo}$$

and with the balance essentially iron, cold worked to at least about 20% and less than 50% reduction in cross sectional area and thereafter heat treated for about 1 hour to about 48 hours at 750° F. to 850° F., having a microstructure of at least about 60% to about 99% martensite and the remainder essentially austenite and possessing a yield strength of at least 240,000 pounds per square inch and a sharp-notch/tensile strength ratio of at least about 1.

3,340,049

COPPER BASE ALLOY

Joseph F. Quaas, Island Park, and Daniel P. Tanzman, Far Rockaway, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

No Drawing. Filed Feb. 17, 1965, Ser. No. 433,450

14 Claims. (Cl. 75—154)

1. A copper base alloy comprising the following constituents in the following ranges of percentages by weight:

	Percent
Nickel	4-30
Cobalt	1.0-8
Chromium	.40-5
Tungsten	.02-3
Carbon	.02-.70
Silicon	.1-1.5
Tin	1-14
Phosphorus	.05-.55
Boron	.10-1.3
Iron	up to 1
Copper	Balance

3,340,050

DENTAL GOLD ALLOY

John P. Nielsen, New York, N.Y., and Joseph J. Tuccillo, Norwalk, Conn., assignors to J. F. Jelenko & Co., Inc., New Rochelle, N.Y., a corporation of New York

No Drawing. Filed Feb. 3, 1965, Ser. No. 430,175

4 Claims. (Cl. 75—165)

1. A coarse grain porcelain-gold dental alloy consisting essentially of between 0.1-1.1% nickel, 0.10-1.00% aluminum, 0.5-4% silver, 1-10% platinum, 1-10% palladium and the balance gold, said gold being present in the range of 80-90% by weight of the alloy and the combined gold, platinum and palladium contents constituting from 94-99% by weight of the alloy.

3,340,051

TITANIUM-BASE ALLOYS

Evan William Evans, Hagley, and Michael Duncan Smith, Shenstone, England, assignors to Imperial Metal Industries (Kynoch) Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,666

Claims priority, application Great Britain, Oct. 2, 1963, 38,828/63

6 Claims. (Cl. 75—175.5)

1. A titanium-base alloy consisting of 2-10% by weight of chromium and 0.5-2% of boron, balance, apart from usual impurities, titanium.

3,340,052

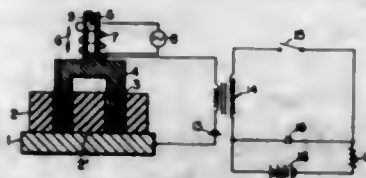
METHOD OF ELECTRICALLY SINTERING DISCRETE BODIES

Kiyoshi Inoue, 182-3-chome, Tamagawayoga-machi, Setagaya-ku, Tokyo, Japan

Filed Apr. 2, 1964, Ser. No. 356,714

Claims priority, application Japan, Dec. 26, 1961, 36/47,409

14 Claims. (Cl. 75—201)



1. A method of forming a coherent body, comprising the steps of:

- (a) disposing a mass of discrete electrically fusible relatively conductive and relatively nonconductive elements between a pair of electrodes in light contacting relationship; and
- (b) applying across said electrodes an impulsive electric current to effect at least one spark discharge through said mass to fuse said conductive and non-conductive elements together.

3,340,053

GAS-PRESSURE BONDING

Edwin S. Hodge and James H. Peterson, Columbus, Ohio, and Magnus A. Tassin, Jr., Baton Rouge, La., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Nov. 23, 1965, Ser. No. 509,309

5 Claims. (Cl. 75—208)

1. In a process for the preparation of a tungsten metal shape which comprises:

- (1) packing tungsten metal particles in a container,
- (2) evacuating and gas-tight sealing the container, and
- (3) subjecting the sealed container to inert gas pressure, temperature and time requisite to cause the container to deform inwardly to compact, deform and metallurgically bond the tungsten metal particles into a tungsten metal shape,

the improvement which comprises employing a container comprising a gas-impervious casing consisting essentially of a member of the group consisting of titanium, tantalum, niobium and mixtures thereof and a gas-pervious inner liner consisting essentially of a member of the group consisting of molybdenum, tungsten and mixtures thereof.

3,340,054

FORMATION OF CHROMIUM-CONTAINING COATINGS ON STEEL STRIP

George W. Ward, Nazareth, and Richard M. Willison, Bethlehem, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 500,325, Oct. 21, 1965. This application Sept. 20, 1966, Ser. No. 580,607

6 Claims. (Cl. 75—208)

1. The method of forming a coating on steel strip which comprises applying to the surface of the strip a metal powder containing not less than 20% chromium and not more than 0.25% carbon, compacting the powder on the strip, introducing the strip and compacted metal powder thereon into a sintering furnace, establishing a protective atmosphere therein, introducing chlorine gas into said furnace to bring the chlorine content of said protective atmosphere to not less than 0.10 percent by volume, and sintering said strip and compacted metal powder in said atmosphere for a time and at a temperature sufficient to cause diffusion between the strip and the powder and to form an adherent stainless steel coating, and maintaining the effective carbon content of said strip at not more than 0.01% during said sintering.

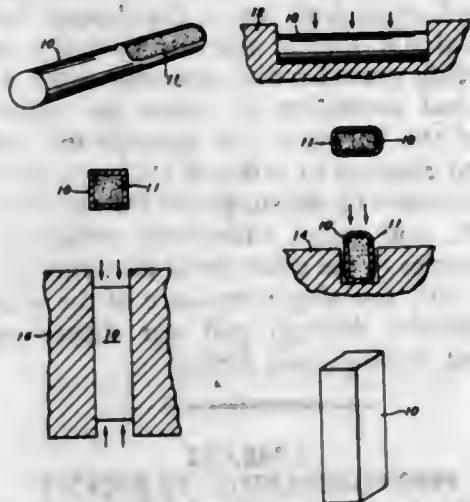
3,340,055

METHOD FOR PRODUCING COMPACTED ARTICLES HAVING LARGE LENGTH TO DIAMETER RATIOS

Thomas S. Cloran, East Liverpool, Ohio, and Vernon R. Thompson, Pittsburgh, Pa., assignors to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed Dec. 27, 1966, Ser. No. 609,987

11 Claims. (Cl. 75—214)



2. A method for compacting metal powders to produce a compacted article having a length substantially greater than the cross sectional diameter thereof comprising placing an uncompacted charge of powdered metal to be compacted into an elongated container, first compacting said charge by applying force in a direction normal to the axis of said elongated container, second further compacting said charge by applying force in a direction normal to the plane of said first compacting force and to the axis of said tubular container, further compacting said charge by applying force axially to said elongated container, and removing said article from said container, said container being confined in a die during each compacting operation.

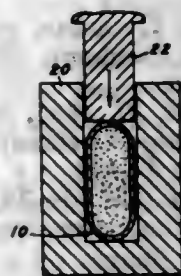
3,340,056

METHOD FOR COMPACTING POWDERED METALS

Thomas S. Cloran, East Liverpool, Ohio, and Vernon R. Thompson, Pittsburgh, Pa., assignors to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed Jan. 31, 1967, Ser. No. 613,023

6 Claims. (Cl. 75—214)



1. A method for producing a compacted article from powdered metal comprising filling a cylindrical metal container having hemispherical ends with a charge of powdered metal to be compacted, applying axial compressive force to said container to compact said charge of powdered metal, restricting lateral spread of said container during said application of axial force, and removing said container from said article after compacting.

3,340,057

RECORDING ELEMENT HAVING POLYETHYLENE WAX BINDER AND ELECTROSTATIC PRINTING THEREWITH

Robert Rosenbaum, Hanover Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 12, 1962, Ser. No. 243,982

8 Claims. (Cl. 96—1.8)

1. A photoconductive insulating coating composition suitable for electrostatic printing purposes comprising at least about 60% by weight of a finely divided photoconductor dispersed in a normally solid polyethylene wax vehicle, said polyethylene wax being a mixture of individual homologs having the structural formula



wherein n is an integer having an average value appropriate to provide an average molecular weight between about 1,000 and about 3,000; said composition being solid at temperatures up to about 100° C. and having melt viscosity and thixotropic properties providing sufficient fluidity for coating by the curtain coating method.

3,340,058

PHOTOGRAPHIC STRATUM TRANSFER PROCESS AND ELEMENTS THEREFOR

Anita von König, Walther Wolf, and Helmut Mäder, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 4, 1964, Ser. No. 342,553

Claims priority, application Germany, Feb. 22, 1963, A 42,394

9 Claims. (Cl. 96—28)

1. A process for producing photographic transfer images which comprise subjecting an imagewise exposed light-sensitive silver halide emulsion layer containing a leuco-phthalocyanine to tanning development to cause the emulsion layer to be tanned in its exposed areas, pressing said emulsion layer against a transfer layer containing a reducing agent which is capable of reducing said leuco-phthalocyanine to phthalocyanine dyestuffs, subjecting said combined silver halide and transfer layer to the action of heat to transfer unexposed parts of the silver

halide emulsion layer to the transfer layer and to reduce at the same time in said transferred parts of the emulsion layer the leuco-phthalocyanine to phthalocyanine dye-stuff and the silver halide to silver to thereby produce a black to bluish-black positive image of the original.

3,340,059

DIFFUSION TRANSFER PROCESS FOR PRODUCING SILVER-FREE AZO DYE IMAGES

Otto Boes, Neu-Isenburg, Germany, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 27, 1963, Ser. No. 311,980
Claims priority, application Germany, Feb. 27, 1963, A 42,450

6 Claims. (Cl. 96—29)

1. A process for making silver-free negative copies from photographic silver images of a photographic element, characterized in that the silver image is treated with a solution of a diazonium compound capable of coupling, said solution being free from strong acid and initially containing at least one ion selected from the group consisting of chloride, bromide, iodide and thiocyanate ions, after which the unchanged diazonium compound occurring at points free from image silver is imparted by contact transfer to an image acceptor element containing at least one reagent capable of azo coupling whereby an azo dye image is formed.

3,340,060

PROCESS FOR THE PRODUCTION OF COLOR IMAGES BY THE SILVER DYESTUFF BLEACHING METHOD

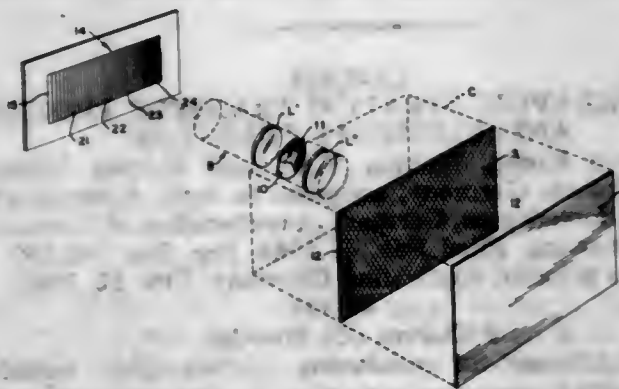
Armin Meyer and René von Wartburg, Basel, and Walter Anderau, Aesch, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Sept. 24, 1963, Ser. No. 311,235
9 Claims. (Cl. 96—53)

1. In a process for the production of color photographic images by the silver dyestuff bleaching method with the aid of catalysts, the step which comprises carrying out the development in a bath that contains a dyestuff bleaching catalyst and under conditions such that the catalyst plays no essential part in the development process.

3,340,061

LENS STOP

Thomas A. F. X. McCarthy, Palsades Park, N.J. 07650
Filed Jan. 23, 1964, Ser. No. 341,831
5 Claims. (Cl. 96—45)



1. In combination with a process camera for making half-tone reproductions having various light tone graduation therein, said camera including a lens barrel, a half-tone screen rearwardly spaced from said lens barrel and forwardly spaced from a light sensitive element upon which the reproduction is made, said screen having two series of parallel lines intersecting each other at 90° angles; a lens stop disposed within said lens barrel, said

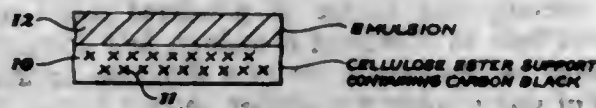
lens stop comprising a diaphragm formed with a symmetrical star-shaped aperture, the edges of said aperture forming a center area and four evenly spaced and outwardly pointed radial extension areas, a plane extending through opposite points of said radial extension areas extending at 45° angles to the cross-linear elements of said screen, said center area and extension areas defined by said edges of said aperture being so dimensioned so as to consist of means for diffusing light therethrough for effecting diffused half-tone dots upon the light sensitive element through the opening in said screen defined by said opaque elements upon a single exposure only of said light sensitive element to light of highlight tone graduation through said aperture, said dot being substantially round at its periphery in the area of the sides of the opaque linear elements of the screen openings, and being tipped at its periphery in the areas of the corners of the opaque linear elements of the screen openings, whereby star-shaped dot separation areas in the highlight tone areas of said reproduction between said diffused dots are formed, said center area and extension areas further being dimensioned so as to consist of means for effecting such four-pointed star-shaped dot separation areas in the highlight tone areas of said reproduction with the pointed extensions of said separation areas gradually spreadingly merging through the range of middle tone areas in said reproduction, the star shape of said separation areas dissipating in the dark tone areas.

4. A method of producing a half tone reproduction having separated star shaped dot separations in highlight areas with the star extensions joined and gradually spreadingly merging through the range of middle tone areas and with the star shape of the separations areas dissipating in dark tone areas, in a half tone process camera utilizing a compound lens within a lens barrel at the forward part of the camera disposed in front of a subject of varying tone graduations and utilizing a half tone screen at the rear of the camera disposed in front of a sensitized element, the screen having linear opaque elements intersecting at ninety degree angles, said method comprising positioning within the lens barrel between the lens elements of said compound lens a diaphragm formed with a symmetrical star shaped aperture having a center area and four evenly spaced radial extension areas and dimensioned for and consisting of means for controlling the spreading of the half-tone dot through the screen upon the sensitized element to produce said reproduction upon one single exposure of the subject to the sensitized element therethrough, said radial extensions extending at forty-five degree angles to the cross linear elements of the screen and making only one single exposure of the subject to the sensitized element through said star shaped aperture in said stop and through said screen.

3,340,062

PHOTOGRAPHIC ELEMENT

Walker F. Hunter, Jr., and Daniel F. Botkin, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 8, 1960, Ser. No. 1,385
12 Claims. (Cl. 96—84)



1. A photographic film comprising in combination at least one photographic silver halide emulsion layer and a transparent film support therefor containing uniformly dispersed finely-divided carbon black in amounts sufficient to increase the total diffuse density of the support to within a range of from 0.02 to 0.10.

6. A photographic film comprising in combination at least one photographic silver halide emulsion layer and a transparent polyethylene terephthalate film support therefor containing uniformly dispersed, finely-divided titanium dioxide in amounts sufficient to increase the total diffuse density of the support over a range of from 0.01 to 0.10.

3,340,063

PHOTOGRAPHIC COLLOID TRANSFER SYSTEM
Norman W. Kalenda, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 4, 1963, Ser. No. 306,627
13 Claims. (Cl. 96-95)

1. A substantially unhardened hydrophilic colloid silver halide emulsion containing a colloid tanning silver halide developing agent and a desensitizing amount of a desensitizing compound which is a nitro derivative of a heterocyclic compound selected from the class consisting of pyridine, quinoline, isoquinoline, thiazole, benzothiazole oxazole, benzoxazole, naphthothiazole, naphthoxazole, benzo-2,1,3-oxadiazole, pyrimidine and quinazoline, and wherein at least one hetero nitrogen atom is in the form of an N-oxide.

3,340,064

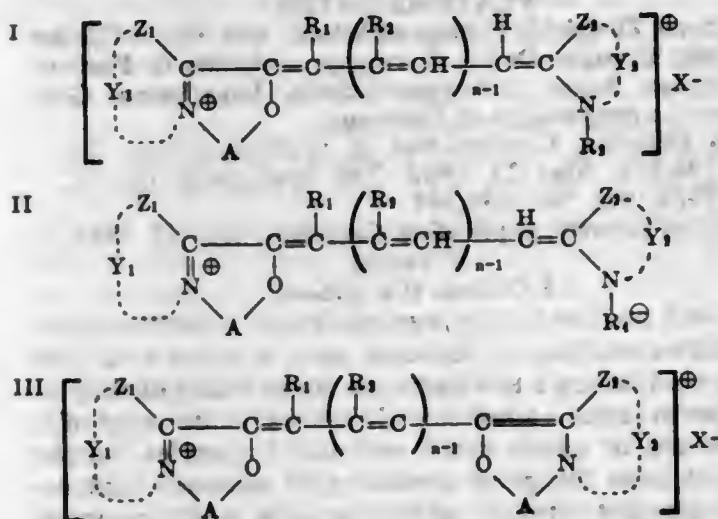
SILVER HALIDE EMULSIONS SENSITIZED WITH CYANINE DYES CONTAINING AN OXAZINE-TYPE RING

Oskar Riester, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed July 13, 1964, Ser. No. 382,032
Claims priority, application Germany, July 22, 1963, A 43,644

6 Claims. (Cl. 96-106)

1. A photographic silver halide emulsion, containing a sensitizing amount of a cyanine dye selected from those represented by the following formulae:



wherein

R₁ and R₂ each stands for a member of the group consisting of hydrogen and alkyl having up to 3 carbon atoms;

R₃ is an alkyl group having up to 5 carbon atoms;

R₄ is an alkyl group having up to 5 carbon atoms, substituted by a radical of the group consisting of carboxy and sulfo;

Z₁ and Z₂ each represent bivalent oxygen, sulfur or selenium;

Y₁ and Y₂ each represent the non-metallic atoms necessary to complete a heterocyclic ring selected from the group consisting of those of the thiazole series, those of the benzthiazole series, those of the naphthothiazole series, those of the oxazole series, those of the benzoxazole series, those of the naphthooxazole series, those of the selenazole series, those of

benzselenazole series and those of the naphthoselenazole series;

A represents a bivalent aliphatic radical having up to 3 carbon atoms;

n is a positive integer from 1 to 3;

X is an anion.

3,340,065

FODDERS OR FODDER CONCENTRATES

Hermann Eugen Prückner, Wessling, Cologne, and Rudolf Ferdinand Maria Schanze, Berching, Upper Palatinate, Germany, assignors to Flachsröste Berching GmbH, Berching, Upper Palatinate, Germany, a firm

No Drawing. Filed Dec. 6, 1963, Ser. No. 328,477
Claims priority, application Germany, Dec. 8, 1962, F 38,500

5 Claims. (Cl. 99-2)

1. An animal foodstuff comprising a free-flowing particulate mixture of bleaching earth having a content of 40 to 50% of raw fat obtained as an industrial waste in the decoloring of fatty oils with bleaching and crude cellulosic fibers from the manufacture of paper.

3,340,066

PROCESS OF MAKING BUTTERMILK BY DIRECT ACIDIFICATION

Edgar A. Corbin, Jr., Somerset, and John E. Long, Murray Hill, N.J., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed July 9, 1964, Ser. No. 381,547
13 Claims. (Cl. 99-54)

1. A process of preparing buttermilk by direct chemical acidification comprising the following steps:
(a) intimately introducing an edible colloid stabilizer in milk having a butterfat content of from about .02% to about 5% by weight and a non-fat solids content of from about 8% to about 12% by weight,
(b) heating said stabilizer-containing milk to a temperature of from about 160° F. to about 225° F.,
(c) thereafter adding a first acid portion containing at least one acid selected from the group consisting of non-toxic edible acids and acidogens which are capable of forming non-toxic edible acids upon slow hydrolysis and mixtures thereof, in an amount sufficient to lower the pH of the milk to from about 4.8 to about 5.1, while maintaining substantially the same butterfat content of said milk,
(d) allowing the milk having a pH of from about 4.8 to 5.1 to stand for a period of at least about 15 minutes at a temperature of from about 40° F. to 80° F. and
(e) thereafter adding a second acid portion containing at least one compound selected from the group consisting of non-toxic edible acids and acidogens which are capable of forming non-toxic edible acids upon slow hydrolysis and mixtures thereof in an amount sufficient to lower the pH of the milk to a range of from about 4.2 to 4.5, while maintaining the same butterfat content of said milk.

3,340,067

FLOUR MIX COMPOSITION AND BATTER PREPARED THEREFROM

John H. Wallis, Evansville, Ind., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,342
6 Claims. (Cl. 99-94)

1. A flour mix composition suitable for combination with an aqueous liquid to prepare a batter with a refrigerated shelf life of from 20 to 30 days, comprising: wheat flour, shortening, leavening, dried egg white, seasoning, spoilage retardant, and non-toxic alkylene oxide purified corn flour, rice flour, and dried egg yolk.

3,340,068

PROCESS FOR REDUCING BUTTERFLYING IN DEHYDRATED LEGUMES

John J. Mancuso, Astoria, N.Y., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 20, 1964, Ser. No. 391,016

9 Claims. (Cl. 99—98)

9. A process for reducing butterflying in legumes comprising
 contacting cooked legumes with an organic dehydrating agent selected from the group consisting of water-soluble alcohols and ketones,
 separating the extracted water from the legumes, and
 drying the legumes.

3,340,069

METHOD OF PREPARING A COMPOUND SEASONING

Iwao Matsuda, Tokyo, and Akio Shiga, Hideyuki Furukawa, and Akio Kanemitsu, Machida-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 8, 1964, Ser. No. 381,223

Claims priority, application Japan, July 12, 1963, 38/35,590

5 Claims. (Cl. 99—140)

1. A method for preparing a free-flowing compound seasoning consisting essentially of a major proportion of mono-sodium glutamate as the substrate which comprises coating the said substrate by homogeneously admixing the latter at a temperature of 50° C. to 100° C. with a minor proportion of at least one member selected from the group consisting of di-sodium 5'-inosinate, di-sodium 5'-guanylate, mono-sodium aspartate and di-sodium succinate, in the presence of a controlled amount of wet steam which is at most saturated, whereupon uniform coating of the substrate without agglomeration is realized, the coating material constituting from about 0.5 to about 10 percent of the weight of the coated product, and the amount of steam corresponding to that necessary to provide only the amount of water required to dissolve the coating material.

3,340,070

ARTIFICIAL SWEETENING AGENT

Richard J. Windgassen, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,272

3 Claims. (Cl. 99—141)

1. A method for sweetening a material, which method comprises adding to the material an effective amount of 5,5-dimethyl-4-iminohydantoin, melting at 280–283° C. (dec.).

3,340,071

METHOD FOR CONCENTRATING LIQUID, MORE PARTICULARLY CITRUS JUICES, AND FOR THE INACTIVATION OF ENZYME CONTENTS OF SUCH JUICES

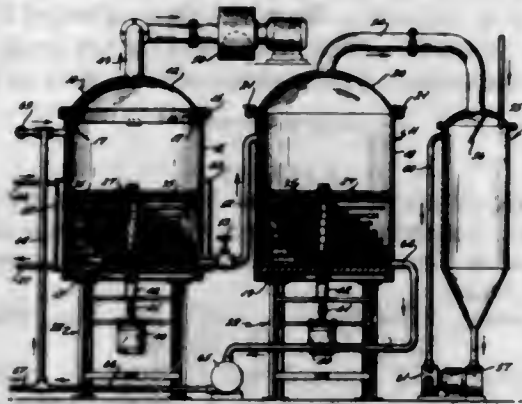
Harry W. Harrell, 2204 Newtown Hwy., Lakeland, Fla.

Filed Aug. 29, 1963, Ser. No. 300,140

8 Claims. (Cl. 99—205)

1. The method of concentrating liquids which consists

essentially of the steps of subjecting the liquid to vigorous agitation to increase the temperature thereof and produce



a fluid vapor and withdrawing said vapor from the body of the liquid.

3,340,072

PROCESS FOR PRODUCING ASEPTICALLY CANNED MILK

Aubrey P. Stewart, Jr., Corning, Iowa, assignor to Nodaway Valley Foods, Inc., a corporation of Iowa

Filed June 22, 1964, Ser. No. 376,793

6 Claims. (Cl. 99—212)

6. A method of preparing aseptically canned milk, comprising, removing phospholipids from whole milk, concentrating and sterilizing the milk, mixing an amount of sterile relatively phospholipid-free fat with a substantially greater amount of said sterilized milk, homogenizing the mixture through a first high pressure stage, holding the homogenized mixture at a temperature between 100° and 160° F. for a short period of time, and then rehomogenizing the mixture through a second stage at a lower pressure, and aseptically canning the mixture.

3,340,073

REGENERATION OF CHEMICAL PLATING BATHS

Eberhard Zirngiebl, Cologne-Flkttard, and Heinz-Günter Klein, Cologne-Deutz, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 196,901, May 23, 1962. This application Dec. 2, 1966, Ser. No. 599,344

Claims priority, application Germany, May 27, 1961, F 34,032

8 Claims. (Cl. 106—1)

8. In a process for the regeneration of a chemical plating bath containing as reducing agent a boron hydrogen compound having 1 to 4 hydrogen atoms linked directly to the boron atom, alkali metal hydroxide or ammonia, nickel and/or cobalt metal salt and a complex former selected from the group consisting of ammonia and organic complex forming agents, the steps which comprise adding to the exhausted plating bath at least one water soluble alkaline earth metal compound selected from the group consisting of magnesium chloride, magnesium sulfate, magnesium acetate calcium chloride, strontium chloride and barium chloride, removing the precipitated borates and hydroxides thereby formed and adding to the bath liquid at least that amount of the bath components required to re-establish the initial content thereof in said bath.

3,340,074

BARIUM TITANATE MATERIALS

Andrew Herczog, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 16, 1964, Ser. No. 352,138

7 Claims. (Cl. 106—39)

1. A crystalline barium titanate material, consisting es-

essentially of barium titanate having zinc ions incorporated in the lattice structure thereof in an amount between about 0.001 and 0.02 gram atoms of zinc per gram mole of barium titanate and having fluorine ions incorporated in the lattice structure thereof, in an atomic ratio, with respect to zinc, of at least 2:1.

3,340,075

TAR-BONDED REFRACTORIES CONTAINING PINE TAR

Stuart V. Stoddard, Needham, and John F. Hardy and Porter F. Gridley, Andover, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware
No Drawing. Filed Dec. 16, 1964, Ser. No. 418,865
10 Claims. (Cl. 106—56)

1. A novel composition which consists essentially of 85 to 95% of a particulate refractory solid selected from the group consisting of dolomite, lime, magnesite, chrome ore, silica and mixtures thereof and 5 to 15% of a binder which is by weight between about 5 and about 60% pine tar and between about 40 and about 95% of a hydrocarbonaceous material selected from the group consisting of coal tar pitch, petroleum pitch, asphaltenes, solids convertible to a liquid state at temperatures below about 400° F., heavy oils of at least 8,000 cps. viscosity, and mixtures thereof.

3,340,076

FUSED REFRACTORY CASTINGS

Allen M. Alper, Corning, Robert C. Doman, Horseheads, and Robert N. McNally, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 3, 1966, Ser. No. 554,618
23 Claims. (Cl. 106—56)

1. As an article of manufacture, a fused cast refractory casting consisting essentially of at least 5% by weight free carbon in the form of a random interwoven pattern homogeneously intermingling and interlocking with substantially randomly oriented metallic carbide crystals, said casting analytically consisting essentially of: (1) carbon; (2) at least 20% by weight of metallic carbide-forming substance selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten, mixtures of the aforesaid first group of metals alone, and mixtures of the aforesaid first group of metals and at least one second group metallic element selected from the group consisting of silicon, manganese, iron, cobalt and nickel, provided the content of the aforesaid first group metals is not less than 10% by weight nor less than the content by weight of the aforesaid second group of metallic elements; (3) 0 to 15% by weight of at least one diluent selected from the group consisting of not more than 10% by weight of oxygen and not more than 10% by weight of nitrogen; and (4) a remainder, if any, of 0 to 5% by weight of other elements.

3,340,077

FUSED CAST REFRACTORY

Allen M. Alper, Corning, and Robert C. Doman and Robert N. McNally, Horseheads, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Feb. 24, 1965, Ser. No. 434,812
20 Claims. (Cl. 106—56)

1. As an article of manufacture, a fused cast refractory consisting essentially of at least 2% by weight of free carbon in the form of an intergrown network intermingling and interlocking with substantially randomly oriented crystals including crystals selected from the group consisting of metallic boride, metallic borocarbide and mixtures thereof, said refractory analytically comprising essentially: (1) carbon; (2) more than 5% by

weight of boron; (3) more than 5% by weight of metallic substance selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten, silicon, mixtures of the foregoing first group of metallic elements alone, and mixtures of at least one first group metallic element plus at least one second group metallic element selected from the group consisting of manganese, iron, cobalt and nickel provided the content of the second group elements is not greater than 50% by weight of the total metallic substance content; (4) 0 to 15% by weight of at least one diluent selected from the group consisting of not more than 10% by weight of oxygen and not more than 10% by weight of nitrogen; and (5) a remainder, if any, of 0 to 10% by weight of other elements.

3,340,078

FUSED REFRACTORY CASTINGS

Allen M. Alper, Corning, and Robert C. Doman and Robert N. McNally, Horseheads, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Feb. 24, 1965, Ser. No. 434,813
3 Claims. (Cl. 106—56)

1. As an article of manufacture, a fused cast refractory casting consisting essentially of at least 5% by weight free carbon in the form of a random and discontinuous intertexture of elongated masses intermingling and interlocking with substantially randomly oriented boron carbide crystals, said casting analytically comprising essentially: (1) carbon, (2) at least 15% by weight of boron, (3) 0 to 15% by weight of at least one diluent selected from the group consisting of not more than 10% by weight of oxygen and not more than 10% by weight of nitrogen, and (4) a remainder, if any, of 0 to 5% by weight of other elements.

3,340,079

METHOD OF INCREASING THE VISCOSITY OF MAGNESIA CEMENTS

Burl E. Bryant, Denton, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 15, 1964, Ser. No. 360,081
2 Claims. (Cl. 106—105)

1. A method for increasing the viscosity of slurries of magnesia cements which comprises treating a slurry of the magnesia cement with ultrasonic energy of a magnitude within the range of from about 20 to about 100 kilocycles per second at intensities within the range of from about 25 to about 110 watts per square centimeter for a period of from about 1 to about 30 minutes.

3,340,080

PRODUCTION OF OIL-IMPREGNATED CARBON BLACK

Eulas W. Henderson, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,336
7 Claims. (Cl. 106—307)

1. A process for producing oiled carbon black particles from a hot effluent smoke stream from a carbon black reactor or furnace at a temperature of at least 2400° F., which comprises the steps of:

(1) quenching said smoke substantially at effluent temperature by injecting into the smoke stream a quenching fluid comprising a substantial proportion of oil so as to crack a portion of said oil to form additional carbon black, lower the temperature of said stream substantially, and incorporate a substantial concentration of uncracked oil in the carbon black therein;

- (2) passing the effluent stream from step (1) at a temperature in the range of about 400° to 550° F. thru a separation zone and recovering the oil-containing carbon black particles from said stream therein.

3,340,081

TREATMENT OF CARBON BLACK

Archle C. Teter, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,683
12 Claims. (Cl. 106—307)

1. A process for treating carbon black which process comprises: contacting said carbon black in a contacting zone with a fluorine containing compound having the formula $R-S-F_3$ wherein R is selected from the group consisting of a fluorine atom and hydrocarbon radicals containing from 1 to 20 carbon atoms, said contacting being carried out with an amount of said fluorine containing compound and under treating conditions of time, temperature, and pressure which are sufficient to cause the fluorination of said carbon black; and recovering the thus treated carbon black containing a small but effective amount of fluorine sufficient to improve at least one of the modulus, the tensile strength, the resilience, and the heat build-up of a rubber vulcanizate containing said carbon black.

3,340,082

PROCESS OF EXTENDING THE DURATION OF SERVICE OF INGOT MOLDS

Robert Meyer and Guillaume Muller, Strasbourg, Bas-Rhin, France, assignors to Prochirhin, Societe Anonyme, Strasbourg-Robertsau, France, a corporation of France

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,215
Claims priority, application France, Nov. 19, 1962,
Patent 1,339,319

2 Claims. (Cl. 117—5.3)

1. A process of extending the life of service of ingot molds for cast iron in a metal producing method, comprising the steps of

applying to the red-hot inner wall of an ingot mold an aqueous suspension of a mixture consisting essentially of 10 to 50 parts of a first carbon-containing constituent selected from the group consisting of wood charcoal, bone charcoal, coal, lignite, coke, resin, wood sawdust, graphite, and residues from the distillation of coal and petroleum,

about 5 to 10 parts of an auxiliary constituent as adhesives selected from the group consisting of sodium silicate, soluble derivatives of cellulose, soluble salts of lignosulphonic acid, sugars and amylaceous products,

about 1 to 10 parts of catalysts and stabilizers, respectively, selected from the group consisting of alkaline carbonates, alkaline-earth carbonates, chlorides, sodium nitrate, sodium sulphate and potassium ferrocyanide, and

about 1 to 10 parts of products generating exothermic reactions selected from the group consisting of powdered aluminum and powdered magnesium.

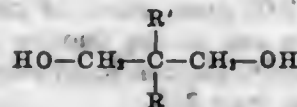
3,340,083

GLASS MAT FIBERS BONDED TOGETHER BY A POLYESTER COMPOSITION

Paul Robitschek, Wilson, N.Y., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Filed May 6, 1963, Ser. No. 278,461
14 Claims. (Cl. 117—21)

1. A method for producing a bonded glass fiber mat which includes the steps of applying to an unbonded glass fiber mat a polyester of substantially equimolecular proportions of at least one glycol and at least one dicarboxylic acid wherein the glycol consists essentially of

from 75 percent to 100 percent of one having the generic formula



in which R and R' are alkyl groups having from 1 to 4 carbon atoms, and not more than 25 percent of a flexibilizing glycol selected from the group consisting of glycols having from 3 to 8 carbon atoms wherein there are a total of at least three hydrogens attached to the two carbon atoms to which the hydroxy groups are attached and there is a methylene group in a hydrocarbon chain linking these two carbons, and polyglycols having from 4 to 18 carbon atoms, and the acid consists essentially of from 25 percent to 100 percent of at least one selected from the group consisting of isophthalic acid and terephthalic acid, not more than 50 percent of an ethylenically unsaturated alpha,beta-dicarboxylic acid having from 4 to 12 carbon atoms and not more than 25 percent of a flexibilizing acid which is a dicarboxylic acid having from 4 to 10 carbon atoms and the generic formula

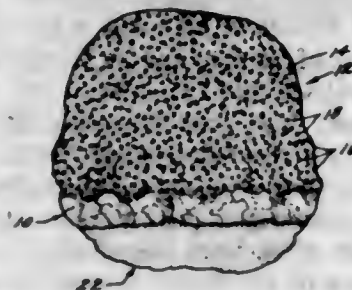


said polyester including at least 1 percent of at least one of the aforesaid flexibilizers, and having a molecular weight of from about 3000 to about 5000, and a softening point of at least 80° C. and in a granulated form, heating at least the polyester to a temperature sufficiently high to cause softening thereof, and cooling the polyester to a temperature sufficiently low that re-solidification thereof occurs.

3,340,084

METHOD FOR PRODUCING CONTROLLED DENSITY HETEROGENEOUS MATERIAL

Alfred Eisenlohr, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Original application Feb. 19, 1959, Ser. No. 794,400, now Patent No. 3,147,087, dated Sept. 1, 1964. Divided and this application Nov. 15, 1963, Ser. No. 332,325
2 Claims. (Cl. 117—22)



1. In a method for making a heterogeneous material, bonded to a surface the steps of:

flame depositing on a surface a ductile metal of essentially aluminum from a powder, 90% of which is of a size smaller than about 200 mesh, while simultaneously,

depositing particles of graphite from a powder, 90% of which is smaller than 325 mesh, complementary to and discrete from the aluminum,

the graphite particles being dispersed in and entrapped by the aluminum in an amount of about 2.5–10 weight percent of the heterogeneous material.

2. The method of claim 1 in which:

the aluminum powder is at least about 98% aluminum; the aluminum powder and graphite powder are deposited from a powder mixture of about 2 parts of powdered aluminum and 1 part of powdered graphite; and

the amount of graphite particles dispersed in and entrapped by the aluminum is about 2.5-5.5 weight percent.

3,340,085
GAS CHROMATOGRAPHIC SEPARATING MATERIAL

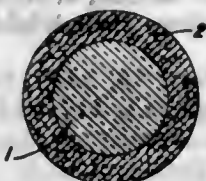
Istvan Halasz and Csaba Horvath, Frankfurt am Main, Germany, assignors to The Perkin Elmer Corporation, Norwalk, Conn.

Filed Oct. 21, 1963, Ser. No. 317,715

Claims priority, application Germany, Oct. 23, 1962,

H 47,197

10 Claims. (Cl. 117-26)



1. Process of producing a packing material for chromatographic columns, which comprises coating inert gas-imperious cores with porous adsorptive surface layers consisting essentially of particles of actively adsorbent solid material and thereafter improving the uniformity of the coating layers on the coated cores by subjecting them to a rolling aftertreatment in a granulating drum or granulating disk, in which rolling operation additional powderous actively adsorbent solid material is incorporated into said layer.

3,340,086
TRANSFER SYSTEMS

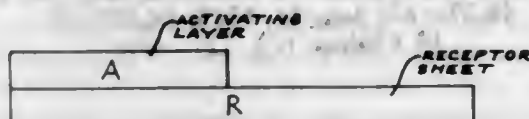
Josef Groak, "St. Louis," Ave. de Sully 1, La Tour de Pellz, Vaud, Switzerland

Filed Mar. 24, 1966, Ser. No. 561,301

Claims priority, application Great Britain, Aug. 17, 1959,

28,079/59

8 Claims. (Cl. 117-36.4)



1. A transfer sheet comprising a carrier sheet having opposite first and second faces, a hard, non-smearing and non-staining color-containing color layer applied to one of said first and second faces, and a color-transfer-inducing layer having adhesive characteristics covering said color layer, said color layer having sufficient hardness so as to prevent transfer of the color in said color layer to writing paper upon application of ordinary writing pressure to the other of said first and second faces of said carrier sheet in the absence of said transfer inducing layer, said color, however, being capable of being transferred to writing paper upon application of ordinary writing pressure to said other face of said carrier sheet in the presence of said color transfer inducing layer, said color-transfer-inducing layer essentially consisting of adhesive low molecular weight polyethylene applied in the form of a dispersion in a liquid, said transfer sheet being adapted to be placed in contact with a color-receptive surface whereby, upon application of pressure to the other one of said faces, color of said color layer is transferred to and anchored at said color-receptive surface due to the transfer inducing adhesive action of said polyethylene layer.

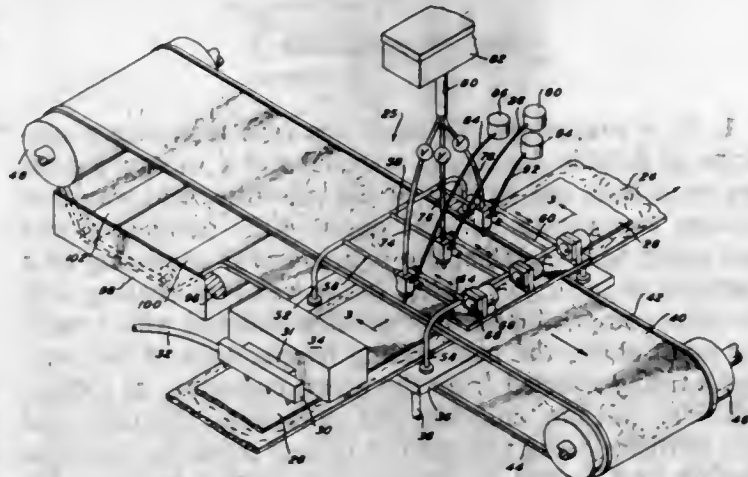
3,340,087

SPRAYING APPARATUS AND METHOD

Nunzi P. Mazzola, Philadelphia, Pa., assignor of fifteen percent to William Shelansky and Estelle Shelansky, ten percent to Theodore B. Krouse and Bernadine Krouse, and seventy-five percent to Nunzi P. Mazzola and Helen Mazzola, all of Philadelphia, Pa.

Filed July 22, 1963, Ser. No. 296,714

13 Claims. (Cl. 117-38)



1. Apparatus comprising a source of diluted sprayable coating material, a nozzle communicating with said source and adapted to communicate with a source of air under pressure of approximately 40 p.s.i., a layer of non-absorbent disorientated fibrous material through which the air and coating material may pass to simulate a marble effect on a substrate, said layer of material being in the form of an endless belt, means for moving said belt with respect to said nozzle, a portion of said belt being disposed between said nozzle and the substrate adapted to be provided with a simulated marble effect.

7. A method of providing a substrate with a simulated marble effect comprising the steps of placing a layer of disorientated fibrous material juxtaposed to the surface of a substrate, and spraying through said material onto said substrate a mixture of pressurized air and a diluted coating of sprayable material.

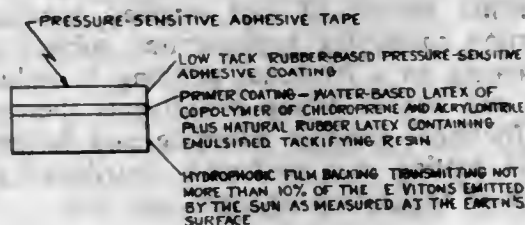
3,340,088

CHLOROPRENE-ACRYLONITRILE COPOLYMER PRIMER FOR PRESSURE-SENSITIVE ADHESIVE TAPE

Joseph V. Pennisi, Troy, and Charles S. Webber, Loudonville, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts

Filed Aug. 11, 1964, Ser. No. 388,848

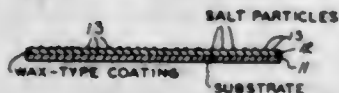
3 Claims. (Cl. 117-76)



1. A pressure sensitive adhesive tape comprising:
(a) a hydrophobic film backing;
(b) a primer coating bonded to said film backing and formed of the dried deposition product of a water-based latex of a copolymer of chloroprene and acrylonitrile, the ratio of chloroprene to acrylonitrile being from 75:25 to 85:15, and a natural rubber latex containing an emulsified tackifying resin, said tackifying resin being from 15% to 4% by weight of the total solids content of the primer, said copolymer ranging from 22% to 62% of the total solids weight of said primer coating; and
(c) a low-tack rubber-based pressure sensitive adhesive bonded to said primer coating.

3,340,089
WRAPPING MATERIAL HAVING A WAX-TYPE COATING WITH SPACED PROTRUDING PARTICLES

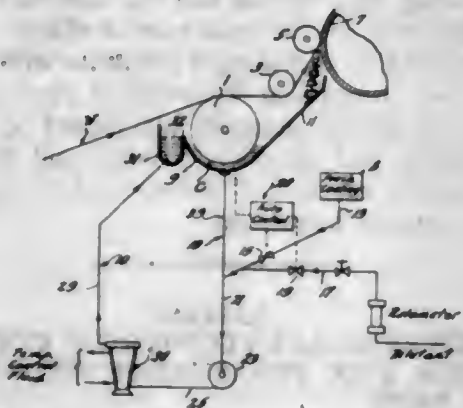
Clifford P. Bougie, De Pere, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
 Filed Nov. 15, 1963, Ser. No. 323,948
 10 Claims. (Cl. 117-76)



1. In a wrapping material of the type including a substrate of flexible packaging material and a wax-type coating on at least one surface of the substrate, said wax-type coating comprising at least about 40% petroleum wax and being heat sealable, the improvement consisting of a plurality of particles attached to the wax-type coating, said particles comprising hard, crystalline material with a melting point above the heat sealing temperature of the wax-type coating selected from the group consisting of sodium chloride, calcium chloride and potassium chloride; and said particles being arranged to project from the wax-type coating and spaced to expose said coating between the particles so that the coating can be heat sealed.

3,340,090
METHOD AND APPARATUS TO GRIND A COATING WHILE APPLYING A COATING TO A WEB

Hoyt Nordeman, Jr., Oxford, Ohio, assignor to Champion Papers Inc., a corporation of Ohio
 Filed Oct. 30, 1963, Ser. No. 320,036
 20 Claims. (Cl. 117-102)



1. A method of coating a moving web of material with fluid coatings comprising the steps of supplying coating material to a point adjacent the web, applying a portion of said coating directly to the web, removing from said point a further portion of said supplied coating, said further portion containing agglomerates, subjecting said removed coating to a frictional grinding to reduce agglomerates and contaminating constituents therein, and after said frictional grinding returning said further portion of said coating in a uniformly distributed pattern to the point of application adjacent said web.

3,340,091
LAMINATE OF A POLYOLEFIN SUBSTRATE AND A SURFACE COATING OF A COPOLYMER OF AN OLEFIN MONOMER AND A POLAR MONOMER

Samuel Zweig, Skokie, Ill., assignor to Morton International, Inc., a corporation of Delaware
 No Drawing. Filed Mar. 21, 1966, Ser. No. 535,741
 6 Claims. (Cl. 117-138.8)

1. As an article of manufacture, a laminate structure comprising a substrate having a surface consisting essentially of unoxidized, normally unprintable, solid thermoplastic polyolefin and a coating heat-fused directly on said unoxidized surface at a temperature above the softening temperature of the polyolefin surface, said coating

consisting essentially of a non-tacky, normally solid, thermoplastic polar copolymer of an olefin monomer and a polar monomer and containing a significant proportion of polymerized polar monomer units sufficient to render the coating more polar and more receptive to an organic ink than said surface of said substrate, said olefin monomer being present in an amount sufficient to anchor said coating by heat-fusion to said surface and providing an olefin:polar monomer ratio of from about 67:33 to about 72:28.

3,340,092
COMPOSITE PACKAGING SHEET
 Augustus E. Craver and Joseph C. Mohan, Fredericksburg, Va., and John L. Justice, Wallingford, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
 No Drawing. Filed Nov. 20, 1963, Ser. No. 325,135
 5 Claims. (Cl. 117-145)

1. A moistureproof, composite packaging material comprising a hydrophilic, polysaccharide base sheet, and a smooth, non-particulate coating uniformly covering at least one side of said base sheet comprising a homogeneous blend of from about 50 to 95% by weight of the blend of a copolymer of 80 to 94% by weight of vinylidene chloride and from 20 to 6% of a monomer selected from the group consisting of acrylonitrile, C_1-C_8 alkyl acrylates, C_1-C_8 alkyl methacrylates, acrylic acid and methacrylic acid, and about 50 to 5% by weight of the blend of a copolymer of from 78 to 90% by weight of vinylidene chloride and from 22 to 10% by weight of a monomer selected from the group consisting of C_8-C_{16} alkyl acrylates, C_8-C_{16} alkyl methacrylates and mixtures thereof.

3,340,093
PROCESS FOR REMOVAL OF NON-SUGARS FROM SYRUPS COMPRISING SUGARS AND PURIFIED SYRUPS PRODUCED THEREBY

Beverly Cortis-Jones, Seaforth, New South Wales, and Richard T. Wickham, Lakemba, New South Wales, Australia, assignors to The Colonial Sugar Refining Company Limited, Sydney, New South Wales, Australia, a company of New South Wales
 Filed Aug. 17, 1965, Ser. No. 480,427
 Claims priority, application Australia, Aug. 20, 1964, 48,370/64; Jan. 21, 1965, 54,229/65
 15 Claims. (Cl. 127-30)



1. A process for the removal from cane syrups of (a) sedimentable impurity and (b) divalent metal cation impurity comprising both calcium and magnesium, said process including the following steps:

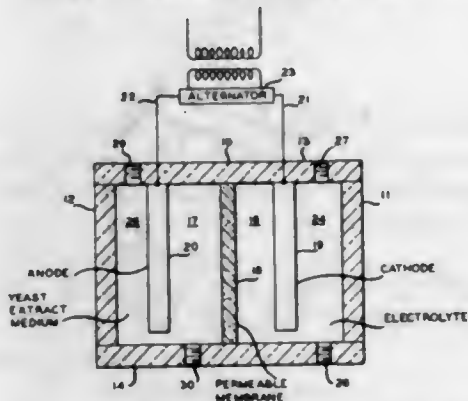
- (1) lowering the pH of the syrup to below 4 by the addition of a selected acid capable of forming an insoluble salt with calcium ions;
- (2) removing suspended solids comprising flocculated and precipitated material;

- (3) in the presence of orthophosphate and ammonium ions, raising the pH to about 7 by the addition of a suitable base;
- (4) removing precipitated material.
10. Purified syrups when prepared by a process according to claim 1.

3,340,094

BIOCHEMICAL FUEL CELL AND METHOD OF GENERATING ELECTRIC CURRENT USING BACTERIA

Nancy A. Helmuth, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 26, 1963, Ser. No. 275,874
16 Claims. (Cl. 136-86)



1. A method of generating an electric current which comprises passing an electrolyte to a cathode zone containing an electrode, passing an oxygen-free protein extract medium to a second zone containing an electrode, said cathode and anode zones separated by a material selected from the group consisting of cation and anion permeable membranes, placing in said anode zone bacteria selected from the group consisting of *Rhodopseudomonas spheroides*, *Rhodopseudomonas gelatinosa*, *Rhodopseudomonas capsulata*, *Rhodopseudomonas palustris* and *Rhodospirillum rubrum*, and passing visible light to said anode zone.

6. A sealed, self-containing fuel cell comprising a container having a first compartment and a second compartment, said first and second compartments separated by a material selected from the group consisting of anion and cation permeable membranes, said first compartment containing an electrode and an electrolyte, said electrode at least partially immersed in said electrolyte, said second compartment containing an oxygen-free protein extract medium, a second electrode and bacteria selected from the group consisting of *Rhodopseudomonas spheroides*, *Rhodopseudomonas gelatinosa*, *Rhodopseudomonas capsulata*, *Rhodopseudomonas palustris*, and *Rhodospirillum rubrum*, said bacteria dispersed within said oxygen-free protein extract medium, and said second electrode at least partially immersed therein, means for transmitting visible light to said second compartment and current means connected between said electrode and said second electrode to pass generated current therebetween.

3,340,095

FUEL CELL CONSTRUCTION

David L. Fitton, Hazardville, Conn., assignor, by mesne assignments, to Leeson Corporation, Cranston, R.I., a corporation of Massachusetts
Filed May 25, 1961, Ser. No. 112,696
3 Claims. (Cl. 136-86)

1. A fuel cell battery comprising a tank having electrolyte therein, a cover on said tank, a plurality of hollow rods made of insulating material associated with means for suspending said rods from said cover, an electrochemical unit associated with means for suspending said electrochemical unit from each of said rods so as to project said unit into said electrolyte, said unit comprising a

mounting having electrodes of opposite polarity on opposite major surfaces thereof with one major surface of each electrode in contact with electrolyte, means defining gas

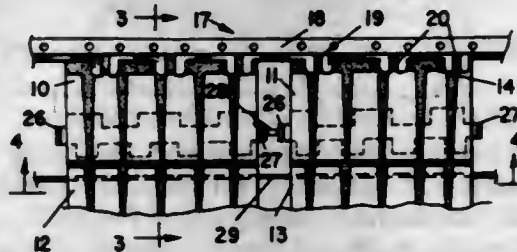


chambers adjacent the major surface of each of said electrodes opposite of said major surface in contact with said electrolyte, and means for feeding gas to said gas chambers through said cover and said rods.

3,340,096

SOLAR CELL ARRAY

Alfred E. Mann, North Hollywood, and Saul Shuster, Northridge, Calif., assignors to Spectrolab, a division of Textron Electronics, Inc., Providence, R.I., a corporation of Delaware
Filed Feb. 26, 1962, Ser. No. 175,720
4 Claims. (Cl. 136-89)



1. A solar cell array including, in combination: a plurality of solar cells, arranged in end-to-end overlapping relationship to provide a shingled array, each of said cells including upper terminal means on its upper surface and under terminal means on its under surface, the portion overlapped on the upper surface of any one cell being substantially co-extensive with its upper terminal means so that a maximum of the solar sensitive area of each cell is exposed; and series connectors in the form of resilient conducting strips connecting said cells in series with each other, each of said strips having a width substantially greater than its thickness and including at least a partial fold between its connected portions to accommodate resilient flexing movement whereby said cells are capable of resilient flexing movement relative to each other without any of the series connections becoming disconnected.

3,340,097

FUEL CELL ELECTRODE HAVING SURFACE CO-DEPOSIT OF PLATINUM, TIN AND RUTHENIUM

Richard A. Hess, Claymont, Del., and Charles C. Liang, Pratt, W. Va., assignors to Air Products and Chemicals Inc., Philadelphia, Pa., and Northern Natural Gas Company, Omaha, Nebr., both corporations of Delaware
Filed Jan. 22, 1964, Ser. No. 339,546
11 Claims. (Cl. 136-120)

1. A fuel cell electrode comprising a solid conductive support having a substantially uniform surface co-deposit of metals consisting essentially of platinum and tin, said

metals constituting a relatively minor weight percent of the support material and said platinum and tin being deposited in a weight ratio of about 5:4 to 5:3, respectively.

3,340,098

METHOD OF MAKING OXYGEN ELECTRODES FOR ALKALINE FUEL CELLS

Dexter William Smith, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

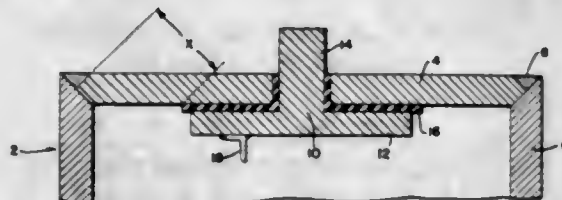
No Drawing. Filed Nov. 18, 1965, Ser. No. 508,581
5 Claims. (Cl. 136—120)

1. A method of manufacturing an oxygen electrode, comprising grinding an alloy of silver which has catalytic properties with alumina balls in an alumina pot to form a powder consisting of the silver alloy catalyst and alumina, mixing the powder thus formed with powdered silver, pressing the mixture of powders to form a plate, and then sintering the plate to form an oxygen electrode in which the alumina acts as skeletal support for said catalytic alloy.

3,340,099

BONDED ELASTOMERIC SEAL FOR ELECTROCHEMICAL CELLS

Joseph M. Sherfey, Lanham, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 15, 1965, Ser. No. 425,972
5 Claims. (Cl. 136—133)



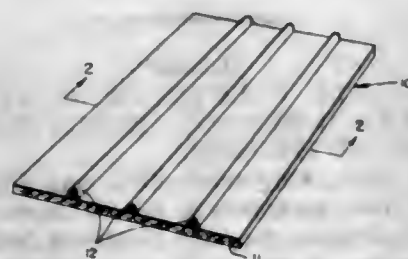
1. A bonded elastomer-to-metal insulating seal for an electrochemical cell having an alkaline electrolyte, the cell including an electrical terminal and a metallic surface having an aperture therein, said terminal being positioned within the aperture of said metallic surface; said insulating seal comprising an elastomeric sealing material positioned within said aperture and between said electrical terminal and said metallic surface, said sealing material being bonded to both said electrical terminal and said metallic surface whereby said electrical terminal and said metallic surface are insulated, both physically and electrically, from each other.

3,340,100

CELLULAR-RIBBED BATTERY PLATE SEPARATOR

Nathan J. Silvestri, Marblehead, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Apr. 10, 1964, Ser. No. 358,713
5 Claims. (Cl. 136—145)



1. An acid-resistant plate separator for storage batteries comprising a panel and a plurality of spaced, resilient, cellular ribs affixed to at least one side of said panel, said

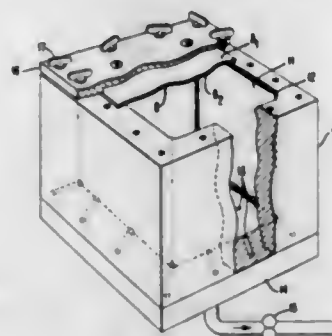
ribs being formed of a mixture of a first and second vinyl resin, said first resin having specific viscosity of at least 0.50, said second resin having a specific viscosity of 0.30 to 0.40 and a Plasticizer Absorbance Index of at least 6, said second resin being present at a level of about 5 to 15 percent by weight of the total of said first and second resins.

3,340,101

THERMOFORMING OF METALS

Davis S. Fields, Jr., Daniel L. Mehl, and Bernard F. Addis, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 2, 1965, Ser. No. 445,188
13 Claims. (Cl. 148—11.5)



13. In a method of making metallic forms, the improved process comprising the steps of: providing blank metal of a composition of, by weight, approximately 78% zinc and 22% aluminum and formed to provide two opposed principal surfaces, holding said blank metal at a temperature in excess of 600° F. at least one hour, quenching said blank metal to a metastable state, providing a shaping member having a surface formed complementary to the shape desired to be formed, heating said blank metal to a temperature substantially between 500° F. and 520° F., positioning said blank metal with its opposed principal surfaces in operative projection with respect to said shaping member, effectively constraining said blank metal about a closed periphery circumscribing at least some surface portion of said blank metal, and inducing tensile stress in the circumscribed portion of said blank metal by applying transverse force thereto through a fluid interface for a substantial period of time inversely related to the induced tensile stress causing said blank to deform against and into intimate contact with said shaping member surface.

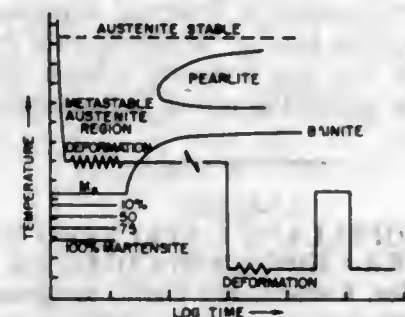
3,340,102

METAL PROCESS AND ARTICLE

Saul A. Kulin, Waltham, Philip Stark, Watertown, and David Kallish, Brighton, Mass., assignors to Manlabs, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 15, 1962, Ser. No. 194,758
4 Claims. (Cl. 148—12.4)

1. The process of forming and heat treating a steel product, comprising: heating a steel mass to a temperature sufficient to render the structure of the steel austenitic, the chemical composition of said steel mass being such that it exhibits a metastable austenitic structure when cooled from a temperature, at which austenite is stable, into a selected temperature region below that at which austenite transforms into pearlite; cooling said steel mass into said selected temperature region to form a metastable austenitic steel;

performing a substantial amount of mechanical deformation upon said metastable austenitic steel mass while maintaining said mass within said temperature region, said deformation producing a reduction in cross-sectional area of said mass of at least 10%;



transforming said deformed, metastable austenitic mass into a steel mass of substantially bainitic structure in a temperature region at which the isothermal transformation products would be predominantly bainitic; cooling said bainitic mass; mechanically deforming said cooled bainitic mass to improve the strength of said steel mass; and tempering said mass.

3,340,103

WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., and Jack C. Brodsky, Huntington Station, N.Y., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,976
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, from about 4% to about 15% aluminum oxide, from about 2% to about 15% manganous oxide, from about 35% to about 55% calcium fluoride, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1.

3,340,104

WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,977
7 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, up to about 15% aluminum oxide, up to about 15% manganous oxide, from about 5% to about 35% calcium fluoride, from about 15% to about 50% sodium aluminum fluoride and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1, the calcium fluoride and sodium aluminum fluoride being present in amounts aggregating not substantially less than 35% by weight.

3,340,105

WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,981
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, from about 5% to about

16% aluminum oxide, from about 3% to about 15% manganous oxide, up to about 40% calcium fluoride, from about 15% to about 40% sodium fluosilicate, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1, the calcium fluoride and sodium fluosilicate being present in amounts aggregating not substantially less than about 20% by weight.

3,340,106

WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1965, Ser. No. 452,005
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, up to about 15% aluminum oxide, up to about 15% manganous oxide, from about 5% to about 50% calcium fluoride, from about 5% to about 55% sodium fluoride, the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1, and the calcium fluoride and sodium fluoride being present in amounts aggregating not substantially less than about 40% by weight.

3,340,107

WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

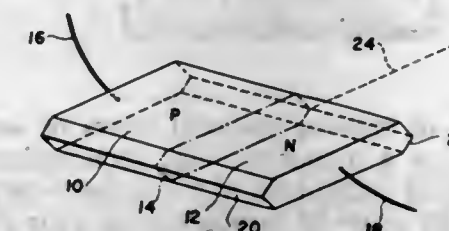
No Drawing. Filed Apr. 29, 1965, Ser. No. 452,023
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, from about 5% to about 15% aluminum oxide, up to about 15% manganous oxide, from about 20% to about 55% sodium fluoride, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1.

3,340,108

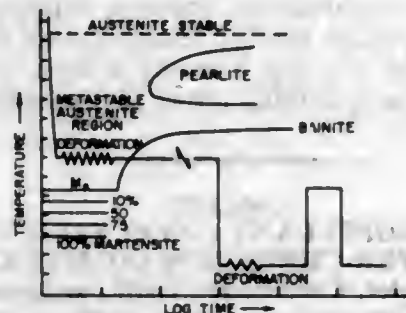
LASER MATERIALS

Ronald C. Vickery, Saxonburg, Pa., assignor, by mesne assignments, to Semi-Elements, Inc., Saxonburg, Pa.
Filed July 9, 1963, Ser. No. 293,704
17 Claims. (Cl. 148—33)



1. A material capable of amplifying wave energy by carrier injection at a P-N junction comprising single crystal material formed by combining an element selected from the group consisting of the rare earth elements with at least one element selected from the group consisting of boron, carbon, nitrogen, silicon, phosphorus, sulphur, arsenic, antimony, selenium and tellurium, the crystal being intrinsically N-type and having a portion thereof doped with a P-type impurity to form a P-N junction.

performing a substantial amount of mechanical deformation upon said metastable austenitic steel mass while maintaining said mass within said temperature region, said deformation producing a reduction in cross-sectional area of said mass of at least 10%;



transforming said deformed, metastable austenitic mass into a steel mass of substantially bainitic structure in a temperature region at which the isothermal transformation products would be predominantly bainitic; cooling said bainitic mass; mechanically deforming said cooled bainitic mass to improve the strength of said steel mass; and tempering said mass.

3,340,103 WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., and Jack C. Brodsky, Huntington Station, N.Y., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,976
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, from about 4% to about 15% aluminum oxide, from about 2% to about 15% manganous oxide, from about 35% to about 55% calcium fluoride, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1.

3,340,104 WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,977
7 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients con-

16% aluminum oxide, from about 3% to about 15% manganous oxide, up to about 40% calcium fluoride, from about 15% to about 40% sodium fluosilicate, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1, the calcium fluoride and sodium fluosilicate being present in amounts aggregating not substantially less than about 20% by weight.

3,340,106 WELDING FLUX

John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 452,005
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, up to about 15% aluminum oxide, up to about 15% manganous oxide, from about 5% to about 50% calcium fluoride, from about 5% to about 55% sodium fluoride, the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1, and the calcium fluoride and sodium fluoride being present in amounts aggregating not substantially less than about 40% by weight.

3,340,107 WELDING FLUX

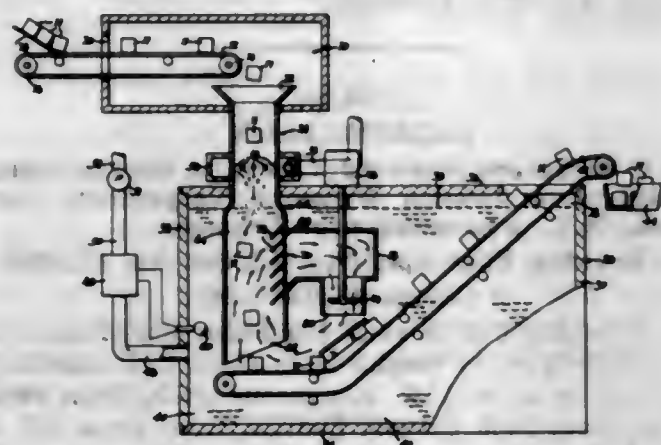
John T. Ballass and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 452,023
2 Claims. (Cl. 148—26)

1. A welding flux in which the fluxing ingredients consist essentially of, by weight, from about 5% to about 15% aluminum oxide, up to about 15% manganous oxide, from about 20% to about 55% sodium fluoride, and the balance being essentially silicon dioxide and calcium oxide in an approximate ratio by weight of silicon dioxide to calcium oxide within the range of about 2:1 to about 1:1.

3,340,108 LASER MATERIALS

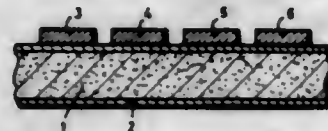
Ronald C. Vickery, Saxonburg, Pa., assignor, by mesne assignments, to Semi-Elements, Inc., Saxonburg, Pa.
Filed July 9, 1963, Ser. No. 293,704
17 Claims. (Cl. 148—33)

3,340,109
HEAT TREATING QUENCHING METHOD AND APPARATUS
 William R. Keough, Birmingham, Mich., assignor of forty-five percent to Multifastener Company, Detroit, Mich., a partnership
 Filed Jan. 18, 1965, Ser. No. 426,022
 10 Claims. (Cl. 148—153)



4. In a heat treatment process wherein articles to be treated are discharged from a heat treatment furnace into a quenching bath following heating, the steps of dropping an article from the furnace into a predetermined region having ingress and egress ports for gravitational, substantially vertical movement through the region, and providing a substantially upward vertical flow of bath fluid through the egress port in a generally upward direction countercurrent to the direction of movement of said article to (1) impinge the countercurrent flow of fluid upon the article, thereby quickening the rate of cooling of said article, and (2) inhibit the gravitational movement of the article thereby increasing the residence time of the article in said fluid to produce an article of increased hardness.

3,340,110
METHOD FOR PRODUCING SEMICONDUCTOR DEVICES
 Josef Grabmaier and Erhard Sirtl, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
 Continuation of application Ser. No. 255,739, Jan. 31, 1963. This application Jan. 21, 1966, Ser. No. 523,487
 Claims priority, application Germany, Feb. 2, 1962, S 77,851
 6 Claims. (Cl. 148—175)



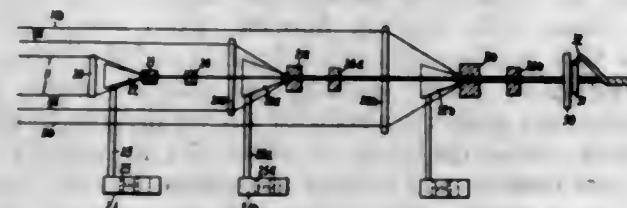
1. Process of growing epitaxial layers of semiconductor material on a monocrystalline semiconductor body, which comprises performing in a reaction vessel the steps of heating a structure of carbon having a top flat surface to a temperature of about 1300° C. in the presence of a gaseous compound of silicon selected from the group consisting of a halogen and hydrogen compound of silicon and an organosilicon compound so that the gaseous compound reacts with the carbon to form a dense layer of silicon carbide on the surface; placing the semiconductor body on the silicon carbide-coated surface, heating the semiconductor body to a temperature at which a given gaseous compound of the semiconductor material is pyrolytically decomposed by heat conduction from the coated structure, contacting the heated semiconductor

body with the given gaseous compound mixed with a carrier gas and heating the gaseous compound to the temperature at which it is pyrolytically decomposed so that a layer of the semiconductor material is epitaxially grown on the semiconductor body, removing the epitaxially coated semiconductor body from the structure, and cleansing the silicon carbide-coated surface of the structure from the semiconductor material deposited thereon preparatory to placing another semiconductor body thereon and repeating the step whereby a layer of semiconductor material is epitaxially grown on the semiconductor body.

3,340,111
SOLID PROPELLANT CATALYZED WITH COPPER-CHROMIUM COMPLEX
 Manfred Stammer, Carmichael, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
 No Drawing. Filed Mar. 26, 1963, Ser. No. 268,527
 10 Claims. (Cl. 149—19)

6. A solid propellant composition which comprises a cured intimate mixture of a solid perchlorate oxidizing salt, and a polyurethane resin binder which comprises the reaction product of a compound having as its sole reacting groups not less than two active hydrogen groups as determined by the Zerewitinoff method and capable of polymerizing with an isocyanate and a compound having as its sole reacting groups not less than two groups capable of undergoing a urethane-type reaction with hydroxy groups and, as a burning rate accelerator, the material prepared by roasting at a temperature of from about 200° C. to about 500° C. for a period of from about 0.1 to about 10 hours the copper-chromium complex obtained by reacting in solution a water-soluble copper salt up to a stoichiometric amount of a compound of the formula: $M_yCr_xO_z$ wherein M is selected from the group consisting of alkali and alkaline earth metals, and y is an integer ranging from one to two with the product of y times the valence of M being equal to two, and an amount of ammonium hydroxide which is less than stoichiometric with respect to the total amount of copper and chromium containing reactants initially present.

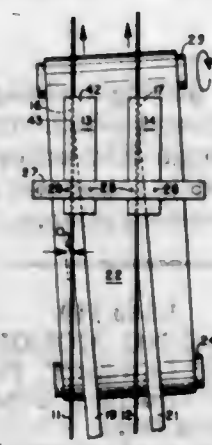
3,340,112
METHOD OF MAKING MULTI-CONDUCTOR TELEPHONE CABLES WITH AXIALLY SPACED WATER BARRIERS
 Henry Davis, London, and Henry John Fisher, Epping, Essex, England, assignors to Reliance (Cords & Cables) Limited, London, England, a company of Great Britain
 Filed Jan. 27, 1964, Ser. No. 340,228
 Claims priority, application Great Britain, Feb. 4, 1963, 4,555/63
 15 Claims. (Cl. 156—47)



1. A method of forming a multi-conductor telephone cable with a series of axially spaced water barriers comprising the steps of making a plurality of conductors, each of which is individually covered throughout its length with a water-impermeable insulating covering, into a telephone cable, and, during the making of the telephone cable, introducing water-impermeable material into the telephone cable in a series of predetermined axially spaced apart regions thereof, the water-impermeable material displacing the air from and filling interstices between the

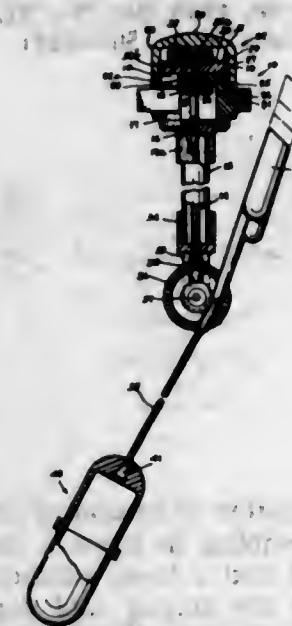
conductors in the said regions, the total volume of water-impermeable material introduced into the said interstices in substitution for the air therein increasing the mutual capacitance between the conductors of the whole telephone cable by less than 10%.

3,340,113
APPARATUS AND METHOD FOR APPLYING TAPE TO ADVANCING STRANDS
 Harvey Burr, De Kalb, Ill., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
 Filed Nov. 9, 1964, Ser. No. 409,898
 10 Claims. (Cl. 156—54)



8. The method of wrapping a tape around an advancing strand comprising the steps of:
 (A) advancing said strand through a tubular passage having a longitudinal slot,
 (B) advancing said tape at a very acute angle to said strand,
 (C) frictionally engaging the surface of said tape externally of said passage slidably against a flat surface of said die and thereby urging it edgewise, tangentially through said slot, so that it spirals inwardly around said strand having the edge of said tape parallel to the axis of said strand.

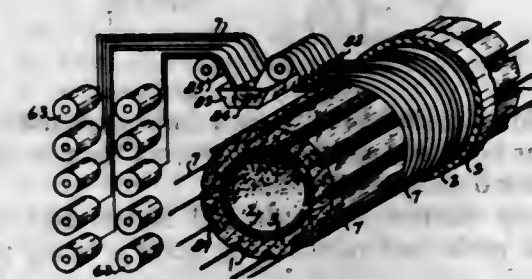
3,340,114
PROCESS OF MAKING FLOAT AND FLOAT ROD
 Leta S. Taylor, Paul B. Johnson, and Eugene D. Huskey, Garland, Tex., assignors to J. Y. Taylor Mfg. Company, a corporation of Texas
 Filed July 6, 1965, Ser. No. 469,719
 4 Claims. (Cl. 156—73)



1. The process of forming a float for a liquid level gauge comprising, forming two hollow float sections by molding chemically resistant plastic with one of said sections having a unitary reinforced portion adjacent its

closed end and a groove extending into said reinforced portion and said sections having flanges adjacent their open ends, uniting said sections by joining said flanges, placing an end of a float rod in said groove while said rod or said reinforced portion is heated and allowing said arrangement to cool whereupon said reinforced section will shrink on said rod to effectively connect said rod and float.

3,340,115
METHOD OF MAKING A REINFORCED COMPOSITE CONCRETE PIPE
 David Rubenstein, 2750 2nd Ave., San Diego, Calif. 92103
 Original application Dec. 11, 1957, Ser. No. 702,050, now Patent No. 3,177,902, dated Apr. 13, 1965. Divided and this application Jan. 25, 1965, Ser. No. 427,861
 25 Claims. (Cl. 156—86)



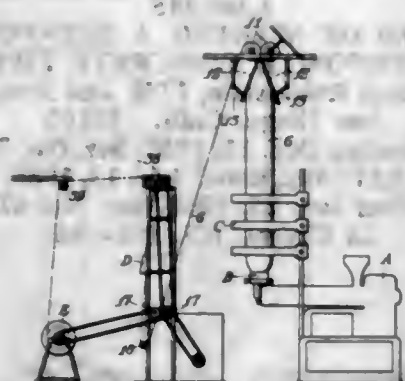
1. The method of making a reinforced composite concrete pipe having substantial resistance to impact and dynamic loading, and being substantially impervious to the entrance of adverse chemicals through said concrete pipe;

(1) provide a porous concrete pipe body having open pores and interstices connected therewith, said pores and interstices being at least in the neighborhood of the surface of said concrete pipe construction;
 (2) substantially penetrate and permeate said pores and interstices of said porous concrete pipe body, and fill and cover said surface of said concrete pipe body with a tough, rubbery resin composition and provide a surplus of said resin composition on said surface thereover;
 (3) lay and cross-lay a plurality of glass fiber strands on said surface of said concrete pipe body in said tough, rubbery resin composition;
 (4) set and cure said resin composition to its cured state whereby said reinforced concrete pipe is ready for use.
 7. The method of making a reinforced composite concrete pipe as in claim 1, in which said tough, rubbery resin composition comprises an unsaturated polyester resin composition having a substantial shrinkage upon cure applied in between, on and about the individual fibers of said glass fiber strands.

3,340,116
METHOD AND APPARATUS FOR MANUFACTURING SYNTHETIC RESIN TUBULAR FILM HAVING OCCLUDENT MEANS IN THE INSIDE SURFACE THEREOF
 Kakuji Naito, Kawasaki-shi, Kanagawa-ken, Japan, assignor to Kabushiki Kaisha Seisan Nihon Sha, Tokyo, Japan, a corporation of Japan
 Filed Feb. 15, 1961, Ser. No. 89,540
 Claims priority, application Japan, Apr. 11, 1960, 35/21,148, 35/21,149; June 3, 1960, 35/26,770
 13 Claims. (Cl. 156—92)

1. A method of manufacturing a tube to be used for forming synthetic resin bags provided with occludent means comprising,

- (a) a step wherein is molded continuously by passing through a mold plastic forming a tubular bag body and integrally therewith in the inside of said bag body in pairs male and female ribs for occludent use, next,
- (b) a step wherein air is delivered into said tubular body and said body is kept under uniform pressure,
- (c) tension is imparted to the tubular film between said mold and delivery rolls provided as clamping means of said tubular body,



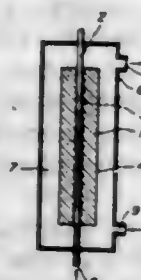
- (d) cold air is delivered from a zone surrounding said tubular body during its travel to cool the film directly from the outside, and further
- (e) a step wherein the male and female ribs are occluded while said tubular bag body is being pressed flat.

3,340,117

METHOD OF MAKING A MOLDED INSULATING CYLINDER

Toshio Inoue, Takashi Tahara, and Tokio Isogai, Hitachi, Ltd., Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 19, 1963, Ser. No. 274,239
4 Claims. (Cl. 156-184)



1. A method of making a molded insulating cylinder which comprises applying an insulating layer composed of a thermosetting resinous material and a fibrous material to a mandrel, enclosing said insulating layer in a flexible shielding material, applying fluid pressure to said insulating layer from outside the flexible shielding material and heating said mandrel, thereby establishing a temperature gradient of decreasing temperature from the mandrel to the outside surface of the insulating cylinder which causes said insulating layer to harden progressively from the inside to the outside of the molded insulating cylinder.

3,340,118

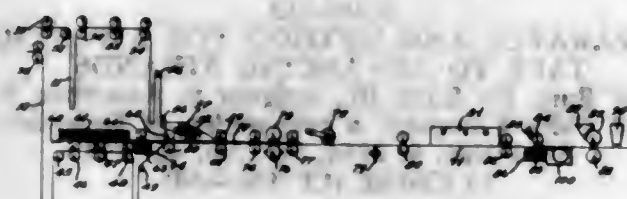
METHOD OF MAKING BUILDING PRODUCTS AND THE LIKE

Thomas R. Patterson, 990 E. Rainbow Drive, Memphis, Tenn. 38107

Filed June 1, 1965, Ser. No. 460,305
8 Claims. (Cl. 156-200)

1. The method of making building products and the like which consists of continuously passing a lower and an upper spaced felt sheet through a series of saturant immersions, then adhesively applying said spaced saturated

felt sheets to respective lower and upper surfaces of a row of traveling preformed sheet material, and then cutting the said saturated felt covered sheet material into selected lengths.



2. The method of making building products and the like as set forth in claim 1 which consists of adhesively applying extending longitudinal edges of said upper and lower spaced saturated felt sheets to outer side edges of said saturated felt covered preformed sheet material.

3,340,119

METHOD OF MAKING MOLDED CYLINDERS

Arthur J. Wiltshire and Edward C. Pavlovich, Cleveland, Ohio, assignors to Structural Fibers, Inc., Chardon, Ohio, a corporation of Ohio

Filed July 8, 1963, Ser. No. 293,381
4 Claims. (Cl. 156-218)

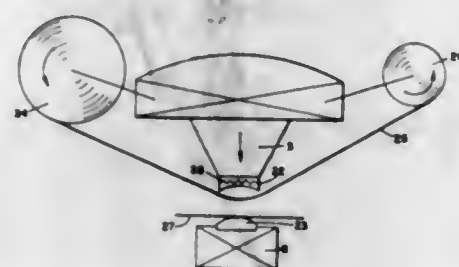
1. A method of making a fiber-reinforced, molded resin cylinder, comprising the steps of providing a plurality of fibrous reinforcing sheets, each of said sheets having an edge-to-edge dimension substantially equal to the circumference of the cylinder to be molded, superimposing said sheets on each other in an overlapped, offset relationship so that an edge of each overlapping sheet is offset from the edge of an adjacent, overlapped sheet a distance substantially equal to said edge-to-edge dimension divided by the number of sheets, impregnating said sheets with resin, forming said sheets into a cylinder by butting an edge of each sheet with its own, opposite edge, and curing said resin, whereby said sheets form a molded cylinder having uniformly spaced seams.

3,340,120

FABRICATING DECORATIVE ARTICLES

Amedée Jean Fournier, 10 Rue Rosa Bonheur, Paris, France

Filed Sept. 30, 1963, Ser. No. 312,470
1 Claim. (Cl. 156-220)



- A process of fabrication of decorative articles comprising the steps of assembling in layers a cardboard cover sheet, a textile sheet and a lower cardboard sheet, and then simultaneously die cutting said cardboard cover sheet, said textile sheet and said lower cardboard sheet to a predetermined size while die cutting a design in said cover sheet and embossing said textile sheet and said lower cardboard sheet and removing die cut material from said cover sheet, and heat seaming said textile sheet

to said lower cardboard sheet and said cover sheet to obtain a united article having an embossed design on said textile sheet visible through the die cut in said cover sheet.

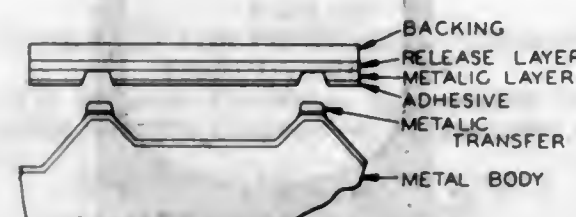
3,340,121

METHOD OF APPLYING DECORATIVE COATINGS TO METAL PARTS

Carl F. Lawrenz, 8115 N. Kolmar Ave.,

Skokie, Ill. 60076

Filed Dec. 20, 1963, Ser. No. 332,047
2 Claims. (Cl. 156-233)



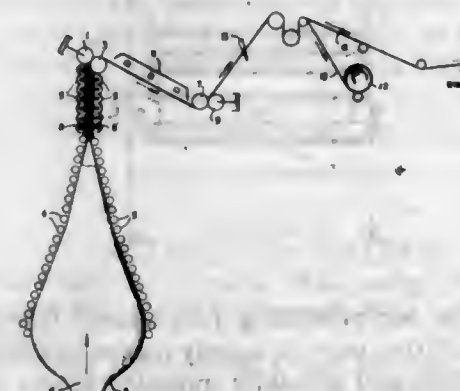
1. In a method for transferring a metallic layer from a transfer sheet to a preformed metal body having a finish coating thereon, said sheet consisting essentially of a backing, a thermoplastic release layer on said backing, a metallic layer on said release layer, and an adhesive layer on said metallic layer, said finish coating being compatible with said adhesive layer, the steps comprising (1) preheating said metal body to a temperature above the softening temperature of said release layer, (2) positioning said transfer sheet adjacent said preheated body, (3) contacting the backing of said transfer sheet with pressing means to urge the adhesive layer of said transfer sheet into contact with said preheated metal body, (4) maintaining said transfer sheet in contact with said body until the release layer has passed into a softened state, and (5) thereafter withdrawing said pressing means and removing said backing from said metal body and from the metallic layer transferred to said body.

3,340,122

METHOD OF PRODUCING LAMINATED THERMOPLASTIC FILM

Peter H. Hofer, Berkeley Heights, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Dec. 19, 1962, Ser. No. 245,857
7 Claims. (Cl. 156-244)



1. Method of producing laminated thermoplastic film which comprises continuously forming a molecularly oriented thermoplastic tubing from a thermoplastic which has a first and second order phase transition temperature and a tensile modulus in excess of about 100,000 p.s.i. collapsing said tubing so that the interior walls thereof

are brought into intimate surface contact, moving the tubing from the point at which the tubing is collapsed while heating the tubing to maintain the tubing at a temperature in excess of about 20° C. above the second order phase transition temperature thereof, and while moving and heating the said tubing, maintaining the said tubing under sufficient tension to maintain the intimate surface contact of the walls of the tubing and to prevent shrinkage thereof and thereafter forcing the interior walls of the tubing together while said tubing is at a temperature of about 20° C. in excess of its second order phase transition temperature with sufficient force to effect a fusion thereof.

3,340,123

EXTRUSION COATING WITH LINEAR POLYPROPYLENE AND BRANCHED POLYETHYLENE BLEND

Frank Otto Kurt Osmon, Jr., Orange, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 5, 1963, Ser. No. 270,803
7 Claims. (Cl. 156-244)

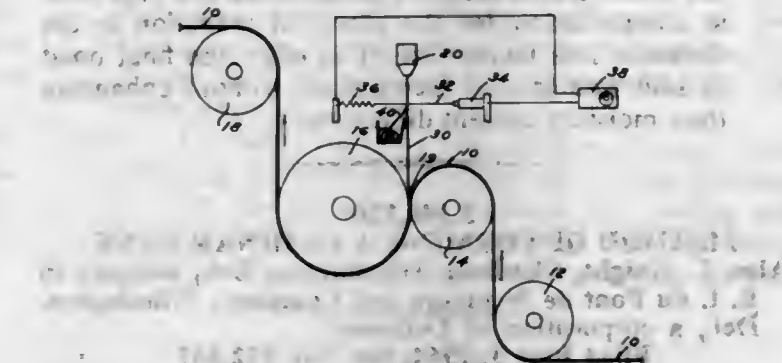
6. In a process for the preparation of extrusion-coated objects in which molten resin is extruded from a slit-type orifice onto a moving sheet to be coated, said sheet moving at a rate sufficiently high to draw the resin extruded into a film that is substantially thinner than the distance between the lips of the die, the improvement which comprises extruding a blend of normally solid linear polypropylene and branched normally solid polyethylene, said blend consisting essentially of from 85 to 95 parts by weight linear polypropylene and from 5 to 15 parts by weight branched polyethylene, said polyethylene having a melt index of between 2 and 10 grams per 10 minutes as measured by ASTM Method D-1238-52T.

3,340,124

METHOD AND APPARATUS FOR COATING PAPER

James C. Lowe and Bobby R. Mangrum, Monroe, La., assignors to Adams Paper Converting Company, Monroe, La., a corporation of Michigan

Filed July 18, 1963, Ser. No. 295,979
8 Claims. (Cl. 156-244)



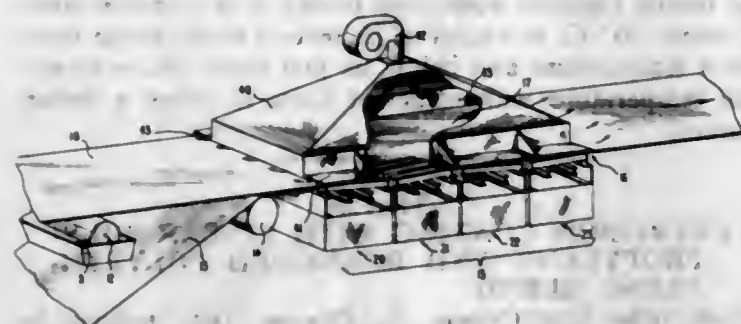
1. A method of coating paper to leave a delineated uncoated edge which comprises:
 - (a) passing a sheet of paper from a supply roll between two pressure rolls,
 - (b) extruding into the cleavage between said pressure rolls a sheet of plastic having a width substantially that of the paper,
 - (c) cutting an edge from said extruded sheet to render said extruded sheet of less width than the paper sheet, and
 - (d) removing said edge prior to the time that the balance of the extruded sheet reaches the cleavage area of the pressure rolls in contact with the paper.

3,340,125

ADHESIVE BONDING METHOD AND APPARATUS

John W. Drenning and Richard J. Bridges, Baltimore, and Lorenz K. E. Duerr, Fulton, Md., assignors to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 18, 1964, Ser. No. 419,485
15 Claims. (Cl. 156—274)



15. The method of producing corrugated paperboard having a decreased tendency to warp which comprises: feeding a single faced transversely corrugated paper web having a relatively enhanced moisture content into a doublebacker; while such web is travelling toward the doublebacker applying to the exposed peaks of such web a liquid-softened adhesive composition having a dielectric loss factor materially higher than the paper stock; feeding a facing sheet having a relatively decreased moisture content into the doublebacker in contact with the adhesively coated peaks of said corrugations to form a partially completed corrugated paperboard; exposing the adhesive composition to a substantially transverse high frequency electrostatic field through the facing sheet and having a potential gradient of sufficient intensity to vaporize a substantial proportion of the liquid in said adhesive composition, thereby effecting a reduction in the dielectric losses of said adhesive composition while partially curing and hardening the same; and exposing the partially cured adhesive composition to a substantially transverse high frequency electrostatic field through the facing sheet and having a substantially increased potential gradient to maintain dielectric losses in said adhesive composition at a high level in compensation for the aforesaid reduction in the dielectric loss factor thereof to effect the final bond of said web to said facing sheet without enhancing their moisture content differential.

3,340,126

METHOD OF FORMING A LAMINAR TANK

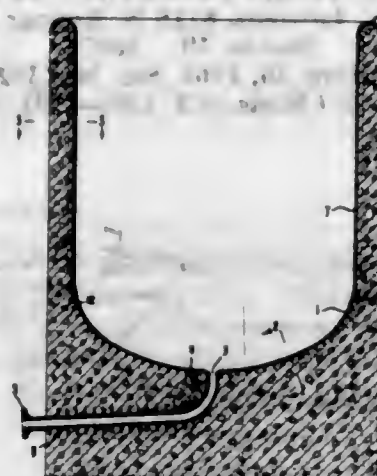
Alan C. Knight, Chatham, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,247
1 Claim. (Cl. 156—281)

A process for the preparation of a polyethylene-surfaced, steel-reinforced, concrete tank comprising:

- (a) forming a polyethylene liner by,
 - (1) thermoforming a first polyethylene sheet to produce a circular dish-shaped piece having a concave side and a convex side, attaching a series of loops in concentric circles on said convex side with polyethylene beading, said concentric circles being spaced approximately one inch apart,
 - (2) forming a second polyethylene sheet, said second polyethylene sheet having a ridged side and a flat side,

- (3) welding the edge of said second sheet with said ridged side on the exterior around the edge of said dish-shaped piece and welding the seam thus formed by the edges of said second sheet, whereby said convex side and said ridged side form the exterior surface of said liner;



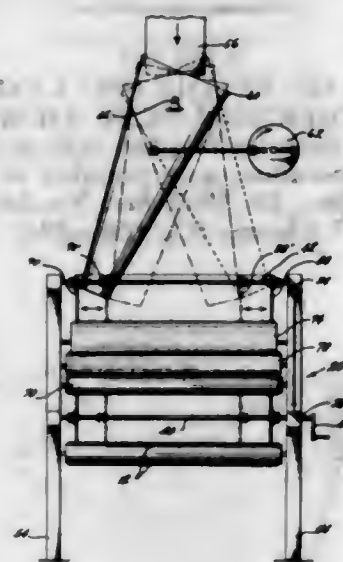
- (b) reinforcing said liner by passing steel rods through some of said loops and by attaching wire netting to said ridged side; and
- (c) applying a settable material to the exterior surface of said liner.

3,340,127

APPARATUS FOR MANUFACTURING FELTED MATERIALS

Wolfgang Buerkner, Darmstadt, Germany, assignor to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, and Allwood, Inc., Glarus, Switzerland

Filed Jan. 29, 1962, Ser. No. 169,338
Claims priority, application Germany, Feb. 3, 1961, Sch 29,169
3 Claims. (Cl. 156—372)



1. Apparatus for producing felted mats from particle material, comprising particle supply means having a downwardly extending and pivotally mounted feeder duct and drive means connected to said duct for imparting a swinging movement thereto, a base conveyor forming a horizontal top surface beneath said duct for supporting the mat to be formed, a device for preparing particle material for felting, said device being interposed between the lower end of said feeder duct and said base conveyor and having an auxiliary conveyor forming a surface for receiving the particle material from said duct during swinging movement of the latter, said device having spreader

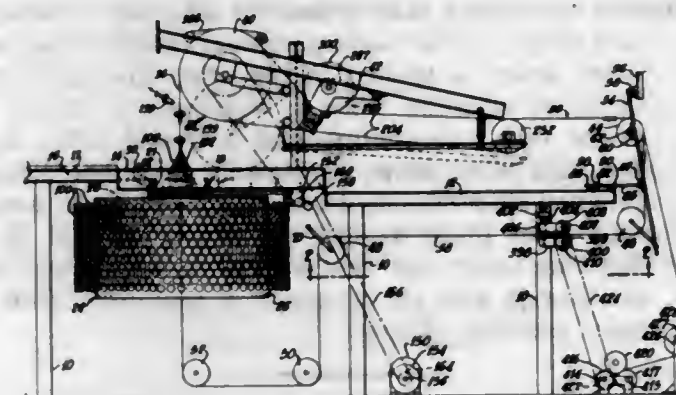
means for distributing prepared material onto said base conveyor, said two conveyor surfaces having parallel advancing directions and said duct having a stroke transverse of said direction, each of said two conveyors having two lateral confining wall members extending parallel to said direction and being transversely spaced from each other along each of said conveyor surfaces, means for varying the mutual spacing of said wall structures of each of said two conveyors to adapt the active width of said auxiliary conveyor to the adjusted mat width on said base conveyor, and means for varying the stroke width of said feeder duct for also adapting it to said mat width.

3,340,128

APPARATUS FOR PRODUCING NONWOVEN FIBROUS PRODUCT

Lowell B. Johnston, Providence, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed July 30, 1962, Ser. No. 213,513
15 Claims. (Cl. 156—426)



7. Apparatus of the character disclosed, in combination, a rotatable creel arranged to support a plurality of packages of filamentary bodies, a drum, a single endless flexible metal tape arranged to provide parallel flights movable in the same direction, an endless metal sheet providing a conveyor engaging the periphery of the drum, a roll spaced from the drum engaging the metal sheet, said parallel flights of the tape engaging the metal sheet, means for concomitantly rotating said creel to effect a winding of the filamentary bodies from the packages around the flights of the tape and rotating the drum to advance the metal sheet and the parallel flights of the tape, means for applying a bonding agent to the filamentary bodies, means for heat treating the bonding agent, said tape advancing at a rate whereby the angularity of deposition of the filamentary bodies on the tape flights forms an unwoven product, said bonding agent maintaining the filamentary bodies of the product in crossing relation, and means for removing the unwoven product from the flights of tape.

3,340,129

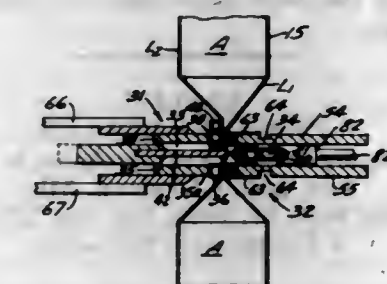
SEALING APPARATUS

John J. Grevich, Star Prairie, Wis., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin

Filed July 28, 1964, Ser. No. 385,623
2 Claims. (Cl. 156—498)

1. An apparatus for producing packages from laminae of heat sealable material, means presenting a pair of the laminae in confronting relation with each other, clamping means including first and second cooperating laminae-clamping jaws each having a pair of elongate parallel clamping members spaced from each other to define an unobstructed space therebetween,

each of said members being disposed opposite a corresponding member of the other jaw, said jaws effecting clamping of elongate juxtaposed and spaced portions of the laminae, the clamping members of one of said jaws having material-engaging edge portions confronting the other jaw, said edge portions having means effecting cooling thereof for absorbing heat from the clamped laminae engaged thereby, a heated bar extending along said first jaw and having a temperature in excess of the melting temperature of the heat sealable materials, said bar being movable through the unobstructed space of said first jaw and toward the clamped laminae, an elongate, cooled and heat absorbing element extending along said second jaw for movement through said unobstructed space thereof and toward said clamped laminae, said heat absorbing element having a temperature substantially below the melting temperature of the heat sealable material, means thrusting said heated bar forwardly through the unobstructed space of said first jaw and through the clamped laminae into the unobstructed space of said



second jaw, said heated bar effecting severing of the clamped laminae by melting and also effecting sealing by welding of the edges produced in the severance, and said last mentioned means also withdrawing said heated bar from the second jaw and out of engagement with the sealed edges of the clamped laminae, means thrusting said heat-absorbing element through said unobstructed spaces and into heat absorbing engagement with the sealed edges of the clamped laminae and thrusting said heat absorbing element into close proximity with the rearwardly withdrawing heated bar to thereby quickly effect strengthening and hardening of the sealed edges, and said last mentioned means also effecting withdrawal of said heat absorbing element out of the unobstructed space of said first jaw and out of engagement with the sealed edges, and said material engaging edge portions of one of said clamping members including an air conduit directing air onto the sealed edge produced by welding and causing the air to sweep across said edge and effect rapid cooling, hardening and strengthening thereof.

3,340,130

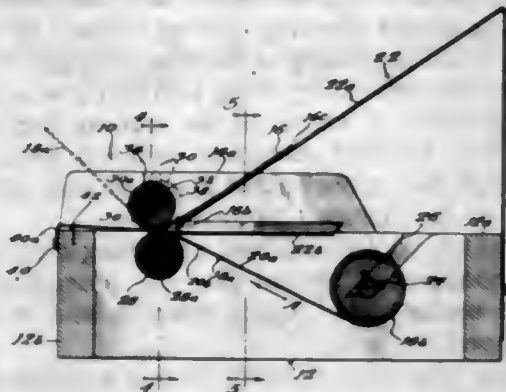
LABEL LAMINATOR DEVICE

Lyman D. Dunn, Chicago, and Stanley Gemblicki, Des Plaines, Ill., assignors to Marlan Company, a corporation of Illinois

Filed Nov. 19, 1964, Ser. No. 412,394
11 Claims. (Cl. 156—552)

1. A laminating device for applying tags to adhesive strips, comprising: a housing; a roll of tape rotatably supported in said housing; pressing means in said housing spaced from said tape roll forming a laminating passage through which a strip of tape from said roll is webbed; means on said housing for feeding a tag between said pressing means in a position to contact the tape webbed therethrough; means for mounting said pressing

means in said housing for movement between a normal position wherein the pressing means is out of laminating engagement relative to the tape and tag fed therebetween, and a laminating position wherein the pressing means is in a position to laminate tapes and tags fed therebetween,



said mounting means for said pressing means being movable responsive to advancement of the tape to move the pressing means into laminating engagement for initially pressing the tag on the tape, whereupon continued advancement of the tape continues the lamination of the tag to the tape.

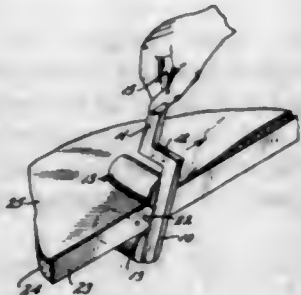
3,340,131

PRESSURE ROLLER

Martin Leibow, Dallas, Tex., assignor to Misceramic Tile, Inc., Cleveland, Miss.

Filed Sept. 17, 1964, Ser. No. 397,124

4 Claims. (Cl. 156—579)



1. A hand tool for applying pressure to at least one surface of a body, said tool comprising a handle forming member having upper and lower offset portions, upper and lower roller mounting elements rigidly fixed to said lower offset portion in spaced relation to each other, a roller having a hard outer surface rotatably mounted on each of said mounting elements, at least a portion of the outer surfaces of said rollers being in spaced parallel relation to each other, the outer surface of said lower roller extending downwardly below said lower offset portion, and the upper offset portion of said handle forming member overlying said rollers, whereby at least one of said rollers can be placed in contact with the surface of the body so that when pressure is applied to said handle forming member such pressure will be transmitted through said roller to said surface.

3,340,132

LAMINATING PROCESS AND APPARATUS

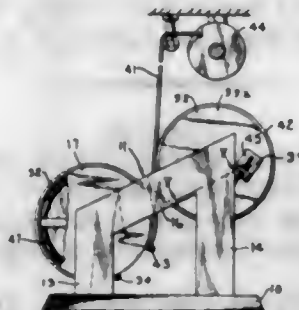
Russell U. Garrett, Ross Township, Kalamazoo County, Mich. (Box 644, R.R. 1, Augusta, Mich. 49012)

Filed Aug. 15, 1963, Ser. No. 302,247

7 Claims. (Cl. 156—580)

1. A pressure-applying apparatus, comprising: a pair of spaced and radially aligned drums mounted for rotation about substantially parallel axes; means supporting said drums for relative movement toward and away from each other; force-applying means for urging said drums apart;

an elongated, flexible pressure member secured at one end thereof to one of said drums and extending part-way around the peripheral surface thereof and thence through the space between said drums, said pressure member having its other end secured to the other drum so that rotation of said other drum in one circumferential direction will effect unwinding of said pressure member from said one drum and winding of said pressure member on said other drum;



means connecting said drums for effecting rotation of said drums at the same peripheral speeds when said other drum is rotated in the other circumferential direction whereby when a workpiece is placed between said pressure member and said other drum and said other drum is rotated in said one circumferential direction, said one drum will move toward said other drum against the urging of said force-applying means and said workpiece will be bent into conformity with the periphery of said other drum by said pressure member.

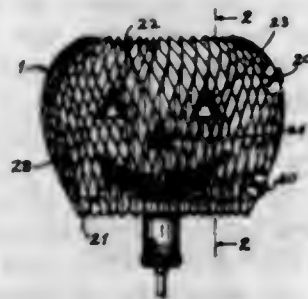
3,340,133

HONEYCOMB NOVELTY DEVICE

James J. Krekovich, Raytown, Mo., assignor to Hallmark Cards, Incorporated, Kansas City, Mo., a corporation of Missouri

Filed Aug. 10, 1964, Ser. No. 388,635

1 Claim. (Cl. 161—14)



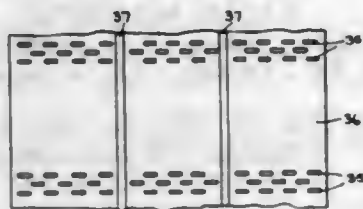
In combination:

- (a) an ornament adapted to surround a light source and comprising flexible extensible honeycomb structure, said honeycomb structure being expandable around said light source and after expanded having a generally vertically extending outwardly directed surface and an inwardly directed surface,
- (b) said honeycomb structure after expanded forming radially extending passageways directed outwardly and upwardly from said inwardly directed surface to said outwardly directed surface, and
- (c) a substantially vertically directed planar ornamental member having legs extending rearwardly and downwardly therefrom at an angle corresponding to the angle of said passageways, said legs being received in selected passageways supporting said ornamental member on the outwardly directed surface of said honeycomb structure.

3,340,134

KNIT FABRIC

Stephen L. Porter, Harrisburg, and Calvin Auville, Dayton, Va., and Allen R. Winch, Westfield, N.J., assignors to Celanese Corporation, a corporation of Delaware
Filed July 31, 1959, Ser. No. 830,771
15 Claims. (Cl. 161—89)



1. A knit fabric of zig stitch construction weighing less than about 1 ounce per square yard, said fabric having areas in which a run once started will propagate alternated longitudinally with bonded areas which will not propagate a run, said bonded areas at some point extending across each wale.

3,340,135

LAMINAR MEANS FOR CHANGING COLOR IN RESPONSE TO EMBOSSEMENT

Ray S. Avery, Bradbury, Calif., assignor to Avery Adhesive Products, Inc., San Marino, Calif., a corporation of California
Filed May 6, 1963, Ser. No. 278,143
4 Claims. (Cl. 161—120)



1. An article for contrast color embossment comprising a face film of latently color changing material which is however so thin as not show, in its self supporting state, a color change response to the mechanical drawing action which is incident to embossment, said face film being combined with a thicker supporting base, the face film, in the combination, being a patently color changing material showing a color change response to the mechanical drawing action which is incident to embossment, said backing being operable to concentrate color changing stress in said face film along convex embossed portions of said face film and being operable to resist the occurrence of color changing stress in the face film along concave embossed portions of said face film.

3,340,136

BONDED FIBROUS PRODUCTS AND A METHOD FOR PREPARING THEM

Joseph P. Burns and Frank Thomas Sanderson, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 9, 1962, Ser. No. 178,575
5 Claims. (Cl. 161—170)

1. A fibrous mat comprising fibrous material bound together by a minor amount of a polyester binder resin which is substantially no more than sufficient to bind said fibrous material together, said mat being suitable for loading with a molding resin for the production of reinforced plastic material, said binder resin being the reaction product of isophthalic acid, an unsaturated dicarboxylic acid,

a dihydric alcohol and from about 0.5 to about 10 molar percent of a polyhydric alcohol of from 3 to 6 hydroxyl groups, reacted in amounts such that the molar ratio of carboxyl groups to hydroxyl groups is equal to about one.

3,340,137

UNITARY WEATHER-RESISTANT DECORATIVE LAMINATE AND METHOD OF MAKING SAME

Musa Rasim Kamal, Stamford, Conn., assignor to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed Jan. 23, 1964, Ser. No. 339,588
14 Claims. (Cl. 161—184)

1. A unitary, heat- and pressure-consolidated, weather-resistant decorative laminated article which comprises:
 - (I) a rigidity-imparting base member,
 - (II) a print sheet member bonded to said base member and coated with a substantially cured composition which, in its uncured state, is a curable adhesive mixture comprising
 - (A) a reactive, water-insoluble essentially linear copolymer of
 - (1) from about 50% to 98% by weight of a monoethylenically unsaturated hardening comonomer containing no functional groups reactive with component (B), as defined hereinbelow,
 - (2) from about 50% to 2% by weight of a monoethylenically unsaturated comonomer containing at least one functional group reactive with component (B), and
 - (3) from about 0% to 45% by weight of a monoethylenically unsaturated softening comonomer containing no functional groups reactive with component (B),
 wherein the sum of the amounts of (1), (2) and (3) is 100%, and
 - (B) a cross-linking amount of a member selected from the group consisting of a 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate and hexamethoxymethylmelamine, and
 - (III) a substantially transparent top film of adherable polyvinyl fluoride, an adherable side of which is directly bonded to said print sheet member by means of said adhesive mixture.

3,340,138

PROCESS FOR SEPARATION OF SPRINGWOOD AND SUMMERWOOD OF CONIFEROUS WOODS

Ralph V. Braun, Neenah, Wis., William D. Lloyd, Kapuskasing, Ontario, Canada, and Byron R. Terry, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,815

3 Claims. (Cl. 162—28)

1. In a process in which coniferous wood is subjected to mechanical action including fragmentizing of the wood along natural lines of cleavage defining alternate layers of springwood and summerwood to reduce the wood to a mixed mass of individual fragments which are retained by a $\frac{1}{32}$ inch screen but pass a $\frac{1}{2}$ inch screen and which fragments are substantially of either springwood or summerwood, the step of introducing the mass of wood fragments while they are at a moisture content in the range of about 30 to about 60% by weight based on the total wood weight into a body of an aqueous medium in which the fragments which are substantially of springwood float and the fragments which are substantially of summerwood sink.

3,340,139

METHOD OF PREPARING A PAPERMAKING PULP BY MERCERIZING AND ETHERIFYING IN A NON-AGING CONDITION

Berwyn B. Thomas, Shelton, Wash., and George B. Creamer, Thornwood, N.Y., assignors to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware

Filed Apr. 19, 1966, Ser. No. 543,705

3 Claims. (Cl. 162—72)

1. The process of making mercerized papermaking wood pulp which comprises mercerizing the pulp fibers, in the substantial absence of free oxygen, with from 12 to 25 percent sodium hydroxide solution for three to 10 minutes at from 5° to 40° C., providing an atmosphere of inert gas, rapidly removing the excess sodium hydroxide and shredding the mercerized fiber to a fluff in said atmosphere, said steeping and shredding being completed within less than 45 minutes' time and then immediately etherifying the fluffed fibers, without removing them from the atmosphere of inert gas, with from 2.5 to 8.0 percent of an alkylene oxide selected from the group consisting of ethylene oxide and propylene oxide, substantially immediately neutralizing residual alkali in the etherified pulp with dilute acid to avoid substantial aging and then washing with water.

3,340,140

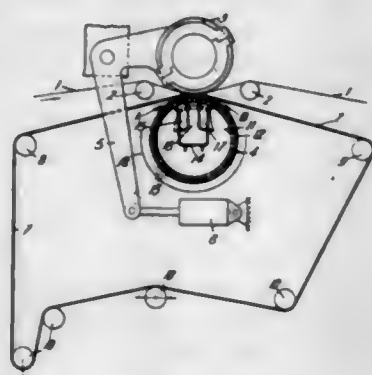
PRESS AND FELT SECTIONS OF PAPER-MAKING MACHINES

Ralph Challinor Heys, Sheffield, England, assignor to Millsaugh Limited

Filed Sept. 2, 1964, Ser. No. 393,987

Claims priority, application Great Britain, Sept. 6, 1963, 35,231/63

3 Claims. (Cl. 162—358)



1. For a paper-making machine, a press section of the type consisting of a lower perforated suction press roll, a suction box with a plurality of compartments within the suction roll, an upper press roll, having its axis parallel to that of the suction roll, means for applying pressure between the rolls, an endless bottom felt, means to guide the felt through the nip of the rolls and to embrace an arc of the suction roll within which is formed the width of a narrow pressure area resulting from the pressure exerted by the rolls on the felt, the area being symmetrical with respect to the plane containing the axes of the rolls, and means for guiding a paper web to and beyond the nip to cause the web to embrace an arc of the upper press roll co-extensive with the width of the narrow pressure area, the suction box comprising three contiguous compartments, one being a central compartment the maximum width of which is exactly co-extensive to the width and symmetry of the narrow pressure area, so that perforations of the suction roll embraced by the compartment are wholly covered by the felt in the pressure area, another being an exit side compartment, the guiding means for the felt on the exit side of the nip being so disposed as to form between the felt and the perforations embraced by the compartment a space open to the atmosphere, and

another being an inlet side compartment, the guiding means for the felt on the inlet side of the nip being so disposed as to bring the felt into proximity with perforations embraced by the compartment as the felt approaches the pressure area.

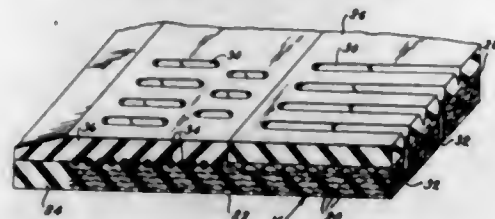
3,340,141

BELT FOR SUCTION BOX OF A PAPER MACHINE

Wilder E. Perkins, Nutley, N.J., assignor to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey

Filed Oct. 14, 1963, Ser. No. 315,941

5 Claims. (Cl. 162—367)



1. An endless belt for use between a Fourdrinier-type wire screen and a suction box therebeneath, said belt comprising a multi-layer cotton wire fabric carcass, a rubber back and side edges, a leno breaker strip, and a rubber top made of a compound selected for good resistance to heat and abrasion, said belt having holes therethrough for passage of water, the rubber back and side edges of the belt being made of a rubber compound heavily loaded with anti-friction material, the side edge portions of the rubber top being made of a highly flexible crack-resistant rubber in order to inhibit cracking at the side edges.

3,340,142

CONTACT AVICIDES

Andrew J. Reinert and Kenneth E. Cantrel, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 28, 1965, Ser. No. 475,561

8 Claims. (Cl. 167—35)

1. A contact avicidal method which consists essentially of the step of contacting the skin of the feet of roosting birds including pigeons, sparrows, and starlings with a composition consisting essentially of (a) avicidal quantities of a cyanohydrin selected from the group consisting of 2-hydroxypropionitrile, 2-hydroxyisobutyronitrile, 2-hydroxy-n-butyronitrile, 2-hydroxypentanitrile, 2-hydroxy-2-ethyl-n-butyronitrile, 2-hydroxyheptanonitrile, 2-hydroxy-2-ethylhexonitrile, 2-hydroxy-3,3-dimethylheptonitrile, 2-hydroxydecanonitrile, 2-hydroxylauronitrile, 2-hydroxy-2-ethylauronitrile, (b) 0 to 5 weight percent of an acidic compound selected from the group consisting of acetic, chloroacetic and phosphoric acids, and (c) an inert carrier capable of either being absorbed by the skin of the feet of the fowl, or of facilitating the absorption of the cyanohydrin by the skin of the feet of the fowl, selected from the group consisting of lanolin, petroleum jelly, mineral oil, synthetic oils and organic solvents, by application, of said composition to the roosting surfaces frequented by said birds including window ledges, roof tops, bird nests and buildings.

3,340,143

CERTAIN 3,5-DINITROBENZAMIDE DERIVATIVES FOR TREATING COCCIDIOSIS

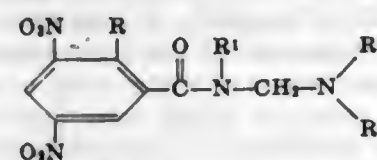
Jack Bernstein, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 18, 1966, Ser. No. 550,933

12 Claims. (Cl. 167—53.1)

1. A poultry feed composition having coccidiostatic activity comprising an effective coccidiostatic amount of a

coccidiostat of the group consisting of a compound of the following formula and acid salts thereof



wherein R and R¹ each represents hydrogen or lower alkyl, R² and R³ each represents hydrogen, lower alkyl, hydroxy-lower alkyl, carboxy-lower alkyl or noncyclic aralkyl, subject to the proviso that only one of R² and R³ is hydrogen, or R² and R³ together with the nitrogen to which they are attached form a 5- to 7-membered monocyclic nitrogen heterocyclic, and a poultry feed.

5. A composition as in claim 1 comprising in addition tetraalkylthiuram disulfide.

3,340,144

ANTHELMINTIC COMPOSITIONS AND METHODS OF USING SAME

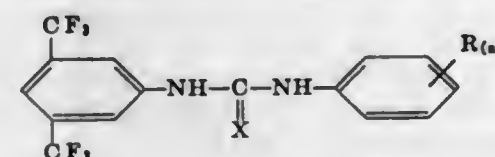
Henry Martin, Basel, Paul Schmidt, Therwil, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 19, 1965, Ser. No. 426,685

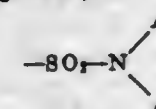
Claims priority, application Switzerland, Apr. 2, 1962, 3,969/62

15 Claims. (Cl. 167—53)

8. Method for the treatment of mammals infested by worms, comprising administering to the host, an anthelmintically effective amount of a compound of the formula



wherein R represents a member selected from the group consisting of lower alkyl, lower alkoxy, F, Cl, Br, I, —CF₃, —NO₂, —CN, —SO₂H, —SO₂NH₂, —SO₂CH₃, —OH, —SCN, —SO₂NHA,



—COOH, —COCH₃, —COOA, —CONH₂, —CONHA and —CONA₂, A standing for lower alkyl, n for a whole number from 1 to 4, and X for a member selected from the group consisting of O and S.

3,340,145

CARBANILIDE COMPOSITIONS AND METHODS OF USING SAME

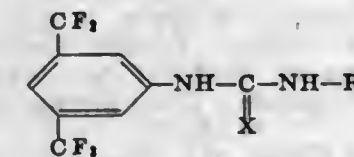
Henry Martin, Basel, Paul Schmidt, Therwil, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 19, 1965, Ser. No. 426,679

Claims priority, application Switzerland, Apr. 21, 1961, 4,682/61

15 Claims. (Cl. 167—53)

1. A feedstuff composition comprising a carbanilide of the formula



in which R represents phenyl and X stands for a member selected from the group consisting of O and S, and a feedstuff.

3,340,146

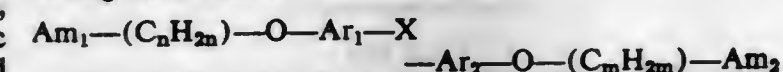
TAENIACIDAL COMPOSITIONS OF BIS-ARYLSULFIDES

Lincoln Harvey Werner, Summit, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 14, 1964, Ser. No. 418,279

3 Claims. (Cl. 167—55)

1. A pharmaceutical composition comprising essentially a pharmacologically effective amount of a compound having the formula



in which X is a member selected from the group consisting of thio, sulfinyl and sulfonyl, each of Ar₁ and Ar₂ is a member selected from the group consisting of phenylene and phenylene substituted by at most 2 members selected from the group consisting of lower alkyl and halogeno, each of C_nH_{2n} and C_mH_{2m} is lower alkylene with 2 to 7 carbon atoms and separating the groups Am from the oxygen atoms by at least two carbon atoms and each of Am₁ and Am₂ is a member selected from the group consisting of lower alkylamino, di-lower alkylamino, cycloalkylamino, cycloalkyl-lower alkylamino and N-cycloalkyl-N-lower alkylamino in which cycloalkyl has 3 to 7 ring-carbon atoms, N-lower alkyl-N-phenyl-lower alkylamino, N-hydroxy-lower alkyl-N-lower alkylamino, N,N-di-(hydroxy-lower alkyl)-amino, alkyleneimino with 4 to 8 carbon atoms, piperazino, 4-lower alkyl-piperazino, 4-morpholino and 4-thiamorpholino, or a pharmaceutically acceptable acid addition salt thereof together with a pharmaceutical carrier.

3,340,147

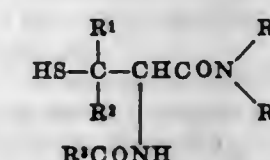
AMIDES OF N-ACYLATED CYSTEINES

Tellis Alexander Martin and Aaron Leonard Sheffner, Evansville, Ind., assignors to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana

No Drawing. Filed June 28, 1965, Ser. No. 467,674

8 Claims. (Cl. 167—55)

1. A compound having the formula



wherein

R¹ and R² are hydrogen or alkyl of up to 4 carbon atoms;

R³ is hydrogen, alkyl, aralkyl, or aryl, each of up to 9 carbon atoms;



is piperidino, pyrrolidino, N'-R⁵-piperazino, morpholino, thiamorpholino, hexamethylenimino, or amino wherein

R⁴ is hydrogen, alkyl, alkenyl, cycloalkyl, or cycloalkenyl each of up to 5 carbon atoms and is unsubstituted or substituted by up to 2 hydroxyl groups; R⁵ is hydrogen or lower alkyl of up to 4 carbon atoms and is unsubstituted or substituted by up to 2 hydroxyl groups.

5. The mucolytic process which comprises contacting mucus with an effective mucolytic amount of the sulfhydryl compound of claim 1.

3,340,148 TREATMENT OF FUNGUS DISEASES OF THE SKIN

Harry H. Pugh, Chicago, Ill., assignor to Gillette Inhibitor Co., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 22, 1961, Ser. No. 97,450
6 Claims. (Cl. 167-58)

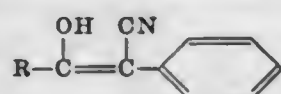
1. A process for the treatment of fungus diseases of the skin which comprises applying to the affected skin areas paratoluenesulfonamide in a pharmaceutically acceptable carrier.

3,340,149 COMPOSITION FOR THE TREATMENT OF HYPERGLYCEMIA CONTAINING A α -PHENYL- β -HYDROXY- β -PYRIDYL-ACRYLONITRILE

Gordon Northrop Walker, Morristown, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 23, 1965, Ser. No. 474,468
8 Claims. (Cl. 167-65)

1. A pharmaceutical preparation, in oral unit dosage form selected from the group consisting of tablets, capsules and pills, capable of decreasing the sugar content of the blood consisting essentially of about 5 to 50% by weight of a member selected from the group consisting of an α -phenyl- β -hydroxy- β -pyridyl-acrylonitrile having the formula



in which R stands for a member selected from the group consisting of 2-pyridyl, 3-pyridyl and 4-pyridyl, a pharmaceutically acceptable metal salt and an acid addition salt thereof, together with a pharmaceutical excipient.

3,340,150 HYPERTENSIVE COMPOSITIONS

George de Stevens and Lincoln Harvey Werner, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 6, 1964, Ser. No. 343,113
10 Claims. (Cl. 167-65)

1. A pharmaceutical composition, in oral dosage unit form, comprising essentially about 1 to about 20 per cent of 2-R₂'-3-R₁-4-R₂'-6-R₃-7-(N-R₂'-sulfamyl)-3,4-dihydro-2-H-[1,2,4]-benzothiadiazine-1,1-dioxide, in which R₁ represents a member of the group consisting of hydrogen, lower alkyl, halogeno-lower alkyl, monocyclic carbocyclic aryl and monocyclic carbocyclic aryl-lower alkyl, R₂' stands for a member of the group consisting of hydrogen and lower alkyl R₂' and R₂' stand for hydrogen and R₃ stands for halogeno-lower alkyl, about 1 to about 60 per cent of a 1-hydrazino-phthalazine selected from the group consisting of 1-hydrazino-phthalazine, 1-hydrazino-4-methyl-phthalazine and 1,4-dihydrazino-phthalazine, and about 0.005 to about 0.5 percent indole alkaloid selected from the group consisting of reserpine, deserpidine and rescinnamine.

3,340,151 METHOD TO PRODUCE ROENTGENOGRAPHIC PICTURES AND COMPOSITION FOR REALIZATION OF THE METHOD

Sven Axel Eriksson, Sodertalje, Max Fischler, Hagersten, and Åke Samuel Gidlund, Djursholm, Sweden, assignors to Aktiebolaget Astra Apotekarnes Kemiska Fabriker, Sodertalje, Sweden

No Drawing. Filed May 22, 1964, Ser. No. 369,580
9 Claims. (Cl. 167-66)

1. A method for contracting the gall bladder for X-ray diagnosis which comprises administering orally an effective dose of a composition consisting essentially of, as its

active constituents, (a) a material of the group consisting of sorbitol and mannitol, (b) a material of the group consisting of nontoxic water-dispersible polyethylene glycol esters and ethers containing at least about 5 oxyethylene groups per molecule, of the class consisting of (1) polyethylene glycol esters of higher fatty acids, (2) polyethylene glycol ethers of higher fatty alcohols, and (3) polyoxyethylene derivatives of cyclized hexitols esterified with higher fatty acids, and (c) a material of the group consisting of solid and liquid animal and vegetable edible fats, said constituents being dispersed in water, said constituents being within the limits of 10 to 70 parts by weight of sorbitol and mannitol, 2 to 15 parts by weight of said polyethylene glycol esters or ethers, or polyoxyethylene derivatives, and 0.1 to 1.5 parts by weight of the fat, per 100 parts of water.

3,340,152 COMPRESSED ORAL DRUG TABLET GRANULATIONS CONTAINING ADMIXED THEREIN ABOUT 1% TO 15% OF POLYFLUOROCARBON TYPE POLYMER LUBRICANT POWDERS IN ABOUT 1 TO 150 MICRON PARTICLE SIZE

Edward Alexander Hotko, Scotch Plains, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1963, Ser. No. 328,494
4 Claims. (Cl. 167-82)

1. The process of manufacturing tablets containing a pharmacologically active ingredient which comprises admixing in the tablet granulation as the lubricating agent about 1 to 15% of a member selected from the group consisting of a polymer of the polyfluorocarbon type and a mixture of polymers of the polyfluorocarbon type, said polyfluorocarbon type polymer having a particle size of about 1 to about 150 microns, compressing the granulation in a die to form compressed tablets and ejecting the compressed tablets from the die.

3,340,153 MILK SOLIDS IN A LIQUID COSMETIC PREPARATION

Werner Kast, Erding, Bavaria, Germany, assignor to Adolf Fischer, Bavaria, Germany

No Drawing. Filed June 25, 1963, Ser. No. 290,298
Claims priority, application Germany, June 29, 1962, K 47,110

1. A method of preparing a stable liquid cosmetic preparation which comprises dissolving at least one surface active agent selected from a group consisting of alcohol sulfate and alkyl sulfonates, the fatty alcohol ether sulfates and the alkyl substituted aromatic sulfonates in water, heating the resulting solution to about 40° C., separately mixing milk solids with water, mixing the heated solution of surface active agent with the milk solids and water at about 40° C. then maintaining the resulting mixture between 70° and 80° C. for 10 to 12 hours and then quickly cooling the mass.

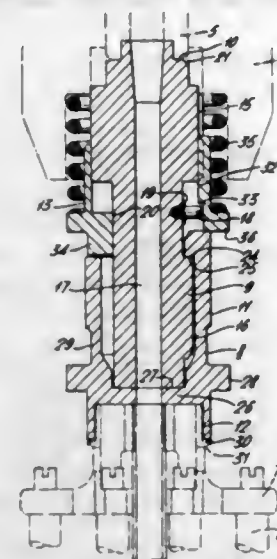
3,340,154 NUCLEAR REACTOR FUEL ELEMENT ASSEMBLIES

William Norman Sinclair, Urmston, and Edward Waite, Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Oct. 18, 1965, Ser. No. 496,956
Claims priority, application Great Britain, Oct. 30, 1964, 44,461/64

1. A nuclear reactor fuel element assembly comprising: two sub-assemblies, at least one of which includes nuclear fuel,

interengaging members attached one to each sub-assembly for releasably coupling said sub-assemblies together in end-to-end relationship, a locking member for disengageably locking the engagement of the inter-engaging members, and



thermally sensitive means for securing the locking member in locked engagement of the inter-engaging members when said sub-assemblies are installed in an operating nuclear reactor core.

3,340,155 MICROBIOLOGICAL OXIDATION OF SUBSTITUTED NAPHTHALENES

John D. Douros, Jr., Fanwood, N.J., and Richard L. Raymond, Wilmington, Del. assignors to Sun Oil Company Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,889
7 Claims. (Cl. 195-28)

1. A process for the production of alkyl naphthalene monocarboxy acid which comprises subjecting a dialkyl naphthalene having from 1 to 6 carbon atoms in each alkyl group to the oxygenating activity of *Streptomyces achromogenes* ATCC 15,077 in an aqueous nutrient medium under aerobic conditions and recovering the corresponding alkyl naphthalene monocarboxy acid.

3,340,156 PURIFICATION OF PLASMINOGEN

Villy Johannes Jensen, Vanlose, Denmark, assignor to Novo Terapeutisk Laboratorium A/S, Copenhagen, Denmark, a Danish joint-stock company

No Drawing. Filed Apr. 19, 1965, Ser. No. 449,328

Claims priority, application Great Britain, Apr. 28, 1964, 17,649/64
8 Claims. (Cl. 195-66)

1. A process for the purification of human or animal plasminogen, comprising admixing the plasminogen with an aliphatic amino acid compatible with the plasminogen, an anion exchanger and a water-miscible polymer, whereby the plasminogen and the accompanying impurities are distributed, respectively between two phases one of which is the anion exchanger and the other of which is the water-miscible polymer, and then isolating the water-miscible polymer phase.

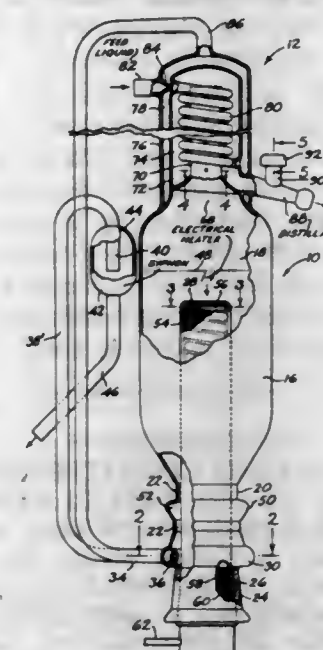
3,340,157 DISTILLAND TREATING AND CONDENSING APPARATUS

Gunther Weiss, Beaverton, Oreg., assignor to Electro Glass Laboratories, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Nov. 22, 1963, Ser. No. 325,642
6 Claims. (Cl. 202-180)

1. Liquid distillation apparatus comprising:
(a) a distilling chamber,

(b) a condensing chamber having an inlet above and communicating with the distilling chamber, and a distillate outlet below said inlet, and
(c) liquid inlet means communicating with the bottom end of the distilling chamber and including an annular-centrifuge chamber having a restricted open upper end communicating with the distilling chamber and having a liquid inlet and a surplus liquid outlet

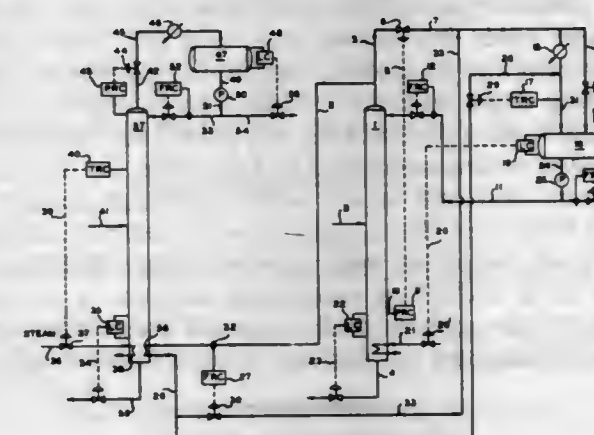


spaced apart circumferentially and both the liquid inlet and the liquid outlet being disposed substantially in a common plane and both being tangential to the periphery of said centrifuge chamber for the circulation therethrough of liquid under pressure, the inlet facing the direction of circulation and the outlet facing opposite the direction of circulation, whereby to remove solid particles from the liquid through said surplus liquid outlet by centrifugal action.

3,340,158 FRACTIONATION OF HYDROCARBONS UTILIZING FLOW CONTROLS RESPONSIVE TO TEMPERATURE

Donald R. Bates, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 26, 1964, Ser. No. 370,162
7 Claims. (Cl. 203-2)



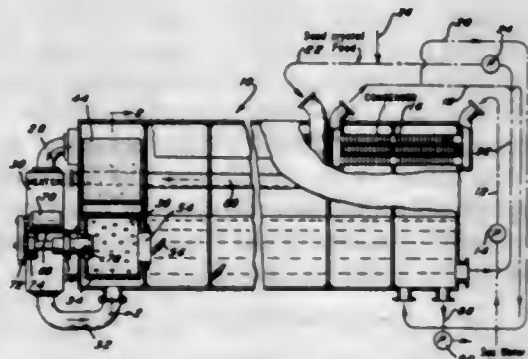
1. A method of fractionation of hydrocarbons comprising fractionating in a first fractionation zone a feed hydrocarbon into an overhead fraction and a bottom fraction, splitting said overhead fraction into two streams, passing a first stream to a first heat exchange zone, controlling the amount of flow of said first stream to said first heat exchange zone by a means responsive to pressure variations within the first fractionation zone, passing a second

stream to a reboiling zone associated with a second fractionation zone in such a manner that heat from said reboiling zone is passed directly to said second fractionation zone, withdrawing said second stream from said reboiling zone, splitting said withdrawn second stream into two portions by means responsive to the amount of flow of said second stream prior to entry into said reboiling zone, adding a first portion of said two portions to said first stream when said first stream leaves said first heat exchange zone, varying the amount of said first portion that is added to said first stream by means responsive to the temperature of the composite of said first stream and any of said first and second portions added to said first stream upstream or downstream of said first heat exchange zone, said temperature being measured downstream from said first heat exchange zone, passing a second of said two portions to said first stream prior to the entry of said first stream into said first heat exchange zone and passing the outflow from said first heat exchange zone and any added first portion to a collecting zone.

3,340,159

SEA WATER SCALING CONSTITUENTS REMOVAL AND FLASH DISTILLATION

Robert A. Tidball, Swarthmore, William M. King, Springfield, and Philip S. Otten, Media, Pa., assignors, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 18, 1964, Ser. No. 368,118
4 Claims. (Cl. 203-7)



1. In a multi-stage distilling plant for distilling sea water, means for filtering scaling constituents precipitated from said sea water at a temperature above 250° F., said means including a first stage distilling unit, means for introducing sea water into said first stage at a temperature above 250° F., a perforated, hollow drum, said drum being rotatably mounted in said first stage and admitting only sea water introduced into said first stage into its hollow interior, an endless perforated conveyor belt rotatable by drum adapted to collect on its surface the precipitated scaling constituents not passed to the interior of said drum, means connected to said drum for driving said drum and said belt, a sea water discharge conduit projecting from said drum, said conduit communicating the interior of said drum with a second stage distilling unit, and a scale collection receptacle adjacent a portion of said conveyor belt adapted to receive the scaling constituents collected on the surface of said endless belt.

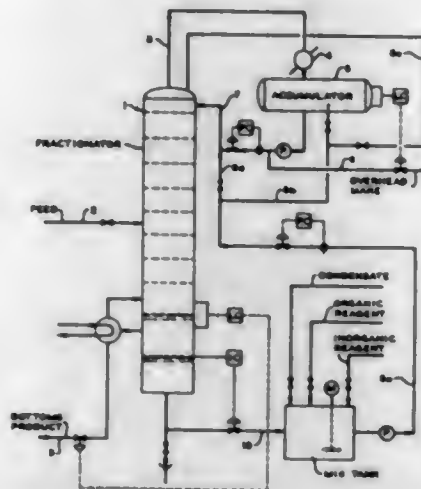
3,340,160

COMPOSITION AND METHOD FOR INHIBITING THE FORMATION OF POLYMERS DURING FRACTIONAL DISTILLATION

Roy M. Waldby, Berkeley, N.J., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 23, 1964, Ser. No. 377,256
14 Claims. (Cl. 203-9)

1. A method for inhibiting the formation of polymers from monoolefins or diolefins in a fractionation zone comprising adding to a circulating aqueous solution of an

alkali metal nitrite in said fractionation zone .1 to 1 percent by weight of said aqueous solution of at least one compound which has a radical selected from the group consisting of quinoid, nitro, amino, and phenol, said compound having polymerization inhibiting properties when in combination with said aqueous solution of said alkali metal nitrite.



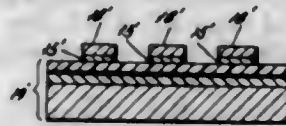
9. A composition for inhibiting the formation of polymers from monoolefins or diolefins in a fractionation zone and in lines and in reboilers associated therewith, said composition comprises

- (a) an aqueous metal nitrite solution containing .005 to 5 percent alkali metal nitrite by weight of solution and,
- (b) .1 to 1 weight percent of solution of a polymerization inhibiting compound containing radicals selected from the group consisting of quinoid, nitro, amino and phenol.

3,340,161

PRINTED CIRCUITS AND METHOD OF MANUFACTURE THEREOF

Julius Zimmerman, Brooklyn, N.Y., and Victor Trovato, Red Bank, N.J., assignors to Sperry Rand Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Feb. 19, 1964, Ser. No. 346,038
2 Claims. (Cl. 204-15)



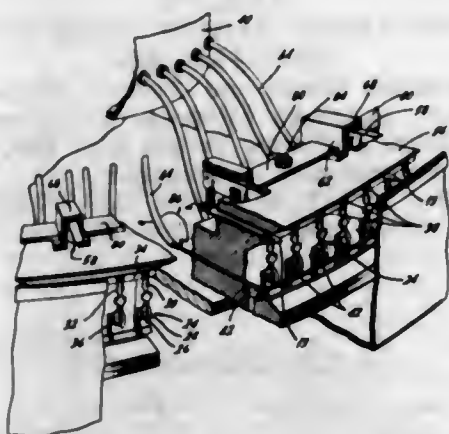
1. A method for producing a high temperature-resistant printed circuit pattern on an anodized aluminum substrate, which comprises

- (a) treating the anodized layer for a period of from 5 to 60 minutes with an aqueous solution of colloidal silica containing from 0.5 to 5.0 weight percent silica at a temperature of between 100° F. and the boiling point of the solution to form a thin silica film atop the anodized layer;
- (b) treating the substrate with a solution of an organopolysiloxane comprising an organo radical directly bonded to silicon and selected from the group consisting of monovalent hydrocarbyl, aminoalkyl, carboxyalkyl, hydroxyalkyl, cyanoalkyl, and vicinal epoxyalkyl radicals, said organo group comprising at least 40% monovalent hydrocarbyl radicals, to produce a silicone coating on said substrate;

- (c) drying the coating and baking the substrate at a temperature of from 250° to 300° F. for a period of from 15 to 60 minutes to cure the silicone coating and simultaneously seal the pores of the anodized layer;
- (d) sensitizing the substrate by treatment with a first solution containing from 1.0 to 10 weight percent stannous chloride and thereafter with a second solution comprising from 0.01 to 0.1 weight percent palladium chloride;
- (e) immersing the thus treated substrate in an electrolytic copper plating bath containing from 0.003 to 0.02 mole per liter dissolved copper ions, from 0.02 to 0.08 mole per liter potassium hydroxide, and from 0.11 to 1.1 moles per liter of an aldehyde polymer reducing agent selected from the group consisting of trioxane, paraformaldehyde and paracetaldehyde, to deposit a first, relatively thin copper layer atop said silicone coating;
- (f) applying a photosensitive resist material atop said relatively thin copper layer;
- (g) exposing predetermined areas of said photosensitive resist;
- (h) developing the exposed resist to remove selected portions thereof having the configuration of the desired printed circuit pattern;
- (i) electrolytically plating a second, relatively thick copper layer on the said selected portions to produce the desired printed circuit pattern thereon; and
- (j) removing the residual portions of said resist and the underlying areas of said first copper layer to thereby provide the desired high temperature-resistant printed circuit board.

3,340,162

PITCH TOLERANCE COMPENSATOR FOR A JET-ELECTROLYTIC TREATMENT APPARATUS
Kenneth R. Hales, Colmar, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Jan. 27, 1964, Ser. No. 340,451
2 Claims. (Cl. 204—28)



1. The method of aligning components of a strip-fed chain of components with rotating jet-electrolytic treatment means, which comprises:

- (a) translating successive incremental portions of said chain along a path in confronting relation with that defined by said treatment means and in synchronized transport therewith,
- (b) producing through use of said means a radially-directed jet of electrolyte, and
- (c) adjusting the diameter of traverse of an incremental portion of said chain in accordance with the pitch spacing of components comprising said incremental portion through use of spring-biased drive pins translatable along a fixed radial path to align at least one of said components with said radially-directed jet of electrolyte.

3,340,163

METHOD FOR FORMING A TETRAGONAL CRYSTALLINE OXIDE COATING ON GERMANIUM
Stanley Edwin Bradshaw, Harrow, and John George Wilkes, Hatch End, England, assignors to The General Electric Company Limited, London, England
No Drawing. Filed Aug. 6, 1963, Ser. No. 300,157
Claims priority, application Great Britain, Aug. 9, 1962, 30,660/62

8 Claims. (Cl. 204—35)

1. A method of preparing a germanium body which has on its surface a coherent adherent layer of germanium dioxide having a tetragonal crystal structure, which method includes the steps of immersing a germanium body, initially having on its surface a layer of germanium dioxide in a water-soluble form, in a liquid alcohol in which the said water-soluble form of germanium dioxide is soluble to a limited extent such that only part of the initial oxide layer is dissolved into the alcohol at the commencement of heating, and heating the said body, while so immersed, in a sealed vessel to a temperature above 120° C., for a period of time, being at least 24 hours, such that the initial oxide surface layer is replaced by a layer of germanium dioxide having a tetragonal crystal structure.

3,340,164

METHOD OF COPPER PLATING ANODIZED ALUMINUM

Jullus Zimmerman, Brooklyn, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,739
4 Claims. (Cl. 204—35)

1. A method of producing printed circuit elements on anodized aluminum sheets comprising:

- (a) sealing an anodized layer on an aluminum substrate by immersing the anodized layer in an aqueous solution containing a material selected from the group consisting of colloidal silica and ethyl silicate;
- (b) applying a coating of an organopolysiloxane thereto and baking the substrate to seal the pores of the anodized layer thereon;
- (c) sensitizing the anodized surface with a stannous salt and a second material selected from the group consisting of palladium, platinum, and gold; and
- (d) contacting the sealed layer with a plating bath maintained at a temperature below 100° F., said bath comprising an aqueous solution of from 0.11 to 1.1 moles/liter of aldehyde polymer reducing agent selected from the group consisting of para-formaldehyde, trioxane and para-acetaldehyde; from 0.003 to 0.02 mole/liter of dissolved copper ions; and from 0.02 to 0.08 mole/liter of potassium hydroxide.

3,340,165

METHOD OF ELECTROPLATING MICROCRACK CHROMIUM

Hyman Chessin, Warren, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

Filed July 20, 1964, Ser. No. 383,711

18 Claims. (Cl. 204—51)

1. The process for electroplating microcrack chromium electroplate on a cathode having areas of high current density and areas of lower current density, which comprises maintaining an aqueous chromium plating bath containing chromic acid, sulfate, and active fluoride; immersing said cathode in said bath; electroplating chromium onto said cathode at an initial current and an initial current density on said areas of high current density lower than the burning current density and at least equal to one-third of the burning current density producing a chromium

plate only portions of which are microcracked; incrementally decreasing said initial current to an extent such that the cathode is substantially completely covered with microcrack chromium plate having at least 10 cracks per centimeter; and separating said cathode from said bath.

3,340,166

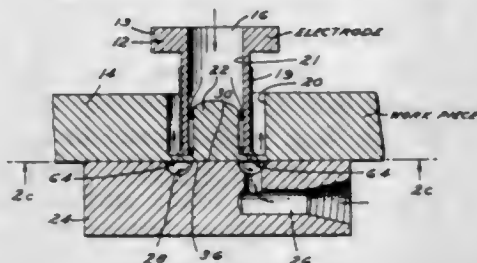
ELECTROCHEMICAL TREPPANNING PROCESS AND APPARATUS TO ACCOMPLISH THE SAME

Kempes F. Trager, Detroit, Mich., assignor to

Ex-Cell-O Corporation

Filed Mar. 13, 1967, Ser. No. 622,543

2 Claims. (Cl. 204-143)



1. In the process of electrolytically trepanning an electrochemically erodible workpiece by means of passing current between a hollow electrode tool and said workpiece, said electrode tool having a conductive working face and at least one electrolyte passage therethrough for supplying electrolyte under pressure to said working face, the improvement in the method comprising the steps of:

- moving the electrode tool relative to the workpiece in such a way as to define a narrow gap between said electrode tool working face and said workpiece wherein a slug of non-eroded workpiece material is adapted to be served from said workpiece;
- flowing an electrolyte fluid under pressure through said hollow electrode tool;
- providing a back-up member for said workpiece; said back-up member having a recessed area substantially conforming to the shape of said electrode tool working face, and wherein said recess is adapted to be in contact with at least a portion of said slug;
- means for holding said slug when said electrode tool has penetrated through said workpiece and emerges therefrom in the recessed area of said back-up member;
- providing said electrode tool working face with at least one recessed notch;
- advancing said electrode tool all the way through the workpiece sufficiently to cause said electrode tool working face to emerge from said workpiece; and
- stopping the advance of said electrode tool as soon as its working face emerges from said workpiece to cause said slug to remain attached to said workpiece by a connecting portion corresponding to said recessed notch.

3,340,167

COMMUNUTED BISMUTH SUBNITRATE AND PROCESS FOR MAKING SAME

Gerardus Franciscus Koopman, Enschede, Netherlands, assignor to N.V. v/h G. Koopman c.v., Enschede, Netherlands, a corporation of the Netherlands

Filed Sept. 16, 1963, Ser. No. 309,212

Claims priority, application Netherlands, Sept. 14, 1962, 283,259

7 Claims. (Cl. 204-157.1)

1. A process for producing highly comminuted bismuth subnitrate, comprising the steps of preparing a solution of bismuth nitrate in nitric acid, admixing an alkali with said solution while vibrating the solution at high frequency until the pH of said solution has reached a value

of substantially 2.9, continuing the vibration until substantially all bismuth nitrate in the solution has been converted to bismuth subnitrate forming a precipitate therein, and recovering said precipitate.

3,340,168

PRODUCTION OF 2,6-DICHLOROBENZYLIDENE-CHLORIDE

Stig Hjalmar Johannes Åkerström, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,777

Claims priority, application Sweden, Apr. 24, 1962, 4,522/62

7 Claims. (Cl. 204-158)

1. Method of producing 2,6-dichlorobenzylidenechloride which comprises adding at a temperature of about 150-250° C. a chlorinating agent selected from the group consisting of chlorine and thionyl chloride to 6-chlorotoluene-2-sulfo chloride until no further chlorination occurs.

3,340,169

METHOD FOR THE PREPARATION OF N,N-DIFLUOROALKYLAMINES

Jack W. Frazer, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Original application Mar. 28, 1961, Ser. No. 98,985, now Patent No. 3,166,595, dated Jan. 19, 1965. Divided and this application July 9, 1964, Ser. No. 385,823

3 Claims. (Cl. 204-158)

1. In a process for synthesizing N,N-difluoroalkylamines, the steps comprising, disposing an alkyl halide in a reaction vessel substantially transparent to ultraviolet radiation, contacting and intimately mixing said alkyl halide with tetrafluorohydrazine, irradiating said mixture with ultraviolet radiation whereby said mixture reacts to form an N,N-difluoroalkylamine, and recovering said N,N-difluoroalkylamine.

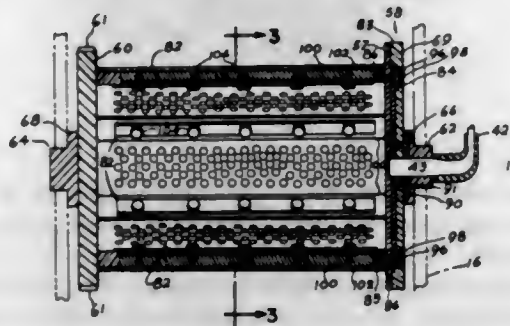
3,340,170

ELECTROPLATING BARREL WITH INTEGRAL ELECTRODES

Alfred A. Marulli, Bristol, and Daniel C. Capocci, Forestville, Conn., assignors, by mesne assignments, to National Plastics & Plating Supply Co., Inc., Plymouth, Conn., a corporation of Connecticut

Filed Sept. 9, 1963, Ser. No. 307,490

2 Claims. (Cl. 204-213)



1. In a plastic electroplating barrel having a perforated body portion which is hollow to receive articles to be plated and which carries conductive strips in its side walls, the improvement comprising end plate assemblies for rotatably supporting said barrel and for receiving at least one stationary electrode plug, at least one of said end plate assemblies including a circular plastic disc, a circular metallic plate integrally laminated in said plastic disc, screws connecting the peripheral portion of said

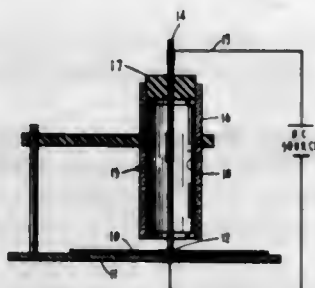
plate with said conductive strips respectively, said metallic plate having a central opening for receiving the inner end of said electrode plug, an annular plastic hub bonded to said plastic disc and defining a circular cavity therebetween, said hub defining a cylindrical bearing surface for rotatably supporting said barrel, a metallic second plate in said circular cavity, said second plate having a central opening for receiving said stationary electrode plug, and screws connecting the peripheral portion of said second plate with said first plate to reduce the electrical resistance between said conductive strips and said electrode plug.

3,340,171

METHOD FOR ELECTROPHORETIC SEPARATION OF MATERIALS IN A LOCALIZED AREA

Herbert L. MacDonell, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Feb. 14, 1963, Ser. No. 258,456
11 Claims. (Cl. 204-180)



6. The method of effecting electrophoretic separation of a portion of a substance containing electrophoretically mobile particles which comprises the steps of providing an elongated probe formed of a porous material having suspended therein a liquid in which said portion is soluble, contacting said portion of said substance with an end of said elongated probe, and applying a direct current electric field across said portion of said substance and said probe in a direction generally parallel to the length of said probe in order to separate charged particles in said portion and to distribute said particles along at least a part of the length of said probe in accordance with the mobilities thereof.

3,340,172

TWO PHASE AQUEOUS EMULSION SUITABLE FOR ELECTROPHORETIC COATING AND PROCESS FOR USE THEREOF

Olin W. Huggard, Rocky River, Ohio, assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed June 28, 1966, Ser. No. 561,038
11 Claims. (Cl. 204-181)

7. An aqueous emulsion adapted for electrophoretic film deposition comprising a continuous aqueous phase having dissolved therein an emulsifying agent consisting essentially of a salt of a volatile nitrogenous base with a resinous film forming polycarboxylic acid substantially free of anhydride groups and an oil soluble phase stably dispersed in said aqueous phase, said oil soluble phase comprising oil soluble resin containing functional groups selected from the group consisting of hydroxy groups and carboxy groups, said oil soluble resin being compatible with said emulsifying agent in the deposited film, and from 5-20% of said oil soluble resin of a heat-hardening formaldehyde condensate hot blended with said oil soluble resin, said formaldehyde condensate being a curing agent for said polycarboxylic resin and said oil soluble resin.

11. A method of coating a body capable of carrying an electrical current with a uniform weather resistant coating comprising immersing said body in the aqueous emulsion recited in claim 7, passing a unidirectional electrical current through said aqueous emulsion and through said

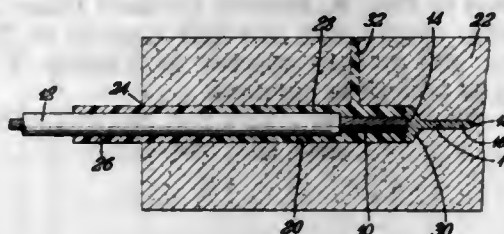
body as anode to deposit a uniform water-insoluble film thereupon, and baking said film to cure the same whereby said formaldehyde condensate can react with said polycarboxylic resin and provide a weather resistant coating.

3,340,173

GROUND ANODE-TO-CABLE CONNECTION

Albert E. Kovalik, Lakewood, James L. Miller, Olmsted Falls, and Henry S. Raub, Bay Village, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed June 2, 1964, Ser. No. 372,011
5 Claims. (Cl. 204-196)



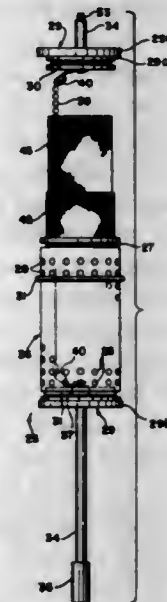
1. An improved anode-cable connection comprising, in combination, an anode having two channels, the first of said channels having two sections of different cross-sectional areas, the first of said sections extending from the initial opening of said first channel to a depth within said anode at some predetermined distance from said initial opening, and the second of said sections being of reduced cross-sectional area and in communication with said first section and terminating in said anode at a predetermined length from the point of communication with said first section, and the second of said channels in communication with said first section of said first channel; a cable, a portion of which extends along said first section of said first channel; an electrically conductive metal spike to which said cable is secured and which extends into said second section of said first channel and is in an interference fit relationship with said anode; and a polyethylene sealant which fills all the available space in said channels and completely surrounds said cable and said electrically conductive metal spike at their point of connection.

3,340,174

APPARATUS FOR ELECTROPLATING

Joseph E. Buynak, 6016 Fir St.,
Cleveland, Ohio 44102

Filed Nov. 27, 1964, Ser. No. 414,392
7 Claims. (Cl. 204-213)



1. In apparatus for electroplating including a tank for electroplating solution and a plating barrel arranged to be rotated therein, a container for receiving small parts

adapted to be placed within the barrel comprising a perforated hollow cylindrical housing and closure members at the opposed ends thereof, agitating means complementary to the inner surface of the housing and adapted to be received therein, a covering of relatively fine mesh material disposed against the inner wall surface of the housing and means for conveying electric current through the container and the parts disposed therein.

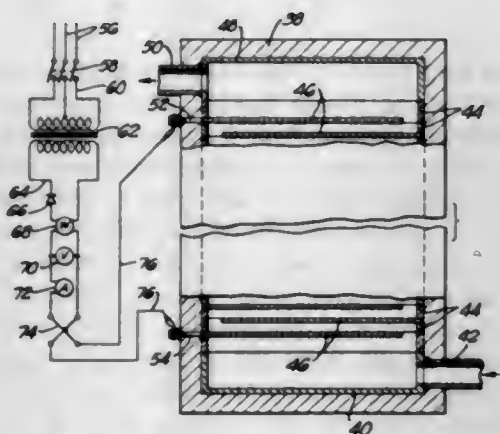
3,340,175

APPARATUS FOR FLUID TREATMENT

Charles W. Mehl, San Bernardino, Calif., assignor, by mesne assignments, of twenty-two and one-half percent each to Paul B. Barnett, Garland Casey and Loren B. Smith, twelve and one-half percent to Edward D. Dinova, and twenty percent to Francis T. Fendley, trustee, as tenants in common

Filed Aug. 26, 1965, Ser. No. 482,815

1 Claim. (Cl. 204-268)



An apparatus for purifying sewage which includes:
 an electrically non-conductive housing having a base and a top,
 inlet means for introducing a fluid into said base of said housing,
 outlet means for removing a fluid from said top of said housing,
 a series of electrically conductive ferrous plates serving as electrodes located parallel to one another and from about 0.4 to about 0.7 inch from one another within said housing, said plates extending horizontally and being supported within said housing electrically insulated from one another,
 said plates being disposed in said housing between said inlet and outlet means so as to define within said housing a flow channel in which a fluid will pass back and forth between sides of said housing as it flows from said inlet means to said outlet means between successive plates of said series of plates,
 first terminal means attached to the one of said plates nearest said inlet means but no other plates and second terminal means attached to the one of said plates nearest said outlet means but no other plate,
 circuit means for supplying a rectified alternating current of from about ten to about sixty cycles per second, connected to said first and second terminal means so as to be capable of supplying such a current to said terminal means,
 the rectified current supplied by said circuit means having a reverse current between the half waves of said rectified alternating current of lesser magnitude than the current of the half waves of said rectified current, and
 reversing switch means for reversing the polarity of the rectified alternating current supplied to said first and second terminal means.

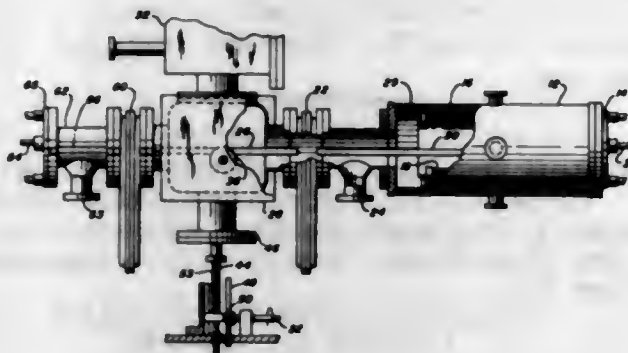
3,340,176

VACUUM PROCESSING MACHINE

Dominick Belluso, Maple Shade, Daniel G. Stetka, Hopewell Township, Mercer County, and Harald Westgaard, Lawrenceville, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 28, 1965, Ser. No. 475,529

10 Claims. (Cl. 204-298)



1. Apparatus for treating articles, which comprises:
 a chamber in which a controlled environment may be maintained;
 means for feeding first magazines, each containing a plurality of articles, from the ambient atmosphere into the chamber in a manner such that the ambient atmosphere is prevented from adversely affecting the environment within the chamber;
 means in the chamber for treating the articles;
 means for individually removing articles from the first magazines, feeding them through the chamber wherein they are treated and then loading the articles individually into second magazines at the exit end of the chamber, said means effecting the removing, feeding, and loading operations such that, as one article is removed from a first magazine, simultaneously therewith a second article is treated and a third article is loaded into a second magazine; and
 means for discharging the second magazines, after loading thereof, from the chamber into the ambient atmosphere in a manner such that the ambient atmosphere is prevented from adversely affecting the environment with the chamber.

3,340,177

ELECTRODIALYSIS APPARATUS HAVING ENDLESS MEMBRANE BELT

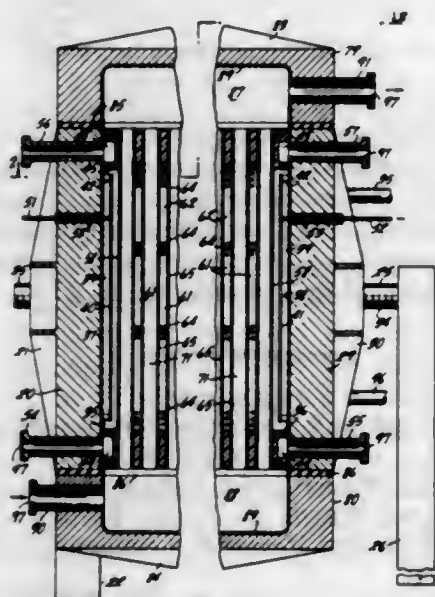
Francis William Rogers, Norwalk, John Edward Lee, Byram, and Richard Nelson Smith, East Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed June 5, 1963, Ser. No. 285,775

9 Claims. (Cl. 204-301)

1. Electrodialysis apparatus comprising, in combination,
 (a) a rectangular vertically fixed end plate,
 (b) horizontally spaced support rods having first ends secured in opposite sides of said fixed end plate and having second ends each having a threaded portion,
 (c) means supporting the second ends of said support rods beyond said threaded portions,
 (d) a movable end plate containing apertures through which said support rods slidably pass supporting said movable end plate parallel to said fixed end plate, said end plates each containing a manifold groove,
 (e) rectangular electrode compartment forming frames adjacent to said end plates, said electrodes compartment forming frames each containing a large central opening and longitudinal fluid flow passages at least some of which are disposed over the manifold grooves in said end plates, said electrode compartment forming frames each having an ion selective membrane disposed over its large central opening,

- (f) electrodes within the large central openings in said electrode compartment forming frames,
- (g) cell frames disposed between said electrode compartment forming frames, said cell frames each containing a large central opening, longitudinal fluid flow passages, and connecting channels leading from said fluid flow passages to said large central opening, said cell frames each having an endless belt of ion selective membrane material disposed tightly in the wet state about said cell frames over each side of the large central opening in each cell frame,
- (h) spacers forming food product treatment cells, said spacers being between said frames, attached to adjacent frames, and extending vertically along the sides of said frames, said spacers containing longitudinal fluid flow passages aligned with the longitudinal fluid flow passages of said frames, said electrode compartment forming frames and said cell frames having lateral projections resting on said support rods supporting and positioning said frames,



- (i) nuts screwed about the threaded portions of said second ends of said support rods urging said movable end plate toward said fixed end plate clamping said frames and said spacers, and
- (j) upper and lower manifold plates fixed above and below said end plates and said clamped frames and spacers, said manifold plates containing hollowed out portions above and below said food product treatment cells, said manifold plates having inlet and outlet tubes communicating with said hollowed out portions, said end plates containing inlet and outlet tubes communicating with the manifold grooves in the electrode compartment forming frames and said electrode compartment forming frames containing electrode washing stream inlet and outlet passageways communicating with the large central openings in said electrode compartment forming frames.

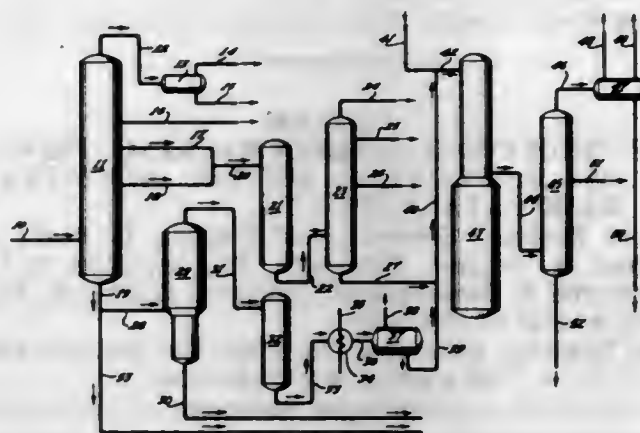
3,340,178

PROCESS FOR CATALYTICALLY CRACKING PYROLYSIS CONDENSATES

George F. Hornaday, Wallingford, and Henry D. Noll, Philadelphia, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 391,887
4 Claims. (Cl. 208-89)

4. In the process in which a gas oil is subjected to hydrosulfurization and the hydrosulfurized gas oil is catalytically cracked to provide gasoline, the improvement which includes the combination of: distilling crude petroleum to provide a naphtha fraction, kerosene and diesel

oil fractions, and a heavy gas oil fraction; subjecting said kerosene and diesel oil fractions to vapor-phase hydrosulfurization; distilling to separate a light desulfurized gas oil from the product of vapor-phase desulfurization; subjecting the heavy gas oil fraction to liquid-phase hydrosulfurization at a temperature from about 355 to about 430° C., at a pressure from about 500 to about 800 p.s.i.g., at a space rate from about 0.5 to about 2.5 liquid volumes per volume of catalyst per hour in the presence of hydrogen rich recycle gas at a rate of about 4000 to about 6000 standard cubic feet of gas per barrel



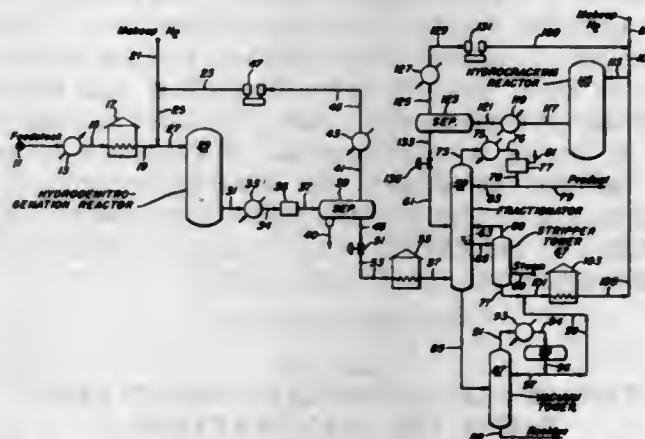
of heavy gas oil to provide a heavy desulfurized gas oil; mixing the light desulfurized gas oil and heavy desulfurized gas oil to provide a blended gas oil; subjecting naphtha to steam cracking for the preparation of gaseous olefins and a by-product diolefin-containing naphtha; preparing a mixture of said blended gas oil and from 5% to 30% of said diolefin-containing steam-cracked naphtha; subjecting said mixture to a catalytic cracking zone at about atmospheric pressure; and separating by distillation from the products from the catalytic cracking zone a stable naphtha having no troublesome amounts of diolefins.

3,340,179

PROCESS FOR HYDROCRACKING FEEDSTOCKS CONTAINING AT LEAST 50 PARTS PER MILLION NITROGEN

Louis C. Gutberlet, Crown Point, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Mar. 31, 1966, Ser. No. 547,681
10 Claims. (Cl. 208-89)



1. A combination process for converting a hydrocarbon feedstock which boils between about 400° F. and about 1000° F. and which contains at least 50 parts per million nitrogen to lower boiling hydrocarbons, which process consists essentially of contacting said feedstock in a hydrodenitrogenation reaction zone with a hydrodenitrogenation catalyst, said hydrodenitrogenation catalyst comprising a metallic hydrogenation component supported on

an acidic cracking catalyst, under hydrodenitrogenation conditions in the presence of hydrogen gas to provide a denitrogenated liquid hydrocarbon stream containing less than about 2 parts per million nitrogen and also containing a minor proportion of a tarry material which acts to poison the hereinafter-named hydrocracking catalyst; fractionating said denitrogenated stream to separate a heavy bottoms fraction and a lighter bottoms-free fraction, said bottoms fraction containing said tarry catalyst-poisoning material; and contacting said lighter bottoms-free fraction in a hydrocracking reaction zone with a hydrocracking catalyst under hydrocracking conditions in the presence of hydrogen to convert said feedstock to said lower boiling hydrocarbons at an improved conversion rate.

3,340,180

HYDROFINING-HYDROCRACKING PROCESS EMPLOYING SPECIAL ALUMINA BASE CATALYSTS

Harold Beuther, Gibsonia, and Stephen L. Peake and Bruce K. Schmid, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 25, 1964, Ser. No. 392,049

20 Claims. (Cl. 208-108)

1. A process for hydrogen treatment of heavy petroleum hydrocarbons containing sulfur, asphaltic and metaliferous compounds as contaminants, containing substantial amounts of hydrocarbon components boiling above 300° F. and containing residual materials, which process comprises contacting the hydrocarbons with hydrogen at a pressure from about 300 to about 3000 p.s.i., a space velocity from about 0.1 to about 10.0 volumes of heavy hydrocarbon per volume of catalyst per hour, a hydrogen consumption rate from about 1 to about 40 mols of hydrogen per atom of sulfur removed from the heavy hydrocarbons and at a temperature from about 700 to about 900° F. in the presence of a catalyst comprising essentially a minor amount of a hydrogenating catalyst composited with a major amount of an activated alumina having less than 5 percent of its pore volume that is in the form of pores having a radius of 0 to 300 Å. in pores larger than 100 Å. radius and having less than 10 percent of said pore volume in pores larger than 80 Å. radius which alumina is prepared by treating a substance which is predominantly composed of a crystalline alumina hydrate containing from 1.2 to 2.6 mols of water of hydration and which is substantially free of alumina monohydrate and alumina trihydrate, said alumina hydrate being prepared by precipitation from a solution of an aluminum compound at a pH between 7 and 12, and drying to the above specified water of hydration content prior to substantial transformation to an alumina hydrate having a higher or lower water of hydration content, said treating comprising hydrothermally treating the dried alumina hydrate by heating it in the presence of water at a temperature sufficient to vaporize the water under autogenous pressure, whereby the alumina hydrate is converted substantially to a monohydrate and drying and calcining the hydrothermally treated alumina hydrate.

3,340,181

TWO-STAGE HYDROTREATMENT FOR WHITE OIL MANUFACTURE

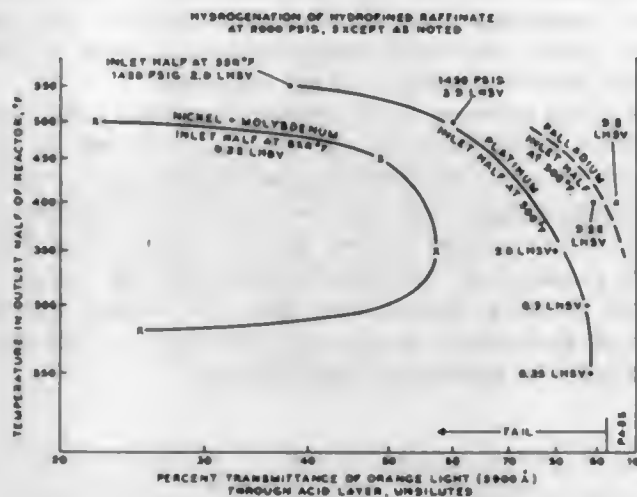
Monty L. Diringer, Orinda, and Chauncey R. Hare, Berkeley, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Aug. 5, 1965, Ser. No. 477,395

8 Claims. (Cl. 208-210)

1. A process for producing colorless oil which comprises providing a hydrocarbon oil feed consisting essentially of a refined lube oil having an unsulfonated residue of at least 75%, passing said oil and hydrogen at elevated pressure through a reaction zone to contact therein a

sulfactive hydrogenation catalyst having denitrification activity at temperatures maintained in the range 600-900° F. until aromatics and sulfur and nitrogen compounds are essentially eliminated, recovering a hydrofined oil having an unsulfonated residue of at least 98%, passing said hydrofined oil and hydrogen at elevated pressure



through a reaction zone to contact therein a noble metal hydrogenation catalyst at temperatures maintained in the range 200-550° F. including a terminal temperature below about 450° F., until carbonizable substances are essentially eliminated, and recovering water-white oil having low absorbance in the ultraviolet at 2750, 2950, and 3000 Å.

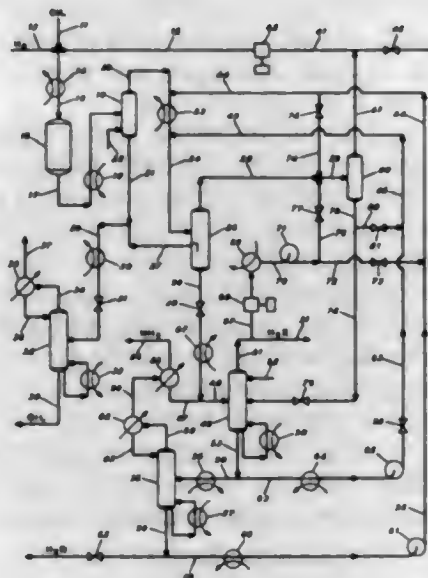
3,340,182

REMOVAL OF H₂S AND NH₃ FROM REACTION EFFLUENTS

Jay F. Berkman, Palos Verdes Estates, James A. Robbers, Lafayette, and Wayne E. Jones, Torrance, Calif., assignors to Chevron Research Company, a corporation of Delaware

Filed Apr. 1, 1964, Ser. No. 356,502

11 Claims. (Cl. 208-212)

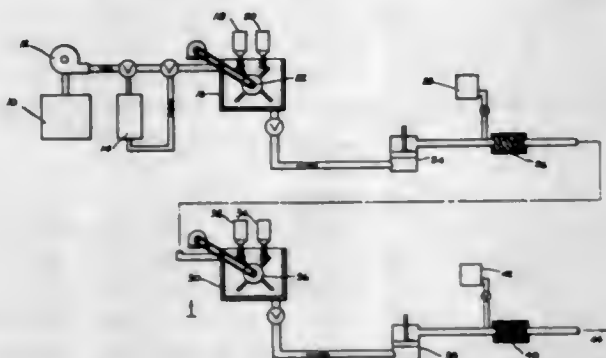


1. In a process wherein a hydrocarbon oil containing sulfur compounds and nitrogen compounds is contacted with hydrogen at reaction conditions at which hydrogen reacts with said compounds to form by-product H₂S and by-product NH₃, and there is obtained a process effluent mixture containing hydrogen-rich gas, liquid hydrocarbons, H₂S and NH₃;

wherein said effluent mixture is passed to a contacting zone and therein contacted with water to extract NH₃ and H₂S from said mixture and form an aqueous solution containing NH₃ and H₂S;

1. A method of treating water containing a high concentration of manganese comprising, providing water hav-

ing a total inorganic iron content of less than about 2 parts per million, preconditioning the water by mixing therewith prior to filtration, ingredients consisting essentially of (a) 10 to 100 parts pulverulent filter aid, (b) 2.5 to 60 parts water soluble alkali selected from the group consisting of alkali metal carbonates, alkaline earth metal carbonates, alkali metal hydroxides, alkaline earth metal oxides, alkali metal aluminates, alkali metal ferates, and mixtures thereof to produce a pH in the water



between 7 and 10 and (c) an oxidant selected from the group consisting of potassium permanganate, hydrogen peroxide, alkali metal peroxide, hydrogen persulfate, alkali metal persulfate, hydrogen perborate, alkali metal perborate, chlorine, chlorine dioxide and ozone, and subjecting the mixture containing water to filter aid filtration whereby the manganese concentration is reduced to below about 0.05 part per million with accompanying head loss rates of less than about 2 p.s.i. per hour.

3,340,188

DRILLING FLUID

Herbert M. Barrett, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Original application Aug. 23, 1962, Ser. No. 218,858, now Patent No. 3,242,160, dated Mar. 22, 1966. Divided and this application Oct. 23, 1965, Ser. No. 504,177

11 Claims. (Cl. 252-8.5)

1. A drilling fluid comprising a fluid medium having a continuous aqueous phase and an additive selected from the group consisting of an alkali metal sulfonate of tall oil pitch, an alkaline earth metal sulfonate of tall oil pitch, and the ammonium sulfonate of tall oil pitch, said additive being present in an amount sufficient to reduce the filtration rate and the coefficient of friction of said drilling fluid.

3,340,189

LUBRICATING OIL COMPOSITIONS CONTAINING NOVEL AMINE-HYDROCARBYL ACID-ORTHOPHOSPHATE-ZINC HALIDE COMPLEXES

Frederic C. McCoy, Beacon, and Edwin C. Knowles, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 30, 1965, Ser. No. 491,822

11 Claims. (Cl. 252-32.5)

1. A lubricating oil composition comprising a lubricating oil and 0.05 to 10 percent by weight of a complex represented by the formula:



wherein R is an alkyl radical having from 6 to 24 carbon atoms, R' is a hydrocarbyl radical having from 2 to 24 carbon atoms, R'' is selected from the group consisting of hydrogen and a hydrocarbyl radical having from 4 to 24 carbon atoms, the sum of the carbon atoms in R' and R'' being in the range from 10 to 30, X is a halogen, a is a number from 1 to 2 and b is a number from 1 to 20.

3,340,190

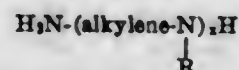
RAILWAY DIESEL OIL

Sigmund S. Deluga, Munster, James W. Harnach, Chester-ton, and Randel Q. Little, Jr., Munster, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed June 1, 1965, Ser. No. 460,549

11 Claims. (Cl. 252-33.4)

1. A lubricant composition comprising a lubricating mineral oil having dissolved therein as its essential additive ingredients a combination consisting of the exactly neutralized calcium salt of a N,N'-bis(alkyl substituted hydroxybenzyl) alkylene diamine and a bis(alkenyl substituted succinimide) of a (polyazalkyl amino)-ureylene that is a condensation product of two moles of poly-alkylene polyamine with one mole urea, wherein said alkyl substituted hydroxybenzyl the alkyl substituent is alkyl hydrocarbon of from 5 to 70 carbon atoms, wherein said alkylene diamine the alkylene group is a divalent open chain hydrocarbon of from 2 to 10 carbon atoms, wherein said alkenyl substituent of said succinimide has from 30 to 215 carbon atoms and wherein said poly-alkylene polyamine has the formula



wherein "alkylene" is a divalent open chain hydrocarbon of from 2 to 10 carbon atoms, R is selected from the class consisting of hydrogen and lower alkyl hydrocarbon of 1 to 4 carbon atoms and x is a number of from 2 to 10; wherein said combination there is present in the range of from 0.02 to 0.4 mole of said bis(alkenyl substituted succinimide) per gram atom of calcium of said exactly neutralized calcium salt; and wherein said lubricant composition there is present from 0.5 to 10 weight percent of said bis(alkenyl substituted succinimide).

10. A lubricant composition comprising a major amount of a mineral lubricating oil of SAE 30 to SAE 50, 0.5 to 10% by weight of a bis(polybutenyl substituted succinimide) of a (polyazalkyl amino) ureylene prepared from one mole urea and two moles of tetraethylene pentamine whose polybutenyl substituted succinic acid moiety has a molecular weight of about 960 and an amount of exactly neutralized calcium salt of N,N'-bis(nonyl hydroxybenzyl) ethylene diamine to provide for each gram atom of calcium from 0.02 to 0.4 mole of said bis-succinimide.

11. The composition of claim 10 wherein there is also present 0.02 to 1.0 weight percent of the calcium salt of a C₁₂ to C₃₀ alkyl substituted benzene sulfonic acid.

3,340,191

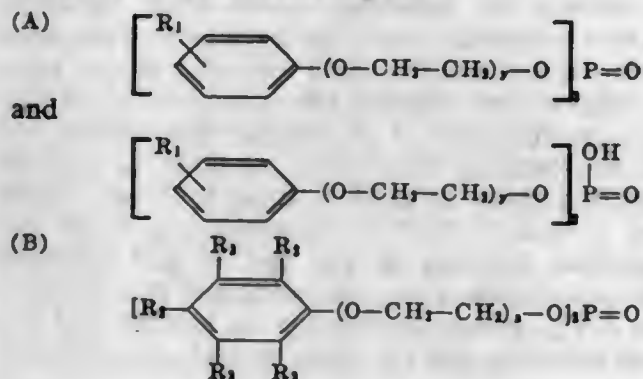
FUEL AND LUBRICANT COMPOSITIONS

Harry J. White, Riverside, and Richard C. Mansfield, Cherry Hill, N.J., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

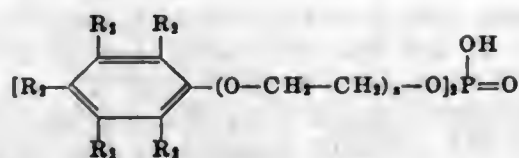
No Drawing. Filed Dec. 5, 1963, Ser. No. 326,658

11 Claims. (Cl. 252-49.8)

1. A composition comprising a major amount of a substance selected from the class consisting of normally liquid hydrocarbon fuels and lubricants containing a minor amount sufficient to inhibit rust of a member selected from the group of pairs consisting of:



and



in which:

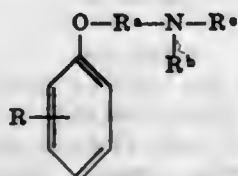
- R_1 is alkyl of 4 to 18 carbon atoms,
- R_2 is a member of the class consisting of hydrogen and alkyl in which the R_2 embodiments total 5 to 36 carbon atoms, at least two of the R_2 embodiments representing alkyl,
- R_3 is selected from the class consisting of hydrogen and methyl,
- y is a number of 2 to 12 and
- z is a number of 2 to 20, the t-phosphate ester being present in the amount of at least 50% of each of said pairs.

3,340,192

LUBRICATING OIL COMPOSITIONS CONTAINING AS A DETERGENT A BETA-(ALKYLAMINO)ALKYL ALKENYLPHENYL ETHER

William O. Henley, Pittsburgh, Pa., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Jan. 6, 1965, Ser. No. 423,814
9 Claims. (Cl. 252-51.5)

1. A lubricating oil composition containing a minor amount sufficient to improve the detergency characteristics thereof of an alkenylphenyl ether having the structure



wherein R is an alkenyl group having a molecular weight of from about 600 to about 3000, R^a is a lower alkylene group, R^b is selected from the group consisting of hydrogen and lower alkyl, and R^c is selected from the group consisting of hydrogen, lower alkyl and $(R^dNH)_xH$, where R^d is a lower alkyl and x is 1 to 4, and the alkyl groups in each of R^a , R^b , R^c , and R^d have up to 6 carbon atoms per group.

3,340,193

MINERAL OIL CONTAINING ALKYL POLYMETHACRYLATE ANTIFOAMANT

Joseph E. Fields and Edward H. Mottus, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application Dec. 30, 1960, Ser. No. 79,499, now Patent No. 3,269,993, dated Aug. 30, 1966. Divided and this application Jan. 21, 1966, Ser. No. 522,023
7 Claims. (Cl. 252-56)

1. A mineral oil composition having low foaming characteristics comprising a major portion of mineral oil and at least an amount sufficient to substantially reduce foaming in said oil but less than 0.1% by weight based on said composition of isotactic alkyl polymethacrylate having an average in the range of 3 to about 14 carbon atoms in the alkyl group and a specific viscosity at 25° C. and 1% concentration in benzene in the range of 0.2 to 10.0.

3,340,194

METAL WORKING LUBRICANT

Howard M. Rue, Media, and Ivor W. Mills, Glenolden, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Sept. 11, 1962, Ser. No. 222,927
5 Claims. (Cl. 252-56)

3. A non-staining rolling oil composition for the cold rolling of metals consisting essentially of a petroleum

lubricating oil having a viscosity of 40 to 120 SUS at 100° F. selected from the group consisting of naphthentic, paraffinic and mixed base lubricating oils, from 2.5 to 10.0 wt. percent atactic polypropylene having a molecular weight of from about 10,000 to about 40,000 and a softening range of 125° F. to 200° F. and from 0.5 to 10.0 wt. percent of an oiliness agent selected from the group consisting of oleic acid, stearic acid and butyl stearate.

3,340,195

PROCESS OF ETCHING

Paul F. Borth and Joseph E. McKeone, Park Forest, Ill., assignors to Photo-Engravers Research, Inc., Savannah, Ga., a corporation of Georgia
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,603
7 Claims. (Cl. 252-79.1)

1. A method of etching an object of a metal selected from the group consisting of copper and copper alloys said object having at least a portion of its surface masked with a resist coating, which comprises impinging upon the surface of the object an etching composition consisting essentially of an emulsion of an aqueous solution of ferric chloride, a non-ionic surfactant stable in ferric chloride solution and a water-soluble thiourea derivative adapted to form a cuprous-thiourea complex with cuprous ions, mixed with an oil selected from the group consisting of saturated hydrocarbon oils, unsaturated hydrocarbon oils and emulsified silicon oils which is immiscible with and non-reactive with said aqueous solution.

3,340,196

DETERGENT BAR

Raymond Michael Anstett, Hazlet, William Wendell Wellman, Upper Montclair, and Herbert Widener Andrews, Westfield, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 23 1965, Ser. No. 504,127
7 Claims. (Cl. 252-106)

1. A detergent composition in bar form consisting essentially of 10 to 60% of a solid water soluble alkali metal salts of the higher fatty acids, between 2% and 25% water, between 0.1% and 5% of selenium disulfide in homogeneous dispersion in said bar, and sufficient up to about 35% of dicalcium phosphate effective to prevent discoloration of the bar when aged at room temperature for periods of time.

3,340,197

HYDROGEN-EMBRITTEMENT-INHIBITION WITH 1-ETHYNYLCYCLOHEXANOL-1

George Davidowich, Bayonne, and Morton W. Leeds, Murray Hill, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 15, 1964, Ser. No. 360,100
2 Claims. (Cl. 252-146)

1. A method of inhibiting hydrogen-embrittlement of ferrous metals by an aqueous sulfuric acid solution which comprises incorporating in said solution an effective inhibiting amount of 1-ethynylcyclohexanol-1 while said solution is in contact with said metals.

3,340,198

HYDROGEN - EMBRITTEMENT - INHIBITION WITH PROPARGYL BENZYLAMINE AND 1-CHLORO-1-HEXYN-3-OL

George Davidowich, Bayonne, and Morton W. Leeds, Murray Hill, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 15, 1964, Ser. No. 360,101
4 Claims. (Cl. 252-148)

1. An aqueous solution of sulfuric acid containing an effective hydrogen-embrittlement-inhibiting amount of

propargylbenzylamine and 1-chloro-1-hexyn-3-ol in the ratio of about 2:1 to 1:2.

3,340,199

AZEOTROPIC HALOGENATED HYDROCARBON-ALCOHOL SOLVENT COMPOSITION

William Maxwell Clay and Gerald Yeats, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 22, 1965, Ser. No. 441,867
Claims priority, application Great Britain, Apr. 21, 1964, 13,640/64

1 Claim. (Cl. 252—171)

An azeotropic composition consisting of about 97% by weight 1,1,2-trichloro-1,2,2-trifluoroethane and about 3% by weight isopropanol.

3,340,200

REMOVAL AND DISPOSAL OF RADIOACTIVE CONTAMINANTS IN MIXED ION EXCHANGE RESINS WITH ALKALI METAL HALIDE

John H. Noble, Wellesley, Mass., assignor to Stone & Webster Engineering Corporation, Boston, Mass., a corporation of Massachusetts
No Drawing. Filed Sept. 15, 1964, Ser. No. 396,752
9 Claims. (Cl. 252—301.1)

6. In a process for removing and disposing of radioactive contaminants contained in water comprising flowing the contaminated water through a bed of mixed cation-anion ion exchange resin containing from about 30% to 70% by weight of a cation ion exchange resin and from about 70% to 30% of an anion ion exchange resin, thereby causing the radioactive contaminants to be exchanged from the water to the resin, the improvement which permits either reuse of the resin or more convenient disposal thereof which comprises flowing a dilute aqueous solution of an alkali metal halide through the bed at a rate of flow sufficient to cause the resin to expand in volume by at least about 25%, thereafter flowing a concentrated aqueous solution of an alkali metal halide in reverse direction through the bed, and removing the water from the dilute aqueous alkali metal halide solution passed through the bed to leave a small quantity of solid radioactive waste material.

3,340,201

COMPOSITION OF MATTER CONTAINING PLUTONIUM DIOXIDE AND PLUTONIUM PHOSPHATE

Henry P. Kirchner, State College, Pa., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
No Drawing. Filed Mar. 11, 1965, Ser. No. 439,054
1 Claim. (Cl. 252—301.1)

A new composition of matter consisting essentially of a mixture in the solid state of plutonium dioxide and plutonium phosphate.

3,340,202

SINTERED POLLUCITE RADIOACTIVE SOURCE AND METHOD OF PRODUCTION

Andre Olombel, Chatillon-sous-Bagneux, Cecile Perebaskine, Jouy-en-Josas, and Andre Raggenbass, Wis-sous, France, assignors to Commissariat à l'Energie Atomique, Paris, France, organized under the laws of France
No Drawing. Filed June 17, 1966, Ser. No. 558,282
Claims priority, application France, June 23, 1965, 21,959, 21,960

7 Claims. (Cl. 252—301.1)

1. A method of preparation of sintered pollucite comprising the successive steps of mixing a colloidal solution of silica and solutions of nitrates of caesium and of aluminum in stoichiometric quantities, then evaporating

the resulting mixture to dryness with stirring of said mixture, then heating said mixture to a temperature below 1000° C. and then compacting and sintering said mixture at a temperature of about 1600° C.

7. A radioactive source containing caesium-137 comprising sintered pollucite prepared by the method of claim 1.

3,340,203

RAPID-SETTING BITUMINOUS EMULSIONS AND METHOD FOR PREPARING SAME

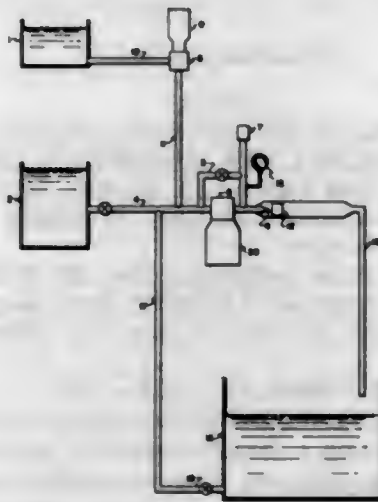
Richard L. Ferm, El Cerrito, Calif., assignor, by mesne assignments, to Chevron Research Company, a corporation of Delaware
No Drawing. Filed May 27, 1965, Ser. No. 459,450
7 Claims. (Cl. 252—311.5)

1. An aqueous bituminous emulsion amphoteric binder for paving having a pH in the range of 2 to 7, which comprises
50 to 75 weight percent bitumen in the dispersed phase;
0.02 to 0.5 weight percent hydroxylecithin;
0.05 to 0.5 weight percent of an N-hydrocarbyl alkylene polyamine of from 12 to 34 carbon atoms and 1 to 3 alkyleneamino groups, wherein said hydrocarbyl is of from 10 to 30 carbon atoms and free of aromatic unsaturation,
the weight ratio of hydroxylecithin to N-hydrocarbyl alkylene polyamine being in the range of 4-1:1-4; and the remainder water.

3,340,204

METHOD OF MANUFACTURING WAX EMULSIONS

David M. MacLeod, Sarnia, Ontario, and David M. Leggett, Leaside, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 13, 1964, Ser. No. 351,802
2 Claims. (Cl. 252—311.5)



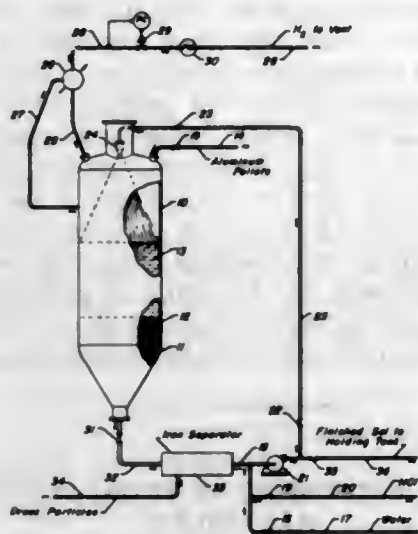
1. Process for the preparation of a wax emulsion suitable for use in the manufacture of wood particle board which comprises mixing slack wax at a temperature in the range from about 160° F. to 200° F. with water at a temperature of about 160° F. to 200° F. and with an emulsifier mixture of about 4 parts by weight of the acetate salt of hydrogenated tallow amine and about 1 part by weight stearic acid, passing the slack wax, water and emulsifier at a pressure in the range from about 180-220 pounds per square inch gage through an orifice and thereafter contacting the emulsion with an homogenizer vibrating in the range from about 15,000 to 25,000 cycles per second, whereby a stable wax emulsion is secured.

3,340,205

MANUFACTURE OF HIGH PURITY ALUMINA SOL FROM RELATIVELY LOW GRADE ALUMINUM

John C. Hayes, Palatine, Daniel McGrath, Prospect Heights, and Vladimir Haensel, Hinsdale, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,597
20 Claims. (Cl. 252-313)



1. A process for manufacturing high purity alumina sol from low purity aluminum metal containing in excess of 0.01% by weight of a metallic contaminant which comprises contacting a charge of such low purity aluminum with an aqueous mineral acid solution in an aluminum digestion zone; thereby dissolving said aluminum and forming in said zone an alumina sol in admixture with dross metal particles originating from said charge and comprising said metallic contaminant at a concentration per particle substantially greater than in the charge; continuing the digestion for a time and under digesting conditions selected to produce an alumina sol having predetermined aluminum and acid anion concentrations; at least partly concurrently with the digestion, mechanically removing from the digestion zone at least a portion of the dross metal particles; and recovering from the digestion zone a finished alumina sol.

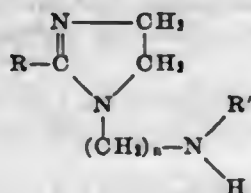
3,340,206

METHOD OF FORMING FINELY DIVIDED INORGANIC ACID SALTS

Arnold J. Morway, Clark, and Albert J. Bodner, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 22, 1964, Ser. No. 420,442
4 Claims. (Cl. 252-389)

1. A method of preparing one part by weight of finely divided sodium nitrite of less than 15 microns comprising dispersing 0.1 to 10 parts of imidazoline salt in 0.5 to 5 parts of inert oil, said imidazoline salt being the reaction product of a molar proportion of imidazoline with 1 to 2 mole equivalents of acid selected from the group consisting of phosphoric acid and phytic acid, wherein said imidazoline has the general formula:



wherein n is an integer of about 2 to 6, R is a C_6 to C_{22} hydrocarbon group and R' is selected from the group consisting of hydrogen and C_1 to C_{18} alkyl groups,

adding an aqueous saturated solution of said sodium nitrite, heating to evaporate water until the water content of the entire mixture is reduced to about 0 to 70 wt. percent of said mixture and a gel is formed, and adding 0.5 to 4 volumes of solvent in which said sodium nitrite is insoluble per volume of said gel to precipitate said finely divided sodium nitrite and removing said precipitated nitrite.

3,340,207

CATALYST COMPOSITION

Melvin C. Baker, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Jan. 10, 1962, Ser. No. 165,400.
Divided and this application Nov. 19, 1964, Ser. No. 412,460

4 Claims. (Cl. 252-429)

1. A non-aqueous cuprous chloride catalyst composition comprising at least 5% by weight of cuprous chloride 0.2% to 30% by weight of a carboxamide promoter and 0.001% to 0.6% by weight of a silver salt activator and an organic nitrile boiling above 78° C. at atmospheric pressure and thermally stable at 100° C. as the essential component for dissolving the cuprous chloride, said carboxamide catalyst promoter having a boiling point of at least 100° C. at atmospheric pressure and said silver salt activator being present in said composition as a salt selected from the group consisting of silver chloride and silver cyanide.

3,340,208

AMMONIA-EPICHLOROHYDRIN ANION-EXCHANGE RESINS

Robert E. Anderson and Duane F. Scheddel, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 8, 1964, Ser. No. 402,572

8 Claims. (Cl. 260-2.1)

1. In a process for preparing a granular weak-base anion-exchange resin by the condensation of ammonia and epichlorohydrin under substantially anhydrous conditions, the improvement which comprises:

- (A) Adding ammonia to an agitated mixture of epichlorohydrin and from 2 to 10 volumes, based on the volume of epichlorohydrin, of a polyhalo C_1 - C_3 aliphatic hydrocarbon diluent at a reaction temperature of 40°-100° C., said diluent having a boiling point of 20°-120° C. and a density of 1.1-1.7 at 25° C.;
- (B) Continuing the addition of ammonia to the reaction mixture at a temperature of 40°-100° C. until from 0.67 to 1.175 moles of ammonia per mole of epichlorohydrin is added; and then
- (C) Maintaining a reaction temperature of 40°-100° C. until the polymerization is substantially complete.

3,340,209

ACTIVATED AZODICARBONAMIDE

Charles P. Riley, Jr., Lowell, Richard Strauss, Lexington, and Henry R. Lasman, Wilmington, Mass., assignors to National Polychemicals, Inc., Wilmington, Mass., a corporation of Massachusetts

Filed Dec. 31, 1964, Ser. No. 422,605

11 Claims. (Cl. 260-2.5)

1. A blowing agent composition having a single primary decomposition temperature range which composition comprises in combination:

- azodicarbonamide;
- a polyvalent heavy metal salt which lowers the decomposition temperature of the azodicarbonamide;

an alkali metal salt; and

a bicarbonate selected from the group consisting of sodium and potassium bicarbonates, the bicarbonate present in an amount from about 1 to 40% by weight based on the azodicarbonamide the ratio of the heavy metal to the alkali metal ranging from about 5:1 to 1:5 and the ratio of the alkali metal to azodicarbonamide ranging from about 1:10 to about 4:1.

8. A blowable polymer composition which comprises a gas-expandable thermoplastic polymer capable of being expanded in the plastic state by the evolution of a gas to form a cellular structure, the polymer containing a blowing amount of the blowing agent composition of claim 1.

3,340,210

PROCESS FOR MODIFYING POLYAMIDES WITH AN ALKYLATING AGENT AND A NITROGEN BASE IN AN AQUEOUS MEDIUM

Hans Heinrich Bosshard, Binningen, and Albert Eschenmoser, Zollikon, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Feb. 16, 1965, Ser. No. 433,214

Claims priority, application Switzerland, Feb. 20, 1964, 2,015/64

7 Claims. (Cl. 260—9)

1. The process for modifying a shaped polyamide having recurring groups of the formula



wherein A represents an alkylene group, said process comprising: impregnating said polyamide with a 5–30% aqueous solution of a strongly reactive, water-resistant alkylating agent selected from the group consisting of lower alkyl sulfates and trialkyl oxonium salts, heating said polyamide, thereby converting a portion of the amide groups of said polyamide to imino ester salts; and thereafter impregnating said polyamide at a temperature between approximately 20 and 100° C. with a nitrogen base having at least one group of the formula $\text{HN}<$, whereby said imino ester salt groups are converted to amidine groups.

3,340,211

PROCESS FOR MODIFYING POLYAMIDES WITH AN ALKYLATING AGENT IN AN ORGANIC SOLVENT AND A NITROGEN BASE

Albert Eschenmoser, Zollikon, Rolf Scheffold, Zollikon, Erhard Bertele, Zurich, Mario Pesaro, Kunsnacht, and Hans Heinrich Bosshard, Binningen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,082

Claims priority, application Switzerland, Feb. 22, 1963, 2,261/63

11 Claims. (Cl. 260—9)

1. A process for modifying shaped polyamides which comprises impregnating a shaped polyamide containing —A—CO—NH—A— elements wherein A represents an alkylene radical with

(1) a solution of a strongly reactive alkylating agent selected from the group consisting of lower alkyl sulfates and trialkyl oxonium salts in an inert organic solvent in an amount of 0.01 to 0.5 mol per liter to form a polyiminoester salt and then

(2) a solution of a nitrogen base containing at least one basic —NH— group to form a polyamidine.

3,340,212

ELECTRICAL INSULATING RESIN COMPOSITION OF EPOXY RESIN, ACID-TERMINATED POLYESTER AND STANNOUS OCTOATE

Jun Tomita, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 9, 1961, Ser. No. 151,204

7 Claims. (Cl. 260—22)

1. A heat-curable epoxy resin composition which provides cured products having excellent electrical insulating values over a wide range of temperatures, which values remain effectively high after long exposure at high temperatures, said composition comprising a mixture of (1) an acid-terminated polyester of polycarboxylic acid and polyhydroxy alcohol, which polyester contains a calculated average of 2.0 to 3.0 carboxyl groups per molecule and has an acid number of 15–125 and a hydroxyl number of less than 10, (2) an epoxy resin containing at least 1.3 oxirane groups per average molecular weight, and (3) at least 0.2 part, per 100 parts of polyester, of stannous octoate, said mixture containing about 0.5 to 2 epoxy groups of epoxy resin per carboxyl group of polyester.

3,340,213

COATING COMPOSITIONS FROM MONOEPHOXY ALCOHOLS

Charles W. McGary, Jr., Charleston, and Charles T. Patrick, Jr., South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 19, 1964, Ser. No. 368,726

24 Claims. (Cl. 260—22)

7. A composition comprising the reaction product obtained by heating at elevated temperatures a mixture of: (I) at least one monoepoxy alcohol compound selected from the group consisting of

- (a) 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undecan-9-ol,
- (b) 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undec-9-oxyalkanol,
- (c) 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undec-9-oxyalkane-poly-ol,
- (d) 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undecane-9,10-diol,
- (e) 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undecane-10,11-diol,
- (f) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{9,11}]tridecan-4-ol,
- (g) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridecane-4,5-diol,
- (h) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkanol,
- (i) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-dialkanol,
- (j) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxyalkanol,
- (k) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxyalkane-poly-ol,
- (l) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylmethylenoxyalkanol,
- (m) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylmethylenoxyalkane-poly-ol,
- (n) the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undec-9-oxy(mono- and polyalkyleneoxy)alkanols,
- (o) the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undec-9,10-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols],
- (p) the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,8}]undec-10,11-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols],
- (q) the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxy(mono- and polyalkyleneoxy)alkanols,
- (r) the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]

- tridec-4,5-ylenedi[oxy(mono- and polyalkyleneoxy)alkanols],
- (s) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-yl-alkyleneoxyalkanol,
- (t) the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkyleneoxy(mono- and polyalkyleneoxy)alkanols,
- (u) 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylenedi(alkyleneoxyalkanol), and
- (v) the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylenedi[alkyleneoxy(mono- and polyalkyleneoxy)alkanols];
- (II) at least one fatty acid compound selected from the group consisting of saturated and unsaturated fatty acids and fatty acid oils, said fatty acid compound present in an amount sufficient to provide about 0.1 to about 1.0 carboxy group per hydroxy group of said monoepoxy alcohol; and
- (III) at least one polyfunctional compound selected from the group consisting of polycarboxylic acids and polycarboxylic acid anhydrides, said polyfunctional compound present in an amount sufficient to provide about 0.2 to about 3.0 carboxy groups per epoxy group of said monoepoxy alcohol compound, said reaction product having a total oxygen content of from about 12 to about 20 weight percent.

3,340,214

EASILY PROCESSED COMPOSITIONS COMPRISING CIS 1,4-POLYBUTADIENE, C₆-C₁₀ MONOCARBOXYLIC ACID AND ASPHALT

David Ivan Sapper, West Caldwell, N.J., assignor to Texas-U.S. Chemical Company, Parsippany, N.J., a corporation of Delaware

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,416
7 Claims. (Cl. 260—23.7)

1. An easily processed rubbery composition comprising as the base component, 100 parts of cis 1,4-polybutadiene having at least 85% of the butadiene units joined cis-1,4, and
- (i) between 20 and 100 parts of asphalt,
- (ii) between 0.5 and 5 parts of a monocarboxylic acid selected from the group consisting of benzoic acid and aliphatic monocarboxylic acids having 6 to 10 carbon atoms, and
- (iii) between 3 and 15 parts of an hydrocarbon polymer selected from the group consisting of (a) copolymers of butadiene and styrene containing up to 25% styrene and having a molecular weight between 500 and 20,000 (b) polyterpenes having a ring and ball softening point between 10° C. and 125° C. and a specific gravity between 0.95 and 1.00, (c) polyethylenes having a melting point between 200° F. and 235° F., a specific gravity of approximately 0.92, and an average viscosity at 140° C. of between 100 and 4000 centipoises, and (d) polybutenes having a specific gravity at 60° F. of between 0.87 and 0.91, a pour point between 20 and 70° F., and a molecular weight between 500 and 20,000.

3,340,215

CONDENSATES OF AMINOPLAST-SULFONATED PHENOLIC COMPOUNDS

Lucien Sellet, Saddle River, N.J., assignor to Nopco Chemical Company, a corporation of New Jersey

No Drawing. Filed Sept. 27, 1962, Ser. No. 226,718
22 Claims. (Cl. 260—29.4)

1. An aqueous composition of a water soluble composition which is the condensation product produced by reacting in an aqueous medium at a temperature of from about 70° to 102° C., a mixture comprising
- (a) a substantially water insoluble resinous prepolymer formed by reacting from about 1 to 4 moles of

- formaldehyde with one mole of urea, said reaction being carried out at a pH of below 4, and
- (b) a sulfonated phenolic component containing from about 0.7 to 2 moles of at least one sulfonated phenolic compound selected from the group consisting of phenol sulfonic acid, cresol sulfonic acid, xylenol sulfonic acid, resorcinol sulfonic acid and naphthol sulfonic acid per mole of urea used in formulating said prepolymer,
- said mixture having a hydrogen ion concentration of from about 8% to 24%, calculated as weight percent sulfuric acid based on the weight of said sulfonated phenolic component with the proviso that when said prepolymer is formed using one mole of formaldehyde per mole of urea, the hydrogen ion concentration of said mixture is from about 12% to 24% based upon the weight of said sulfonated phenolic component, carrying out said reaction by maintaining the temperature of said mixture at from about 70° to 102° C. until the formation of a clear solution and thereafter continually maintaining the temperature of said clear solution at from about 70° to 102° C. by heating for a period of from about 0 to 4 hours.

3,340,216

POLYMERIC COATING COMPOSITIONS OF BLEND OF POLYTETRAFLUOROETHYLENE, AND VINYLIDENE CHLORIDE, ACRYLONITRILE, UNSATURATED CARBOXYLIC ACID TERPOLYMER

Henry Patrick Bradshaw Mack, Hitchin, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 28, 1966, Ser. No. 523,554
Claims priority, application Great Britain, Feb. 18, 1965, 7,074/65

6 Claims. (Cl. 260—29.6)

1. A polymeric coating composition comprising a dispersion in a volatile liquid of a tetrafluoroethylene polymer and a copolymer of vinylidene chloride, acrylonitrile and 0.5/X to 5/X mole percent of a comonomer containing at least one free carboxylic acid group where X is the number of free carboxylic acid groups in the molecule of said comonomer, the ratio of the weights of the tetrafluoroethylene polymer and said copolymer being in the range 9:1 to 1:19 and the copolymer itself containing 95 to 70% by weight of vinylidene chloride and a total of 5 to 30% by weight of acrylonitrile and said comonomer, said copolymer having a softening point in the amorphous form not greater than about 50° C.,
- and said dispersion, when applied as a coating to a substrate, forming by evaporating said volatile liquid at 50° C. to 140° C., a film adherent to said substrate surface and comprising said tetrafluoroethylene polymer in unsintered particles of colloidal size held in a matrix of said copolymer.

3,340,217

CROSSLINKED INTERPOLYMER LATEX OF STYRENE, AN UNSATURATED CARBOXYLIC ACID, AN UNSATURATED GLYCIDYL COMPOUND AND DIVINYLBENZENE

Douglas Woodruff, Marengo, Ill., assignor to Morton International Inc., a corporation of Delaware

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,873
7 Claims. (Cl. 260—29.7)

1. A cross-linked interpolymer latex, said interpolymer comprising in cross-linked polymerized form from 78 to 96 parts by weight of a monomer selected from the group consisting of styrene and methylated styrene, from 1 to 20 parts by weight of an unsaturated acid selected from the group consisting of methacrylic acid, acrylic acid and itaconic acid, from 1 to 20 parts by weight of a monomer selected from the group consisting of glycidyl methacrylate and glycidyl acrylate, and up to two parts

by weight of divinylbenzene, the proportions of said monomers being selected to total 100 parts by weight in the aggregate, said latex being further characterized in being resistant to coagulation by methanol.

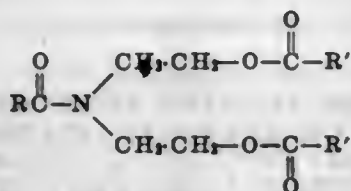
3,340,218

DIESTERAMIDE PLASTICIZERS

Frank C. Magne, Robert R. Mod, and Evald L. Skau, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application Jan. 22, 1963, Ser. No. 263,370. Divided and this application Mar. 1, 1966, Ser. No. 549,078

3 Claims. (Cl. 260—31.6)

1. A vinyl chloride resin composition wherein
 - (a) the resin is selected from the group consisting of homopolymers of vinyl chloride and copolymers of vinyl chloride with vinyl acetate in which the vinyl chloride is in a predominant amount, and
 - (b) a plasticizer for said resin represented by the formula



wherein R is a monounsaturated alkenyl group of from 11 to 17 carbon atoms and R' is a member selected from the group consisting of methyl and phenyl.

3,340,219

LUBRICATED POLYACETAL COMPOSITIONS AND PROCESS THEREFOR

Robert Max Stemmler, Westfield, N.J., assignor to Celanese Corporation, a corporation of Delaware
No Drawing. Filed Oct. 22, 1964, Ser. No. 405,828
5 Claims. (Cl. 260—32.6)

1. A process for the production of lubricated polyacetal molding compositions comprising high shear mixing
 - (a) an oxymethylene polymer having at least 60 mol percent oxymethylene ($-\text{CH}_2\text{O}-$) units, said polymer consisting of particles having a particle size of less than about 20 mesh,
 - (b) with from about 0.001 up to less than about 0.25 weight percent, based on said polymer, of an oxymethylene polymer lubricant, and
 - (c) thereafter recovering the lubricated molding composition of said polymer containing uniformly dispersed therein less than about 0.25 weight percent of said lubricant, said composition exhibiting a greater spiral flow than an otherwise identical composition absent said lubricant.

3,340,220

PROCESS FOR TREATING GLASS FIBER AND MINERAL FILLER FILLED POLYESTER RESINS

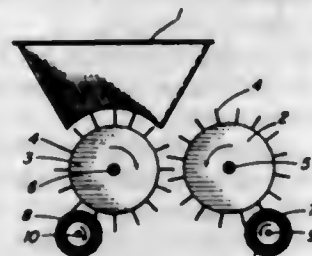
Nicholas August Granito, Wallingford, and John Albert Arnone, Jr., North Haven, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Apr. 14, 1964, Ser. No. 359,621

3 Claims. (Cl. 260—40)

1. A process for treating a glass fiber and finely divided mineral filler filled polyester resin composition dispersed in an inert solvent comprising passing said composition in a fluid state at a viscosity of less than 25,000 centipoises between a pair of pin studded rolls moving

counter-rotationally wherein said rolls have differing speeds resulting in a net tip speed between about 30 ft./



min. and 800 ft./min., recovering and drying the treated product.

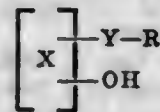
3,340,221

POLYMERS CONTAINING ETHYLENICALLY UNSATURATED DERIVATIVES OF ORTHO-HYDROXY AROMATICS AS REACTIVE DYE SITES

Albert I. Goldberg, Berkeley Heights, N.J., and Martin Skoultchi and Joseph Fertig, New York, N.Y., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 12, 1962, Ser. No. 243,983
The portion of the term of the patent subsequent to Apr. 27, 1982, has been disclaimed

10 Claims. (Cl. 260—41)

1. A method for the coloration of a polymer of at least one ethylenically unsaturated monomer together with at least about 0.1%, by weight, of an ethylenically unsaturated derivative of an ortho-hydroxy aromatic compound which corresponds to the formula:



wherein Y is a radical selected from the group consisting of oxy and carboxy radicals;

wherein X is a radical of the benzene series selected from the group consisting of phenyl and naphthyl radicals having said $-\text{OH}$ and $-\text{Y}-\text{R}$ groups substituted thereon in positions which are ortho with respect to one another; and,

wherein R is an ethylenically unsaturated radical selected from the group consisting of beta-hydroxypropyl acrylate and beta-hydroxypropyl methacrylate radicals, said method comprising reacting said polymer with at least one diazonium salt.

3,340,222

HYDROFLUOROCARBON POLYMER FILM-FORMING COMPOSITION

James C. Fang, Springfield, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 28, 1963, Ser. No. 291,279

5 Claims. (Cl. 260—41)

1. A liquid coating composition comprised of a dispersion in a volatile organic liquid of
 - (A) a polymer selected from the class consisting of polyvinyl fluoride, polyvinylidene fluoride, copolymers of vinyl fluoride and vinylidene fluoride, copolymers of vinyl fluoride with other halogen-substituted ethylenically unsaturated monomers, and copolymers of vinylidene fluoride with other halogen-substituted ethylenically unsaturated monomers;
 - (B) an inorganic pigment composed predominately of titanium dioxide, the pigment volume concentration, based on the total volume of non-volatile components, being about 5 to 40%, and
 - (C) adsorbed on the pigment, a polymer a major proportion of which consists of a member of the class

consisting of alkyl acrylate polymers, alkyl methacrylate polymers and copolymers of an alkyl acrylate and an alkyl methacrylate, the weight ratio of said polymer to the polymer in (A) being about 50:50 to 0.1:99.9.

3,340,223

STORAGE BATTERY

Shunji Shima, Kyoto, Japan, assignor to Nihon Denchi Kabushiki Kaisha, Kyoto, Japan, a company of Japan
No Drawing. Filed Sept. 28, 1965, Ser. No. 491,018
3 Claims. (Cl. 260-41)

1. Storage battery having a battery case and a cover therefor which are formed of a mixture of polypropylene resin and finely powdered sericite, the latter within the range of 5 to 85%.

3,340,224

THERMOSETTING, CURABLE ELASTOMERIC COMPOSITION AND METHODS OF MAKING THE SAME

Robert J. Sherman, Detroit, Mich., and Richard H. Toth, Port Clinton, Ohio, assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 428,612
22 Claims. (Cl. 260-41.5)

1. A thermosetting elastomeric composition for use as a bonding material for metal, glass and structural members thereof, comprising a substantially tack free to tacky blend containing as essential constituents a synthetic rubber component selected from copolymers of acrylonitrile and butadiene having an acrylonitrile content between about 18 to 50 percent by weight, and a copolymer of ethyl acrylate and chloroethyl vinyl ether having a chloroethyl vinyl ether content of more than 2 percent and less than 10 percent by weight, a polyepoxide resin which is the reaction product of epichlorohydrin and a polyhydroxy organic compound selected from the group consisting of bis-, tris-, and tetrakis-glycidal ethers and an amine epoxide curing agent selected from the group consisting of N,N diallylmelamine, triazine triamine and the acid salts thereof, alkyl substituted triazine triamines and the acid salts thereof, cyanoethylated alkyl amines and the acid salts thereof, cyanoethylated alkyl substituted triazine triamines and the acid salts thereof, N,N' diallylmelamine, and unsaturated alkyl and polyalkyl derivatives of melamine, which agent is in solution with said resin and partially reacted therewith such that said resin is in the B stage of cure, said composition containing in parts by weight for every 100 parts of polyepoxide resin between about 6 to 240 parts by weight of rubber component and about 11 to 20 parts of curing agent and said composition being characterized by the presence of phenolic resin in amount up to but not more than 25% by weight of the total resin content thereof and said material being characterized by latent thermosetting properties during final cure of the epoxide resin to the C stage whereby the material passes through a thermoplastic state accompanied by strong adhesiveness to effect a bond and said material when bonding metal with glass inhibiting shatter of the glass due to stress transfer during substantial temperature fluctuations.

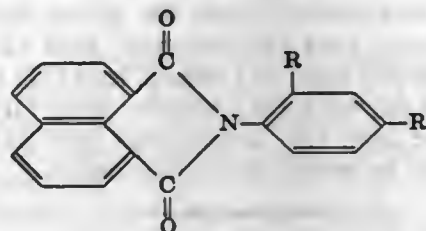
3,340,225

1,8-NAPHTHALIMIDES AS ULTRAVIOLET LIGHT STABILIZERS FOR PLASTIC MATERIALS

Hans Dressler, Pitcairn, and Kenneth G. Reabe, Delmont, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed June 17, 1964, Ser. No. 375,949
7 Claims. (Cl. 260-45.8)

1. A polymeric composition stabilized against ultraviolet degradation comprising a polymer selected from the

group consisting of polyethylene and polystyrene, said stabilized composition containing from 0.01 to 5% by weight of said polymer of a stabilizer having the formula:



wherein R is a member selected from the group consisting of hydrogen and hydroxy and R' is a member selected from the group consisting of hydrogen and alkoxy having 1-12 carbon atoms.

3,340,226

FLAME RETARDANT SYSTEMS AND COMPOSITIONS

Edward C. Stivers, Atherton, Calif., assignor to Raychem Corporation, Redwood City, Calif., a corporation of California
No Drawing. Filed Feb. 11, 1963, Ser. No. 257,764
23 Claims. (Cl. 260-45.75)

1. A composition comprising a flammable material having incorporated therein a flame retardant system capable of reacting at the flame temperature of said flammable material to produce a flame retardant halide compound, said system comprising a substantially water insoluble derivative of a halogen-bearing carboxylic acid, said derivative being selected from the group consisting of metal tetrahalophthalates, metal trihalobenzoates, metal halobenzoate-o-sulfonates, metal salts of endo-1,4,5,6,7,7-hexahalobicyclo-(2.2.1)-5-heptene-2,3-dicarboxylic acids, and a compound having a cation selected from the group consisting of elements in Group V of the Periodic Table.

12. A flame retardant system comprising a composition having a cation selected from the group consisting of elements in Group V of the Periodic Table and a substantially water insoluble derivative of a halogen bearing carboxylic acid, said derivative being selected from the group consisting of metal tetrahalophthalates, metal trihalobenzoates, metal halobenzoate-o-sulfonates, metal salts of endo-1,4,5,6,7,7-hexahalobicyclo-(2.2.1)-5-heptene-2,3-dicarboxylic acids.

13. The composition of claim 12 wherein said derivative is aluminum tetrabromophthalate.

3,340,227

STABILIZED POLYAMIDE COMPOSITIONS CONTAINING A COPPER COMPOUND AND A LEAD COMPOUND

Alex Krieger, Emmenbrücke, Switzerland, assignor to Societe de la Viscose Suisse, Emmenbrücke, Switzerland, a corporation of Switzerland
No Drawing. Filed July 1, 1965, Ser. No. 468,979
Claims priority, application Switzerland, July 17, 1964, 9,378/64
7 Claims. (Cl. 260-45.75)

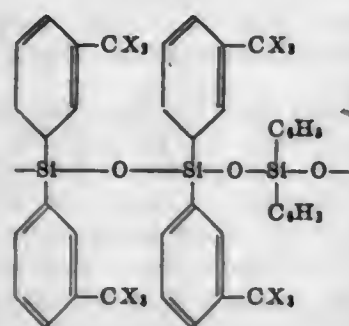
1. A polyamide composition which is stabilized against degradation by heat and light comprising a polyamide having recurring carbonamide groups in the main polymer chain separated by hydrocarbon groups containing at least two carbon atoms, and from 20 to 1000 parts by weight of copper derived from the group consisting of elemental copper, cuprous oxide, cupric oxide, cuprous chloride, cupric chloride, cuprous bromide, cupric bromide, cuprous iodide, cupric iodide, cuprous borate, cupric borate, cuprous phosphate, cupric phosphate, cuprous acetate, cupric acetate, cuprous oxalate, cupric oxalate, cuprous butyrate, cupric butyrate, cuprous lactate, cupric

lactate, cuprous stearate, cupric stearate, cuprous benzoate, cupric benzoate, cuprous salicylate, cupric salicylate, cuprous phthalate, cupric phthalate, cuprous naphthenate, and cupric naphthenate, and between 20 and 1000 parts by weight of lead derived from the group consisting of lead (II) chloride, lead (II) bromide, lead (II) sulfate, lead (II) phosphate, lead (II) borate, lead (II) carbonate, lead (II) formate, lead (II) acetate, lead (II) oxalate, lead (II) citrate, lead (II) laurate, and lead (II) stearate, per million parts by weight of the polyamide.

3,340,228

FIBER-FORMING ORGANOPOLYSILOXANES
Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,595
5 Claims. (Cl. 260-46.5)

1. A fiber-forming polydiorganosiloxane consisting essentially of from about 100 to 8,000 recurring structural units of the formula:

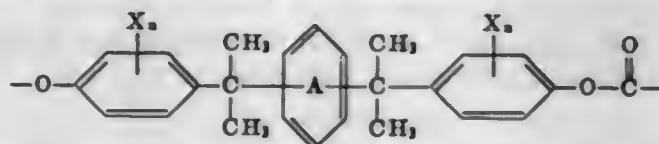


where X is selected from the group consisting of H and F.

3,340,229

POLYCARBONATES PREPARED FROM A BIS-(HALO-P-HYDROXYCUMYL)BENZENE
Logan C. Bostian, Morris Township, Morris County, Richard B. Lund, Whippany, Bryce C. Oxenrider, Florham Park, and George J. Schmitt, Madison, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 4, 1962, Ser. No. 228,789
11 Claims. (Cl. 260-47)

1. A halogenated polycarbonate resin consisting essentially of recurring units of the formula:



wherein the two halo-p-oxy cumyl groups are attached to non-adjacent carbon atoms of the benzene nucleus A, X is a halogen selected from the group consisting of chlorine and bromine and n is an integer from 1-4.

3,340,230

POLYMERIZATION OF BIS-(α-HALOALKYL) AROMATIC COMPOUNDS
John M. Hoyt, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 3, 1964, Ser. No. 357,279
17 Claims. (Cl. 260-47)

1. A polymerization process which comprises reacting at least one bis-(α-haloalkyl)aromatic compound capable of polymerization, having the formula



wherein X and X' are selected from the group consisting of chlorine, bromine, iodine, fluorine and mixtures thereof

R₁, R₂, R₃ and R₄ are selected from the group consisting of hydrogen, fluorine, lower alkyl groups having from 1 to 3 carbon atoms, aryl groups having from 6 to 10 carbon atoms, and mixtures thereof

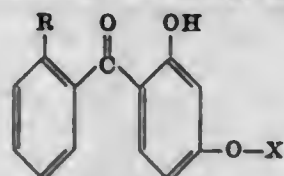
Ar is an aromatic substituent selected from the group consisting of arenes, aromatic heterocyclics, and fused ring aromatics, with a lower valent transition metal salt at a temperature within the range of about -30° to 300° C.

3,340,231

POLYMERIC COMPOSITIONS RESISTANT TO ULTRAVIOLET LIGHT

Joseph Fertig and Martin Skoultschi, New York, N.Y., and Albert I. Goldberg, Berkeley Heights, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 28, 1964, Ser. No. 407,236
The portion of the term of the patent subsequent to Dec. 22, 1981, has been disclaimed
9 Claims. (Cl. 260-47)

1. A composition of matter comprising a homopolymer of an ethylenically unsaturated 2,4-dihydroxybenzophenone derivative selected from the group consisting of:

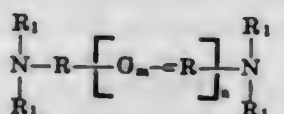


wherein X represents an ethylenically unsaturated group selected from the class consisting of the beta-hydroxypropyl acrylate, beta-hydroxypropyl methacrylate (3-allyloxy-2-hydroxy)propyl, and (2-hydroxy)butenyl-1 radicals; and, wherein R represents a radical selected from the class consisting of hydrogen and hydroxy radicals.

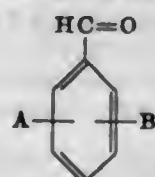
3,340,232

SYNTHETIC RESIN WHICH IS REACTION PRODUCT OF ARYL DIAMINE AND AROMATIC ALDEHYDE AND PROCESS OF MAKING SAME
Harry A. Smith and William K. Carrington, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 27, 1964, Ser. No. 340,493
11 Claims. (Cl. 260-48)

1. A linear film-forming synthetic resinous polymer comprising the reaction product of reactants consisting essentially of (a) an aromatic polyamine having the formula



wherein R is a divalent radical independently selected from the group consisting of divalent aromatic radicals having at least one benzene ring and the alkyl, alkoxy, and halogen derivatives thereof; each R₁ is a radical independently selected from the group consisting of hydrogen and aliphatic hydrocarbon radicals containing up to four carbon atoms; G is a divalent radical selected from the group consisting of divalent aliphatic hydrocarbon radicals containing up to 4 carbon atoms, oxygen, and sulfur; m is an integer from 0 to 1; and n is an integer from 0 to 1; and, per mole thereof, from one to five moles of (b) an aryl aldehyde of the formula



wherein A and B are independently selected from the group consisting of hydrogen, alkyl, alkoxy, aryl, halo,

and nitro radicals, the reaction being carried out by heating the reactants in the presence of an ionic catalyst at reaction temperature in the range from about 100° C. to the boiling point of the reactants with evolution of by-product water.

3,340,233

BIS-VINYLKETO AROMATIC COMPOUNDS AND POLYMERIZATION PRODUCTS THEREOF
Frederick C. Leavitt, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 22, 1963, Ser. No. 296,441
20 Claims. (Cl. 260-62)

1. A bis-vinyketo compound having a formula selected from the class consisting of



and



wherein Ar is a phenylene radical having no more than one additional substituent radical thereon and said additional substituent is selected from the class consisting of chlorine, hydroxy, alkyl and alkoxy radicals, said alkyl and alkoxy radicals each having no more than 8 carbon atoms therein; R is a member of the class consisting of hydrogen and the methyl group; and Z represents a radical selected from the class consisting of -O-, -S-, -C(O), and alkylene radicals having no more than 10 carbon atoms therein.

3,340,234

HIGH MOLECULAR WEIGHT 100% CRYSTALLINE POLYOXYMETHYLENES
Northrop Brown, Dennis Light Fonck, and Carl Earle Schweitzer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 27, 1965, Ser. No. 461,604
4 Claims. (Cl. 260-67)

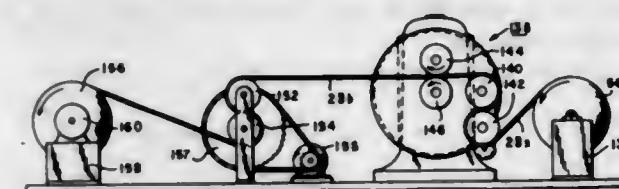
1. A polyoxymethylene which is substantially 100% crystalline, has a number average molecular weight of at least 15,000, and has the formula:



wherein R is selected from the group consisting of hydrogen, alkyl groups of 1-5 carbon atoms, alkoxyalkyl groups of 2-7 carbon atoms, cycloalkyl groups of 6-8 carbon atoms, and aralkyl groups of 7-16 carbon atoms.

3,340,235

FORMED NYLON AND METHOD
John E. Holt, Hampton, Conn. 06247
Filed Feb. 21, 1966, Ser. No. 534,276
5 Claims. (Cl. 260-78)



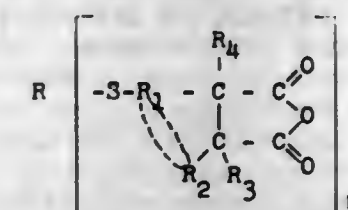
1. The method of increasing the tensile strength and stress-strain linearity of a sheet of polyamide plastic, comprising heating the plastic sheet to an elevated temperature by passing it between a pair of preheating rollers having a temperature of the order of 275° F. to 325° F., passing the sheet between a pair of compression rollers, the spacing between said compression rollers being substantially less than the thickness of said sheet whereby said sheet is permanently elongated to a length of the order of 240% to 285% of its length prior to passing

between said compression rollers, and stretching said sheet to increase its length by an amount on the order of 10 percent or more.

3,340,236

CHEMICAL COMPOSITION
Sylvan O. Greenlee, Lafayette, Ind., and Guy J. Crocker, North Brunswick, N.J., assignors, by mesne assignments, to Ciba Limited, Basel, Switzerland, a Swiss corporation
No Drawing. Filed June 4, 1962, Ser. No. 199,593
15 Claims. (Cl. 260-78.4)

1. A thioxy polyacid anhydride having the general formula:

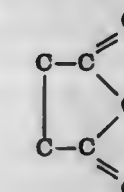


wherein:

n is at least 2,

R is an n-valent organic radical,

R₁ is a carbon chain of 0 to 3 carbons, S being connected directly to the acid anhydride ring



when the number of carbons of the carbon chain is 0,

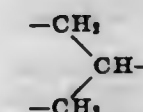
said carbon chain, where the number of carbons is greater than 0 being any of the group consisting of hydrocarbon, alkyl substituted hydrocarbon, aryl substituted hydrocarbon, and halogen substituted hydrocarbon and wherein,

R₂ may have any of the positions with respect to R₁, consisting of (1) being not connected to R₁, (2) being singly connected to R₁, and (3) being doubly connected to R₁,

R₂ when not connected to R₁ being any of the group consisting of hydrogen, alkyl, aryl and halogen,

R₂ when singly connected to R₁ being of the group consisting of -CH₂-CH₂- and alkyl substituted, aryl substituted, and halogen substituted derivatives thereof,

R₂ when doubly connected to R₁ being of the group consisting of



and alkyl substituted, aryl substituted, and halogen substituted derivatives thereof,

R₃ and R₄ are any one of the group consisting of hydrogen, alkyl, aryl and halogen.

3,340,237

RESINOUS CONDENSATES
Lucien Sellet, Saddle River, N.J., assignor to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey
No Drawing. Original application Oct. 5, 1960, Ser. No. 60,576, now Patent No. 3,223,751, dated Dec. 14, 1965. Divided and this application Feb. 23, 1965, Ser. No. 434,669

2 Claims. (Cl. 260-78.4)

1. Amphoteric nitrogen containing materials consisting essentially of condensates prepared by heating at reflux

temperatures for about 4 to about 6 hours approximately equimolar quantities of dicyandiamide and a member of the group consisting of itaconic acid, monoammonium salts thereof, maleic acid, monoammonium salts thereof and maleic anhydride.

3,340,238

METHOD FOR PRODUCING POLYMERS OF VINYL AROMATIC SULFONATES CHARACTERIZED USEFUL AS FLOCCULANTS

William E. Smith, Midland, and Henry Volk, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 7, 1962, Ser. No. 222,097

6 Claims. (Cl. 260-79.3)

1. In a method which comprises polymerizing, at a temperature within the range of from about 0 up to 100° C. and in the presence of a free radical catalyst, in the form of an aqueous solution substantially free of oxygen, from about 2 up to about 25 percent by weight, based on the weight of the aqueous solution, of a monomer composition selected from the group consisting of monocyclic alkali metal vinyl aromatic sulfonates of the benzene series and mixtures thereof with monoethylenically unsaturated monomers polymerizable with styrene which mixture contains at least 5 weight percent of the vinyl aromatic sulfonate and at least 40 weight percent of a hydrophilic monomer, to provide a water-soluble polymer, the improvement which consists in adding to the aqueous system a sufficient amount of a basic alkali metal composition selected from the group consisting of alkali metal hydroxides and alkali metal carbonates to produce a pH of at least 11, but not exceeding an upper limit within the range from about 1 weight percent, at the above specified upper limit of monomer composition concentration, to about 15 weight percent, at the above specified lower limit of monomer composition concentration, said weight percentages being based on the total weight of the aqueous system.

3,340,239

ALLYL ETHERS OF METHYL α -D-GLUCOSIDE POLYMERS AND COPOLYMERS

Richard G. Schweiger, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed May 12, 1965, Ser. No. 455,341

13 Claims. (Cl. 260-80.3)

10. A polymer of monoallyl ether of methyl α -D-glucoside having a boiling point of 166 to 170° C. at 0.15 mm. Hg and a D.S. of 1, said glucoside ether being essentially free of glucoside ethers having a D.S. of 2 or more.

3,340,240

POLYMERIZATION OF UNSATURATED HYDROCARBON MONOMERS IN THE PRESENCE OF A NON-HALOGENATED ANIONIC COORDINATION TYPE CATALYST AND TETRACHLOROETHYLENE

Giulio Natta, Giorgio Mazzanti, Alberto Valvassori, and Guido Sartori, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed May 21, 1963, Ser. No. 282,168

Claims priority, application Italy, May 22, 1962, 10,271/62

13 Claims. (Cl. 260-88.2)

1. A process for preparing high molecular weight:
 - (a) homopolymers of alpha-olefins having 3 to 8 carbon atoms;
 - (b) copolymers of alpha-olefins having 2 to 8 carbon atoms with each other;
 - (c) copolymers of the alpha-olefins in (b), with hydrocarbon compounds selected from the group consisting of dienes and polyenes,

comprising, polymerizing at least one of said monomers in the presence of a catalyst system consisting essentially of (1) a halogen-free transition metal compound selected from the group consisting of chromium acetylacetonate, vanadium acetylacetonate, vanadyl diacetylacetonate, vanadyl triacetylacetonate, alkyl orthovanadates, vanadyl benzoyl-acetonate, vanadyl triisopropylate, chromium benzoyl-acetonate, vanadium triacetate, vanadium tribenzoate, and vanadium tri-stearate; (2) a halogen-free organometallic compound of the metal of Groups I, II, and III of the Periodic Table, the catalyst preparation and polymerization taking place in the presence of tetrachloroethylene.

3,340,241

PROCESS FOR PRODUCING ELASTOMERIC COPOLYMERS OF ETHYLENE WITH HIGHER ALPHA-OLEFINS

Giulio Natta and Giorgio Mazzanti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

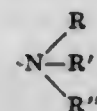
No Drawing. Filed Jan. 27, 1966, Ser. No. 523,258

Claims priority, application Italy, Oct. 24, 1960,

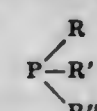
18,320/60; Nov. 25, 1960, 20,478/60

11 Claims. (Cl. 260-88.2)

1. In the production of copolymerizates of ethylene with a higher alpha-olefin selected from the group consisting of propylene and butene-1, which copolymerizates consist essentially of high molecular weight, linear copolymers of ethylene and the higher alpha-olefin that are free homopolymers and amorphous on X-rays examination, by copolymerizing a mixture of ethylene and the higher alpha-olefin at a temperature of from 0° C. to 125° C., in contact with a catalyst prepared from (1) a dialkyl aluminum halide in which the alkyl groups contain from 1 to 6 carbon atoms and (2) a vanadium compound selected from the group consisting of vanadium acetylacetonates, vanadyl acetylacetonates and vanadyl trialkoxides having the formula $VO(OR)_3$, in which R is an alkyl radical containing from 1 to 8 carbon atoms, in a molar ratio of (1) to (2) between 2 and 10, the improvement which consists in retarding decrease in the activity of said catalyst and increasing the yield of copolymerizate based on the amount of catalyst used, by effecting the copolymerization in the presence of from 0.01 mol to 2.0 mol per mol of the dialkyl aluminum halide of a substance capable of forming, through dative bonds, a complex with the dialkyl aluminum halide and selected from the group consisting of ethers having the formula RYR' in which Y is selected from the group consisting of oxygen and sulfur and R and R' are selected from the group consisting of linear and branched alkyl radicals containing from 1 to 14 carbon atoms and aromatic radicals containing from 6 to 14 carbon atoms at least one of R and R' being a branched alkyl group, ethers and thioethers of said formula in which at least one of R and R' is an aromatic nucleus, tertiary amines of the formula



in which R, R' and R'' are selected from the group consisting of alkyl radicals containing from 1 to 14 carbon atoms and aromatic radicals containing from 6 to 14 carbon atoms, at least one of R, R' and R'' being an aromatic nucleus, and tertiary phosphines of the formula



in which R, R' and R'' are selected from the group consisting of alkyl radicals containing from 1 to 14 carbon

atoms and aromatic radicals containing from 6 to 14 carbon atoms, at least one of R, R' and R'' being an aromatic nucleus, while maintaining a molar ratio of the higher alpha-olefin to ethylene in the reacting liquid phase of at least 4 when the higher olefin is propylene and of at least 25 when the higher olefin is butene-1.

3,340,242

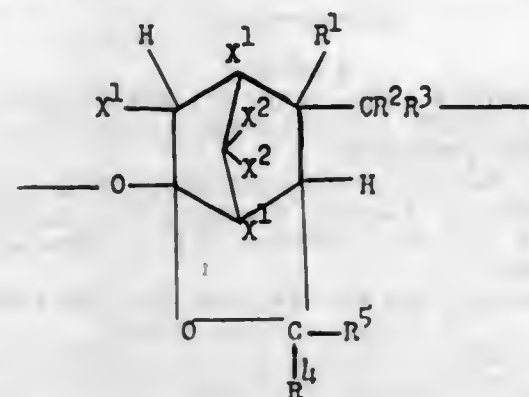
POLYMERS OF HALOGENATED 5-NORBORNENE-2,3-DIMETHANOLS

Emil J. Geering, Grand Island, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,970

7 Claims. (Cl. 260-91.3)

1. A polymeric composition of matter having repeating units of the formula:



wherein

- X¹ is selected from the group consisting of fluorine, chlorine, bromine; and
 X² is selected from the group consisting of fluorine, chlorine, bromine and lower alkoxy; and
 R¹, R², R³, R⁴, R⁵ are independently selected from the group consisting of hydrogen and alkyl.

3,340,243

AQUEOUS SUSPENSION POLYMERIZATION OF VINYL CHLORIDE IN PRESENCE OF A NON-IONIC, WATER SOLUBLE, HYDROPHILIC COLLOID AND AN ACYL PERSULFONATE

Ludwig A. Beer, Agawam, and Frederic J. Locke, East Longmeadow, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 10, 1963, Ser. No. 286,473

11 Claims. (Cl. 260-92.8)

1. The process for the homopolymerization of vinyl chloride which comprises conducting the polymerization of vinyl chloride monomer in aqueous suspension in the presence of (1) nonionic, water soluble, hydrophilic colloids and (2) an acyl persulfonate having the structure:



wherein R is selected from the class consisting of alkyl and cycloalkyl radicals and wherein R' is selected from the class consisting of primary, secondary and tertiary alkyl radicals.

3,340,244

ORGANO ALUMINUM HALIDE CATALYSTS AND POLYMERIZATION PROCESSES EMPLOYING SAME

Harry W. Coover, Jr., and Marvin A. McCall, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,051

13 Claims. (Cl. 260-93.7)

1. In the polymerization of α -olefinic hydrocarbons containing at least three carbon atoms to solid, crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of (1) organo-aluminum halides having a

formula selected from the group consisting of R_mAlX_n and $R_2Al_2X_3$ where R is a member selected from the group consisting of alkyl, cycloalkyl, phenyl, tolyl, X is a halogen selected from the group consisting of chlorine and bromine and m and n are integers whose sum is equal to the valence of aluminum, (2) a compound selected from the group consisting of halides, alkoxy halides and alkoxides of a transition metal from Group IVB-VIB of the Periodic Table and (3) a member selected from the group consisting of monocyclic hydrocarbons containing up to 16 carbon atoms and at least three ethylenic bonds in the ring, phenyl substituted acyclic straight chain hydrocarbons containing at least three ethylenic bonds and polybutadiene having an inherent viscosity in tetralin at 145° C. in the range of about .1 to about 1.5, the molar ratio of component (1) to component (3) being in the range of about 10:1 to about 1:5.

3,340,245

CROSSLINKING OF POLYMERS

Zalik Oser, Falls Church, Va., and Edward J. Woeke, New Brunswick, and Robert Fuhrmann, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 24, 1964, Ser. No. 385,075

10 Claims. (Cl. 260-94.9)

1. A process for crosslinking halogen-containing olefin polymers, which comprises contacting the polymer with gaseous BF_3 .

3,340,246

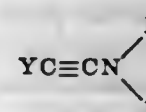
PROCESS FOR THE SYNTHESIS OF AMIDES, ESTERS, ALKYL HALIDES, CARBOXYLIC ACID ANHYDRIDES, AND PEPTIDES EMPLOYING AMINOACETYLENES AS WATER ACCEPTORS

Heinz G. Vlehe, Linkebeek, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 18, 1964, Ser. No. 376,253

14 Claims. (Cl. 260-112.5)

1. In a condensation reaction wherein a first functional group of an organic compound, said first functional group being selected from the class consisting of carboxylic acid groups and alcoholic hydroxyl groups, reacts with an active hydrogen atom of a second functional group, said second functional group being selected from the class consisting of (a) hydrogen halide molecules and (b) alcoholic hydroxyl, primary amino, or secondary amino, said condensation reaction taking place with the formation of a chemical bond between elements of said two functional groups and with the elimination of water between said two functional groups, and said organic compounds are free of sites which are reactive in chemical reactions other than said condensation reaction, the improvement which comprises mixing together with said first and second functional group reactants as a water acceptor an aminoacetylene compound represented by the formula



wherein R is a monovalent hydrocarbon group containing from 1 to 18 carbon atoms, Y is selected from the class consisting of R groups, hydrogen and NR_2 groups, and two R groups on the same nitrogen atom taken together with said nitrogen atom to form a heterocyclic ring with said nitrogen atom being the hetero atom in said heterocyclic ring.

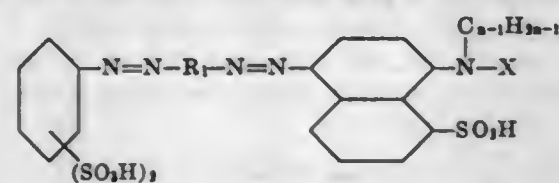
14. The process for producing N-carbobenzoxy-gamma-methyl-L-glutamyl-dimethyl-L-aspartate which comprises adding a tetrahydrofuran solution of bis-dimethyl-aminoacetylene to a mixture of dimethyl-L-aspartate and

N-carbobenzoxy-gamma-methyl-L-glutamate dissolved in tetrahydrofuran.

3,340,247 DISAZO TRIAZINE DYESTUFFS

Henri Riat, Arlesheim, and Karl Seltz, Neu-Allschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Sept. 8, 1965, Ser. No. 485,936
Claims priority, application Switzerland, Nov. 6, 1961, 12,841/61; Aug. 21, 1962, 9,949/62
8 Claims. (Cl. 260—153)

1. A water-soluble disazo dyestuff of the formula



in which R_1 represents a member selected from the group consisting of a benzene and a naphthalene radical that is bound to the azo groups in 1-position and 4-position, said benzene radical being selected from the group consisting of the unsubstituted 1,4-phenylene and the benzene radicals containing a substituent selected from the group consisting of lower alkyl, acetamino and lower alkoxy and the naphthalene radical being selected from the group consisting of the 1,4-naphthalene and the sulfonaphthylene radicals, n represents a whole number from 1 to 3, and X represents a mono-chloro triazine nucleus and further substituted by groups selected from the class consisting of chloro, lower alkoxy, phenoxy, sulfo-phenoxy, phenylthio, amino, hydroxy lower alkylamino, lower alkoxyalkylamino, phenylamino, monosulfophenylamino, disulfophenylamino, carboxyphenylamino, morpholino, N-lower alkyl-N-phenylamino, N-lower alkyl-N-sulfophenylamino and acetamino-aminobenzene.

3,340,248
GLUCOSYL-STERIOD-GUANYL-HYDRAZONES
Karlheinz Meyer, Hans Krätzer, and Siegmund Schütz, Wuppertal-Elberfeld, Kurt Stoepel, Wuppertal-Vohwinkel, and Hans-Günther Kroneberg, Haan, Rhineland, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Apr. 13, 1965, Ser. No. 447,896
Claims priority, application Germany, Apr. 16, 1964, F 42,621
29 Claims. (Cl. 260—210.5)

1. A compound selected from the group consisting of the mono- and bis-guanyldiazone, the mono- and bis-[(β -diethylaminoethyl)-guanyldiazone] and the mono- and bis-[(β -pyrrolidinoethyl)-guanyldiazone] of androstanes and pregnanes which contain one N-methyl-N-1'-(1'-desoxyglucosyl)-carbamate or N-2'-(2'-desoxyglucosyl)-carbamate or (D-glucosyloxy)- or (D-tetraacetylglucosyloxy)- or (D-maltosyloxy)- or (D-heptaacetyl-maltosyloxy)- group on carbon atom 3, 17, 20 or 21, and their pharmaceutically acceptable non-toxic acid salts.

3,340,249
ADENOSINE TRIPHOSPHATE SALTS OF L-ORNITHINE AND PROCESS FOR PREPARING THE SAME
Takao Anraku, Fukuoka-machi, Iruma-gun, Junji Ide, Higashi-Murayama-shi, and Toshio Kobayashi, Tokyo, Japan, assignors to Chugai Sanyaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 4, 1965, Ser. No. 423,334
Claims priority, application Japan, Jan. 13, 1964, 39/1,139
5 Claims. (Cl. 260—211.5)

5. The L-ornithine salts of adenosine triphosphate.

3,340,250
EXTRACTING VALUES FROM TURMERIC
Louis Sair, Evergreen Park, and Leo Klee, Chicago, Ill., assignors to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 18, 1963, Ser. No. 309,762
5 Claims. (Cl. 260—236.5)

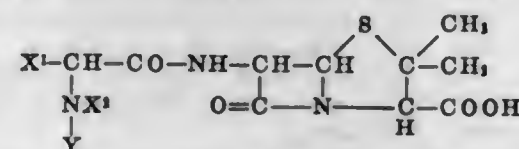
1. The method of forming a debittered turmeric color from turmeric material which contains oleoresin and essential oil thereof which comprises subjecting said turmeric material to the extracting action of an aliphatic hydrocarbon solvent having the solvent characteristics of solvent selected from the group consisting of petroleum ether, benzene, heptane, hexane and mixtures thereof in respect to preferential selectivity for the essential oil content and the simultaneous poor selectivity for the colored oleoresin content, and separating the oil-containing solvent from the colored residue.

3,340,251
17 β -HYDROXY-17 α -HALOHYDROCARBON-19-NOR-ANDROST-4-ENE-3-ONES AND THE Δ^9 (10)-ISOMERS THEREOF
John Fried, Palo Alto, Calif., and Thomas S. Bry, Linden, and Arthur A. Patchett, Cranford, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 18, 1965, Ser. No. 497,464
19 Claims. (Cl. 260—239.5)

15. 17 α -trifluoromethylethynyl-19-nor-5(10)-androstene-3-one-17 β -pyrrolidyl ethyl ether.

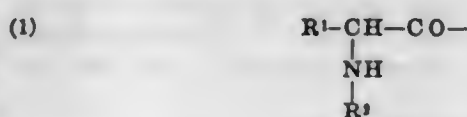
3,340,252
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS
Harvey E. Alburn, West Chester, and Norman H. Grant, Wynnwood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 7, 1964, Ser. No. 358,050
20 Claims. (Cl. 260—239.1)

1. A compound of the formula:



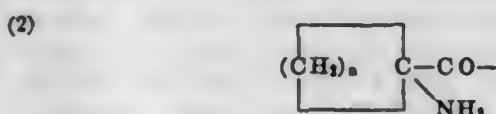
wherein:

X^1 is of the group consisting of hydrogen, lower alkyl, phenyl, and phenyl lower alkyl;
 X^2 is of the group consisting of hydrogen, lower alkyl, and phenyl; and
 Y is of the group consisting of:

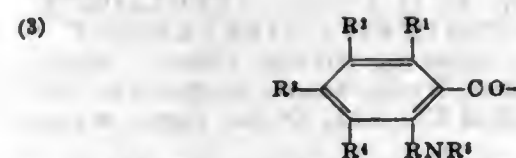


wherein:

R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and
 R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

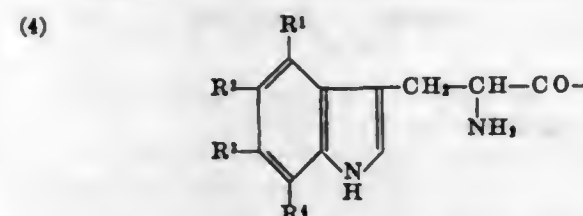


where $n=2$ to 9;

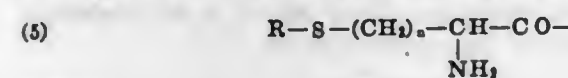


wherein:

R^1 , R^2 , R^3 , and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;
 R^2 and R^3 when joined complete a naphthylene ring; and
 R^5 is of the group consisting of hydrogen and lower alkyl;



where R^1 , R^2 , R^3 , and R^4 are of the group consisting of hydrogen, lower alkyl, and lower alkoxy;



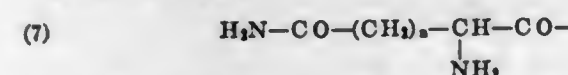
where:

$n=1$ to 5, and
 R is of the group consisting of hydrogen and lower alkyl;



where:

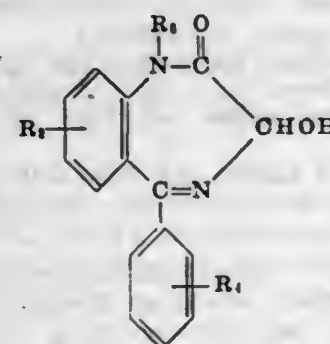
R is of the group consisting of hydroxy and alkyl; and
 $n=2$ to 7; and



wherein $n=1$ to 2.

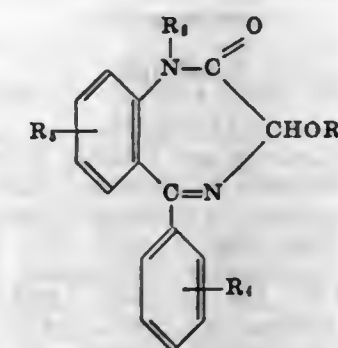
3,340,253
PREPARATION OF CERTAIN BENZODIAZEPINE COMPOUNDS
Earl Reeder, Nutley, Arthur Stempel, Teaneck, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 28, 1962, Ser. No. 240,750
8 Claims. (Cl. 260—239.3)

1. A method for the preparation of a compound selected from the group consisting of compounds of the formula



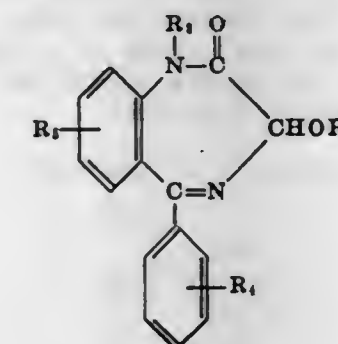
wherein R_1 is selected from the group consisting of hydrogen, halogen and trifluoromethyl; R_2 is selected from

the group consisting of hydrogen, halogen, trifluoromethyl, nitro lower alkylthio and lower alkyl; and R_3 is selected from the group consisting of hydrogen, lower alkyl and lower alkenyl, which comprises acid hydrolysis of a compound selected from the group consisting of compounds of the formula



wherein R_4 , R_5 and R_6 have the same meaning as above and R_3 is selected from the group consisting of lower alkanoyl, and benzoyl.

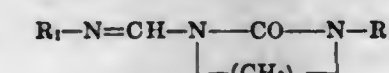
4. A process for the preparation of a compound selected from the group consisting of compounds of the formula



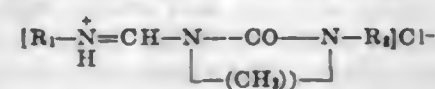
wherein R_3 is lower alkyl; R_4 is selected from the group consisting of hydrogen, halogen and trifluoromethyl; R_5 is selected from the group consisting of hydrogen, halogen, trifluoromethyl, nitro, lower alkylthio and lower alkyl; and R_6 is selected from the group consisting of hydrogen, lower alkyl and lower alkenyl, which comprises treating corresponding benzodiazepine compounds wherein R_2 is selected from the group consisting of hydrogen, lower alkanoyl, and benzoyl with lower alcohol.

3,340,254
AMINO METHYLENE UREAS
Wolfgang Jentzsch and Matthias Seefelder, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed May 19, 1964, Ser. No. 368,705
Claims priority, application Germany, June 12, 1963, B 72,261
1 Claim. (Cl. 260—239.3)

A compound selected from the group consisting of (a) a compound having the formula



and (b) a compound having the formula



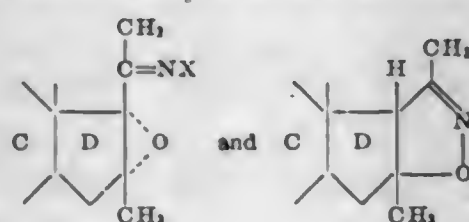
wherein R_1 is a member from the group consisting of lower alkyl, methoxypropyl, cyclohexyl, phenyl and chlorophenyl; R_2 is a member selected from the group consisting of hydrogen, ethoxy, and benzyl; and n is 2, 3 or 4.

3,340,255

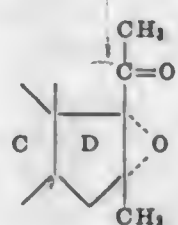
METHOD OF PREPARING NITROGENOUS STEROIDS

Theodor Wagner-Jauregg and Ludwig Zirngibl, Zofingen, Switzerland, assignors to Siegfried Aktiengesellschaft, Zofingen, Switzerland, a Swiss body corporate
No Drawing. Filed May 5, 1965, Ser. No. 453,500
Claims priority, application Switzerland, May 6, 1964, 5,957/64; Jan. 26, 1965, 1,082/65
11 Claims. (Cl. 260—239.55)

1. Method of preparing a nitrogenous steroid having a partial structure selected from the group consisting of:



wherein X is selected from the group consisting of hydrogen, lower alkyl radicals and lower alkyl radicals substituted by an amino group or a hydroxy group, which comprises heating in a solvent the corresponding steroid having the partial structure



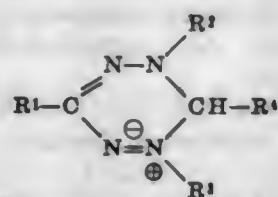
with a compound having the formula H_2N-X wherein X has the same meaning as defined above.

3,340,256

S-TETRAZINYL STABLE ORGANIC FREE RADICAL COMPOUNDS

Richard Kohn and Heinrich Trischmann, Heidelberg, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,752
Claims priority, application Germany, Dec. 29, 1962, B 70,163; Mar. 23, 1963, B 71,277; July 20, 1963, B 72,784
9 Claims. (Cl. 260—241)

1. An organic radical compound of the formula:

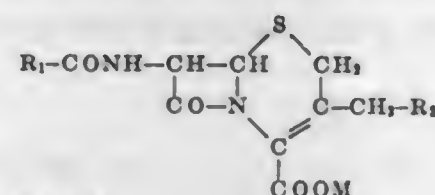


in which R^1 is selected from the group consisting of hydrogen, lower alkyl, phenyl, lower alkyl phenyl, halophenyl and benzyl; R^2 and R^3 are selected from the group consisting of phenyl, halophenyl and lower alkoxy phenyl and R^4 is selected from the group consisting of hydrogen, lower alkyl, phenyl and halophenyl.

7-(α - OR β -AZIDO ACYLAMINO) CEPHALOSPORANIC ACID AND DERIVATIVES THEREOF

Tadayoshi Takano, Hirakata, Kiyoshi Hattori, Ibaragi, and Teiji Kishimoto, Kyoto, Japan, assignors to Fujisawa Pharmaceutical Co., Ltd., Osaka, Japan, a company of Japan
No Drawing. Filed July 20, 1965, Ser. No. 473,516
Claims priority, application Japan, July 23, 1964, 39/42,125, 39/42,126
8 Claims. (Cl. 260—243)

1. A compound having the general formula:



wherein R_1 is alkyl



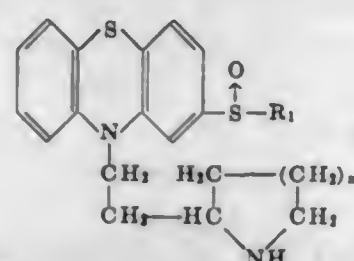
in which the alkyl is a straight or branched chain containing 1 to 7 carbon atoms; R_2 is acetoxy or pyridinium group; and M is hydrogen alkali metal, a dicyclohexylammonium group or an anionic charge.

3,340,258

PHENOTHIAZINE DERIVATIVES

Jany Renz, Basel, Jean-Pierre Bourquin, Magden, Robert Fischer, Basel, and Gustav Schwarb, Allschwil, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Jan. 10, 1966, Ser. No. 519,407
Claims priority, application Switzerland, Jan. 12, 1965, 374/65; Apr. 28, 1965, 5,966/65, 5,967/65
5 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of a compound of formula:



in which R_1 is alkyl of 1 to 4 carbon atoms inclusive, and n is 1 or 2, and a physiologically acceptable acid addition salt thereof.

3,340,259

PROCESS FOR MAKING BIS DIAMINO ALKYNES

James F. Vitcha, New Providence, and George L. Moore, South Plainfield, N.J., assignors, by mesne assignments, to Cumberland Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application Jan. 20, 1961, Ser. No. 90,209, now Patent No. 3,268,524, dated Aug. 23, 1966. Divided and this application Mar. 10, 1965, Ser. No. 438,755
7 Claims. (Cl. 260—246)

1. A process which comprises forming an anhydrous mixture of paraformaldehyde, a hydrocarbon solvent, and a catalyst selected from the group consisting of salts and acetylides of copper, adding an atmosphere of acetylene on said mixture, and gradually adding to said mixture an amine selected from the group consisting of primary amines and secondary amines having up to 20 carbon atoms, said amines being selected from the group consisting of alkyl amines, cycloalkyl amines saturated monocyclic heterocyclic amines and monocyclic aromatic

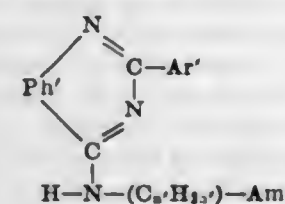
amines, and mixtures of the foregoing, said amine being added to said mixture at a uniform rate and at a temperature and pressure high enough to cause reaction to occur, continuing the reaction until substantially no acetylene is taken up by the reaction mixture, removing the acetylene atmosphere, charging additional paraformaldehyde to the mixture and adding additional amounts of said amine, the rate of addition of said amine being such that substantially no excess of unreacted amine is present in the reaction mixtures.

3,340,260

4-AMINO-PYRIMIDINES

Herbert Morton Blatter, Summit, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 3, 1966, Ser. No. 591,700
9 Claims. (Cl. 260—247.1)

1. A member selected from the group consisting of a compound having the formula



in which Ph' is a member selected from the group consisting of 1,2-phenylene, (alkyl)-1,2-phenylene in which alkyl has 1 to 4 carbon atoms and (halogeno)-1,2-phenylene in which halogeno has an atomic weight from 19 to 80, Ar' is a member selected from the group consisting of phenyl, (alkyl)-phenyl in which alkyl has 1 to 4 carbon atoms, (halogeno)-phenyl in which halogeno has an atomic weight from 19 to 80, pyridyl and thienyl, the group of the formula $-(C_nH_{2n})-$ is alkylene having from two to three carbon atoms and separating the group Am' from the nitrogen atom by two carbon atoms, and Am' is a member selected from the group consisting of N,N -di-lower alkyl-amino, pyrrolidino, piperidino, 4-lower alkyl-piperazino, 4-morpholino, and 4-thiamorpholino, each of said lower alkyl substituents having 1 to 5 carbon atoms, and a pharmaceutically acceptable acid addition salt thereof.

7. A compound as claimed in claim 1 and being a member selected from the group consisting of 6-hydroxy-4-N-[2-(4-morpholino)-ethyl]-amino-2-phenyl-quinazoline and a pharmaceutically acceptable acid addition salt thereof.

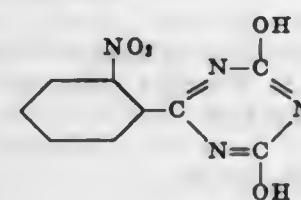
3,340,261

2-ARYL-4:6-DIHYDROXY-1:3:5-TRIAZINES AND PROCESS FOR THEIR MANUFACTURE

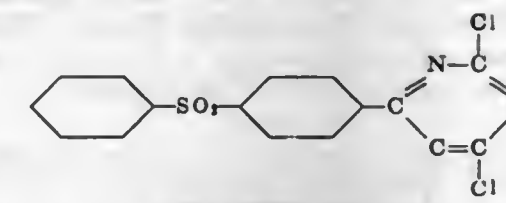
Eduard Moergeli, Muttens, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed July 2, 1963, Ser. No. 292,442
Claims priority, application Switzerland, July 3, 1962, 8,027/62
14 Claims. (Cl. 260—248)

1. A process for the manufacture of a 2-aryl-4:6-dihydroxy-1:3:5-triazine which comprises hydrolyzing a manufacture selected from the group consisting of a 2-aryl-4:6-diamino-1:3:5-triazine and a 2-aryl-4-amino-6-hydroxy-1:3:5-triazine with sulfuric acid of 70–96% strength.

10. The compound of the formula



12. The compound of the formula

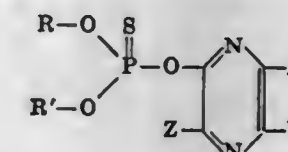


3,340,262

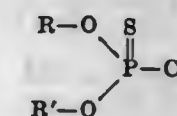
PROCESS FOR THE PREPARATION OF O,O-DI-ALKYL-O-2-PYRAZINYL PHOSPHOROTHIOATES

George Nicholas Gagliardi, Trenton, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Mar. 10, 1965, Ser. No. 438,724
4 Claims. (Cl. 260—250)

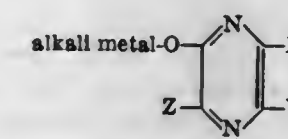
1. A process for preparing a pyrazinyl phosphorothioate of the formula



where R and R' are lower alkyl, X , Y and Z are selected from the group consisting of hydrogen, halogen, phenyl and lower alkyl, which comprises reacting a dialkyl phosphorochloridothioate of the formula



with an alkali metal salt of a hydroxypyrazine of the formula



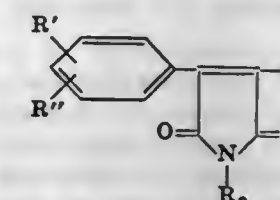
where R , R' , X , Y and Z have the values specified above, by continuously adding said dialkyl phosphorochloridothioate to an aqueous solution of said salt while maintaining the pH of the reaction mixture at between 8.5 and 10.

3,340,263

AMINO-PYRROLES

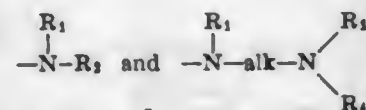
Alexander Staehelin, Reinach, Basel-Land, Karl Schenker, Basel, and Arnoldo Rossi Pietro, Oberwil, Basel-Land, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,653
Claims priority, application Switzerland, Feb. 14, 1964, 1,795/64; Dec. 14, 1964, 16,109/64
23 Claims. (Cl. 260—268)

1. A member selected from the group consisting of a compound of the formula



in which R' and R'' each stands for a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, halogen and trifluoromethyl, R_0 stands for a mem-

ber selected from the group consisting of hydrogen and lower alkyl, and R stands for a member selected from the group consisting of piperazino, 4-lower alkyl-piperazino, 4-lower alkenyl-piperazino, 4-(hydroxy-lower alkyl)-piperazino and the groups of the formulae



in which R_1 stands for a member selected from the group consisting of hydrogen, lower alkyl, phenyl-lower alkyl, lower alkyl-phenyl-lower-alkyl, lower alkoxy-phenyl-lower alkyl, halogen-phenyl-lower alkyl and trifluoromethyl-phenyl-lower alkyl, R_2 stands for a member selected from the group consisting of N-(lower alkyl)-pyrrolidinyl-lower alkyl and N-(lower alkyl)-piperidinyl-lower alkyl, alk stands for lower alkylene and R_3 and R_4 each stands for a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, and, when taken together, stand for a member selected from the group consisting of alkylene having 4 to 8 carbon atoms, morpholino, piperazino, 3-oxa-pentylene-(1,6)-amino, 3-aza-pentylene-(1,6)-amino, 4-(lower alkyl)piperazino and 4-(hydroxy-lower alkyl)-piperazino, and an acid addition salt thereof.

3,340,264

PROCESS FOR PREPARING N,N'-DIARYLPERYLENETETRACARBOXYLIC DIIMIDES

Richard L. Walker, Earleville, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 6, 1964, Ser. No. 365,513

6 Claims. (Cl. 260—281)

1. A process for the preparation of N,N'-diarylperylene-tetracarboxylic diimides which process comprises heating in an aqueous medium a mixture consisting essentially of one mole of a member selected from the group consisting of 3,4,9,10-perylene-tetracarboxylic acid and the anhydride thereof and at least two moles of a primary arylamine in the presence of a tertiary nitrogen base selected from the group consisting of pyridine, alkylpyridine, quinoline, isoquinoline, and N,N-dialkylanilines, said mixture being heated under ambient pressure to a temperature of from about 85° C. to the refluxing temperature of said mixture, and recovering from said aqueous medium N,N'-diarylperylene-tetracarboxylic diimide.

3,340,265

QUATERNARY AMMONIUM SALTS OF ACETYLENIC CARBOXYLIC ACIDS

Reginald L. Wakeman, Philadelphia, Pa., and E. Griffin Shay, Belle Mead, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 23, 1964, Ser. No. 362,559

7 Claims. (Cl. 260—286)

1. A quaternary ammonium salt of a carboxylic fatty acid having at least one acetylenic linkage and from 8 to 18 carbon atoms, wherein the quaternary ammonium cation is derived from a quaternary ammonium compound having a phenol coefficient of at least 100 with respect to both *Staphylococcus aureus* and *Salmonella typhosa* at 20° C. and having at least one alkyl having 8 to 22 carbon atoms on the quaternary nitrogen.

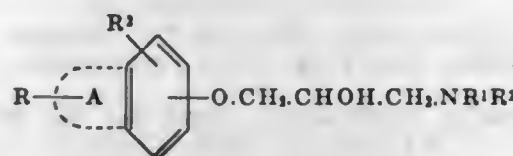
7. Alkyl isoquinolinium alpha-octynoate said alkyl having 8 to 22 carbon atoms.

3,340,266 (3-AMINO-2-HYDROXYPROPOXY)-BENZO- HETEROCYCLIC DERIVATIVES

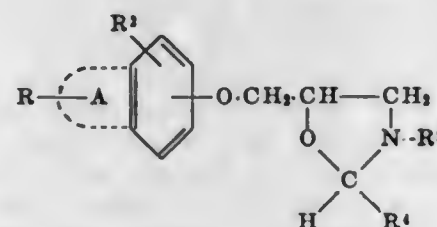
Ralph Howe and Bernard Joseph McLoughlin, Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 20, 1964, Ser. No. 383,940
Claims priority, application Great Britain, July 30, 1963, 30,135/63; Jan. 16, 1964, 1,990/64
14 Claims. (Cl. 260—288)

1. A compound selected from the group consisting of compounds of the formula:



wherein R^1 is selected from hydrogen and alkyl of 1-6 carbon atoms, R^2 contains up to 10 carbon atoms and is selected from alkyl, hydroxyalkyl, alkoxyalkyl, cycloalkyl, alkenyl, aralkyl, alkylaralkyl and alkoxyaralkyl, R^3 is selected from hydrogen and halogen, A is selected from 5-, 6-, 7- and 8- membered heterocyclic rings containing 1-2 oxygen atoms and R is selected from hydrogen alkyl of 1-6 carbon atoms, oxo, hydroxy and the group of the formula $-CH=CH-CH=CH-$ which together with the ring A forms a fused benzene ring, and the pharmaceutically-acceptable acid-addition salts thereof, and the oxazolidine derivatives thereof having the formula:



where R, R^1 , R^2 , R^3 , and A are as defined above and R^4 is selected from alkyl of 1-6 carbon atoms, hydrogen and phenyl, and the pharmaceutically-acceptable acid addition salts thereof.

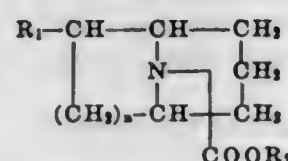
3,340,267 CERTAIN N-(ETHOXYCARBONYL)-NORTRO- PANE AND 9-AZABICYCLO[3.3.1]NONANE DERIVATIVES

Ernst Jucker, Ettingen, and Adolf Lindenmann, Basel, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed July 27, 1965, Ser. No. 475,283
Claims priority, application Switzerland, Aug. 5, 1964, 10,203/64

4 Claims. (Cl. 260—292)

1. A compound of the formula:



in which

R_1 is hydrogen or lower alkoxy,

R_2 is alkyl of 1 to 6 carbon atoms or aralkyl of 7 to 12 carbon atoms and

n is 1 or 2.

and their acid addition salts.

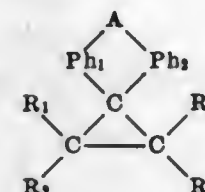
3,340,268 1-[PIPERIDYL]-2,2-DI(MONOCYCLIC HEXACYCLIC ARYL)-CYCLOPROPANE

Renat Herbert Mizzoni, Long Valley, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 26, 1964, Ser. No. 347,377

6 Claims. (Cl. 260—293.4)

1. A member selected from the group consisting of a compound of the formula



in which each of the groups Ph_1 and Ph_2 is a member selected from the group consisting of 1,2-phenylene, (lower alkyl)-1,2-phenylene, (lower alkoxy)-1,2-phenylene, (halogeno)-1,2-phenylene, (trifluoromethyl)-1,2-phenylene, (lower alkyl-mercapto)-1,2-phenylene and (lower alkanoyl)-1,2-phenylene, A is a member selected from the group consisting of a direct bond, thio, sulfonyl, oxy and 1,2-ethylene, each of R_1 , R_2 and R_3 is hydrogen, R_4 is a member selected from the group consisting of N- R_5 -piperidyl and (lower alkyl)-N- R_5 -piperidyl, and R_5 is a member selected from the group consisting of hydrogen and lower alkyl, and a non-toxic pharmaceutically acceptable acid addition salt thereof.

5. A member selected from the group consisting of 2-(4-piperidyl)-spiro[cyclopropane-1,9'-fluorene], and a non-toxic pharmaceutically acceptable acid addition salt thereof.

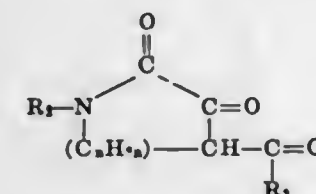
3,340,269

1-SUBSTITUTED 4-ACYL-2,3-DIOXO-PIPERIDINE Herbert Morton Blatter, Millburn, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,016

4 Claims. (Cl. 260—294.7)

1. A 1-substituted 4-acyl-2,3-dioxo-piperidine having the formula



in which R_2 is a member selected from the group consisting of lower alkyl, lower alkenyl, cycloalkyl and cycloalkyl-lower alkyl with 3 to 8 ring-carbon atoms, cycloalkenyl and cycloalkenyl-lower alkyl with 5 to 8 ring-carbon atoms, hydroxy-lower alkyl, lower alkoxy-lower alkyl, di-lower alkylamino-lower alkyl and 4 to 7 carbon alkylene-imino-lower alkyl in which the heteroatoms are separated from the 1-nitrogen atom by at least 2 carbon atoms, phenyl-lower alkyl, (lower alkyl)-phenyl-lower alkyl, (lower alkoxy)-phenyl-lower alkyl, (halogeno)-phenyl-lower alkyl, (lower alkylmercapto)-phenyl-lower alkyl, (di-lower alkylamino)-phenyl-lower alkyl, (trifluoromethyl)-phenyl-lower alkyl, phenyl, (lower alkyl)-phenyl, (lower alkoxy)-phenyl, (halogeno)-phenyl, (lower alkylmercapto)-phenyl, (di-lower alkylamino)-phenyl, (trifluoromethyl)-phenyl, pyridyl and (lower alkyl)-pyridyl, R_1 is a member selected from the group consisting of hydrogen and one of the radicals listed for R_2 and the group of the formula $-(C_nH_{2n})-$ is lower

alkylene, separating the nitrogen from the carbon by two carbon atoms.

3. 2,3-dioxo-1-(4-methyl-phenyl)-4-propionyl-piperidine.

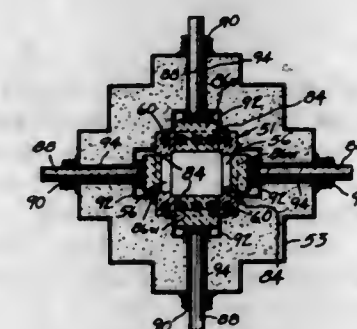
3,340,270

METHOD OF HOT PRESSING METALS AND REFRACTORIES

Alan G. King, West Boylston, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Original application Oct. 23, 1963, Ser. No. 318,322, now Patent No. 3,303,533, dated Feb. 14, 1967. Divided and this application Nov. 17, 1965, Ser. No. 535,617

4 Claims. (Cl. 264—297)



1. The method of hot pressing compressible material comprising, providing a hollow thin wall graphite mold or the like having four side walls and open ends, within which is disposed a moldable material, inserting plungers in said open ends to engage said material and extend beyond the open ends, supporting the mold in the furnace for heating the content of the mold up to a predetermined molding temperature and, while the mold is in the furnace, applying lateral support to its four walls perpendicular to the axis through its open ends and applying compacting pressure through the plungers in its open ends to the material therein in the direction of the axis, said lateral and compacting forces being applied from externally of the furnace without producing reactive forces on the furnace itself.

3,340,271

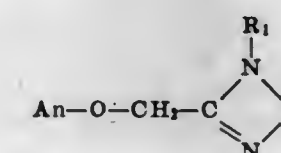
TRICYCLIC ETHERS

Lincoln Harvey Werner, Summit, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 11, 1964, Ser. No. 374,262

7 Claims. (Cl. 260—309.6)

1. A compound of the formula



in which An is a member selected from the group consisting of 9-anthryl and 9-anthryl substituted by a member selected from the group consisting of lower alkyl, lower alkoxy, lower alkenyloxy, lower alkylenedioxy, halogeno, lower alkyl mercapto, lower alkanoyl and halogeno-lower alkyl, the group R_1 is a member selected from the group consisting of hydrogen, lower alkyl and phenyl-lower alkyl, and A is lower alkylene separating the two nitrogen atoms by two to four carbon atoms.

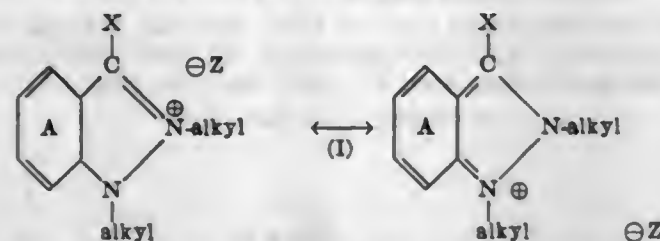
3,340,272

INDAZOLIUM SALTS

Robert Frédéric Michel Sureau, Enghien-les-Bains, Gilbert Victor Henri Kremer, Ermont, and Victor Marie Duprè, Louvres, France, assignors, by mesne assignments, to Etablissements Kuhlmann, Paris, France, a corporation of France
No Drawing. Filed Sept. 25, 1961, Ser. No. 140,260
Claims priority, application France, Sept. 30, 1960, 839,994

4 Claims. (Cl. 260—310)

1. The indazolium salts of the formulae:



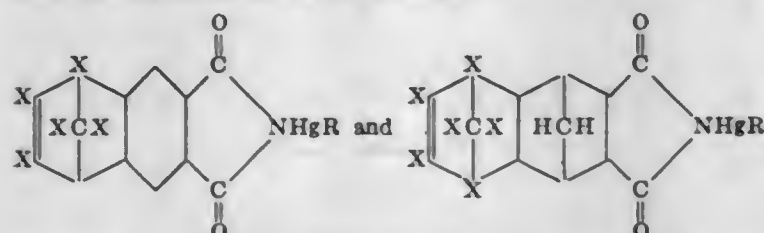
in which the alkyl groups in the 1- and 2-positions are selected from the group consisting of methyl and ethyl, X represents a member selected from the group consisting of chlorine and bromine, the benzene nucleus A is substituted by members selected from the groups consisting of hydrogen, chlorine and bromine atoms and nitro-, cyano-, sulphonamido, lower alkyl, lower alkoxy and lower alkylsulphonyl groups and Z represents a monovalent anion.

3,340,273

ORGANOMERCURIC IMIDES OF POLYHALO-POLYHYDROALKANONAPHTHALENEDICARBOXYLIC ACIDS

Charles M. Hayes, Hoffman Estates, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed June 23, 1965, Ser. No. 466,447
11 Claims. (Cl. 260—326)

1. A compound selected from the group consisting of compounds containing the formula:



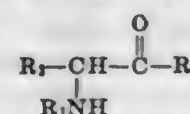
in which X is selected from the group consisting of hydrogen and halogen, at least two X's being halogen, and R is selected from the group consisting of alkyl, thioalkyl, aminoalkyl and haloalkyl in which the alkyls contain from 1 to 4 carbon atoms, phenyl, halophenyl, benzyl, or tolyl, xylyl and cyclohexyl.

3,340,274

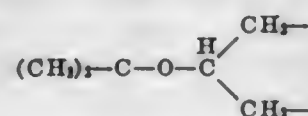
HYDROXY AMINO ACID DERIVATIVES

Francis M. Callahan, Stony Point, N.Y., and Joan E. Zimmerman, Hillsdale, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed June 27, 1962, Ser. No. 205,553
3 Claims. (Cl. 260—326.3)

1. A compound of the formula:

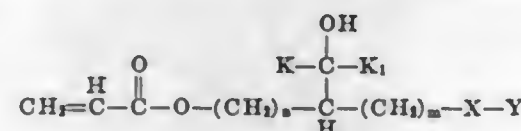


wherein R is hydrazido, and R₁ and R₂ are the divalent radical

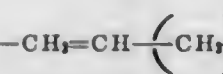
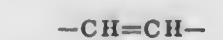
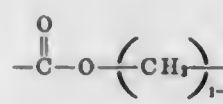
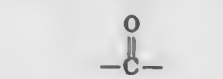
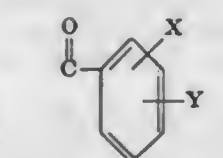
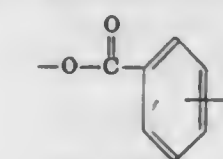
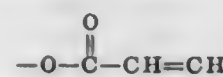
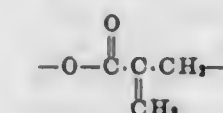
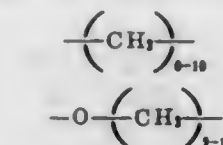
3,340,275
PERHALO CONTAINING AIR-DRYING MONOMERS

Robert A. Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 25, 1963, Ser. No. 297,677
5 Claims. (Cl. 260—340.9)

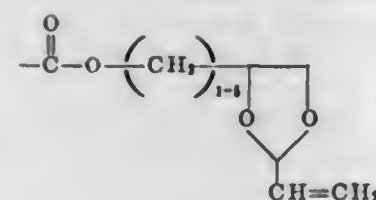
1. A compound of the formula



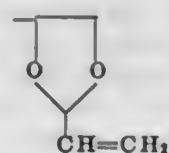
where
n is 1 or 2,
m is 0-5,
X is



Y is



or



and

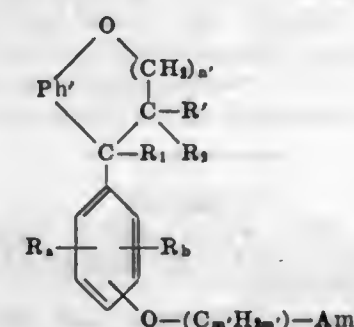
K and K₁ are perchloroalkyl, perfluoroalkyl or perchloro-fluoroalkyl radicals, all containing 1-5 carbon atoms.

3,340,276

3,4-DIPHENYL-CHROMANS

Richard William James Carney, Murray Hill, and William Laszlo Bencze, New Providence, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 1, 1964, Ser. No. 356,667
9 Claims. (Cl. 260—345.2)

1. A member selected from the group consisting of the compound of the formula



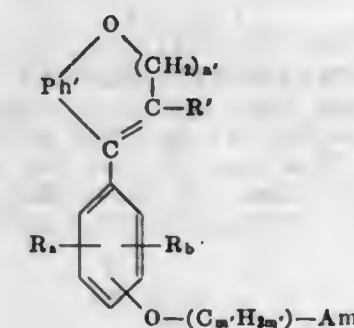
in which Ph' is a member selected from the group consisting of 1,2-phenylene, (lower alkyl)-1,2-phenylene, (lower alkoxy)-1,2-phenylene and (halogeno)-1,2-phenylene, R' is a member selected from the group consisting of phenyl, (lower alkyl)-phenyl, (lower alkoxy)-phenyl and (halogeno)-phenyl, each of the groups R₁ and R₂ is a member selected from the group consisting of hydrogen and lower alkyl, the letter n' stands for an integer from 0 to 2, Am' is a member selected from the group consisting of N,N-di-lower alkylamino, N,N-alkylene-imino, in which alkylene has from four to seven carbon atoms, 4-morpholino and 4-lower alkyl-1-piperazino, the group of the formula —(C_mH_{2m})— stands for alkylene having from two to three carbon atoms, and separates the group Am' from the oxygen by two to three carbon atoms, and each of the groups R₁ and R₂ is a member selected from the group consisting of hydrogen, halogeno and the group of the formula —O—(C_mH_{2m})—Am', in which Am' and the group of the formula —(C_mH_{2m})— have the previously given meaning, and a pharmaceutically acceptable acid addition salt thereof.

3,340,277

PHENYL-CHROMENES

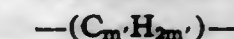
Richard William James Carney, Murray Hill, and William Laszlo Bencze, New Providence, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 24, 1964, Ser. No. 377,515
5 Claims. (Cl. 260—345.2)

1. A member selected from the group consisting of the compound of the formula



in which Ph' is a member selected from the group consisting of 1,2-phenylene, (lower alkyl)-1,2-phenylene, (lower alkoxy)-1,2-phenylene, and (halogeno)-1,2-phenylene, R' is a member selected from the group consisting of hydrogen and lower alkyl, the letter n' is an integer from 0 to 2, Am' is a member selected from the group consisting of N,N-di-lower alkyl-amino, N,N-alkylene-imino, in which alkylene has from four to seven carbon

atoms, 4-morpholino and 4-lower alkyl-1-piperazino, the group of the formula —(C_mH_{2m})— stands for alkylene having from two to three carbon atoms and separates the group Am' from the oxygen atom by two to three carbon atoms, and each of the groups R₁ and R₂ is a member selected from the group consisting of hydrogen, halogeno and the group of the formula —O—(C_mH_{2m})—Am', in which Am' and the group of the formula



have the previously-given meaning, and a pharmaceutically acceptable acid addition salt thereof.

3,340,278

5(10),7-ESTRADIENE-3,17-DIONE AND THE PROCESS FOR THE PRODUCTION THEREOF

Gunther Krüger, St. Laurent, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 3, 1965, Ser. No. 452,886
6 Claims. (Cl. 260—397.3)

1. 5(10),7-estradiene-3,17-dione.

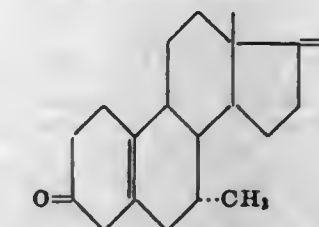
3,340,279

7α-METHYL-STERIODS OF THE OESTRANE SERIES

Hendrik Paul de Jongh and Nicolaas Pieter van Vliet, Oss, Netherlands, assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey
No Drawing. Filed June 1, 1965, Ser. No. 460,476
Claims priority, application Netherlands, June 16, 1964, 64—6,797

3 Claims. (Cl. 260—397.4)

1. Steroids of the formula:



wherein R is selected from the group consisting of keto and the group OX (αY), wherein X is selected from the group consisting of hydrogen and acyl derived from an inorganic acid and an organic carboxylic acid containing 1 to 18 carbon atoms, and Y is selected from the group consisting of hydrogen and lower alkyl, alkenyl and alkynyl.

3. Δ⁵⁽¹⁰⁾-3-keto-7α-methyl-17β-hydroxy-17α-ethynyl-estrane.

3,340,280

ESTRA-4,9-DIENE-3β,17-DIOLS AND ESTERS THEREOF

John Fried, Palo Alto, Calif., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 288,906, June 19, 1963, now Patent No. 3,250,793, dated May 10, 1966. This application Oct. 11, 1965, Ser. No. 494,877

8 Claims. (Cl. 260—397.5)

1. 17α-bromoethynyl-estra-4,9-diene-3β,17-diol.

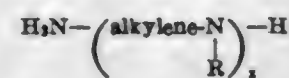
3,340,281

METHOD FOR PRODUCING LUBRICATING OIL ADDITIVES

William T. Brannen, Jr., Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed June 14, 1965, Ser. No. 463,924
2 Claims. (Cl. 260—404.5)

1. A process for the preparation of a lubricant oil

soluble product from a polyalkylene amine having the formula



wherein x is an integer from 2 to about 10, R is hydrogen or lower alkyl and alkylene is lower alkylene of from 1 to 8 carbon atoms, a polyolefin and an α -haloacetyl halide which comprises first reacting at 50° to 225° C. an α -haloacetyl halide with a polymeric olefin having a molecular weight in the range of from about 300 to 550,000 in the presence of a free radical initiator and then adding said free radical initiated reaction product slowly to said polyalkylene amine at 25 to 175° C.

3,340,282

RECOVERING OILS FROM COMBUSTIBLE MATERIALS

Felix E. Taylor, 500 N. Newman St., Shattuck, Okla. 73858

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,904
3 Claims. (Cl. 260-412)

1. A method for producing oils which comprises burning plant matter in a closed combustion zone with oxygen-containing gas, passing combustion products from said burning to a condensing zone maintained at a temperature in the range of about 50 to about 180 degrees F. and a pressure in the range of about 0.5 to about 30 inches mercury gauge, removing gases from said condensing zone and returning same to said combustion zone, and continuously circulating combustion gas through the loop comprising said combustion zone and said condensing zone for a time sufficient to produce an oleaginous product in said condensing zone.

3,340,283

PREPARATION OF ORGANOTIN-TRIHALIDES

Carl R. Gloskey, Stirling, N.J., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 20, 1964, Ser. No. 368,982
14 Claims. (Cl. 260-429.7)

1. The method of preparing organotin compounds R_3SnX_3 by the reaction $\text{SnX}_2 + \text{RX} \rightarrow \text{R}_3\text{SnX}_3$ wherein R is a hydrocarbon group, Sn is tin, and X is an active halogen which comprises reacting anhydrous SnX_2 with RX in the presence of an amine catalyst in a reaction mixture thereby forming R_3SnX_3 ; maintaining substantially equivalent amounts of SnX_2 and RX in said reaction mixture during said reaction; maintaining said reaction mixture at 100° - 250° C. and autogenous pressure during said reaction; and separating from said reaction mixture R_3SnX_3 .

3,340,284

STABLE LEAD ALKYL COMPOSITIONS AND A METHOD FOR PREPARING THE SAME

Shirl E. Cook and Wilford H. Thomas, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,433
9 Claims. (Cl. 260-437)

1. A method of inhibiting the decomposition of a concentrated alkyllead compound at temperatures of from about 100° C. to about 195° C. which comprises incorporating with said compound from about 2 to about 30 percent by weight of a cyclohexene hydrocarbon containing from 6 up to about 12 carbon atoms in the molecule and from about 5 to about 50 percent by weight of a cyclohexane hydrocarbon containing from 6 up to about 15 carbon atoms in the molecule so that the total of said cyclohexene hydrocarbon and said cyclohexane hydrocarbon is from about 10 to about 50 weight percent, the foregoing percentages being based on the weight of the alkyllead compound.

2. In the process of producing an alkyllead compound by reacting a sodium lead alloy with alkyl chloride and separating the thus produced alkyllead compound from the reaction mass by steam distillation, the step which comprises conducting said steam distillation in the presence of from about 2 to about 30 percent by weight of a cyclohexene hydrocarbon containing from 6 up to about 12 carbon atoms in the molecule and from about 5 to about 50 percent by weight of a cyclohexane hydrocarbon containing from 6 up to about 15 carbon atoms in the molecule so that the total of said cyclohexene hydrocarbon and said cyclohexane hydrocarbon is from about 10 to about 50 weight percent, the foregoing percentages being based on the weight of the alkyllead compound.

3,340,285

PROCESS FOR PREPARING DIORGANO ANTIMONY (III) CARBOXYLATES AND MERCAPTIDES

Nathaniel L. Remes, Livingston, and John J. Ventura, East Brunswick, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 24, 1964, Ser. No. 362,465
17 Claims. (Cl. 260-446)

1. The process for preparing a compound of the formula $\text{R}_2\text{SbZR}'$ wherein R and R' are independently selected from the group consisting of alkyl, aryl, and alkenyl; Z is selected from the group consisting of $-\text{OOC}-$ and $-\text{S}-$; and $-\text{ZR}'$ contains at least 4 carbon atoms which comprises mixing together HZR' and $\text{R}_2\text{SbOOCR}'$ wherein R'' is an alkyl radical containing less than 4 carbon atoms and fewer carbon atoms than R' , thereby forming product $\text{R}_2\text{SbZR}'$ and by-product HOOCR'' ; and separating said by-product from said product.

3,340,286

p-DIETHYLAMINOPHENYL SILANES

Harry M. Schiefer and Donald R. Weyenberg, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Original application Mar. 9, 1964, Ser. No. 350,543. Divided and this application Sept. 27, 1965, Ser. No. 506,141
5 Claims. (Cl. 260-448.2)

1. A silane of the formula



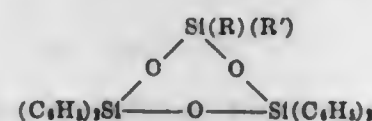
in which n is an integer from 1 to 2 inclusive, at least one R' is phenyl and any remaining R' groups are methyl radicals.

3,340,287

PROCESS FOR MAKING MIXED CYCLOTRILOXANES

Christian R. Sporck, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed June 20, 1966, Ser. No. 558,566
11 Claims. (Cl. 260-448.2)

1. The process for preparing cyclotrisiloxanes having the formula:

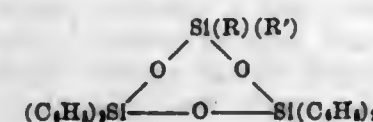


which comprises contacting tetraphenyldisiloxanediol-1,3 with a diorganodihalogenosilane having the formula:



in the presence of a hydrogen halide acceptor and a solvent which is inert to the reactants under the conditions of the reaction and isolating said cyclotrisiloxane from the reaction mixture, where the ingredients are present in the molar ratio of one mole of tetraphenyldisiloxanediol-1,3, from 0.5 to 2 moles of said diorganodihalogenosilane, and from about 2 to 30 moles of said hydrogen halide acceptor per mole of whichever of the first two ingredients is present in smaller amount, and where R and R' each represent members selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, and X is halogen.

10. The process for forming cyclotrisiloxanes having the formula:



which comprises contacting in the presence of a solvent inert to the reactants under the conditions of the reaction, ingredients in the ratio of one mole of tetraphenyldisiloxanediol-1,3, from 0.5 to 2 moles of a diorganodihalogenosilane having the formula:



and from about 2 to 30 moles of a tertiary amine per mole of whichever of the first two reactants is present in smaller amount and recovering the formed cyclotrisiloxane, where R and R' each represent a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals.

3,340,288

VINYLSHEPTAPHENYLCYCLOTETRASILOXANE

Christian R. Sporck, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 18, 1961, Ser. No. 160,268
1 Claim. (Cl. 260-448.2)

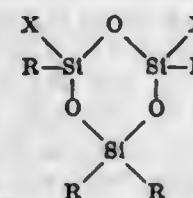
Vinylheptaphenylycyclotetrasiloxane.

3,340,289

ORGANOSILICON CYCLICS

Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Oct. 10, 1966, Ser. No. 585,310
4 Claims. (Cl. 260-448.2)

1. Organosilicon cyclics of the formula,



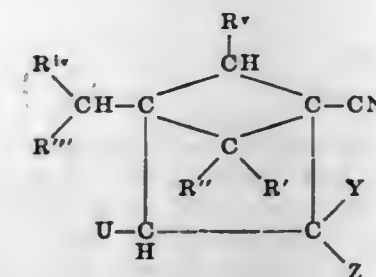
where R is a monovalent hydrocarbon radical selected from the group consisting of alkyl, alkaryl, aryl, and aralkyl radicals, or mixtures of the aforementioned, and X is selected from a hydroxy radical and a halogen radical.

3,340,290

1-CYANO-4-HYDROCARBYLBICYCLO[2.1.1]HEXANES AND PROCESS OF PREPARATION

Elwood P. Blanchard, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 11, 1964, Ser. No. 374,256
12 Claims. (Cl. 260-464)

1. A compound of the formula



wherein $R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11},$ and R^{12} are hydrogen or C_1 - C_{18} hydrocarbyl groups free of aliphatic carbon-to-carbon unsaturation; R^{13} is hydrogen, hydrocarbyl groups of from 1 to 12 carbon atoms free of acetylenic and allenic type unsaturation, lower alkoxyhydrocarbyl groups free of acetylenic and allenic type unsaturation, di(lower alkyl) amino, CN , COOH , COOM , CO-Hal , COOQ , CONH_2 , CONHQ , CONQQ' , or lower alkylcarbonyloxy, wherein M is an alkali metal ion or an alkaline-earth metal ion or NH_4 , Q and Q' each represent C_1 - C_{12} aliphatically saturated hydrocarbyl groups and can be joined together to form a divalent alkylene group; U is hydrogen, lower alkyl, or cyano provided that Y is cyano; Z is hydrogen or lower alkyl, and provided that when Y is hydrogen or di(lower alkyl)amino, U and Z can be joined together to form a divalent lower alkylene group.

3,340,291

PRODUCTION OF UNSATURATED ALIPHATIC NITRILES

John Lynn Barclay, Tadworth, Surrey, and Edward James Gasson and David James Hadley, Epsom Downs, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Mar. 31, 1964, Ser. No. 356,078
Claims priority, application Great Britain, Apr. 30, 1963, 16,890/63
4 Claims. (Cl. 260-465.3)

1. The process for the production of acrylonitrile or methacrylonitrile which comprises reacting at a temperature between 300° and 550° C. in the vapour phase propylene for the production of acrylonitrile or isobutene for the production of methacrylonitrile with oxygen and ammonia over an oxide composition wherein the oxide composition is prepared by intimate mixture of antimony oxide with a second material consisting essentially of the oxide of chromium, cobalt, copper, nickel or titanium and wherein said oxide composition is treated at 550° - 1100° C. in a molecular oxygen containing gas.

3,340,292

1,2,3,3a,4,6a-HEXAHYDRO-1,2,4-METHENOPENTALENE-5,6-DICARBOXYLIC ACID AND LOWER ALKYL ESTERS THEREOF

Charles Ferdinand Huebner, Chatham, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 6, 1964, Ser. No. 365,478
3 Claims. (Cl. 260-468)

1. Di-lower alkyl 1,2,3,3a,4,6a-hexahydro-1,2,4-methenopentale-5,6-dicarboxylate.
3. 1,2,3,3a,4,6a-hexahydro-1,2,4-methenopentale-5,6-dicarboxylic acid.

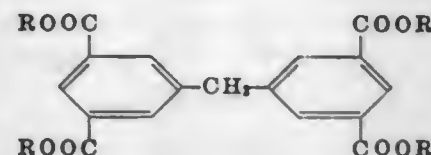
3,340,293

3,3',5,5'-TETRACARBOXYDIPHENYLMETHANE AND ESTERS

Dexter B. Sharp, Creve Coeur, Mo., and John R. Le Blanc, Wilbraham, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 29, 1965, Ser. No. 468,162

3 Claims. (Cl. 260-475)

1. A compound of the formula



where each R is selected from the group consisting of hydrogen, alkyl radicals of from 1 to 13 carbon atoms, and alkali metal and ammonium radicals.

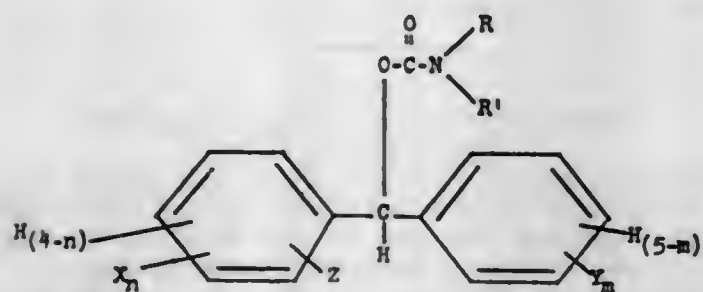
3,340,294

N-SUBSTITUTED AND UNSUBSTITUTED ALKYL AND ALKENYL-2-DIMETHYLAMINO-BENZHYDRYL CARBAMATES

Sidney B. Richter and David P. Mayer, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 10, 1965, Ser. No. 454,688

5 Claims. (Cl. 260-482)

1. A compound of the formula



wherein R is selected from the group consisting of lower alkyl, lower alkenyl, lower alkoxyalkyl, lower mono and polychloroalkyl, R' is selected from the group consisting of hydrogen and R; Z is dialkylamino in the 2-position; each X and Y is independently selected from the group consisting of dialkylamino, alkyl, alkenyl, halogen, nitro, alkoxy and alkylthio; n is an integer from 0 to 2 and m is an integer from 0 to 3.

3,340,295

PROCESS OF PRODUCING A MONOESTER OF AN ALKYLENE GLYCOL MOIETY AND A CARBOXYLIC ACID

Edward N. Wheeler and Duane Lee Stearns, Corpus Christi, Tex., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Filed Dec. 23, 1963, Ser. No. 332,879

9 Claims. (Cl. 260-486)

1. In the process of producing a monoester of a lower alkylene glycol moiety and a carboxylic acid, in which process a lower alkylene oxide is reacted with a carboxylic acid, the improvement which comprises catalyzing said reaction with a basic anion exchange resin in the form of a salt of a carboxylic acid.

3,340,296

PREPARATION OF ACRYLIC ACID

Edwin Marvin Smolin, Springdale, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation of application Ser. No. 163,037, Dec. 29, 1961. This application June 6, 1966, Ser. No. 555,619

3 Claims. (Cl. 260-533)

1. In a process for producing acrylic acid by reacting in a reaction medium approximately equivalent quantities of acetylene and carbon monoxide at a sufficiently elevated temperature and pressure to form acrylic acid, the improvement comprising a preliminary step of first adding acetylene to said reaction medium, said adding being in an amount sufficient (1) for a reaction to take place and (2) to thereby reduce induction period and over-all reaction time, said reaction medium comprising (a) a nickel halide-copper halide catalyst combination, (b) water, and (c) an organic, water-miscible inert solvent.

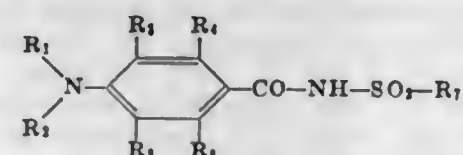
3,340,297

PRODUCTION OF AMINOAROYLSULFONYL IMIDES

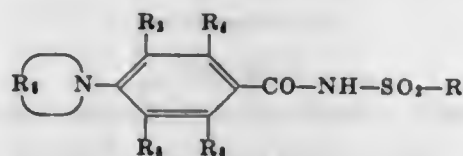
Matthias Seefelder, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 18, 1964, Ser. No. 390,461

3 Claims. (Cl. 260-556)

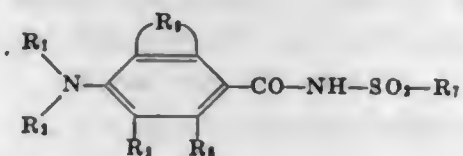
1. A process for the production of aminoaroylsulfonyl imides selected from the group consisting of imides of the formulae



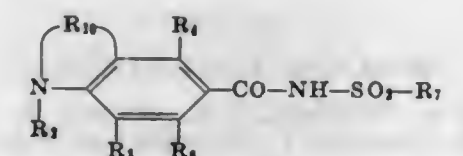
I



IV



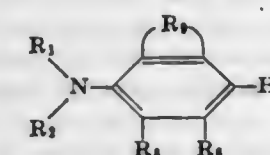
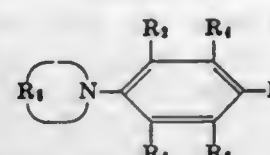
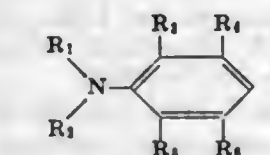
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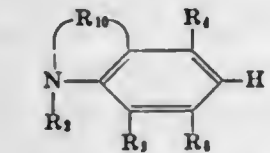
VI

wherein R1 and R2 each denotes a member selected from the group consisting of cycloalkyl having 5 to 8 carbon atoms, aralkyl having 7 to 10 carbon atoms, alkyl having 1 to 6 carbon atoms, alkyl having 1 to 6 carbon atoms substituted by an alkoxy group with 1 to 4 carbon atoms, alkyl having 1 to 6 carbon atoms and substituted by a cyano group, and alkyl having 1 to 6 carbon atoms and substituted by chlorine, R3, R4, R5 and R6 each denotes a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms, alkoxy having 1 to 4 carbon atoms, chlorine and bromine, R7 denotes a member selected from the group consisting of chlorine, alkyl having 1 to 6 carbon atoms, cycloalkyl having 5 to 8 carbon atoms and aryl having 6 to 10 carbon atoms, wherein R8 is a divalent, saturated group consisting of -CH2- groups, and zero to one -O- or -S- groups and forming with N atom a 5-6 membered

ring; R9 is a divalent hydrocarbon group forming a benzene ring with the two carbons to which R9 is attached; and R10 is a member from the group consisting of a divalent group forming a 5-6 membered heterocyclic ring with its N atom and a divalent group forming a 5-6 member heterocyclic ring with its N atom, said ring being condensed with a 6 carbon carbocyclic ring, which comprises reacting a tertiary aromatic amine selected from the group consisting of an amine of the formula



and



wherein R1, R2, R3, R4, R5, R6, R8, R9 and R10 have the meaning given above, with a sulfonyl isocyanate of the formula



III

wherein R7 has the meaning given above, in the presence of an inert organic solvent.

2. A process according to claim 1, wherein the reaction is carried out at a temperature between 25 and 80° C. and said tertiary aromatic amine is N,N-dimethylaniline.

3,340,298

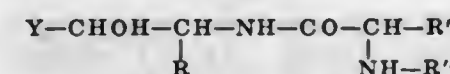
PHENYLALKANOLAMINE DERIVATIVES

Karl Wismayr, Linz, Otto Schmid, Leonding, near Linz, and Rudolf Kilehes and Gerhard Zölss, Linz, Austria, assignors to Österreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria
No Drawing. Filed June 5, 1964, Ser. No. 373,052

Claims priority, application Austria, June 11, 1963, A 4,677/63

11 Claims. (Cl. 260-562)

1. A phenylalkanolamine derivative selected from the group consisting of a compound of the formula



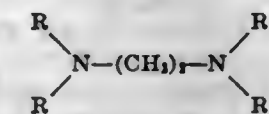
in which Y is selected from the group consisting of 2,5-dialkoxyphenyl and 2-alkoxy-5-hydroxyphenyl, where the alkoxy groups have one to four carbon atoms, 3,5-dihydroxyphenyl and 3-hydroxyphenyl, R is selected from the group consisting of hydrogen and methyl, R' is selected from the group consisting of hydrogen, alkyl having one to four carbon atoms, benzyl and p-hydroxybenzyl and R'' is selected from the group consisting of hydrogen and glycol, and a non-toxic acid addition salt thereof.

3,340,299

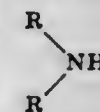
TETRASUBSTITUTED ETHYLENE DIAMINES
Lester Weintraub, Bronx, and Ross C. Terrell, New York, N.Y., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 27, 1964, Ser. No. 355,437

7 Claims. (Cl. 260-563)

1. A method for producing tetrasubstituted diamines having the general formula



II wherein R is selected from the group consisting of a lower alkyl radical, a cycloalkyl radical containing up to 6 carbon atoms, a monocyclic aryl radical and a monocyclic aralkyl radical which comprises reacting a secondary amine having the general formula



with a halogenated ester selected from the group consisting of a chloro or bromo ethyl, alkyl carbonate and a chloro or bromo ethyl ester of a monocarboxylic acid wherein the carboxyl group is attached to an alkyl or monocyclic aryl group.

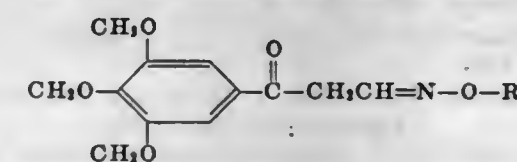
3,340,300

TRIMETHOXY BENZOYLACETALDEHYDE OXIMES

Sidney Robert Safir, River Edge, N.J., and Richard P. Williams, Tomkins Cove, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Oct. 5, 1964, Ser. No. 401,283

5 Claims. (Cl. 260-566)

1. A compound selected from those of the formula:



wherein R is selected from the group consisting of lower alkyl, lower alkenyl and monocyclic aryl and its alkali metal salts.

3,340,301

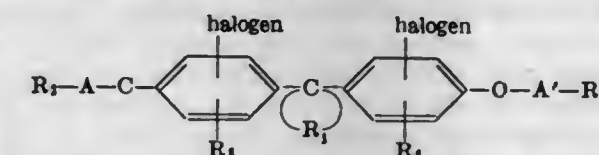
BIS-(PARA-TERTIARY AMINOALKOXY-HALOGENOPHENYL)-CYCLOALKANES

Adrian Marxer, Muttens, Alan Francis Thomas, Vernier, Geneva, and Atso Ilvespää, Neuallschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,442

Claims priority, application Switzerland, Jan. 27, 1961, 995/61; Dec. 6, 1961, 14,150/61

5 Claims. (Cl. 260-570)

1. A member selected from the group consisting of compounds of the formula



in which R1 stands for lower alkylene, R3 and R4 each stands for a tertiary amino group in which the substituents are members selected from the group consisting of lower alkyl, lower alkenyl, cyclo-lower alkyl, cyclo-lower alkenyl, phenyl-lower alkyl, N,N-lower alkylene, N,N-mono-lower alkylene, N,N-mono-aza-lower alkylene and

N,N-mono-thia-lower alkylene, R₃ and R₄ each stands for a member selected from the group consisting of hydrogen, chlorine and bromine, and A and A' each stands for lower alkylene having from 2 to 5 carbon atoms and separating tertiary amino from oxy by at least two carbon atoms, halogen stands for chlorine and bromine and acid addition salts thereof.

3,340,302

PROCESS FOR MANUFACTURE OF p-NITROSO-N-PHENYLANILINES

Herbert L. Young, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed Apr. 1, 1964, Ser. No. 356,659
16 Claims. (Cl. 260-576)

1. A process for directly reacting p-nitrosophenol with a primary amine to produce a p-nitroso-N-phenylaniline which comprises admixing a primary aromatic amine selected from the group consisting of aniline, o-toluidine, m-toluidine, p-toluidine, p-anisidine, p-phenetidine and p-chloroaniline, with p-nitrosophenol in a mole ratio there-to in excess of 1:1 for reaction to produce the said p-nitroso-N-phenylaniline, together with a tertiary aromatic amine selected from the group consisting of pyridine, quinoline, isoquinoline, and 4-picoline in a liquid volume ratio to that proportion of said primary aromatic amine, in said molar excess, of at least 0.2:1, and an acid selected from the group consisting of hydrogen chloride, p-toluene sulfonic acid, and boron trifluoride, as a catalyst for the said reaction; maintaining the resulting admixture at a temperature of from 0 to 100° C. for a period of at least 2 minutes, whereby said reaction takes place; and recovering a p-nitroso-N-phenylaniline from the resulting reaction mixture as product of the process.

3,340,303

METHOD FOR PRODUCTION OF N-NITROSAMINES

Irving Melville Roberts, Arcadia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed June 8, 1964, Ser. No. 373,522
9 Claims. (Cl. 260-583)

1. The method of nitrosating dialkyl amines in vapor phase which comprises initiating the nitrosation reaction by the contacting of a dialkyl amine gas stream with a gaseous mixture of nitric oxide and nitrogen dioxide until an increase in temperature within the reaction zone occurs, and thereupon discontinuing the addition of nitric oxide while continuing the addition of the nitrogen dioxide and dialkylamine, and continuously recovering the dialkyl nitrosamine produced.

3,340,304

SELECTIVE OXIDATION OF CYCLOHEXANE TO CYCLOHEXANONE

Johann G. D. Schulz and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 17, 1964, Ser. No. 375,920
22 Claims. (Cl. 260-586)

1. A process for the selective preparation of a cyclic ketone which comprises oxidizing a liquid reaction mixture comprising at least one saturated cyclic hydrocarbon having between 5 and 8 cyclic carbon atoms per molecule with a gas containing molecular oxygen in the presence of at least an equilibrium concentration of a cyclic alcohol corresponding to said saturated cyclic hydrocarbon but less than 40 weight percent of said alcohol based on said saturated cyclic hydrocarbon under oxidation conditions including a temperature between about 130° C. and 160° C. for a time sufficient to obtain a cyclic ketone to cyclic alcohol weight ratio of at least

1.5 and to obtain a conversion of at least 20 weight percent of said saturated cyclic hydrocarbon while maintaining a water concentration in said reaction mixture between 1 and 6 weight percent of the organic phase of said reaction mixture.

3,340,305

METHOD OF PRODUCING ARYL ALKYL AMINOKETONES

Ulrich Jahn, Marburg an der Lahn, Germany, assignor to Temmler-Werke Vereinigte Chemische Fabriken, Marburg an der Lahn, Germany
Filed July 7, 1964, Ser. No. 381,945

Claims priority, application Germany, Mar. 2, 1959, T 16,340

20 Claims. (Cl. 260-592)

1. The method which comprises continuously introducing into the upper portion of a closed reaction vessel a liquid compound selected from the group consisting of propiophenone, n-butyrophenone, isobutyrophenone, n-valerophenone and isovalerophenone, and also continuously introducing into the upper portion of said reaction vessel at a level below the level of introduction of said liquid compound a halogen selected from the group consisting of chlorine and bromine, so as to form in the upper portion of said reaction vessel in a reaction zone substantially located between the levels of introduction of said compound and said halogen a reaction mixture, the latter being free of any solvent, and continuously agitating said reaction mixture and circulating the same between the upper and lower portion of the reaction vessel so as to continuously form in said reaction vessel the corresponding hydrogen halide and the corresponding alpha chloro or alpha bromo halogenated compound, whereby said halogenated compound is formed in the absence of a solvent and without any contaminating resinous side products; continuously removing hydrogen halide from the reaction vessel; and continuously withdrawing halogenated compound from the lower portion of said reaction vessel.

3,340,306

PROCESS FOR THE DEMETALIZATION OF OLEFIN OXOSYNTHESIS MIXTURES

Harry Endler and Silvio Pappada, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 8, 1963, Ser. No. 322,505
Claims priority, application Italy, Nov. 15, 1962, 22,441/62

10 Claims. (Cl. 260-604)

1. A process for the demetalization of the reaction mixtures of the oxosynthesis of olefins, which comprises subjecting said mixtures to a heat treatment at temperatures between 80° C. and 160° C. in the presence of a non-aqueous alkanolic acid containing 2 to 8 carbon atoms.

3,340,307

PROCESS FOR MANUFACTURE OF THIO-PHENOL FROM ALKALI METAL CYCLOHEXANE SULFONATES

Jared Abell, Pleasant Hill, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed July 27, 1965, Ser. No. 475,277
8 Claims. (Cl. 260-609)

1. Process for the production of thiophenol which comprises heating to a temperature in the range from about 250° to 500° C., a cyclohexanesulfonate salt of the general formula C₆H₁₁SO₃M, wherein M is an alkali metal having an atomic number less than 57.

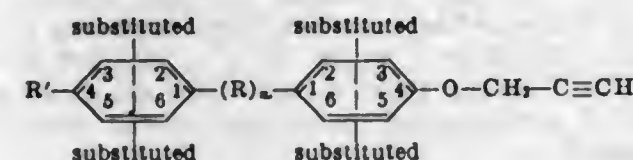
3,340,308

2-PROPYNYLOXY DERIVATIVES OF SUBSTITUTED BISPHENOLS

George B. Sterling, Mogadore, Ohio, and Chester E. Pawloski, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,679
7 Claims. (Cl. 260-613)

1. A compound corresponding to the formula



wherein R represents a member of the group consisting of methylene, n-butyldiene and cyclohexylidene; m is selected from a group of integers consisting of 1 and 0; R' represents a member of the group consisting of hydroxy and 2-propynyloxy; and the di-substituted 1,4-phenylene moiety is selected from the group consisting of 3,5-di-tert-butyl-1,4-phenylene, 2-methyl-5-tert-butyl-1,4-phenylene, 3-methyl-5-tert-butyl-1,4-phenylene and 5-cyclohexyl-1,4-phenylene.

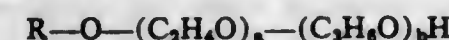
3,340,309

BIODEGRADABLE, LIQUID, WATER-MISCIBLE ALKYLENE OXIDE CONDENSATION PRODUCTS

Eugene A. Welpert, Allen Park, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed June 28, 1965, Ser. No. 467,760
4 Claims. (Cl. 260-615)

1. Biodegradable, liquid, water-miscible condensation products comprising a cogeneric mixture of compounds having the formula:



wherein R is a straight chain alkyl group having from 8 to 20 carbon atoms, a has an average value of 3.75 to 12.75, b has an average value of from 1.7 to 7.0, the ratio of a to b being from 1.8:1 to 2.2:1, from 0 to 10 weight percent of said compounds in said mixture having an R containing 8 carbon atoms, from 0 to 50 weight percent of said compounds in said mixture having an R containing 10 carbon atoms, from 0 to 95 weight percent of said compounds in said mixture having an R containing 12 carbon atoms, from 0 to 95 weight percent of said compounds in said mixture having an R containing 14 carbon atoms, from 0 to 95 weight percent of said compounds in said mixture having an R containing 16 carbon atoms, from 0 to 50 weight percent of said compounds in said mixture having an R containing 18 carbon atoms, and from 0 to 10 weight percent of said compounds in said mixture having an R containing 20 carbon atoms, the above weight percents based on a total of 100 weight percent.

3,340,310

2,2-BIS(4-HYDROXYPHENYL)1,1,3,3-TETRAFLUORO-1,3-DICHLOROPROPANE

Everett E. Gilbert, Morris Township, Morris County, and Julian A. Otto, Stockholm, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 3, 1963, Ser. No. 292,740
1 Claim. (Cl. 260-619)

2,2-bis(4-hydroxyphenyl)1,1,3,3-tetrafluoro-1,3-dichloropropane.

3,340,311

STABILIZED CATALYST FOR THE DEHYDROGENATION OF 1-TETRALONE AND/OR 1-TETRALOL

Henry C. Chitwood and Benjamin T. Freure, Charleston, and Robert W. Cunningham, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,170
18 Claims. (Cl. 260-621)

1. A stabilized dehydrogenation catalyst consisting essentially of nickel; copper, essentially in the form of metallic copper; chromium, essentially in the form of its oxide; alkali metal, at least part of which is in the form of a sulfate, and any remainder being essentially in the form of a member of the group consisting of nitrate, nitrite, oxide, hydroxide, carbonate, and mixtures thereof; said alkali metal being of the group consisting of lithium, sodium, potassium, and mixtures thereof; said copper and chromium being present in a ratio of about 15 to 40 parts of copper and about 0.5 to 4 parts of chromium per 100 parts of nickel, computed on a metal basis by weight; said alkali metal, as individual components, being present in a ratio of 0.5 to 1.5 parts of lithium, 1 to 3 parts of sodium, and 1 to 3 parts of potassium, all per 100 parts of nickel by weight; said alkali metal, as mixtures thereof, being governed by the equation

$$2 \text{ lithium} + \text{sodium} + \text{potassium} = 1 \text{ to } 3 \text{ parts}$$

wherein lithium equals 0 to 1.5 parts, wherein sodium equals 0 to 3 parts, and wherein potassium equals 0 to 3 parts, all per 100 parts of nickel by weight; and the ratio of atoms of alkali metal to atoms of the sulfur in the sulfate is a value in the range of from 1.2 to 8.

10. A method for producing alpha-naphthol by catalytic dehydrogenation which comprises passing a compound of the group consisting of 1-tetralone, 1-tetralol, and mixtures thereof, in the vapor phase over the stabilized dehydrogenation catalyst defined in claim 1 at a temperature in the range of from about 350° to about 400° C.

3,340,312

MANUFACTURE OF NEOPENTYL GLYCOL AND ISOBUTANOL

Roy B. Duke, Jr., Smyrna, Ga., and Milton A. Perry and Howard N. Wright, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

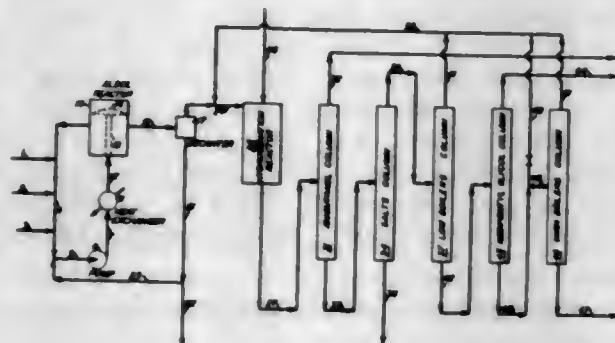
Filed Oct. 21, 1964, Ser. No. 405,525
5 Claims. (Cl. 260-635)

1. The process for preparing neopentyl glycol which comprises:

- (a) contacting formaldehyde with a stoichiometric excess of isobutyraldehyde at a temperature of 0 to 25° C. in the presence of a liquid aqueous phase containing 0.01 to about 1.0 percent by weight of an alkali metal hydroxide aldol condensation catalyst;
- (b) separating a liquid organic phase containing hydroxypivaldehyde and isobutyraldehyde from said liquid aqueous phase;
- (c) hydrogenating said liquid organic phase in a hydrogenation zone at a temperature of 175-220° C. and at elevated pressures in the presence of a copper-chromium oxide hydrogenation catalyst and obtaining a product containing neopentyl glycol and isobutanol; and
- (d) separately recovering a neopentyl glycol rich fraction and an isobutanol rich fraction by subjecting said product to fractional distillation at subatmospheric pressure.

5. The process for preparing neopentyl glycol which comprises:

- contacting formaldehyde with a stoichiometric excess of isobutyraldehyde at a temperature of about 0° C. to about 25° C. in the presence of a liquid aqueous phase containing about 0.01 to about 1.0 percent by weight of an alkali metal hydroxide;
- separating an organic phase containing hydroxypivaldehyde and isobutyraldehyde from said aqueous phase;
- contacting said organic phase with hydrogen in a hydrogenation zone at a temperature of about 175° C. to about 220° C. and a hydrogen pressure of about 900 to about 6000 pounds per square inch in the presence of a copper-chromium oxide hydrogenation catalyst and obtaining a product containing neopentyl glycol and isobutanol;



- separately recovering a neopentyl glycol rich fraction and an isobutanol rich fraction by subjecting said product to fractional distillation at subatmospheric pressure;
- subjecting said neopentyl glycol rich fraction to further fractional distillation at a pressure of 5 to 200 mm. Hg and obtaining a neopentyl glycol rich fraction substantially free of residual salts and catalyst residues as overhead product;
- obtaining a fraction having a boiling point below that of neopentyl glycol, a substantially pure neopentyl glycol fraction and a fraction having a boiling point above that of neopentyl glycol by fractionating said overhead product in a train of at least two fractional distillation columns; and
- recycling at least a portion of the fraction having a boiling point below that of neopentyl glycol and at least a portion of the fraction having a boiling point above that of neopentyl glycol to said hydrogenation zone.

3,340,313

SYNTHESIS OF ALCOHOL BY HYDRATION OF OLEFIN

Akio Mitsutani, Kurashiki, Japan, assignor to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan

No Drawing. Filed Feb. 20, 1964, Ser. No. 346,097
Claims priority, application Japan, Mar. 23, 1963, 38/15,115

2 Claims. (Cl. 260—641)

1. A method of synthesizing alcohol by the hydration of an olefin having from 2 to 10 carbon atoms which comprises contacting the olefin and water in the vapor phase at a temperature of from 150° C. to 500° C. with a catalyst free of water soluble components which is prepared by a process consisting of heat treating a solid phosphoric acid catalyst consisting of phosphoric acid deposited on a carrier consisting essentially of silica, the heat treatment being carried out at a temperature in the range of from 700° C. to 1100° C. for more than two hours.

3,340,314

METHOD OF PREPARING NITROSOHYDRO-CARBON DIMERS

William D. Blackley, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,347
3 Claims. (Cl. 260—647)

1. A method of preparing a nitrosohydrocarbon dimer comprising contacting a hydrocarbon of from 2 to 20 carbons selected from the group consisting of alkane, cycloalkane, and alkyl substituted aromatic hydrocarbon with an O-nitroso-bis(perhaloalkyl)hydroxylamine of the formula $(R_x)_2NONO$ where R_x is a member having from 1 to 7 carbon atoms selected from the group consisting of perfluoroalkyl, perchloroalkyl and perchloro-fluoroalkyl.

3,340,315

PROCESS FOR DEPOLYMERIZING DICYCLOPENTADIENE OR ITS METHYL HOMOLOGUES

Alfred Renner, Allschwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

Filed Nov. 4, 1964, Ser. No. 408,824
Claims priority, application Switzerland, Nov. 12, 1963, 13,872/63

1 Claim. (Cl. 260—666)

A process for depolymerising dimers of a dicyclopentadiene selected from the group consisting of dimeric cyclopentadiene and dimeric methyl cyclopentadiene, wherein the dicyclopentadiene is cracked by heating in the gas phase in a reactor, to yield at least a preponderant share of the monomer; the dimer being injected into the top end of a vertical tubular reactor heated at 200° to 400° C., the said upper end containing a packing from a metal selected from the groups consisting of copper metal and an alloy containing a major proportion of copper, on which packing the cyclopentadiene can vaporise; the resulting monomer vapours are subsequently mixed with the vapours of a liquid which boils between 160° and 360° C. and does not decompose within this temperature range and is inert towards the monomeric form and the dimeric form of the cyclopentadiene; the resulting vapour mixture is conveyed into a fractionating column and the pure monomer is withdrawn in the form of a distillate at the head of the column; the dimeric cyclopentadiene is injected into the reactor at the same rate as monomeric cyclopentadiene is withdrawn; the column is equipped with a device which, on the one hand, when the boiling point of pure monomeric cyclopentadiene is exceeded causes a total reflux within the column and at the same time shuts off the supply of dimer to the reactor and, on the other hand, reinstates the supply of dimer and the withdrawal of distillate when the boiling temperature of the pure monomeric cyclopentadiene has been reestablished at the head of the column.

3,340,316

SEPARATION OF AROMATIC HYDROCARBONS USING AN IMPROVED ACTIVATED CARBON SORBENT

Richard C. Wackher, Palatine, and Frederick C. Ramquist, Stickney, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed June 19, 1964, Ser. No. 376,541

7 Claims. (Cl. 260—674)

1. A method for separating an aromatic from a fluid mixture containing the same which comprises contacting said mixture with activated carbon containing at least one polar fluoride molecule having a cation selected from ammonium and elements of the group consisting of Groups I, II and III of the Periodic Table to increase the selectivity of the activated carbon for aromatics.

7. A process for the separation of a polynuclear aromatic from a fluid mixture containing mononuclear and polynuclear aromatics which comprises contacting said mixture with activated carbon at least one polar fluoride molecule having a cation selected from the group consisting of hydrogen, alkali metals, alkaline earth metals, ammonium, boron and aluminum to increase the selectivity of the activated carbon for polynuclear aromatics.

3,340,317

ISOMERIZATION OF CYCLODIOLEFINS

Joseph R. Kenton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 17, 1966, Ser. No. 535,009
7 Claims. (Cl. 260—666)

1. A process for preparing a conjugated cyclic diolefin which comprises contacting a non-conjugated cycloolefin selected from 3-vinyl-4,4-dimethylcyclohexene, 4-vinyl-3,6,6-triethylcyclohexene, 4-vinylcyclohexene, 3-vinylcyclohexene, 4-ethylidenecyclohexene, 4-ethylidene-5-methyl-6-isopropylcyclohexene with a catalyst consisting essentially of magnesium oxide, activated by heating below the sintering temperature, under isomerization conditions of temperature and pressure sufficient to effect substantial conversion of said non-conjugated cycloolefin to conjugated cyclic diolefin.

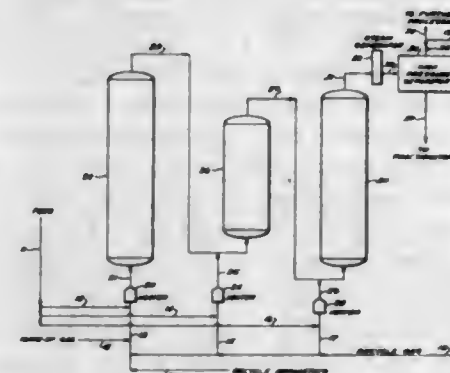
3,340,318

THERMAL HYDRODEALKYLATION PROCESS

Norman L. Carr, Allison Park, and Malcolm D. Fraser and Sheldon J. Kramer, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 22, 1966, Ser. No. 596,158

10 Claims. (Cl. 260—672)



1. A process for the thermal hydrodealkylation of toluene which comprises:

- providing a gaseous mixture of hydrogen and a hydrocarbon feed stock comprising toluene;
- separately introducing a portion of said gaseous admixture into each of a plurality of serially connected reaction zones wherein it is subjected to a reaction temperature of from about 1000 to 1500° F.;
- successively passing the effluent from one reaction zone to the next reaction zone in the series;
- withdrawing the effluent from the last reaction zone in the series and recovering therefrom the hydrodealkylated products.

3,340,319

SELECTIVE POLYMERIZATION OF ISOBUTENE

Robert L. Banks, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,354

7 Claims. (Cl. 260—677)

5. A process for separating isobutene from a feed stream containing isobutene in admixture with a substantial proportion of n-butene which comprises the steps of:

- contacting said feed stream with a fluoride silica catalyst containing an amount of a fluorine residue in the range of 0.1 to 20 weight percent of the silica in a polymerizing zone;
- maintaining isobutene polymerizing conditions in said zone so as to selectively polymerize isobutene, said conditions including a temperature in the range of 0 to 350° F.; and
- separating resulting polymer from the reaction effluent to provide an n-butene stream of substantially lower isobutene content than said feed.

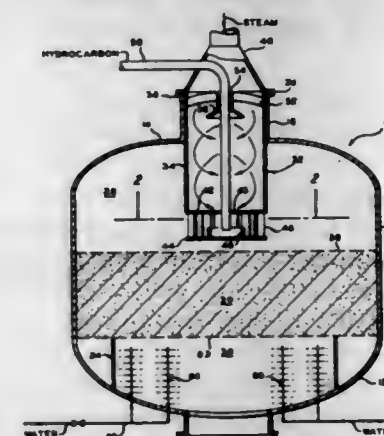
3,340,320

DEHYDROGENATION REACTOR AND PROCESS

Robert C. Ezzell, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 8, 1964, Ser. No. 373,222

6 Claims. (Cl. 260—680)



1. A process for dehydrogenating a dehydrogenatable stream of hydrocarbon in vapor phase admixed with steam in contact with a steam-insensitive dehydrogenation catalyst which comprises the steps of:

- maintaining a fixed bed of said catalyst in an enclosed reaction zone provided with vapor spaces above and below said bed;
- injecting superheated steam spirally downwardly thru the central section of the vapor zone above said bed and radially outwardly into the surrounding vapor zone;
- injecting a stream of said hydrocarbon into said steam as it flows outwardly from said central section so that it intimately mixes with the steam in radial flow;
- passing the resulting mixture of steam and hydrocarbon downwardly into said catalyst bed so as to dehydrogenate said hydrocarbon to less saturated hydrocarbon;
- quenching the effluent stream containing dehydrogenated hydrocarbon by spraying water into same in the vapor space below said bed; and
- recovering the quenched hydrocarbon stream.

3,340,321

TEMPERATURE CONTROL FOR CATALYST BED IN DEHYDROGENATION PROCESS

Robert G. Craig, Wilmington, Del., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,084

4 Claims. (Cl. 260—680)

1. In a cyclic adiabatic process for dehydrogenating hydrocarbons in the presence of a mass of particulate catalyst for production of desirable double-bond products, including successive stages of hydrocarbon conversion, purge of gaseous conversion products with an inert gaseous medium, catalyst regeneration by combustion of coke

formed thereon during said conversion, and purge of gaseous combustion products; in which process, continuance of desired adiabatic operation requires that a substantial balance be maintained between the heat needed for the endothermic hydrocarbon conversion and the heat derived from the exothermic combustion of said coke, the coke requirement is 0.068 times the summation of the weight percent of each desired hydrocarbon component multiplied by the number of carbon-to-carbon double-bonds in such component, and there is a present heat imbalance resulting from an increase in the coke-to-conversion ratio; the method for restoring the process to substantial heat-balanced operation which comprises the steps of: determining the amount of coke formation on the catalyst in excess of the amount required to maintain the desired heat balance for the particular conversion being effected, and introducing a controlled amount of reactant steam into said catalyst mass while purging said gaseous conversion products therefrom to effect an endothermic coke-steam reaction with said excess amount of coke, said reactant steam being supplied in accordance with the equation

$$S = \frac{C_i - C_r}{100} \times HC \times \frac{18}{12 + y}$$

where

S=Reactant steam (lbs./hr.)

C_i =Coke actually formed (wt. percent of feed)

C_r =Coke required for heat-balanced operation (wt. percent of feed)

HC=Hydrocarbon feed (lbs./hr.)

$\frac{18}{12+y}$ =the ratio of the molecular weights of water to coke, y being the number of atoms of hydrogen in coke of the formula $(CH)_x$, and z being any whole number.

3,340,322

CONVERSION OF OLEFINS

Louis F. Heckelsberg, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 9, 1964, Ser. No. 336,624
8 Claims. (Cl. 260-683)

1. A process for the disproportionation of an olefin hydrocarbon which comprises contacting said hydrocarbon with a catalyst activated in an atmosphere and under conditions to permit activation for disproportionation, said catalyst comprising a base selected from the group consisting of alumina, silica-alumina, and silica and at least one sulfide selected from the group consisting of molybdenum sulfide and tungsten sulfide under conditions, including conditions of temperature, pressure and contact time suitable for obtaining a disproportionated product.

3. The process of claim 2 wherein said base is a high alumina base and said temperature is in the range of 150 to 600° F.

6. The method of claim 2 wherein said base is a high silica base and said temperature is in the range of 400 to 1100° F.

3,340,323

PROCESS FOR THE PRODUCTION OF 4-METHYLPENTENE-1

Helmut Mägerlein, Erlenbach, Erhard Siggel, Seckmauern, and Gerhard Meyer, Obernburg, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG, Wuppertal-Elberfeld, Germany

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,677
Claims priority, application Germany, Mar. 26, 1965, V 28,142

6 Claims. (Cl. 260-683.15)

1. In a method for the production of 4-methylpentene-1 wherein propylene is dimerized at a temperature

of about 100° C. to 180° C. and a pressure of about 1 to 250 atmospheres in an inert hydrocarbon diluent and in contact with a finely dispersed solid metallic lithium as a catalyst obtained by remetalization of an organic lithium compound of the formula $Li-R$, wherein R represents a radical selected from the group consisting of alkyl of 2 to 18 carbon atoms, cycloalkyl and aryl, with another alkali metal, the improvement which comprises: carrying out the dimerization reaction by contacting the propylene with said lithium catalyst obtained by remetalization of said organic lithium compound with said other alkali metal precipitated onto finely divided carbon as a carrier.

3,340,324

PROCESS OF CONVERTING MERCAPTANS TO DISULFIDES

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 26, 1965, Ser. No. 450,808

8 Claims. (Cl. 260-608)

1. A method for producing disulfides comprising reacting at least one material selected from the group consisting of alkanethiols and cycloalkanethiols with sulfur in the presence of at least one alkali metal hydroxide and at least one alkanol, the thiol to sulfur to alkali metal hydroxide to alkanol mol ratio being of the form $2/X/Y/Z$, respectively, wherein X is at least about 0.75 and Y and Z are at least about 0.5 but when either one of Y and Z is about 0.5 the other is at least about 1, said reaction being carried out at a temperature and for a time sufficient to cause the reaction product to contain a substantial preponderance of dialkanedisulfide.

3,340,325

SINTERED POLYMERS

Leonard P. Suffredini, Santa Ana, Calif., assignor to Whittaker Corporation, a corporation of California

No Drawing. Filed May 10, 1963, Ser. No. 279,607

6 Claims. (Cl. 260-823)

1. A process for producing shaped articles comprising preparing a mixture of a polybenzimidazole having a melting point greater than about 1500° F. and a polybenzimidazole prepolymer having a melting point in the range of about 200° F. to about 500° F., said prepolymer comprising about 5 to about 20% by weight of said mixture, said mixture comprising particulate material, introducing said mixture into a mold, applying sufficient heat and pressure to cause prepolymer to become fluid and maintaining said mixture under sufficient heat and pressure to cure said prepolymer.

3,340,326

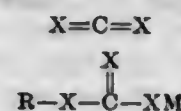
GRAFT COPOLYMERS OF THIOATED POLYAMIDES AND ETHYLENICALLY UNSATURATED MONOMERS

Robert W. Faessinger, Media, and John S. Conte, Ridley Park, Pa., assignors to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania

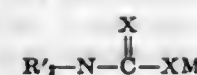
No Drawing. Original application July 6, 1966, Ser. No. 563,055. Divided and this application Dec. 7, 1966, Ser. No. 599,732

29 Claims. (Cl. 260-857)

1. The process of producing a graft copolymer of ethylenically unsaturated compounds and derivatives of polyamides which comprises the steps of (a) forming a water insoluble thioated derivative of a water-insoluble polyamide by reacting a water-insoluble synthetic linear polyamide having an amide group as part of a recurring polymeric unit at an alkaline pH with at least one compound of the formula



and



wherein X is oxygen or sulfur, at least one of which is sulfur, wherein at least one M is selected from at least one member of the group consisting of hydrogen, alkali metal, ammonium, or organic ammonium, phosphonium and sulfonium ion, wherein R is selected from at least one member of the group consisting of M, hydrogen, and lower alkyl, and R' is selected from at least one member of the group consisting of hydrogen and lower alkyl; and (b) graft polymerizing the thioated polyamide, said thioated polyamide being substantially free from water soluble by-products resulting from the formation of the thioated polyamide, via peroxidic free radical initiation, with at least one ethylenically unsaturated monomer.

3,340,327

FUMARIC ACID-POLYOXYALKYLENE GLYCOL-DICYCLOPENTADIENE POLYESTERS CURABLE WITH VINYL MONOMER AND MIXTURES THEREOF

Norman Spellberg, Orinda, and John W. Lorimer, Berkeley, Calif., assignors to Desoto, Inc., a corporation of Delaware

No Drawing. Filed Mar. 13, 1961, Ser. No. 95,049

17 Claims. (Cl. 260-861)

11. In combination, resinous polyester curable with styrene in the presence of air and consisting essentially of the heat-reaction product of ethylenically unsaturated dicarboxylic acid comprising a major molar proportion of fumaric acid, glycol comprising a major molar proportion of polyoxyalkylene glycol having a molecular weight up to about 1200, and diene comprising a major molar proportion of dicyclopentadiene in an amount providing 0.2-0.6 mol of dicyclopentadiene per mol of fumaric acid and an ethylenically unsaturated monomer capable of copolymerizing with said polyester.

3,340,328

BLENDS OF POLYETHYLENES HAVING IMPROVED PROPERTIES

Gordon D. Brindell, Wayne, N.J., and David W. Marshall, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Dec. 13, 1962, Ser. No. 244,296

7 Claims. (Cl. 260-897)

6. A homogeneous, easily processable polyethylene composition comprising a blend of (a) from 15 percent to 25 percent by weight of a straight chain polyethylene characterized as having a density of from 0.95 gram/cc. to 0.96 gram/cc. at 23° C. and in having a melt index in the range of 3 to 15 grams/10 minutes through a 2.1 mm. orifice at 190° C. and under a 2.16 kilogram weight; and (b) from 85 percent to 75 percent of a linear polyethylene having an average molecular weight exceeding 750,000 and characterized as having a density of between approximately 0.925 gram/cc. and 0.935 gram/cc. at 23° C., a melt index of about 0.30 gram/10 minutes at 250° C. and 2,740 p.s.i., and an initial melting point of between 186° C. and 220° C.

3,340,329

AMINE SALTS OF OXYALKYLENATED HYDROXYHYDROCARBON THIOPHOSPHATES

Anthony J. Guarnacelo, Niles, and Edwin J. Latos, Chicago, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 12, 1963, Ser. No. 330,003

11 Claims. (Cl. 260-925)

1. Amine salt of oxyalkylenated hydroxyhydrocarbon thiophosphate containing one or two oxyalkylenated hydroxyhydrocarbon radicals per molecule, said radical or

radicals containing a chain of from 1 to 40 oxyalkylene groups linking the hydroxyhydrocarbon with the phosphorus atom.

3,340,330

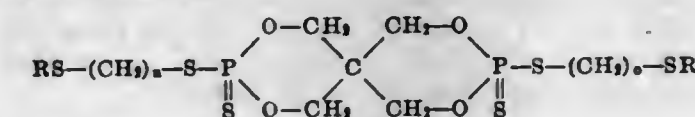
BIS-MERCAPTOALKYLENE SPIROPHOSPHORODITHIOATES

Rudi F. W. Rätz, Hamden, and Arthur D. Bliss, Guilford, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed May 19, 1964, Ser. No. 368,686

20 Claims. (Cl. 260-927)

1. Bis-mercaptoalkylene spirophosphorodithioates having the formula



n being an integer from 1-3, and wherein R is selected from the class consisting of hydrogen, alkyl having 1-18 carbon atoms, alkenyl having 3-5 carbon atoms, alkoxyalkyl having 2-8 carbon atoms, cycloalkyl having 5-8 carbon atoms, aryl having 6-10 carbon atoms, aralkyl having 7-9 carbon atoms, aryloxyalkyl having 7-9 carbon atoms, chlorophenyl, bromophenyl, iodophenyl, dichlorophenyl and nitrated phenyl.

15. A process for preparing bis-mercaptoalkylene spirophosphorodithioates which comprises reacting pentaerythritol bis-hydrogen thiophosphite with a mercaptoalkylene thiocyanate in an aliphatic carboxylic acid N,N -dialkyl amide solvent in the presence of a basic catalyst, and recovering said bis-mercaptoalkylene spirophosphorodithioates from the reaction mixture.

3,340,331

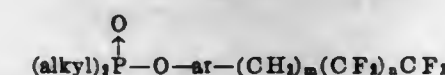
FLUORINE-CONTAINING PHOSPHINATES

George A. Richardson, James A. Webster, and Edward S. Blake, Dayton, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Apr. 30, 1964, Ser. No. 363,760

5 Claims. (Cl. 260-955)

1. A compound of the formula



in which alkyl has from 1 to 8 carbon atoms, ar is a bivalent aromatic hydrocarbon radical which is free of olefinic and acetylenic unsaturation and has from 6 to 12 carbon atoms, m is a number of from 1 to 4 and n is a number of zero to 4.

3,340,332

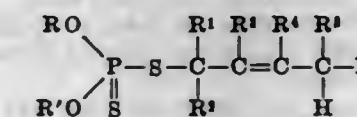
DIALKYL DITHIOPHOSPHORIC ACID ESTERS

Alexis A. Oswald, Westfield, and Karl Griesbaum, Ellzabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 30, 1963, Ser. No. 312,302

11 Claims. (Cl. 260-956)

1. A composition of matter having the following structure:



wherein R and R' are selected from the group consisting of C_1 - C_{30} alkyl, C_1 - C_{30} alkenyl, and C_6 - C_{14} aryl; and R^1 - R^6 are selected from the group consisting of hydrogen, C_1 - C_6 alkyl and chlorine.

3,340,333

PREPARATION OF PHOSPHORUS COMPOUNDS CONTAINING A PHOSPHORYL GROUP

Charles F. Baranauckas, Niagara Falls, and Arlen W. Frank, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed July 1, 1963, Ser. No. 292,148
11 Claims. (Cl. 260-985)

1. A process consisting essentially of reacting (a) a halogenating agent selected from the group consisting of chlorine, bromine, iodine, sulfonyl chloride, thionyl chloride, N-chlorosuccinimide, N,N-dichlorophenyl sulfonamide, and cupric chloride, (b) an alcohol selected from the group consisting of anhydrous monohydric alcohol and a glycol, and (c) a member selected from the group consisting of (1) elemental phosphorus and (2) a phosphorus-containing compound of the formula:



in which n' is an integer of zero to 3 and n^2 is an integer of zero to 3, provided that $n' + n^2$ equals three, in which R^3 is selected from the group consisting of chlorine, bromine, iodine, alkyl, and phenylalkyl, and in which R^2 is selected from the group consisting of hydrogen, alkyl, and phenylalkyl, said reacting being sufficient to produce a product comprising a phosphorus compound containing a phosphoryl group.

3,340,334

PROCESS FOR ATOMIZING MOLTEN MATERIAL

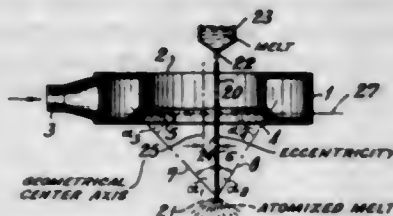
Klaus Feldmann, Hermulheim, near Cologne, Johann Cziska, Hurth, near Cologne, and Klaus Frank, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, a corporation of Germany

Filed Nov. 25, 1964, Ser. No. 413,788

Claims priority, application Germany, Nov. 28, 1963,

K 51,485

10 Claims. (Cl. 264-12)



1. In the process for atomizing molten material with the aid of an atomizing agent which is caused to issue through separate outlet openings disposed in a circle in a plane having a geometrical center axis so as to form downwardly directed jets converging at a common point of intersection, the molten material being caused to flow as a free-falling jet through the point of intersection common to the atomizing agent jets, the improvement wherein the downwardly directed jets of the atomizing agent are caused to converge at a point of intersection located eccentrically with respect to said geometrical center axis and there intersecting with the jet of the molten material in a manner to cause atomization of the molten material.

3,340,335

METHOD FOR MAKING COMPOSITE FIBROUS MATERIALS

John Jeremy Winchcombe, Salisbury, England, assignor to Dunlop Rubber Company Limited, London, England, a British company

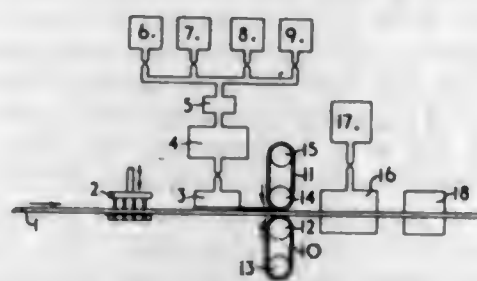
Filed Sept. 24, 1963, Ser. No. 311,246

Claims priority, application Great Britain, Oct. 17, 1962, 39,236/62

11 Claims. (Cl. 264-45)

1. A method of making a composite material comprising a fibrous constituent and a polyurethane foam constituent, comprising two stages, in the first of which a

liquid composition representing one part of a polyurethane foam-forming mixture is introduced into an assembly of fibres, and subsequently in the second stage a vapour, which represents the complementary part of the polyurethane foam-forming mixture and which comprises



at least one ingredient necessary for reaction with said liquid composition to form a foam and a solid foamed polymer, is introduced into the assembly of fibres and allowed to react with the liquid composition to form a polyurethane foam within the assembly of fibres.

3,340,336

METHOD OF PLUGGING PIPE

Richard B. Bender, P.O. Box 11302, Fort Worth, Tex. 76109

Filed July 13, 1964, Ser. No. 382,088

3 Claims. (Cl. 264-45)



1. The method of plugging a pipe, comprising the steps of mixing foam generating resins which harden after being mixed in a container having a closed end and a removable end cover; sliding the container with cover in place to the location in the pipe to be plugged, and allowing the resin to expand and harden within the pipe.

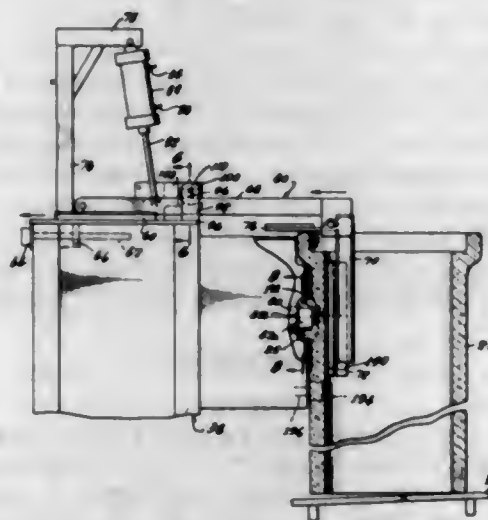
3,340,337

METHOD AND APPARATUS FOR FORMING A PIPE FITTING

Herbert C. Schulze, 3690 Highland Drive, Carlsbad, Calif. 92008

Filed Feb. 24, 1964, Ser. No. 346,750

24 Claims. (Cl. 264-67)



11. A process for forming a tubular extension on a length of moldable material that includes, providing a forming zone defined by a rigid closed surface, positioning said length adjacent said forming zone, introducing

a rotating mandrel into said forming zone, said mandrel penetrating said material, and orbiting said rotating mandrel around said surface to compress the material displaced by said mandrel against said surface to thereby form said extension.

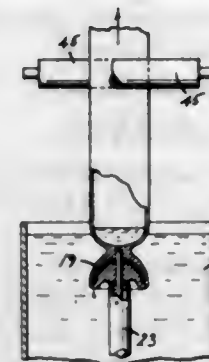
3,340,338

TUBING MANUFACTURE

William E. Meissner, Devon, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Mar. 12, 1965, Ser. No. 439,299

10 Claims. (Cl. 264-89)



1. A method making tubes, films and like articles including the steps of retaining a mass of plasticized material within a liquid bath, said plasticized material having a density less than that of said liquid bath, permitting one portion of the plasticized material to float toward the surface of the liquid bath while remaining attached to the mass, injecting a fluid charge including a liquid portion into said one portion of plasticized material to thereby contain the same therein, said liquid bath and fluid charge being immiscible with the plasticized material, drawing the plasticized material through the liquid bath and relative to the contained fluid charge to thereby shape the plasticized material into a tube, and setting the shaped tube.

3,340,339

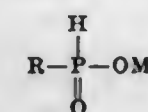
METHOD OF INCORPORATING A PHOSPHINATE AND PARTICULATE MATERIAL IN A POLYAMIDE TO MAKE LOW FRICTION FILAMENT

John Gerson Ullman, Martinsville, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 7, 1963, Ser. No. 286,199

3 Claims. (Cl. 264-131)

1. In the production of a low friction yarn from a polyamide, the steps of: adding from 0.003-0.045% by weight, based on the weight of said polyamide, of a phosphinate having the formula



wherein R is selected from the group consisting of phenyl, iso-octyl, iso-butyl, n-pentyl, cyclohexyl, p-tolyl, p-ethylphenyl, 2,5-dimethylphenyl, p-isopropylphenyl, and ethyl radicals, and M is selected from the group consisting of sodium, potassium, and lithium ions, to polyamide-forming reactants; heating said reactants under condensation temperature-pressure conditions to produce said polyamide; extruding said polyamide; dividing the extrusion into flake; coating said flake with from 0.025-0.65% by weight of an inert, particulate material selected from the

group consisting of titanium dioxide and calcium terephthalate; and melt-spinning filaments from said coated flake.

3,340,340

MANUFACTURE OF CRIMPED VISCOSE RAYON FIBRES

Ernest Mytum, Warwick, England, Assignor to Courtaulds Limited, London, England, a British company
No Drawing. Filed Dec. 3, 1963, Ser. No. 327,818
Claims priority, application Great Britain, Dec. 11, 1962, 46,652/62

3 Claims. (Cl. 264-168)

1. A process for the production of crimped viscose rayon fibers comprising extruding a viscose containing from 5 percent to 10 percent of cellulose, from 5 percent to 10 percent of caustic soda, more than 0.05 percent of a modifier and an alkali metal zincate in the proportion of from 0.01 percent to 0.8 percent of zinc based on the weight of the viscose, at a salt figure of between 3 and 14, into a coagulating and regenerating bath containing from 5 percent to 14 percent of sulphuric acid, from 0.5 percent to 4 percent of zinc sulphate and more than 12 percent of sodium sulphate, to form incompletely regenerated filaments, stretching the filaments by at least 50 percent, cutting the stretched filaments into staple fibres and crimping the fibres by relaxing the fibres in a solution containing between 1 percent and 5 percent of caustic soda, before completing the regeneration of the cellulose in the fibres.

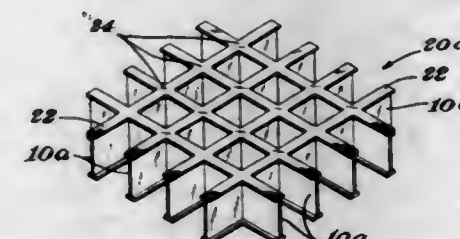
3,340,341

METHOD OF PREPARING GRIDS

Wallace J. Bruder, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 1, 1963, Ser. No. 291,755

4 Claims. (Cl. 264-248)



1. A method for the preparation of grids from thermoplastic resinous material comprising supplying a plurality of elongated thermoplastic resinous strips, each of said strips having a plurality of slots in spaced relationship to each other and extending from one edge of the strip in a generally transverse direction, assembling said strips by engaging a slot of one strip with a slot of other strips to form a plurality of lap joints between the strips to form a loose grid-like structure, collapsing the grid-like structure to a generally flat configuration, subsequently repositioning the flattened structure into a grid-like structure, positioning said loose grid-like structure in a configuration generally approximating the configuration of the final desired article and heat fusing said assembly of strips together, to form a generally rigid structure by heating the edges of the strips to a temperature sufficiently high to cause plastic flow and bond one set of strips to the other set of strips and forming a flange on each edge of the strip and subsequently cooling the strips below the plastic

flow temperature to provide a rigid grid-like structure.

3,340,342

METHOD OF SUSPENDING A CORE MEANS IN A MOLD

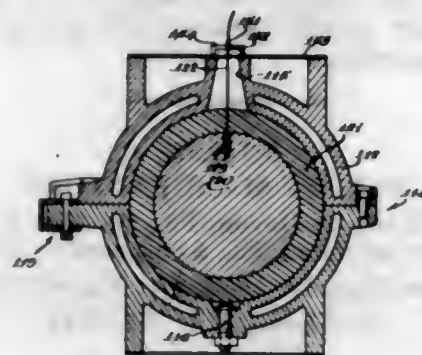
Dennis P. Kane, Muskegon, and Fred E. Satchell, Grand Haven, Mich., assignors to Brunswick Corporation, a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,132

6 Claims. (Cl. 264—275)

1. A method for molding articles with a core surrounded by molded material comprising, placing a core in a mold and attaching said core to the mold by thin flexible means at a position for holding the core against untethered vertical movement within the mold beyond the proper core position, filling the mold with said moldable material having a specific gravity sufficiently different from that of the core for causing relative vertical movement of the core if unheld within said material, said flexible means holding said core from movement be-

yond its proper position, and curing the moldable material with the core held within the moldable material



by said flexible means and thereby permanently embedding the flexible means in said material.

ERRATUM

For Class 264—297 see:
Patent No. 3,340,270

ELECTRICAL

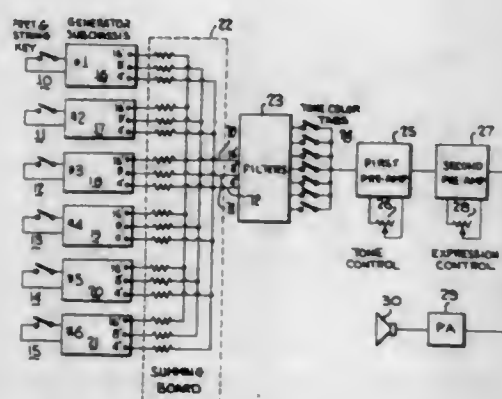
3,340,343

STRINGLESS GUITAR-LIKE ELECTRONIC MUSICAL INSTRUMENT

Thomas P. Woll, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Hamilton, Ohio, a corporation of Ohio

Filed May 6, 1964, Ser. No. 365,438

16 Claims. (Cl. 84—1.13)



1. An electronic musical instrument which simulates a plucked string instrument, comprising a separate row of switches for each of the string positions of said instrument, a separate oscillator for each of said rows, means responsive selectively to actuation of only the switch of highest pitch for each of said rows for tuning the oscillator pertaining to that string to a frequency appropriate to said switch of highest pitch, a string switch for each of said rows, each string switch when unactuated disabling its row and when actuated enabling its row to control the frequency of the oscillator pertaining to that row, said string switch when actuated to the exclusion of any other switch of its row tuning the oscillator pertaining to its row to an open string pitch, said rows of switches being located on said instrument for operation by fingering the instrument by one hand of a player and said string switches being located on said instrument for simulated plucking by the other hand of said player.

1. An electronic musical instrument comprising a plurality of tone generators for producing electronic oscillations corresponding to musical tones, a plurality of keys and a plurality of pedals, a plurality of switches respectively selectively operable thereby, amplifier means, a plurality of filters and stops, said switches and said filters and stops respectively selectively interconnecting said tone generators and said amplifier means, electroacoustic transducing means connected to said amplifier means for converting the amplified electronic oscillations into sound, and means for adding a cymbal tone upon operation of certain of said switches and certain of said stops and comprising an electronic noise generator, a first normally closed electronic gate connected to said noise generator, a second normally closed electronic gate connected to said noise generator, means connecting said gates to said amplifier means, means operable as an incident to operation of any of said certain switches to open said first gate for a predetermined short period of time, and means operable as an incident to operation of any of said certain switches to open said second gate for a period of time longer than said predetermined time to produce a crash plus sizzle cymbal tone.

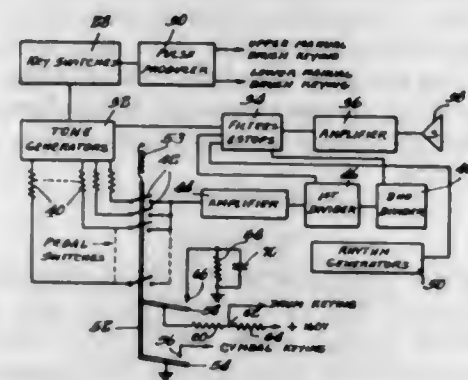
3,340,344

TRANSISTORIZED ELECTRONIC PERCUSSION GENERATOR WITH ORGAN

Harold O. Schwartz, North Tonawanda, and Peter E. Maher, Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Apr. 15, 1965, Ser. No. 448,362

10 Claims. (Cl. 84—1.24)



3,340,345

MOUNTING FOR SEMICONDUCTOR DEVICES

John G. Campbell, 609 Lakeside Drive, Irving, Tex. 75060

Filed Mar. 18, 1965, Ser. No. 440,746
9 Claims. (Cl. 174—15)



1. Mounting means for a circuit element packaged in a case having a peripheral flange and leads projecting from the lower surface thereof, said means functioning to mount said circuit element onto a heat conductive structural member, wherein an insulative, low heat conductive, socket-like member is disposed on said structural member for receiving said leads, said mounting means comprising:

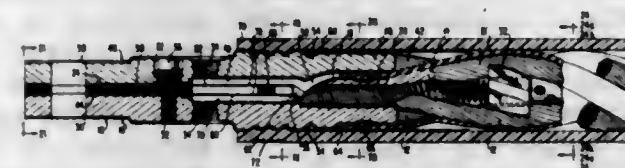
- a base member of high thermal conductivity for positioning on said structural member, the base member having an opening corresponding in cross section to said socket-like member,
- a thin electrically nonconductive plate member of good thermal conductivity positioned over the base member, the plate member being apertured whereby the leads of the circuit element may pass through to engage the socket-like member,
- a deformable sheet member for overlying the plate member and having an aperture member smaller than the peripheral flange whereby the sheet member when fitted over the case will hold the flange against the plate member, and
- means for securing the base member and the plate member to the structural member and for securing the sheet member to the plate member.

3,340,346

TERMINAL FOR A SPIRAL WOUND KICKLESS WATER-COOLED WELDING CABLE AND METHOD OF MAKING THE SAME

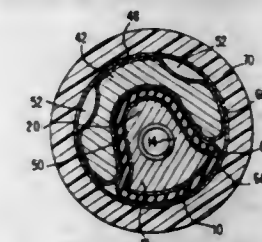
William Toto, 3645 Warrensville Center Road, Cleveland, Ohio 44122

Filed Dec. 13, 1966, Ser. No. 601,361
12 Claims. (Cl. 174—15)



1. A terminal structure for a spiral wound kickless welding cable including two mutually insulated groups of multiple equal numbered conductor strands of opposite and alternating polarity with a tubular covering, said terminal comprising a pair of terminal halves, the first half comprising a unitary elongated hollow conducting sheath having a forward portion with an outer flat surface and an expanded rear portion to provide a longitudinal tongue section, a depression in the flat surface to

form a water channel terminating adjacent the forward formation of the tongue section, the second half of the terminal comprising a unitary elongated hollow conducting sheath having a flat outer surface and depression therein corresponding to the surface and depression of the first sheath, and having an expanded rear portion to provide a longitudinal outer groove section complementary in form to the tongue section to interfit therewith, electrical insulating means interposed between said halves along said outer flat surfaces, an opening in the insulating means at the region where the depressions mate, means joining said halves and interposed insulation to provide a unitary terminal structure with a water channel therein, the ends of the conductor strands of one group entering the first sheath at the expanded rear tongue portion and passing out at the forward end of the sheath, the ends of the conductor strands of the second group entering the second sheath at the expanded rear groove portion and passing out at the forward end of the sheath, the sheaths being sized to forcibly embrace the strands so as to form a strong mechanical and electrical connection therewith.



9. A method of forming terminal halves of a two-piece cylindrical terminal of a double polarity, kickless, welding cable from free ends of cable conductor strands and a pair of conductive tubular blanks, comprising forming the first terminal half by passing the free ends of the cable conductor strands of one polarity through one tubular blank, progressively pressing said cable ends and said blank to thereby form a dense, homogeneous core of cable strands within a conductive sheath, forming a longitudinal tongue section at the rearward end of said blank and the strands therein, the final pressed above terminal half structure possessing the desired terminal outer contours and a flat, axially extending inner surface at its forward portion, with said tongue section disposed transversely of the plane including said flat surface; and forming the second half of said terminal by passing the free ends of the cable conductor strands through the other tubular blank to form a similar core of strands within a conductive sheath, and forming a longitudinal groove section at the rearward end of said blank and the strands therein, the second terminal half also possessing in its final form, a desired outer terminal contour and a flat, axially extending inner surface at its forward portion, the internal contours of said groove section being complementary in shape to the external contour of that contour of that portion of said tongue section intended to mate with said groove section in the final terminal assembly.

3,340,347

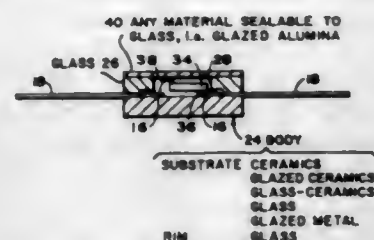
ENCLOSED ELECTRONIC DEVICE

John Splegler, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 12, 1964, Ser. No. 403,125
3 Claims. (Cl. 174—52)

1. An article of manufacture comprising a body having a relatively large planar bottom wall and a rim at the periphery thereof defining a cavity, at least one contact plate of electroconductive material adhered to said wall, and

metallic members corresponding in number to said contact plates hermetically sealed to said rim and bond-

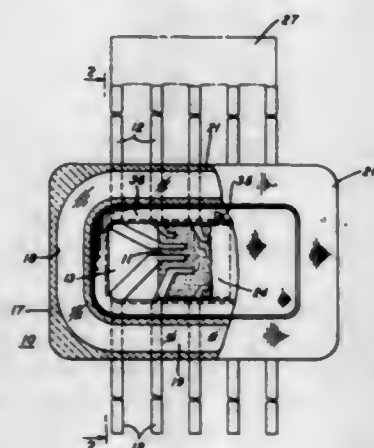


ed directly to each of said contact plates with said members extending through said rim beyond said body.

3,340,348

ENCAPSULATIONS AND METHODS AND APPARATUS FOR MAKING ENCAPSULATIONS
James E. Clark, Coopersburg, Pa., and Ian M. Ross, Bethesda, Md., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

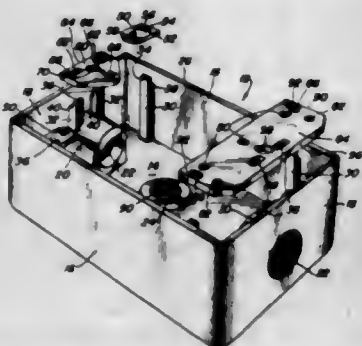
Filed Mar. 16, 1965, Ser. No. 440,163
2 Claims. (Cl. 174-52)



1. A semiconductor package comprising:
two ceramic body portions;
a plurality of leads extending between the body portions;
the body portions each including troughs on opposite sides of the leads;
the troughs containing glass sealant which is bonded to the leads and to the ceramic body portions;
and means for reinforcing the leads comprising side walls of the troughs which clamp firmly on opposite sides of the leads.

3,340,349

JUNCTION BOX CONSTRUCTION
Paul J. Zerwes, Chicago, Ill., assignor to Bell Electric Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 25, 1966, Ser. No. 537,953
16 Claims. (Cl. 174-53)

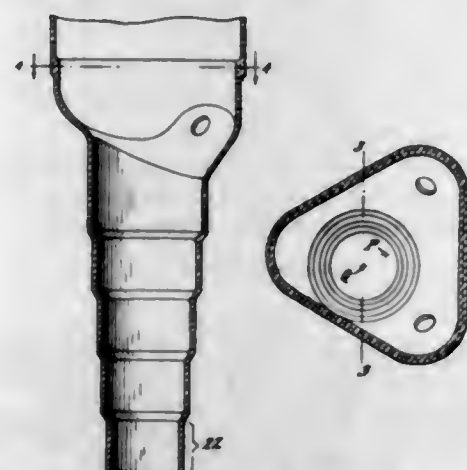


1. An electrical junction box comprising a casting having side, end and bottom walls, to define a housing for receiving an electrical appliance therein, at least one wall

being provided with a tapped boss on the interior of said wall but opening through the said wall to accommodate passage of electrical conductors, said box being open at its top providing a top edge, said box having means for mounting said electrical appliance therein comprising a plurality of vertically extending posts, each post having an upper reduced diameter portion forming a tongue thereon extending upward from a shoulder, at least the remainder of the post being integral with one wall along a lateral edge of said post, said tongue being spaced from a portion of said one wall whereby to form notch means between said tongue and wall portion, the free end of said tongue being at most slightly spaced below the plane of said top edge, an appliance securing member mounted in said box in engagement with at least one of said tongues and having a passageway therein extending normal to the plane of said bottom wall accommodating said one tongue, a portion of said securing member adjacent said passageway being disposed within the notch means associated with said one tongue and the securing member engaging on said shoulder of said one tongue, an edge of said securing member being in engagement with the wall associated with said one tongue at said notch means, said securing member having at least a threaded socket therein, the said free end engaging through said passageway and terminating in a peened portion thereof overlying a portion of the securing member permanently locking said securing member to said tongue against both lateral and vertical components of movement.

3,340,350

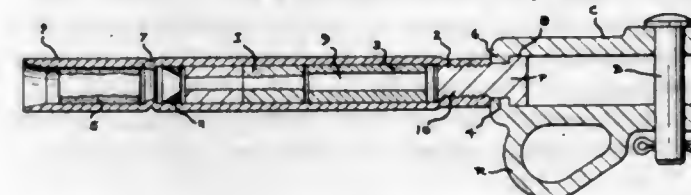
CABLE AND CLOSURE FOR THREE-PHASE CABLE OF DIFFERENT DIAMETERS
Jan Christiaan Clason, 52 Hengelose Esstraat, Hengelo, Overijssel, Netherlands
Filed Apr. 8, 1965, Ser. No. 446,512
Claims priority, application Germany, Apr. 8, 1964, N 24,756
2 Claims. (Cl. 174-74)



1. A cable end closure for three-phase cables of different diameters and three connecting terminals arranged in the form of an equilateral triangle, comprising an end closure housing, the mid point of the place of entry of the cables into the end closure housing being the same for all cable diameters and spaced from the center of the equilateral triangle, the housing for the end closure at the place of insertion of the cable being in diameter-graduated sections adapted to be removed according to the diameter of the cable to be inserted, the spacing of the mid point relative to the center of the equilateral triangle being dimensioned in such a way that for small, medium and large diameter cables, it is possible by rotation of the end closure housing to accommodate three different positions rotated 120° relative to each other, to secure any of said cables with its outer sheath to the same stationary supporting surface.

3,340,351

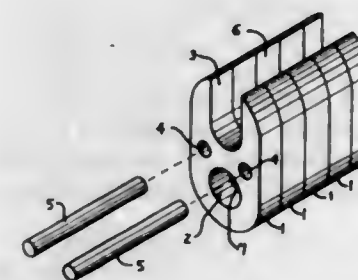
DEAD-END CONNECTOR
Henry William Tiernan, Jr., King of Prussia, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 15, 1964, Ser. No. 418,448
2 Claims. (Cl. 174-79)



1. An electrical connector for connecting soft conductive metal cable having a hard core wire to a support means comprising a ferrule member of soft metal similar to said soft metal cable, frangible metal inserts along one section of an inside surface of said ferrule member, said one section being located inwardly from one end of said ferrule member, said metal inserts having central apertures to receive said hard core wire, said ferrule member having another section from the one end thereof to said one section for receiving a portion of said soft metal cable therein, said metal inserts upon crimping pressure being applied to said one section of said ferrule member being fractured into small pieces thereby becoming embedded in said soft metal ferrule member and said hard core wire and said other section upon crimping pressure being applied thereto being compressed into high pressure engagement with said portion of said soft metal cable to provide a high tensile connection between said ferrule member and said cable, a clevis member at the other end of said ferrule member and having a hole extending therethrough in alignment with said ferrule member, pin means extending through said hole and having a head in engagement with said clevis member and a section provided with an uneven surface onto which said ferrule member is crimped thereby securing said clevis member and said ferrule member together, fastening means provided by said clevis member to secure the connector to said support means, and integral ring means extending outwardly from a section of said clevis member for engagement by tightening means to bring said cable into said sections of said ferrule member for crimping with said connector secured on said support means by said fastening means or to move said connector crimped onto said cable into engagement with said support means for securing thereto by said fastening means.

3,340,352

SECTIONAL TAP CONNECTOR
Wladimiro Teagno and Franco Trevisiol, Turin, Italy, assignors to AMP Incorporated, Harrisburg, Pa.
Filed Sept. 8, 1966, Ser. No. 577,959
Claims priority, application Italy, Sept. 11, 1965, 20,233/65
8 Claims. (Cl. 174-94)

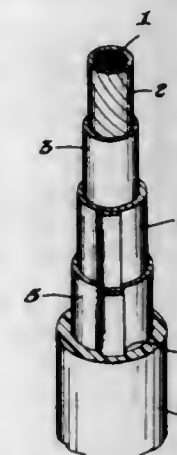


2. A connector assembly for connecting a tap conductor to a line conductor comprising a series of connector elements in side-by-side positions, said connector

elements having apertures and slots with said apertures being in alignment defining a first passageway for receiving said tap conductor therein and said slots being in alignment defining a second passageway for engaging a section of said line conductor, and connecting means engaging said connector elements thereby maintaining these elements in the side-by-side positions forming said connector assembly for crimping onto said section of said line conductor and said tap conductor and effecting an electrical and mechanical connection therebetween.

3,340,353

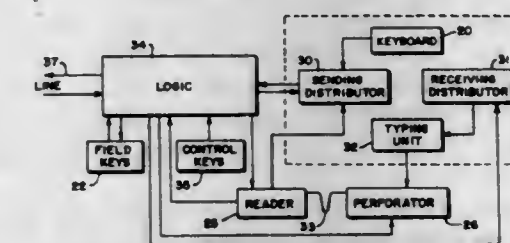
DOUBLE-SHIELDED ELECTRIC CABLE
Raymond C. Mildner, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,624
5 Claims. (Cl. 174-106)



1. An electric cable having an improved metallic shield construction which comprises (1) a cable core of at least one insulated metallic conductor, (2) a first metallic shield surrounding the cable core, (3) a second metallic shield surrounding the first metallic shield, said second shield having a thickness of less than one-half the thickness of the first metallic shield, there being an absence of bonding between said first and second metallic shields and (4) an outer jacket of a thermoplastic material surrounding the second shield, the second shield being firmly and adhesively bonded to the outer jacket.

3,340,354

PRINTING TELEGRAPH TRANSMITTER SET
Albert J. Lodenkamp, Glen Ellyn, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Sept. 17, 1963, Ser. No. 309,540
13 Claims. (Cl. 178-4)



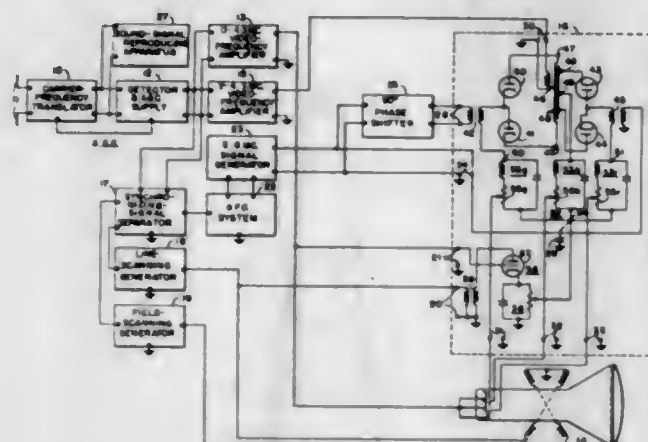
2. A printing telegraph transmitter set comprising:
(a) means for entering a message on a monitor printer and for recording a duplicate of the message in permutation code in a tape,
(b) means for reading the code combinations in the tape,
(c) means for connecting the reading means to the printer to control the reprinting of the message by the printer and the re-recording of the message in the tape, and

(d) means associated with predetermined areas of a message as recorded by the monitor printer and settable for automatically disconnecting the reading means from the printer and reconnecting the printer to the message entering means when the reading means has completed the reading of the next preceding area of the message.

3,340,355

MATRIXING APPARATUS FOR A COLOR-TELEVISION SYSTEM

Donald Richman, Flushing, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed June 5, 1953, Ser. No. 359,734
16 Claims. (Cl. 178-5.4)



6. In a color-television receiver, said color-television receiver adapted to receive a color-television signal, said color-television signal including a color subcarrier containing a plurality of color signals, each of said color signals corresponding to a predetermined signal phase, matrix means adapted to accept a first plurality of signals corresponding to a first group of predetermined signal phases in said color subcarrier to yield a second plurality of signals corresponding to a second group of predetermined signal phases, said matrix means comprising in combination, a plurality of transmission networks, each of said transmission networks having a first control electrode, a second control electrode, and an output electrode, a mutual impedance coupled to the first control electrode of each of said transmission networks to cause any signal developed in one transmission network to drive each of the other transmission networks, means for coupling each of said plurality of signals to the second control electrode of a prescribed group of said transmission networks corresponding in number to said first plurality of signals, means for utilizing said mutual impedance to produce signal addition of determinable amplitudes and polarities of said first plurality of signals at the output terminals of each of said transmission networks to cause each signal of said second plurality of signals to appear at the output terminal of one of said plurality of transmission networks.

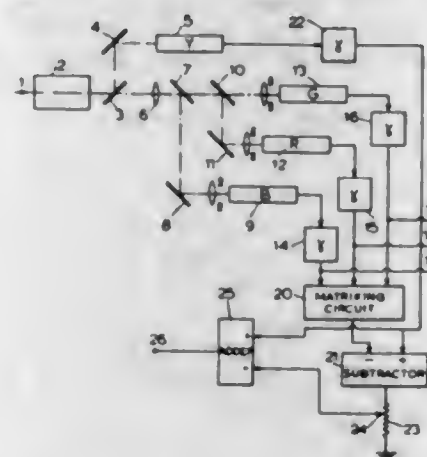
12. In a color-television receiver, matrixing apparatus for developing from two modulation components, occurring at two prescribed angles of a received color subcarrier signal, at least two color-representative signals at angles other than said prescribed phase angles, comprising: two source means, each for supplying one of said two modulation components; and load circuit means coupled to the sources for matrixing the two modulation components in three portions of the load circuit, one portion of which is coupled in common to the other two, in proportions and senses to develop said color-representative signals at said other phase angles in the load circuit.

15. In a color television receiver including a source of a chrominance signal comprising phase and amplitude modulated color subcarrier waves, the modulation of said color subcarrier waves being such that demodulation of said waves at a first predetermined phase will produce a $R-Y$ signal, demodulation of said waves at a second predetermined phase will produce a $B-Y$ signal, and demodulation of said waves at a third predetermined phase will produce a $G-Y$ signal, said receiver also including a source of reference oscillations of color subcarrier frequency, and color image reproducing apparatus adapted to reproduce color images in response to the delivery of $R-Y$, $B-Y$, and $G-Y$ signals, respectively, to respective first, second and third input terminals thereof, a color demodulator system comprising in combination: first and second demodulating means each having separate output circuit means for developing respectively different first and second color signal outputs, means for applying reference oscillations from said source to said first demodulating means in a fourth predetermined phase different from any of said first, second and third predetermined phases, means for applying reference oscillations from said source to said second demodulating means in a fifth predetermined phase different from any of said first, second, third and fourth predetermined phases, means for applying modulated, color subcarrier waves from said chrominance signal source to each of said first and second demodulating means, and common output circuit means coupled to both of said first and second demodulating means for providing a third color signal output and for causing interaction between said first and second demodulating means such that the first color signal output produced in the separate output circuit means of said first demodulating means corresponds to one of said $R-Y$, $G-Y$ and $B-Y$ signals, the second color signal output produced in the separate output circuit means of said second color demodulator means corresponds to a second one of said $R-Y$, $G-Y$ and $B-Y$ signals, and the third color signal output produced in the common output circuit means of both of said first and second demodulating means corresponds to the remaining one of $R-Y$, $G-Y$ and $B-Y$ signals, and means for coupling said first, second and third input terminals to the respectively appropriate output circuit means.

3,340,356

TELEVISION CAMERAS

Ivanhoe John Penfound James, Ealing, London, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
Filed Nov. 7, 1963, Ser. No. 322,187
Claims priority, application Great Britain, Nov. 9, 1962, 42,515/62
6 Claims. (Cl. 178-5.4)



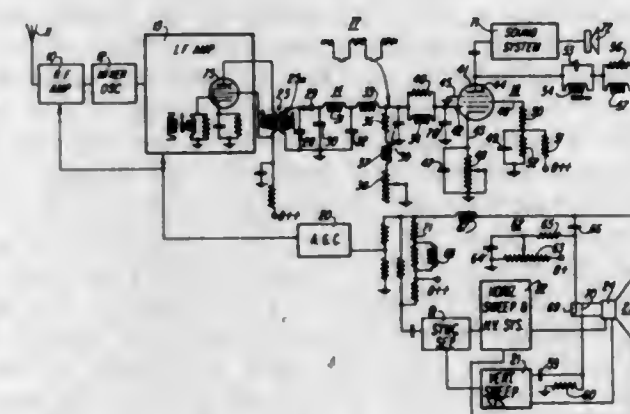
1. A colour television camera arrangement comprising means for producing at least two images of a scene, a luminance television pick-up tube which produces a

brightness signal of relatively high resolution in response to one of said images, one or more other television pick-up tubes each responsive to a respective other one of said images to produce a plurality of signals representing colour components of the scene at relatively low resolution, means for combining said colour signals to produce a brightness signal of relatively low resolution, and means for subtracting from said high resolution signal a proportion of said low resolution signal of smaller amplitude than said high resolution signal, thereby to produce from said subtracting means an output brightness signal in which edges and transitions are emphasised.

3,340,357

TELEVISION VIDEO DETECTOR CIRCUIT COMPRISING VARIABLE LOAD MEANS FOR CONTROLLING FREQUENCY RESPONSE

Robert C. Williams, Arlington Heights, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed May 17, 1961, Ser. No. 110,720
1 Claim. (Cl. 178-7.3)



A video detector circuit for a television signal having a carrier modulated with video signal components, including in combination, a source of the television signal comprising a transformer having a first resonant circuit tuned substantially below the carrier frequency and a second resonant circuit inductively coupled to said first resonant circuit and tuned in the region of the frequency of the carrier, a rectifier and detector load series connected across said second resonant circuit, said detector load including series connected fixed and variable resistors, said fixed and variable resistors having values so that the frequency response of said transformer is effectively tilted by adjustment of said variable resistor to increase or decrease response thereof to the video signal components in the region of the frequency of the carrier, and a video signal utilization circuit connected across said detector load.

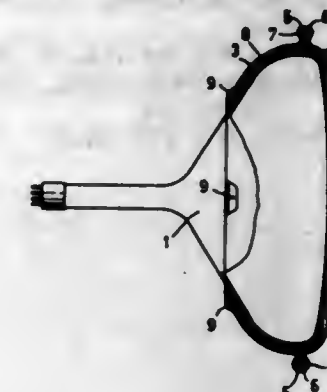
3,340,358

CATHODE-RAY TUBE

Johannes de Gier, Willem Fokko Nienhuis, and Floris de Boer, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 28, 1963, Ser. No. 254,231
Claims priority, application Netherlands, Jan. 29, 1962, 274,116
6 Claims. (Cl. 178-7.82)

3. A cathode-ray tube comprising a transparent window portion and an adjoining cone portion, an envelope spaced from and surrounding a portion of the cone portion of the tube and having a portion forming a frame for the transparent window portion, said latter portion of

said envelope being constituted of a hard insulating synthetic resin, and a non-elastic, coherent mass of sulfur

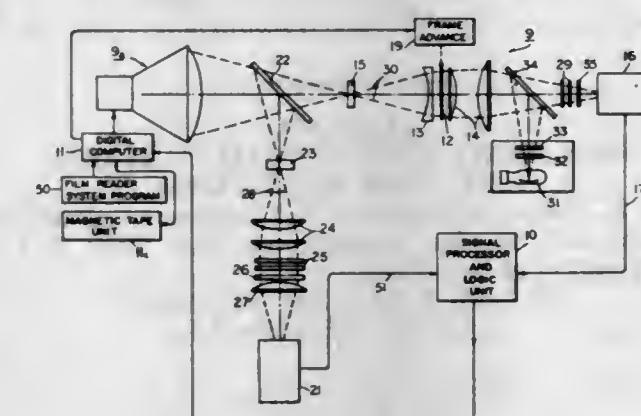


occupying the space between the envelope and the portions of the tube surrounded thereby.

3,340,359

HIGH-SPEED FILM READING

Edward Fredkin, Natick, Mass., assignor to Information International, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 6, 1964, Ser. No. 357,700
15 Claims. (Cl. 178-7.88)



2. Apparatus for the automatic reading of film or the like, comprising a light source including means for selectively producing illumination independently at each of a plurality of sites on a display screen, first and second phototube means producing electrical signals responsive to light transmitted thereto, optical means directing one part of the illumination from each of said sites to corresponding discrete sites on said film and directing another part of said illumination to said second phototube means, optical means directing illumination transmitted through said film to said first phototube means, optical filtering means intercepting at least one of said parts of said illumination directed to at least one of said phototube means for selectively varying the relative electrical output signals from said first and second phototube means to compensate for film density effects, means comparing the outputs of electrical signals produced by said first and second phototube means and developing signals characterizing the relative values thereof which signify the presence of information of interest carried by said film, means programming said light source to produce a scanning of illumination at the sites on said screen, and means sensing the signals developed by said comparing means and identifying their occurrences in relation to coordinates of those sites of illumination on said screen which cause them to be produced.

3,340,360

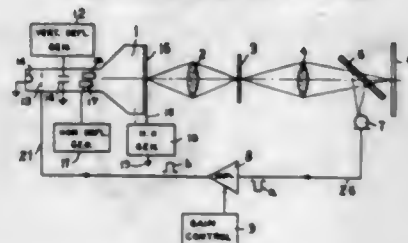
**CATHODE RAY PHOTOGRAPHIC PRINTER
HAVING POSITIVE FEEDBACK**

Tino Cello, Buchs, and Hansjuerg Mey, Oberengstringen, Switzerland, assignors to Gretag Aktiengesellschaft, Regensdorf, Switzerland

Filed Aug. 22, 1963, Ser. No. 303,801

Claims priority, application Switzerland, Aug. 23, 1962, 10,097/62

7 Claims. (Cl. 178-6.8)



1. A method for reproducing an original, comprising the steps of scanning the original point by point by means of a light ray which serves simultaneously to illuminate and reproduce the original, controlling the intensity of the light ray in dependence upon the light passing through the original by means of a positive feed-back loop having a photoelectrical light measuring means and an amplifier, the total gain of said feed-back loop resulting from the gain of the amplifier, the light producing and associated optical means, the photoelectrical light measuring means, and the transmission of the original, modifying said total gain according to a specific time law extending over a predetermined number of picture scans, said time law providing for the +1 value of the total gain to be reached in each scan at a different transmission value of the original.

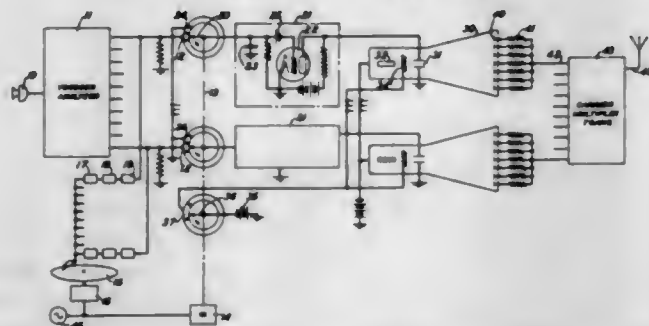
3,340,361

**SIGNALING SYSTEM WITH CATHODE
RAY TUBE QUANTIZER**

Ralph K. Potter, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 9, 1945, Ser. No. 603,935

2 Claims. (Cl. 179-1.5)



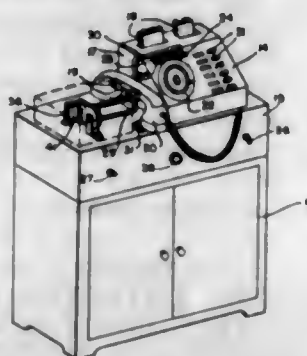
1. In a signaling system, a signal input circuit, a cathode beam tube connected to receive signal voltage variations from said circuit and comprising a plurality of targets, means to move the beam from target to target under control of said signals and as a function of signal strength, a common output circuit and resistances of different value connected between individual targets and said output circuit for applying to said output circuit voltages varying in steps as the beam moves from target to target, and a feedback circuit from said output to said input circuit comprising a differential feedback control for causing the feedback to oppose movement of the beam by the signal from the center toward the edge of any target but to aid movement of the beam by the signal from the edge toward the center of any target, said system including means providing gain for signals in said input circuit, means for comparing input signals against output signals to obtain a differential voltage, and means controlled by said last voltage to control the gain for signals in said input circuit.

**3,340,362
CARD READER MONITORING AND
ALARM SYSTEM**

Paul B. Williams, 1010 Broad St., Newark, N.J. 07102

Filed Nov. 19, 1963, Ser. No. 324,661

4 Claims. (Cl. 179-5)



1. In combination, an alarm system comprising a card dialer telephone having a liftable handset cradle as well as a card reader selectively operative upon depression of a manual start switch to read a data card inserted therein, said card dialer telephone having a card therein bearing data identifying a receiving station to be alerted upon occurrence of an emergency condition, a first solenoid, a first lever actuable by said first solenoid and positioned to lift said handset cradle upon energization of said first solenoid, a second solenoid, a second lever actuable by said second solenoid and positioned to depress said manual start switch upon energization of said second solenoid, sensor means for continuously monitoring a pre-selected parameter, control means coupling said sensor means to both said solenoids in a time spaced sequence thereby to render said reader operative upon occurrence of said emergency condition, said control means including means for automatically de-energizing each of said solenoids at an interval of time subsequent to their energization, and latch means for holding said handset cradle in its lifted position notwithstanding de-energization of said first solenoid.

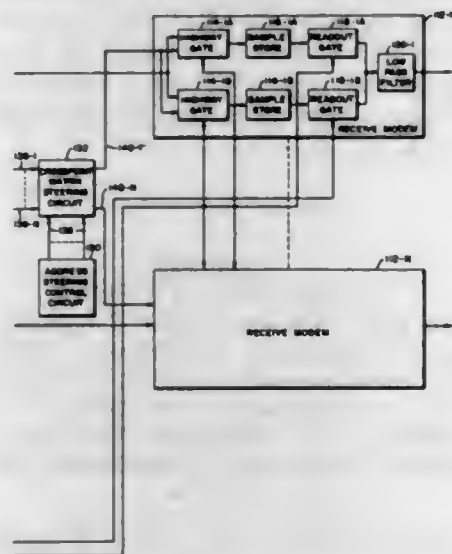
3,340,363

**SIGNAL AMPLITUDE SEQUENCED TIME
DIVISION MULTIPLEX COMMUNICA-
TION SYSTEM**

Stanley H. Bour, East Rochester, and Barrie Brightman, Webster, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Jan. 26, 1965, Ser. No. 428,030

7 Claims. (Cl. 179-15)



1. In a time division multiplex communication system for transmitting an analog signal from an individual originating point corresponding therewith to a preselected

terminating point corresponding thereto, said system comprising a source of analog signal coupled to said originating point, a periodic signal source for producing a periodic signal having a fundamental frequency which is greater than twice as high as the highest frequency component of said analog signal to be transmitted, said periodic signal source including waveform means for producing as an output during each cycle of said periodic signal a predetermined single-valued function with respect to time which has an amplitude range which is at least as great as the maximum amplitude range of said analog signal, first and second receive sample stores, first means coupled to said originating point and said periodic signal source for sampling the instantaneous amplitude of said analog signal once during each cycle of said periodic signal and for transmitting the sample occurring during each odd cycle of said periodic signal to said first receive sample store when a predetermined amplitude difference occurs between the sampled amplitude of said analog signal during that odd cycle and the instantaneous amplitude of said single-valued function and for transmitting the sample occurring during each even cycle of said periodic signal to said second receive sample store when said predetermined amplitude difference exists between the sampled amplitude of said analog signal during that even cycle and the instantaneous amplitude of said single-valued function, a low-pass filter having a cut-off frequency which is greater than said highest frequency component of said analog signal, a first readout gate coupling said first receive sample store to the input of said filter, a second readout gate coupling said second receive sample store to the input of said filter, second means coupling said periodic signal source to said first and second readout gates for opening said first readout gate at the beginning of each even cycle of said periodic signal while maintaining said first readout gate closed for each entire odd cycle of said periodic signal and for opening said second readout gate at the beginning of each odd cycle of said periodic signal while maintaining said second readout gate closed for each entire even cycle of said periodic signal, and coupling means for applying the output of said filter to said preselected terminating point.

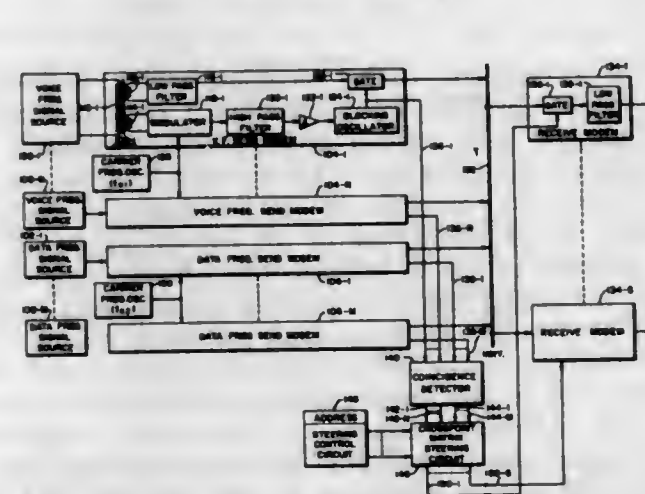
3,340,364

**SIGNAL FREQUENCY AND PHASE SEQUENCED
TIME DIVISION MULTIPLEX COMMUNICATION
SYSTEM**

Barrie Brightman, Webster, and J. Carter Perkins, Jr., Victor, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Jan. 26, 1965, Ser. No. 428,107

13 Claims. (Cl. 179-15)



1. In a time division multiplex communication system comprising transmission means including normally closed gate means, first means for applying an analog signal

having a maximum frequency component less than a predetermined frequency as an input to said transmission means, a low-pass filter having a cut-off frequency equal to said predetermined frequency, and second means for applying the output of said transmission means only when said gate means thereof are open as an input to said filter; the combination therewith of third means responsive to the instantaneous frequency and phase of said analog signal for momentarily opening said gate means only if said analog signal is present and then at a variable rate determined in accordance with a given function of the instantaneous frequency and phase of said analog signal which determined rate is always more than said predetermined frequency and more than twice the highest frequency then present of said analog signal.

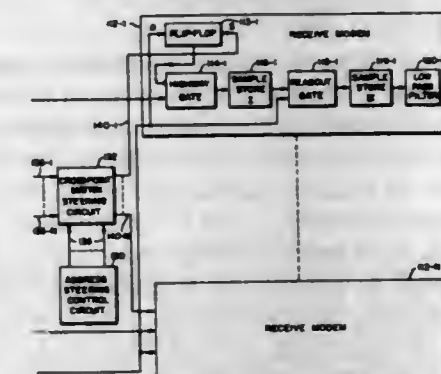
3,340,365

**SIGNAL AMPLITUDE SEQUENCED TIME
DIVISION MULTIPLEX COMMUNICA-
TION SYSTEM**

Stanley H. Bour, East Rochester, and Donald C. Rimlinger, Holcomb, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,386

5 Claims. (Cl. 179-15)

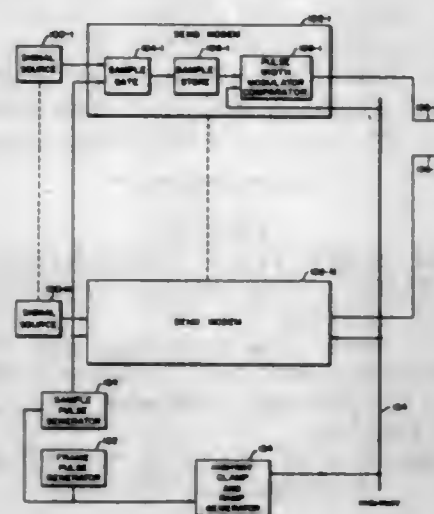


1. In a time division multiplex communication system for transmitting an analog signal from an individual originating point corresponding therewith to a preselected terminating point corresponding thereto, said system comprising a source of analog signal coupled to said originating point, a periodic signal source for producing a periodic signal having a fundamental frequency which is greater than twice as high as the highest frequency component of said analog signal to be transmitted, said periodic signal source including waveform means for producing as an output during each cycle of said periodic signal a predetermined single-valued function with respect to time which has an amplitude range which is at least as great as the maximum amplitude range of said analog signal, first and second receive sample stores, sampling means coupled to said originating point and said periodic signal source for sampling the instantaneous amplitude of said analog signal once during each cycle of said periodic signal and for transmitting each sample to said first receive sample store when a predetermined amplitude difference occurs between the sampled amplitude of said analog signal during that cycle and the instantaneous amplitude of said single-valued function, transfer means for transferring the sample stored by said first receive sample store during each cycle of said periodic signal to said second receive sample store only at the beginning of the next-occurring cycle of said periodic signal, a low-pass filter having a cutoff frequency which is greater than said highest frequency component of said analog signal and less than said fundamental frequency of said periodic signal, first coupling means for applying the output of said second receive sample store as an input to said filter, and second coupling means for applying the output of said filter to said preselected terminating point.

3,340,366 SIGNAL AMPLITUDE SEQUENCED TIME DIVISION MULTIPLEX COMMUNICA- TION SYSTEM

Stanley H. Bour, East Rochester, and Donald C. Rimlinger, Holcomb, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,435
6 Claims. (Cl. 179-15)



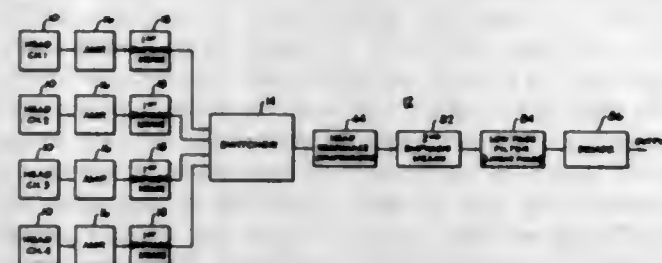
1. In a time division multiplex communication system for transmitting an analog signal from an individual originating point corresponding therewith to a preselected terminating point corresponding therewith, said system comprising a source of analog signal coupled to said originating point, a periodic signal source for producing a periodic signal having a fundamental frequency which is greater than twice as high as the highest frequency component of said analog signal to be transmitted, said periodic signal source including waveform means for producing as an output during each cycle of said periodic signal a predetermined single-valued function with respect to time which has an amplitude range which is at least as great as the maximum amplitude range of said analog signal, a low-pass filter having a cutoff frequency which is greater than said highest frequency component of said analog signal and less than said fundamental frequency, first coupling means for applying the output of said filter to said preselected terminating point, sampling means coupled to said originating point and said periodic signal source for sampling the instantaneous amplitude of said analog signal once during each cycle of said periodic signal and for deriving a pulse width modulated pulse during each cycle of said periodic signal which has its leading edge occurring at a fixed time with respect to the beginning of each cycle of said periodic signal and which has its lagging edge occurring when a predetermined amplitude difference exists between the sampled analog signal and the instantaneous amplitude of said single-valued function, and second coupling means for applying the pulse width modulated pulse derived during each cycle of said periodic signal to the input of said low-pass filter.

3,340,367
**PLAYBACK EQUALIZATION SCHEME FOR A
REPRODUCED FREQUENCY MODULATED
SIGNAL**
Charles H. Coleman, Jr., Belmont, Michael O. Felix, San Carlos, and Peter W. Jensen, Fremont, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed July 24, 1963, Ser. No. 297,425
8 Claims. (Cl. 179-100.2)

1. An equalization circuit for a transducer head employed for reproducing a recorded frequency modulated signal, which signal had been produced by frequency

modulating a carrier frequency with a broad band signal using a low deviation ratio, phase and amplitude distortion caused by resonance of said head being compensated, said circuit comprising means coupled to said head for providing a high frequency amplitude boost to the reproduced signal with a linear phase characteristic, and a phase corrected low pass filter means coupled to the output of said means, the combined response of said high



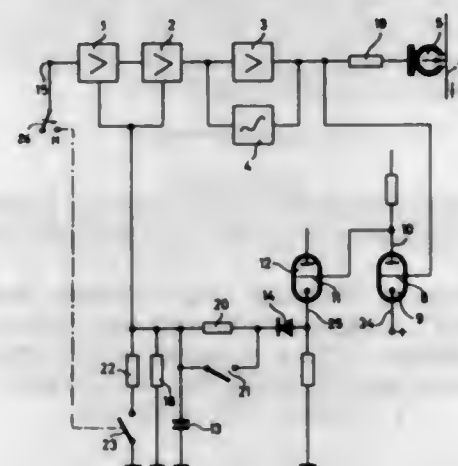
frequency boosting means and said filter means being such that the signal output of said equalization circuit during reproducing decreases linearly with increasing frequency from the first lower side band component of the highest modulating frequency of the frequency modulated signal to the first upper side band component of the highest modulating frequency of the frequency modulated signal.

3,340,368 AUTOMATIC GAIN CONTROL FOR MAGNETIC SOUND RECORDERS

Adolf Wohlrab, Furth, Bavaria, and Günther Zwenig, Nurnberg, Germany, assignors to Max Grundig, Furth, Bavaria, Germany

Filed July 26, 1963, Ser. No. 297,859
Claims priority, application Germany, Sept. 14, 1962,
G 35,920

6 Claims. (Cl. 179-100.2)



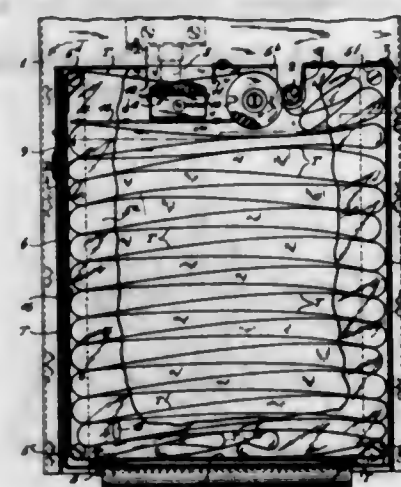
3. In a magnetic sound recorder having multistage input signal amplifier means feeding a recording head, an automatic gain control arrangement comprising, in combination, sampling means for deriving from the output of said multistage amplifier means a variable voltage proportional to the amplitude of the current passing from said amplifier means to said recording head; comparator means for comparing said variable voltage with a substantially constant predetermined reference voltage and for furnishing a control voltage depending upon any existing voltage difference between said variable voltage and said reference voltage; and retroactive regulating means controlled by said control voltage and tending to reduce said voltage difference to zero by regulating the gain of that portion of said multistage amplifier means which carries out an initial partial amplification of the input signal, said regulating means including capacitive delay means for extending the regulating action thereof over a predetermined period of time after said control

voltage has assumed a predetermined value, said delay means including resistor and capacitor means determining a charging time constant below 200 msec. and a discharge time constant of at least 150 sec., and auxiliary means for temporarily changing said discharge time constant to at least 20 sec. and not exceeding 50 sec., said auxiliary means including second resistor means and auxiliary switch means for placing said second resistor means in circuit with said capacitor means whenever desired.

3,340,369 TAPE RECORDER WITH RANDOM-WIND CARTRIDGE

Aloysius Seidl, Cleveland, Ohio, assignor, by mesne assignments, to Robert C. Hunter, Cleveland, Ohio
Continuation of application Ser. No. 156,598, Dec. 4, 1961. This application Mar. 22, 1966, Ser. No. 538,471

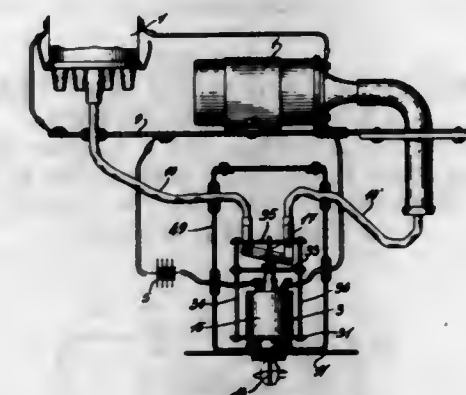
3 Claims. (Cl. 179-100.2)



1. In a tape recording and reproducing device, the combination of a tape deck and a tape cartridge adapted to be removably placed in operative position upon said tape deck, said tape deck having a capstan drive shaft and sound recording and reproducing means, said cartridge having an end wall, a pressure pad mounted within said cartridge for co-operation with said recording and reproducing means and a pressure roller mounted in the marginal portion of said cartridge bounded by said end wall in operative relation to said pressure pad and for cooperation with said capstan drive shaft, said marginal portion of said cartridge having a recess laterally spaced along said end wall from said pressure roller and of suitable width to accommodate said capstan drive shaft, said recess being of a depth wherein the plane of tangency between the capstan drive shaft and the pressure roller is substantially normal to said end wall, said cartridge being adapted to contain therewithin a sound tape movable into and out of operative position between said capstan drive shaft and pressure roller and between said recording and reproducing means and pressure pad according to the position of said cartridge with respect to said tape deck, and means for removably positioning said cartridge in operative relation upon said tape deck with said capstan drive shaft located within said recess and entirely within said marginal portion of said cartridge, whereby the tape will be directed into the interior of said cartridge.

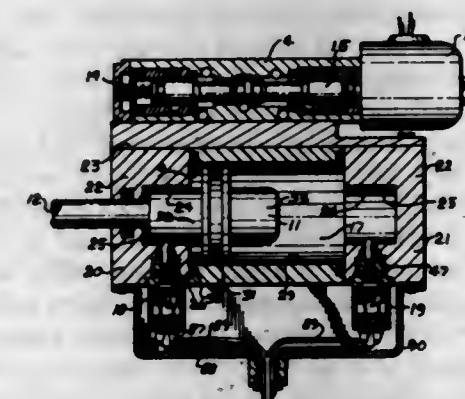
3,340,370
ANTI-THEFT DEVICE FOR MOTOR VEHICLES
Louis H. Sidelean, Coaticook, Stanstead, Quebec, Canada
Filed Jan. 10, 1966, Ser. No. 519,637
2 Claims. (Cl. 200-44)

1. In a motor vehicle which comprises an ignition switch, an ignition coil, a distributor, a storage battery, low tension cables and high tension cables, an anti-theft



the primary circuit, said heavy tension cable consisting of a flexible tube made of an insulating material said tube having metallic connections at both ends thereof and containing therein a string interconnecting generally cylindrical metallic slugs each of said metallic slugs having one rounded end and one convex end, said metallic slugs being held in contact by means of a metallic spring integrally mounted to one of said metallic connections at one end of said tube.

3,340,371
SWITCH DEVICE FOR PRESSURE CYLINDERS
Lea G. Trimmer, 2418 Walnut,
Kansas City, Mo. 64108
Filed Oct. 23, 1965, Ser. No. 503,706
4 Claims. (Cl. 200-82)



1. In combination with an air cylinder having a wall forming a closed piston chamber and a piston reciprocable in said chamber,

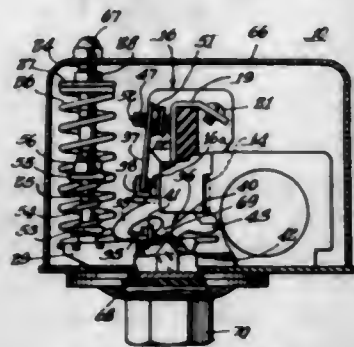
- (a) a switch assembly operating independently of variations of pressure in said piston chamber, said switch assembly having a housing forming an enclosed hollow interior, a bore in said housing providing the only access into said interior, a switch in said interior, a switch actuating member operably associated with said switch and movably extending through said bore and projecting outwardly of said housing, resilient means urging said switch actuating member outwardly of said housing,
- (b) means mounting said housing on said chamber wall and providing a seal between said chamber wall and said housing, a passageway extending through said cylinder wall, said passageway being surrounded by said seal and communicating with said bore whereby the only communication into said interior is through said chamber,

- (c) said actuating member movably extending through said passageway and into said chamber in the path of said piston, said actuating member being of lesser dimension than said bore and passageway whereby air is free to flow therepast into and out of said interior, (d) whereby said switch is actuated by contact between said piston and said actuating member independently of pressure variation in said cylinder.

3,340,372

PRESSURE SWITCH WITH NON-WELDING CONTACT STRUCTURE

Carl A. Schaefer, Asheville, N.C., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Mar. 1, 1965, Ser. No. 435,815
3 Claims. (Cl. 200—83)



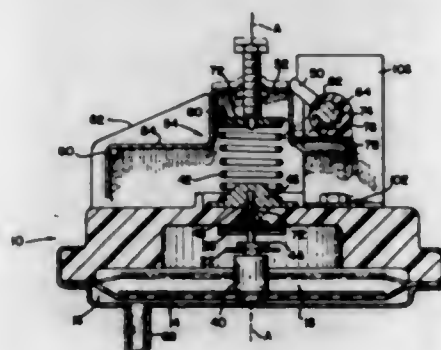
1. A pressure switch comprising a base, a pair of stationary contacts supported on said base, a movable bridging means having contact portions at opposite ends thereof of complementary to said stationary contacts, respectively, pivotal means pivotally supported on said base and movable between an open circuit position and a closed circuit position, a contact arm mounted on said pivotal means and movable therewith between said open and closed circuit positions mounting means mounting said bridging means on an end portion of said contact arm, said mounting means including a lost-motion connection means permitting restricted movement of said bridging means relative to said contact arm in a path toward and away from said contact arm and permitting restricted pivotal movement of said bridging means about an axis extending transversely of said bridging means between said contact portions and substantially normal to said path, a contact spring biasing said bridging means away from said contact arm and normally maintaining the bridging means spaced from the contact arm at a distance limited by said connection means, snap-acting toggle means causing said pivotal means to move in opposite directions, selectively, between said open and closed circuit positions with a snap action thereby to move said contact portions on said bridging means into and out of engagement with the respective stationary contacts, pressure responsive means for actuating said snap-acting toggle means, said snap-acting toggle means being operative to move said contact arm in a direction toward said stationary contacts with sufficient force to compress said contact spring upon engagement of said contact portions with said stationary contacts, stop means on said pivotal means movable with said pivotal means between first and second positions which correspond, respectively, to said open and closed circuit positions of said pivotal means, said base having a portion engaged by said stop means in said first position so as to establish the open circuit position of said pivotal means, said stop means, in said second position, being in non-interfering relationship with all other components of said pressure switch and therefore being wholly inoperative to arrest the movement of said pivotal means during movement thereof to said closed circuit position,

said bridging means being non-resiliently engaged by said contact arm to establish said second position of said stop means and said closed circuit position wherein said contact portions are in engagement with their respective stationary contacts and said contact spring is compressed and ineffective to resiliently space said bridging means from said contact arm, whereby said bridging means receives a hammer blow after at least one of said contact portions engages its complementary stationary contact upon movement of said contact arm to said closed circuit position, and said mounting means being operative after initial movement of said contact arm toward said open circuit position from said closed circuit position to impart a hammer blow to said bridging means.

3,340,373

WATER LEVEL SWITCH WITH TRANSVERSE KNOB SHAFT, AND THE LIKE

Edward L. Bello, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 8, 1965, Ser. No. 462,321
15 Claims. (Cl. 200—83)



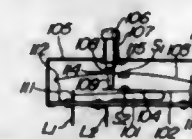
1. In combination:
 - a casing having a vertical axis;
 - a diaphragm in said casing separating said casing into a variable pressure chamber and a constant pressure chamber;
 - a switch in said casing;
 - switch actuating means connecting said diaphragm to said switch to actuate said switch in response to variable pressures in said variable pressure chamber;
 - adjustable load means engaging said actuating means to determine a variable relatively high pressure in said variable pressure chamber at which said switch is actuated to actuated position from an unactuated set position;
 - pressure responsive reset means to determine a reset relatively low pressure in said variable pressure chamber at which said switch is reset to said unactuated set position;
 - manually actuatable reset means to reset said switch to said unactuated set position while said variable pressure chamber is at a relatively high pressure condition;
 - lever means carried by said casing and above said casing transversely to said axis and engaging said adjustable load means to vary said variable relatively high pressure at which said switch is actuated and engaging said manually actuatable reset means to reset said switch;
 - a rotatably adjustable shaft means carried by said casing and above said casing transversely to said lever means and engaging said lever means to cause said selection of said relatively high pressure at which said switch is actuated and to cause said manual resetting of switch.

3,340,374

RESISTANCE WIRE SNAP ACTING CIRCUIT BREAKER SWITCH

Tokuo Shiraiishi and Yozo Shioda, Tokyo, Shiro Yamachi, Kodaira-shi, and Shigeru Terada, Tokyo, Japan, assignors to Nikko Denki Selsakusho, Ltd., Tokyo, Japan, a corporation of Japan

Filed Sept. 8, 1965, Ser. No. 485,845
Claims priority, application Japan, Dec. 30, 1964, 39/74,500; (utility model), 39/102,431
1 Claim. (Cl. 200—113)



A circuit breaker comprising a base of insulating material, first and second electrical terminal members secured to said base, a first contact resiliently mounted on said base and electrically connected to said first terminal, a pair of resilient support members attached to said base, an upwardly convexed biased spring resilient strip supported between said resilient support members and having a second contact mounted thereon in opposed relation to said first contact, a resistance wire connected in tension between said second electrical terminal and one of said pair of resilient support members positioned to pull said pair of resilient support members toward each other so as to maintain said resilient strip in a downwardly concaved position with said first and second contacts in contact with each other during normal operation, and a spring biased downward projecting member positioned above said spring resilient strip and having sufficient length when depressed into a lowered position to move said resilient strip past a dead center position from an upwardly convexed to a downwardly concaved position, whereby heating of said resistance wire allows stretching of said wire, thereby alleviating said concaved deflection of said resilient strip until a dead center position is past and said resilient strip assumes its convex biased position until moved back past dead center position by said projecting member, said resilient strip having an opening therethrough, said projecting member having a narrow lower portion positioned to pass through the opening in said resilient strip and press against the mounting of said first contact when said projecting member is in a lowered position, and shoulders above said narrow lower portion positioned to contact said resilient strip in a lowered position of said projecting member for moving said strip downward past the dead center position after said resistance wire has cooled.

3,340,375

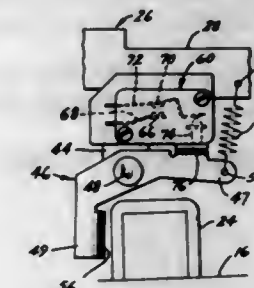
ELECTRIC CIRCUIT BREAKER WITH AUXILIARY SWITCH MEANS

George W. Klesel and Henry E. S. Owen, Unionville, Conn., assignors to General Electric Company, a corporation of New York

Filed Oct. 7, 1965, Ser. No. 493,834
3 Claims. (Cl. 200—153)

1. An electric circuit breaker assembly comprising:
 - (a) an insulating casing;
 - (b) at least one pair of relatively separable contacts supported in said casing;

- (c) operating mechanism in said insulating casing for moving said contacts between open and closed circuit positions;
- (d) a movable member movably supported in said insulating casing, said movable member moving between first and second positions upon movement of said contacts between said open and closed circuit positions respectively;
- (e) an auxiliary switch supported in said insulating casing, said auxiliary switch comprising an insulating housing and an operating member carried by said insulating housing and movable between first and second positions to operate said switch between open and closed circuit conditions;
- (f) first biasing means biasing said operating member for movement toward said first position at all times;
- (g) an actuating member pivotally supported on said insulating housing of said auxiliary switch member



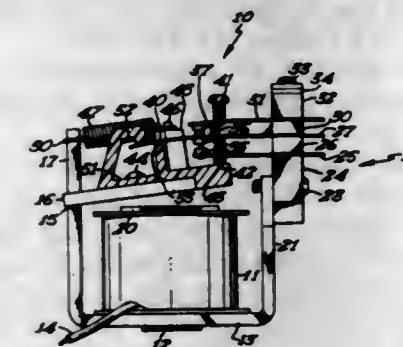
- and movable between first and second positions, said actuating member when in said first position engaging and retaining said operating member in said second position against the bias of said first biasing means;
- (h) second biasing means biasing said actuating member toward said first position at all times, said second biasing means exceeding said first biasing means whereby said actuating member normally engages said operating member and retains said operating member in said second position;
 - (i) said movable member engaging said actuating member when said contacts are in said open circuit position and moving said actuating member from said first toward said second position against the bias of said second biasing means whereby said first biasing means is free to move said auxiliary switch operating member to said first position.

3,340,376

ANTIBOUNCE CONTACT MEANS

John E. Lundberg, Richfield, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 445,158
8 Claims. (Cl. 200—166)



8. An antibounce contact arrangement, comprising: actuator means including a fixed member and a movable member which members move with respect to each other

upon operation of said actuator means; said actuator means supporting contact means having a fixed contact, and a movable contact with a blade projecting beyond said fixed contact; and said actuator means including offset opposed projection means overlapping said movable contact blade to place said movable contact under an initial tension when said actuator members are in their most remote position; said actuator means including said offset projection means maintaining said initial tension on said movable contact as said movable member travels towards said fixed member until said movable contact engages said fixed contact prior to said actuator members reaching a position wherein said actuator members fully engage one another.

3,340,377

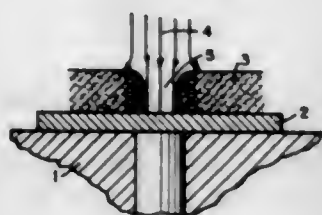
METHOD OF TREATING MATERIAL BY A CHARGED BEAM

Ikio Okazaki, Musashino-shi, Tokyo, and Kazumitsu Tanaka, Mitaka-shi, Tokyo, Japan, assignors to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed July 12, 1963, Ser. No. 294,469

Claims priority, application Japan, July 12, 1962, 37/29,270

8 Claims. (Cl. 219—50)



1. A method of treating material by a charged beam to form bores, grooves and the like in a surface of a specimen of the material which comprises,

(A) Forming in a shield on the specimen a hole having the contour of the bore, groove and the like to be formed in the surface of the specimen, said hole being formed by said charged beam and having a cross-sectional area less than the cross-sectional area of the charged beam, said shield being of a material which is different from that of the specimen and which vaporizes when heated, and

(B) Bombarding the surface of the specimen with a charged beam through said hole formed in the shield.

3,340,378

FIXTURE FOR RESISTANCE-BRAZING DIAMOND SAW TEETH IN POSITION ON STEEL SAW BLADES

Harold C. Miller, Chicago, Ill., assignor to Super-Cut, Inc., Chicago, Ill., a corporation of Illinois

Filed Jan. 8, 1965, Ser. No. 424,358

18 Claims. (Cl. 219—85)

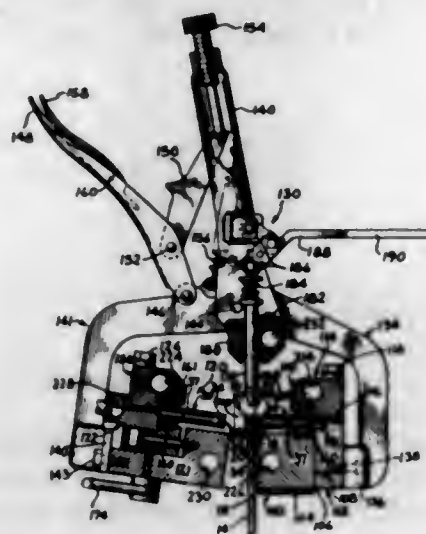
1. A fixture adapted to resistance-braze an initially separate saw tooth to the working edge of a saw blade and comprising:

(a) a pair of clamping jaws adapted to straddle the opposite sides of the blade and movable relatively to each other toward and away from said blade,

(b) a conductive cooling pad carried by each jaw and movable bodily therewith into and out of clamping engagement with the opposite sides of the blade,

(c) a pair of electrode holders mounted on each cooling pad, movable bodily therewith and including a lower electrode holder in electric connection with the cooling pads, and an upper electrode holder in insulated relation with the lower holder,

(d) an elongated U-shaped carbon brush type electrode carried by each pair of electrode holders and having parallel legs in electrical connection with the upper and lower electrode holders respectively, and an interconnecting bight portion designed for clamping engagement with a tooth operatively positioned on said working edge of the saw blade,



(e) said jaws being movable between innermost positions wherein they cause the bight portions of the electrodes to engage the opposite sides of the tooth positioned on said working edge and outer positions wherein the tooth is released by said bight portions,

(f) means for connecting the two electrode holders of each pair in a resistance circuit, and

(g) means for connecting the upper electrode holders and cooling pads in a welding circuit.

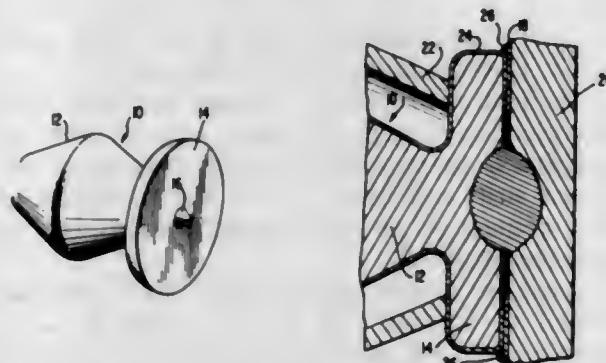
3,340,379

METHOD OF WELDING BUTTON THROUGH PAINT

Theodore J. Sweeney, Grosse Pointe, Mich., assignor to Chicago United Products Company, Inc., Detroit, Mich., a corporation of Michigan

Filed Sept. 24, 1963, Ser. No. 311,110

4 Claims. (Cl. 219—99)



1. The method of attaching a metal button to a coated metal panel wherein the button is provided with a coat-removing means on the face thereof to be secured to the panel, which method comprises, engaging the button face having said coat-removing means with the coated metal panel, producing relative movement between the button and the panel to cause said coat-removing means to penetrate the panel coat and establish metal-to-metal contact between the coat-removing means and the panel and to provide an electrically conductive path therebetween, passing electric current through said electrically conductive path, withdrawing the button from the panel while maintaining said electric current passage to strike an electric arc between the button and the panel of sufficient intensity

to destroy said panel coating and to form a molten pool of metal on said button face and on the metal panel, and pressing the molten face of the button against the molten area of the metal panel to weld the button to the panel.

3,340,380

FOOD SERVICE EQUIPMENT

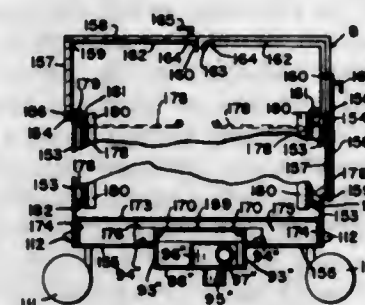
Victor D. Molitor, 2829 S. Santa Fe Drive, Englewood, Colo. 80110

Original application May 8, 1961, Ser. No. 108,622.

Divided and this application Feb. 7, 1966, Ser. No.

533,114

6 Claims. (Cl. 219—386)



1. A food service cart comprising:

a rectangular, wheel supported body having a bottom, sides and top, said sides including a pair of side walls and a pair of end walls extending upwardly to positions spaced below the upper edges of said side walls;

a pair of folding doors adapted to form the remainder of the end walls and the top of said body, each door including a lower panel pivotally attached to the upper edge of an end wall of said body, and an upper panel hinged to the opposite edge of said lower panel, said doors being movable between an open position wherein said panels are generally in side by side relationship adjacent the corresponding end wall, and a closed position wherein said lower panel extends upwardly from said end wall and said upper panel extends inwardly to abut the upper panel of the opposite door and thereby form a top for said body; and

means for guiding each said upper panel during movement between said positions to cause said upper and lower panels at each end to move to a side by side relationship adjacent the corresponding end wall in said open position.

3,340,381

THERMAL PRINTING WAFER AND METHOD FOR MAKING THE SAME

Gary R. Best, Raleigh, N.C., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 29, 1963, Ser. No. 319,738

3 Claims. (Cl. 219—541)



3. A thermal printing wafer comprising,

(a) a flat dielectric substrate having two relatively large planar surfaces,

(b) a plurality of protruding members at an edge of said substrate, the sides of said members being in the planes of said surfaces,

(c) a strip of thin continuous electroconductive metallic oxide film adhered to each said member extending from one side of said member to the other side thereof,

(d) at least one electrical conductor adhered to one of said surfaces in contact with the ends of the strips on said one side, and

(e) a plurality of electrical conductors adhered to the other of said surfaces in contact with the ends of said strips on said other side.

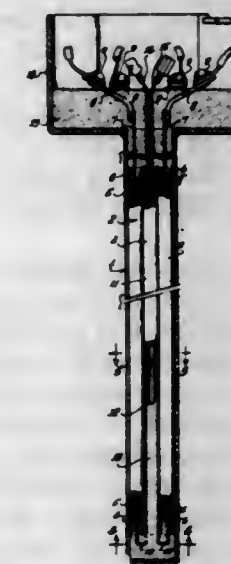
3,340,382

MULTI-CELL ELECTRICAL HEATER

Thomas H. Lennox, Corona, Calif., assignor to Arc-O-Vec, Inc., Gardena, Calif., a corporation of California

Filed May 3, 1965, Ser. No. 452,649

15 Claims. (Cl. 219—544)



1. An electric heater comprising an elongated tubular, metallic outer sheath means, enclosing and having metallic contact with a plurality of metallic tubular heater sheaths each containing a resistance heating element embedded in a compacted, non-conductive, mineral mass therein, and a metallic, tubular sheath containing a heat responsive sensor within said outer sheath means and maintained in metallic contact with a least one of said heater sheaths and containing means electrically responsive to heat produced by said resistance heating elements, and terminal means projecting beyond at least one end of said outer sheath means for connecting to appropriate sources of electrical energy.

3,340,383

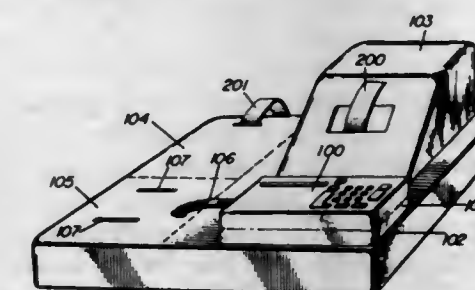
DISCRIMINATORY READER AND PRINTING MACHINE

Karl W. Flocks, 1329 E St. NW.,

Washington, D.C. 20004

Filed July 19, 1965, Ser. No. 472,764

11 Claims. (Cl. 235—61.7)



1. A double entry bookkeeping machine comprising:

(a) a keyboard including a set of manual keys and a set of solenoids each of which correspond to the keys in said manual set;

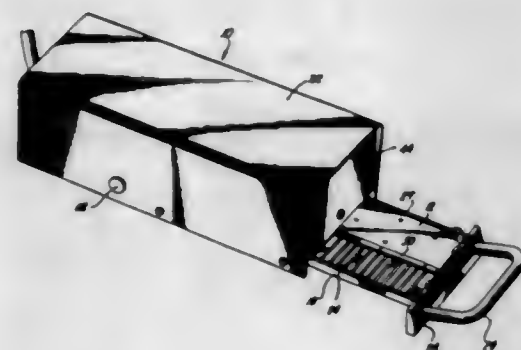
- (b) said keyboard being operably connected to at least first and second outputs;
- (c) a tape printing means connected to said first output for printing characters at least some of which are accumulatable to be discerned by the eye and so read;
- (d) a code maker connected to said second output for making codes corresponding to said characters and of a type to be discerned by electric-circuit-affecting means;
- (e) electric-circuit-affecting reading means for reading the code produced by said code maker operatively connected to said set of solenoids for control of the solenoids therein;
- (f) an accumulator connected to and operable by said manual key set when said manual key set is being operated;
- (g) said accumulator also being connected to and operable by said set of solenoids when said solenoid assembly is responding to said reading means;
- (h) manually settable classification means for printing one of a plurality of classification symbols associated with a printing and a corresponding accumulation effected by an operation of the manual set of keys and for simultaneously making a classification symbol in code on the tape affected by said tape code maker;
- (i) said manual classification means being operative to cause printing and accumulation by said accumulator when said reading means is presented with the code for the classification symbol corresponding to the symbol for which said manual classification means is set, and said manual classification means leaving inoperative said accumulator and said tape printing means when a code for a classification symbol is presented to said reading means which does not correspond to the symbol for which said manual classification means is set.

3,340,384

RECORD READER

Norman J. Rosen, Altadena, Robert H. Lewis, West Covina, and Howard C. Stanley, Glendora, Calif., assignors, by mesne assignments, to Glannin Controls Corporation, Duarte, Calif., a corporation of New York

Filed May 24, 1962, Ser. No. 198,685
18 Claims. (Cl. 235-61.11)



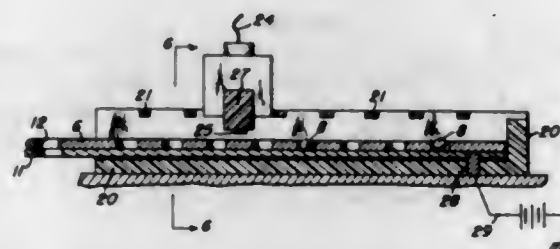
1. A reader for a record member arranged with a preselected number of rows and columns for recording information by means of perforations in a particular row and column, including, in combination, a record member receiving tray mounted for sliding movement into and out of a reading position, said tray being defined with a plurality of grooves corresponding to the number of rows on the record member to be read and with the spacing of the rows on the record member and further defined with a plurality of spaced row conductor bars corresponding to

the plurality of rows of the record member and insulatively spaced apart a distance corresponding to the spacing between the grooves, a plurality of electrically conductive sensing elements for detecting a perforation on the record member and the corresponding row conductor bars, said sensing elements comprising a substantially central sensing finger and a pair of spaced sensing fingers arranged on opposite sides of said central sensing finger and spaced apart a distance corresponding to the distance between a row groove and the corresponding row conductor bar, each sensing finger of the pair of sensing fingers being spaced apart a preselected distance related to the width of a column on the record member, a supporting member mounted in a spaced relationship with said tray and releasably holding each of said sensing elements in a forced relationship and yet allowing the sensing elements to slide upon the production of relative movement between the supporting member and the tray, the supporting member being further characterized as having a plurality of column conductors insulatively spaced apart a distance corresponding to the distance between the columns of the record member and including means for releasably securing the sensing elements in a non-read position and a blank column bus arranged thereon at an outer extremity, the sensing elements being held and secured in the non-read position with a sensing finger engaging the blank column bus, the relative movement of the tray and the supporting member causing a record member to be read to be presented to the sensing elements to sequentially sense each row thereof whereby when a sensing element engages a recorded perforation and thereby engages the corresponding row groove of said tray, a sliding movement of the sensing element causes a disengagement from the non-read position and the travel of the pair of sensing fingers at the opposite end to electrically engage the corresponding row bus when the tray is in a read position while a sensing element presented with a blank column remains in the non-read position.

3,340,385

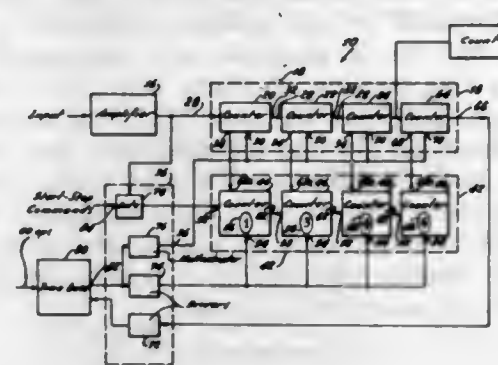
HOLE COUNTER FOR SUPERIMPOSABLE CARD SEARCH SYSTEM, BASED ON THE USE OF BALLS

Frederick Jonker, Washington, D.C., and Delbert L. Ballard, Bethesda, Md., assignors to Jonker Business Machines, Inc., a corporation of Delaware
Filed Mar. 27, 1961, Ser. No. 98,373
3 Claims. (Cl. 235-61.11)



3. Apparatus for sensing and registering the number of balls contained in each row of a template having ball-receiving recesses arranged in a coordinate array of columns and rows, comprising a frame for receiving such a template, ball-sensing multiple contact means mounted on said frame for movement parallel to one coordinate direction of said array to complete respective electrical circuits corresponding to the coordinates of said balls, and means controlled conjointly by (a) the activation of said multiple contact means and (b) the movement of said frame, for registering the number of balls contained in each row of said array.

3,340,386
COUNTER AND READOUT MEANS USEFUL FOR MEASURING UNITS OF FLUID FLOW
Arthur H. Hurst, Manhattan Beach, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 24, 1963, Ser. No. 311,084
7 Claims. (Cl. 235-92)



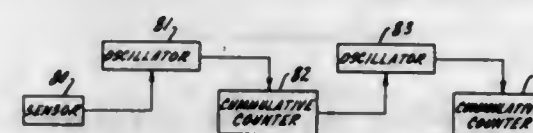
1. A device for measuring the transfer of a material, comprising the combination of:
a pickup responsive to the transfer of said material to produce a flow signal each time that a predetermined increment of said material is transferred,
a counter interconnected with said pickup for continuously receiving a series of said flow signals, said counter having first and second portions for accumulating a count over an extended period of time of the total number of said signals occurring since the beginning of said period,
means interconnected with the first portion of said counter to produce a timing signal each time the count is said first portion is equal to zero,
first indicating means interconnected with said counter for indicating the total count accumulated by said counter,
a counter for accumulating a count of said flow signal, second indicating means for indicating the count accumulated in said first portion and indicating the count accumulated in said second counter,
timing means interconnected with said first means and said first portion of said counter, said timing means being responsive to said timing signal and effective to transfer the count in said first portion of said first counter to said second indicating means a predetermined interval of time after said timing signal, and gating means for interconnecting said second counter with said pickup during an interval equal to the time required to transfer a reference quantity of said material past said pickup.

3,340,387

INTEGRATING DEVICE

Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 3, 1963, Ser. No. 270,249
19 Claims. (Cl. 235-150.3)



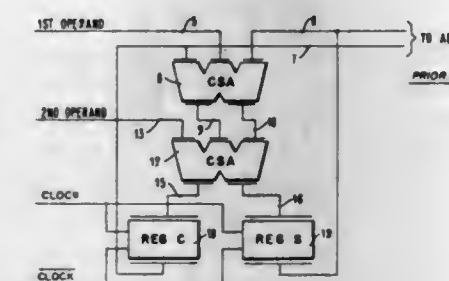
2. In a device for double-integrating analog input signals, the combination which comprises a first counter for cumulatively counting the number of pulses applied thereto, first means for applying pulses to the first counter at a rate dependent upon the amplitude of an analog input

signal, a second counter for cumulatively counting the number of pulses applied thereto, and second means for applying a series of pulses to the second counter at a rate dependent upon the instantaneous count in the first counter, the count in the second counter corresponding to the double integral of the analog input signal.

3,340,388

LATCHED CARRY SAVE ADDER CIRCUIT FOR MULTIPLIERS

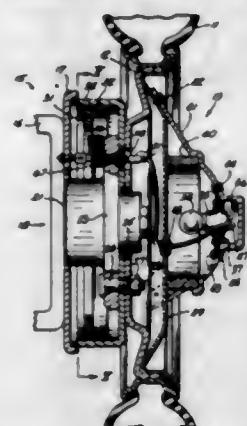
John G. Earle, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 12, 1965, Ser. No. 471,021
5 Claims. (Cl. 235-176)



1. An adder unit for generating consecutive groups of signals representing the successive partial products of a multiplication operation, said adder unit comprising:
a first carry save adder having three pairs of input signal lines for entering signals representing three operands to be added, each denominational order of said carry save adder comprising a latch circuit having a plurality of input components, each input component receiving a gate signal and a combination of an input signal line from each pair of the three input signal lines for said denominational order;
a latch control circuit initially activated by a clock signal during a setting phase thereof to generate said gate signal and thereby to enable a selected combination of input signals, if present, to pass through one of said input components to generate an output signal;
a circuit conducting said output signal to said latch control circuit to maintain said gate signal so long as said one input component receives its selected combination of input signals;
a sum signal generating circuit controlled by said input components to provide a sum signal when any input component generates an output signal and
another element controlled by said clock signal and said sum signal generating circuit to maintain the generating state of said sum signal generating circuit during the non-setting phase of said clock signal;
each denominational order of said carry save adder also including a second plurality of input components receiving combinations of said input signals, a second latch control circuit, a second output signal conducting circuit, a second another element controlled by said clock signal and a carry signal generating circuit to provide a signal indicative of the presence of two or more significant signals on said input lines to said denominational order;
a second carry save adder receiving said sum signals and said carry signals on two of its inputs and a fourth operand on its third input said second carry save adder being settable by a complemental clock signal to generate a set of second sum signals and a set of second carry signals and

means conducting said second set of sum output signals to one operand input of said first carry save adder and said second set of carry output signals to a second operand input of said first carry save adder.

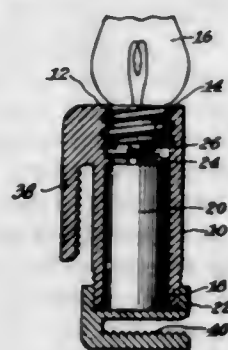
3,340,389
LIGHTED AUTOMOBILE WHEEL CAP APPARATUS AND ASSEMBLY METHOD
Paul S. Senseman, 11 W. Coolidge,
Battle Creek, Mich. 49017
Filed Feb. 5, 1965, Ser. No. 430,699
12 Claims. (Cl. 240—8.12)



1. A lighting system for wheel caps of an automobile having a rotatably mounted wheel assembly including a wheel and brake drum secured together with a wheel cap mounted on one side and a brake backing plate positioned on the other side comprising, in combination,

- (a) a light bulb socket mounted to the wheel cap by a flexible mounting means,
- (b) a light bulb carried by the light bulb socket,
- (c) a first conductor means having a conductor bolt and conducting foil insulated from and mounted on said mounted wheel assembly and extending through said wheel and brake drum,
- (d) an annular conducting means mounted to the brake backing plate side of said brake drum by insulated mounting means,
- (e) a power line electrically connecting said first conductor means to said light bulb,
- (f) said conducting foil joining said first conductor means to said annular conducting means,
- (g) a brush and brush support means mounted to said brake backing plate,
- (h) said brush contacting said annular conducting means, and
- (i) an electrical power source electrically connected to said brush.

3,340,390
CLIP-ON LAMP FIXTURE
Bertha M. Imre, 601 W. 138th St.,
New York, N.Y. 10031
Filed Aug. 23, 1965, Ser. No. 481,657
4 Claims. (Cl. 240—10)



1. A lamp fixture comprising a hollow vertically electrically conductive cylinder open at the top and bottom ends, an incandescent lamp having a base threadably

engaging said upper end and a tip electrode insulatedly separated from said base and pointing downward therefrom, said base constituting a second lamp electrode, an electrically conductive cap threadably engaging said bottom end, at least one dry cell in said cylinder having a top electrode and a bottom electrode, the bottom electrode being connected electrically through the cap and cylinder to the second lamp electrode, and a switch horizontally disposed in said cylinder intermediate the top electrode and the tip electrode and horizontally slidable between a first position at which said tip and electrodes are interconnected and the lamp is lit and a second position at which the tip and top electrodes are electrically separated and the lamp is dark, said switch comprising upper and lower horizontally extending flexible electrically conductive strips and an electrically nonconductive horizontal annular disc having a central opening interposed between said strips.

3,340,391
BATTERY-OPERATED DECORATIVE CANDLE LIGHT
Herbert F. Heyden, 166—25 Powells Cove Blvd.,
Beechhurst, N.Y. 11357
Filed Dec. 10, 1965, Ser. No. 512,958
3 Claims. (Cl. 240—10.64)

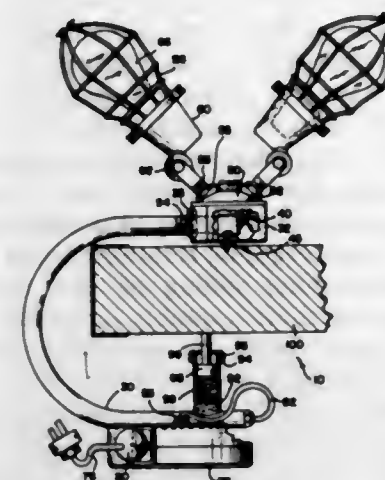


1. A decorative candle lamp comprising in combination at least one battery with a first and a second electrode, a rotatable coaxial bulb including a coaxial tip, conducting means for contacting said first electrode of said battery, flange means at the base of said bulb for making selective contact with said conducting means upon the rotation of said bulb, and socket means for receiving said tip and for coupling said tip to said second electrode of said battery, wherein said conducting means includes a strip element adapted to contact said flange means, a spring contacting said first electrode of said battery, a cylindrical shell adjacent to said spring element for enclosing said battery, and a conducting projection extending from said cylindrical shell and in contact with said strip element.

3,340,392
PORTABLE LIGHTING FIXTURE
Harold A. Martineau and Robert C. Fehler, both of
Rte. 1, Rosemount, Minn. 55068
Filed June 23, 1965, Ser. No. 466,403
5 Claims. (Cl. 240—52.1)

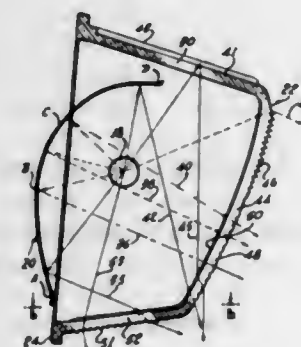
1. A portable light fixture comprising, a generally U-shaped hollow frame member, an enclosed electrical mounting box connected to one extremity of the hollow U-shaped frame member with its interior communicating

with the hollow frame, at least one bulb holding socket member mounted on the connector box, a drum-type reel of conductor cord having a plug-type extremity adapted to be withdrawn from the reel and connected to a receptacle of an electric source, the other extremity of the reel of conductor cord extending out of the reel and through the hollow frame member to the connector box, means mounting the drum-type reel on the other extremity of the frame member, and means included on the frame



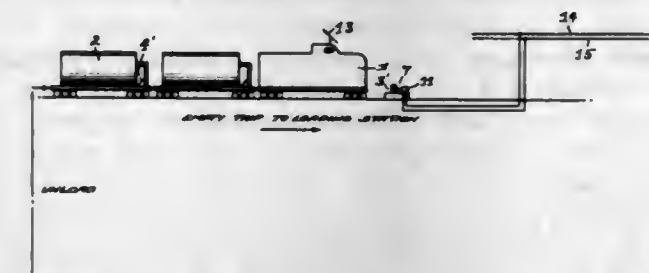
member at the extremities thereof for securing the frame member on an object with the extremities abutting either side of the object, said means included on the frame member being a spring biased plunger connected to the frame member at the other extremity thereof with the plunger facing the first named extremity and prong means mounted on said one extremity of the frame member and directed toward the other extremity thereof to clamp an object therebetween.

3,340,393
UNDERPASS LUMINAIRE
Kurt Franck and Herbert A. Odle, Newark, Ohio, assignors to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 19, 1964, Ser. No. 412,513
31 Claims. (Cl. 240—93)



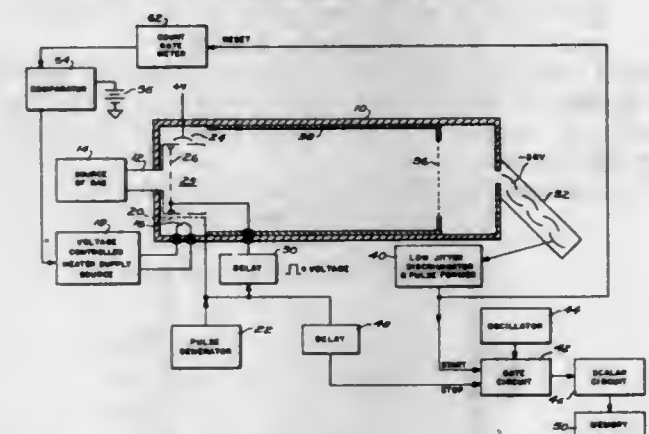
31. For use in a luminaire, a trough shaped refractor comprising a forward and rearward end panel, a front panel extending from its upper to its lower edge at an acute, rearward, vertical angle relative to the perpendicular, said front panel forming at different elevations a plurality of different optical means for directing light in predetermined directions with predetermined diffusion and concentration, said different optical means including one area formed with horizontal flute means only for diffusing the light passing therethrough and another area formed with horizontal prism means only for vertically redirecting the light passing therethrough, said forward end panel including means for redirecting light at vertical angles above and below predetermined glare angles.

3,340,394
TRAIN BRAKING SYSTEM
Paul F. Giesking, Sept Iles, Quebec, Canada, assignor to Pickands Mather & Co., Cleveland, Ohio, a corporation of Delaware
Filed May 13, 1965, Ser. No. 455,506
Claims priority, application Canada, Apr. 12, 1965, 928,040
8 Claims. (Cl. 246—200)



1. In a system for braking a train of cars and wherein each car is provided with braking means for the wheels controlled from the locomotive and including change-over means on each car operable to set the braking means for load or empty braking, respectively thereby to establish a greater maximum allowable braking force on the wheels when the car is loaded than when empty, and vice versa, the improvement which includes trackside located actuating means engageable with means on each car for tripping the appertaining change-over means from one set position to another as said train moves along the track.

3,340,395
TIME-OF-FLIGHT MASS SPECTROMETER WITH FEEDBACK MEANS FROM THE DETECTOR TO THE LOW SOURCE AND A SPECIFIC COUNTER
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Minoru Paul Nakada
Filed June 22, 1964, Ser. No. 377,146
7 Claims. (Cl. 250—41.9)



1. A time-of-flight mass spectrometer comprising a tube having at one end means for generating at predetermined intervals ions whose time of flight are to be measured, means for accelerating said ions through said tube to the other end, means at said other end for generating a voltage pulse responsive to the receipt of an ion, oscillator means, counter means, gate means rendered operative responsive to said voltage pulse for applying oscillations from said oscillator means to said counter means to be counted, and means for rendering said gate means inoperative at a predetermined time after an operation of said means for generating ions for preventing further application of oscillations to said counter means whereby the time of flight of said ions is inversely proportional to the count of said counter means.

5. A time-of-flight mass spectrometer comprising an elongated vessel having an opening at one end for admitting gas desired to be ionized, an enclosure adjacent said opening to receive gas therefrom, an accelerating

grid constituting a first wall of said enclosure which is positioned opposite the opening for admitting gas to be ionized, a second wall of said enclosure adjacent said accelerating grid having an electron exit opening, an anode electrode positioned adjacent said electron exit opening outside of said enclosure, a third wall of said enclosure opposite said second wall having an electron entry opening therein, a control grid positioned outside of said electron entry opening, a cathode structure adjacent said control grid, a controllable current source connected to said cathode structure, pulse generating means connected to said control grid for enabling said control grid to pass electrons from said cathode structure in response to a pulse from said pulse generating means, delay means connected between said pulse generating means and said accelerating grid for applying a pulse to said accelerating grid at a predetermined interval after the application of a pulse to said control grid, electron multiplier means positioned at the end of said elongated vessel opposite said one end for generating a signal voltage responsive to an ion being received thereby, means for producing oscillations, gate means to which said oscillations are applied, said gate means being rendered operative responsive to said signal voltage, means for applying a pulse from said pulse generator means at a predetermined interval after the application of a pulse to said accelerating grid to said gate means to render it inoperative, means for counting the number of oscillations in the output of said gate means over the interval during which it is operative to provide an indication representative of the ion time of flight, and means responsive to the number of signal voltages occurring over a predetermined interval of time for controlling the controllable means for applying current to said cathode structure so that a predetermined number of ions is produced for a predetermined number of pulse outputs from said pulse generating means.

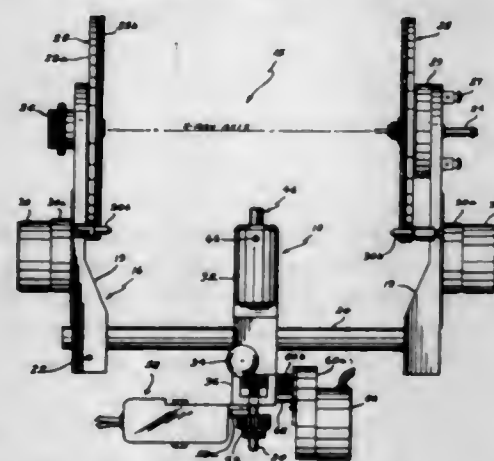
3,340,396

UNIVERSAL X-RAY CRYSTALLOGRAPHY CAMERA WITH SPECIFIC MEANS FOR MOVABLY SUPPORTING A SPECIMEN IN THE X-RAY BEAM PATH

Robert L. Prickett and John R. Fenter, Dayton, and Verl R. Robinson, Wilmington, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 26, 1964, Ser. No. 406,630

3 Claims. (Cl. 250-51.5)



1. A universal X-ray crystallography camera adapted for supporting and actuating interchangeable sample holding attachments orienting a test specimen in an X-ray beam generated by an external generator and passing through the camera comprising: an elongated frame unit having horizontal elongated guide means each end of which has a vertical upright side member containing a coaxial passage therethrough parallel to said horizontal elongated guide means and adapted for joining to the X-ray generator with the coaxial passages through the vertical upright side members coaxial with the X-ray beam emit-

ting from the X-ray generator, said elongated frame unit further having a disc film holding cassette removably and rotatably joined to the inner face of each of said vertical upright side members with the axis of each disc film holding cassette on the coaxial axis of the passages through the vertical upright side members, and drive means joined to each of said vertical upright side members and engaging the adjacent disc film holding cassette for rotating the cassette about its axis of rotation; and a sample actuating support unit, said sample actuating support unit comprising a vertically extending body having a vertical bore therethrough counterbored to an enlarged diameter at the upper end of said body, said body further having transverse guide means for slidably engaging the horizontal elongated guide means on said frame unit, an elongated bushing slidably supported within the counterbore in said body, said bushing having an axial bore, rotation preventing means cooperatively joining said body and said elongated bushing for preventing rotation of said bushing while permitting longitudinal sliding of said bushing in said body, an accessory shaft rotatably journaled in said elongated bushing and having an upper end extending above said body for joining to the interchangeable sample holding attachments and a lower end extending from said bushing into the vertical bore in said body, the lower end of said accessory shaft having an axial counterbore and a longitudinal slot through the wall formed by the periphery of the lower end of said accessory shaft and the counterbore therein, retainer means joined to said accessory shaft and engaging said elongated bushing for preventing relative axial movement between said elongated bushing and said accessory shaft, a drive shaft journaled within the vertical bore of said body, said drive shaft having a reduced diameter upper end portion having a transverse pin and axially engaging the counterbore and longitudinal slot in the lower end of said accessory shaft and terminating at the base in a shoulder portion on the upper end of which is in engagement with the bottom end of said accessory shaft and further having a lower end portion extending downward from the lower end of the shoulder portion and extending beyond the lower end of said body, said drive shaft further having a circular rack on a portion of the end extending from said body, a gear coaxially joined to the end of said drive shaft extending from said body, a pinion support block joined to said body and having at least a portion thereof disposed between the lower end of said body and said gear, a pinion rotatably journaled in said pinion support block and engaging the circular rack on said drive shaft, a first drive means engaging said gear for rotating said drive shaft and said accessory shaft, and a second drive means engaging said pinion for axially sliding said drive shaft, said accessory shaft, said elongated bushing and said retainer means in said body, said first and said second drive means acting severally and jointly on command to actuate said drive shaft.

3,340,397

MULTIPLE ENVIRONMENT MATERIALS TEST CHAMBER HAVING A MULTIPLE PORT X-RAY TUBE FOR IRRADIATING A PLURALITY OF SAMPLES

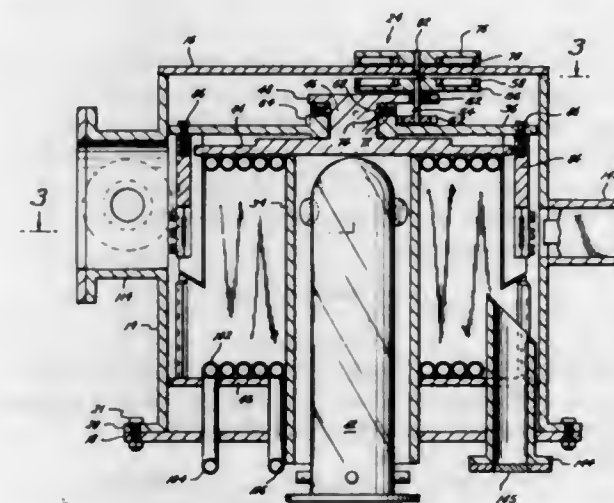
Robert L. Johnston, Houston, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 9, 1964, Ser. No. 417,253

5 Claims. (Cl. 250-52)

1. A multiple environment materials test chamber for subjecting materials to various environments comprising: a chamber housing comprising an outer cylindrical member having a top housing wall at one end of said outer cylindrical member, and a bottom housing wall at the other end of said outer cylindrical member; means housing a multiple port X-ray tube at the center of said chamber for exposing materials to X-rays,

comprising a cylindrical inner member mounted coaxially within said chamber housing, said inner member being secured to said bottom housing wall; a top compartment wall and a bottom compartment wall, each mounted in said housing in a plane parallel to said housing walls and each being secured to said inner member said top compartment wall having an area smaller than said top housing wall; means dividing said chamber into a plurality of compartments, comprising side walls extending from said inner member toward said outer cylindrical member, said side walls being secured at one end to said top compartment wall and at the other end to said bottom compartment wall; means in said inner member for allowing said X-rays to penetrate into said compartments each of the ports of said multiple port X-ray tube being operatively associated with one of said compartments, respectively;



a shaft member extending from said top compartment wall toward said top housing wall; a top plate mounted in a plane parallel to said top compartment wall and rotatably engaging said shaft member the outer edge of said top plate defining an area greater than said top compartment wall area but less than said top housing wall area; a plurality of material holders mounted on that portion of said top plate which extends beyond the area of said top compartment wall, said material holders protruding into each of said compartments; means for rotating said top plate so as to position each of said material holders in a desired compartment comprising:

- a driving mechanism mounted on said top housing wall;
- a driving gear coupled to said driving mechanism; and
- a driven gear integral with said top plate for mating with said driving gear;

means in each of said compartments for circulating a fluid therein for varying the temperature of each of said compartments; and means coupled to said outer cylindrical member for allowing the testing of said materials without removing the materials from said chamber.

3,340,398

DETECTION OF HYDROGEN LEAKS WITH TRITIUM

Joseph Winkler and George V. Melnikov, Sacramento, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed June 23, 1964, Ser. No. 377,404

3 Claims. (Cl. 250-83)

1. A method for detecting leaks of hydrogen from a pressure vessel, said method comprising: (1) admixing

tritium with the hydrogen in said vessel such that the tritium content ranges from about 0.1 part per billion to about 10 parts per billion by weight; (2) sensing the radiation level in an area in proximity to the vessel, whereby the presence of a leak is denoted by an increase in the radiation count.

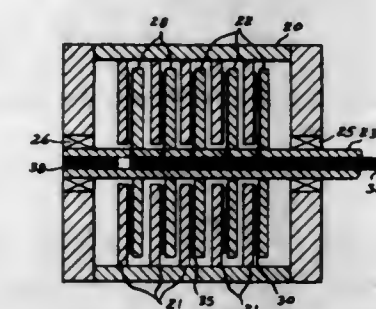
3,340,399

ELECTRO-OPTICAL DEVICE FOR TRANSFERRING SIGNALS FROM A ROTATING BODY

Walter S. Moore, 736 Aguirre, San Dimas, Calif. 91773

Filed Nov. 17, 1964, Ser. No. 412,298

4 Claims. (Cl. 250-217)



3. A device for transferring intelligence bearing signals from a rotating body to a stationary body comprising, a housing; a shaft supported for rotation within said housing; a plurality of annular members secured to said shaft; a plurality of annular members secured to said housing and interleaved and spaced from the annular members secured to said shaft; a substantially continuous annular electroluminescent cell attached to each of the annular members attached to said shaft a substantially continuous annular silicon detector attached to each of the annular members secured to said housing on the side thereof adjacent said light sources; means for applying intelligence bearing signals to said electroluminescent cells and output means connected to said silicon detectors.

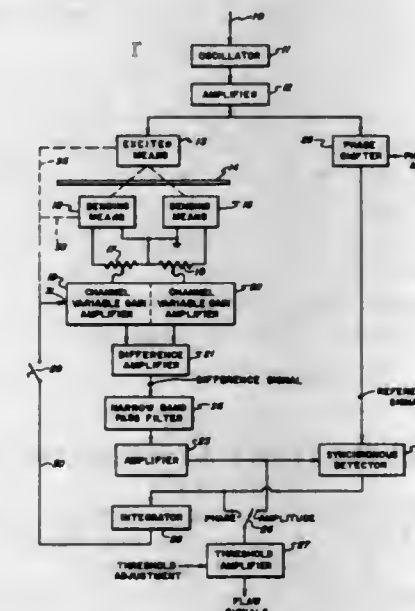
3,340,400

DUAL CHANNEL FLAW DETECTOR HAVING PHASE COMPARISON FEEDBACK FOR AUTOMATIC BALANCING

George F. Quittner, Cleveland Heights, Ohio, assignor, by mesne assignments, to API Instruments Company, Chesterland, Ohio, a corporation of Ohio

Filed June 11, 1964, Ser. No. 374,306

10 Claims. (Cl. 250-219)



1. In a flaw detecting system, the combination comprising: an alternating current source;

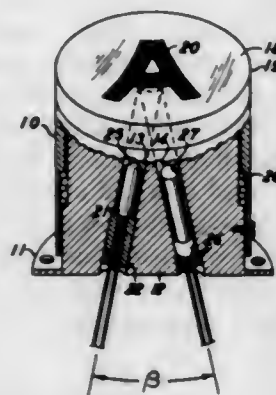
a pair of flaw detecting channels coupled to said source and including
excitation means having its input coupled to said source for exciting a workpiece with at least two energy components, and
first and second sensing means, each coupled to one of the energy components;
difference amplifier means coupled to the output of said sensing means for developing a difference signal indicative of the difference in input to said sensing means;
a synchronous detector coupled to the output of said difference amplifier means;
variable phase shift means coupled to said source and to said synchronous detector; and
feedback means coupled to the output of said synchronous detector and to one of said flaw detecting channels for balancing the system in the absence of a flaw in the workpiece.

3,340,401

MOTIONLESS DATA INPUT KEY

James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 26, 1963, Ser. No. 333,455
7 Claims. (Cl. 250-221)



1. An integral data input key comprising
 - (a) a cap having areas thereof of variably different light transmitting properties and secured to a supporting base;
 - (b) a light source;
 - (c) means forming a light enclosing duct internally extending through said base and communicating light from said source against said cap;
 - (d) means forming a second light enclosing duct internally extending through said base displaced from said first duct and disposed with said cap in reflecting light relation thereto to light communicated by said first duct; and,
 - (e) photoelectric means supported in said second duct and responsive to a discrete change in reflection density in the said second duct to emit an electrical signal output to utilization apparatus.

3,340,402

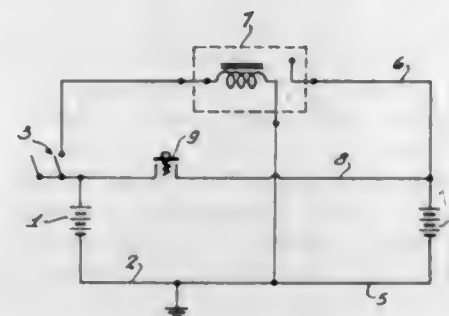
AUXILIARY BATTERY SYSTEM FOR MOTOR VEHICLES

Carl Curtis, R.R. 3, Cobourg, Ontario, Canada

Filed Sept. 24, 1964, Ser. No. 398,974
1 Claim. (Cl. 307-48)

In combination with a motor vehicle electrical system having a main circuit, a power supply battery in said circuit, a motor-starter connection including a motor-starting ignition switch connected to said main circuit, a standby battery having a connection to said main cir-

cuit connecting said standby battery in parallel with said first battery, a switch in said standby battery connection having a normally open position disconnecting said standby battery from said main circuit and a closed position responsive to manual operation connecting said standby battery to said main circuit, and means connecting said standby battery to said main circuit in response to closing of said motor-starting switch comprising a second connection connecting said standby battery to said motor-starting switch, and a solenoid-operated switch in said second connection having a normally open position disconnecting said standby battery from said motor-starting switch and a closed position responsive to closing of said motor-starting switch.

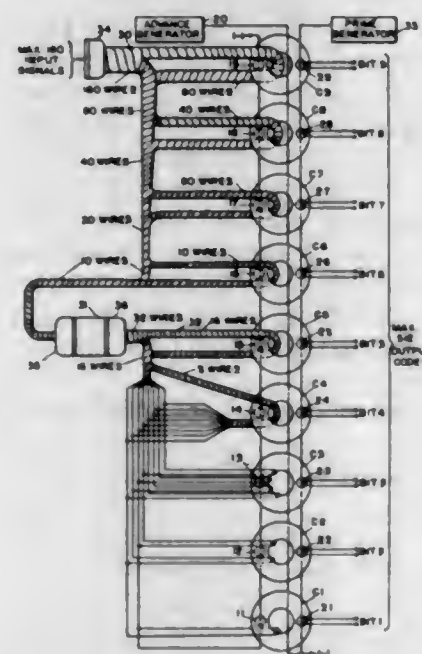


3,340,403

MAGNETIC CORE ENCODING CIRCUIT

Arthur W. Wetmore, West Henrietta, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed May 9, 1963, Ser. No. 279,111
4 Claims. (Cl. 307-88)



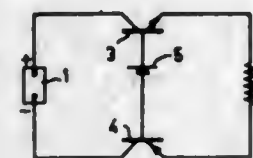
1. Means for establishing a binary code in a group of multiaperture magnetic cores with a minimum of wiring through the cores comprising first and second cores, a group of input conductors, means coupling half of the input conductors through the first core and bypassing the remainder of the input conductors around the first core, a second group of conductors, means coupling half of the second group of conductors through the second core and bypassing the remainder of the second group of conductors around the second core, and switching means selectively coupling said remainder of said first group of input conductors to either half of said second group of input conductors.

3,340,404

CIRCUIT ARRANGEMENT FOR SUPPLYING A VOLTAGE TO A LOAD

Ebertus Willems and Martinus Henricus Wilhelmus Leenaerts, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 22, 1964, Ser. No. 361,672
Claims priority, application Netherlands, Apr. 23, 1963, 291,871
11 Claims. (Cl. 307-88.5)



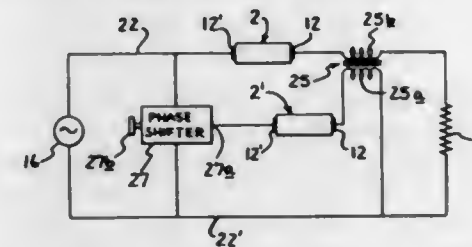
1. A circuit arrangement for supplying a voltage to a load, characterized in that the load is connected between the emitters of two transistors of opposite conductivity types, at the collectors of which a supply voltage is set up and the bases of which are connected to each other through a circuit across which a smaller voltage difference arises than the value of the supply voltage.

3,340,405

ALTERNATING CURRENT PHASE CONTROL CIRCUIT

Stanford R. Ovshinsky, Bloomfield Hills, Mich., assignor to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,796
5 Claims. (Cl. 307-88.5)



1. An A.C. phase control circuit comprising: a load, a source of A.C. voltage for supplying the load with current, a transformer having a primary winding and a secondary winding, phase shifter means coupled to said source of A.C. voltage for providing at its output a variable phase A.C. voltage of the same frequency as the output of said source of A.C. voltage, a first and a second bi-directional semiconductor current controlling device each having two load terminals, means connecting said source of A.C. voltage, said load, the load terminals of said first device and said secondary winding in mutual series circuit relation, means connecting the output of said phase shifter means, said second device, and said primary winding in mutual series circuit relation wherein, upon conduction of said second device, the output of the phase shifter means is connected through the second device to the primary winding to induce a voltage in said secondary winding which is in voltage adding relationship to the output of said source of A.C. voltage, and each of said devices comprising a solid state semiconductor material having one state wherein at least portions thereof between the load terminals are in one state which is of high resistance and substantially an insulator for blocking the flow of current therethrough substantially equally in either or both directions when the peak value of an applied A.C. voltage is below an upper threshold voltage level, and having another state wherein said at least portions thereof between the load terminals are in another state which is of low resistance and substantially a conductor for conducting the flow of current substantially equally therethrough in either or both directions when the peak value of the applied voltage is raised above said upper threshold voltage level and the RMS value of the voltage remains above a lower threshold voltage level, the output of said source of A.C. voltage each half cycle thereof having a peak value which is less than the upper threshold level of said first device, the resultant of the voltage induced in said secondary winding and the output of said source of A.C. voltage each half cycle being above the upper threshold level of said first device, and said output of said phase shifter means having a peak value in excess of the upper threshold level of said second device, wherein said first device is triggered into said another conducting state at a point in each half cycle which varies with the phase of the voltage induced in said secondary winding, thereby to effect control over the duration of conduction thereof each half cycle.

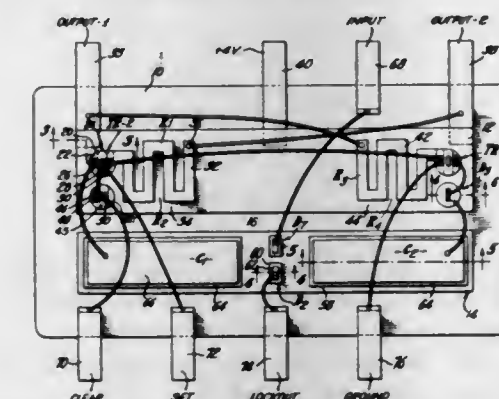
the peak value of the applied voltage is raised above said upper threshold voltage level and the RMS value of the voltage remains above a lower threshold voltage level, the output of said source of A.C. voltage each half cycle thereof having a peak value which is less than the upper threshold level of said first device, the resultant of the voltage induced in said secondary winding and the output of said source of A.C. voltage each half cycle being above the upper threshold level of said first device, and said output of said phase shifter means having a peak value in excess of the upper threshold level of said second device, wherein said first device is triggered into said another conducting state at a point in each half cycle which varies with the phase of the voltage induced in said secondary winding, thereby to effect control over the duration of conduction thereof each half cycle.

3,340,406

INTEGRATED SEMICONDUCTIVE CIRCUIT STRUCTURE

Jack S. Kilby, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Application Aug. 14, 1962, Ser. No. 218,206, which is a continuation of application Ser. No. 811,476, May 6, 1959. Divided and this application Jan. 24, 1967, Ser. No. 611,363

19 Claims. (Cl. 307-88.5)

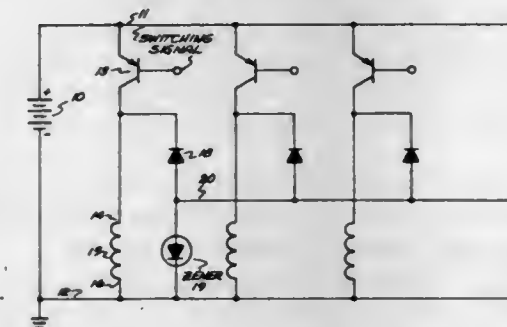


1. A circuit device comprising a wafer of semiconductor material having first and second regions each with both N- and P-type conductivity material and defining a pair of diodes, a third region defining one electrode of a capacitor, and a conducting film mounted upon said third region in capacitive relationship thereto thereby to constitute the second electrode of said capacitor, said wafer of semiconductor material serving to make ohmic electrical connection between said third region and one of the electrodes of each diode in said pair of diodes.

3,340,407

DEENERGIZING CIRCUIT

Carter Sinclair, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed July 29, 1964, Ser. No. 386,015
5 Claims. (Cl. 307-101)



1. In a circuit comprising a source of direct current, a plurality of inductances each of which has one end coupled to one side of said source, and a plurality of

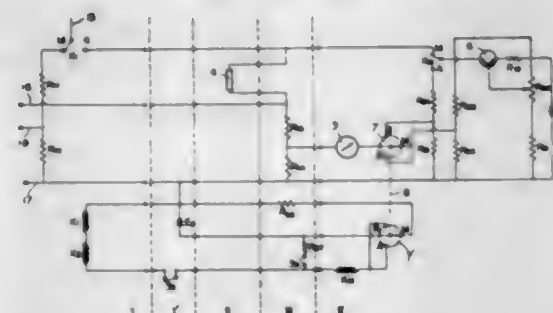
selectively operable switching devices respectively coupled between the other ends of said inductances and the other side of said source, the improvement comprising a voltage reference device having one end coupled to said one ends of all of said inductances, and a plurality of rectifier devices respectively coupled between said other ends of said inductances and the other end of said voltage reference device, said rectifier devices being poled to conduct current produced by their respective inductances when deenergized.

3,340,408

AUTOMATIC AND MANUAL CHANGE OVER SYSTEM FOR ELECTRONIC CONTROLLING INSTRUMENTS

Shinichiro Ogawa, Chuo-ku, Tokyo, and Masayoshi Tanaka, Toshima-ku, Tokyo, Japan, assignors to Honeywell Inc., a corporation of Delaware
Filed Dec. 3, 1963, Ser. No. 327,780
Claims priority, application Japan, Feb. 28, 1963, 38/8,697

2 Claims. (Cl. 307-112)



1. An electronic process controlling instrument for providing automatic or manual modes of control to a load comprising:

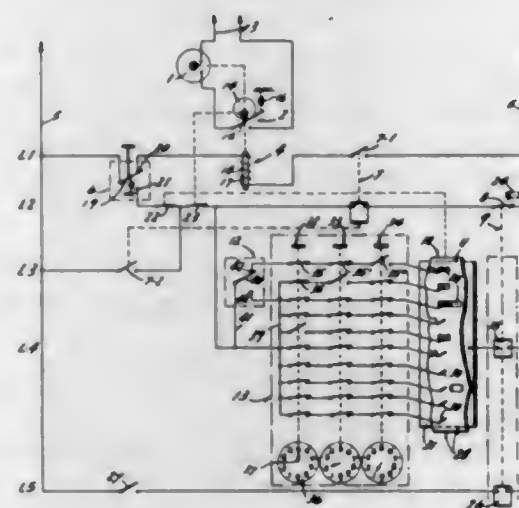
- a controller having first and second input means and first and second output means,
- a common line connected to said second controller output means,
- a manual manipulator having first and second output means,
- impedance means forming a dummy load connected to said common line,
- first switching means connecting said first output of said controller alternately to said dummy load in said manual mode and to said load in said automatic mode,
- load current sensing impedance means connected between said load and said common line,
- first meter biasing impedance means connected between said common line and said second output of said manual manipulator,
- second meter biasing impedance means connected to said common line,
- second switching means connecting said first output of said manual manipulator alternately to said load in said manual mode and to said second meter biasing impedance means in said automatic mode,
- unidirectional switching means including manual, automatic, and balancing positions and a common contact,
- meter means connected from said common contact of said unidirectional switching means to a point on said load current sensing impedance means,
- said unidirectional switching means being arranged to connect a point on said first meter biasing impedance means with said common contact when in said manual position and said automatic position, and
- said unidirectional switching means being further arranged for connecting a point on said second meter

biasing impedance means with said common contact when in said balance position for automatically placing said meter in a nulling arrangement to automatically indicate a balanced condition between said controller and said manual manipulator before placing said unidirectional switching means into said manual position, thereby preventing errors which would cause disturbance to said load.

3,340,409

CODED CONTROL APPARATUS

Walter L. Probert, Erie, and Keith N. Shade, Wesleyville, Pa., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Feb. 28, 1963, Ser. No. 261,583
9 Claims. (Cl. 307-115)



- 1. In a coded control unit,
- (a) an electroresponsive load,
- (b) a first electroresponsive controller having switching means connected in series with the load,
- (c) a second electroresponsive controller having switching means connected in series with said first electroresponsive controller,
- (d) a two position switch means having a first position adapted to connect the load to a source of power and a second position adapted to connect the second electroresponsive means to a source of power,
- (e) a coded circuit connected in parallel with the first electroresponsive controller and including a plurality of paralleled control lines connected in series with said second electroresponsive controller,
- (f) a coded means having a plurality of code operated means, one in each of said control lines for opening and closing the corresponding line, and
- (g) a plurality of switch units, each including a plurality of normally closed switches one in each of said control lines and actuating means for selectively opening one of said switches.

3,340,410

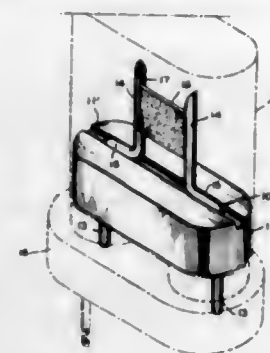
PIEZOELECTRIC CRYSTAL ASSEMBLY

William W. Sanford, Orlando, Fla., assignor, by direct and mesne assignments, to Wave-Lock, Inc., Orlando, Fla.

Filed Aug. 5, 1964, Ser. No. 387,714
2 Claims. (Cl. 310-9.1)

- 1. A piezoelectric crystal assembly comprising a pair of electrodes, each of said electrodes having offset upper and lower generally parallel portions connected by an intermediate portion generally perpendicular thereto, the upper portions of said electrodes being substantially parallel with each other and spaced apart a predetermined distance, each upper portion having a channel facing the

other upper portion, a holder attached to said lower portions of said electrodes, said holder having a groove for receiving said intermediate portions and non-rotatably mounting said electrodes on said holder, a piezoelectric

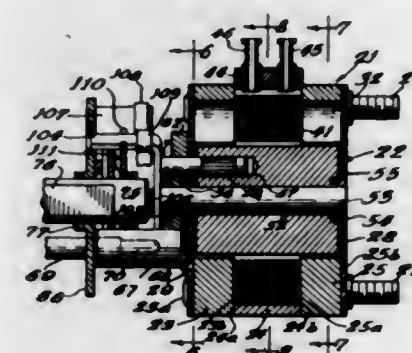


crystal having opposed faces mounted in said channels, and means for electrically connecting one face of said crystal to one of said electrodes and electrically connecting the opposite face of said crystal to the other of said electrodes.

3,340,411

ROTARY STEP-BY-STEP ACTUATOR

Wilbert Parisoe, Highland Park, Ill., assignor to Oak Electro/Netics Corp., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,304
5 Claims. (Cl. 310-49)



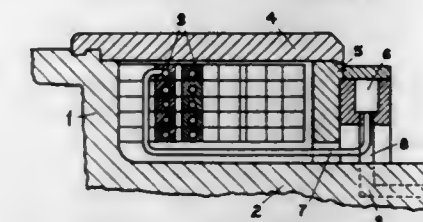
- 1. In a rotary actuator including a casing: an electromagnet comprising first and second spaced stator members, each having an opening therethrough with a plurality of poles being provided at circumferentially spaced points around each opening, each pole on said first member being positioned in axial alignment with a corresponding pole on said second member to define a plurality of pairs of axially aligned stator poles; a third stator member between said first and second stator members and carrying an annular coil having a central opening aligned with the openings in said first and second stator members, said coil being wound of a length of wire having opposite ends; a terminal block carried by said third stator member and having a terminal connected to each end of the wire, said terminals being adapted to be connected to a source of direct current; a generally cylindrical rotor mounted in the openings in said first and second stator members and said coil; bearing means on said casing rotatably supporting said rotor; a plurality of axially extending poles on said rotor, each rotor pole corresponding to one of said pairs of axially aligned stator poles; stop means engageable with said rotor for establishing a first position wherein each rotor pole is positioned between adjacent pairs of stator poles when said coil is deenergized, said stop means also establishing a second position wherein each rotor pole is positioned in radial alignment with one of said pairs of stator poles when said coil is energized; means for returning said rotor from said second position to said first position; and means fixedly mounting said first, second and third stator sections in said casing.

3,340,412

ARRANGEMENT FOR THE DIRECT LIQUID COOLING OF A TURBOGENERATOR PROVIDED WITH END TURN RETAINING RINGS

Eugen Wiedemann, Baden, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Aug. 23, 1965, Ser. No. 481,538
Claims priority, application Switzerland, Aug. 28, 1964, 11,327/64

9 Claims. (Cl. 310-54)



- 1. A liquid cooled rotor construction for a turbogenerator which comprises a rotor body, said rotor body having a winding thereon of hollow conductors including end turns at opposite ends of said rotor body and wherein a liquid coolant flows through turns of the winding connected hydraulically in series, an end turn retaining ring at each end of said rotor body, each said retaining ring including a cylindrical part secured upon said rotor body and an annular end plate the inner periphery of which is radially spaced from said rotor body, distribution chambers for the supply and discharge of the liquid coolant mounted on the end plate of at least one of said retaining rings, rigid pipe connections between said distribution chambers and said hollow end turns of said rotor winding, and flexible pipe connections between said distribution chambers and axially extending bores within the body of said rotor.

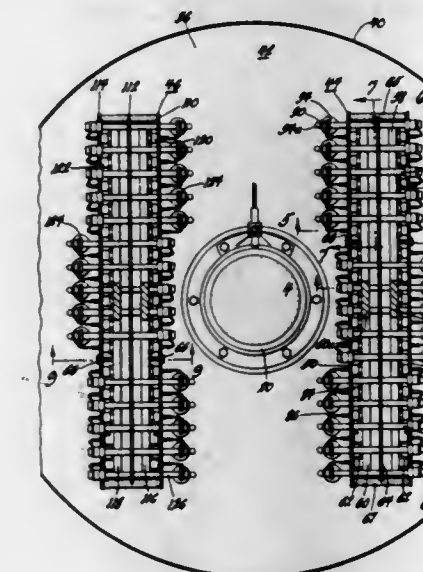
3,340,413

TRACTION MOTOR POWER SUPPLY UNIT

Walter Drabik, Downers Grove, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 4, 1964, Ser. No. 408,979

9 Claims. (Cl. 310-68)



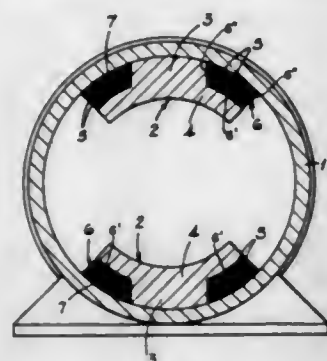
- 1. In combination, a dynamoelectric machine having an end frame, first and second insulator plates secured to said end frame and extending axially therefrom, first and second metal heat sinks disposed between said insulator plates and supported by said insulator plates, a third insulator plate located between said metal heat sinks for insulating said metal heat sinks from each other, a

plurality of diodes supported by each metal heat sink of opposite conductivity type, and an electrical conductor connected with a phase lead of said dynamoelectric machine connected with a pair of diodes of opposite conductivity type.

3,340,414

DYNAMO-ELECTRIC MACHINES

Leonard James Woodman, London, England, assignor to C.A.V. Limited, London, England
Filed Aug. 17, 1965, Ser. No. 480,304
2 Claims. (Cl. 310-194)



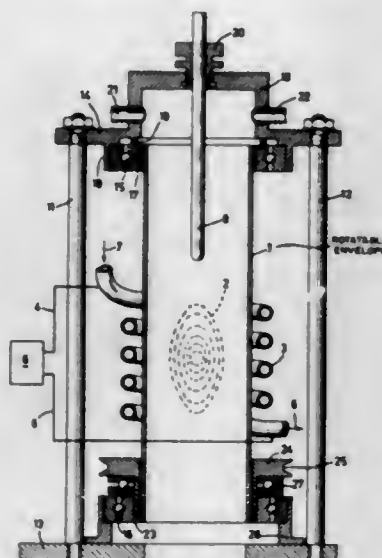
1. Means for insulating the field coil electrically from a pole piece having a head thereon and yoke of a dynamoelectric machine of the kind specified comprising a preformed ring of insulating material, said ring having a channel-shaped cross-section embracing the coil, with the base portion of said ring disposed against the head of the pole piece and the walls of said ring extending towards the yoke, and a preformed apertured shield of insulating material lying against the internal periphery of the yoke to close the open side of the channel-shaped ring.

3,340,415

INDUCTION GAS IONIZER HAVING A ROTATABLE ENVELOPE

Jacob Willem de Ruiter and Anton Willemstein, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 498,053
Claims priority, application Netherlands, Oct. 31, 1964, 64-12,703
3 Claims. (Cl. 313-148)



1. An electric gas discharge burner comprising a substantially cylindrical envelope constituted of a non-conducting refractory material, an helical high frequency coil located around a portion of said envelope, an inlet for the gas supplied into said envelope, said gas being of the type for producing an electric discharge, and means for

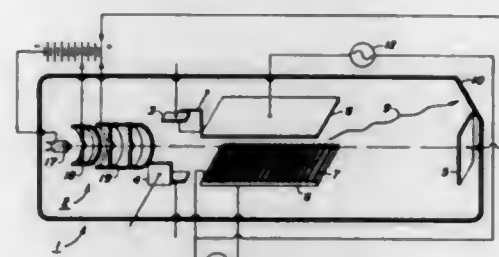
rotating said envelope within said coil about a rotational axis which substantially coincides with the axis of said cylindrical envelope, the outer wall of said envelope being movable relative to said coil.

3,340,416

RADIATION GENERATOR HAVING A CONDUCTIVE COATING ON A PIEZOELECTRIC DIFFRACTION GRATING FOR VARYING THE OUTPUT FREQUENCY

James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,557
7 Claims. (Cl. 315-4)



1. A high frequency radiation generating apparatus comprising:

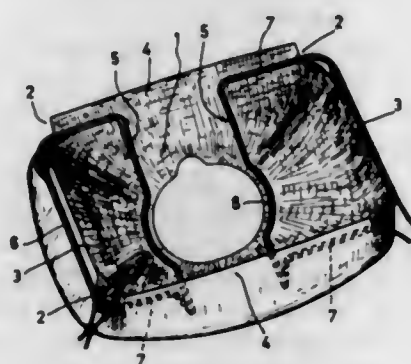
- (a) a diffraction grating formed from parallel spaced lines ruled upon the face of a piezoelectric plate, said face carrying a conductive coating thereon;
- (b) a conductive metallic plate positioned to reinforce standing electromagnetic waves in the space between said reflector and said diffraction grating;
- (c) means to develop a beam of electrons and to direct said beam through said space;
- (d) means to apply an electrical stress to said piezoelectric plate so that said plate will vary dimensionally in a direction perpendicular to said grating lines, and thereby change the spacing of said grating.

3,340,417

FERROMAGNETIC SCREENING CAPS AND DEMAGNETIZING COILS FOR COLOR PICTURE TUBES HAVING RECTANGULAR DISPLAY SCREENS

Constantius Johannes Waltherus Panis and Jan Maximiliaan Olthuis, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 7, 1966, Ser. No. 519,319
Claims priority, application Netherlands, Nov. 20, 1965, 65-15,107
4 Claims. (Cl. 315-8)



1. A ferromagnetic, substantially conical, screening cap suitable for being arranged around the cone of a color television picture tube, and individual ring coils provided about said cap for demagnetizing ferromagnetic screening means provided around the picture tube and color selection members arranged in the picture tube in

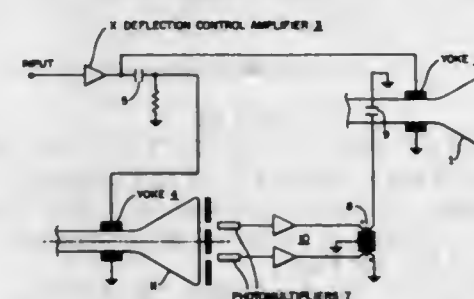
the proximity of the display screen, each ring coil being arranged partially near the edge of the wide end of the cap, parallel to a side of the image plane, on the outside of the cap and partially according to a generatrix of the conical part of the cap towards the narrow end of the cap and along the edge of said end, each of said coils extending along the edge of the wide end of the cap parallel to the upper and lower sides of the display screen over a distance which is at least $\frac{1}{4}$ and at most $\frac{1}{3}$ of the length of the long sides of the display screen.

3,340,418

PHASE REVERSING CONTROL CIRCUIT FOR NULLIFYING THE EFFECT OF A.C. TRANSIENTS IN A CATHODE-RAY TUBE

Charles R. Corpew, San Diego, Calif., assignor, by mesne assignments, to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Oct. 17, 1963, Ser. No. 316,897
8 Claims. (Cl. 315-9)



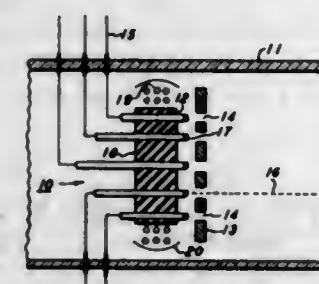
1. A cathode-ray tube having a beam positioning electromagnetic yoke, first means for passing a D.C. beam positioning current through said yoke including, means for changing said D.C. current from one steady state value to another so as to change the beam position, A.C. transient signal beam compensating means associated with said cathode-ray tube for substantially nullifying the effect upon said beam of the A.C. transient signal produced by said yoke upon changing said D.C. current, means responsive to said first means for generating an A.C. compensating signal having substantially the same wave shape as said A.C. transient signal but phase-reversed therefrom, said A.C. compensating signal being applied to said beam compensating means in control thereof.

3,340,419

ELECTRIC DISCHARGE TUBES

Arthur Tisso Starr, New Barnet, and Peter Frederic Thomas Cryer Stillwell, Aldershot, England, assignors to Rank Precision Industries Limited, London, England, a corporation of Great Britain

Filed Apr. 15, 1964, Ser. No. 360,047
3 Claims. (Cl. 315-13)



1. A matrix array for producing electron beams in spatial arrangement determinable by input signals in an electric discharge tube, said matrix array comprising: a plurality of electrically separate electron generators including metal pins having deposited on the tips thereof electron emissive material responsive to heat and an electrically energizable heating coil surrounding said metal pins;

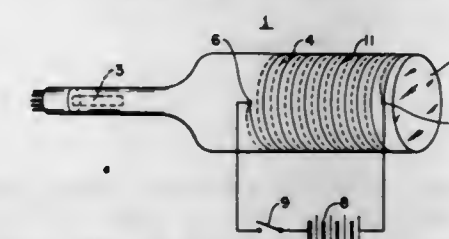
modulator means for forming a plurality of elemental beams of electrons emitted from said generators; heat conserving means surrounding said generators; and, connecting means for electrically connecting said electron generators to separate electrical activation sources whereby said generators may be selectively rendered active or inactive.

3,340,420

CATHODE RAY TUBE CONTROL CIRCUITRY UTILIZING TWO ACCELERATING WINDINGS

Robert H. Compton, San Diego, Omer F. Hamann, La Jolla, and Roger G. Steadman, San Diego, Calif., assignors, by mesne assignments, to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed July 14, 1964, Ser. No. 382,453
6 Claims. (Cl. 315-14)



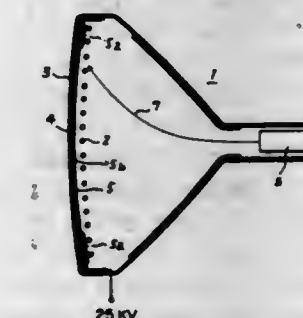
1. In a cathode ray tube having a longitudinal axis, a helical resistive accelerating electrode mounted within said tube for providing an electrostatic field generally oriented along the length of said tube, a DC voltage source having a first and second terminal, means for coupling said first terminal to one end of said helical resistive accelerating electrode, means for coupling said second terminal to the other end of said helical resistive accelerating electrode so that a potential gradient is set up inside of said tube substantially parallel with the longitudinal axis of said tube, a resistive stabilizing electrode adjacent with the outside surface of said tube for establishing a voltage gradient on the outside surface of said tube substantially equal to the voltage gradient set up on the inside of said tube by said helical resistive accelerating electrode, and means for applying substantially the same potential across said stabilizing electrode as is applied across said accelerating electrode by said DC voltage source.

3,340,421

CATHODE RAY TUBE HAVING METALLIC LAYER OF NON-UNIFORM THICKNESS

Yasumitsu Watanabe and Takuji Inoue, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed July 30, 1964, Ser. No. 386,349
Claims priority, application Japan, July 31, 1963, 38/41,203
5 Claims. (Cl. 315-14)



1. A cathode ray tube comprising an electron gun, a screen portion, a fluorescent material on said screen portion,

a grid located adjacent to but spaced from said screen, and
a metallic layer overlying said fluorescent material, the thickness of the metallic layer at a peripheral portion thereof being larger with respect to the thickness at a central portion thereof.

3,340,422

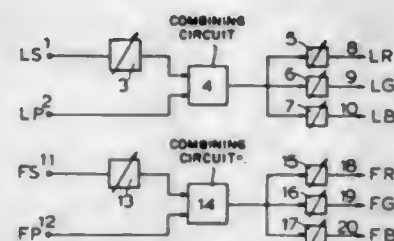
DYNAMIC CONVERGENCE CIRCUITS FOR MULTIPLE GUN CATHODE RAY TUBES

Eric William Bull, Sunbury-on-Thames, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Sept. 9, 1964, Ser. No. 395,219

Claims priority, application Great Britain, Sept. 14, 1963, 36,271/63

4 Claims. (Cl. 315—22)



1. In a scanning circuit for a colour television receiver, including a three gun cathode ray tube for displaying coloured images and means for deflecting the beams from said guns in line and field directions to describe a television raster; an arrangement tending to produce dynamic convergence of the beams of said tube, comprising

- electromagnetic means associated with each gun which when energised with convergence currents of line or field frequency set up magnetic field causing convergence displacement of the beams from said guns,
- terminal means for supplying sawtooth currents of one of either field frequency or line frequency,
- terminal means for supplying parabolic currents of the same frequency as the sawtooth currents,
- at least one combining means for combining said sawtooth and parabolic currents,
- means for applying said combined currents to each of said electromagnetic means,
- adjusting means associated with said electromagnetic means for adjusting the amplitudes of current therein,
- and a single means for adjusting the relative amplitudes of the sawtooth and parabolic currents applied to said adding means.

3,340,423

SINGLE STAGE VERTICAL SWEEP CIRCUIT

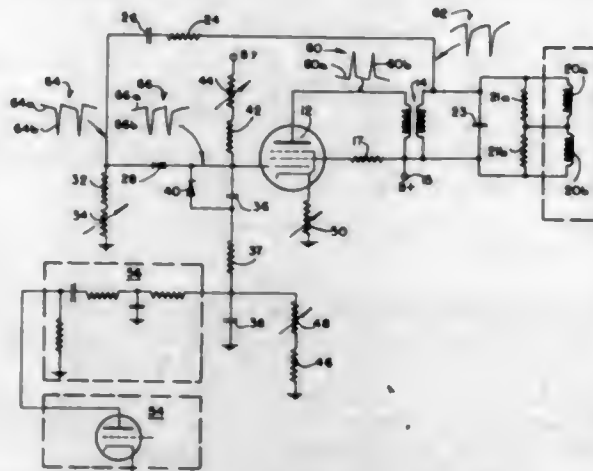
George D. Doland, Mount Prospect, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 2, 1964, Ser. No. 356,840

4 Claims. (Cl. 315—27)

1. A signal generating circuit to produce beam deflection waves for a cathode ray tube, which waves have a trace portion and a retrace portion, including in combination; an electron control device having control and output electrodes, an output load coupled to said output electrode, said load including inductor means to release stored energy during the retrace portion of the deflection waves, a feedback network including a first diode and first capacitor means series coupled between said output load and said control electrode, network means coupled to said control grid electrode and including second capacitor means to be charged to establish a controlling waveform at said control electrode, a second diode coupled in shunt with said second capacitor means, first circuit means for charging

said second capacitor means during the trace portion of the deflection waves, and second circuit means for providing a discharge path for said second capacitor means,



said first diode operable to discharge said second capacitor means through said second circuit means during the retrace portion of the deflection waves.

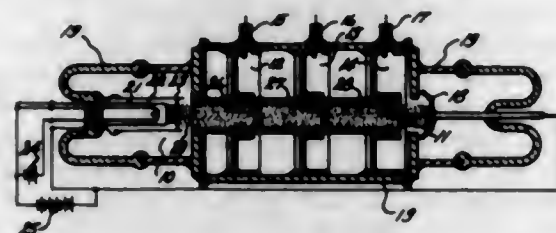
3,340,424

MICROWAVE PHASE DETECTOR UTILIZING ELECTRON BEAM-CAVITY DEVICE

John E. Nevins, Jr., North Hollywood, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 28, 1963, Ser. No. 319,623

6 Claims. (Cl. 315—5.39)



3. A microwave phase detector electron discharge device comprising an electron gun to form an electron beam in said electron discharge device, a collector to receive the electrons in said electron beam, three resonant microwave cavities interposed between said electron gun and said collector, the first of said cavities receiving a phase modulated microwave input signal, said electron beam passing therethrough and being velocity modulated in accordance with said microwave input signal, the second of said cavities receiving a microwave reference signal of the same center frequency as said phase modulated input signal, said electron beam passing therethrough and further velocity modulating said electron beam in accordance with said reference signal, and the third of said cavities having output means in the form of a coaxial cable, said electron beam passing through said third cavity and interacting therewith to deliver power thereto that is proportional to the velocity modulation of said electron beam.

3,340,425

ION GENERATOR HAVING BEAM STABILIZATION ACCELERATING ELECTRODES

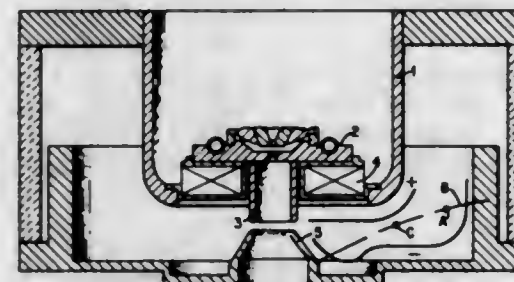
George G. Kelley, Kingston, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 31, 1966, Ser. No. 576,791

6 Claims. (Cl. 315—111)

1. In an ion source device in an evacuated enclosure, said device being provided with a heated electron emissive filament electrode, a cooled anode electrode provided with an ion extraction, centrally disposed aperture spaced from and in axial alignment with said filament electrode, a cooled intermediate ion collimating electrode disposed

between said filament electrode and one side of said anode electrode and being spaced from and in axial alignment with said anode electrode and filament electrode, said intermediate electrode also enclosing said filament electrode, an ion extracting electrode disposed on the other side of said anode electrode in spaced relation and axially aligned therewith, an adjustable power supply connected to said filament electrode, an adjustable source of operating power connected across said anode electrode and filament electrode for establishing an arc discharge therebetween, an adjustable source of accelerating voltage connected across said anode electrode and extracting electrode, an electromagnetic source solenoid disposed about said filament electrode with a source of magnet power supply connected thereto, a plasma expansion cup affixed to said anode electrode in axial alignment with said anode aperture and being positioned in the space between said anode electrode and extracting electrode, an electromagnetic solenoid coil encompassing said plasma expansion cup, an adjustable power supply means connected to said solenoid coil to provide a selected magnetic field, means for feeding gas at a selected, controlled rate into the space between said intermediate electrode and said anode electrode, an electromagnetic solenoid lens axially aligned with said electrodes and positioned beyond said extracting electrode for focusing the ion beam from said extract-



ing electrode, means for energizing said solenoid lens such that its magnetic field bucks the magnetic field provided by said solenoid coil encompassing said expansion cup, and means for adjusting said power supplies to said source solenoid and to said solenoid coil to provide a near-zero magnetic field at the exit of said expansion cup, the improvement wherein there are provided (1) an extensive flat plate, (2) a base plate supporting said plasma cup solenoid coil, said base plate being mounted in a recess of said extensive flat plate such that said plates together form a flat electrode of the accelerating system, said ion extracting electrode being in the shape of an inverted shallow dish with respect to said flat electrode, and (3) a flat insulator supporting the side walls of said dish-like extracting electrode, said insulator also supporting said extensive flat plate, said shallow-dish extracting electrode being so designed in relation to said flat electrode such that there is no point of maximum potential along a magnetic field line, and (4) a centrally apertured, grounded electrode positioned between said extracting electrode and said solenoid lens, whereby electrons are drawn out of the region as they are formed to thereby prevent electron accumulation, electron oscillations and uncontrolled discharges, thus allowing said device to produce a well focused ion beam at relatively large values of accelerating voltages and magnetic fields.

3,340,426

CONTROL SYSTEM FOR TERMINATING THE DISCHARGE THROUGH A FLASH LAMP

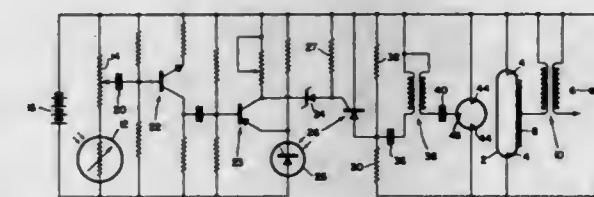
Franklin P. Elliott, Denver, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 4, 1965, Ser. No. 453,080

4 Claims. (Cl. 315—151)

4. In an electronic flash circuit wherein a stored electrical charge is selectively discharged through a flash tube,

a flash control circuit comprising a light sensitive circuit means responsive to an incident pulse of light energy derived from said flash tube for producing an electrical signal representative of said pulse of light energy, said light sensitive means including a substantially non-reactive integrator means whereby said electrical signal represents an integration of said pulse of light energy, an electrical signal amplifying means connected to said light sensitive means and arranged to amplify said electrical signal to produce an amplifier output signal, a light sensitive silicon controlled rectifier connected between said amplifying means and a source of energizing power therefor, said rectifier being arranged to disable said amplifier when said rectifier is in a non-conducting state, means mounting said rectifier for exposure to said flash tube whereby said rectifier is triggered into a conducting state



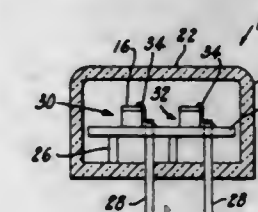
by the light energy from said flash tube, trigger circuit means connected to said amplifier circuit and responsive to said output signal to produce a trigger pulse upon a predetermined amplitude of said output signal, said trigger circuit including a Zener diode and a second silicon controlled rectifier arranged in cascade triggering relationship wherein said second rectifier is triggered into a conductive state by the change in electrical state of said Zener diode in response to said predetermined state of said output signal, switch circuit means including an electronic switch element adapted to be rendered conductive upon the application of a trigger pulse thereto, means connecting said trigger circuit means to said switch circuit means to control the operation thereof, and means for connecting said electronic switch element in shunt with said flash tube whereby to short-circuit said flash tube when said switch element becomes conductive.

3,340,427

PHOTOCONDUCTIVE MEANS FOR DETECTING AREAS OF LOW-LEVEL ILLUMINATION

Robert J. Bisso, Emporium, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 368,874, May 20, 1964. This application Dec. 28, 1964, Ser. No. 421,463

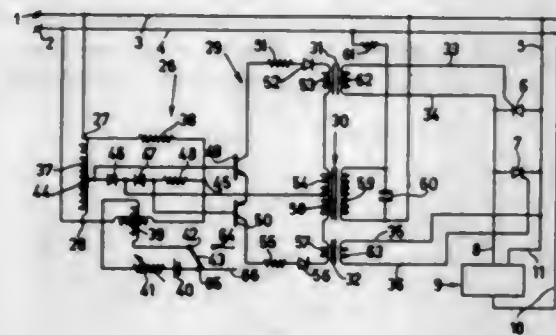
8 Claims. (Cl. 315—155)



4. A device for detecting the presence of discrete areas of relatively low level illumination from a specific zone of relatively higher level illumination comprising: first and second laterally spaced apart photoconductors each having an array of discontinuous paths of photosensitive material and a plurality of electrically conductive segments engaging said paths to provide series electrical circuits terminating in outermost connectors, said electrically conductive segments between said outermost connectors on one of said photoconductors being electrically isolated from said electrically conductive segments on the other of said photoconductors.

3,340,428
CIRCUIT FOR ACCURATELY CONTROLLING THE CONDUCTION PERIODS OF CONTROLLED RECTIFIERS CONNECTED IN INVERSE PARALLEL
 Jozef Cornelis Moerkens and Dan Bernardus Wajsbauw, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 11, 1965, Ser. No. 438,933
 Claims priority, application Netherlands, Mar. 12, 1964, 64-2,537
 8 Claims. (Cl. 315-194)



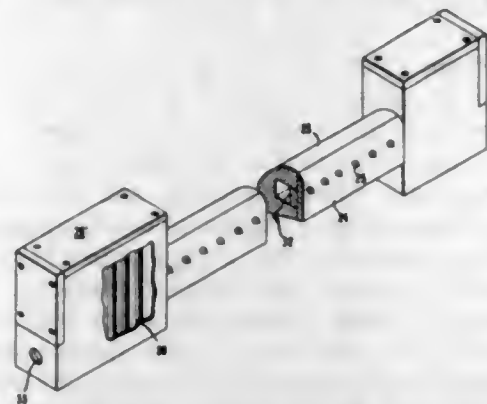
1. A circuit for coupling a source of AC voltage of a given frequency to an electric load having inductance, said circuit comprising first and second controlled rectifiers each of which includes an anode, a cathode and a control electrode for controlling current flow in the path defined by said anode and cathode, means connecting said controlled rectifiers in inverse-parallel relationship in series with said voltage source and said load, amplifier means having first and second electrodes defining a current path therein and a control electrode for controlling the flow of current in said path, means providing a first AC voltage of said given frequency which lags the voltage of said AC voltage source, means for supplying said first AC voltage to said amplifier first and second electrodes, means providing a second AC voltage of said given frequency which lags said first AC voltage, means for supplying said second AC voltage to said amplifier control electrode thereby to control the initiation of current flow therein so as to produce in said amplifier means a control voltage of said given frequency having a sharply rising leading edge followed by a substantially sinusoidal waveform portion which passes through zero at a time which is at least later than the corresponding zero passage of said AC voltage supplied to the anode-cathode paths of the controlled rectifiers, means for coupling said control voltage to the control electrodes of said controlled rectifiers thereby to initiate current flow therein in alternate half-cycles of said AC voltage source, and means for adjusting the phase of said second AC voltage relative to said first AC voltage thereby to adjust the phase angle of said control voltage relative to said source of AC voltage to alter the firing angle of said controlled rectifiers.

3,340,429
APPARATUS ADAPTED TO APPLY AN ELECTROSTATIC CHARGE TO MOVING FIBROUS ELEMENTS
 John Edward Owens, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 4, 1966, Ser. No. 549,436
 6 Claims. (Cl. 317-3)

1. An apparatus adapted to apply an electrostatic charge to fibrous elements, said apparatus comprising, in combination, means for forwarding the said fibrous elements in a linear path, a corona discharge device consisting of an ion gun and a grounded target electrode therefore disposed on opposite sides of the said path,

the said ion gun being comprised of a row of parallel conducting needles fixed rigidly in a fixed lateral spacial relationship arranged transverse to and completely across the said path with the points of the said needles facing the said target electrode, a direct current source of high volt-



age power, and means connecting each said needle to said source of high voltage, each connecting means including a high impedance resistor, the said voltage and resistor providing a corona current at each needle of from about 5 to about 30 microamps, each said resistor providing a voltage drop of at least about 3,000 volts.

3,340,430
DIODE AND PROTECTION FUSE UNIT
 Keith H. Jenkins, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
 Filed Mar. 5, 1965, Ser. No. 437,611
 6 Claims. (Cl. 317-9)

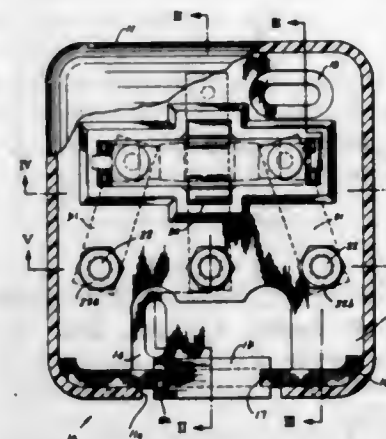


1. A device adapted to be utilized in an electrical circuit comprising:
 (a) a container
 (1) having a transparent portion and
 (2) including at least two electrically conductive contact points insulated from one another;
 (b) a diode, fabricated from a semiconductor material for controlling a flow of current,
 (1) electrically connected to one of said contact points and
 (2) disposed within said container;
 (c) a fuse wire, for opening the circuit through said diode should it become shorted,
 (1) electrically connected to the other of said contact points and said diode and
 (2) disposed within said container;
 (d) an indicator held in a first position remote from said transparent portion by said fuse wire; and
 (e) means for biasing said indicator toward said transparent portion whereby failure of said fuse wire causes said indicator to move to a second position and be displayed at said transparent portion.

3,340,431
OVER-VOLTAGE PROTECTION INSTRUMENT
 Oley Wanaselja, 145 Noell St., Levittown, N.Y. 11756
 Filed June 27, 1966, Ser. No. 560,464
 6 Claims. (Cl. 317-9)

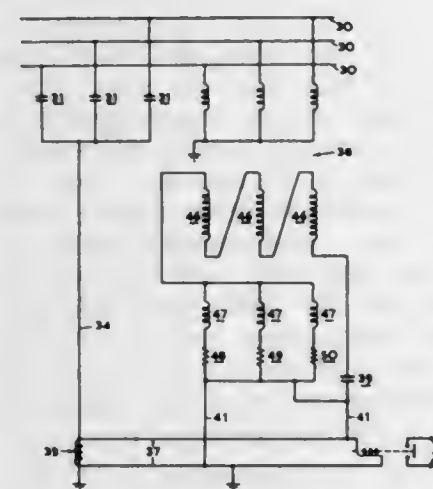
1. Means for supplementing the protection provided by an over-voltage device having a gas filled container and a pair of spaced electrodes comprising a base, a pair of end clips, each having resilient engaging and contacting means at one end for contacting the electrodes of

said over-voltage device and resilient contacting means at the other end for forming a pair of normally open contacts, a unitary resilient ground contactor and clamp means in direct contact with the container of said over-voltage device for grounding same and for resiliently clamping said over-voltage device in fixed position relative to said base, resiliently biased grounded shorting means for shorting said normally open contacts, fusible



means interlocked with said ground contactor and clamp means against movement in all planes and in heat conductive pressure engagement with said container, said fusible means being disposed for maintaining said shorting means separate from said normally open contacts except when the heat generated by said container is sufficient to fuse said fusible means whereupon said shorting means engage said open contacts for shorting and grounding same.

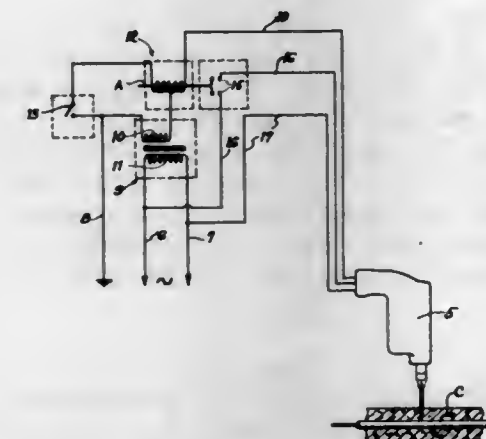
3,340,432
ELECTRIC CIRCUIT FOR DETECTING FAULTS IN CAPACITORS IN POWER SYSTEMS
 John Desmond Ainsworth, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
 Filed June 2, 1964, Ser. No. 371,913
 Claims priority, application Great Britain, June 5, 1963, 22,459/63
 7 Claims. (Cl. 317-12)



1. A circuit for detecting faults in a group of capacitors comprising
 a single bank of capacitors comprising all the capacitors in said group connected between line and neutral conductors in a power supply line,
 a first sensing device connected between said capacitor bank and the neutral conductor for developing a first signal having a magnitude proportional to the sum of the instantaneous currents through said capacitors,

an auxiliary circuit connected between said conductors in parallel with said capacitors,
 a second sensing device for developing a second signal having a magnitude proportional to a predetermined instantaneous electrical quantity exhibited by said auxiliary circuit, said second sensing device having operating parameters such that said second signal bears a predetermined ratio to said first signal in the absence of a fault in said capacitors, and
 detector means for receiving said first and second signals and being responsive thereto to produce an output indicative of a fault upon the magnitude of said signals differing from said predetermined ratio.

3,340,433
SAFETY CUT-OFF FOR ELECTRICAL POWER OPERATED HAND TOOLS
 Harry G. Almquist, 8128 S. Western Ave., Chicago, Ill. 60620
 Filed Feb. 15, 1965, Ser. No. 432,663
 3 Claims. (Cl. 317-18)

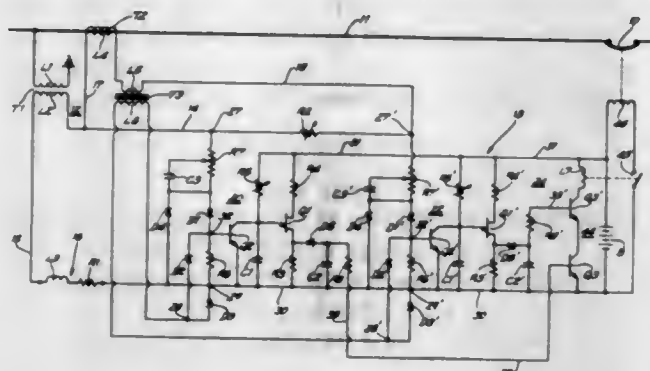


1. A safety cut-off means comprising, in combination, an electrical power driven hand tool, a current source, a split coil relay having a pair of relay contacts, a power circuit for said tool including only said relay contacts in series with said tool, a step-down transformer the primary of which is connected across said current source, one side of the secondary of said transformer being connected intermediate said split relay coil, the other of said secondary being connected to one side of said relay coil and to a ground lead, the other side of said relay coil being connected to the housing of said tool, one-half of said relay coil when energized effecting closing of said contacts to close the power circuit to said tool, the other one-half of said relay coil being energized upon the housing of said tool being grounded whereby said contacts are opened thereby cutting off power and stopping operation of said tool.

3,340,434
DISTANCE RELAY
 Richard E. Riebs, Hales Corners, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
 Filed Jan. 21, 1965, Ser. No. 426,739
 20 Claims. (Cl. 317-36)

1. A distance relay for protecting an alternating current electric system, input circuit means coupled to said system for producing first and second pairs of alternating voltage and current signals each having a phase relation functionally related to that of the voltage and current in said system, said input circuit means being constructed and arranged to offset the voltage signal of said second pair of signals relative to the voltage signal in said first pair of signals and to phase modify the current signal of said second pair of signals relative to the current signal of said first pair of signals, phase sensing circuit means

coupled to said input circuit means for receiving each of said pairs of electrical signals and being constructed and arranged to produce an output signal when said first pair of electrical signals has a predetermined phase relation and when said second pair of modified electrical signals has a predetermined phase relation, said input circuit means modifying said second pair of alternating voltage and current signals in a manner to provide said phase

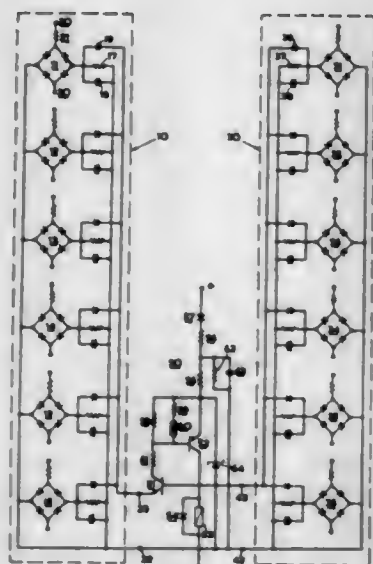


sensing circuit means with a characteristic which, when plotted on an impedance diagram, forms an acute angle opening toward the origin of said diagram and wherein one side is substantially parallel to the R axis of said diagram and the other side is generally parallel to the line on said diagram representative of the impedance of said system, and output circuit means connected to said phase sensing circuit means for performing an output function upon the occurrence of said output signal.

3,340,435 ELECTRICAL PROTECTIVE RELAY APPARATUS

Hans Hoel, Oslo, Norway, assignor to The English Electric Company Limited, London, England, a British company

Filed Feb. 10, 1965, Ser. No. 431,643
Claims priority, application Great Britain, Feb. 13, 1964, 6,014/64
3 Claims. (Cl. 317-36)



1. Protective relay apparatus for an electrical system comprising,
 - a plurality of first input circuits for developing signals proportional to first electrical conditions assumed by the protected system, each input circuit including a first unidirectionally conducting device, and
 - first connecting means for connecting together like poles of each device in all said input circuits to a first terminal in a manner such that only the largest of said signals is developed at said terminal,

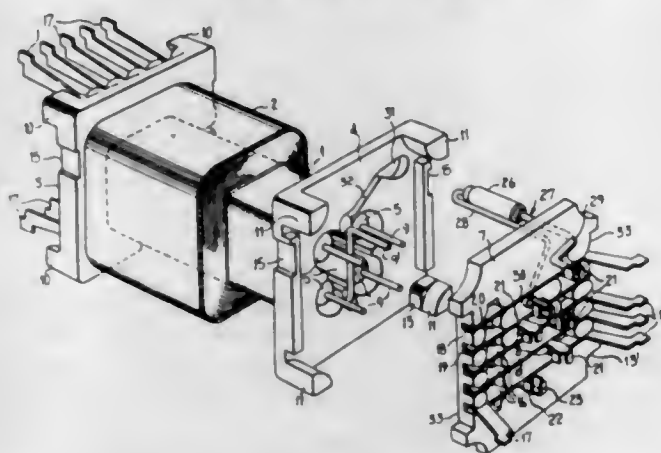
a plurality of second input circuits for developing signals proportional to second electrical conditions assumed by the protected system, each said second input circuit including

- a second unidirectionally conducting device, and
- second connecting means for connecting together like poles of each second device in all said second input circuits to a second terminal, and
- switching means connected between said first and second terminals and operative to effect an alarm or control function, the polarity of said second unidirectionally conducting devices being such that said switching means is operative to effect said function in response to the signal at the first terminal exceeding by a predetermined amount the smallest signal developed by any of said second input circuits.

3,340,436 ELECTRICAL COMPONENT MODULES

Raymond Dennis Jones, Cheam, and Albert Edward Carter, Bexleyheath, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Mar. 19, 1965, Ser. No. 441,218
Claims priority, application Great Britain, Mar. 24, 1964, 12,396/64
9 Claims. (Cl. 317-101)



1. An electric circuit module comprising circuit elements having projecting terminal members, a modular support structure containing said elements within it and having an outer end face through which said terminal members project, said end face having a plurality of external slots extending across it transversely of the projecting terminal members, and a plurality of conductors, individual to the module, consisting of respective yoke portions accommodated in said slots and each extending therein from a position of connection with a projecting terminal member to edge positions adjacent opposite edges of the end face, tag portions extending outwardly from the plane of said end face and beyond said edges of the end face at the edge positions whereby they overhang said edges, and intermediate connection portions upstanding alongside the projecting terminal members at said positions of connection and connected thereto.

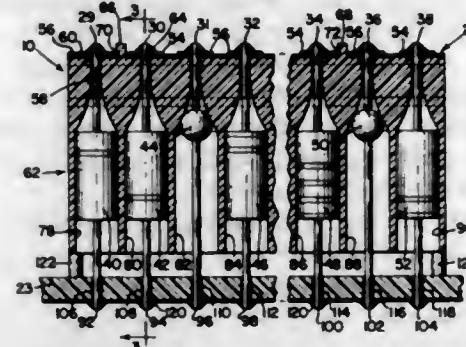
3,340,437 COMPONENT ASSEMBLY WITH FLEXIBLE CHANNEL SHAPED PRINTED CIRCUIT BOARD

Frank V. Fricker, Jr., Roslyn, Pa., assignor to Honeywell Inc., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,418
2 Claims. (Cl. 317-101)

1. In a modular structure, a substantially rigid first printed circuit board, a casing constructed of a non-conductive material, one end of the casing being mounted on the board and its opposite end having recessed portions therein forming outer wall parts thereof, a unitary

resilient arch shaped plate located immediately adjacent the casing having edge portions constructed of insulating material in spring-biased engagement with the recessed portions, a printed circuit formed in another portion of the resilient plate that extends between said edge portion, the printed circuit board, casing and the resilient plate containing the printed circuit each having at least two aligned passageways therein to accommodate the inser-

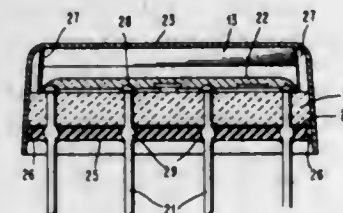


tion of separate electrical components in the casing and the conductors that extend from the opposite ends of the electrical components into direct electrical contact with spaced apart conducting circuit portions of the printed circuit board and into direct electrical contact with spaced apart conducting circuit portions of the printed circuit formed in the resilient plate for transmitting a current back and forth between the two printed circuits.

3,340,438 ENCAPSULATION OF ELECTRONIC MODULES

Reginald R. Dion and Joseph A. Benenati, Beacon, Robert E. Morris, La Grangeville, and Charles P. Coughlin, Chelsea, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 5, 1965, Ser. No. 445,339
3 Claims. (Cl. 317-101)



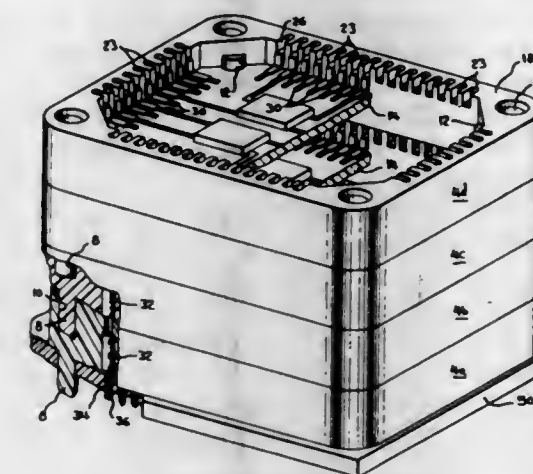
1. An encapsulated package having circuitry performing particular electronic functions, said package comprising:
 - a substrate of an inert material having a plurality of apertures extending therethrough,
 - a plurality of conductive pins, each of which is inserted in a particular one in said apertures,
 - a microelectronic circuit mounted on at least one surface of said substrate including conductive lands mounted on said surface and connected to said conductive pins, at least one resistor of a printed thin film of resistive material associated with said lands, and at least one semiconductor device having at least two contact elements which are joined to said conductive lands,
 - a conformal coating of a nonstress chemically inert silicone gel deposited over said surface and covering said microelectronic circuit,
 - a metallic cover having a configuration adapted to receive said substrate and into which said substrate is inserted with said microelectronic circuit residing in the interior thereof, said cover being indented at particular points to secure said cover to said substrate, and

a back seal layer of cured rubber-type material disposed over the surface of said substrate opposite said one surface on which said semiconductor is mounted, said back seal extending completely over said opposite surface and into contact with the walls of said metal cover so as to prevent water vapor and other noxious industrial vapors from penetrating into the region of said microelectronic circuit.

3,340,439 MULTI-CONTACT CONNECTOR

Homer Ernst Henschen and Marvin Leo Yeager, Carlisle, and Dale Richard Zell, Elizabethtown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed July 2, 1965, Ser. No. 469,092
2 Claims. (Cl. 317-101)

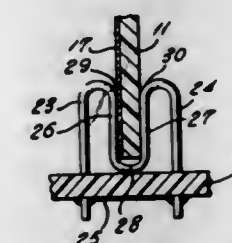


1. An electrical interconnection system comprising, a plurality of rectangular frame members having a central opening stacked on top of each other, a panel in each of said openings, said panels having electrical components thereon and conductor paths extending to the edges of said panels, each of said frame members having a plurality of contact terminals therein extending normally of the planes of said frames, said terminals each having a socket portion and at least some of said terminals having a pin portion and a laterally extending tab portion extending from the end of its socket portion and into the opening defined by the frame, said pin portions extending beyond the planes of their respective frames and being received in the socket portions of terminals in the next adjacent frames, said tab portions of each frame being electrically connected to conductors on said panels whereby, inter-level electrical connections are achieved by said pin and socket portions and said tab portions.

3,340,440 MULTI-CIRCUIT SEPARABLE CONNECTOR FOR PRINTED CIRCUIT BOARDS AND THE LIKE

Jerry B. Minter, Normandy Heights Road, Morristown, N.J. 07960

Continuation of application Ser. No. 374,559, June 3, 1964. This application Mar. 15, 1966, Ser. No. 534,531
6 Claims. (Cl. 317-101)



1. A connector device comprising a base of rigid insulation material,

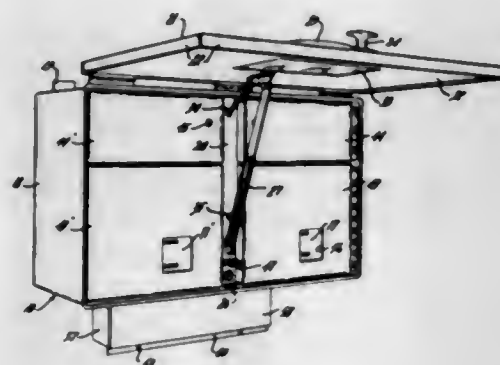
a contact clip to frictionally receive a plug-in member carrying a contact strip, said clip consisting of a single continuous length of rigid spring wire of rounded cross-section with two convexly curved loops joined by an intermediate concave loop, the said convexly curved loops each terminating in a respective linear portion rigidly anchored at their free ends directly in said base against movement therein and protruding from one face of said base a predetermined distance while the remainder of the clip is located on the opposite face of said base, said concave loop being positioned immediately adjacent said base so as to be in substantially abutting relationship therewith during insertion of said plug-in member, said convexly curved loops defining a mouth therebetween to receive said plug-in member, the normal width of said mouth being slightly less than the thickness of said plug-in member, and the distance between portions of said wire joining said mouth to said concave loop being slightly farther apart than the thickness of said plug-in member, whereby said strip is subjected to a continuous wiping action during insertion of the plug-in member and said plug-in member is flexibly gripped by the clip to hold it in predetermined relation to said base, the contact between the plug-in member and clip being independent of pressure engagement between the said member and the bottom of said concave loop, said clip being supported and attached to said base entirely by reason of said anchoring of said free ends, and the remainder of the clip being free from mechanical abutment against any rigid supports, except the abutting relationship of said concave loop and said base, whereby the normal width of said mouth is determined solely by the normal preformed curvature and bias of said concave and convex loops and the said mouth is automatically widened solely by reason of the engagement between the mouth of the clip and the inserted plug-in member.

3,340,441

ENCLOSURE FOR ELECTRICAL APPARATUS AND SYSTEMS

Walter L. Probert, Erie, Pa., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed July 10, 1964, Ser. No. 381,655
15 Claims (Cl. 317-120)



1. A control assembly for controlling operation of dispensing means for dispensing a plurality of explosive products and forming a part of a service station and connected to high voltage power leads and low voltage signal leads,

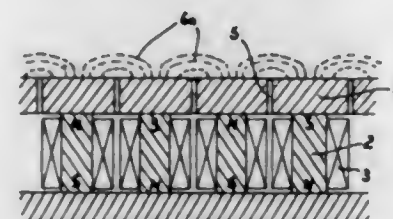
an enclosure for mounting in an area of minimum hazard from explosion and having an outer releasably locked door, a pair of control assemblies arranged in side-by-side relation within the enclosure, each including high voltage power components and low voltage signal components, a resettable code device and a spaced code input means for actuating a control means for connection to the dispensing means, separate terminal block means, one for connecting high voltage power leads to said high voltage power components and constituting a high voltage terminal block means and one for connecting low voltage signal leads to said low voltage signal components and defining a signal lead terminal block means mounted within the enclosure, junction box means permanently connected to form a part of the enclosure and including separate compartments aligned with the high voltage terminal block means and the signal lead terminal block means and including a common power lead compartment and individual signal lead compartments for each product, a plurality of releasably mounted covers separately overlying each code device and each input means, a common latch mounted within the enclosure and disposed in releasable holding engagement with the covers overlying the resettable code device and having an interlock arm forming a part of the latch and movable therewith, and a key actuated unit mounted within the enclosure and having a lever with a standby position in the path of the interlock arm and movable therefrom in response to actuation of the unit by a selected key therefor, said unit being located adjacent the outer door to dispose the key in the path of the outer door and thereby requiring removal of the key prior to closure of the outer door.

3,340,442

ELECTROMAGNETIC PLATES AND CHUCKS

Phillibert Maurice Brailion, 2 Rue d'Alexandrie, Chambéry, Savoie, France

Filed Aug. 11, 1964, Ser. No. 388,767
Claims priority, application France, Feb. 27, 1964,
44,520, Patent 1,395,795
3 Claims. (Cl. 317-123)



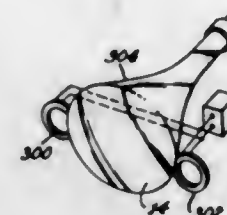
1. In electromagnetic plates and chucks, the combination of a plurality of adjacent electromagnetic elements including each a core, a winding surrounding the core, a pole piece carried by each core and subjected to the action of the corresponding winding, said pole pieces being all arranged to one side of the system of electromagnetic elements and disposed in a straight line, means simultaneously feeding electric current into the different windings, and switching means adapted to cooperate with last-mentioned means to shift the direction of flow of the current feeding a number of said windings to thereby make the windings pass between a condition for which the successive windings produce opposed polarities in the corresponding successive cores and a condition for which the successive pairs of windings in said line produce the

same polarity in both windings of the pairs, said polarity being reversed between the windings of any one pair and the next pair in said line.

3,340,443

COLOR TELEVISION DEGAUSSING APPARATUS

Harold F. Rieth and George O'Leary, Santa Monica, Calif., assignors to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 30, 1964, Ser. No. 363,940
11 Claims. (Cl. 317-157.5)



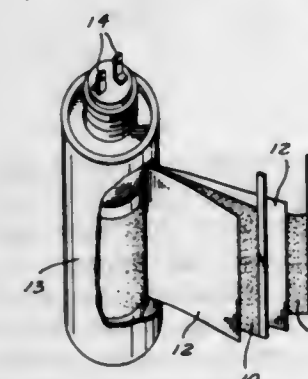
1. In a color television receiver, a color picture tube having a display face with a plurality of different phosphors distributed across the display face, said phosphors in the plurality being effective to luminesce with visible light of particular colors when bombarded by electrons; electron means for scanning the display face with electrons to excite the phosphor into luminescing with the particular colors; a mask disposed in said tube between the face and said electron means, said mask being positioned to shield the different phosphors in the plurality from electrons representing different colors; at least a pair of coils positioned adjacent the mask at spaced positions and extending in a direction transverse to the mask to produce a magnetic flux field in the mask without any dead spot at any position on the face of the color picture tube, and means coupled to the pair of coils for energizing the coils with a signal of decaying intensity to gradually reduce the intensity of the magnetic flux field in said mask and degauss the color picture tube.

3,340,444

ELECTROLYTIC DEVICE COMPRISING FIBROUS IONICALLY PERMEABLE SPACER

William A. Selke, Stockbridge, Mass., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Mar. 3, 1964, Ser. No. 349,130
4 Claims. (Cl. 317-230)



1. An electrolytic device comprising a pair of electrodes, at least one being of a film forming metal and having an anodic dielectric film on its surface, a porous paper spacer separating said electrodes, said paper comprising a mixture of conductive phosphorylated cellulose

3,340,445
SEMICONDUCTOR DEVICES HAVING MODIFIER-CONTAINING SURFACE OXIDE LAYER

Joseph H. Scott, Jr., Newark, and John A. Olmstead, Branchburg Township, Somerset County, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Original application Jan. 19, 1962, Ser. No. 167,341, now Patent No. 3,200,019, dated Aug. 10, 1965. Divided and this application Dec. 23, 1964, Ser. No. 420,523
1 Claim. (Cl. 317-234)

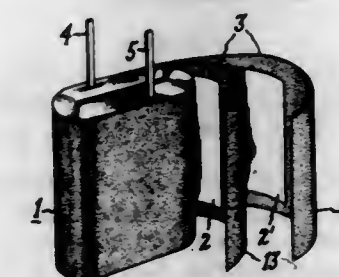


A transistor comprising a given conductivity type crystalline semiconductive body having two opposing major faces; an opposite conductivity type region in said body adjoining one said major face; a rectifying barrier between said opposite type region and the bulk of said given type body; a coating of silicon oxide on a portion of the surface of said opposite type region; said coating containing a conductivity type modifier capable of inducing said opposite type conductivity in said body; a first metallic contact on a portion of the surface of said opposite conductivity type region; a given conductivity type region in said body adjoining said one major face, said given type region being surrounded by said opposite type region; a coating of silicon oxide on a portion of the surface of said given conductivity type region, said coating containing a conductivity type modifier capable of inducing said given conductivity type in said body; and a second metallic contact on a portion of the surface of said given conductivity type region.

3,340,446

ELECTRICAL CAPACITOR

Eugene B. Cox, South Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 24, 1966, Ser. No. 559,030
4 Claims. (Cl. 317-258)



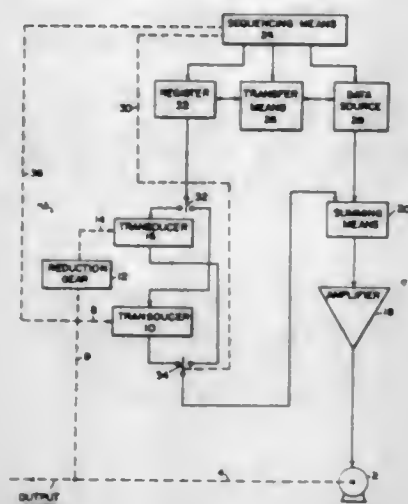
1. An electrical capacitor comprising, in combination, metal electrode foils separated by dielectric spacer material, said dielectric spacer material comprising synthetic resin film material having smooth surfaces, a layer of finely-divided particles of aluminum oxide disposed essentially on only said surfaces of said synthetic resin film material and contacting the surface of the adjacent metal electrode, said particles being less than about .5 micron in diameter, and a dielectric liquid material impregnating said layer of finely-divided particles and filling the voids therein.

3,340,447

DIGITAL SERVOMECHANISM

Waldron S. Macdonald, Concord, Mass., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Jan. 8, 1964, Ser. No. 336,475
12 Claims. (Cl. 318-18)



1. In combination, a servomechanism for positioning an output shaft in accordance with two applied position address signals corresponding to adjacent digits of a selected position in a predetermined number system, said servomechanism being provided with at least two selectively connectible followup means having rebalancing ratios differing by an order of magnitude in said number system, first switching means operable to first and second states for operatively connecting said first followup means in said servomechanism in its first state and operatively connecting said second followup means in said servomechanism in its second state, a register for storing a position address signal, means controlled by said register for applying the stored position address signal to said servomechanism, a source of position address signals corresponding to at least three digits of a position address, and sequencing means operable when actuated to sequentially shift progressively lower ordered signals from said source to said register and simultaneously apply the next lower ordered signal from said source to said servomechanism, and means controlled by said sequencing means for actuating said switching means to its first state when the highest ordered signal is shifted to said register and to its second state when the second ordered signal is shifted to said register.

3,340,448

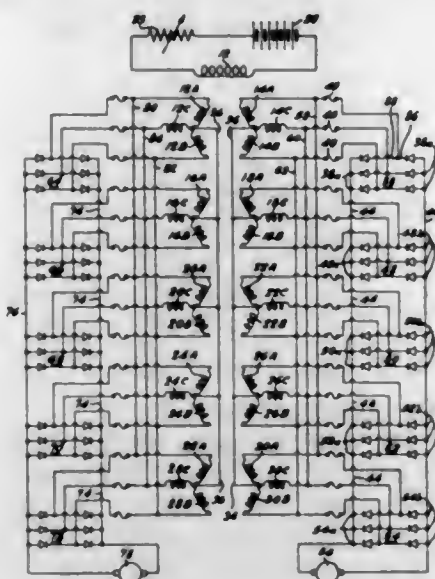
TRACTION MOTOR POWER SUPPLY SYSTEM

Elmer E. Thiessen, La Grange, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 4, 1964, Ser. No. 408,980
4 Claims. (Cl. 318-140)

1. A power supply system for supplying direct current to the traction motors of a locomotive comprising, an alternating current generator having first and second groups of discrete three phase Y-connected output windings, first and second groups of three phase full-wave bridge rectifier networks connected respectively with said first and second groups of output windings, first and second power supply conductors connected with said first group of bridge rectifier networks for supplying direct current to a first traction motor, third and fourth power supply conductors connected with said second group of bridge rectifier networks for supplying direct current to a second traction motor, means connecting the neutrals of each group of three-phase windings together, means connecting the rectifier side of each phase winding of the

three phase windings that feed the first groups of rectifiers together at points opposite the neutrals of said first group of three-phase windings, and means connecting the rectifier side of each phase winding of the three phase windings that feed the second group of rectifiers together at points opposite the neutrals of said second group of three-phase windings, said first and second groups of three phase windings being wound symmetrically on a stator



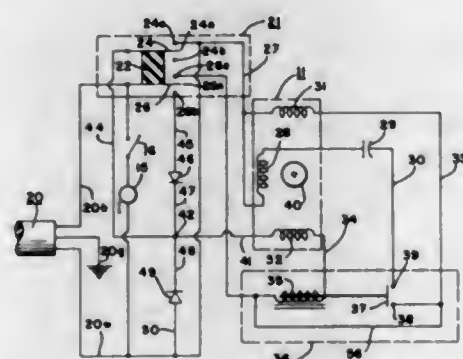
such that they represent alternate pole phase windings connected respectively to said bridge rectifier networks, and circuit breaker means connected between a respective phase winding and the rectifiers of said bridge rectifier networks, said means that connects the rectifier side of the phase windings operating to maintain a given phase winding in an electrically loaded condition in the event that a circuit breaker means opens.

3,340,449

INDUCTION MOTOR BRAKING SYSTEM

James O. Elliott, Xenia, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 29, 1965, Ser. No. 428,945
1 Claim. (Cl. 318-212)



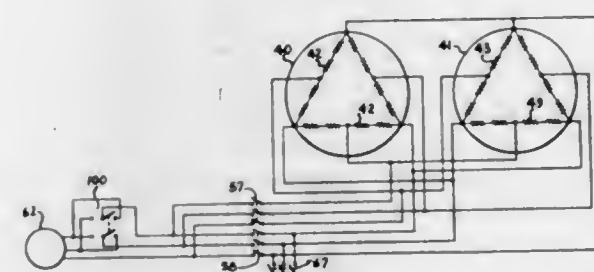
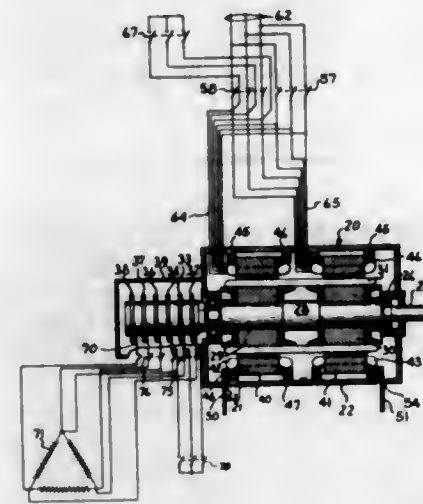
An induction motor braking system comprising in combination with a single phase induction motor having at least first and second main windings and input circuit means suitable for connection across a source of alternating current supply potential, two diodes, means for connecting one of said diodes across said first and second main windings and switching means operable between at least first and second positions for connecting said first and second main windings in parallel across said input circuit means when in a selected one of said first and second positions and for connecting said first main winding, said second main winding and the other one of said diodes across said input circuit means when in the other one of said positions.

3,340,450

VARIABLE SPEED A.C. MOTOR CONTROL

Herschel H. Stille and Kenneth S. Kordik, Rockton, Ill., assignors to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,626
9 Claims. (Cl. 318-214)



1. A variable speed A.C. motor comprising, in combination, a frame, first and second stator assemblies on said frame having substantially identical windings for producing rotating fields, means for switching said stator windings to produce first and second predetermined numbers of winding pole connections, said first pole connection being one-half the number of poles of said second connection, a wound rotor in said frame having a single set of windings in which voltages are induced by the stator fields, means for switching said rotor windings to obtain a corresponding number of poles to said stators, and each of said stators being rotatably movable in said frame between a null phase relation in which the induced voltages are cancelled and an aligned phase relation in which the induced voltages are additive for production of maximum torque.

3,340,451

FLUX RESPONSIVE READING SYSTEM FOR A MAGNETICALLY RECORDED DIGITAL PROGRAMMED POSITION SERVO

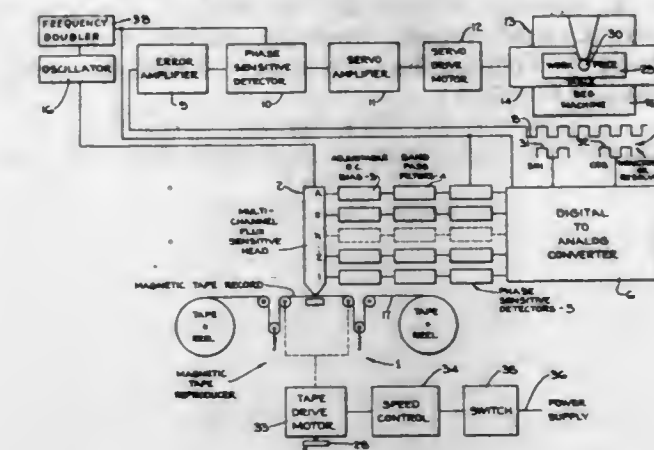
Clair L. Farrand, Bronxville, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada

Filed Mar. 26, 1963, Ser. No. 267,971
6 Claims. (Cl. 318-162)

1. A program controlled positioning system for the movable element of a machine tool having fixed and movable members, said system comprising

- (1) a stationary magnetic flux density sensitive reading head for a magnetic record having a digital signal representing the relative position of said stationary member and said movable member, said movable member being fixed to said movable machine element,
- (2) said head supplying an output of said digital positional signals, responsive to flux density, to
- (3) a phase sensitive detector having a reference input,

- (4) a digital-to-analog converter having an input from said phase sensitive detector and supplying as an output analog signals of the same phase as said digital signal, said analog signals having a trigonometric relation representative of said digital, and analog signals being supplied to
- (5) a position measuring transformer having input windings having a geometrical spacing corresponding to said trigonometric relation,



- (6) whereby said digital-to-analog converter supplies position signals to said input windings at all operative speeds of the magnetic record including zero speed when said head and said record are stationary, said position signals corresponding to and being of the same phase as the digital signal of said record.

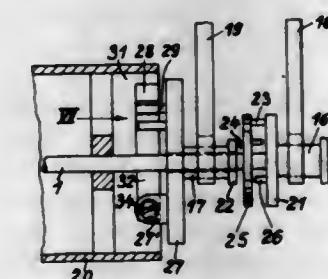
3,340,452

ELECTRIC MOTOR WITH AUTOMATIC SPEED CONTROL BY CENTRIFUGAL MEANS

Josef Lindner, Nurnberg, Germany, assignor to Firma Paul Weiss, Inh. Ernst Weiss, Nurnberg, Germany, a German firm

Filed Dec. 5, 1963, Ser. No. 328,236
Claims priority, application Germany, Dec. 13, 1962, W 33,513

14 Claims. (Cl. 318-325)



1. In an electric motor having a shaft, an electric motor circuit, and means for automatically controlling the speed of said motor, the improvement in which said means comprises, in combination, a pair of rotary switches included in the motor circuit and conjointly controlling the supply of current to the motor; each rotary switch including a slip ring, having a contact segment of a predetermined arcuate extent, and a pair of brushes engaged with the slip ring; said two slip rings being mounted on said shaft for rotation therewith and for angular displacement of their contact segments relative to each other; said slip rings, when the contact segments thereof are in one angular position relative to each other, conjointly maintaining the motor circuit closed during rotation of the shaft; and at least one centrifugal force responsive means mounted on and rotated by said shaft, and operatively connected to at least one of said slip rings to effect speed-responsive angular displacement of said slip rings relative to each other; said centrifugal force responsive means, when the speed of the motor at least attains a preselected rated speed,

effecting an angular displacement of said contact segments relative to each other to an extent sufficient to interrupt the motor circuit for a time, during each revolution of said shaft, sufficient to maintain the average motor current at a value to maintain said preselected rated speed.

3,340,453

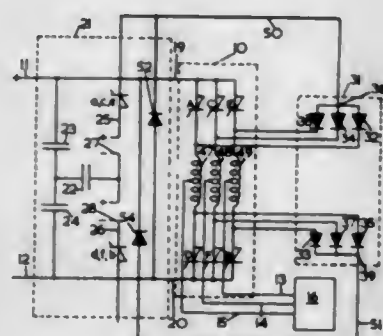
METHOD OF COMMUTATING AND APPARATUS FOR COMMUTATING AN INVERTER

David A. Bradley, Christopher D. Clarke, and Rex M. Davis, Loughborough, England, assignors to Brush Electrical Engineering Company Limited, Loughborough, England

Filed June 15, 1964, Ser. No. 375,279

Claims priority, application Great Britain, June 19, 1963, 24,300/63

6 Claims. (Cl. 321-5)



3. The combination of a commutation circuit, a bridge rectifier and a bridge inverter, including at least four switching elements of the kind that can be extinguished by applying a reverse voltage pulse across them, said switching elements arranged in two equal groups in the bridge inverter, each inverter switching element of one of said groups is paired with an inverter switching element of the other of said groups, a number of centre-tapped chokes corresponding to the number of pairs of inverter switching elements, the A.C. sides of each pair of inverter switching elements are connected through a respective choke, two D.C. supply lines of different potential, the D.C. sides of said equal groups of inverter switching elements connected respectively to said D.C. supply lines, A.C. terminals for said inverter provided by the centre-tappings of said centre-tapped chokes, a load having a lagging power factor adapted to be fed by said A.C. terminals, the bridge rectifier is divided into two equal portions, a first series of tappings are each arranged between the A.C. side of an inverter switching element of one of said groups and its associated choke, a second series of tappings are each arranged between the A.C. side of an inverter switching element of the other of said groups and its associated choke, a smoothing capacitor, a first series circuit, a second series circuit, an auxiliary voltage supply arranged in each said series circuit, a commutator switching element arranged in each said series circuit, a commutating capacitor having one plate associated with both D.C. supply lines through said smoothing capacitor and having the other plate connected by said first series circuit to said first series of tappings through one of said bridge rectifier portions and by said second series circuit to said second series of tappings through the other of said bridge rectifier portions, said commutating capacitor and said auxiliary supplies adapted conjointly to produce a reverse voltage pulse for extinguishing any of the inverter switching elements, each commutator switching element adapted to be fired to complete the corresponding series circuit for supplying a reverse voltage pulse to the group of inverter switching elements connected to that series circuit, the commutator switching elements are arranged to be fired alternately

and in synchronism with the operation of the inverter so that a reverse voltage pulse is applied alternately to each said group of inverter switching elements whereby any inverter switching element that has been turned off will be appropriately extinguished, the commutator switching elements are maintained conducting until the commutating capacitor is suitably charged ready for providing the next reverse voltage pulse, the bridge rectifier is adapted to carry the load current during the periods when it is not supplied by the inverter, and two clamping devices are arranged respectively to clamp the second series circuit to the one D.C. supply line and the first series circuit to the other D.C. supply line.

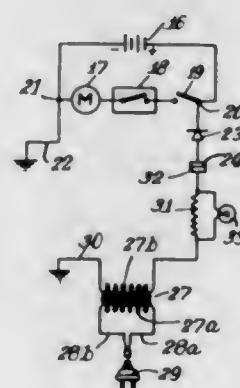
3,340,454

RECHARGEABLE BATTERY-OPERATED VACUUM CLEANER

John C. Dahl, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware

Filed Nov. 23, 1964, Ser. No. 413,027

1 Claim. (Cl. 320-22)



Structure comprising:

wheeled apparatus having a battery, a means adapted to be operated by electrical current from said battery, pair of terminals including one terminal connected to one side of said battery, means connected between the other of said terminals and the other side of said battery for unidirectionally conducting electrical current to said battery, and means for selectively connecting said device across said battery; and

a charger separately carrying said apparatus and having terminal means conductively engaging said terminals of said apparatus when said apparatus is carried thereon for delivering electrical current through said terminal means and said unidirectionally conducting means to said battery for charging the battery, said unidirectionally conducting means precluding current flow from said battery between said terminals notwithstanding a conductive connecting thereof, said charger further including a signal light means connected in series with said charger terminal means whereby said signal light means indicates a connection of the terminal means of said apparatus to the terminal means of said charger proper for charging of said battery, said signal light means including a voltage-dropping resistor and a lamp having an operating resistance substantially greater than that of said resistor, said lamp being connected in parallel with said resistor for maintaining a substantial charging current flow to said battery notwithstanding a burnout of said lamp, said signal light means including means for connecting any one of a plurality of lamps having different resistances in parallel with said resistor for selectively varying the charging current over a range of up to approximately three to one, and said terminal means including male and female connecting means.

ERRATUM

For Class 321-5 see:
Patent No. 3,340,453

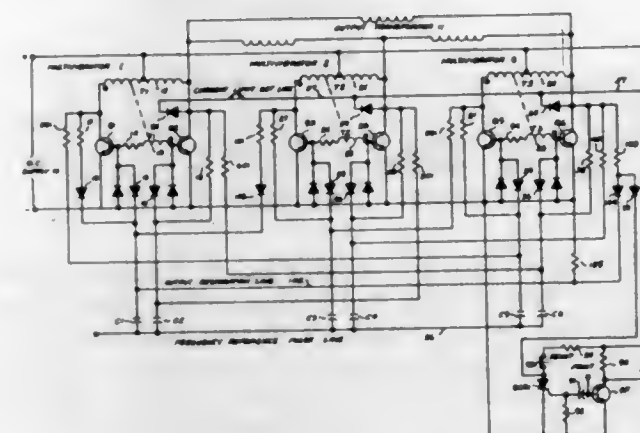
3,340,455

RING COUNTER TYPE INVERTER WITH FAULT RESPONSIVE PROTECTIVE MEANS

Loren H. Walker, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Feb. 15, 1965, Ser. No. 432,511

6 Claims. (Cl. 321-5)



1. In an inverter for changing direct current to multi-phase alternating current, said inverter comprising a plurality of switching circuits each having first and second current control devices, a control circuit comprising a plurality of input means; means respectively coupling each of said input means to one of said current control devices in each of said switching circuits and to a corresponding one of said current control devices in another switching circuit for sensing the state of said one and said corresponding one current control devices; means coupled to a given one of said current control devices in each of said switching circuits for simultaneously causing said given current control devices to have corresponding conductive states; and means for simultaneously applying switching pulses to said input means.

3,340,456

VOLTAGE CONTROLLED POWER CONVERTER CIRCUITS

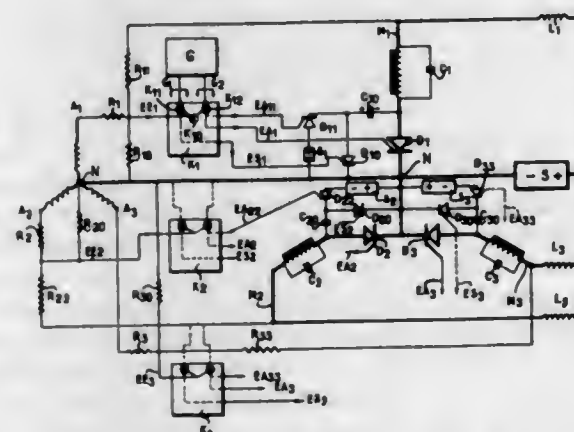
Jean Marie Lehry, Paris, France, assignor to Cybermecca Societe Anonyme, Aubervilliers, France, a corporation of France

Filed Nov. 13, 1962, Ser. No. 236,895

Claims priority, application France, Nov. 13, 1961,

878,712; Oct. 30, 1962, 913,854

18 Claims. (Cl. 321-18)



13. A servo-control device for regulating, according to a plurality of reference voltages, the power applied to a plurality of loads, each associated with a respective one

of said reference voltages, from an associated D.C. power source, said device comprising, in combination:

- a plurality of switching means, each connected in circuit with one of such loads and each responsive to signals at a first input for connecting such a load to its associated source, and responsive to signals at a second input for disconnecting such load from its associated source;
- means connected to each such load for emitting a control signal only when the magnitude of the voltage across such associated load differs from the magnitude of the reference voltage associated with such load by more than a given threshold value;
- means common to all of said switching means for generating a train of pulses at a frequency higher than the lowest basic frequency of the reference voltages; and
- means connected between said means for generating a train of pulses and each of said switching means and connected to said means for emitting a control signal so as to be actuated by such control signal for transmitting said train of pulses to the first input of the associated switching means when the control signal from its respective control signal emitting means is present, and transmitting the train of pulses to the second input when said control signal is absent.

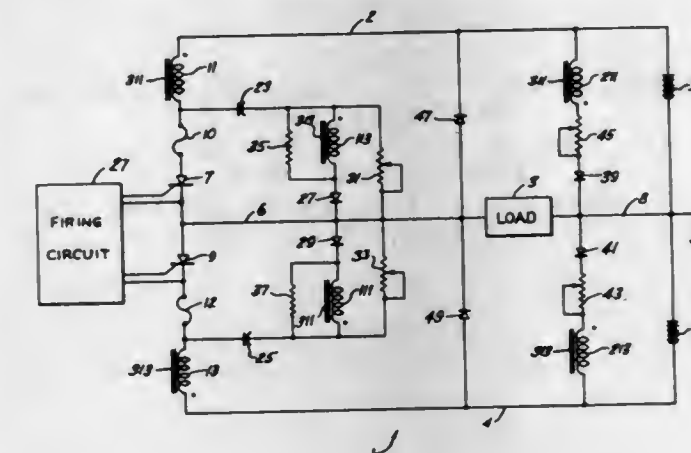
3,340,457

STATIC INVERTER CIRCUIT

Norbert L. Schmitz, Waunakee, Wis., assignor to Louis Allis Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 24, 1964, Ser. No. 413,459

5 Claims. (Cl. 321-45)



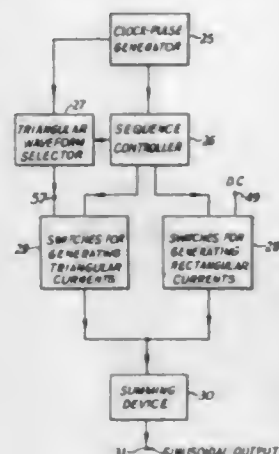
4. An inverter circuit comprising:

- a direct current power supply;
- at least first and second controlled rectifiers connected in series across said power supply;
- an alternating current load circuit connected intermediate the first and second controlled rectifiers and the power supply;
- means for alternately turning on said rectifiers; and
- means for turning off said rectifiers comprising:
 - a first transformer having a core, a primary winding, a secondary winding, and a reset winding, said primary winding connected in series with the first of said controlled rectifiers and energized by the power supply when the first controlled rectifier is turned on, said secondary winding connected to the second of the controlled rectifiers to generate a turn-off signal to said second controlled rectifier when said primary winding is energized, said reset winding connected across the power supply to reset said transformer when the primary winding ceases to

3,340,469

TRANSFER FUNCTION TESTING APPARATUS UTILIZING A SINE WAVE TRANSFER FUNCTION OBTAINED BY COMBINING RECTANGULAR AND TRIANGULAR WAVEFORMS

Reginald Catherall and Howard Anthony Dorey, both of Victoria Road, Farnborough, England
Continuation of application Ser. No. 298,988, July 31, 1963. This application July 26, 1966, Ser. No. 568,058
39 Claims. (Cl. 324-57)



1. Apparatus for generating a signal defined by particular characteristics of amplitude, wave form and frequencies, including;

- first means for generating a first plurality of signals each having a first particular shape and each having an individual duration relative to the other signals in the first plurality and each having a particular time relation to the other signals in the first plurality, the first means generating the different signals in the first plurality to provide individual ones of such signals at the same time as other signals in the first plurality for a particular overlapping in time of the different signals in the first plurality,
- second means for generating a second plurality of signals each having a second particular shape different from the first particular shape and each having a particular time relation to the other signals in the second plurality,
- the second means generating the different signals in the second plurality to provide an overlapping in time between individual ones of the signals in the second plurality and individual ones of the signals in the first plurality, and
- third means coupled to the first and second means for superimposing the signals in the second plurality on the signals in the first plurality in the particular time relationships of such signals to produce the signal defined by the particular characteristics of amplitude, wave form and frequencies.

3,340,470

FLOW-THROUGH SAMPLE APPARATUS FOR USE WITH ELECTRICAL PARTICLE STUDY DEVICE

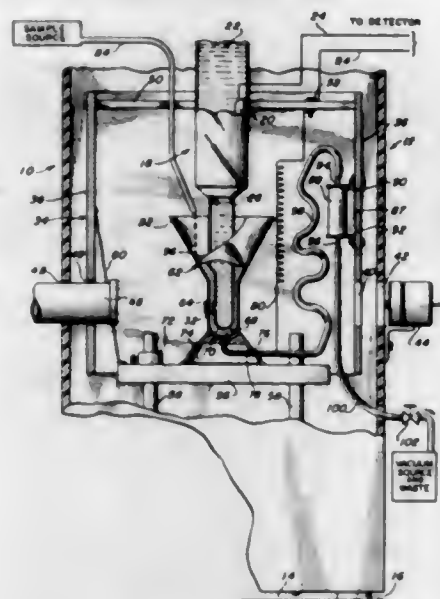
Joseph R. Coulter, Jr., Miami Springs, Fla., assignor to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois

Filed Sept. 23, 1964, Ser. No. 398,563

3 Claims. (Cl. 324-71)

1. A flow-through system for use with a Coulter type electronic particle counting device which comprises a vessel of insulating material adapted to receive the aperture tube of said device therein, means for dripping a controlled flow fluid sample suspension from a source thereof into the top of said vessel, means for controllably draining the sample suspension from the bottom of the vessel and including a source of vacuum and a drip chamber serially

arranged between the source of vacuum and said vessel to break up the flow of suspension emerging from the vessel into discrete drops, an entrant tube having a discharge end in said chamber, and baffle means disposed within the said chamber to prevent establishment of

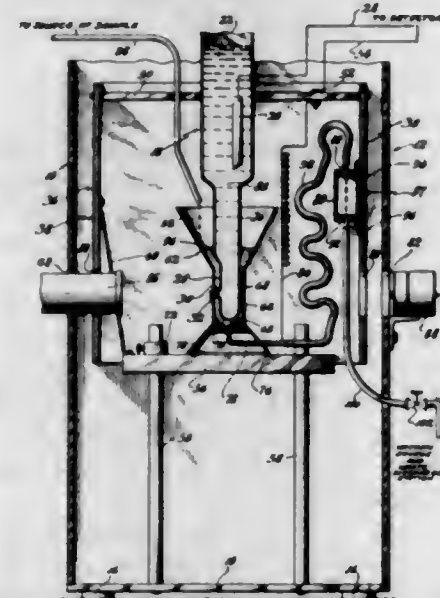


spurious electrical conductive paths in the drip chamber due to spattering of fluid from said discharge end upon the walls of the said chamber, said baffle means being interposed between the said discharge end and said chamber walls.

3,340,471

FLOW-THROUGH SAMPLE APPARATUS FOR USE WITH ELECTRICAL PARTICLE STUDY DEVICE

Joseph R. Coulter, Jr., Miami Springs, Fla., assignor to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois
Continuation of application Ser. No. 202,624, June 14, 1962. This application Aug. 22, 1966, Ser. No. 574,250
5 Claims. (Cl. 324-71)



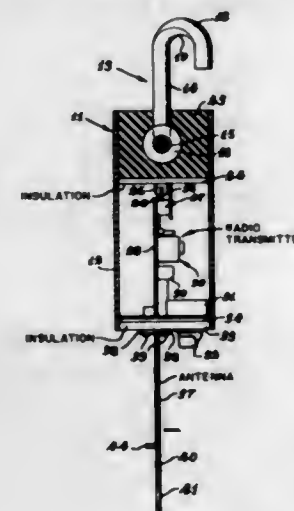
1. In a particle study device in which a suspension of particles is passed through an aperture from a first vessel to a second vessel, the aperture being provided in a wall of said second vessel, in which each vessel has a fluid body therein electrically insulated one from the other except through said aperture, in which the second vessel is at least partially immersed in the first body of fluid of the first vessel with the aperture below the level of said first body of fluid, in which the first body of fluid is a sample suspension, in which an electric current is established through said aperture and in which means are provided to detect signals generated by passage of particles

though said aperture; the invention consisting of apparatus; the invention consisting of apparatus for enabling a continuous flow of sample suspension from a source thereof through said first vessel to a discharge station which includes a vacuum source and is located remote from the first vessel while using said device and while maintaining said first body fluid electrically isolated from both the source of sample suspension and the discharge station and comprising, inlet conduit means leading a continuously flowing stream of sample suspension thereto from the source thereof to the first vessel, said inlet conduit means having a discharge end arranged in the vicinity of the first vessel to introduce the stream of sample suspension to the first vessel in the form of successively flowing discrete elements, and outlet conduit means leading fluid suspension from said first vessel to said discharge station, flow interrupting means arranged communicating with the outlet conduit means in the vicinity of the first vessel for forming successively flowing discrete elements, said flow interrupting means comprising a drip chamber having an entrance and an exit spaced one from the other and said chamber being interposed in the flow path of the fluid suspension from the first vessel to the discharge station for leading said fluid suspension into the chamber through the entrance thereto to form the plurality of successively flowing discrete elements, each of which is discharged through the exit to the discharge station at the location thereof remote from the first vessel.

3,340,472

RADIO TRANSMITTER FOR MOUNTING ON HIGH VOLTAGE CONDUCTOR BY LIVE LINE TOOL

Edmund O. Schweltzer, Jr., 1002 Dundee Road, Northbrook, Ill. 60062
Filed May 22, 1963, Ser. No. 282,450
5 Claims. (Cl. 324-127)



5. Means for measuring alternating current flow in a conductor of a high voltage power transmission line comprising:

- (a) a magnetic core assembly including a magnetic core for mounting on said conductor to have induced therein alternating magnetic flux generated by said current flow and winding means on said core into which alternating current is induced by said alternating magnetic flux,
- (b) a casing mounting said magnetic core assembly at one end,
- (c) a radio transmitter in said casing including a chassis therefor,
- (d) said magnetic core assembly and said chassis having mating plug and socket means such that when said transmitter is in said casing said winding means and said chassis are detachably connected, and

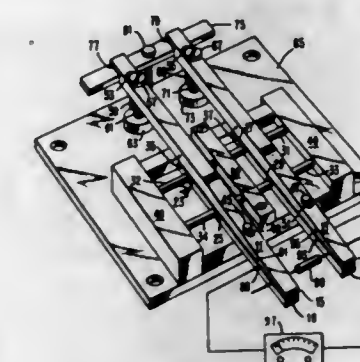
(e) live line stick attaching means secured to said chassis for mounting said transmitter in and removing it from said casing.

3,340,473

TEST FIXTURE FOR ELECTRICAL COMPONENTS HAVING INDEPENDENTLY ADJUSTABLE JAW PAIRS

Samuel H. Hertzler, Jr., Norristown, Pa., assignor to American Components, Inc., a corporation of Pennsylvania

Filed Nov. 4, 1963, Ser. No. 321,178
7 Claims. (Cl. 324-158)



1. A tool for testing electrical components comprising: at least first and second pairs of jaws, each pair of jaws having a stationary jaw and a moveable jaw, the moveable jaw of each pair mounted for partial rotation on its associated stationary jaw, one jaw of each pair providing means to be connected to an electrical metering device; means for simultaneously actuating said movable jaws; a pair of track members with each member thereof associated with one pair of jaws, locating means for disposing said track members parallel to the axis of said partial rotation, each pair of said jaws being slideably connected to its associated track members; said locating means including electrical insulation means connecting and separating said track members to enable said first and second pairs of jaws to be slideably separated from one another and slideably moved toward one another while being electrically insulated from one another at all points along said track to readily accommodate different sizes of electrical components to be measured.

3,340,474

FREQUENCY SYNTHESIZER FOR REMOTELY CONTROLLABLE TRANSMITTER

Dieter Leypold, Munich-Solln, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Aug. 27, 1963, Ser. No. 304,765

Claims priority, application Germany, Aug. 31, 1962, S 81,216

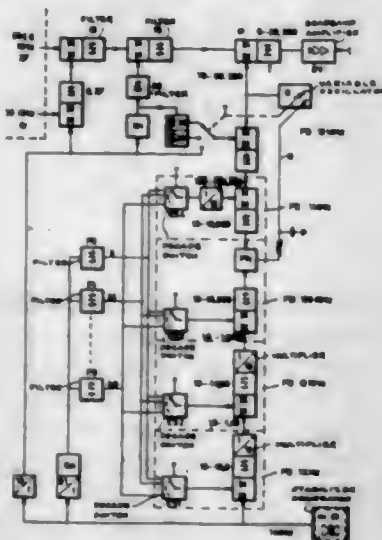
6 Claims. (Cl. 325-183)

- 1. In a remotely controllable adjustable frequency transmitter, the combination of
 - (A) a fixed frequency generator;
 - (B) a tunable oscillator having a frequency range above a transmitting frequency range;
 - (C) a mixing stage connected to said tunable oscillator and having an output from which the variable transmitting frequency is obtained;
 - (D) a plurality of permanently tuned filters;
 - (E) means connected between said generator and said filters for producing a frequency spectrum of harmonics of the output frequency of said generator;
 - (F) a plurality of frequency decades, each comprising
 - (1) a modulator stage having a plurality of inputs and an output,

- (2) a single-sideband filter connected to an output of said modulator stage, and
 (3) a decade switch connected to one of said modulator inputs for selectively supplying frequencies thereto,

certain ones of said decades being operatively connected in series as a group with said generator with the output of said permanently tuned filters being connected to said decade switches, at least one of the frequency decades of said group having in its output

- (a) a frequency divider comprising a divider oscillator whose output forms a divided frequency, whereby individual harmonics of said generator may be selectively obtained as a stabilized comparison frequency from an output of said series of said decades, and
 (b) means for rigidly controlling the frequency of said divider oscillator,



another of said decades being operatively connected to said tunable oscillator and operative to convert the output frequency thereof to a converted frequency corresponding to said comparison frequency, the maximal frequency change occurring at the modulator output of each frequency decade stage amounting to not more than 10% of the converted frequency; and

- (G) a phase comparison circuit to which are supplied said stabilized comparison frequency and said converted frequency derived from said tunable oscillator, the output of said phase comparison circuit, representing a regulating voltage, being conducted to said tunable oscillator for the rigid frequency control thereof, without gaps, over the operative range thereof representative of said transmitting range.

3,340,475

SIGNAL MIXER HAVING A COMMON INPUT AND OUTPUT PORT

Richard W. Anderson, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

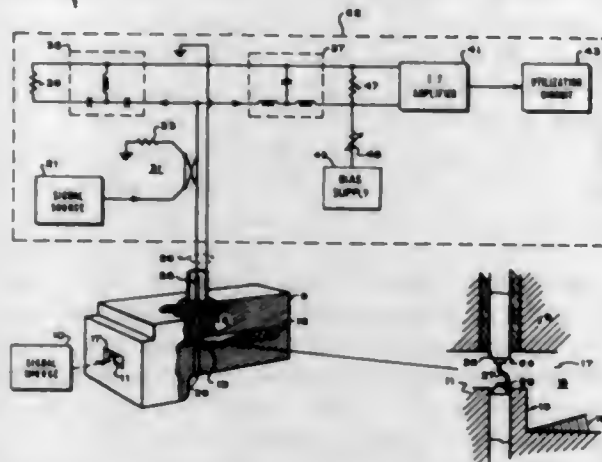
Filed May 5, 1964, Ser. No. 365,066

4 Claims. (Cl. 325-449)

1. Signalling apparatus comprising:
 a section of waveguide having a dielectric therein for conducting high frequency signal;
 a ridge within said body for concentrating the electric field within a gap between the top of the ridge and the opposite wall of the section of waveguide;
 a semiconductor diode disposed within said gap;
 a source of signal;
 a bias supply;

means including a pair of conductors connected to said diode for supplying thereto a bias signal from said supply and an alternating signal from said source;
 first and second filters;

means including the first filter connected to said conductors for absorptively terminating signal on the



conductors having a frequency higher than the frequency of a selected modulation product produced by the combination of said high frequency signal and signal from said source; and
 means including the second filter connected to said conductors for receiving a signal having a frequency related to said modulation product.

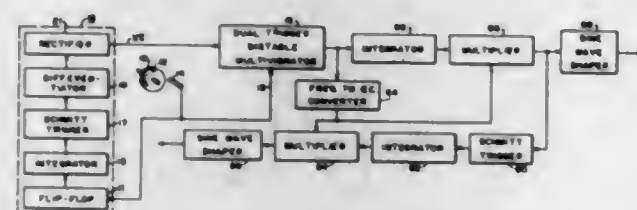
3,340,476

SINE WAVE SYNTHESIS CIRCUIT

Glen H. Thomas and Robert S. Morrow, Columbus, Ohio, assignors to International Research and Development Corporation, Worthington, Ohio, a corporation of Ohio

Filed Mar. 23, 1965, Ser. No. 442,150

6 Claims. (Cl. 328-27)



1. In apparatus for converting a pulsed input signal into a sine wave output signal, the combination of apparatus responsive to said pulsed signal for generating a square wave signal which changes voltage levels each time an input pulse is applied thereto, means for integrating the square wave signal, circuitry coupled to the output of said square wave generating apparatus for producing a signal which varies as a function of the frequency of said square wave signal, means for multiplying said last-mentioned signal with the integrated signal, and a sine wave shaper coupled to the output of said multiplying means.

3,340,477

ELECTROSTATIC DATA RECORDING

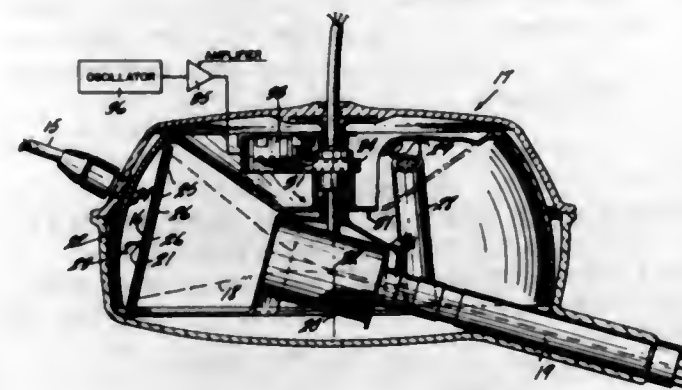
Peter C. Goldmark, Stamford, and John M. Hollywood, Greenwich, Conn., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed Dec. 19, 1961, Ser. No. 160,532

26 Claims. (Cl. 328-124)

1. Data-recording apparatus, comprising a target adapted to form and store an electrostatic image in response to bombardment by charged particles, means mounted in spaced-apart relation to said target for effecting bombardment of said target by charged particles,

whereby an electrostatic image is formed and stored on said target, and means for applying to said target in a



pattern representative of said image a coating of a substance having a secondary emission yield different from that of said target.

3,340,478

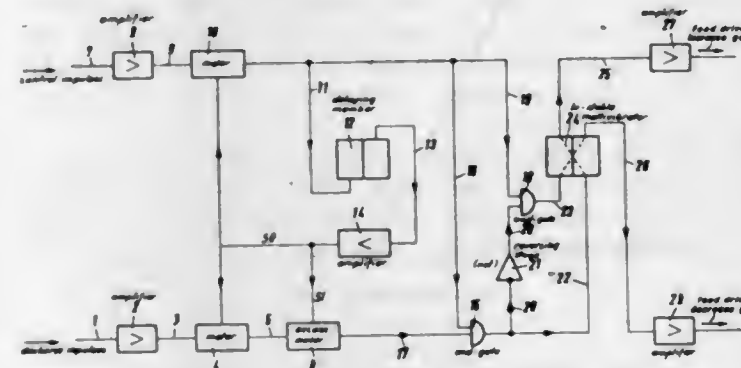
METHOD OF AND ARRANGEMENT FOR CONTROLLING THE FEED IN CONNECTION WITH ELECTROEROSIVE MACHINING

Karl Otto August Poerschke, Aachen, Germany, assignor to Betteilungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany

Filed Nov. 29, 1963, Ser. No. 326,691

Claims priority, application Germany, Nov. 30, 1962, B 69,813

4 Claims. (Cl. 328-134)



1. An apparatus for controlling the feeding of a tool electrode in connection with the electro-erosive machining of work pieces by frequency controlled impulses, which comprises: a discharge impulse emitter and a control impulse emitter, first meter means having an input side adapted to be connected to said discharge impulse emitter and also having an output side, second meter means having an input side adapted to be connected to said control impulse emitter and also having an output side, excess meter means having an input side connected to the output side of said first meter means and adapted to receive from said first meter means discharge impulses received by the latter within a certain time period in excess of a certain number, a first and-gate having an input side connected to the output side of said second meter means and to the output side of said excess meter means, a second and-gate having an input side connected to the output side of said second meter means, a reversing stage having an input side connected to the output side of said first and-gate and having an output side connected to the input side of said second and-gate, and a bi-stable multi-vibrator having an input side connected to the output sides of said first and second and-gates and having an output side adapted to be connected to a feed drive for an electrode tool.

3,340,479

LASER TUNABLE BY JUNCTION COUPLING
 Arthur Ashkin, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 14, 1963, Ser. No. 287,957

2 Claims. (Cl. 331-94.5)



1. A tunable optical maser device comprising a semiconductor member having regions of p-type conductivity and n-type conductivity materials forming first and second substantially parallel and coextensive p-n junctions, said first junction being characterized by a threshold of oscillation dependent upon the current flow therethrough and a frequency of oscillation dependent upon the current density thereon, the said second junction being characterized by a depletion layer of sufficient width to produce electromagnetic coupling with said first junction, the region between said first and second junctions being of sufficient width to permit electromagnetic coupling between the two junctions, means for producing a current flow through said first junction, and means for controlling the amount of current through said first junction necessary to produce oscillations comprising means for varying the width of the depletion layer of said second junction to vary the degree of coupling between the two junctions.

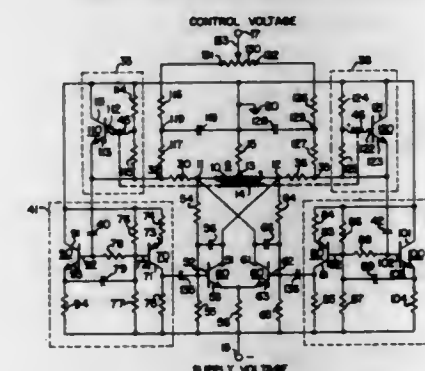
3,340,480

MAGNETIC OSCILLATOR APPARATUS HAVING MEANS FOR MINIMIZING NONLINEARITIES IN THE SQUARE WAVE OUTPUT

James H. Snyder, Minnetonka, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Mar. 4, 1965, Ser. No. 437,227

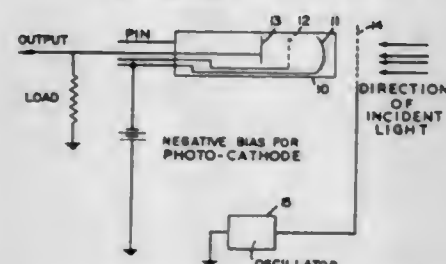
9 Claims. (Cl. 331-113)



1. A magnetic oscillator comprising:
 a pair of input terminals for connection to a source of electric potential;
 magnetic timing means including a saturable core and a winding which includes first and second portions on said core;
 bistable switching means, connected to said winding and to said pair of input terminals for alternately driving the current through said winding in first and second directions, the direction of said current depending on the state of said bistable switching means;
 sensing means connected alternately to said first and second portions of said timing means for sensing flux changes in said core and providing a feedback signal indicative of the flux changes; and

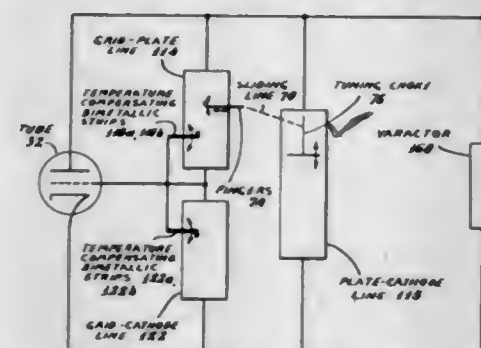
control means connected to said winding and adapted to receive said feedback signal from said sensing means for varying the voltage across the other portion of said winding from that portion which is connected to said sensing means and attaining a controlled rate of flux changes in the core.

3,340,481
APPARATUS FOR MODULATING THE OUTPUT OF PHOTOMULTIPLIER TUBES
 Derek John Kyte, 117 Valley Road, Chorleywood, England
 Filed Mar. 30, 1964, Ser. No. 355,668
 Claims priority, application Great Britain, Apr. 4, 1963, 13,523/63
 8 Claims. (Cl. 332—3)



7. In a photomultiplier apparatus for making quantitative measurements of radiant energy and comprising a photomultiplier tube having element means including a photo-cathode which emits electrons when radiant energy, traveling a predetermined path, falls upon it, the improvement comprising: a light transparent electrically-conducting screen positioned in said path adjacent said cathode; and means connected to said element means and said screen to apply a pulsating electrostatic potential to said screen to modulate the release of electrons from said cathode.

3,340,482
VARIABLE PARAMETER X-BAND OSCILLATOR WITH TEMPERATURE COMPENSATION
 Benjamin F. Gregory, Tampa, Fla., assignor to Trak Microwave Corporation, Tampa, Fla.
 Filed Dec. 18, 1963, Ser. No. 331,527
 14 Claims. (Cl. 332—30)

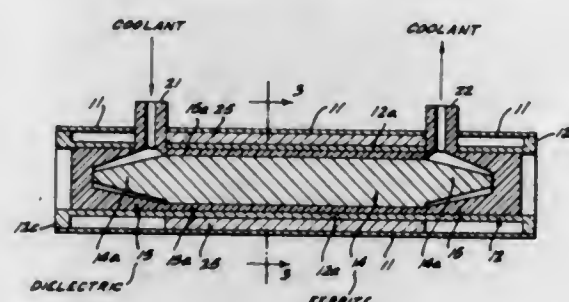


1. A microwave source comprising, in combination,
 - A. a first distributed parameter circuit,
 - B. a second distributed parameter circuit,
 - C. a vacuum tube triode coupled to said first and second distributed parameter circuits,
 - D. means for coupling feedback energy from said first distributed parameter circuit to said second distributed parameter circuit and
 - E. temperature compensating means physically located in said first and second distributed parameter circuits and operable in response to temperature variation to

- (1) vary an electrical parameter of said first distributed parameter circuit to maintain the resonant frequency thereof substantially constant with variations in temperature and to simultaneously

- (2) vary an electrical parameter of said second distributed parameter circuit so as to compensate for the electrical parameter variation in said first distributed parameter circuit thereby maintaining the character of the feedback energy substantially constant with variations in temperature.

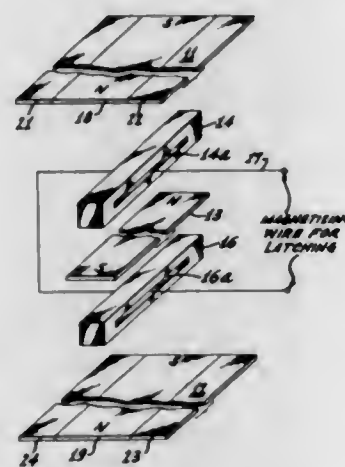
3,340,483
CONTROLLABLE FERRITE PHASE SHIFTER HAVING MEANS TO COOL THE FERRITE
 William P. Clark, Orange, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
 Filed Nov. 30, 1965, Ser. No. 510,611
 8 Claims. (Cl. 333—31)



1. In a phase shifter of the type including a waveguide section and a ferrite rod centrally located therein for providing controllable phase shifting of microwave energy propagating through said waveguide section as a function of a magnetic field applied to said rod, the improvement comprising:

dielectric encasing means disposed within said waveguide section and encasing said ferrite rod; the surface of said rod being serrated to provide a plurality of cavity-like means between said encasing means and said rod; and inlet and outlet means communicating with said encasing means, said inlet and outlet means being adapted to provide a path for a dielectric liquid coolant flow through said cavity-like means.

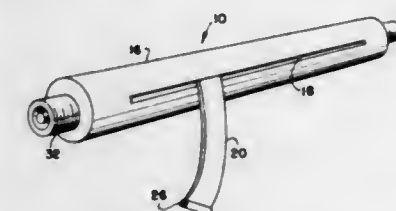
3,340,484
RECIPROCAL LATCHED FERRITE PHASE SHIFTER
 Wieslaw W. Slekanowicz, Trenton, William A. Schilling, Hightstown, and Irwin Bardash, Willingboro, N.J., assignors to Radio Corporation of America, a corporation of Delaware
 Filed Mar. 10, 1966, Ser. No. 533,299
 5 Claims. (Cl. 333—31)



1. A phase shifter comprising a transmission line,

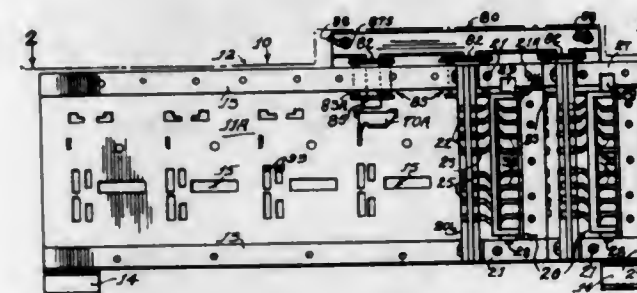
a ferrite body positioned in said transmission line and extending in parallel relation to said transmission line, means providing a closed magnetic path for magnetic flux that is caused to flow the length of said ferrite body, means comprising a magnetizing loop which, when energized by a flow of current through said loop, causes a magnetic flux flow over said magnetic path and the length of said ferrite body to magnetize said body, the direction of said magnetization being substantially parallel to the length of said transmission line, means for producing a pulse of current of a certain polarity through said loop to magnetize said ferrite body whereby said ferrite body is latched to a state of induced flux upon termination of said pulse, and means for next producing through said loop a pulse of current of the opposite polarity and of such amplitude that upon termination of said opposite polarity pulse said ferrite body has approximately zero induced flux.

3,340,485
VARIABLE SUSCEPTANCE COAXIAL TUNER
 Wilfred Norman Caron, Gardena, Calif., assignor to Dynallectron Corporation, Washington, D.C., a corporation of Delaware
 Filed Aug. 12, 1965, Ser. No. 479,171
 10 Claims. (Cl. 333—97)



1. In a transmission line, a tuner element comprising a hollow conductor having a slot in the wall thereof longitudinally of the conductor, and a ribbon inserted in said slot and coillable within the conductor upon feeding of the ribbon through the slot.

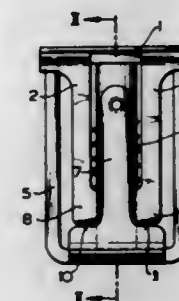
3,340,486
GANG TRIP RELAY
 Walter M. Burnside, Waukegan, Ill., assignor to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
 Filed Oct. 23, 1965, Ser. No. 503,505
 20 Claims. (Cl. 335—166)



9. A contact structure comprising opposite stationary contacts in pairs said pairs arranged in a linear series; elongated blade contacts also arranged in a linear series paralleling said first-mentioned series, and means clamping the blade contacts at one end with respective free contact ends disposed between a corresponding pair of said stationary contacts for flexing action into and out of contacting engagement therewith; and means for flexing said blade contacts in unison comprising an elongated

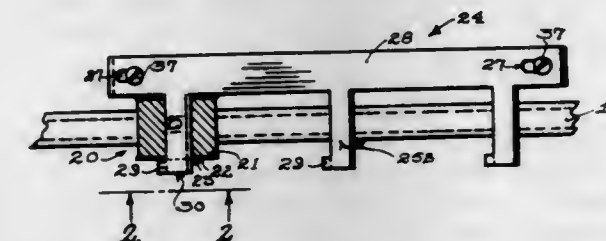
actuator mounted to rock about an axis parallel to a reference plane containing said linear series, said actuator including opposite presser fingers in sets each confronting an opposite side of one of said blade contacts for movement into engagement with the respectively corresponding sides of the appertaining blade contact to deflect the latter oppositely responsive to correspondingly opposite rocking movements of the actuator; and means for rocking the actuator oppositely as aforesaid.

3,340,487
ARMATURE STRUCTURE FOR AN ELECTROMAGNETIC DEVICE
 Wolfgang Gruner, Wehingen, Wurttemberg, and Hans Sauer, Munich, Germany, assignors to Matsushita Electric Works Ltd., Osaka, Japan
 Continuation of application Ser. No. 449,806, Apr. 21, 1965. This application Jan. 6, 1967, Ser. No. 607,856
 Claims priority, application Germany, Apr. 25, 1964, G 40,455
 17 Claims. (Cl. 335—203)



1. An electromagnetic structure comprising, in combination, a paramagnetic material yoke; a paramagnetic material core in magnetic circuit with said yoke; said yoke having leg means extending from one pole of said core in spaced parallel relation to said core and terminating in the plane of the opposite pole of said core in laterally spaced relation with said pole; and a paramagnetic material armature oscillatably supported at said leg means and forming, with said opposite pole of said core and with said leg means, first and second air gaps; said armature having an arm extending substantially parallel to said core and having a free end forming, with said leg means, an air gap augmenting the magnetic attraction effect on said armature.

3,340,488
SEPARABLE GANG RELAY COIL AND STATOR ASSEMBLY
 Walter M. Burnside, Waukegan, Ill., assignor to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
 Filed Aug. 30, 1965, Ser. No. 483,582
 12 Claims. (Cl. 335—281)

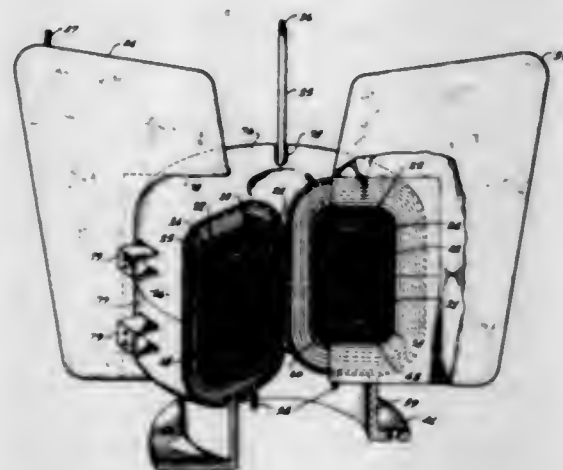


1. A gang coil structure for electromagnetic devices and comprising a magnetic frame assembly including a plurality of parallel pole legs integrally joined in spaced-apart parallelism to a common supporting portion at one end and each having an opposite salient end constituting a working pole face; a magnetizing coil removably fitting upon each said leg; and a unitary coil-locking member

shiftablely carried by said assembly and including a locking part situated near the pole face of each pole leg and blocking escape of the appertaining coil in one of the shifting positions of said locking member, and disposed in another shifting position in a non-blocking relation to the appertaining coil to permit installation upon, or removal of any coil from its corresponding pole leg; and means for releasably securing said locking member at least in said non-blocking position.

3,340,489 ELECTRICAL TRANSFORMER WITH COOLING MEANS

Thomas E. Bastis and Howard L. Bridges, Oakland, and Gillette N. Houck and William T. Moore, Lafayette, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Sept. 30, 1964, Ser. No. 400,453
15 Claims. (Cl. 336-61)



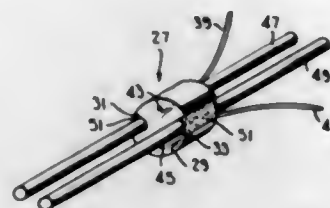
13. An electrical power transformer comprising a plurality of complementary sections assembled and mated together to form a closed magnetic core provided with a central opening therethrough for receiving the primary and secondary windings of the transformer, the opposing and mating ends of the complementary and mated sections of the core being located in planes arranged substantially tangential to the central opening of the core; pin type means for aligning and holding said core sections together; a substantially tubular and sectionalized casing substantially surrounding and enclosing the core, said casing being provided with radially disposed flange elements, a primary winding disposed about and adjacent to said casing, a second casing also provided with radially disposed flange elements and clearance slots through which the flange elements of the first casing extend and a secondary winding disposed about and adjacent to the second casing.

3,340,490 THERMISTOR

Robert E. Obenhaus, South Easton, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,983
7 Claims. (Cl. 338-22)

1. A thermistor for sensing the temperature of an electrical winding, said thermistor comprising:
a body of a solid state material having an electrical resistance which varies with temperature, said body having a pair of parallel elongate channels therein which extend along substantially opposite sides of said body thereby defining a restricted zone therebetween, which zone is in close heat-exchange relationship with the surfaces of both of said channels, each of said channels being adapted to receive a respective one of a pair of adjacent conductors in said winding; and

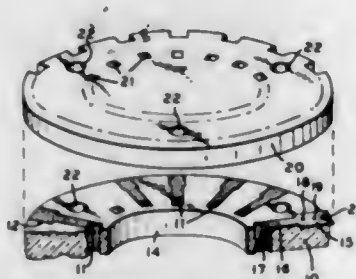
a pair of conductive leads in electrical contact with said body at respective points which are spaced from said channels and are on opposite sides of said restricted zone thereby providing a resistive path



through said zone connecting said leads, whereby heating of said winding produces a corresponding change in the resistance between said leads without an appreciable time lag.

3,340,491 ELECTRICAL SOCKET CONNECTORS AND OTHER ELECTRICAL CONTACT DEVICES

Stanley Thomas Deakin, Walton-on-Thames, Surrey, England, assignor to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York
Filed Apr. 17, 1964, Ser. No. 360,703
Claims priority, application Great Britain, Apr. 18, 1963, 15,400/63
5 Claims. (Cl. 339-17)



1. An electrical socket connector, plug, switch or other electrical contact device comprising a body of insulating material carrying at least one electric contact provided by a metallic coating on the body and a separately constructed resilient contact secured to a metallic coating on the body of insulating material, said first named metallic coating and said resilient contact being arranged to make electrical connection with opposite sides of a co-operating contact inserted between them.

3,340,492
ELECTRICAL CONTACT
Everett F. Kelm, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 21, 1965, Ser. No. 449,699
1 Claim. (Cl. 339-61)

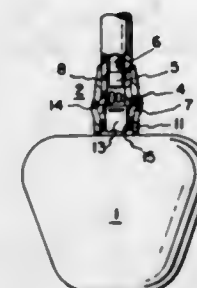


An electrical contact comprising, a flat bottom channel of deformable electroconductive foil, a piece of compressible resilient material disposed within the channel of said foil, a rigid bus bar disposed over said material and having electrical connections with said foil, and

compressible spring means mounted on said bus bar to apply pressure to the exposed bottom surface of said foil when such surface is placed in contact with a rigid electroconductive surface and such spring means is compressed.

3,340,493 BODY IMPLANTABLE ELECTRICAL CONNECTOR

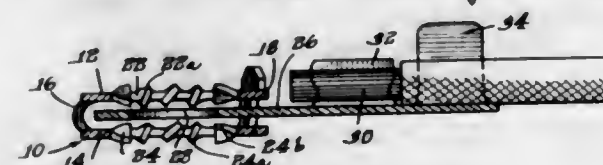
David C. Fisher and Hugh MacDonald Forman, Brookfield, Wis., assignors to General Electric Company, a corporation of New York
Filed July 20, 1965, Ser. No. 473,451
1 Claim. (Cl. 339-61)



A self-sealing electrical connector assembly for joining a conductive lead with an electric power source that is implantable in a living body comprising:

- a first electrical connector including a metal tubular component that has one end permanently sealed in the power source and an end remote therefrom flared to form a radially projecting lip,
- an elastic silicone rubber ring sealed around the tubular component away from the lip,
- a conductive lead and a second electrical connector attached thereto for being inserted in the first connector to complete an electric circuit,
- an elastic silicone rubber sheath substantially coaxial with said lead and extending axially along the second connector,
- an elastic silicone rubber sleeve adhered at one end to said sheath and surrounding said second connector substantially coextensive with the sheath,
- whereby when said connectors are joined together the inside of said sheath develops radial pressure seal joints with the lip and periphery of the tubular component of the first connector and said sleeve develops a radial pressure seal joint with said ring.

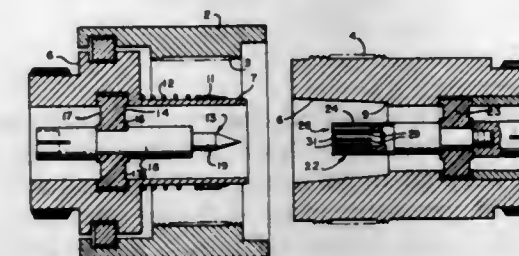
3,340,494
ELECTRICAL CONNECTOR DEVICE
Charles E. Gutshall, Chicago, Ill., assignor to Illinois Tool Works, Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 13, 1965, Ser. No. 486,746
10 Claims. (Cl. 339-95)



1. An electrical connector device including annular sheet metal body portions having aligned openings for accommodating a terminal screw member, said body portions being laterally spaced sufficiently to receive a conventional flat type electrical terminal therebetween, integral connecting means for maintaining said body portions in spaced relation, securing means spaced from said

connecting means along the outer periphery of the body portions for securing the body portions against unauthorized lateral separation, and work and terminal impinging teeth on each of said body portions.

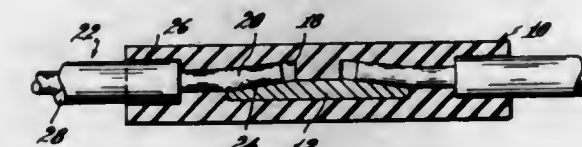
3,340,495
ULTRA-HIGH FREQUENCY CONNECTOR
Bruno O. Weinschel, Bethesda, Md., Helmut Bacher, Arlington, Va., and Edwin S. Elste, Rockville, Md., assignors to Weinschel Engineering Co., Inc., Galthersburg, Md., a corporation of Delaware
Filed Aug. 24, 1965, Ser. No. 482,190
4 Claims. (Cl. 339-177)



3. An ultra-high frequency coaxial connector comprising a male connector unit and a female connector unit, each having an outer conductive shell and an inner center conductor supported within the outer shell by an insulated bead,

- one of said center conductors being a cylindrical male element of uniform main diameter having a cylindrical forward portion of reduced diameter, with an annular radial shoulder at the junction of the two diameters, said forward portion terminating in a tapered point, the other center conductor being a cylindrical conductor terminating in a tubular female member having the same uniform external diameter as the main diameter male element of section (a), and having an internal diameter sufficiently larger than the reduced diameter portion of said male element to freely receive it with a radial gap between the two,
- a plurality of spring fingers circumferentially arranged within said radial gap, said fingers being located and biased so as to conductively extend across said radial gap at the open end of said tubular female member.

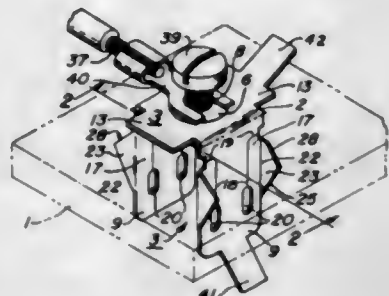
3,340,496
ELECTRICAL CONNECTOR ELEMENT
Chester R. Kennedy, 47 Highland St., Brockton, Mass. 02401
Filed Apr. 13, 1965, Ser. No. 447,802
9 Claims. (Cl. 339-204)



9. A connector for connecting two electric conductors comprising a non-conductive block containing therein one of the conductors, a passage in the block in communication with said one conductor, said passage extending from an edge of the block across said one conductor and the portion of the passage crossing said one conductor being bent relative to the portion outwardly thereof, said other conductor being a wire having a bared portion, and said relatively bent portions of the passage bending the bared portion of the wire so that the portion of the wire has frictional contact with said one conductor and resists withdrawal of the wire from the connector.

3,340,497

ELECTRIC WIRE-TERMINAL SPRING CLIPS
John Balint, Langhorne Manor, Pa., assignor to George K. Garrett Company, a division of MSL Industries, Inc., Philadelphia, Pa., a corporation of Minnesota
Filed Feb. 23, 1967, Ser. No. 617,902
12 Claims. (Cl. 339-217)

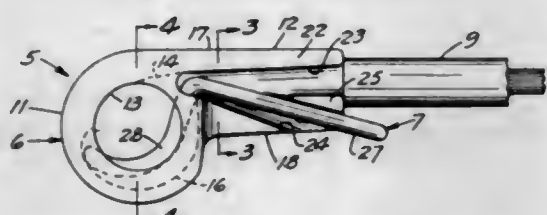


1. In a generally U-shaped electric wire-connector terminal-clip formed of a single piece of relatively thin spring sheet-metal, adapted to be operatively secured to a relatively thin and generally form-retaining insulating panel by having its two legs inserted into a mounting-hole in such panel, such clip having a central body portion constituting the base of the U and having two generally parallel juxtaposed hole-entering legs bent downwardly from said central body portion along generally parallel spaced-apart boundaries thereof generally coincident with said fold-lines and constituting the two legs of the U and having opposite external retainer-tabs extending laterally from opposite edges of said central body portion which are intermediate the aforementioned fold-line edges of said central body portion, the improvement which includes a generally flat spring-arm carried by each of said legs along a longitudinal edge thereof and generally co-planar therewith in their un sprung condition, with said spring-arms being resiliently connected with said legs at the ends of the spring-arms farthest from said central body portion, and a locking-ear formed integrally with each of said spring-arms along the outer longitudinal edge thereof and disposed in a plane transverse to the plane of its spring-arm, each of said locking-ears having a lower camming edge inclined with respect to the spring-arm and each of said locking-ears having an upper panel-engaging edge facing generally in the direction of the aforementioned central body portion of the clip.

3,340,498

CONNECTOR

Arthur G. Meyer, Maplewood, Minn.
(1889 E. County Road C, St. Paul, Minn. 55109)
Filed July 19, 1965, Ser. No. 473,142
4 Claims. (Cl. 339-238)



1. A connector adapted for use with a conductor to afford easy attachment and removal thereof to a generally cylindrical member, said connector comprising a body member having an annular end portion having a center opening defined by a circular wall adapted to receive a said cylindrical member and an outwardly extending arm portion joined integrally to the wall of said annular end portion, said circular wall having an aperture formed therein and said arm portion having a face at least a portion of which communicates with the center opening of said annular end portion through said aperture in the circular wall of said annular end portion and detent means

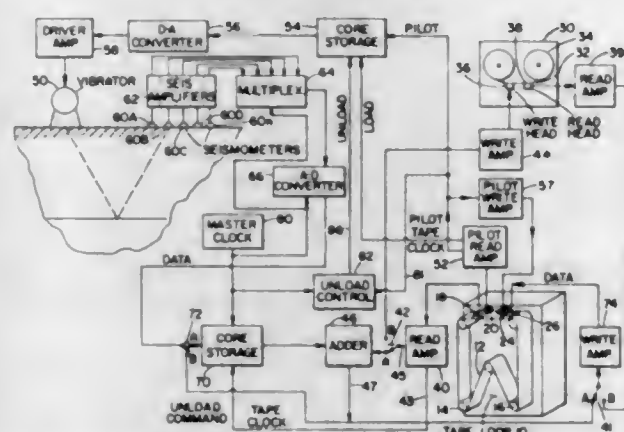
formed on said face, and lever means including an arm portion extending along said face into said center opening and an arcuate end portion disposed within said center opening, said lever means being fulcrumed on said circular wall in said aperture to a position where the arm portion is engaged by said detent means to resiliently urge and hold said arcuate end portion against a said cylindrical member in said center opening to retain the same on said cylindrical member.

3,340,499

DIGITAL SEISMIC RECORDING

Charles F. Hadley, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Feb. 7, 1966, Ser. No. 525,656
10 Claims. (Cl. 340-15.5)



1. A method of field recording seismic signals which comprises
 - (a) reproducing a control signal;
 - (b) controlling a seismic generator with said control signal to impress a seismic wave into the earth;
 - (c) detecting reflections from the seismic wave imparted into the earth by said seismic generator;
 - (d) converting the detected reflections to digital data;
 - (e) reproducibly recording said digital data;
 - (f) repeating steps (a), (b), (c) and (d) at a subsequent time to obtain subsequent digital data;
 - (g) reproducing the previously recorded digital data during step (f);
 - (h) adding the subsequent digital data as it is obtained to the reproduced digital data as it is reproduced in step (g) to obtain a summed signal;
 - (i) and recording the summed signal.

3,340,500

SYSTEM WITH ELECTRICAL UTILIZATION DEVICE HAVING MAIN ENERGIZATION CONDUCTORS OVER WHICH INFORMATION SIGNALS ARE ALSO TRANSFERRED

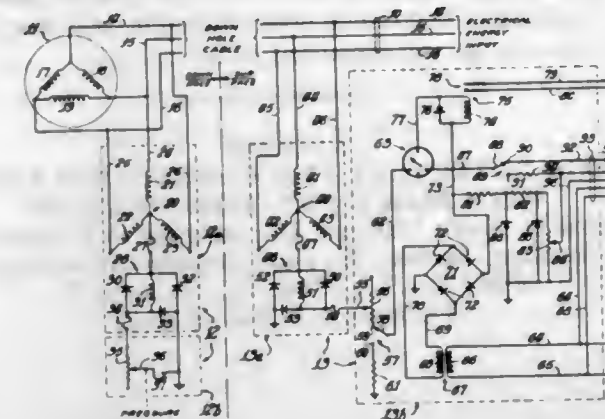
Clinton A. Boyd, Tulsa, Okla., and Harry J. Venema, Wheaton, and Donald H. Ward, Glen Ellyn, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 8, 1964, Ser. No. 402,391
6 Claims. (Cl. 340-18)

1. For use with a system in which electrical energy is passed from a surface location to a down hole location over a cable including a plurality of conductors to energize equipment at the down hole location, the combination comprising:

a down hole assembly positioned at the down hole location, including a first impedance sub-assembly comprising a first balanced inductor network coupled to the conductors, and a sensing sub-assembly including a transducer coupled between a reference point in the first inductor network and a plane of reference potential; and

a surface assembly positioned at the surface location, including a second impedance sub-assembly comprising a second balanced inductor network coupled to the conductors, the inductors in the second network being disposed and connected in a configuration identical to that of the inductors in the first network, and an indicating sub-assembly coupled between the plane of



reference potential and a reference point in the second inductor network, the second reference point being located in the same relative position as the reference point of the first inductor network, to insure that variations in the condition sensed by the transducer are translated as electrical signal variations to the indicating sub-assembly at the surface location.

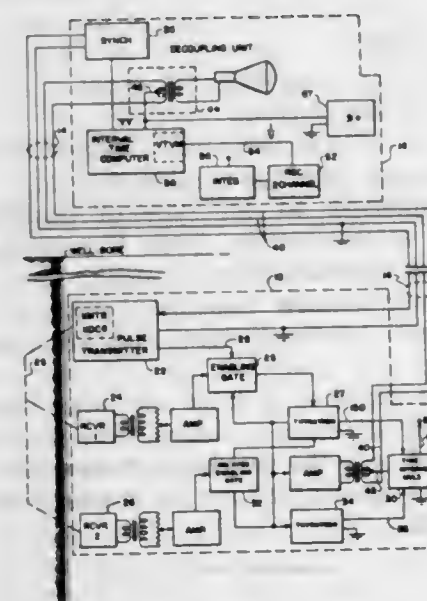
3,340,501

ACOUSTIC WELL LOGGING WITH TIME INTERVAL MULTIPLICATION

Heinz W. Georgi, San Diego, Calif., and Adrian P. Brokaw, Woburn, Mass., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Application Mar. 12, 1965, Ser. No. 442,570, now Patent No. 3,337,746, dated Aug. 22, 1967, which is a continuation of application Ser. No. 35,968, June 14, 1960. Divided and this application May 20, 1966, Ser. No. 551,743

9 Claims. (Cl. 340-18)

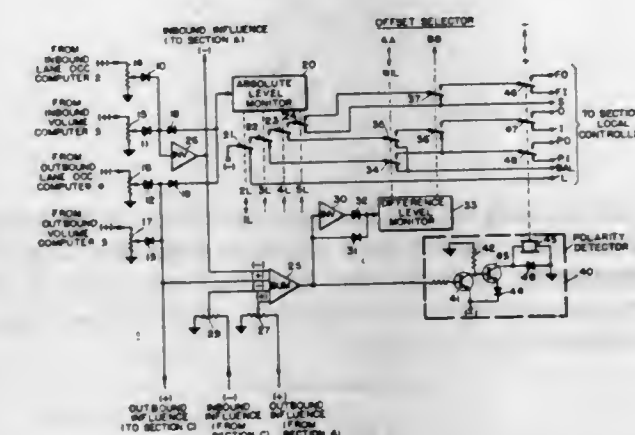


9. An acoustic well logging system comprising means for producing in a subsurface instrument a first pair of electrical pulses separated in time by the transit time of sound through a respective portion of the formations surrounding a well bore, means for deriving from said first pair of pulses a second pair of electrical pulses spaced by a time interval different from and proportionally related to the time interval between said first pair of

3,340,502

OFFSET SELECTOR

Jerry P. Huffman, Rochester, and John H. Auer, Jr., Fairport, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed June 15, 1964, Ser. No. 374,945
7 Claims. (Cl. 340-35)



1. Traffic signal offset selector apparatus for supplying predetermined offset controls to a plurality of traffic signal controllers in a predetermined section of highway in response to traffic congestion conditions comprising first means responsive to traffic moving in said predetermined section in an inbound direction and generating a first signal representative of inbound traffic congestion in said section, second means responsive to traffic moving in said predetermined section in an outbound direction and generating a second signal representative of outbound traffic congestion in said section, third means coupled to said first and second means for providing a third signal representative of the magnitude of the greater of said first and second signals, subtracting means coupled to said first and second means and providing a fourth signal representative of the difference in amplitudes of said first and second signals, and control means responsive to said third and fourth signals for selecting a predetermined offset for said plurality of traffic signal controllers.

3,340,503

VEHICLE EMERGENCY WARNING SYSTEM

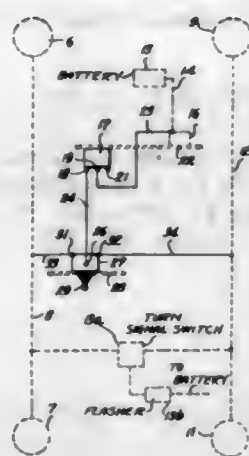
Janet J. Johnston and Henry H. Johnston, both of Rte. 1, Box 201, Winters, Calif. 95694
Filed Sept. 21, 1966, Ser. No. 580,949

2 Claims. (Cl. 340-31)

1. A vehicle emergency warning system adapted to be installed on vehicles having a storage battery, having a first pair of turn indicator lights on one side of the vehicle permanently connected by a first conductor, having a second pair of turn indicator lights on the other side of the vehicle permanently connected by a second conductor, and means for operating said turn signals for directional purposes, said emergency warning system comprising in addition to the existing equipment on the vehicle:

- (a) a circuit interrupter effective to interrupt a circuit periodically;
- (b) a conductor for connecting said circuit interrupter to said storage battery;
- (c) a manual switch;
- (d) a conductor for connecting said circuit interrupter to said manual switch;

(e) conductor means for connecting said manual switch to said first and second conductors, said manual switch being operable to connect said interrupter to said conductor means, whereby when

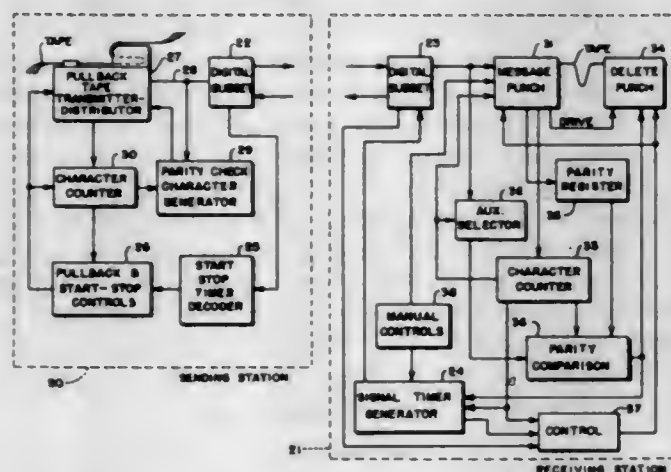


said warning system has been installed on the vehicle the circuit interrupter is effective simultaneously and repeatedly to flash said first pair and said second pair of turn indicator lights for as long as said manual switch is in on position.

3,340,504 ERROR DETECTION AND CORRECTION SYSTEM WITH BLOCK SYNCHRONIZATION

Joseph A. Bellino, Arlington Heights, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Jan. 27, 1964, Ser. No. 342,590
6 Claims. (Cl. 340—146.1)



1. In a communication system wherein information is transmitted in the form of a plurality of characters, a predetermined number of which constitute a message block;

a sending station for transmitting blocks of information and including means for storing at least one block of information following its transmission by the sending station;

means operated in response to the transmission of a predetermined number of characters for causing the removal of a predetermined amount of information from the storing means at the sending station;

a receiving station including means for recording information transmitted by the sending station;

means for interconnecting the sending station with the receiving station over a transmission line;

means for interrupting transmission at the sending station in response to line disconnects;

means for interrupting the operation of the recording means at the receiving station in response to line disconnects;

means responsive to re-establishment of line connections following line disconnects for causing the sending station to retransmit the portion of the interrupted block stored in the storing means followed by transmission of the remainder of the interrupted block; and

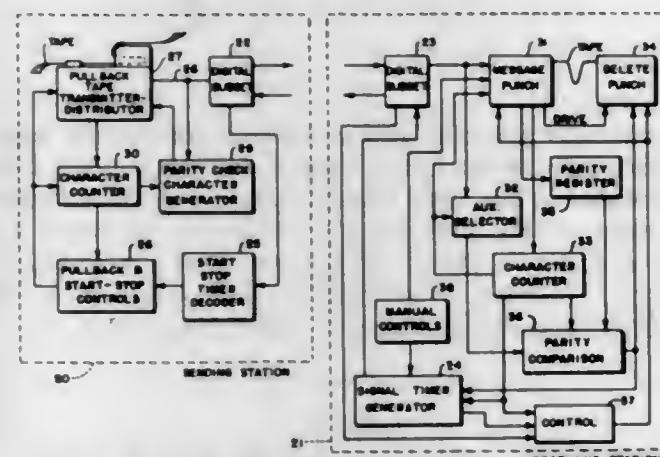
means responsive to re-establishment of line connections following line disconnect for deleting the interrupted block at the receiver while the recording means records the retransmitted block.

3,340,505 ERROR DETECTION AND CORRECTION SYSTEM WITH BLOCK SYNCHRONIZATION

Richard D. Scott, Chicago, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Jan. 27, 1964, Ser. No. 342,591

8 Claims. (Cl. 340—146.1)



1. In a communications system wherein information is transmitted in the form of a plurality of data bits permutatively combined to form characters, a predetermined number of which constitute a message block,

a sending station for transmitting blocks of information and including means for storing at least one block of information following its transmission by the sending station;

means responsive to the transmission of a predetermined number of characters for causing the removal of a predetermined amount of information from the storing means;

means for supplying different types of control signals to the sending station;

means responsive to the control signals for interrupting transmission from the sending station;

means responsive to one type of control signal for causing retransmission from the storing means of the block transmitted prior to the interrupted block and the previously transmitted portion of the block interrupted by the transmission interrupting means, and

means responsive to at least one other type of control signal for causing retransmission from the storing means of only the previously transmitted portion of the block interrupted by the transmission interrupting means.

3,340,506 DATA-PROCESSING SYSTEM

Jean-Jacques G. Mayer, Paris, France, assignor to Société Nouvelle d'Electronique et de la Radio-Industrie, Paris, France, a corporation of France

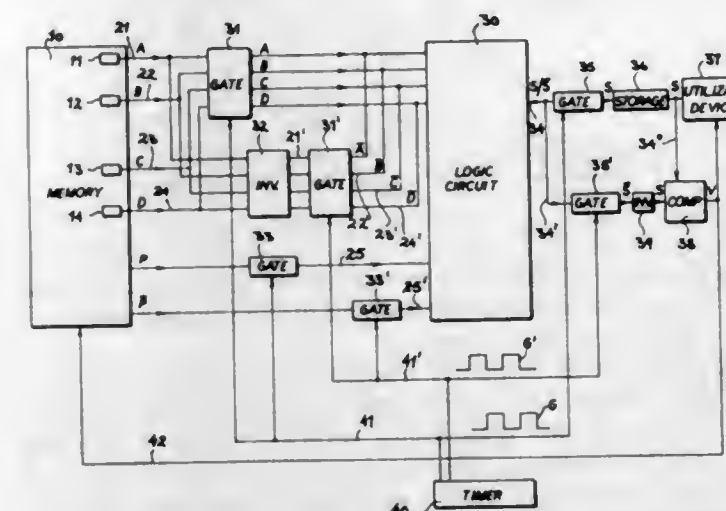
Filed Mar. 10, 1964, Ser. No. 350,711

Claims priority, application France, Mar. 20, 1963, 928,616

11 Claims. (Cl. 340—146.1)

1. In a data-processing system provided with a memory for the storage of a set of input data including at least

two binary information signals A, B and a logic circuit for the conversion of a combination of said signals into a single binary digit $S=f(A,B)$ the combination thereof with a test circuit for determining the correct performance of said logic circuit, said test circuit comprising: a plurality of input leads extending from said memory to said logic circuit for supplying said data thereto; data-modifying means connected to said input leads for altering the operation of said logic circuit to generate a function $\bar{f}(A, B)$ representing the Boolean inversion of $f(A, B)$ whereby said binary digit S is converted into its complement \bar{S} ;



timer means coupled with said data-modifying means for effecting consecutive application of said data from said memory to said logic circuit in the unoperated and the operated state of said data-modifying means whereby a given set of data give rise to an original binary digit S and its complement \bar{S} in immediate succession;

and discriminator means in the input of said logic circuit operable under the control of said timer means for comparing two consecutive output signals from said logic circuit and producing a verification signal upon said consecutive signals being mutually complementary.

3,340,507 ERROR DETECTION AND CORRECTION CIRCUIT

Günter Hotz, Saarbrücken, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Nov. 30, 1964, Ser. No. 414,799

Claims priority, application Germany, Nov. 28, 1963, T 25,151

7 Claims. (Cl. 340—146.1)

1. An error-correcting data transmission system including a transmitting side, a receiving side and a data transmission channel connecting them, and comprising, in combination:

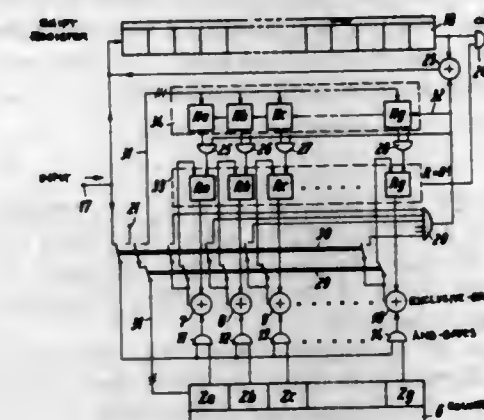
(a) a coding unit for the transmission side for forming an n -place check vector for one data group at a time;

(b) a decoding unit for the receiving side similar to the coding unit at the transmission side for forming an n -place correction vector from the transmitted binary sequence of data group and check vector, said correction vector being zero for an error-free transmission and for using the correction vector to detect and, if necessary, correct a transmission error;

(c) said units each including

- (1) an n -digit counter which has different n -dimensional binary vectors having a value other than zero available in synchronism with the data transmission,
- (2) an n -digit register, and

(3) n Exclusive-Or gates connected to transmit the vectors from the counter in parallel to the register when the binary value ONE is present on the data channel, the outputs of said register being connected as inputs to said Exclusive-Or gates such that the sum modulo 2 is formed in the register;



(d) means for supplying the contents of the coding unit register as a check vector to the transmission channel after passage of a data group; and

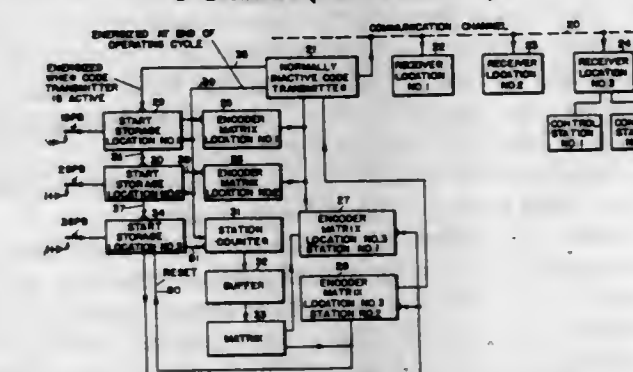
(e) a comparison device upon which the register and the counter of the decoding unit jointly act and connected to have its output pulse reverse the binary value of a bit in the data group including the check vector, which bit is associated with the particular counter state present, in the event of identity between the register contents and the counter state.

3,340,508 NORMALLY INACTIVE SUPERVISORY CONTROL SYSTEM WITH DESIGNATED ORDER OF STATION SELECTION

Walter George Pettitt, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Nov. 26, 1963, Ser. No. 326,143

8 Claims. (Cl. 340—147)



1. In a normally inactive code communication system for transmitting selected codes during respective cycles of operation of the system from a transmitting station to a plurality of field locations over a communication channel,

(a) start designating means at the transmitting station for each location for designating a start for the transmission of codes to the associated location,

(b) start storage and control means at the transmitting station for each location controlled in response to the designation of a start for that location by said start designating means for initiating the transmission of a selected code to the associated location over the communication channel,

(c) said storage and control means having a start storage for storing a start that has been designated by said start designating means,

(d) said storage and control means having an encoder control switch for controlling transmission of codes to the associated field location,

- (e) said storage and control means having a reset switch controlled by said start storage for controlling said encoder control switch and for resetting said start storage, and
- (f) means for selectively applying inhibit energization from said storage and control means for one location to said storage and control means for another location when a start is stored by said start storage of said one location for inhibiting the operation of said encoder control switch of said start storage and control means for said another location.

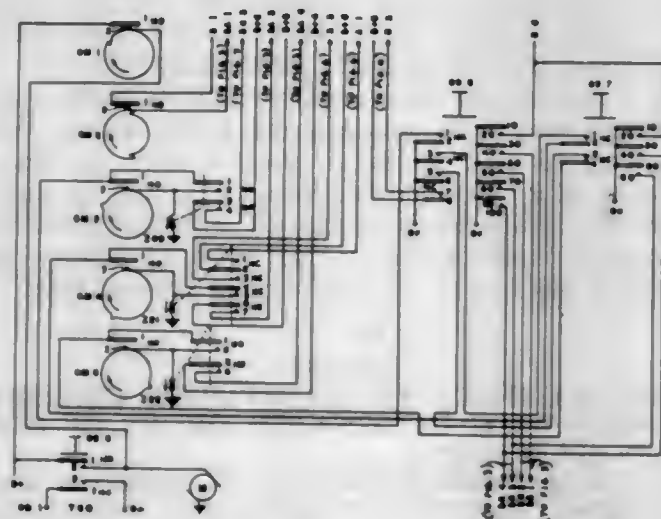
3,340,509

INVENTORY INTERROGATING CONTROL AND READ-OUT SYSTEM AND APPARATUS

Stephen R. Krause, Baltimore, Md., assignor, by mesne assignments, to K & M Electronics Company, a corporation of Maryland

Continuation of application Ser. No. 186,227, Apr. 9, 1962. This application Nov. 4, 1965, Ser. No. 516,815

10 Claims. (Cl. 340-149)



1. For use with a plurality of coded areas of storage means containing then physically present plural items, the number of items with predetermined characteristics of which are desired to be ascertained from a point remote from the storage means, an article interrogating control and read-out system comprising

- (a) interrogating means in selective electrical circuit with each area of the storage means,
- (b) selecting means in electrical circuit with said interrogating means for initially predetermining which one of said plurality of storage means areas is to be interrogated by selecting a predetermined code from a plurality of codes identifying areas of the storage means,
- (c) means for developing a signal representative of physically present items, and
- (d) read-out means selectively in circuit with an area of said storage means which is selected by said selecting and interrogating means to read out the signals indicative of them physically present items.

3,340,510

PULSE CODE RESPONSIVE SIGNAL DETECTOR AND GATE CIRCUIT

John M. Tiffany, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 18, 1963, Ser. No. 295,953

5 Claims. (Cl. 340-167)

1. A system for discriminating predetermined coded signals made up of spaced pulses from noise signals and indicating the receipt of the coded signals, comprising:

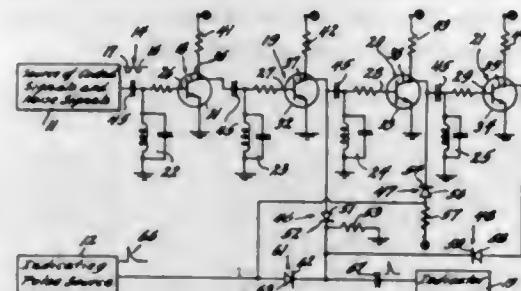
means for generating an indicating pulse,

means coupled to the generating means for indicating the receipt of the indicating pulse,

a plurality of biasing diodes,

a gate diode, coupled between the generating means and the indicating means and connected to and normally biased in the non-conducting direction by the biasing diodes, for precluding the passage of the indicating pulse to the indicating means,

a source of coded signals and noise signals,



- a plurality of resonant networks for diverting the noise signals to ground and for passing the spaced pulses of the coded signals, and
- a plurality of cascaded transistors, coupled to the signal source and serially intercoupled by the resonant networks, for developing voltages at the outputs of the transistors to bias the biasing diodes to overcome the normal bias on the gate diode and permit the passage of an indicating pulse for each coded signal.

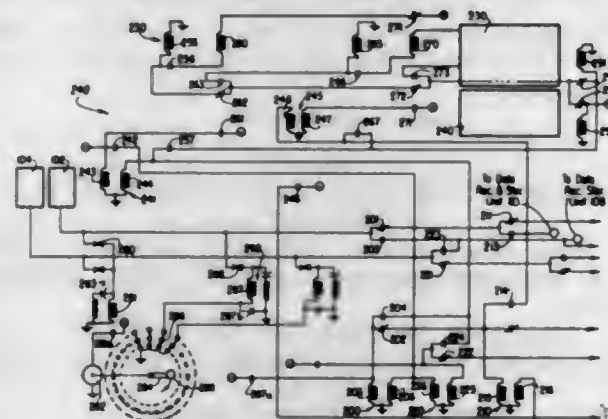
3,340,511

ALLOTING SYSTEM USING PLURAL WINDING MAGNETIC FLUX LOGIC

Wyman L. Deeg, Glenview, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware

Filed July 3, 1963, Ser. No. 292,644

10 Claims. (Cl. 340-172.5)



4. A data handling system comprising a plurality of signal receiving means, a signal source, a plurality of connecting means for connecting the signal source to an idle one of the plurality of signal receiving means, each of the connecting means including relay means having a pair of windings, allotting means for rendering different ones of the connecting means effective to connect the signal source to an idle one of the signal receiving means, said allotting means including magnetic switch means individual to each of the connecting means and each including first and second windings, said first winding being energized in sequence to operate the magnetic switch means in sequence, means controlled by the magnetic switch means for energizing one winding of the relay means in the selected connecting means, means for energizing the other winding of the relay means when the signal source is to be connected to the signal receiving means by the operation of the selected connecting means, and means controlled by the operation of the connecting means for

energizing the second winding of the related magnetic switch means to prevent this magnetic switch means from energizing the said one winding of the relay means in the operated connecting means.

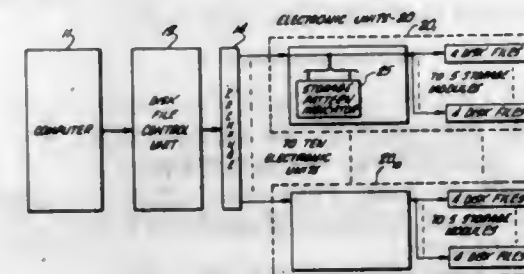
3,340,512

STORAGE-PATTERN INDICATING AND DECODING SYSTEM

Erwin A. Hauck, Arcadia, and James E. Wollum, Duarte, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 20, 1964, Ser. No. 383,586

9 Claims. (Cl. 340-172.5)



2. In a disk file system comprising a control unit, means in said control unit for storing a single address which identifies different physical locations in a plurality of memory files which have different information patterns, address decoding means controllable for decoding the address signal in a different manner for each information-pattern in said memory files, means for delivering a memory file interrogating signal from said control unit to one of said plurality of memory files, individual means at each one of said memory files responsive to receipt of said interrogating signal thereat for returning to said control unit a signal indicating the information pattern stored at the memory file which was interrogated, and means at said control unit connected between said address storing means and said address decoding means and responsive to said information pattern indicating signal for controlling the address decoding operation in said decoding means in accordance with the information pattern in the memory file which returned the information pattern indicating signal to the control unit.

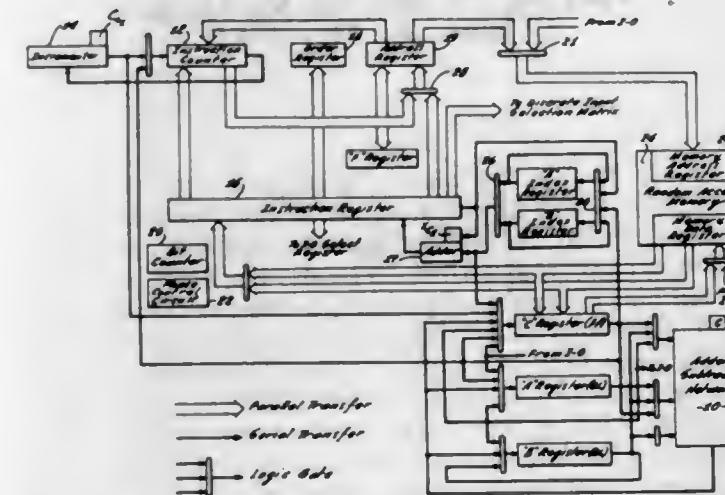
3,340,513

INSTRUCTION AND OPERAND PROCESSING

James E. Kinzie, John W. Pross, Jr., and Robert B. Steves, Vista, and Arville T. Trostrud, Encinitas, Calif., assignors to General Precision, Inc., a corporation of Delaware

Filed Aug. 28, 1964, Ser. No. 392,681

6 Claims. (Cl. 340-172.5)



1. A digital computer including: a memory for storing binary signals representative of a plurality of operand words and of a plurality of double-instruction words, each

instruction in each of said double-instruction words having an address portion indicating the address in memory of respective ones of the operand words, and each instruction having an order portion indicating the operation to be performed on each such operand word; a memory data register included in said memory for holding the operand words and the double-instruction words selected from said memory; an address register; circuitry coupled to said address register and to said memory for controlling the selection of the operand words and of the double-instruction words from said memory and the introduction thereof to said memory data register in accordance with the address in said address register; instruction counter means coupled to said address register for inserting in said address register the address of the next double-instruction word to be executed after each such double-instruction word has been executed; an instruction register for holding the individual instructions of each double-instruction word in said memory data register; an order register for holding the order portion of each of the aforesaid instructions in said instruction register; logic circuitry coupled to said memory data register and to said instruction register for transferring the first instruction of the double-instruction word in said memory data register to said instruction register at a first selected time during a particular operational phase of the computer, and for transferring the address portion of said first instruction to said address register and the order portion of said first instruction to said order register and the second instruction of said double-instruction word to said instruction register at a second selected time during said particular operational phase; an index register for storing an address-modifying word; an adder circuit coupled to said index register and to said instruction register; and further logic circuitry coupled to said index register and to said instruction register for shifting during a time interval between said first and second selected time the address portion of the instruction in said instruction register and the word in said index register serially through said adder circuit and into said instruction register to modify said last-named address portion.

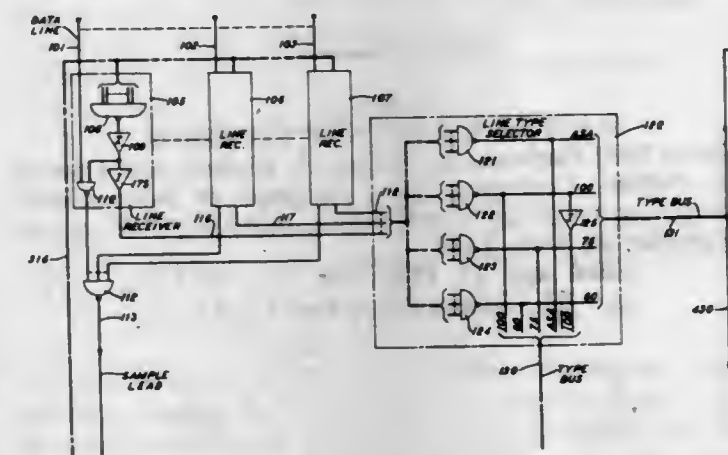
3,340,514

DELAY LINE ASSEMBLER OF DATA CHARACTERS

Roger E. Swift, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 21, 1964, Ser. No. 405,429

8 Claims. (Cl. 340-172.5)

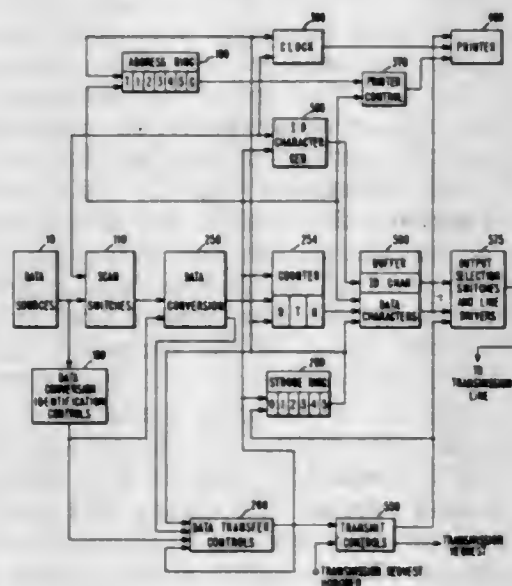


1. In a system for scanning a plurality of lines, each of said lines conveying data elements having a duration differing from the element duration of data conveyed by other of said lines, storage means, scanning means for consecutively scanning all of said lines and applying the element bits scanned thereby to said storage means, and variable delay means in said storage means responsive

to said scanning means for delaying each bit applied to said storage means for an interval corresponding to said element duration of the data from whence said each bit is obtained.

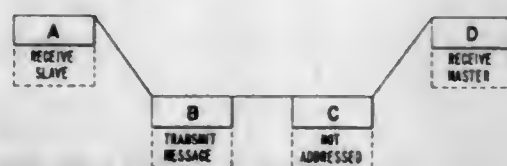
3,340,515
DATA BUFFERING FOR TIME RELATED
MEASURED DATA TRANSMITTED
ASYNCHRONOUSLY

Jack G. Little, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 17, 1964, Ser. No. 411,867
9 Claims. (Cl. 340—172.5)



1. Data transfer control apparatus comprising:
first and second data registers;
data entering means operable for entering data into said first register;
data identifying means operably connected to provide a signal in response to identifying a predetermined type of data entered into said first register;
indicating means operably controlled to provide a signal when said second register contains data;
first data transfer means connected under control of said indicating means for transferring data from said first to said second register; and
second data transferring means responsive to the simultaneous presence of a signal from said indicating means and the absence of a signal from said data identifying means for transferring data from said second register.

3,340,516
MASTER-SLAVE NET CONTROL
Wilmer Paul Harbour, Jr., Robert A. Kolpek, and Thomas L. Musto, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y. a corporation of New York



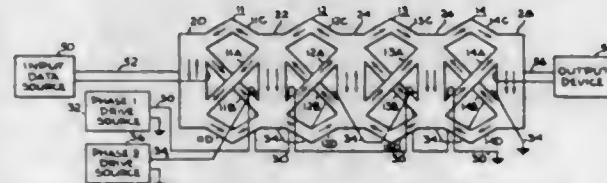
1. One terminal for use in a communications system comprising:
means adapted to be responsive when said one terminal receives an address to then receive and record in response to at least some unique signals as received.

means adapted to observe errors in at least some received signals and to transmit a signal indicative of said error in said received signals,

means adapted to be responsive to the receipt of a first unique signal, including a signal suitable to address at least one other terminal essentially identical in addressing response to said one terminal, to condition said one terminal to receive and record without transmitting said signal indicating error, and

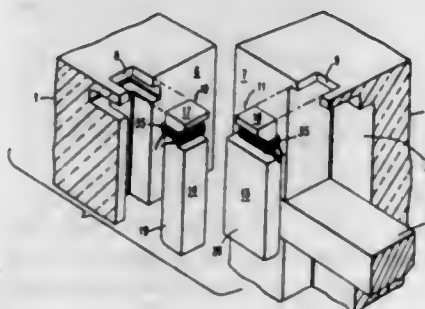
means adapted to be responsive to the receipt of a second unique signal, including a signal suitable to address at least one other terminal essentially identical in addressing response to said one terminal, to condition said one terminal to receive and record and to transmit said signal indicative of error.

3,340,517
FLUX DOUBLING IN CONTINUOUS
MAGNETIC STRUCTURES
Edwin K. Van de Riet, Palo Alto, Calif., assignor to
Stanford Research Institute, Palo Alto, Calif., a corpo-
ration of California



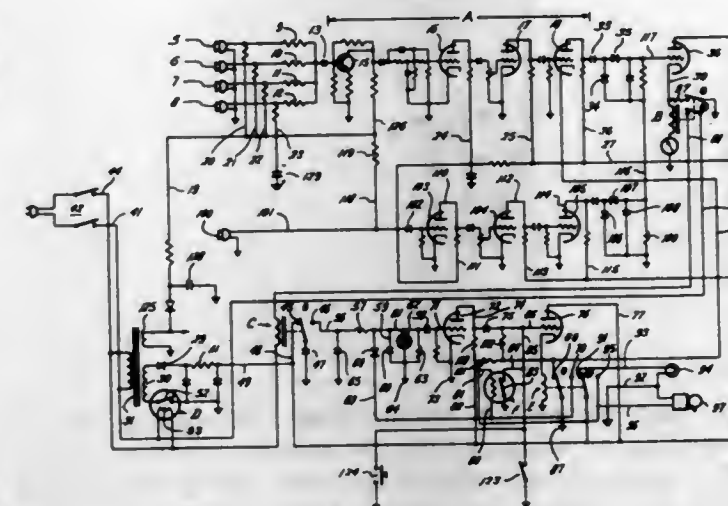
1. A magnetic shift register structure comprising a structure made of magnetic material having a substantially rectangular hysteresis characteristic, said structure being substantially in the shape of a ladder, said ladder having rungs joined by side sections, diagonals extending between the rungs of said ladder structure, the length of each side section being substantially equal to the length of a diagonal, the cross sectional area of said side sections and diagonals being substantially identical and being less than the cross sectional area of a rung, and winding means coupled to said structure for determining the transfer of data therein.

3,340,518
MAGNETIC HEAD STRUCTURE
James S. Hanson, Poughkeepsie, N.Y., assignor to Inter-
national Business Machines Corporation, New York,
N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,660
5 Claims. (Cl. 340—174.1)



1. A magnetic head structure comprising, in combination:
a first block having a flat surface in which a plurality of spaced recesses are formed;

3,340,521
ALARM SYSTEM
Jesse L. Patterson, Jr., William R. Quinn, and Earl R. Quinn, Houston, Tex., assignors, by mesne assignments, to Automatic Sprinkler Corporation of America, Houston, Tex., a corporation of Ohio
Filed May 21, 1964, Ser. No. 369,232
5 Claims. (Cl. 340-258)

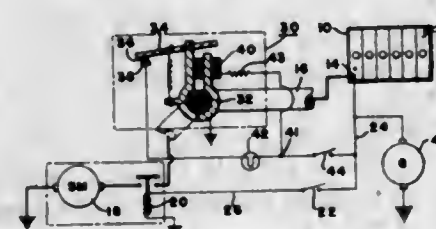


1. In an alarm system, an electric circuit including in series
- a microphone,
 - means for converting microphone excitations to electrical energy, and
 - the first contacts of a double throw switch;
- a second circuit including
- a first condenser,
 - a source of microphone charging current for charging said condenser through said first switch contacts when said switch is in a first position;
- a third circuit including
- a second condenser,
 - the other of contacts of said switch, and
 - an alarm device;
- means responsive to acoustical excitation of said microphone for shifting said switch from said first to said second position for discharging said first condenser into said second condenser,
- the capacity of said second condenser being sufficiently greater than that of said first condenser so that a predetermined number of discharges from said first condenser are required to charge said second condenser to a preselected voltage level; and
- circuit means connected to said second condenser for responding to said preselected voltage level to discharge said second condenser and to initiate energization of said alarm device.

3,340,519
SMOKE DETECTION APPARATUS
Alfred W. Vasel, 222 Linwood St.,
Abington, Mass. 02351
Continuation of application Ser. No. 251,095, Jan.
14, 1963. This application Nov. 22, 1965, Ser. No.
539,226

1. In a photo-electric detector system which includes a light source and a normally dark photo-resistive cell responsive to reflected light from objects in the beam from the light source to cause a decrease in resistance of said cell, means for supplying power to the light source through a first pair of terminals, means responsive to the energization of the light source to complete a circuit between a second pair of terminals and means also connected to said second pair of terminals to actuate a first alarm when the circuit between said second pair of terminals is broken, the improvement comprising means connecting the photo-resistive cell to one terminal of the first pair and one terminal of the second pair, and means responsive to a drop in resistance between said one terminal of the first pair and one terminal of the second pair to actuate a second alarm.

3,340,520
BATTERY CHARGE INDICATOR
Alfred Candellise, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 14, 1964, Ser. No. 367,295
8 Claims. (Cl. 340-249)

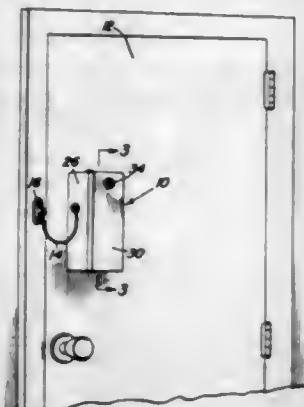


1. A battery charge indicating system for use on a motor vehicle comprising, a relay having an actuating coil and a shiftable armature, an ignition switch, a starter switch, an electric cranking motor for cranking the engine of said motor vehicle, a conductor connecting said battery and said electric cranking motor, said conductor being located in flux transfer relationship with said relay, whereby said relay responds to the combined flux developed by said actuating coil and said conductor means connecting the actuating coil of said relay in series with said battery through said ignition switch, and a signal lamp connected with said ignition switch and relay contacts, said signal lamp being deenergized when the charge of said battery is above a predetermined level as determined by starter current and battery voltage.

3,340,522
ENTRY ALARM DEVICE
Charles T. Chick, 11807 Armitage 64134, and Irwin M.
Cohen, 8407 E. 91st Terrace 64138, both of Kansas
City, Mo.
Filed Sept. 15, 1964, Ser. No. 396,598
5 Claims. (Cl. 340—274)

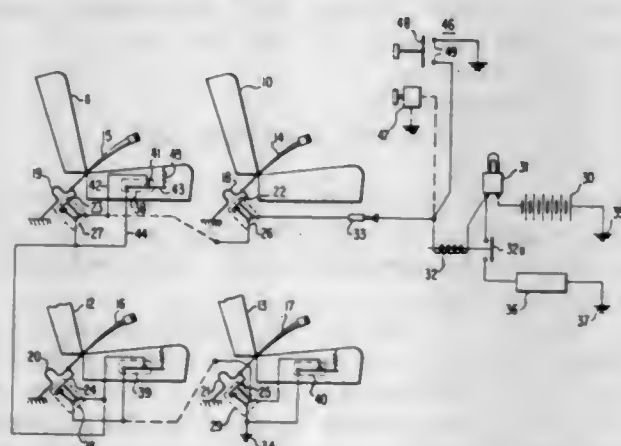
1. In combination with an enclosure having an access opening adapted to be closed by a door having a lock on one side thereof, an alarm device mounted on the other side of the door within the enclosure, said alarm device comprising, a housing secured to the door, sound emitting means mounted within the housing, vibration sensing means operatively connected to the sound emitting means for intermittent energization thereof in response to vibration of the door prior to entry through said opening, contact means mounted by the housing and connected to the sound emitting means for continuous energization thereof, spacing means mounted by the housing and

operative in response to withdrawal thereof for rendering the contact means effective to maintain the sound emitting means energized, means connected to the spacing means for withdrawal thereof from the housing, and lock actuated switch means for disabling of the sound emitting means in response to authorized opening of the door



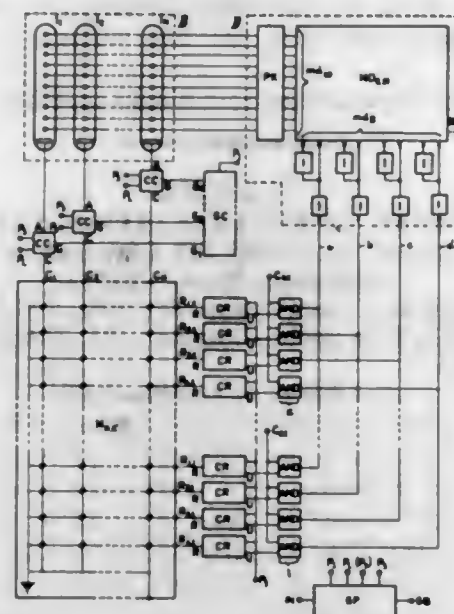
lock, said means for withdrawing the spacing means comprising, an elongated flexible element anchored at one end to the enclosure and at the other end to the spacing means to withdraw the spacing means from the housing when the door is opened by a predetermined amount permitting entry through said opening.

3,340,523
SEAT-BELT SAFETY SYSTEMS
Robert L. Whitman, 9145 SW. 80th Ave.,
Miami, Fla. 33156
Filed Oct. 14, 1964, Ser. No. 403,727
5 Claims. (Cl. 340-278)



1. A safety system for vehicles having at least two seats equipped with seat belts and a normally closed signaling circuit; a control circuit for effecting the opening of said normally closed signaling circuit comprising normally opened switch means controlled by each seat belt and connected in series circuit relation; a seat belt switch actuator in operative engagement with each of said seat-belt switches; spring means operatively associated with said actuator and with said seat belt such that the force of said spring means maintains said actuator in position to hold said seat belt switch normally open, said switch being closed in response to a sufficient force exerted on said seat belt to overcome the force of said spring means; a normally-closed pressure-operated switch means mounted to be moved to open position in response to pressure applied to one of the seats, said normally-closed pressure-operated switch being connected in parallel with the corresponding seat belts switch; and a normally opened operator actuated time dependent shorting means, said shorting means being connected in parallel with said control circuit for short circuiting said control circuit for a finite time interval and for automatically restoring said control circuit to the normal state after said time interval.

3,340,524
DEVICE FOR THE DIGITAL DISPLAY OF DATA STORED IN ELECTRONIC CIRCUITS
Massimo Rinaldi, Rome, Italy, assignor to Industria Macchine Elettroniche—I.M.E.—S.p.A.
Filed Jan. 30, 1964, Ser. No. 341,172
Claims priority, application Italy, Mar. 8, 1963, 4,543/63; Mar. 18, 1963, 5,336/63
6 Claims. (Cl. 340-324)

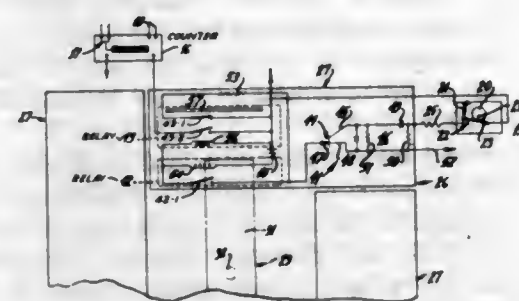


1. A digital readout arrangement for visible display of binary coded data contained in magnetic-core matrix memories, comprising in combination a magnetic-core matrix memory including an array of row windings and an array of column windings, magnetic cores interlinked in the crossing of said row and column windings, a group of row circuits having inputs connected with the row windings of said matrix memory, and AND gates connected to the outputs thereof, a binary-to-decimal decoding matrix having inputs connected to said AND gates and having an individual output lead for each digit of the decimal system, a plurality of column circuits each connected with a corresponding one of said column windings of said matrix memory; a plurality of gas-discharge numerical display tubes each having a first electrode connected respectively with the output of each of said column circuits and having digit electrodes for each of the digits of the decimal system, each corresponding digit electrode of all of said display tubes being connected in common to a respective one of said output leads, and a scanning circuit having outputs individually connected with said column circuits for sequentially activating said column circuits for applying a voltage to said first electrodes of said display tubes to activate the digit electrodes thereof having signals thereon supplied from said output leads of said decoding matrix.

3,340,525
SIGNAL TRANSMITTING APPARATUS FOR SEQUENTIALLY TRANSMITTING SIMULTANEOUSLY GENERATED SIGNALS
Walter L. Probert, Erie, Pa., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Jan. 29, 1962, Ser. No. 169,416
14 Claims. (Cl. 340-346)

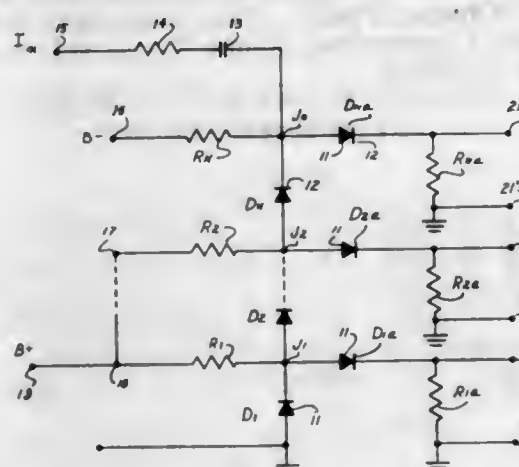
1. A signal transmitting apparatus for transmitting a signal, comprising,
(a) a signal storage means,
(b) a normally open switch means connected to said storage means and in a transmission circuit,
(c) means to periodically close the switch means and complete the transmission circuit for transmission of a signal from the storage means,

(d) a booster coil coupled to actuate said switch means and connected to said signal storage means by said switch means for energization by a signal from the storage means, and



(e) means connected in circuit with said switch means and operative to open the switch means a predetermined period after the closing thereof.

3,340,526
DIODE DIGITIZER
Robert M. Sugarman, New Rochelle, N.Y., assignor to Chronetics, Inc., Yonkers, N.Y., a corporation of New York
Filed July 8, 1964, Ser. No. 381,055
6 Claims. (Cl. 340-347)

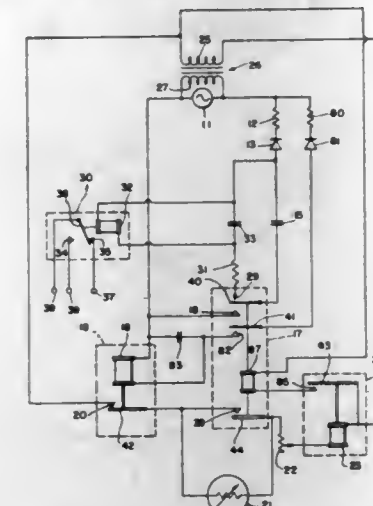


1. Equipment for converting an analog input signal to a digital output signal in step increments each related to a given range of value of said input signal, comprising a plurality of series connected diodes, means to apply a source of potential across said series connected diodes for flow of current therethrough, means to provide successively increasing current flow through each of the diodes of said series, from one end of the series connection to the other, a plurality of output diodes, means connecting each of said output diodes to an associated series connected diode for cut off of said output diode when said associated series connected diode is conducting and for conduction of said output diode when the associated series connected diode is cut off, and means to apply an analog input current through said series connected diodes to oppose the current flow therethrough.

3,340,527
CONDITION MONITORING SYSTEM
William G. Rowell, Milton, Mass., assignor to Technical Marketing Associates, Inc., Concord, Mass., a corporation of Massachusetts
Filed Jan. 13, 1965, Ser. No. 425,165
8 Claims. (Cl. 340-411)

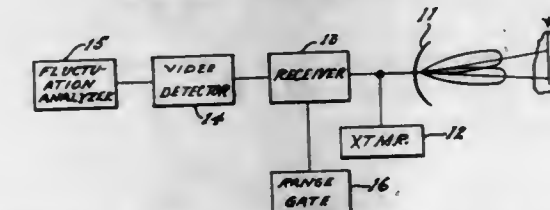
1. Apparatus comprising input power means, a first relay, a rectifier and a first capacitor serially connected, a second relay having switching means for connecting said power means to said rectifier and said first capacitor and simultaneously connecting the power means to the

coil of the first relay, said first relay being energized by the application of said power thereto, a thermistor, said first energization of said relay connecting said thermistor to said power means to internally heat said thermistor, a third, and a fourth relay, the internal heating of said thermistor causing the energizing of the third relay, energizing of the third relay connecting the second relay to said power means, the energizing of said second relay



short-circuiting said thermistor and simultaneously disconnecting the power means from said first capacitor to a fourth relay, the energizing of said third and second relays occurring at a periodic rate as said thermistor heats and cools, the fourth relay being continuously energized by the discharge of said first capacitor at said periodic rate, having associated therewith means for indicating deviation from said periodic rate.

3,340,528
METHOD AND SYSTEM FOR WIND MEASUREMENTS
David Atlas, Newton, Mass.
(828 Chestnut St., Waban, Mass. 02168)
Filed Feb. 18, 1965, Ser. No. 433,820
19 Claims. (Cl. 343-8)

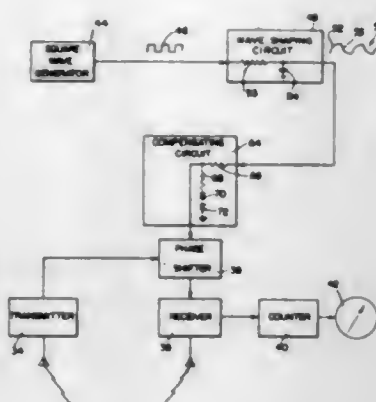
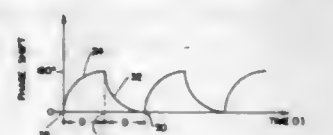


6. A method of measuring the velocity of an airborne object comprising directing energy from said airborne object towards ground targets in the form of first and second radar beams having a predetermined spacing, the axis between said beams being perpendicular to the direction of flight with respect to the ground, receiving radar return signals from said ground targets, mixing radar return signals resulting from said first beam with radar return signals from said second beam in a single receiver channel to obtain a resulting signal having a fluctuation frequency with a well-defined secondary maximum representative of the velocity of said airborne object relative to ground, and measuring said secondary maximum.

3,340,529
FM ALTIMETER WITH REDUCED STEP ERROR
Daniel Biltz, Boston, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed June 11, 1963, Ser. No. 286,996
11 Claims. (Cl. 343-14)

1. In an FM ranging system of the type including a mixer developing a beat frequency signal corresponding to the difference between the transmitted and reflected signal

frequencies, means for counting the cycles of the beat frequency at the output of said mixer, and a phase shifter connected to continuously vary the phase of one of the inputs to said mixer, the improvement in which said phase

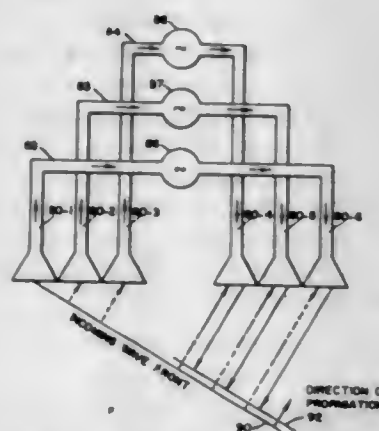
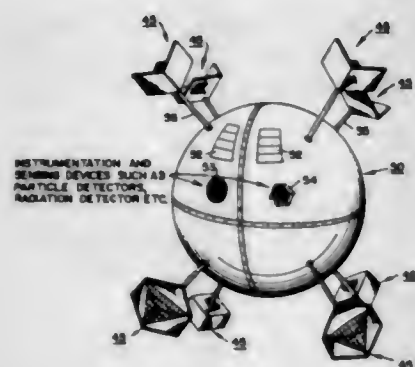


shifter includes means for substantially varying said phase at a varying rate to cause the total time spent at each increment of phase shift to be constant for all phase shift angles.

3,340,530

DIRECTIONAL ANTENNA ARRAY

Herbert W. Sullivan and John F. Banzhaf III, New York, N.Y., assignors to Lear Siegler, Inc., Long Island City, N.Y., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,228
9 Claims. (Cl. 343-100)



1. An antenna array for transmitting electromagnetic energy in response to and toward the same direction as the incident electromagnetic energy from a source comprising:

a plurality of radiator elements, each of said elements including

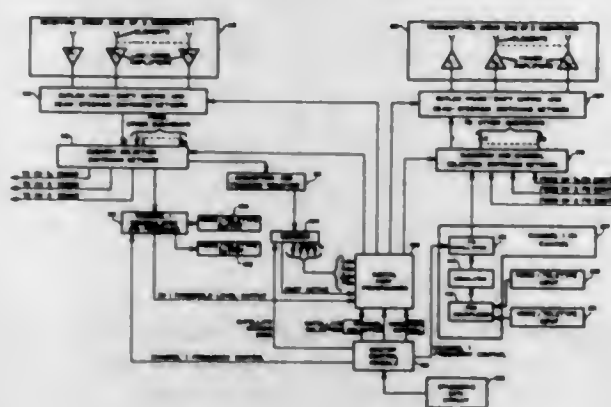
- (a) means for receiving the incident electromagnetic energy at a phase in accordance with its position with respect to the phase front of the incident electromagnetic energy,
 - (b) normally quiescent oscillator means coupled to said receiving means for producing a signal in response to the received incident energy and at a predetermined phase relationship therewith,
 - (c) and means coupling said oscillator means to said receiving means for radiating the signal produced thereby, the signals produced by said plurality of radiator elements transmitted as energy with a phase which travels in the same direction and has the same phase characteristics as the phase front of the incident energy,
- reflector means comprising a corner reflector adjacent the receiving means of said radiator elements for reflecting the phase front of the transmitted energy by substantially 180°, and means for mounting at least the receiving means of each said radiator element in a predetermined spaced relationship to said reflector means.

3,340,531

SATELLITE COMMUNICATION SYSTEM

George P. Kefalas, Robert E. Mallison, and Arthur A. Segal, Orange County, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Oct. 5, 1964, Ser. No. 401,360
15 Claims. (Cl. 343-100)



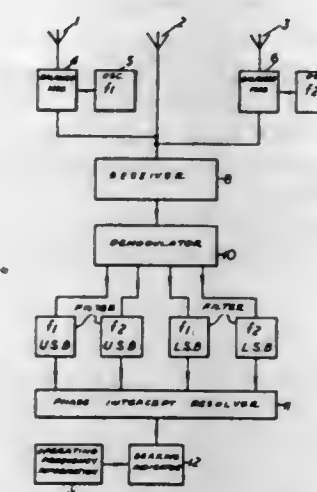
9. A satellite communication system of the type in which a plurality of transportable ground terminals positioned on the earth's surface are inter-linked for communication by a plurality of repeater satellites orbiting about the earth, said system comprising:

- (a) a transmitter in each of said satellites for continuously transmitting a beacon code so as to distinguish each satellite from each other satellite;
- (b) a linear, phased-array, antenna network in each of said ground terminals for providing a plurality of receive and transmit fan beams which are capable of scanning over the visible hemisphere and tracking any of said satellites which are in the field of view of said antenna network without requiring ephemeris data of satellite position with respect to time, said antenna network having a plurality of receive and transmit ports respectively corresponding to the number of said receive and transmit fan beams;
- (c) a programmer in each of said ground terminals for synchronously steering said receive and transmit fan beams over the visible hemisphere, thereby searching for all satellites in the field of view of said ground terminals and establishing a plurality of intercommunication links between preselected groups of said ground terminals;

3,340,533

RADIO DIRECTION FINDING SYSTEM

Charles William Earp, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 28, 1964, Ser. No. 385,668
Claims priority, application Great Britain, Aug. 19, 1963, 32,676/63
9 Claims. (Cl. 343-113)

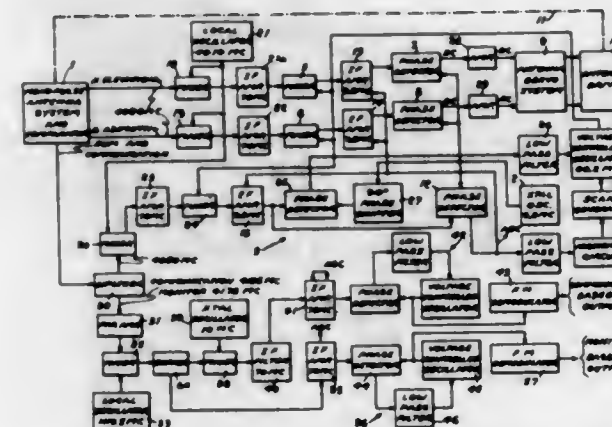


- (d) a first switching network controlled by said programmer for sequentially sampling each of said receive ports, said switching network having a plurality of output ports respectively corresponding to said receive ports;
- (e) an acquisition and tracking receiver coupled to said first switching network for decoding all beacon codes received by said antenna network and coupling to said programmer the beacon code of only those satellites of the system which are capable of interlinking any preselected group of said ground terminals over one of said intercommunication links;
- (f) a plurality of demodulators respectively connected to said output ports of said first switching network for independently detecting and reproducing intelligence respectively received by said antenna network over said intercommunication links;
- (g) a plurality of transmitters corresponding in number to the number of said receivers, for independently developing intelligence to be respectively transmitted by said antenna network over said intercommunication links; and
- (h) a second switching network having a plurality of input and output ports corresponding in number to the number of said transmitters, said second switching network input ports being respectively coupled to said transmitters and said second switching network output ports being respectively coupled to said transmit ports of said antenna network, thereby respectively coupling said intelligence to be transmitted to said intercommunication links.

3,340,532

TRACKING RECEIVER

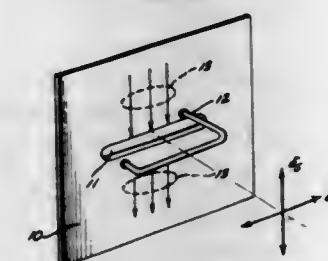
Walter L. Glomb, Nutley, Wenelin Janoff, Secaucus, and Edmondo Imboldi, Nutley, N.J., granted to the National Aeronautics and Space Administration under the provisions of 42 U.S.C. 2457(d)
Filed Sept. 30, 1963, Ser. No. 312,443
19 Claims. (Cl. 343-113)



1. A tracking receiver comprising: an antenna system providing at least three signals indicating the antenna sighting relative to a target position;
- a reference oscillator;
- a phase lock loop including a voltage controlled oscillator coupled to said reference oscillator and said antenna system to compare the frequency of the output signal of said reference oscillator and the frequency of one signal of said three signals to lock the frequency of the output signal of said voltage controlled oscillator to the frequency of said one signal of said three signals; and
- a heterodyne arrangement to mix said output signal of said voltage controlled oscillator with the others of said three signals.

3,340,534
ELLIPTICALLY OR CIRCULARLY POLARIZED ANTENNA

Maurice L. Fee, Lakewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 22, 1965, Ser. No. 489,223
10 Claims. (Cl. 343-728)



1. A high frequency antenna comprising, in combination: a thin conductive wafer having an elongated slot extending therethrough;

a loop of conductive wire conductively connected across the longer sides of said slot, at least a substantial portion of said loop being disposed in a plane substantially parallel to the longer dimension of said slot; and

means for inducing an alternating electric current in said conductive wafer, said current having components in a direction perpendicular to said longer dimension of said slot.

3,340,535

CIRCULAR POLARIZATION CASSEGRAIN ANTENNA

John B. Damonte and John A. Koerner, Belmont, Calif., assignors to Textron, Inc., Belmont, Calif., a corporation of Rhode Island

Filed June 16, 1964, Ser. No. 375,558
7 Claims. (Cl. 343-756)



1. A circular polarization antenna comprising a primary feed source emitting circularly polarized waves of electromagnetic energy having a first sense of polarization, a sub-reflector disposed to receive said waves emitted from said source, said sub-reflector including a surface reflective to linearly polarized waves polarized in a first plane and transparent to linearly polarized waves polarized in a second plane rotated 90° from said first plane, said sub-reflector including polarization conversion grids disposed on opposite sides of said surface for converting circularly polarized waves having said first and second senses of polarization to linearly polarized waves polarized in said first and second planes respectively and converting linearly polarized waves polarized in said first and second planes to circularly polarized waves having said first and second senses of polarization respectively, and a flat plate main reflector transpierced by said feed source and disposed to receive and re-reflect waves reflected from said sub-reflector, said main reflector inverting the sense of polarization of circularly polarized waves incident thereon whereby a portion of the radiated electromagnetic energy is reflected from said main reflector directly into space as circularly polarized waves having said second sense of polarization and the remainder of said energy is reflected from said main reflector through said sub-reflector into space as circularly polarized waves having said second sense of polarization.

3,340,536

RECORDER SERVO SYSTEM

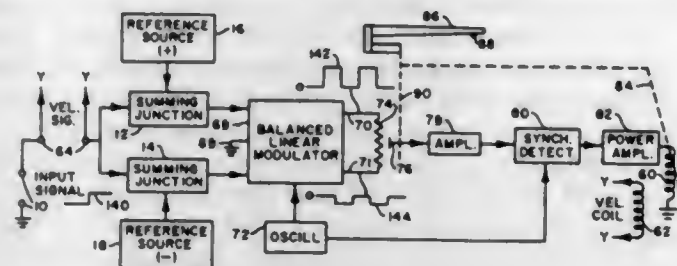
James W. Sauber, Winchester, Mass., assignor to Hewlett-Packard Company, a corporation of California

Filed Feb. 4, 1966, Ser. No. 525,211
17 Claims. (Cl. 346-32)

10. In a recorder having a stylus adapted to be positioned across a recording medium in accordance with the amplitude and polarity relative to a point of reference potential of an input signal to be recorded, said stylus having a boom, the combination of:

first and second sources of potential each providing an opposite polarity signal relative to said point of reference potential,

summing circuit means for combining said input signal with each of said opposite polarity signals, thereby to provide first and second energizing signals, an impedance element having an independently variable tap,



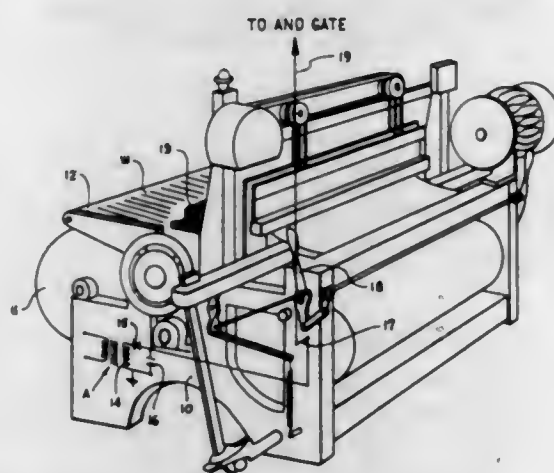
means applying said first and second energizing signals across said impedance element thereby to develop a virtual point of reference potential that varies in lineal position on said element in accordance with the amplitude and polarity of said input signal, and servo drive means electrically coupled to said tap for positioning said stylus and said tap along with impedance element to seek said virtual point of reference potential.

3,340,537

TEXTILE PRODUCTION CONTROL APPARATUS

Noel V. Long, Greenville, and Daniel J. Buckley, Travelers Rest, S.C., assignors to Adams Incorporated, Greenville, S.C., a corporation of South Carolina

Filed Dec. 23, 1965, Ser. No. 515,878
8 Claims. (Cl. 346-34)



1. In a production control apparatus for monitoring the operation of a large group of machines including, signal means coupled to each machine operable responsive to a given operating condition of each machine for generating a first signal indicative of a given operating condition of said machine; a plurality of gates corresponding to the machines being monitored; means for supplying said first signals from said signal means, each indicative of a given operating condition of a particular machine, to a corresponding gate; a pulse forming device, an input channel connected to said pulse forming device, a plurality of output channels connected to said pulse forming device; a timing means for supplying a second electrical signal to said input channel of said pulse forming device, said pulse forming device sequentially producing pulses on said plurality of output channels responsive to said second signal; said output channels of said pulse forming device being coupled to said gates for sequentially placing

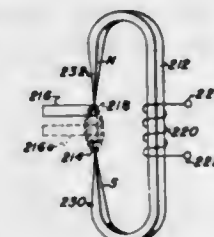
said gates in an activated state whereupon each of said gates having said first signal supplied thereto from said signal means produces an output pulse indicative of said given operating condition of a machine; a recorder; means for synchronizing the recording of information on said recorder with the signal being supplied to said input channel of said pulse forming device and to the sequence that said gates are placed in an activated state; and means for actuating said recorder responsive to output pulses from said gates for recording such operating condition of said machines thus recording total duration of such operating condition with respect to each individual identifiable machine and with respect to the time of occurrence thereof.

3,340,538

MAGNETIC IDENTIFICATION CODE RECORDING

Donald S. Oliver, West Acton, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed Oct. 31, 1963, Ser. No. 320,476
6 Claims. (Cl. 346-74)



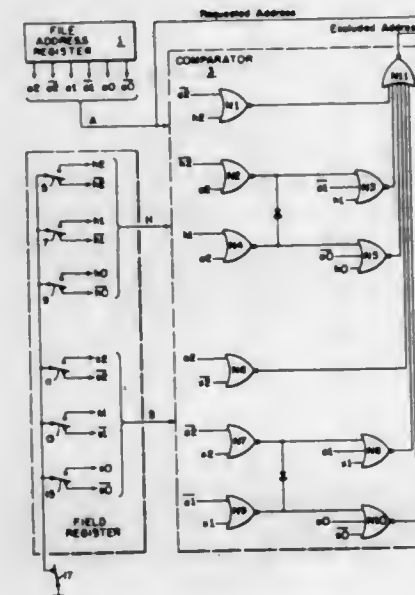
1. A magnetic recording device for producing a radial magnetic field comprising:
a substantially circular recording head having a pair of widely spaced pole pieces, both of which have needle shaped portions with the point defining a gap;
means energizing the recording head to produce opposing polarities in each needle shaped portion; and
a relatively thin film of magnetizable material in the gap and in close proximity to only one needle shaped portion.

3,340,539

STORED DATA PROTECTION SYSTEM

John C. Sims, Jr., Sudbury, Mass., assignor to Analex Corporation, Boston, Mass., a corporation of New Hampshire

Filed Oct. 27, 1964, Ser. No. 406,768
12 Claims. (Cl. 346-74)



5. In combination, a magnetic storage medium having at least one recording surface, a recording head mounted

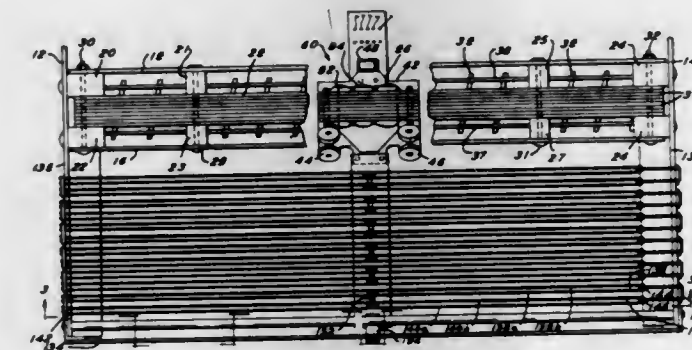
adjacent said recording surface for movement over a predetermined range, means for moving said storage medium at constant speed relative to said head to cause said head to traverse a path on said surface determined by the position of said head within said range, a source of information signals, switching means actuable to first and second states and operable in its first state to supply signals from said source to said head, field register means for storing a code defining a field of addresses, address register means for storing an address code, positioning means controlled by said address register means for moving said head to a position within said range determined by the address code, and comparator means controlled by said field register means and said address register means for actuating said switching means to its first or its second state according as the address code stored in said address register means is out of or in the field defined by the code stored in said field register means, respectively.

3,340,540

LINEAR INDUCTION MOTOR FOR USE WITH A MEASURING AND RECORDING DEVICE

Gustave Ehrenberg, Havertown, Pa., assignor to Electro-Nite Co., a corporation of Pennsylvania

Filed Aug. 31, 1964, Ser. No. 393,087
18 Claims. (Cl. 346-139)



1. A linear induction motor comprising an armature having pole pieces along a straight line, said armature pole pieces being made of a magnetic material, a stator having pole pieces along a straight line, said stator pole pieces being made of a magnetic material, said stator being positioned vertically below and juxtaposed to said armature, said stator and said armature pole pieces having pole faces which define a uniform straight gap therebetween, a plurality of electrical conductors wound on said stator for establishing a moving magnetic field in said gap when energized, a guide bearing means rotatably mounted on said stator, track means mounted along the entire length of said armature and aligned vertically above said bearing means, said bearing means and said track means being so positioned one above the other that the width of said uniform gap between said armature and said stator pole faces is precisely defined when said bearing means is in engagement with said track means.

3. A slidewire potentiometer having infinite resolution comprising a plurality of pairs of slidewires, each pair of slidewires being a unitary straight continuous piece of resistance material extending around a resilient support, electrical contacts extending between adjacent pairs of slidewires and engaging one of the slidewires in each pair of said adjacent pairs along a side thereof, spring means biasing the slidewires into contact with said electrical contacts, a movable arm, said electrical contacts being mounted on said arm so that the contacts are displaced along said slidewires when said arm is caused to move.

4. A motor in accordance with claim 1 including a slidewire potentiometer coupled to said stator, said motor and potentiometer being removably mounted as a unit upon a recording means, and pen means mounted on said motor, said pen means cooperating with said recording means to indicate relative movement between said stator and said armature.

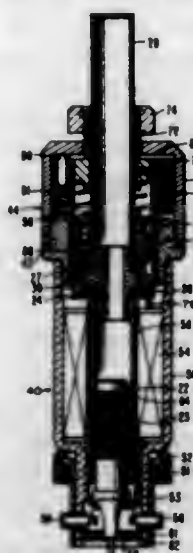
3,340,541

HIGH SPEED PEN ACTUATING MECHANISM
Fritz E. Klassen, Los Alamitos, and Donald G. Miller, Long Beach, Calif., assignors to California Computer Products, Inc., Anaheim, Calif., a corporation of California

Filed Jan. 18, 1965, Ser. No. 426,113
12 Claims. (Cl. 346—140)

1. A pen actuating mechanism for controlling the position of a writing instrument relative to a record medium along an axis substantially perpendicular to the plane of the record medium comprising a pen plunger adapted to receive a pen, the pen plunger having a radially extended flange portion providing a first annular pole piece at the upper end of the pen plunger, a pen body containing a solenoidal coil and encasing the pen plunger, a second annular pole piece opposite the first annular pole piece

and adjustably attached to the pen body, means for adjusting incrementally the axial position of the second annular pole piece relative to the pen body, and means for



selectively energizing the coil to develop a magnetic field to pull the first and second annular pole pieces together in order to raise the pen to a retracted position.

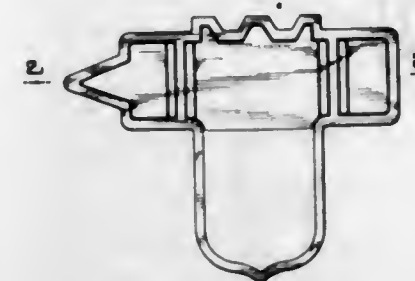
DESIGNS

SEPTEMBER 5, 1967

208,452

NECKTIE TAG, OR SIMILAR ARTICLE
Richard M. Aron, Stamford, Conn., assignor to M. Aron Corporation, New York, N.Y., a corporation of New York

Filed Dec. 9, 1966, Ser. No. 4,977
Term of patent 14 years
(Cl. D1—8)



208,453

DESK PLAQUE
Herbert P. Van Ostrand, Studio City, Calif., assignor to Vomar Products, Inc., Burbank, Calif., a corporation of California

Filed Sept. 1, 1966, Ser. No. 3,686
Term of patent 14 years
(Cl. D1—12)



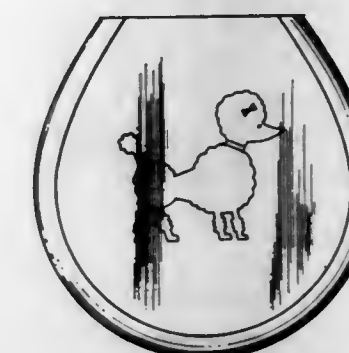
208,454

TIE CLIP
Warren W. Welch, 1224 E. Monument St., Colorado Springs, Colo. 80909
Filed Jan. 20, 1966, Ser. No. 756
Term of patent 14 years
(Cl. D2—425)



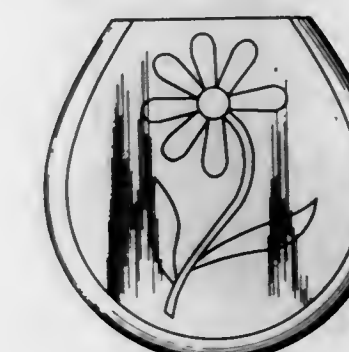
208,455

LID COVER FOR THE SEAT OF A WATER CLOSET
Sondra Nagy and Bob Nagy, both of 67—25 Dartmouth St., Forest Hills, N.Y. 11374
Filed Mar. 7, 1966, Ser. No. 1,307
Term of patent 3½ years
(Cl. D4—5)



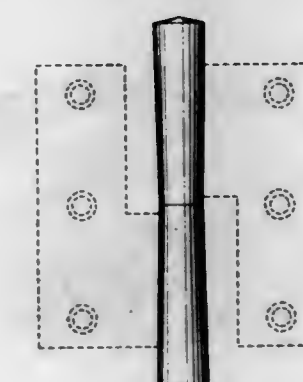
208,456

LID COVER FOR THE SEAT OF A WATER CLOSET
Bob Nagy and Sondra Nagy, both of 67—25 Dartmouth St., Forest Hills, N.Y. 11374
Filed Mar. 8, 1966, Ser. No. 1,348
Term of patent 3½ years
(Cl. D4—5)



208,457

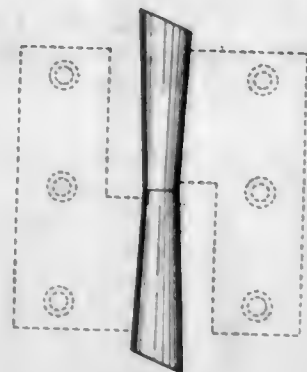
HINGE
Charles R. Suska, Roxbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Aug. 31, 1966, Ser. No. 3,669
Term of patent 14 years
(Cl. D10—9)



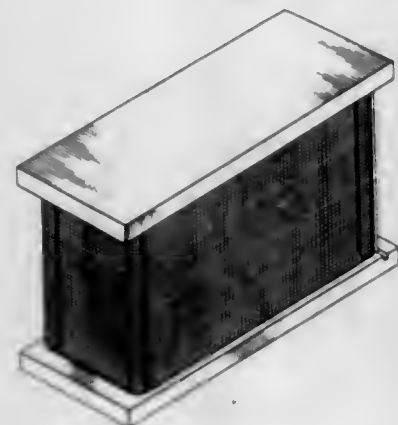
208,458
HINGE

Charles R. Suska, Roxbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

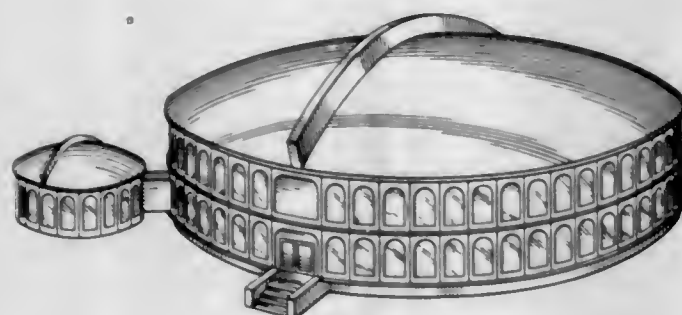
Filed Aug. 31, 1966, Ser. No. 3,670
Term of patent 14 years
(Cl. D10-9)



208,459
BEEF JERKY DRIER
Gene C. Rosholt, 251 Beloit Ave.,
Los Angeles, Calif. 90049
Filed Nov. 10, 1966, Ser. No. 4,609
Term of patent 14 years
(Cl. D11-1)

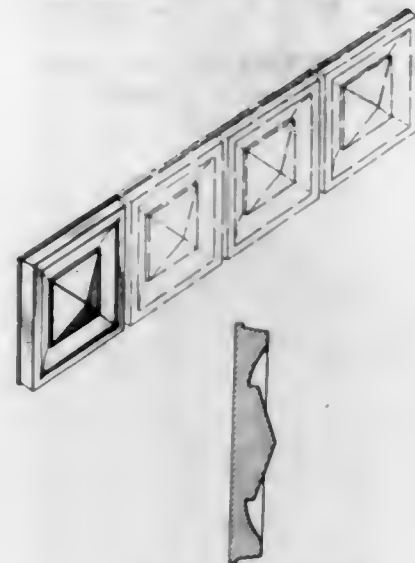


208,460
BUILDING
Gordon L. Marcott, 1302 Columbine St.,
Denver, Colo. 80206
Filed Dec. 7, 1966, Ser. No. 4,950
Term of patent 14 years
(Cl. D13-1)

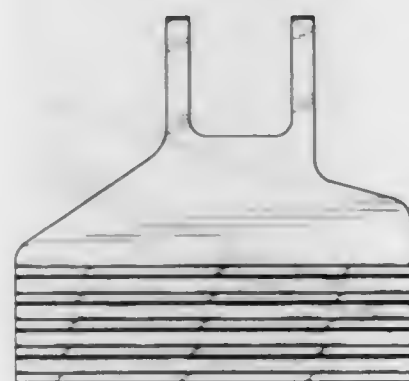


208,461
APPLIQUE TYPE PANEL FOR CABINET DOORS OR THE LIKE
John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut

Filed Dec. 19, 1966, Ser. No. 5,077
Term of patent 14 years
(Cl. D13-1)



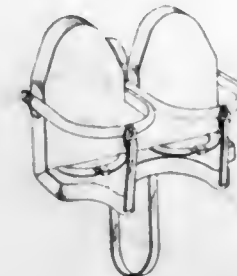
208,462
AUTOMOBILE DOOR PROTECTOR OR THE LIKE
Joseph W. Pearson, 830 Glenwood Road,
Glenview, Ill. 60025
Filed Aug. 25, 1966, Ser. No. 3,593
Term of patent 3½ years
(Cl. D14-6)



208,463
SIDE WALL AND FENDER PROTECTOR
Donald A. Swauger, 11528 Saratoga Ave.,
San Jose, Calif. 95129
Filed Oct. 18, 1966, Ser. No. 4,321
Term of patent 14 years
(Cl. D14-6)



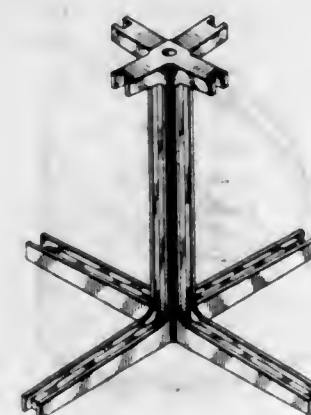
208,464
DUAL CAR SEAT FOR CHILDREN
George B. Walker and Wayne E. Walker, both of Rte. 2,
Box 557, Itta Bena, Miss. 38941
Filed July 11, 1966, Ser. No. 3,015
Term of patent 14 years
(Cl. D15-1)



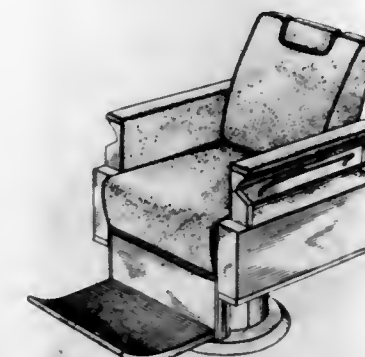
208,465
CHAIR
Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), Houston, Tex., a corporation of the Netherlands Antilles
Filed Aug. 15, 1966, Ser. No. 3,471
Term of patent 14 years
(Cl. D15-1)



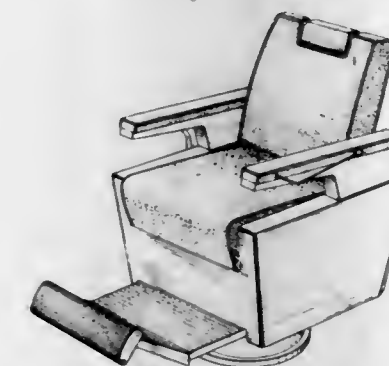
208,466
CHAIR BASE OR SIMILAR ARTICLE
Miguel Rodrigo, Republica de Chile St. 284, Lima, Peru
Filed Oct. 23, 1965, Ser. No. 87,871
Term of patent 14 years
(Cl. D15-2)



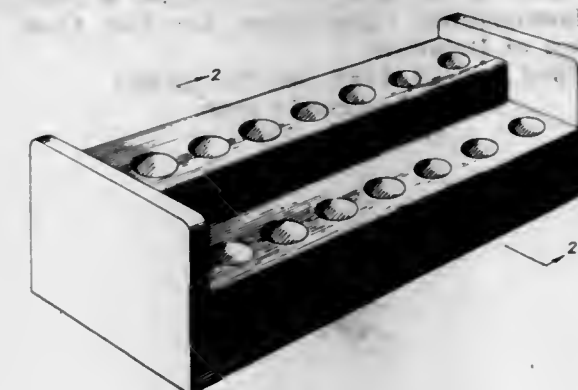
208,467
BARBER CHAIR
Masaharu Okiyama, % Baron Trading Co., Ltd., 48 5-chome, Shuntoku-cho, Fuse, Osaka, Japan
Filed Mar. 15, 1966, Ser. No. 1,468
Term of patent 14 years
(Cl. D15-3)



208,468
BARBER CHAIR
Masaharu Okiyama, % Baron Trading Co., Ltd., 48 5-chome, Shuntoku-cho, Fuse, Osaka, Japan
Filed Mar. 15, 1966, Ser. No. 1,476
Term of patent 14 years
(Cl. D15-3)



208,469
TEST TUBE RACK
Lisbeth Parker, 146 W. Princeton Ave.,
Youngstown, Ohio 44507
Filed Oct. 7, 1966, Ser. No. 4,224
Term of patent 14 years
(Cl. D16-1)

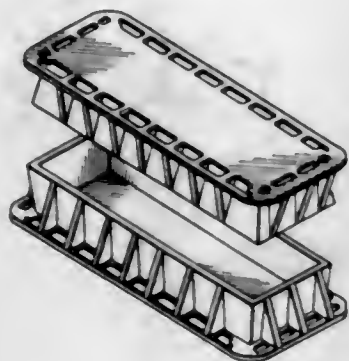


208,470

BURIAL VAULT

Edward A. Madej, Verona, Pa., assignor to Nationwide Vault and Manufacturing Company, a corporation of Pennsylvania

Filed July 21, 1966, Ser. No. 3,173
Term of patent 14 years
(Cl. D19—1)

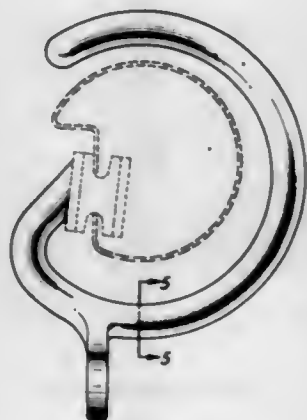


208,471

DRAPERY RING

Phillip L. Kenney, Cheshire, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Dec. 13, 1965, Ser. No. 150
Term of patent 14 years
(Cl. D21—1)



208,472

SINGLE POLE-DOUBLE THROW MINIATURE VACUUM RELAY

Robert W. Hansen, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed Apr. 19, 1965, Ser. No. 84,861
Term of patent 14 years
(Cl. D26—13)

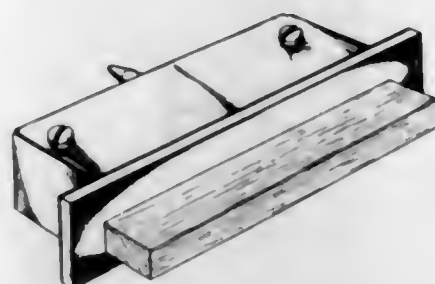


208,473

ELECTRONIC PLUG-IN MODULE FOR RADIATION ANALYZER OR THE LIKE

Stephens N. Sato, San Diego, Calif., assignor to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California

Filed Sept. 7, 1965, Ser. No. 86,894
Term of patent 14 years
(Cl. D26—1)

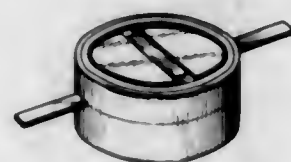


208,474

MINIATURE LAMP

Gerald A. Curl, Los Angeles County, Calif., assignor to Coastal Dynamics Corporation, a corporation of California

Filed Dec. 5, 1966, Ser. No. 4,925
Term of patent 14 years
(Cl. D26—8)

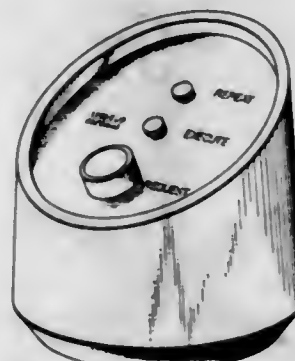


208,475

REMOTE CONTROL TERMINAL

Donald Harry Wood, Santa Clara, and Donald Anthony Moore, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 9, 1966, Ser. No. 3,403
Term of patent 14 years
(Cl. D26—13)

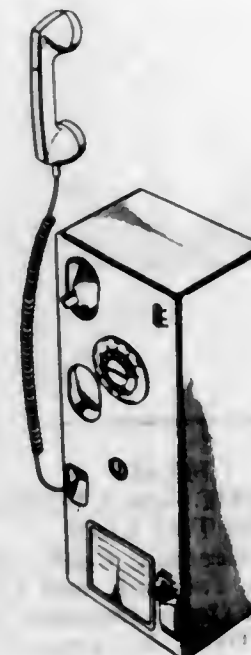


208,476

COIN OPERATED TELEPHONE OR SIMILAR ARTICLE

Louis P. La Barge, Newport Beach, Calif., assignor, by mesne assignments, to Zero Manufacturing Co., Burbank, Calif., a corporation of California

Filed Aug. 13, 1964, Ser. No. 81,267
Term of patent 14 years
(Cl. D26—14)

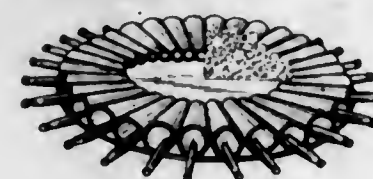


208,477

WALL DECORATION OR THE LIKE

Raymond O. Johnson, Rte. 3, Box 456, Suffolk, Va. 23434

Filed June 15, 1966, Ser. No. 2,680
Term of patent 3½ years
(Cl. D29—1)



208,478

BADGE OR THE LIKE

Jean Nidetch, Forest Hills, N.Y., assignor to Weight Watchers International, Inc., Forest Hills, N.Y., a corporation of New York

Filed June 14, 1966, Ser. No. 2,674
Term of patent 14 years
(Cl. D29—2)

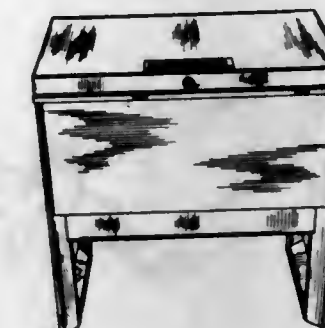


208,479

RECORD-KEEPING CABINET

Charles L. Metzler, Alpine, N.J., and Henry A. Holzwarth, Bayside, N.Y., assignors to Visirecord Inc., Long Island City, N.Y., a corporation of New York

Filed Oct. 18, 1965, Ser. No. 87,550
Term of patent 14 years
(Cl. D33—19)



208,480

MOUNTED GAME PIECE FOR A GAME BOARD

Kurt Fratzscher, Furth, Bavaria, Germany, assignor to Patterson International Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 21, 1965, Ser. No. 87,719
Term of patent 14 years
(Cl. D34—5)



208,481

GOLF BAG BOTTOM

John P. Murray, Jr., Princeton, N.J., assignor to Atlantic Products Corporation, Trenton, N.J., a corporation of New Jersey

Filed June 28, 1966, Ser. No. 2,844
Term of patent 14 years
(Cl. D34—5)

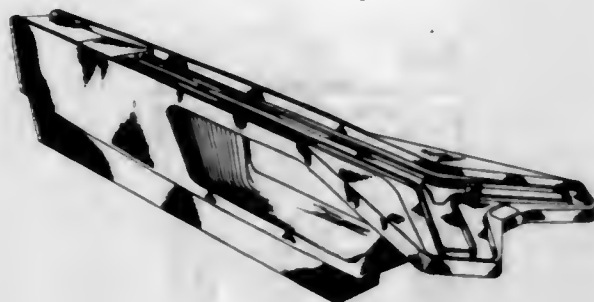


208,482

BOWLING BALL STORAGE RACK

Henry Dreyfuss, South Pasadena, Calif., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Oct. 17, 1966, Ser. No. 4,299
Term of patent 14 years
(Cl. D34-5)

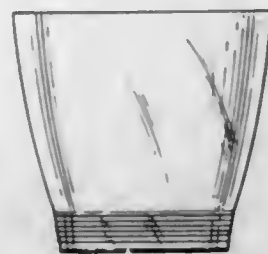


208,485

TUMBLER

John Paul Ahlbrandt and Wallace F. Magers, Shawnee Mission, Kans., assignors to Sinclair-Koppers Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 1,712
Term of patent 14 years
(Cl. D36-8)

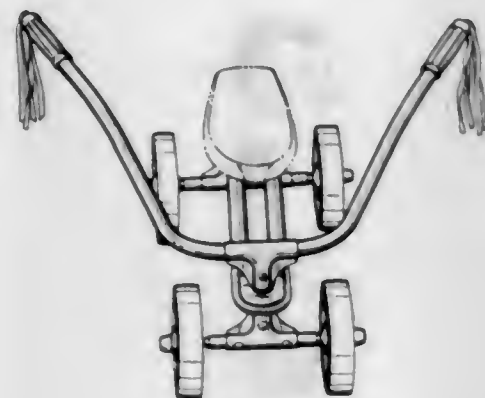


208,483

CHILD'S VELOCIPEDE CHASSIS

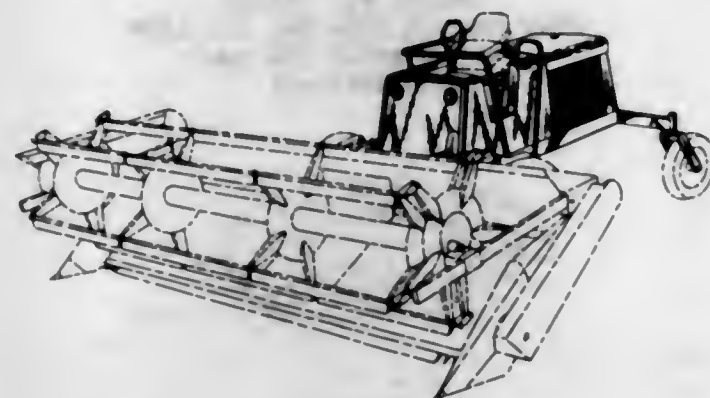
Mercer D. Walklet, Akron, Ohio, assignor, by mesne assignments, to Blazon, Inc., Akron, Ohio, a corporation of Ohio

Filed Mar. 2, 1966, Ser. No. 1,244
Term of patent 14 years
(Cl. D34-15)

**TRACTION UNIT FOR A WINDROWER OR THE LIKE**

James M. Conner, Glendale, Calif., Donald E. Burrough, Raymond H. Fairbank, and Gust Soteropulos, Ottumwa, Iowa, and Henry Dreyfuss, South Pasadena, Calif., assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Jan. 9, 1967, Ser. No. 5,360
Term of patent 14 years
(Cl. D40-1)

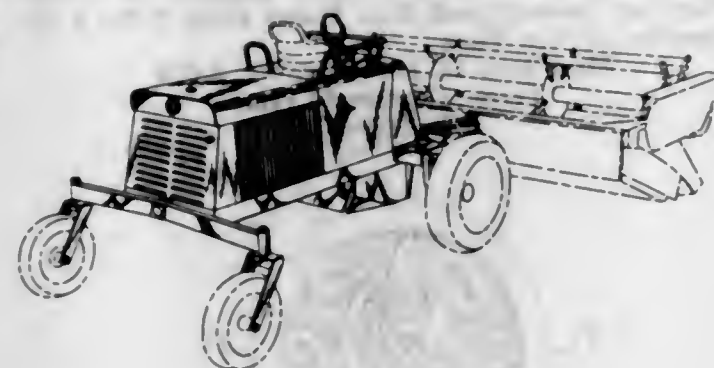
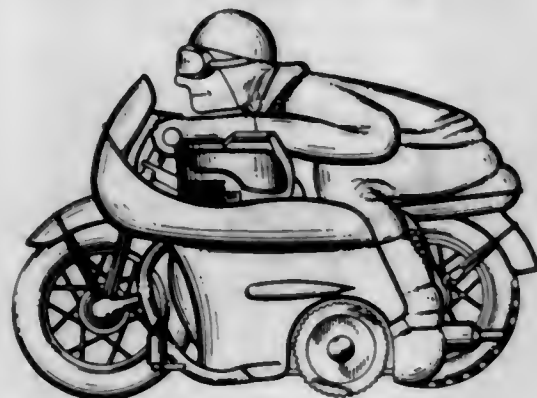


208,484

COMBINED MOTORCYCLE AND DRIVER TOY

Joseph J. Wetherell, New York, N.Y., assignor to Transogram Company, Inc., New York, N.Y., a corporation of Pennsylvania

Filed Aug. 19, 1966, Ser. No. 3,535
Term of patent 14 years
(Cl. D34-15)

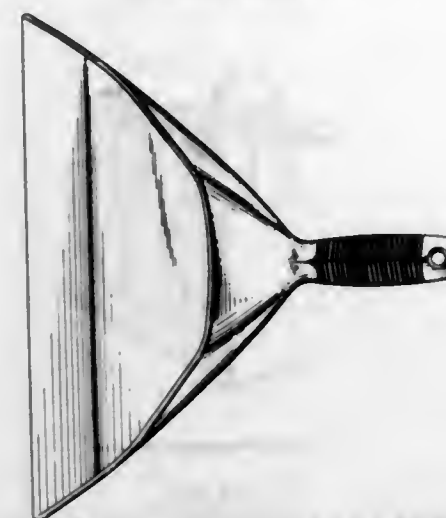


208,487

DUST PAN

Mel Appel, 9 Nottingham Road, Livingston, N.J. 07039, and Martin Schnur, St. Cloud One, West Orange, N.J. 07052

Filed Nov. 23, 1966, Ser. No. 4,794
Term of patent 14 years
(Cl. D44-18)



208,488

DISPOSABLE FILTER

James P. Whelan, Union St., Pembroke, Mass. 02359

Filed Jan. 20, 1966, Ser. No. 699
Term of patent 14 years
(Cl. D44-29)

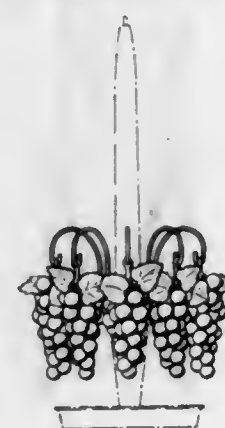


208,489

CANDLE TRIMMER

Vincent S. Lippe, Bronxville, N.Y., assignor to Silvestri Art Manufacturing Co., a corporation of Texas

Filed Aug. 8, 1966, Ser. No. 3,387
Term of patent 14 years
(Cl. D48-2)



208,490

DESK LAMP

Hiroshi Daito, Kyoto, Japan, assignor to Blackwell Electronics Ind., Co., Ltd., Kyoto, Japan

Filed Dec. 19, 1966, Ser. No. 5,088
Term of patent 14 years
(Cl. D48-20)

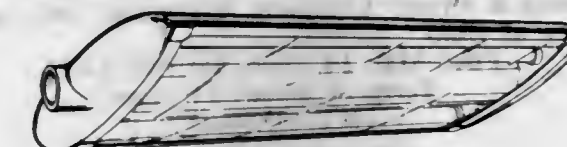


208,491

OUTDOOR LIGHTING FIXTURE

Albert E. Brooks, Jr., Stockton, Calif., assignor to Electric Lighting, Inc., Stockton, Calif., a corporation of California

Filed Apr. 4, 1966, Ser. No. 1,769
Term of patent 14 years
(Cl. D48-31)

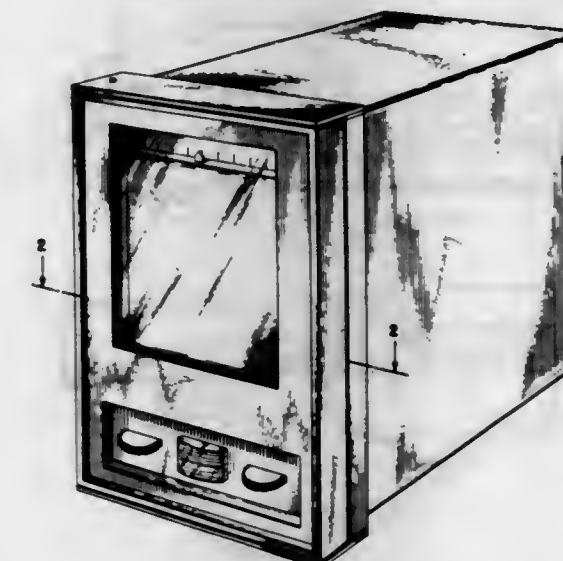


208,492

CONTROL RECORDING INSTRUMENT

Paul Arthur Aldinger, Warminster, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

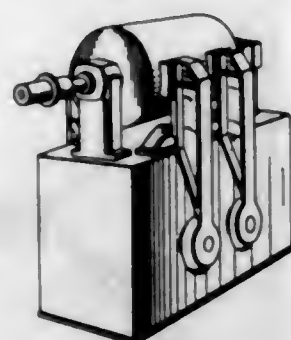
Filed May 3, 1966, Ser. No. 2,143
Term of patent 14 years
(Cl. D52-7)



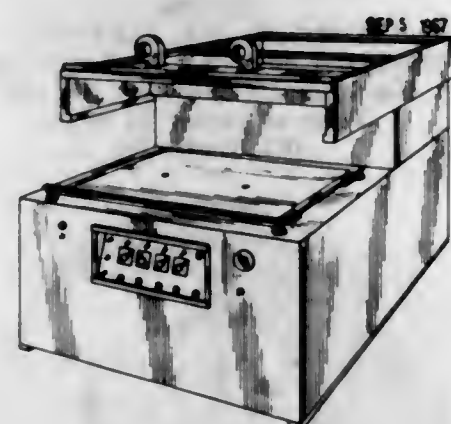
208,493
CLOTHES POLE SUPPORT
 George A. Yokich, Tazewell County, Ill.
 (528 Henrietta St., Pekin, Ill. 61554)
 Filed Oct. 12, 1966, Ser. No. 4,253
 Term of patent 14 years
 (Cl. D54-1)



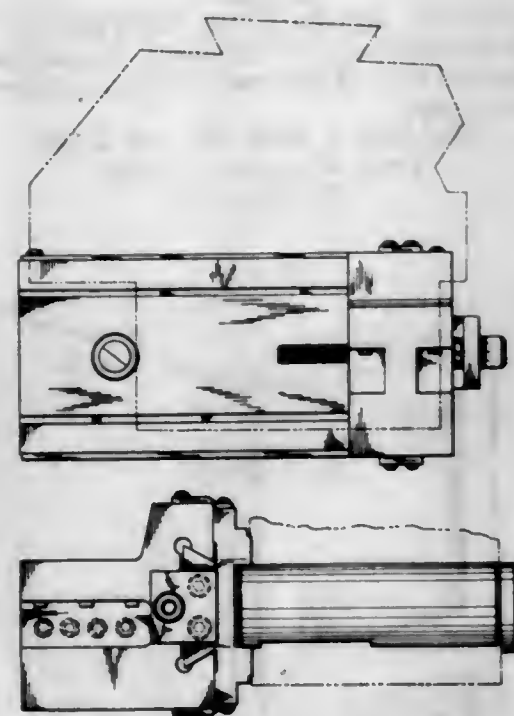
208,495
SHOE BRAKE DRUM FOR PAPER ROLLS
OR THE LIKE
 Lawrence A. Moore, King of Prussia, Pa., and Edward J. Klaczekiewicz, Wilmington, Del., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
 Filed Apr. 4, 1966, Ser. No. 1,761
 Term of patent 14 years
 (Cl. D55-1)



208,496
VACUUM FORMING MACHINE
 John C. Kreitz, Minneapolis, Minn., assignor to Production Products, Inc., Minneapolis, Minn., a corporation of Minnesota
 Filed Sept. 26, 1966, Ser. No. 4,044
 Term of patent 14 years
 (Cl. D55-1)



208,494
TOOL BASE
 Michael W. Papp, Cleveland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
 Filed Mar. 14, 1966, Ser. No. 1,452
 Term of patent 14 years
 (Cl. D54-6)



208,497
BODY OF A STRINGED MUSICAL INSTRUMENT
 Charles A. Gauvin, 805 S. Water St., Silverton, Ore. 97638
 Filed Nov. 15, 1965, Ser. No. 88,092
 Term of patent 14 years
 (Cl. D56-1)



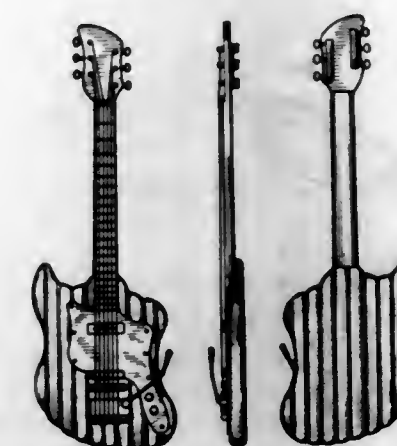
208,498
BODY OF A STRINGED MUSICAL INSTRUMENT
 Charles A. Gauvin, 805 S. Water St., Silverton, Ore. 97638
 Filed Nov. 15, 1965, Ser. No. 88,107
 Term of patent 14 years
 (Cl. D56-1)



208,499
BODY OF A STRINGED MUSICAL INSTRUMENT
 Charles A. Gauvin, 805 S. Water St., Silverton, Ore. 97638
 Filed Nov. 15, 1965, Ser. No. 88,108
 Term of patent 14 years
 (Cl. D56-1)



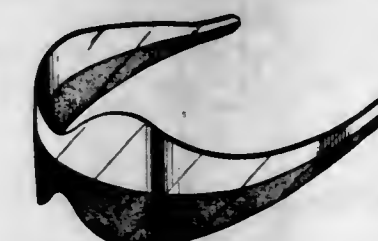
208,500
ELECTRIC GUITAR
 Charles A. Ross, 7th and S. Steuben, Chanute, Kans. 66720
 Filed Sept. 20, 1966, Ser. No. 3,936
 Term of patent 14 years
 (Cl. D56-1)



208,501
PHONOGRAPH CABINET
 Carl W. Sundberg, Bloomfield Hills, Mich., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
 Filed Aug. 25, 1966, Ser. No. 3,595
 Term of patent 14 years
 (Cl. D56-4)

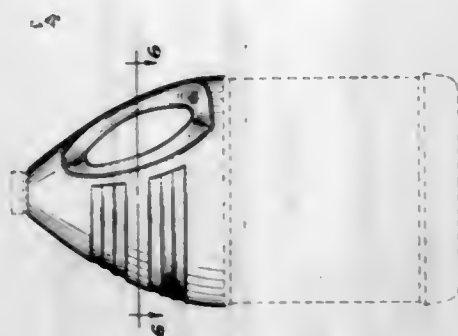


208,502
PAIR OF INVERTIBLE SUNGLASSES
 David Halpern and George Weisenfeld, both of 1432 S. Los Angeles St., Los Angeles, Calif. 90015
 Filed Sept. 19, 1966, Ser. No. 3,923
 Term of patent 14 years
 (Cl. D57-1)

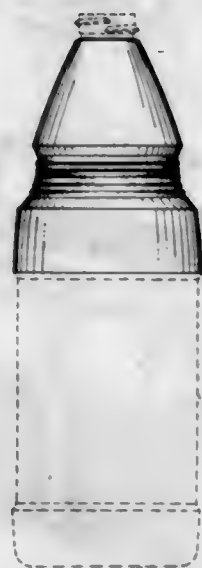


**208,503
JUG**

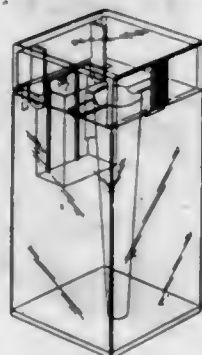
Clark E. Swayze and Richard C. Cross, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 5,515
Term of patent 14 years
(Cl. D58—5)

**208,504
BOTTLE**

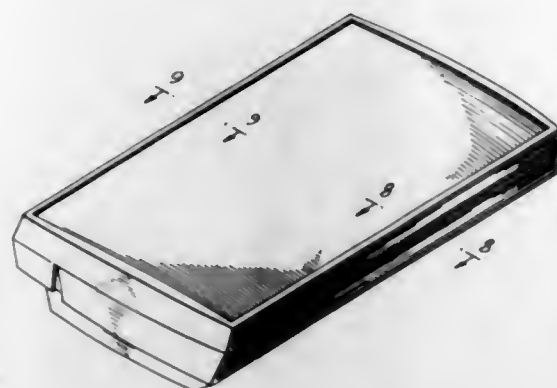
Bertrand N. Trombley, Bloomfield Hills, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 10, 1966, Ser. No. 2,638
Term of patent 14 years
(Cl. D58—9)



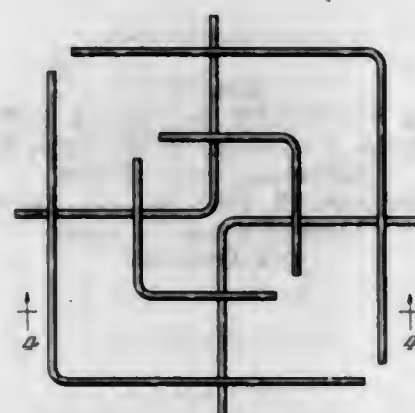
**208,505
CONTAINER FOR A SAFETY RAZOR AND RAZOR BLADE DISPENSER**
William Hogg, 62 Chaucer Ave., Cranford, Hounslow, Middlesex, England
Filed Jan. 27, 1966, Ser. No. 784
Term of patent 14 years
(Cl. D58—12.6)

**208,506****CHEST FOR SILVERWARE OR THE LIKE**

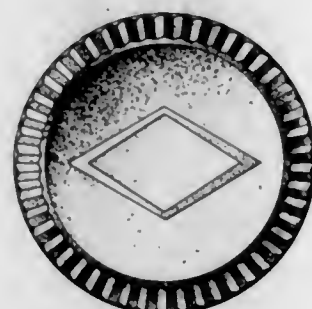
Samuel Braun, Rye, N.Y., assignor, by mesne assignments, to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed Dec. 5, 1966, Ser. No. 4,919
Term of patent 14 years
(Cl. D58—12.6)

**208,507****GUARD FOR THE OPENING IN A WASTE RECEPTACLE**

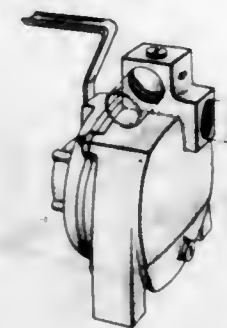
Charles A. Hamilton, Glen Ellyn, Ill., assignor to CAH Industries, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 27, 1965, Ser. No. 322
Term of patent 14 years
(Cl. D58—17)

**208,508****BOTTLE CAP**

Adolph Klein, Hillsborough, Calif., assignor to The Clorox Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 19, 1966, Ser. No. 2,348
Term of patent 14 years
(Cl. D58—26)

**208,509
PUMP**

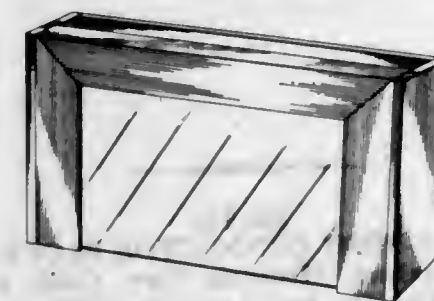
Peter D. George, Stratford, Conn., assignor, by mesne assignments, to Textron Inc.
Filed Aug. 11, 1966, Ser. No. 3,425
Term of patent 14 years
(Cl. D65—1)

**208,510
BOAT**

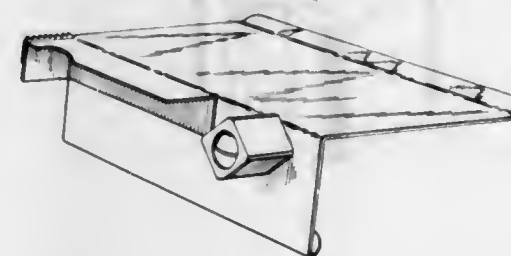
Eugene R. Salay, 1417 Juneau Court, Tucker, Ga. 30084, and Longin A. Orzechowski, 974 Rosedale Road NE., Atlanta, Ga. 30306
Filed Nov. 21, 1966, Ser. No. 4,766
Term of patent 14 years
(Cl. D71—1)

**208,511****COMBINED PICTURE FRAME AND HOLDER FOR MEMO PAPERS**

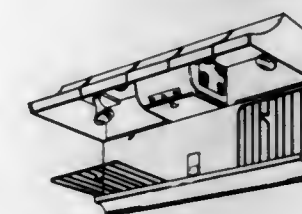
Leonard Rice, 3334 S. Winona Court, Denver, Colo. 80219
Filed Mar. 30, 1966, Ser. No. 1,854
Term of patent 14 years
(Cl. D74—1)

**208,512****WRITE-ON TAPE DISPENSER**

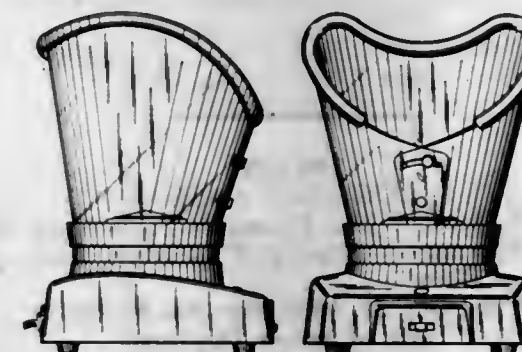
Edward Waltz, Grand Rapids, Mich., assignor to The E. O. Bulman Manufacturing Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Nov. 10, 1966, Ser. No. 4,628
Term of patent 14 years
(Cl. D74—1)

**208,513**

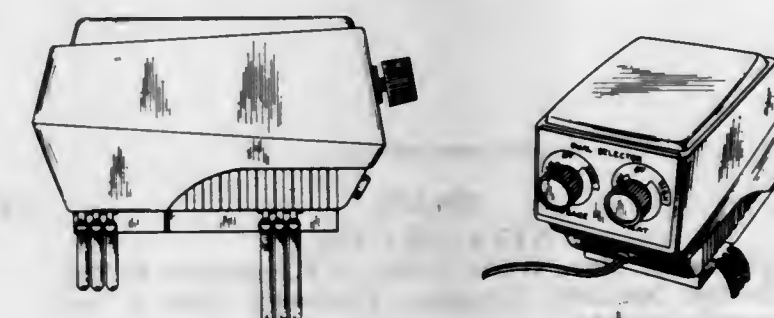
COMBINED KITCHEN RANGE HOOD AND RACK
Kenneth E. Rawald, Anaheim, Calif., assignor to Norris-Thermador Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 29, 1966, Ser. No. 3,644
Term of patent 14 years
(Cl. D81—25)

**208,514****FACIAL STEAM APPLICATOR**

Donald S. Hartwell, Providence, R.I., assignor to Sheffield Laboratories, Inc., Boston, Mass., a corporation of Massachusetts
Filed July 21, 1966, Ser. No. 3,165
Term of patent 14 years
(Cl. D83—1)

**208,515**

COMBINED HEATING AND MASSAGING UNIT
Clifford E. Grube, 8816 Merrill, Niles, Ill. 60648
Filed Aug. 1, 1966, Ser. No. 3,304
Term of patent 14 years
(Cl. D83—1)

**208,516****CRUTCH HAND GRIP**

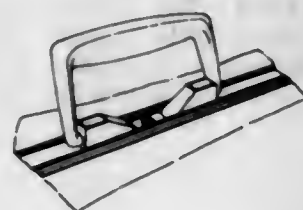
Ernest Schmid and Rainer Schmid, both of 2006 S. 13th St., Broadview, Ill. 60153
Filed Aug. 22, 1966, Ser. No. 3,552
Term of patent 14 years
(Cl. D83—1)



208,517
COMBINED HOLDER AND EXTINGUISHER FOR
A CIGARETTE
 Samuel Lustbader, 2815 W. 30th St.,
 Brooklyn, N.Y. 11224
 Filed Oct. 12, 1966, Ser. No. 4,251
 Term of patent 14 years
 (Cl. D85—2)



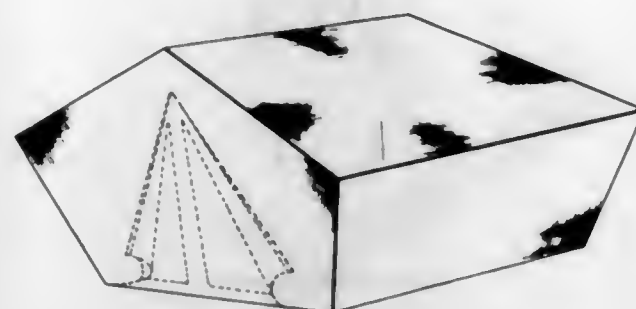
208,518
LUGGAGE CASE
 Raymond P. Stoy, White Plains, N.Y., assignor to The
 Leather Specialty Company, Cincinnati, Ohio, a cor-
 poration of Ohio
 Filed Oct. 21, 1965, Ser. No. 87,716
 Term of patent 14 years
 (Cl. D87—5)



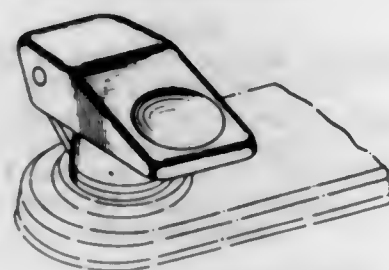
208,519
ATTACHÉ CASE
 Raymond P. Stoy, White Plains, N.Y., assignor to The
 Leather Specialty Company, Cincinnati, Ohio, a cor-
 poration of Ohio
 Filed Oct. 21, 1965, Ser. No. 87,717
 Term of patent 14 years
 (Cl. D87—5)



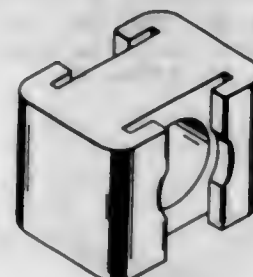
208,520
TENT
 Andro J. Chorey, 8315 Gibson Road,
 Canfield, Ohio 44406
 Filed June 29, 1966, Ser. No. 2,859
 Term of patent 14 years
 (Cl. D88—3)



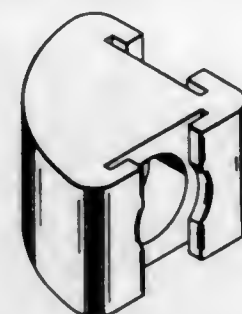
208,521
VALVE HANDLE UNIT
 Paul R. Maguire, Los Angeles, Calif., assignor to Adams
 Rite Manufacturing Company, Glendale, Calif., a cor-
 poration of California
 Filed Aug. 29, 1966, Ser. No. 3,630
 Term of patent 14 years
 (Cl. D91—3)



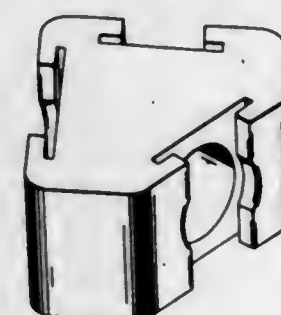
208,522
TWO-PORT CONNECTOR BLOCK
 Charles H. Graham, Mountain View, Calif., assignor to
 Gra-Tec, Inc., Los Altos, Calif.
 Filed Oct. 24, 1966, Ser. No. 4,385
 Term of patent 14 years
 (Cl. D91—3)



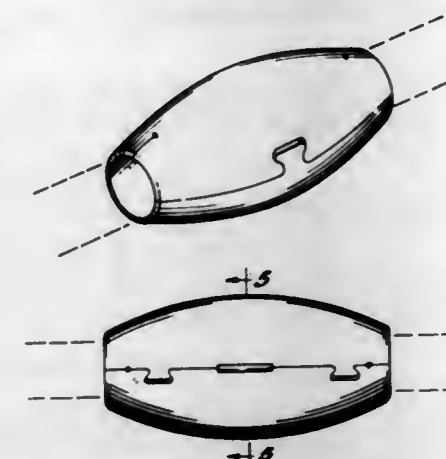
208,523
ELBOW CONNECTOR BLOCK
 Charles H. Graham, Mountain View, Calif., assignor to
 Gra-Tec, Inc., Los Altos, Calif.
 Filed Oct. 24, 1966, Ser. No. 4,426
 Term of patent 14 years
 (Cl. D91—3)



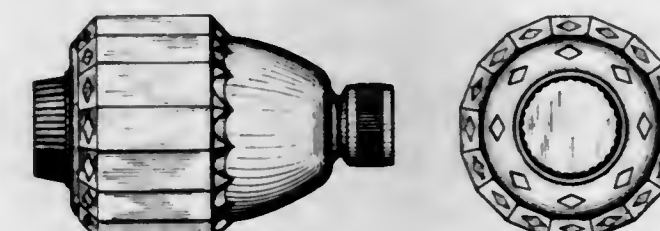
208,524
THREE-PORT CONNECTOR BLOCK
 Charles H. Graham, Mountain View, Calif., assignor to
 Gra-Tec, Inc., Los Altos, Calif.
 Filed Oct. 24, 1966, Ser. No. 4,427
 Term of patent 14 years
 (Cl. D91—3)



208,525
HOSE COUPLING PROTECTOR
 Gary D. Johnson, 1824 Marcella St.,
 Simi, Calif. 93065
 Filed Nov. 10, 1966, Ser. No. 4,625
 Term of patent 14 years
 (Cl. D91—3)



208,526
SHOWER HEAD
 William Bruce Delamater, 9114 Valley View,
 Whittier, Calif. 90603
 Filed Dec. 5, 1966, Ser. No. 4,924
 Term of patent 14 years
 (Cl. D91—3)



LIST OF REISSUE PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 5TH DAY OF SEPTEMBER, 1967

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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|---|--|
| <p>Aldrich, Charles K.: <i>See</i>—
Shepard, Spencer W., and Aldrich, Re. 26,261.
Chemical Construction Corp.: <i>See</i>—
Shepard, Spencer W., and Aldrich, Re. 26,261.
Coppel, Claude P., to Marathon Oil Co. Process utilizing the combination of miscible and thickened floods in petroleum recovery. Re. 26,260, 9-5-67, Cl. 166-9.
Cortina, Guillermo A.: <i>See</i>—
Madrado, Manuel G., and Cortina, Re. 26,263.
Juillfs, Albert G., to Senco Products, Inc. Portable stapler with pneumatic drive and return. Re. 26,262, 9-5-67, Cl. 227-130.</p> | <p>Madrado, Manuel G., and G. A. Cortina, to Process Millers, Inc. Process for nixtamalizing whole grain having an inherent moisture content. Re. 26,263, 9-5-67, Cl. 99-80.
Marathon Oil Co.: <i>See</i>—
Coppel, Claude P. Re. 26,260.
Process Millers, Inc.: <i>See</i>—
Madrado, Manuel G., and Cortina, Re. 26,263.
Senco Products, Inc.: <i>See</i>—
Juillfs, Albert G. Re. 26,262.
Shepard, Spencer W., and C. K. Aldrich, to Chemical Construction Corp. Anodic prevention of hydrogen embrittlement of metals. Re. 26,261, 9-5-67, Cl. 204-147.</p> |
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LIST OF PLANT PATENTEEES

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| <p>Conard-Pyle Co., The: <i>See</i>—
Meiland, Marie L. 2,764.
Meiland, Marie L. 2,765.</p> | <p>Meiland, Marie L., to The Conard-Pyle Co. Rose plant. 2,764, 9-5-67, Cl. 9.
Meiland, Marie L., to The Conard-Pyle Co. Rose plant. 2,765, 9-5-67, Cl. 18.</p> |
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LIST OF DESIGN PATENTEEES

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| <p>Adams Rite Mfg. Co.: <i>See</i>—
Maguire, Paul R. 208,521.
Ahlbrandt, John P., and W. F. Magers, to Sinclair-Koppers Co. Tumbler. 208,485, 9-5-67, Cl. D36-8.
Aldinger, Paul A., to Honeywell Inc. Control recording instrument. 208,492, 9-5-67, Cl. D52-7.
American Machine & Foundry Co.: <i>See</i>—
Dreyfuss, Henry. 208,482.
Amerock (Corp.): <i>See</i>—
Morgan, John R. 208,461.
Appel, Mel, and M. Schnur. Dust pan. 208,487, 9-5-67, Cl. D44-18.
Aron, Richard M., to M. Aron Corp. Necktie tag, or similar article. 208,452, 9-5-67, Cl. D1-8.
Atlantic Products Corp.: <i>See</i>—
Murray, John P., Jr. 208,481.
Beckman Instruments, Inc.: <i>See</i>—
Sato, Stephens N. 208,473.
Belolt Corp.: <i>See</i>—
Moore, Lawrence A., and Klaczekiewicz. 208,495.
Blackwell Electronics Ind. Co., Ltd.: <i>See</i>—
Daito, Hiroshi. 208,490.
Blazon, Inc.: <i>See</i>—
Walklet, Mercer D. 208,483.
Braun, Samuel, to The International Silver Co. Chest for silverware or the like. 208,506, 9-5-67, Cl. D58-12.6.
Brooks, Albert E., Jr., to Electric Lighting, Inc. Outdoor lighting fixture. 208,491, 9-5-67, Cl. D48-31.
Bulman, E. O., Mfg. Co., Inc., The: <i>See</i>—
Waltz, Edward. 208,512.
Burrough, Donald E.: <i>See</i>—
Conner, James M., Burrough, Fairbank, Soteropulos, and Dreyfuss. 208,486.
CAH Industries, Inc.: <i>See</i>—
Hamilton, Charles A. 208,507.
Chorey, Andro J. Tent. 208,520, 9-5-67, Cl. D88-3.
Clorox Co., The: <i>See</i>—
Klein, Adolph. 208,508.
Coastal Dynamics Corp.: <i>See</i>—
Curl, Gerald A. 208,474.
Conner, James M., D. E. Burrough, R. H. Fairbank, G. Soteropulos, and H. Dreyfuss, to Deere & Co. Traction unit for a windrower or the like. 208,486, 9-5-67, Cl. D40-1.
Cross, Richard C.: <i>See</i>—
Swayze, Clark E., and Cross. 208,503.
Curl, Gerald A., to Coastal Dynamics Corp. Miniature lamp. 208,474, 9-5-67, Cl. D26-8.
Daito, Hiroshi, to Blackwell Electronics Ind. Co., Ltd. Desk lamp. 208,490, 9-5-67, Cl. D48-20.
Deere & Co.: <i>See</i>—
Conner, James M., Burrough, Fairbank, Soteropulos, and Dreyfuss. 208,486.
Delamater, William B. Shower head. 208,526, 9-5-67, Cl. D91-3.
Dow Chemical Co., The: <i>See</i>—
Swayze, Clark E., and Cross. 208,503.
Trombley, Bertrand N. 208,504.
Dreyfuss, Henry, to American Machine & Foundry Co. Bowling ball storage rack. 208,482, 9-5-67, Cl. 34-5.
Dreyfuss, Henry: <i>See</i>—
Conner, James M., Burrough, Fairbank, Soteropulos, and Dreyfuss. 208,486.</p> | <p>Electric Lighting, Inc.: <i>See</i>—
Brooks, Albert E., Jr. 208,491.
Fairbank, Raymond H.: <i>See</i>—
Conner, James M., Burrough, Fairbank, Soteropulos, and Dreyfuss. 208,486.
Fratzschner, Kurt, to Patterson International Corp. Mounted game piece for a game board. 208,480, 9-5-67, Cl. D34-5.
Gauvin, Charles A. Body of a stringed musical instrument. 208,497, 9-5-67, Cl. D56-1.
Gauvin, Charles A. Body of a stringed musical instrument. 208,498, 9-5-67, Cl. D56-1.
Gauvin, Charles A. Body of a stringed musical instrument. 208,499, 9-5-67, Cl. D56-1.
George, Peter D., to Textron Inc. Pump. 208,509, 9-5-67, Cl. D65-1.
Graham, Charles H., to Gra-Tec, Inc. Two-port connector block. 208,522, 9-5-67, Cl. D61-3.
Graham, Charles H., to Gra-Tec, Inc. Elbow connector block. 208,523, 9-5-67, Cl. D91-3.
Graham, Charles H., to Gra-Tec, Inc. Three-port connector block. 208,524, 9-5-67, Cl. D91-3.
Gra-Tec, Inc.: <i>See</i>—
Graham, Charles H. 208,522.
Graham, Charles H. 208,523.
Graham, Charles H. 208,524.
Grube, Clifford E. Combined heating and massaging unit. 208,515, 9-5-67, Cl. D83-1.
Hansen, Robert W., to Jennings Radio Mfg. Corp. Single pole-double throw miniature vacuum relay. 208,472, 9-5-67, Cl. D26-1.
Halpern, David, and G. Weisenfeld. Pair of invertible sunglasses. 208,502, 9-5-67, Cl. D57-1.
Hamilton, Charles A., to CAH Industries, Inc. Guard for the opening in a waste receptacle. 208,507, 9-5-67, Cl. D58-17.
Hartwell, Donald S., to Sheffield Laboratories, Inc. Facial steam applicator. 208,514, 9-5-67, Cl. D83-1.
Hogg, William. Container for a safety razor and razor blade dispenser. 208,505, 9-5-67, Cl. D58-12.6.
Holzwarth, Henry A.: <i>See</i>—
Metzler, Charles L., and Holzwarth. 208,479.
Honeywell Inc.: <i>See</i>—
Aldinger, Paul A. 208,492.
International Business Machines Corp.: <i>See</i>—
Wood, Donald H., and Moore. 208,475.
International Silver Co., The: <i>See</i>—
Braun, Samuel. 208,506.
Jennings Radio Mfg. Corp.: <i>See</i>—
Hansen, Robert W. 208,472.
Johnson, Gary D. Hose coupling protector. 208,525, 9-5-67, Cl. D91-3.
Johnson, Raymond O. Wall decoration or the like. 208,477, 9-5-67, Cl. D29-1.
Kenney, Philip L., to The Stanley Works. Drapery ring. 208,471, 9-5-67, Cl. D21-1.
Klaczekiewicz, Edward J.: <i>See</i>—
Moore, Lawrence A., and Klaczekiewicz. 208,495.
Klein, Adolph, to The Clorox Co. Bottle cap. 208,508, 9-5-67, Cl. D58-26.
Kreitz, John C., to Production Products, Inc. Vacuum forming machine. 208,496, 9-5-67, Cl. D53-1.</p> |
|---|--|

LIST OF DESIGN PATENTEEES

La Barge, Louis P., to Zero Mfg. Co. Coin operated telephone or similar article. 208,476, 9-5-67, Cl. D26-14.
 Leather Specialty Co., The: See—
 Stoy, Raymond P. 208,518.
 Stoy, Raymond P. 208,519.
 Lippe, Vincent S., to Silvestri Art Mfg. Co. Candle trimmer. 208,489, 9-5-67, Cl. D48-2.
 Lustbader, Samuel. Combined holder and extinguisher for a cigarette. 208,517, 9-5-67, Cl. D85-2.
 M. Aron Corp.: See—
 Aron, Richard M. 208,452.
 Madej, Edward A., to Nationwide Vault and Mfg. Co. Burial vault. 208,470, 9-5-67, Cl. D19-1.
 Magers, Wallace F.: See—
 Ahlbrandt, John P., and Magers. 208,485.
 Maguire, Paul R., to Adams Rite Mfg. Co. Valve handle unit. 208,521, 9-5-67, Cl. D91-3.
 Marcott, Gordon L. Building. 208,460, 9-5-67, Cl. D13-1.
 Metzler, Charles L., and H. A. Holzwarth, to Visirecord Inc. Record-keeping cabinet. 208,479, 9-5-67, Cl. D33-19.
 Moore, Donald A.: See—
 Wood, Donald H., and Moore. 208,475.
 Moore, Lawrence A., and E. J. Klaczkiewicz, to Beloit Corp. Shoe brake drum for paper rolls or the like. 208,495, 9-5-67, Cl. D55-1.
 Morgan, John R., to Amerock (Corp.). Applique type panel for cabinet doors or the like. 208,461, 9-5-67, Cl. D13-1.
 Murray, John P., Jr., to Atlantic Products Corp. Golf bag bottom. 208,481, 9-5-67, Cl. D34-5.
 Nagy, Bob: See—
 Nagy, Sonda and B. 208,455.
 Nagy, Bob and S. Lid cover for the seat of a water closet. 208,456, 9-5-67, Cl. D4-5.
 Nagy, Sonda and B. Lid cover for the seat of a water closet. 208,455, 9-5-67, Cl. D4-5.
 Nagy, Sonda: See—
 Nagy, Bob and S. 208,456.
 Nationwide Vault and Mfg. Co.: See—
 Madej, Edward A. 208,470.
 Nidetch, Jean, to Weight Watchers International, Inc. Badge or the like. 208,478, 9-5-67, Cl. D29-2.
 Norris-Thermador Corp.: See—
 Rawald, Kenneth E. 208,513.
 Okiyama, Masaharu. Barber chair. 208,467, 9-5-67, Cl. D15-3.
 Okiyama, Masaharu. Barber chair. 208,468, 9-5-67, Cl. D15-3.
 Orzechowski, Longin A.: See—
 Salay, Eugene R., and Orzechowski. 208,510.
 Papp, Michael W., to The Warner & Swasey Co. Tool base. 208,494, 9-5-67, Cl. D54-6.
 Parker, Lisbeth. Test tube rack. 208,469, 9-5-67, Cl. D16-1.
 Parker, Wayland B., to Schlumberger Ltd. (Schlumberger N.V.). Chair. 208,465, 9-5-67, Cl. D15-1.
 Patterson International Corp.: See—
 Fratzscher, Kurt. 208,480.
 Pearson, Joseph W. Automobile door protector or the like. 208,462, 9-5-67, Cl. D14-6.
 Production Products, Inc.: See—
 Kretz, John C. 208,496.
 Rawald, Kenneth E., to Norris-Thermador Corp. Combined kitchen range hood and rack. 208,513, 9-5-67, Cl. D81-23.
 Rice, Leonard. Combined picture frame and holder for memo papers. 208,511, 9-5-67, Cl. D74-1.
 Rodrigo, Miguel. Chair base or similar article. 208,466, 9-5-67, Cl. D15-2.
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- Johnston, Lowell B., to Owens-Corning Fiberglass Corp. Apparatus for producing nonwoven fibrous product. 3,340,128, 9-5-67, Cl. 156-426.
- Johnston, Robert L., to United States of America, National Aeronautics and Space Administration. Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples. 3,340,397, 9-5-67, Cl. 250-52.
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- Sporck, Christian R., to General Electric Co. Vinylheptaphenylcyclotetrasiloxane. 3,340,288, 9-5-67, Cl. 260-448.2.
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109	: 3,339,631	194-4	: 3,339,693	212-20	: 3,339,753	15	: 3,339,841	29.7	: 3,340,217	674	: 3,340,319
166-6	: 3,339,632	195-28	: 3,340,155	214-1.4	: 3,339,754	65	: 3,339,842	31.6	: 3,340,218	677	: 3,340,319
9	: Re.26,260	66	: 3,340,156	6	: 3,339,755	157	: 3,339,843	32.6	: 3,340,219	680	: 3,340,320
33	: 3,339,633	197-6.7	: 3,339,694	16.4	: 3,339,756	265.19	: 3,339,844	40	: 3,340,220		: 3,340,321
39	: 3,339,634	17	: 3,339,695	16.6	: 3,339,757	283	: 3,339,845	41	: 3,340,221	683	: 3,340,322
40	: 3,339,635	138	: 3,339,696	17	: 3,339,758	304	: 3,339,846		: 3,340,222	683.15	: 3,340,323
117.5	: 3,339,636	161	: 3,339,697	17	: 3,339,759	413	: 3,339,847		: 3,340,223	823	: 3,340,325
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53	: 3,340,144	31	: 3,339,700	84	: 3,339,762	240-8.12	: 3,340,389		: 3,340,227	897	: 3,340,328
	: 3,340,145	32	: 3,339,701	138	: 3,339,763	10	: 3,340,390	45.8	: 3,340,225	925	: 3,340,329
53.1	: 3,340,143	33	: 3,339,702	315	: 3,339,764	10.64	: 3,340,391	46.5	: 3,340,228	927	: 3,340,330
55	: 3,340,146		: 3,339,703	390	: 3,339,765	52.1	: 3,340,392	47	: 3,340,229	955	: 3,340,331
	: 3,340,147		: 3,339,704	394	: 3,339,766	93	: 3,340,393		: 3,340,230	956	: 3,340,332
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65	: 3,340,149		: 3,339,706	730	: 3,339,768	46	: 3,339,851	48	: 3,340,232	261-50	: 3,339,900
	: 3,340,150	77	: 3,339,707	770	: 3,339,769	110	: 3,339,853	62	: 3,340,233	124	: 3,339,901
66	: 3,340,151	139	: 3,339,708	215-9	: 3,339,770	156	: 3,339,852	67	: 3,340,234	142	: 3,339,902
82	: 3,340,152	157	: 3,339,709	11	: 3,339,771	230	: 3,339,854	78	: 3,340,235	264-12	: 3,340,334
90	: 3,340,153	160	: 3,339,710	40	: 3,339,772	280	: 3,339,855	78.4	: 3,340,236	45	: 3,340,335
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171-58	: 3,339,640	200-44	: 3,340,370	94	: 3,339,775	54.1	: 3,339,858	80.3	: 3,340,239	89	: 3,340,338
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79	: 3,339,642	83	: 3,340,372	219-50	: 3,340,377	117	: 3,339,860		: 3,340,241	168	: 3,340,340
184	: 3,339,643		: 3,340,373	85	: 3,340,378	118.7	: 3,339,861	91.3	: 3,340,242	248	: 3,340,341
173-127	: 3,339,644	113	: 3,340,374	99	: 3,340,379	128	: 3,339,862	92.8	: 3,340,243	275	: 3,340,342
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52	: 3,340,347	203-2	: 3,340,158	220-2.1	: 3,339,777	113	: 3,339,866	153	: 3,340,247	33	: 3,339,905
	: 3,340,348	7.7	: 3,340,159	9	: 3,339,778	246-200	: 3,340,394	210.5	: 3,340,248	267-1	: 3,339,906
53	: 3,340,349	9	: 3,340,160		: 3,339,779	248-2	: 3,339,867	211.5	: 3,340,249		: 3,339,907
74	: 3,340,350	15	: 3,340,161		: 3,339,780	14	: 3,339,868	236.5	: 3,340,250	47	: 3,339,908
79	: 3,340,351	28	: 3,340,162		: 3,339,781	48	: 3,339,869	239.1	: 3,340,252	57	: 3,339,909
94	: 3,340,352	35	: 3,340,163	15	: 3,339,782	68	: 3,339,870	239.3	: 3,340,253	65	: 3,339,910
106	: 3,340,353		: 3,340,164		: 3,339,783	225	: 3,339,871		: 3,340,254	69	: 3,339,911
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268	: 3,339,647	143	: 3,340,166	41	: 3,339,785	404	: 3,339,873	239.55	: 3,340,255	328	: 3,339,913
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177-16	: 3,339,650		: 3,340,169	54	: 3,339,789	481	: 3,339,877	246	: 3,340,259		: 3,339,917
55	: 3,339,651	180	: 3,340,171		: 3,339,790	249-82	: 3,339,878	247.1	: 3,340,260	64	: 3,339,918
136	: 3,339,652	181	: 3,340,172	57	: 3,339,791	177	: 3,339,879	248	: 3,340,261	272-33	: 3,339,919
178-4	: 3,340,354	196	: 3,340,173	60	: 3,339,792	250-41.9	: 3,340,395	250	: 3,340,262	60	: 3,339,920
	: 3,340,355	213	: 3,340,170	66	: 3,339,793	51.5	: 3,340,396	268	: 3,340,263	273-1	: 3,339,921
	: 3,340,356		: 3,340,174	91	: 3,339,794	52	: 3,340,397	281	: 3,340,264	11	: 3,339,922
6.8	: 3,340,360	268	: 3,340,175	93	: 3,339,795	83	: 3,340,398	286	: 3,340,265	86	: 3,339,923
7.3	: 3,340,357	298	: 3,340,176	117	: 3,339,796	217	: 3,340,399	288	: 3,340,266		: 3,339,924
7.82	: 3,340,358	301	: 3,340,177	221-73	: 3,339,797	219	: 3,340,400	292	: 3,340,267	95	: 3,339,925
7.88	: 3,340,359	206-1.9	: 3,339,713	113	: 3,339,798	221	: 3,340,401	293.4	: 3,340,268	183	: 3,339,926
179-1.5	: 3,340,361	44.11	: 3,339,714	176	: 3,339,799	251-25	: 3,339,880	294.7	: 3,340,269	191	: 3,339,927
5	: 3,340,362	45.31	: 3,339,715	222-5	: 3,339,800	58	: 3,339,881	309.6	: 3,340,271	274-1	: 3,339,928
15	: 3,340,363	47	: 3,339,716	57	: 3,339,801	64	: 3,339,882	310	: 3,340,272	277-9	: 3,339,929
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3,339,951	3,339,673	3,340,327	3,339,697	3,339,686	3,339,706
3,340,430	3,339,677	3,340,337	3,339,740	3,339,805	3,339,728
4 : 3,339,308	3,339,685	3,340,367	3,339,826	3,339,860	3,339,737
6 : Re. 26,260	3,339,693	3,340,382	3,339,867	3,339,955	3,339,746
3,339,208	3,339,694	3,340,384	3,339,991	3,339,971	3,339,750
3,339,214	3,339,718	3,340,386	3,340,000	3,339,972	3,339,758
3,339,223	3,339,725	3,340,398	3,340,027	3,340,071	3,339,772
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3,339,265	3,339,762	3,340,420	3,340,104	3,340,471	3,339,802
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3,339,275	3,339,842	3,340,443	3,340,106	3,340,523	3,339,827
3,339,283	3,339,866	3,340,458	3,340,107	3,340,531	3,339,839
3,339,287	3,339,878	3,340,467	3,340,137	3,339,245	3,339,854
3,339,301	3,339,879	3,340,468	3,340,170	3,339,361	3,339,859
3,339,302	3,339,881	3,340,475	3,340,177	3,339,528	3,339,899
3,339,311	3,339,882	3,340,483	3,340,220	3,339,723	3,339,901
3,339,329	3,339,886	3,340,485	3,340,235	3,339,749	3,339,916
3,339,330	3,339,888	3,340,489	3,340,296	3,340,005	3,339,919
3,339,331	3,339,891	3,340,501	3,340,330	3,340,312	3,339,920
3,339,351	3,339,896	3,340,503	3,340,375	3,339,447	3,339,921
3,339,374	3,339,900	3,340,512	3,340,387	3,339,968	3,339,927
3,339,385	3,339,914	3,340,513	3,340,477	3,339,209	3,339,928
3,339,387	3,339,930	3,340,517	3,340,517	3,339,342	3,339,932
3,339,398	3,339,939	3,340,534	3,339,362	3,339,219	3,339,941
3,339,409	3,339,942	3,340,535	3,339,362	3,339,238	3,339,952
3,339,419	3,339,950	3,340,541	3,340,126	3,339,252	3,339,961
3,339,424	3,339,970	3,340,548	3,340,136	3,339,258	3,339,964
3,339,427	3,339,993	3,339,449	3,340,234	3,339,280	3,339,982
3,339,436	3,339,998	3,339,698	3,340,275	3,339,297	3,339,997
3,339,446	3,340,038	3,339,715	3,340,290	3,339,303	3,340,011
3,339,448	3,340,044	3,339,800	3,340,302	3,339,322	3,340,012
3,339,474	3,340,070	3,339,838	3,340,321	3,339,375	3,340,035
3,339,480	3,340,096	3,339,948	3,340,429	3,339,386	3,340,072
3,339,512	3,340,111	3,340,380	3,339,215	3,339,416	3,340,091
3,339,514	3,340,115	3,340,426	3,339,542	3,339,425	3,340,113
3,339,516	3,340,135	3,339,240	3,339,743	3,339,428	3,340,121
3,339,523	3,340,169	3,339,250	3,339,863	3,339,509	3,340,130
3,339,540	3,340,175	3,339,260	3,340,383	3,339,524	3,340,148
3,339,554	3,340,181	3,339,276	3,340,385	3,339,530	3,340,195
3,339,561	3,340,182	3,339,277	3,340,395	3,339,536	3,340,205
3,339,572	3,340,183	3,339,312	3,339,306	3,339,544	3,340,217
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3,339,609	3,340,226	3,339,349	3,339,476	3,339,575	3,340,273
3,339,632	3,340,239	3,339,388	3,339,543	3,339,608	3,340,281
3,339,634	3,340,251	3,339,462	3,339,551	3,339,616	3,340,294
3,339,646	3,340,280	3,339,555	3,339,558	3,339,630	3,340,316
3,339,647	3,340,303	3,339,557	3,339,635	3,339,638	3,340,329
3,339,652	3,340,307	3,339,671	3,339,642	3,339,645	3,340,349

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3,340,378	3,339,442	3,339,319	3,340,196	3,339,936	3,339,733
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3,340,450	3,339,571	3,339,691	3,340,219	3,339,995	3,339,796
3,340,465	3,339,582	3,339,712	3,340,229	3,340,006	3,339,799
3,340,472	3,339,590	3,339,797	3,340,237	3,340,007	3,339,811
3,340,486	3,339,591	3,339,808	3,340,253	3,340,014	3,339,831
3,340,488	3,339,765	3,339,835	3,340,259	3,340,034	3,339,832
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3,340,504	3,339,845	3,339,944	3,340,262	3,340,049	3,339,851
3,340,505	3,339,871	3,340,212	3,340,268	3,340,050	3,339,855
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3,339,405	3,340,013	3,340,498	3,340,283	3,340,076	3,339,940
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3,339,488	3,340,100	29 : 3,339,207	3,340,300	3,340,083	3,339,988
3,339,501	3,340,102	3,339,279	3,340,310	3,340,088	3,340,003
3,339,584	3,340,200	3,339,299	3,340,328	3,340,161	3,340,037
3,339,624	3,340,209	3,339,307	3,340,332	3,340,164	3,340,053
3,339,659	3,340,243	3,339,483	3,340,361	3,340,171	3,340,055
3,339,678	3,340,270	3,339,499	3,340,362	3,340,189	3,340,056
3,339,683	3,340,359	3,339,739	3,340,440	3,340,207	3,340,084
3,339,795	3,340,444	3,339,938	3,340,445	3,340,221	3,340,090
3,339,829	3,340,447	3,339,963	3,340,479	3,340,228	3,340,119
3,339,912	3,340,490	3,340,043	3,340,231	3,340,288	3,340,172
3,339,960	3,340,496	3,340,133	3,340,514	3,340,242	3,340,173
3,340,029	3,340,519	3,340,193	3,340,532	3,340,274	3,340,174
3,340,067	3,340,527	3,340,293	3,340,532	3,340,287	3,340,230
3,340,147	3,340,528	3,340,371	3,340,522	3,340,288	3,340,308
3,340,179	3,340,529	3,340,522	3,340,522	3,340,289	3,340,331
3,340,190	3,340,536	31 : 3,339,365	3,340,522	3,340,299	3,340,343
3,340,236	3,340,538	3,339,367	3,340,522	3,340,314	3,340,346
19 : 3,339,255	3,340,539	32 : 3,339,755	3,340,522	3,340,329	3,340,369
3,339,352	3,339,226	3,339,755	3,340,522	3,340,333	3,340,373
3,339,354	3,339,272	33 : 3,339,458	3,340,522	3,340,333	3,340,393
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3,339,423	3,339,313	3,339,291	3,340,522	3,340,365	3,340,449
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3,339,760	3,339,431	3,339,281	3,340,522	3,340,401	3,339,486
3,339,761	3,339,432	3,339,285	3,340,522	3,340,403	3,339,515
3,339,887	3,339,482	3,339,345	3,340,522	3,340,416	3,339,637
3,339,925	3,339,539	3,339,347	3,340,522	3,340,431	3,339,666
3,339,986	3,339,547	3,339,414	3,340,522	3,340,438	3,339,669
20 : 3,339,429	3,339,579	3,339,439	3,340,522	3,340,446	3,339,690
3,339,828	3,339,585	3,339,466	3,340,522	3,340,451	3,339,764
3,339,974	3,339,599	3,339,469	3,340,522	3,340,492	3,339,885
21 : 3,339,273	3,339,618	3,339,506	3,340,522	3,340,492	3,339,985
3,339,490	3,339,651	3,339,546	3,340,522	3,340,508	3,340,081
3,339,535	3,339,662	3,339,542	3,340,522	3,340,518	3,340,094
3,339,587	3,339,665	3,339,549	3,340,522	3,340,526	3,340,142
3,339,695	3,339,668	3,339,564	3,340,522	3,340,530	3,340,158
3,339,701	3,339,674	3,339,653	3,340,522	3,340,555	3,340,185
3,340,101	3,339,676	3,339,700	3,340,522	3,340,570	3,340,188
3,340,516	3,339,679	3,339,702	3,340,522	3,340,585	3,340,282
22 : 3,339,513	3,339,681	3,339,714	3,340,522	3,340,592	3,340,317
3,339,747	3,339,688	3,339,719	3,340,522	3,340,602	3,340,319
3,339,782	3,339,689	3,339,720	3,340,522	3,340,617	3,340,322
3,340,124	3,339,734	3,339,738	3,340,522	3,340,629	3,340,372
3,340,218	3,339,735	3,339,773	3,340,522	3,340,644	3,340,399
3,340,284	3,339,752	3,339,780	3,340,522	3,340,658	3,340,500
23 : 3,339,505	3,339,763	3,339,783	3,340,522	3,340,670	3,340,510
24 : 3,339,218	3,339,769	3,339,793	3,340,522	3,340,685	41 :

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42 : 3,339,809	42 : 3,340,265	45 : 3,339,477	48 : 3,339,563	48 : 3,340,336	53 : 3,339,525
3,339,812	3,340,304	3,339,656	3,339,576	3,340,345	3,339,958
3,339,814	3,340,318	3,340,537	3,339,577	3,340,397	3,339,980
3,339,818	3,340,326	46 : 3,339,565	3,339,633	3,340,406	3,340,139
3,339,870	3,340,338	47 : 3,339,560	3,339,636	3,340,521	54 : 3,339,977
3,339,898	3,340,347	3,340,023	3,339,641	49 : 3,339,217	3,339,979
3,339,903	3,340,348	3,340,118	3,339,648	3,339,475	3,340,213
3,339,904	3,340,351	3,340,244	3,339,742	3,339,566	3,340,311
3,340,030	3,340,409	3,340,425	3,339,787	3,339,873	55 : 3,339,282
3,340,039	3,340,427	48 : 3,339,225	3,339,877	51 : 3,339,404	3,339,395
3,340,046	3,340,437	3,339,256	3,339,897	3,339,527	3,339,550
3,340,054	3,340,439	3,339,262	3,339,945	3,339,531	3,339,583
3,340,087	3,340,441	3,339,335	3,339,978	3,339,884	3,339,644
3,340,108	3,340,473	3,339,350	3,340,004	3,340,008	3,339,722
3,340,159	3,340,497	3,339,367	3,340,010	3,340,092	3,339,820
3,340,162	3,340,525	3,339,400	3,340,079	3,340,134	3,339,825
3,340,178	3,340,540	3,339,413	3,340,080	3,340,245	3,340,089
3,340,180	44 : 3,339,357	3,339,443	3,340,114	3,340,339	3,340,129
3,340,192	3,339,434	3,339,444	3,340,123	3,340,407	3,340,138
3,340,194	3,339,745	3,339,460	3,340,131	3,340,455	3,340,434
3,340,201	3,339,774	3,339,478	3,340,295	3,340,459	3,340,457
3,340,222	3,339,861	3,339,493	3,340,320	53 : 3,339,467	3,340,461
3,340,225	3,340,033	3,339,519	3,340,324	3,339,479	3,340,493
3,340,252	3,340,128				

DESIGN PATENTS

6 : 208,453	6 : 208,508	9 : 208,457	20 : 208,500	36 : 208,455	39 : 208,494
208,459	208,513	208,458	208,488	208,456	208,520
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208,472	208,522	208,509	208,503	208,484	208,498
208,473	208,523	13 : 208,510	208,504	208,489	208,499
208,474	208,524	17 : 208,461	208,512	208,506	42 : 208,470
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208,476	208,526	208,493	28 : 208,464	208,518	208,495
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208,502	9 : 208,452	20 : 208,485			

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 5, 1967

Volume 842

Number 1

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Llewellyn, Inc., New York, N.Y., Reg. No. 559,969, Canc. No. 8921.

Michaels Brothers Corp., by assignment and change of name from Michaels Bros., Brooklyn, N.Y., Reg. No. 298,387, Canc. No. 8937.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 128,891 (VICTOR), Victor Adding Machine Co., Adding and calculating machines, filed May 8, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c766, *Victor Comptometer Corporation v. Victor Office of Des Plaines, Inc. and Vincent Miceli*.

Reg. No. 339,329 (DO-ALL), Continental Machine Specialties, Inc., Combination bandsawing and filing machine; **Reg. No. 390,078**, same, The Do-All Company, Grinders of the machine tool type suitable for precision surface grinding; **Reg.**

No. 394,883, same, Files, file segments, filebands, saws and saw bands; **Reg. No. 424,899**, same, Cutting tools for turning, milling, drilling, boring, threading and planing machines, and parts of such tools; **Reg. No. 429,124**, same, Powdered metal, carbonides, and unfinished and partly finished parts made of or with said materials, filed July 17, 1964, D.C., S.D.N.Y., Doc. 64-C-2234, *Do-All Company v. Dynamic Industrial Products Corp. and Unival Corp.* Stipulation and order of dismissal, Feb. 20, 1967.

Reg. No. 344,587 (CORONET), David A. Smart, Magazines issued monthly, filed Nov. 19, 1963, D.C., S.D.N.Y., Doc. 63-C-3384, *Readers Digest Assn. v. H. S. Publications Inc., et al.* Stipulation and order discontinuing action, Mar. 14, 1967.

Reg. No. 381,468 (AMEROCK), American Cabinet Hardware Corp., Drawer and door pulls, knobs and hinges; **Reg. No. 381,714**, same, Door catches; **Reg. No. 524,364**, same, Cabinet hardware—namely, door and drawer pulls and knobs, door catches and hinges, window sash locks and finger grips, filed Apr. 12, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c572, *Amerock Corporation v. Bolen International, Inc. and Bolen Enterprises Inc.*

Reg. No. 381,714. (See Reg. No. 381,468.)

Reg. No. 390,078. (See Reg. No. 339,329.)

Reg. No. 394,883. (See Reg. No. 339,329.)

Reg. No. 424,899. (See Reg. No. 339,329.)

Reg. No. 429,124. (See Reg. No. 339,329.)

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]..... 16,777
Date of oldest new application..... Sept. 2, 1966
Date of oldest amended application (filing date)..... Oct. 2, 1961

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	9-2-66	10-15-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	10-25-66	10-2-61
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....	10-3-66	4-16-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	10-17-66	10-30-64
Renewals (All Classes).....	6-30-67	
Sec. 12(c) Publications (All Classes).....	7-12-67	

Applications filed during the month of July 1967—2,166

Registrations Issued 395—No. 834,516 to No. 834,910
Renewals Issued 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed: subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Reg. No. 524,364. (See Reg. No. 381,468.)

Reg. No. 592,539 (HOLIDAY INN), Holiday Inn Hotel Courts, Inc., Motel services—namely, providing lodgings and meals in motels; Reg. No. 592,540, same, Holiday Inns of America, Inc., same, filed Apr. 28, 1967, D.C., E.D. Calif. (Fresno), Doc. F-86-C, *Holiday Inns of America, Inc. v. Mullen's Holiday Inn, Inc., and Roy M. Mullen*.

Reg. No. 592,540. (See Reg. No. 592,539.)

Reg. No. 592,771 (EXQUISITE FORM), Exquisite Form Brassiere, Inc., Brassieres, garter belts, and girdles; Reg. No. 642,681 (EXQUISITE) same, filed May 28, 1965, D.C., S.D.N.Y., Doc. 65-C-1643, *Exquisite Form Industries, Inc. v. R. B. K. Importers, Inc.* Stipulation and order of discontinuance, June 2, 1966.

Reg. No. 603,980 (KIMBERLY), Kimberly Knitwear, Inc., Ladies' knitted outerwear—namely, sweaters, skirts, jackets and suits; Reg. No. 774,629 (KIMBERLY AND DESIGN) same, Ladies' knitted outerwear—namely, dresses, sweaters, skirts, jackets and suits, filed Mar. 8, 1966, D.C., S.D.N.Y., Doc. 66-C-655, *Kimberly Knitwear Inc. v. Kendell, Inc.* Stipulation and order of discontinuance, Nov. 10, 1966.

Reg. No. 618,932 (PORSCHÉ STUTTGART AND DESIGN), Dr. Ing. h.c. F. Porsche K.G., Automobiles and parts thereof; Reg. No. 618,933 (PORSCHÉ), same, filed Feb. 14, 1967, D.C., S.D.N.Y., Doc. 67-C-627, *Dr. Ing. h.c. F. Porsche, K.G. v. Larry Bronson et al.*

Reg. No. 618,933. (See Reg. No. 618,932.)

Reg. No. 629,133 (POPULAR SCIENCE MONTHLY), Popular Science Publishing Company, Inc., Monthly magazine; Reg. No. 636,827 (POPULAR SCIENCE), same, filed Mar. 25, 1966, D.C., S.D.N.Y., Doc. 66-C-880, *Popular Science Publishing Co. Inc. v. H-C Manufacturing Co. Inc.* Stipulation and order of discontinuance Nov. 3, 1966.

Reg. No. 636,827. (See Reg. No. 629,315.)

Reg. No. 642,681. (See Reg. No. 592,771.)

Reg. No. 643,949 (HUSH PUPPIES), Wolverine Shoe and Tanning Corporation, Shoes, filed May 5, 1967, D.C. Mich. (Grand Rapids), Doc. 5618, *Wolverine World Wide, Inc. v. The Zayre Corp.*

Reg. No. 645,767 (CONNOISSEUR), La Vigna, Inc., Women's and misses' coats and suits, filed May 2, 1967, D.C., S.D.N.Y., Doc. 67-C-1718, *La Vigna, Inc. v. The Tailored Woman Inc.*

Reg. No. 700,677. (See Reg. No. 710,508.)

Reg. No. 701,509 (TEMPO), Helene Curtis Industries, Inc., Hair fixative, filed June 27, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1177, *Helene Curtis Industries, Inc. v. Arno, Incorporated*. Plaintiff owner, registration valid, defendant has infringed and is permanently restrained and enjoined, Jan. 16, 1967.

Reg. No. 710,506 (A.D.T.), American District Telegraph Company, Electric protection equipment, including fire alarm boxes, fire detecting and alarm devices, watchmen's tour stations, sprinkler supervisory and waterflow alarm devices, intruder alarm apparatus, and vault alarm devices; Reg. No. 700,677 (A.D.T. AND DESIGN), same, Central station electric protection service, including fire alarm service, watchmen's supervisory service, sprinkler and waterflow supervisory service, intruder and burglar alarm service, and industrial process supervisory service, filed Oct. 7, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1809, *American District Telegraph Co. v. Jerry Beren et al.* Judgment, plaintiff is owner of trademark; order defendants enjoined, Feb. 28, 1967.

Reg. No. 710,670 (31 AND DESIGN), Huntington Ice Cream Co., doing business as Baskin-Robbins Ice Cream, Ice cream; Reg. No. 712,570 (31-BASKIN-ROBBINS ETC. AND DESIGN), same, Confections—namely, ice cream, filed Apr. 23, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c667, *Baskin-Robbins Inc. et al v. Bresler Ice Cream Co.* Dismissed on stipulation and counterclaims dismissed with prejudice, Feb. 27, 1967.

Reg. No. 712,570. (See Reg. No. 710,670.)

Reg. No. 714,625 (REGUTOL), Pharmaco, Inc., Preparation for the treatment of constipation, filed June 27, 1966, D.C., S.D.N.Y., Doc. 66-C-1888, *Pharmaco, Inc. v. Hudson National, Inc.* Plaintiff's voluntary dismissal, July 18, 1966.

Reg. No. 736,219. (See Reg. No. 823,555.)

Reg. No. 774,629. (See Reg. No. 603,980.)

Reg. No. 777,153 (MAYCO), Mayer Manufacturing Corporation, Advertising services—namely, the preparation and printing of advertising on novelty and specialty items and the distribution of the same; Reg. No. 778,055, same, advertising specialties comprising desk top and pocket accessories—namely, calendars, pads, trays and clip boards, filed Dec. 22, 1966, D.C., S.D.N.Y., Doc. 66-C-4443, *Mayer Manufacturing Corporation v. Paulmay Co., Inc.* Consent judgment, defendant's enjoined, Apr. 27, 1967.

Reg. No. 778,055. (See Reg. No. 777,153.)

Reg. No. 779,887. (See Reg. No. 781,774.)

Reg. No. 781,774 (NORELCO), North American Philips Company, Inc., Tape recorders; Reg. No. 779,887 (CARRY-CORDER), same, filed Apr. 27, 1965, D.C., S.D.N.Y., Doc. 65-C-1271, *North American Philips Co., Inc. v. Continental Telephone Supply Co., Inc.* Consent judgment, defendants enjoined, May 18, 1967.

Reg. No. 793,652 (MISCELLANEOUS DESIGN), Kimberly-Clark Corporation, Cleansing tissue suitable for hygienic, cosmetic, or cleaning purposes, filed Mar. 22, 1967, D.C. Ariz. (Phoenix), Doc. C-6295 Phx., *Kimberly-Clark Corporation v. Dream Clean Corporation of America et al.* Consent judgment, defendants are permanently restrained and enjoined, Mar. 30, 1967.

Reg. No. 796,527 (A BORSATO), Intercontinental Industries, Inc., Ceramic figurines and statuettes, filed Mar. 25, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c548, *Intercontinental Industries v. David's Furniture, Lamps & Gifts, Inc.* Consent judgment; trademark valid and infringed, Feb. 9, 1967.

Reg. No. 801,100 (A TO Z), A to Z Rental, Inc., Service of renting tools, equipment, and vehicles, filed Mar. 28, 1967, D.C., Colo. (Denver), Doc. 67-C-144, *A to Z Rental, Inc. v. James W. Furrow, doing business as A-Z Rents It.*

Reg. No. 805,065 (LUXOR), Pezon & Michel, Fishing tackle (excluding fish nets), filed Mar. 17, 1967, D.C., S.D.N.Y., Doc. 67-C-1072, *Pezon et Michel v. Ernest R. Hecin Associates, Inc.*

Reg. No. 816,679 (DECORATOR INDUSTRIES), Decorator Industries, Inc., Curtains and draperies, filed Oct. 31, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C-1029, *Decorator Industries, Inc. v. I & S Bedspread Co., Inc.* Order dismissing complaint, Apr. 26, 1967.

Reg. No. 823,555 (TP), Thiokol Chemical Corporation, Plasticizers for rubber and plastic compositions; Reg. No. 736,219 (TP-90B), same, filed Apr. 13, 1967, D.C.N.J. (Newark), Doc. 416-67, *Thiokol Chemical Corporation v. Technical Processing, Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 176,888. Concrete Thermal Casings, Inc., Seattle, Wash. Filed Sept. 13, 1963.

Zcrete SPLAT

Owner of Reg. Nos. 425,522 and 776,808.

Class 101—Advertising and Business

For Advice and Consultation Services to Others in the Assembly of Mixer Apparatus and the Application of Materials in a Duct Encasement Installation.

Class 103—Construction and Repair

For Engineering Services Performed in the Custom Fabrication and Installation of Thermal Insulation Pipe and Duct.

First use November 1960.

SN 226,110. Ace Hardware Corporation, Chicago, Ill. Filed Aug. 20, 1965.



Applicant disclaims the word "Hardware" apart from the mark as shown, in respect to the Class 23 goods.

Class 12—Construction Materials

For Asphalt-Asbestos Fibre Coatings; Wood Fillers; Black Top Sealers, Plastic Roof Cement, Vinyl Spackling Paste; Spackling Powder, Roll Roofing; Rope Caulk; Filled Caulking Cartridges; Caulking Compounds; Putty; Glazing Compounds; asphaltum Wood Fillers.

First use 1931.

Class 16—Protective and Decorative Coatings

For Paints, Paint-Like Coatings and Paint Accessories—Namely, House, Barn, Roof, Gutter, Red Lead, Latex, Creosote, Fluorescent, Aluminum, Flat, Porch, Floor, Concrete, Swimming Pool, Marine, Asphalt, Rust Primers, Bonding Cement, and Linseed Oil; Enamels—Namely, Porch, Floor, Spray, Deck, Screen, Gold; Antiquing Kits; Primers and Sealers; Shingle, and Varnish Stains; Japan Driers; Shellac; Trim Colors; Varnishes; Thinners; Lacquers; Redwood Finish.

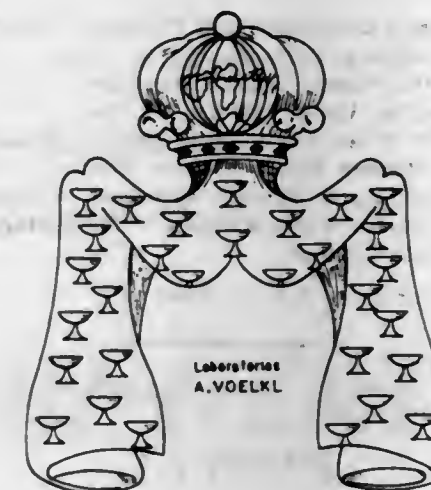
First use 1929.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Saws—Namely, Hand, Pruning, Hack, Jig, Utility, Bow; Circular, and Bow Saw Blades; Sawing Machines; Hammers; Tinners' Snips; Planes, Chisels; Screwdrivers; Pipe Wrenches; Chain Wrenches; Adjustable Locking Wrenches;

Pliers; Diagonal Cutters; Spring Bottom, and Pump Type Ollers; Plasterers' Floats; Bench Vises; Chalk Line Reels, Drills; Carbide Masonry Drills; Flaring Tools; Tubing Cutters; Pocket Knives; Hair Clipper Sets; Sanding Machines; Bench Grinders; Spading Forks; Shovels; Scoops; Spades; Cultivators; Post Hole Diggers and Augers; Hay Forks; Manure Forks; Ensilage Forks; Rakes, Hoes; Trowels; Garden Tool Sets; Sod Lifters; Turf Edgers; Sickles; Grass Hooks; Bulb Planters; Weeders; Shears—Namely, Grass, Pruning, Lopping, Hedge; Sprayers; Hand and Power Mowers; Lawn Spreaders, Sweepers, and Edgers; Hedge Trimmers; Snow Pushers, and Shovels; Sidewalk Scrapers; Barn Scrapers. First use 1935.

SN 232,436. Alfredo Voelkl, Bogota, Colombia. Filed Nov. 9, 1965.



Applicant disclaims "Laboratorios A. Voelkl" separate and apart from the mark. The facsimile signature appearing on the globe is that of the applicant, Alfredo Voelkl. Owner of Colombian Reg. No. 47,859, dated Dec. 29, 1960.

Class 18—Medicines and Pharmaceutical Preparations

For Medicinal Bitters.

Class 45—Soft Drinks and Carbonated Waters

For Bitters Used in Flavoring Soft Drinks and Alcoholic Beverages.

Class 46—Foods and Ingredients of Foods

For Bitters Used for Food Flavoring Purposes.

SN 241,195. J. S. Staedtler, Nuernberg, Germany. Filed Mar. 16, 1966.

STAEDTLER

Owner of U.S. Reg. No. 391,147.

Class 26—Measuring and Scientific Appliances

For Drawing Materials—Namely, Drawing Instruments and Sets of Such Drawing Instruments, Set Squares, Protractors, T-Squares, French-Curves and Rulers.

Class 29—Brooms, Brushes, and Dusters

For Paint Brushes.

Class 37—Paper and Stationery

For Stationery—Namely, Pencils, Pencil Caps, Slate Pencils, Pointers, Pencil Protectors, Pencil Cases (Not of Precious Metals), Mechanical Pencils and Refill Leads Therefor, Lead Holders and Refill Leads Therefor, Penholders, Erasers, Felt Markers, Ball Point Pens, Ball Point Pencils, Refills for Ball Point Pens and Ball Point Pencils, Fountain Pens and Parts Thereof, Liquid Lead or Dry Ink Pens; Artists' Materials—Namely, Chalk and Crayons.

First use Sept. 23, 1912; in commerce 1931.

SN 241,319. Dalamal & Sons, Inc., New York, N.Y. Filed Mar. 18, 1966.

GAMMA 

Class 21—Electrical Apparatus, Machines, and Supplies

For Condensers, Distributor Caps, Generators, Generator Armatures, Generator Starter Armatures, Ignition Coils, Ignition Contact Sets, Ignition Switches, Rotors, Starters, Starter Armatures, Voltage Regulators.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Bushings, Carburetors and Carburetor Parts, Clutches, Clutch Discs, Clutch Pressure Plates, Clutch Release Bearings, Differential Gears, Engine Bearings, Fan Blades, Fuel Pumps, Hydraulic Valve Lifters, Hydraulic Valve Tappets, Mufflers, Muffler Pipes, Oil Pumps, Pistons, Piston Pins, Propeller Shafts, Rubber Motor Mounts, Starter Drives, Timing Chains, Timing Gears, Timing Sprockets, Universal Joints, Valves, Valve Guides, Valve Keepers, Valve Springs and Water Pumps and Parts Thereof.

First use on or about Jan. 15, 1966.

SN 242,171. Precision Valve Corporation, Yonkers, N.Y. Filed Mar. 29, 1966.

PREVAL

Class 2—Receptacles


For Pressurized Dispensers and Parts Thereof, Containers Comprising Bottles, Tubes and Boxes Made of Plastic and Caps Therefor.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Aerosol Valves and Parts Thereof, Including Valve Operating Buttons, Education Tubes and Mounting Cups for Said Valves, and Nozzles.

First use Mar. 25, 1966.

SN 248,279. C. R. O. Engineering Co. Inc., Brookfield, Wis., assignee of Servodyne, Inc., Brookfield, Wis. Filed June 17, 1966.

Alpath


Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Coordinate Drive and Servo Control Systems for Machine Tools.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automatic Mechanisms for Controlling Tool Movements in a Machine for Cutting Geometric Shapes.

Class 26—Measuring and Scientific Appliances

For Devices for Automatically Generating Geometric Contours of a Predetermined Selectable Size.

First use Apr. 14, 1966.

SN 250,417. Otho Shoes, Inc., New Rochelle, N.Y. Filed July 29, 1966.

PRENYL

Class 1—Raw or Partly Prepared Materials

For Plastic Composition in Sheet Form.

Class 44—Dental, Medical, and Surgical Appliances

For Arch Supports and Splints.

First use June 15, 1965.

SN 253,158. Miracle Plywood Corporation, Yonkers, N.Y. Filed Aug. 25, 1966.

MIRACLE-WELD

Owner of Reg. No. 811,575.

Class 5—Adhesives

For Contact Cement.

Class 12—Construction Materials

For Plywood.

First use January 1965.

SN 254,420. Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif. Filed Sept. 14, 1966.

BELLAMURA

The English meaning of a "Bellamura" is "beautiful wall."

Class 2—Receptacles

For Tissue Boxes and Waste Paper Baskets.

Class 27—Horological Instruments

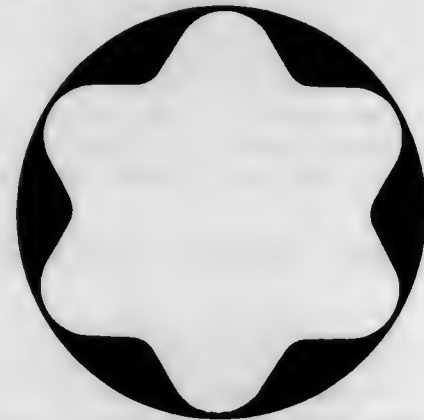
For Clocks.

Class 32—Furniture and Upholstery

For Furniture and Furnishings—Namely, Cabinets, Console Tables, Mirrors, and Planters.

First use Aug. 9, 1966.

SN 268,268. Montblanc-Simplo GmbH, Hamburg, Germany. Filed Apr. 4, 1967.

**Class 11—Inks and Inking Materials**

For Fountain Pen Ink and Ball Point Paste.
First use 1955; in commerce 1963.

Class 37—Paper and Stationery

For Fountain Pens, Cases for Fountain Pens, Ball Point Pens, Ball Point Cartridges, Mechanical Pencils, Lead for Mechanical Pencils, Desk Stands for Pens.
First use 1913; in commerce 1913.

SN 269,599. Distillerie Stock U.S.A. Ltd., Woodside, N.Y. Filed Apr. 20, 1967.

EL-AL

The words "El Al" are Hebrew words meaning "upwards."

Class 47—Wines

For Wine.

Class 49—Distilled Alcoholic Liquors

For Brandy.

First use Dec. 27, 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 251,183. Borg-Warner Corporation, Chicago, Ill. Filed July 28, 1966.

CYCOLLOY

Owner of Reg. Nos. 578,640, 746,784, and others.
For Blends of Synthetic Polymers With Acrylonitrile Butadiene Styrene Polymers in Powder and Granular Form for General Use in the Industrial Arts.
First use on or prior to July 13, 1966.

SN 251,412. Rexall Drug and Chemical Company, Los Angeles, Calif., assignee of Fiberfil, Inc., Evansville, Ind. Filed Aug. 1, 1966.

ABSAGLAS

Owner of Reg. No. 794,246.
For Plastics, Specifically Synthetic Injection Molding Materials in Pellet or Granular Form.
First use June 6, 1966.

SN 258,484. Borg-Warner Corporation, Chicago, Ill. Filed Nov. 14, 1966.

CYCOLOY

Owner of Reg. Nos. 578,640, 746,784, and others.
For Blends of Synthetic Polymers With Acrylonitrile Butadiene Styrene Polymers in Powder and Granular Form for General Use in the Industrial Arts.
First use on or prior to Oct. 26, 1966.

SN 258,636. Whitford Chemical Corporation, West Chester, Pa. Filed Nov. 14, 1966.

TETRALOY

For Thermosetting Plastic Molding Powders.
First use Oct. 8, 1965.

SN 258,811. Hercules Incorporated, Wilmington, Del. Filed Nov. 16, 1966.

HERCLOR

For Epichlorohydrin Elastomer.
First use Oct. 10, 1966.

SN 259,678. Sommers of Puerto Rico, Inc., E. Rutherford, N.J. Filed Nov. 29, 1966.

SOMMERSOC

For Vinyl Coated Latex Impregnated Paper Used for Making Inner Soles and Lining for Shoes and the Like.
First use June 21, 1966.

Class 2—Receptacles

SN 252,413. Plastics, Inc., St. Paul, Minn. Filed Aug. 15, 1966.

Hi-HEAT


For Plastic Trays, Plastic Dishware, and Plastic Cups.
First use June 30, 1966.

SN 252,421. Rubbermaid Incorporated, Wooster, Ohio. Filed Aug. 15, 1966.

SPIN-A-BIN

For Plastic Food Storage Container Units Having Individual Matching Containers About Three to Six Inches in Width and Depth.
First use July 12, 1966.

SN 252,881. National Metal Specialties, Inc., Bronx, N.Y. Filed Aug. 22, 1966.

BOOK BANK

For Library Receptacle for Receipt of Books.
First use June 22, 1966.

SN 254,428. American Can Company, New York, N.Y. Filed Sept. 14, 1966.

MARAVAC

For Paperboard Cartons.
First use May 12, 1964.

SN 256,848. Longview Fibre Company, San Francisco, Calif. Filed Oct. 20, 1966.

TRIM TOTE

For Paper Containers, Particularly Bags With Attached Handles.
First use May 1966.

SN 258,377. Gould Products, Inc., Elmont, N.Y. Filed Nov. 10, 1966.

DURALENE

For Stacked Storage Bins for Small Parts, Made of Polypropylene.
First use July 10, 1966.

SN 258,544. International Paper Company, New York, N.Y. Filed Nov. 14, 1966.

GATEWAY

For Shipping Containers Made of Corrugated Paperboard.
First use Oct. 24, 1966.

Class 5—Adhesives

SN 247,883. Birma Products Corporation, Sayreville, N.J. Filed June 13, 1966.

SURE-LAG

For Lagging Adhesive and Sizing Composition for Fabric Jackets To Make Them Mildew- and Fire-Resistant.
First use November 1960.

Class 6—Chemicals and Chemical Compositions

SN 244,528. S and W Fine Foods, Inc., d.b.a. Equitable Cash Grocery Co., San Francisco, Calif. Filed Apr. 28, 1966.

GOOD DAY

For Laundry Bleach.
First use Mar. 24, 1966.

SN 253,297. Fiberchem, Inc., Seattle, Wash. Filed Aug. 29, 1966.

**FIBERCHEM**

For Industrial Chemicals and Chemical Compositions for Use as Diluents, Catalysts, Hardeners, Accelerators, Promoters, Plasticizers, Fillers, Release Agents, Sealants, and Solvents.
First use Mar. 25, 1956.



The lining and stippling shown on the drawing form an integral part of the mark and accordingly are not for the purpose of indicating color.

For Chemicals—Namely, Aromatic Substances, Raw and Refined Essences, Both Natural and Synthetic, and Compounds Thereof.
First use July 1, 1953.

SN 259,465. Pilot Chemicals, Inc., Watertown, Mass., by assignment and change of name from Pilot Chemicals, Inc., Watertown, Mass. Filed Nov. 25, 1966.

AQUAFLUOR

For Liquid Scintillator Solution—Namely, Solutions of Compounds for Measuring Radiation by Light Emission.
First use June 6, 1966.

SN 261,836. Glor Associates, Incorporated, Holland, N.Y. Filed Jan. 3, 1967.

AIR-TAME

For Composition for Controlling Odors.
First use Oct. 3, 1966.

SN 261,862. Micro-Metals Compounds Ltd., Cloverdale, Canada. Filed Jan. 3, 1967.



For Anti-Corrosive and Anti-Seizure Compounds for Use on Mating Metallic and/or Non-Metallic Components.
First use Feb. 1, 1962; in commerce Mar. 1, 1962.

SN 261,863. Micro-Metals Compounds Ltd., Cloverdale, Canada. Filed Jan. 3, 1967.



For Anti-Corrosive and Anti-Seizure Compounds for Use on Mating Metallic and/or Non-Metallic Components.
First use Aug. 19, 1965; in commerce Nov. 2, 1965.

SN 262,226. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

L-71

For Scale and Corrosion Inhibitor.
First use Aug. 1, 1962.

SN 262,228. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

B-86

For Scale and Corrosion Inhibitor.
First use Aug. 1, 1962.

SN 262,229. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

A-91

For Scale and Corrosion Inhibitor.
First use Aug. 8, 1962.

SN 262,480. Diversified Chemical Products Corporation, d.b.a. Diversified Chemical Products Co., Lynnwood, Wash. Filed Jan. 13, 1967.

HI-SPEC

For Chemical Soil Stabilizer.
First use Nov. 15, 1966.

SN 262,526. Wallace & Tiernan Inc., East Orange, N.J. Filed Jan. 13, 1967.

ALPEROX

Owner of Reg. No. 368,133.
For Organic Peroxides.
First use Dec. 20, 1938.

SN 262,527. Wallace & Tiernan Inc., East Orange, N.J. Filed Jan. 13, 1967.

LUPERCO

Owner of Reg. No. 360,640.
For Compounds or Mixtures Containing Organic Peroxides in Combination With Fillers or Diluents.
First use April 1938.

SN 262,528. Wallace & Tiernan Inc., East Orange, N.J. Filed Jan. 13, 1967.

LUPEROX

Owner of Reg. No. 373,049.
For Organic Peroxides and Mixtures Containing the Same.
First use June 28, 1939.

SN 264,925. Emhart Corporation, Hartford, Conn. Filed Feb. 17, 1967.

HERB-A-TURF

For Herbicide.
First use May 9, 1966.

SN 269,154. Allied Mills, Inc., Chicago, Ill. Filed Apr. 14, 1967.

QUATICIDE NO. 34

For Microbiocide-Sanitizer-Disinfectant for Use in Connection With Poultry and Animal Quarters.
First use Aug. 25, 1966.

TERMIL

For Fungicide for Use in Agriculture and in Floriculture.
First use May 9, 1967.

Class 10—Fertilizers

SN 266,929. F. S. Royster Guano Co. Norfolk, Va. Filed Mar. 16, 1967.

QUIK-KIK

For Fertilizers.
First use Feb. 21, 1967.

SN 272,890. International Minerals & Chemical Corporation, Skokie, Ill. Filed June 2, 1967.

REGIM-8

Owner of Reg. No. 827,084.
For Plant Food.
First use Apr. 28, 1967.

Class 12—Construction Materials

SN 246,439. Boyd Aluminum Manufacturing Co., Springfield, Mo. Filed May 24, 1966.



For Aluminum Windows, Doors, and Storm Sash.
First use on or about Nov. 1, 1961.

SN 246,701. Macnaughton-Brooks Limited, Weston, Toronto, Ontario, Canada. Filed May 26, 1966.

AGGREFORM

For Coarse Aggregate Decorative Coating of Marble, Granite, etc. in a Resinous Base for Spray Type Application.
First use Feb. 3, 1966; in commerce Feb. 3, 1966.

SN 250,689. Rite-Way Coatings Co., Addison, Ill. Filed July 20, 1966.

"SPECTO-TONE"

For Vitreous Coatings.
First use on or before Aug. 1, 1963.

SN 253,207. Capital Industries, Inc., Avis, Pa. Filed Aug. 26, 1966.

ROYALTY HOMES

Applicant disclaims the word "Homes" apart from the mark as shown.
For Prefabricated Homes.
First use Apr. 13, 1966.

SN 235,212. Johns-Manville Corporation, New York, N.Y. Filed Sept. 27, 1966.

ATTENU-LITE

For Fiber Glass Duct Liner.
First use Aug. 31, 1966.

SN 253,690. Blumcraft of Pittsburgh, Pittsburgh, Pa. Filed Oct. 4, 1966.

RAILGLASS

Owner of Reg. No. 781,614.
For Ornamental Railings.
First use June 6, 1966.

SN 256,824. Chevron Chemical Company, San Francisco, Calif. Filed Oct. 20, 1966.

ORONITE

Owner of Reg. No. 629,838.
For Patching Putty.
First use Sept. 9, 1964.

SN 256,845. Johns-Manville Corporation, New York, N.Y. Filed Oct. 20, 1966.

VINYLCRAFT

For Vinyl Asbestos Floor Tile.
First use Sept. 22, 1966.

SN 257,686. Apex Pool Equipment Corporation, White Plains, N.Y. Filed Nov. 1, 1966.



Owner of Reg. Nos. 824,734 and 824,735.
For Prefabricated Swimming Pools and Accessories Sold Therewith, Said Accessories Including Filters, Liners, Skimmers, Pumps, Ladders, and Hardware.
First use Aug. 25, 1966.

SN 257,716. George Lewy, d.b.a. Cy-Lou Chemical Co., San Jose, Calif. Filed Nov. 1, 1966.

BLACK DEVIL

The word "Black" is disclaimed apart from the mark as shown.
For Asphalt Sealer.
First use August 1963.

SN 273,356. Automated Building Components, Inc., Miami, Fla. Filed June 9, 1967.

ECONOSPAN

For Wooden Structural Frames and Elements—Namely, Trusses.
First use at least as early as Jan. 25, 1966.

SN 273,447. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 9, 1967.



For Porcelain Enameled Laminates.
First use Sept. 9, 1966.

SN 274,383. Caradco Incorporated, Dubuque, Iowa. Filed June 21, 1967.

C 200

Owner of Reg. No. 824,315.
For Prefabricated Window Units.
First use May 3, 1967.

Class 14—Metals and Metal Castings and Forgings

SN 273,574. Diamond Alkali Company, Cleveland, Ohio. Filed June 12, 1967.

ZINCROMETAL

Owner of Reg. No. 826,725.
For Steel in Sheet or Strip Form Treated With Weldable Corrosion Resistant Coatings.
First use Aug. 9, 1966.

Class 16—Protective and Decorative Coatings

SN 256,378. Silmica Corporation of America, Chicago, Ill. Filed Oct. 13, 1966.

SIL-O-DRI

For Water Repellent Preparations Containing Anhydrous Silicones.
First use Oct. 11, 1960.

SN 256,414. Alco-Flex Corporation, Chicago, Ill. Filed Oct. 14, 1966.

INJECT-ALUM

For Non-Fibred Aluminum Coating.
First use Sept. 11, 1962.

SN 256,447. Hydralum Industries, Inc., Chicago, Ill. Filed Oct. 14, 1966.

PLI-O-CROME

For All Purpose Chrome Finish Aluminum Paint.
First use May 4, 1960.

SN 256,474. Process Chemicals Corporation, Chicago, Ill. Filed Oct. 14, 1966.

FILMITE

For High Gloss Plastic Protective Finish Coating for Floors, Walls, and the Like.
First use Dec. 17, 1965.

SN 256,774. Spramcor Corporation of America, Chicago, Ill. Filed Oct. 19, 1966.

CRETAIN

For Water Repellent Preparations Containing Anhydrous Silicones for Application on Non-Waterproof Materials To Make Them Water Repellent.
First use June 1, 1962.

SN 261,474. Endurance Coatings Corporation, Long Beach, Calif. Filed Dec. 27, 1966.

ENGARD

For Ready Mixed Liquid Coating Material Which Is Paint-Like and of a Coal Tar or Vinyl or Metal Primer Type.
First use Oct. 14, 1966.

SN 263,978. Geo. B. Bent Co., Inc., Gardner, Mass. Filed Feb. 3, 1967.

PROTECTOLAC

For Synthetic Plastic Finish Coating for Furniture Which Is Particularly Resistant to Alcohol and Similar Stains.
First use Sept. 2, 1966.

Class 18—Medicines and Pharmaceutical Preparations

SN 252,082. Drug City, Inc., d.b.a. Drug World, Burlingame, Calif. Filed Aug. 10, 1966.

DRUG WORLD

For Pharmaceutical Preparation—Namely, a Vitamin Preparation.
First use July 8, 1966.

SN 255,125. The Purdue Frederick Company, Yonkers, N.Y. Filed Sept. 26, 1966.

STERI-AIDS

For Germicidal Pad Saturated With an Antiseptic.
First use July 28, 1966.

SN 256,231. Parke, Davis & Company, Detroit, Mich. Filed Oct. 11, 1966.

SYTOBEX-H

Owner of Reg. No. 565,308.
For Vitamin Preparation.
First use on or before Oct. 1, 1966.

SN 256,599. Sandoz, Inc., Hanover, N.J. Filed Oct. 17, 1966.

SPACECAPS

For Medicated Delayed Action Capsules.
First use Oct. 12, 1966.

SN 256,653. Damancy & Company Limited, d.b.a. Damancy & Co., Slough, England. Filed Oct. 18, 1966.

MICROPAQUETTE

For Barium Sulfate Preparation Used for Gastrointestinal X-Ray Diagnosis.
First use June 17, 1966; in commerce June 17, 1966.

SN 257,806. Veterinary Supply Depot Incorporated, Dallas, Tex. Filed Nov. 2, 1966.

MEDI-SORB

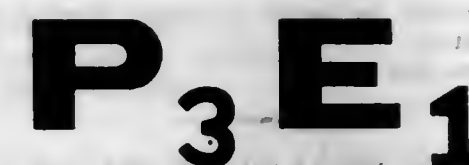
For Preparation for the Treatment of Itching in the Mane and Tail of Horses and Other Dermatological Equine Skin Conditions.
First use August 1961.

SN 258,568. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed Nov. 14, 1966.

PREGOVA

For Menopausal Preparation.
First use July 7, 1966.

SN 258,573. Person & Covey, Inc., Glendale, Calif. Filed Nov. 14, 1966.



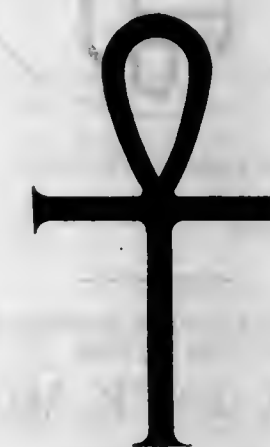
Owner of Reg. Nos. 233,526, 816,052, and others.
For Ophthalmic Solution.
First use Jan. 6, 1966.

SN 258,574. Person & Covey, Inc., Glendale, Calif. Filed Nov. 14, 1966.



Owner of Reg. Nos. 233,526, 816,052, and others.
For Ophthalmic Solution.
First use Jan. 29, 1966.

SN 258,727. Sterling Drug Inc., New York, N.Y. Filed Nov. 15, 1966.



Owner of Reg. No. 434,468.
For Analgesic Preparation for Human Use.
First use Jan. 14, 1964.

SN 258,829. Merck & Co., Inc., Rahway, N.J. Filed Nov. 16, 1966.

NECROSUL

For Antibacterial Preparation for Veterinary Use.
First use Oct. 31, 1966.

SN 259,094. Durma Products Company, Minneapolis, Minn. Filed Nov. 21, 1966.

DURMASEPTIC

For Preparation for Treating Athlete's Foot and Callouses.
First use on or about Aug. 29, 1945.

SN 259,759. Parke, Davis & Company, Detroit, Mich. Filed Nov. 30, 1966.

ALBUSPAN

For Blood Extender.
First use on or before Oct. 19, 1966.

SN 260,080. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company, Los Angeles, Calif. Filed Dec. 5, 1966.

PABIZOL

For Preparation for Relief of Simple Diarrhea and Non-Specific Enteritis.
First use January 1943.

SN 272,681. E. R. Squibb & Sons, Inc., New York, N.Y. Filed May 31, 1967.

CYSTOGRAFIN

For Urographic Radiopaque Medium.
First use May 9, 1967.

Class 19—Vehicles

SN 247,772. Champion Home Builders Co., Dryden, Mich. Filed June 10, 1966.



Owner of Reg. No. 742,260.
For Mobile Homes and House Trailers.
First use May 16, 1966.

SN 250,635. California Custom Accessories Mfg. Company, Gardena, Calif. Filed July 20, 1966.

BLACK JACK MOONS

Applicant disclaims the word "Moons."
For New Style of Automobile Hub Caps.
First use Mar. 15, 1966.

SN 251,566. Ste. E.F.A. Etudes et Fabrications Aeronautiques, Paris, France. Filed Aug. 2, 1966.

PARAQUICK

Priority Claimed under Cec. 44(d) on French Reg. No. 9,034, dated Mar. 8, 1966.
For Buckles and Clasps for Parachutes.

SN 257,843. Ford Motor Company, Dearborn, Mich. Filed Nov. 3, 1966.

VALKYRIE

For Automobiles.
First use Sept. 26, 1966.
Subj. to Intf. with SN 250,788.

Class 20—Linoleum and Oiled Cloth

SN 267,950. Kentile Floors Inc., Brooklyn, N.Y. Filed Mar. 30, 1967.

DEBONAIR

For Floor Tile Made of Vinyl or Vinyl Asbestos or Asphalt, or Similar Materials.
First use Jan. 9, 1967.

SN 268,867. Congoleum-Nairn Inc., Kearny, N.J. Filed Apr. 11, 1967.

ACCLAMATION

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Counter-Tops, and the Like in the Form of Rolls, Rugs, and Tiles.
First use Jan. 26, 1967.

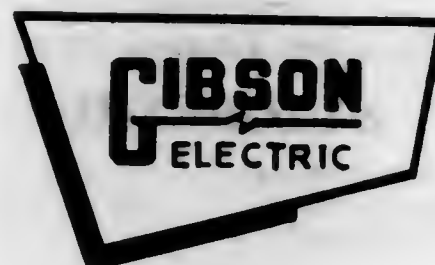
SN 270,898. Congoleum-Nairn Inc., Kearny, N.J. Filed May 8, 1967.

LATINA TRAVERTINE

Applicant disclaims the word "Travertine" apart from the mark as shown.
For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Counter-Tops, and the Like in the Form of Rolls, Rugs, and Tiles.
First use Apr. 19, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 238,316. Talon, Inc., Meadville, Pa. Filed Feb. 7, 1966.



The word "Electric" is disclaimed apart from the mark as a whole.
For Electrical Contacts.
First use Feb. 10, 1965.

SN 239,574. Alco Electronic Products Inc., Lawrence, Mass. Filed Feb. 25, 1966.

ALCOSWITCH

For Miniaturized Electric Switches Sold as Individual Components for Industrial, Amateur, and School Use in Miniature Electric Circuits.
First use Dec. 20, 1965.

SN 242,947. Westinghouse Electric Corporation, Buffalo, N.Y. Filed Apr. 7, 1966.

MOD-U-PAK

For Thyristor Static Adjustable Speed Drives Used To Perform Power Conversion.
First use on or about Nov. 24, 1965.

SN 250,338. Associated Electrical Industries Limited, London, England. Filed July 15, 1966.

STARTAC

Owner of British Reg. No. B877,622, dated Mar. 31, 1965.
For Starters for Electric Motors.

SN 252,498. John Case Tompkins, d.b.a. Tompkins Radio Products. Filed Aug. 16, 1966.

TUNAVERTER

For Radio Frequency Converters.
First use Mar. 5, 1965.

SN 252,698. Universal Lamp Co., Inc., Chicago, Ill. Filed Aug. 18, 1966.

SWINGER

For High Intensity Lamps.
First use July 12, 1966.

Class 22—Games, Toys, and Sporting Goods

SN 252,377. Gordon Enterprises, Inc., Seattle, Wash. Filed Aug. 15, 1966.



For Unicycle-Type Exerciser and Balance Trainer.
First use June 8, 1966.

SN 258,009. Weldun Engineering Corporation, Santa Fe Springs, Calif. Filed Nov. 4, 1966.

WELDUN

For Toy Axles, Gears, and Tires on Slot Racing Cars.
First use Aug. 3, 1964.

SN 258,268. Wilson Sporting Goods Co., River Grove, Ill. Filed Nov. 8, 1966.

STRATA-BLOC

Owner of Reg. No. 438,908.
For Golf Clubs.
First use 1942.

SN 258,467. American Character, Inc., New York, N.Y. Filed Nov. 14, 1966.

MOONBEAMS

For Dolls.
First use Oct. 30, 1966.

SN 259,861. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Dec. 1, 1966.

FINALIST

For Fishing Reels.
First use Aug. 10, 1966.

SN 259,960. Poly Golf Inc., Roseville, Mich. Filed Dec. 5, 1966.

COUGAR

For Golf Balls.
First use Aug. 15, 1966.

SN 260,121. Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 2, 1966.

BIG SCOOP

Owner of Reg. No. 617,778.
For Baseball Gloves and Mitts.
First use May 4, 1954.

SN 260,427. Albert B. Gross, d.b.a. Parrish Bass Lures, Greensboro, N.C. Filed Dec. 9, 1966.

MEATGETTER

For Artificial Fishing Lures.
First use on or about Nov. 1, 1965.

SN 260,750. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Dec. 14, 1966.

FUTURE

For Equipment Distributed as a Unit for Playing an Educational Game.
First use at least as early as Oct. 12, 1966.

SN 260,902. Zippo Manufacturing Company, Bradford, Pa. Filed Dec. 15, 1966.

SD

For Golf Balls.
First use Oct. 21, 1966.

SN 261,549. Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

GREENBRIAR

For Golf Balls and Golf Clubs.
First use May 1960.

SN 261,550. Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

BLACK HEATHER

Owner of Reg. No. 771,447.
For Golf Balls.
First use July 1963.

SN 261,830. Festival Products Incorporated, Skokie, Ill. Filed Jan. 3, 1967.

GOOD GUYS

For Toy Figures, Such as Cowboys, Indians, Knights, Crusaders, Army, 7th Cavalry, and Accessories.
First use Mar. 1, 1966.

SN 262,036. The Fuller Brush Company, East Hartford, Conn. Filed Jan. 8, 1967.

THUMBSY

For Elf-Like Doll.
First use on or about Dec. 1, 1966.

SN 270,851. Eldon Industries, Inc., Hawthorne, Calif. Filed May 8, 1967.

SUPER 100

For Toy Road Race Sets With Parts Such as Cars, Tracks, etc.
First use Apr. 8, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 240,264. Dakoma International Corporation, New York, N.Y. Filed Mar. 7, 1966.

INSTA-MATIC

For Heavy-Duty, Industrial-Type Steam Cleaners for Industrial and Commercial Applications.
First use Feb. 11, 1966.

SN 242,713. Chematic Equipment Corp., Brooklyn, N.Y. Filed Apr. 5, 1966.

CHEM-MIX

For Dispersing Agitators for Processing Foods, Chemicals, Pharmaceuticals, and Coating Materials.
First use on or about Feb. 1, 1966.

SN 246,767. Fichtel & Sachs Aktiengesellschaft, Schweinfurt, Germany. Filed May 27, 1966.

TREE MONKEY

Applicant disclaims the word "Tree" apart from the mark as shown. Owner of German Reg. No. 813,857, dated Dec. 22, 1965.

For Devices for Pruning Trees; Devices for Stripping Bark from Trees; Tree-Pruning Device for Use Before Felling Timber; Said Device in Association With Motor Drives, Cutting Means, and Means Permitting Said Devices To Move on Trees Upwardly and Downwardly on Their Own Power.

SN 248,039. Hoerner-Waldorf Corporation, Keokuk, Iowa, by change of name from Hoerner Boxes, Inc., Keokuk, Iowa. Filed June 14, 1966.

EASY-SEAL

For Adhesive Applying Machines.
First use Jan. 12, 1964.

SN 250,156. The Hamby Company, Plainview, Tex. Filed July 13, 1966.



The drawing is lined for the color red. Owner of Reg. No. 806,923.

For Machines Used in Agriculture—Namely, Dumpable Bins for Dispensing Flowable Material.
First use September 1965.

SN 257,653. Republic Industrial Corporation, New York, N.Y. Filed Oct. 31, 1966.



The spaced parallel, horizontal lines are indicative of the color blue.

For Thread Molding Tools.
First use Apr. 8, 1966.

SN 257,660. California Dynamics Corporation, Los Angeles, Calif., assignee of W. H. Steele Co., Inc., Los Angeles, Calif. Filed Oct. 31, 1966.

DYNA-MOUNT

For Vibration Isolators.
First use June 21, 1966.

SN 257,692. Chicago Pneumatic Tool Company, New York, N.Y. Filed Nov. 1, 1966.

Liqui-flate

For Liquid and/or Fluid Pumps Including Calcium Chloride Pumps.

First use Oct. 5, 1966.

SN 257,778. General Fire Extinguisher Corp., Northbrook, Ill. Filed Nov. 2, 1966.

SPARTAN

For Portable Fire Extinguishers.
First use on or before Jan. 1, 1966.

SN 257,901. Universal Controls, Inc., Cockeysville, Md. Filed Nov. 3, 1966.



For Ticket Issuing Machines.
First use Aug. 24, 1966.

SN 258,002. Textile Machine Works, Reading, Pa. Filed Nov. 4, 1966.

C-B-TEX

For Machines for Crimping and/or Bulking Textile Yarns.
First use July 12, 1965.

SN 258,031. Anchor Steel & Conveyor Company, Dearborn, Mich. Filed Nov. 7, 1966.

NEST PAK

For Work Carriers for Industrial Conveyors.
First use August 1966.

SN 258,233. International Paper Company, New York, N.Y. Filed Nov. 8, 1966.

RAP/ROUND

Owner of Reg. No. 796,771.
For Packaging Machine.
First use May 27, 1965.

SN 258,381. Jacobsen Manufacturing Company, Racine, Wis. Filed Nov. 10, 1966.

CHIEF

For Tractors.
First use as early as 1945.

SN 258,384. Jacobsen Manufacturing Company, Racine, Wis. Filed Nov. 10, 1966.

JACOBSEN

Owner of Reg. Nos. 550,855, and 757,242.
For Powered Riding and Gang Lawn-Mowers; Grass and Leaf Catchers; Lawn Edgers and Trimmers; Turf Aerators and Renovators; Rotary Tillers; Sulkies for Powered Mowers; Powered Snow Blowers and Throwers; Leaf Mulchers; Gasoline Engines; and Tractors and Attachments Therefor—Namely, Lawn-Mowers, Snow Throwers, Utility Trailer Carts, Bull-Dozer Blades, Sickle Bars, Leaf Sweepers, Lawn Rollers, Loaders, Agricultural Implements, Namely, Plows, Tillers, Harrows, Cultivators, Scarifiers, Rakes, Aerifiers, Fertilizer Spreaders, Seed Planters and Sprayers.
First use at least as early as 1942 on powered lawn-mowers.



Owner of Reg. Nos. 548,974 and 591,115.
For End Mills.
First use Oct. 4, 1966.

SN 258,806. Gidon Industries Limited, Rexdale, Ontario, Canada. Filed Nov. 16, 1966.

MAVERICK

Owner of Canadian Reg. No. 147,025, dated Sept. 9, 1966.
For Motor Vehicle Mufflers.

SN 258,807. Gidon Industries Limited, Rexdale, Ontario, Canada. Filed Nov. 16, 1966.

THRUSH

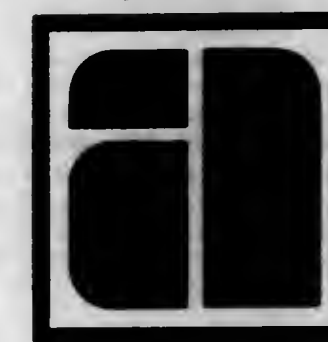
Owner of Canadian Reg. No. 147,024, dated Sept. 9, 1966.
For Motor Vehicle Mufflers.

SN 259,019. Product Development Laboratories, Inc., West Hartford, Conn. Filed Nov. 18, 1966.

ROTO-GRIP

For Tool Posts and Tool Holders.
First use Aug. 25, 1966.

SN 259,065. Albritton Engineering Corporation, Bryan, Tex. Filed Nov. 21, 1966.



For Mounted Hydraulic Cranes.
First use in or before January 1966.

SN 259,066. Albritton Engineering Corporation, Bryan, Tex. Filed Nov. 21, 1966.

ALENCO

For Mounted Hydraulic Cranes.
First use in or before January 1966.

SN 269,136. Wood Newspaper Machinery Corporation, Plainfield, N.J. Filed Apr. 13, 1967.

PLATE-O-MATIC

For Offset Plate Developer Machine.
First use Jan. 7, 1967.

Class 26—Measuring and Scientific Appliances

SN 174,602. Nikon, Inc., Garden City, N.Y., assignee, by mesne assignment, of Nippon Kogaku Kabushiki Kaisha, Chuo-ku, Tokyo, Japan. Filed Aug. 7, 1963.

NIKONOS

Owner of U.S. Reg. Nos. 569,948 and 569,949.

For Optical and Photographic Instruments and Parts Thereof—Namely, Still and Motion Picture Cameras; Motion Picture and Transparency Slide Projectors; Cinematograph and Projector Lenses, Light Shutters, Bellows, Light Filters, Hoods, Range and View Finders, Exposure Meters, Film Magazines, and Tripods; Photographic Flash Guns and Lamp; Tilting Heads for Panoramic Cameras; Photographic Self-Timers, Developing, Printing, Enlarging and Finishing Apparatus; Ophthalmoscopic Cameras; Telescopes and Microscopes.

First use February 1963.

SN 224,412. General Aniline & Film Corporation, New York, N.Y. Filed July 28, 1965.

SPEED-X-CASSETTE

Owner of Reg. Nos. 377,352, 746,888, and 799,853. For Photographic Film Cassette. First use May 15, 1964.

SN 233,380. Nikon, Inc., Garden City, N.Y., assignee, by mesne assignment, of Nippon Kogaku Kabushiki Kaisha, Chuo-ku, Tokyo, Japan. Filed Nov. 26, 1965.

NIKKORMAT

Owner of U.S. Reg. Nos. 569,948 and 569,949.

For Optical and Photographic Instruments and Parts Thereof—Namely, Still and Motion Picture Cameras; Motion Picture and Slide Transparency Projectors; Cinematographic and Projector Lenses; Light Shutters, Bellows, Light Filters, Hoods, Range and View Finders; Exposure Meters; Film Magazines and Tripods; Photographic Flash Guns and Lamps; Tilting Heads for Panoramic Cameras; Photographic Self-Timers; Developing, Printing, Enlarging and Finishing Apparatus; Ophthalmoscopic Cameras; Telescopes and Microscopes.

First use July 27, 1965.

SN 239,626. Honeywell Inc., Minneapolis, Minn. Filed Feb. 25, 1966.

SERVOMETRIC

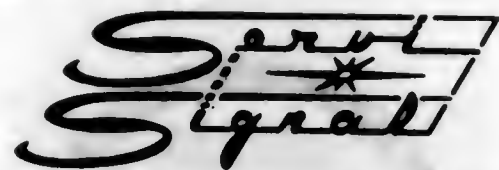
For Electro-Mechanical Meter Servomechanisms for Use in the Measurement of Conditions and Quantities Subject to Change, Such as Pressure, Fuel Quantity, Temperature, etc. First use at least as early as May 1964.

SN 242,067. Systron-Donner Corporation, Concord, Calif. Filed Mar. 28, 1966.

ACTO

For High Frequency Counters and Plug-Ins for High Frequency Counters. First use Feb. 10, 1966.

SN 246,458. Donaldson Company, Inc., Minneapolis, Minn. Filed May 24, 1966.



For Restriction Indicators Responsive to an Increased Pressure Based Upon the Relative Condition of an Air Cleaner. First use Apr. 26, 1966.

SN 247,478. E. W. Bliss Company, Davenport, Iowa. Filed June 7, 1966.

MINITROL

Owner of Reg. Nos. 623,982 and 808,398. For Electronic Apparatus for Automatically Monitoring Industrial and Municipal Processing and Control Systems. First use on or about March 1960.

SN 252,717. Bacharach Industrial Instrument Company, Pittsburgh, Pa. Filed Aug. 19, 1966.

LEAKATOR

For Electronic Gas Leak Detector Including a Power Pack, a Signal Device and a Flexible Extension Probe Mounting a Halogen-Sensitive Member Which After Being Activated Through the Power Pack and Encountering a Halogen Leak Actuates the Alarm To Signal the Presence of the Leak. First use July 15, 1966.

SN 253,303. Foster Grant Co., Inc., Leominster, Mass. Filed Aug. 29, 1966.

SUNGLASSES OF THE STARS

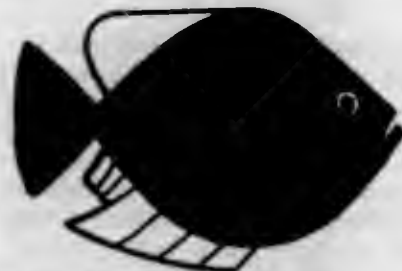
Applicant disclaims the word "Sunglasses" apart from the mark as shown. For Sunglasses. First use on or about October 1965.

SN 255,918. Plough, Inc., Memphis, Tenn. Filed Oct. 6, 1966.



Owner of Reg. Nos. 693,601 and 824,420. For Sun Glasses. First use Sept. 1, 1965.

SN 257,530. Sternco Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736. For Thermometers. First use Sept. 4, 1962.

SN 262,174. Ketcham & McDougall, Inc., Roseland, N.J. Filed Jan. 9, 1967.

SN 250,175. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 13, 1966.

ROTO-MATIC

For Compass. First use September 1962.



Class 27—Horological Instruments

SN 250,030. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 11, 1966.

ROAMER SPOTLIGHT

Owner of Swiss Reg. No. 212,758, dated Aug. 30, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

SN 250,031. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 11, 1966.

ROAMER STINGRAY

Owner of Swiss Reg. No. 213,124, dated Sept. 28, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

SN 250,032. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 11, 1966.

STINGRAY

Owner of Swiss Reg. No. 213,125, dated Sept. 28, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

SN 250,033. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 11, 1966.

SPOTLIGHT

Owner of Swiss Reg. No. 212,759, dated Aug. 30, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

SN 250,034. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 11, 1966.

ROAMER RED SEA

Owner of Swiss Reg. No. 211,475, dated July 22, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

SN 250,174. Roamer Watch Co. S.A., Soleure, Switzerland. Filed July 13, 1966.

RED SEA

Owner of Swiss Reg. No. 211,474, dated July 22, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

Owner of Swiss Reg. No. 213,214, dated Sept. 24, 1965. For Watches, Watch Movements, Watch Cases, Watch Dials, Parts of Watches, Hourglasses, Sundials, and Timepieces.

Class 30—Crockery, Earthenware, and Porcelain

SN 245,745. Noritake Co., Inc., New York, N.Y. Filed May 16, 1966.



The lining in the mark does not indicate a particular color but is an integral part of the mark.

For Chinaware for Dinnerware and Tableware—Namely, Dinner Plates, Tea Cups, Tea Saucers, Salad Plates, Bread and Butter Plates, Fruit Saucers; Soup Plates; Gravy Boats; Sugar Bowls With Covers; Creamers; Platters; Salad Bowls; Tea Pots; Coffee Servers; Salt and Pepper Shakers; Butter Dishes; Celery Dishes; Pickle Dishes; After Dinner Cups and Saucers; Milk Cups; Square Plates and Soup Tureens. First use Jan. 1, 1947.

Class 31—Filters and Refrigerators

SN 232,325. Linco Products Co., Costa Mesa, Calif. Filed Nov. 8, 1965.

TRAVEL ICE

Applicant disclaims the word "Ice" apart from the mark as shown. For Sealed Containers of Coolable Material Intended To Refrigerate Portable Coolers. First use Jan. 1, 1965.

SN 233,443. Booth, Inc., Dallas, Tex. Filed Nov. 29, 1965.



For Non Coin-Operated, Refrigerated Bulk Drink Dispensers. First use Nov. 5, 1965.

Class 32 — Furniture and Upholstery

SN 215,005. The Puritan Sportswear Corp., Altoona, Pa. Filed Mar. 25, 1965.

THE STORE ON THE FLOOR

For Store Display Units.
First use July 8, 1963.

SN 256,810. Lear Siegler, Inc., Santa Monica, Calif., assignee of American Metal Products Company, Detroit, Mich. Filed Oct. 20, 1966.

FOLDABED

Owner of Reg. No. 597,745.
For Convertible and Folding Type Beds.
First use Oct. 1, 1948.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 242,546. Barton Corporation, Towanda, Ill. Filed Apr. 4, 1966.

BARTSEAL

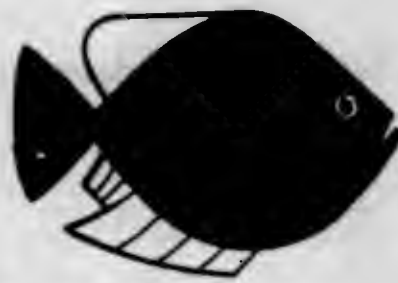
For Mobile Kettles for Use in the Construction of Roads and the Like.
First use February 1965.

SN 256,939. Harnischfeger Corporation, West Milwaukee, Wis. Filed Oct. 21, 1966.

P & H WIREMATIC

Owner of Reg. Nos. 227,637, 570,924, and others.
For Welding Machines in Combination With Welding Wire Electrode Feeding Mechanism.
First use on or about Apr. 27, 1965.

SN 257,532. Sterneo Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736.
For Electric Heaters for Aquarium Tanks.
First use Sept. 4, 1962.

SN 267,201. Robert H. Taylor, d.b.a. Hearth Shoppe Products Co., Orelan, Pa. Filed Mar. 20, 1967.



The word "Grate" and the name "Hearth-Shoppe-Products-Co." are disclaimed apart from the mark.
For Fireplace Grates.
First use Mar. 9, 1967.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 237,108. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 24, 1966.

JET COMMERCIAL

No claim is made to the word "Commercial" except in connection with the mark as shown. Owner of Reg. Nos. 789,074, 824,898, and others.
For Pneumatic Tires.
First use Sept. 10, 1964.

SN 251,253. The Toyo Rubber Industry Company Limited, Nishi-ku, Osaka, Japan. Filed July 28, 1966.



The word "Toyo" when translated into the English language, may vary in meaning, according to the pronunciation. "Toyo" may mean "plentiful," "full harvest," "adherents," "orient," "appoint," or "work in hand." Owner of Japanese Reg. No. 710,494, dated Mar. 16, 1966.
For Automobile Tires and Tubes.

SN 262,161. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 9, 1967.

POWER-JET

For Tires.
First use Dec. 5, 1966.

SN 262,324. Federal-Mogul Corporation, Southfield, Mich. Filed Jan. 11, 1967.

SPIROIL

For Seals and More Specifically for Shaft Seals.
First use Apr. 1, 1966.

Class 36 — Musical Instruments and Supplies

SN 219,994. Hudson Ross, Inc., New York, N.Y. Filed May 28, 1965.



For Automatic Electrical Phonograph, Automatic Tape Recorder/Reproducers, and Combinations of Any of Them.
First use Aug. 14, 1964.

SN 219,995. Hudson Ross, Inc., New York, N.Y. Filed May 28, 1965. SN 253,983. Playtape, Inc., New York, N.Y. Filed Sept. 7, 1966.

R E C O R D I O

For Automatic Electrical Phonograph, Automatic Tape Recorder/Reproducers, and Combinations of Any of Them.
First use Aug. 14, 1964.

SN 219,996. Hudson Ross, Inc., New York, N.Y. Filed May 28, 1965.

WILCOX-GAY

For Automatic Electrical Phonograph, Automatic Tape Recorder/Reproducers, and Combinations of Any of Them.
First use Aug. 14, 1964.

SN 239,314. James F. Power, d.b.a. Autio Guide, Chenoa, Ill. Filed Feb. 21, 1966.

AUTIO-GUIDE

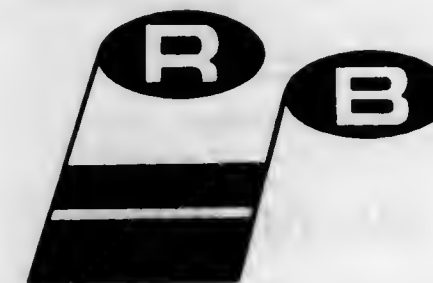
For Audio Tapes for Use in Automobiles.
First use Jan. 27, 1966.

SN 243,586. Rodale Press, Inc., Emmaus, Pa. Filed Apr. 15, 1966.

QUINT-O-FONE

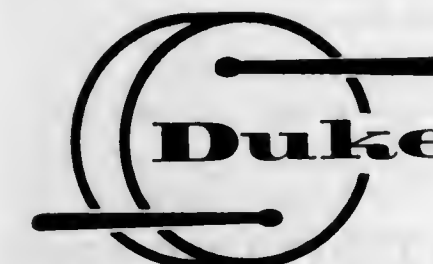
For Phonograph Records and Pre-recorded Magnetic Tapes.
First use Oct. 1, 1965.

SN 252,637. Robert Brillhart, d.b.a. Robert Brillhart Co., Carlsbad, Calif. Filed Aug. 18, 1966.



For Electronic Pick-Ups for Woodwind Instruments.
First use June 30, 1966.

SN 252,740. Lo Duca Bros. Musical Instruments Inc., Milwaukee, Wis. Filed Aug. 19, 1966.



For Drums and Accessories Therefore, Drum Sticks, and Percussion Instruments.
First use June 20, 1966.

playtape

For Magnetic Tape Cartridges and Portable Cartridge Tape Players.
First use July 21, 1966.

SN 253,984. Playtape, Inc., New York, N.Y. Filed Sept. 7, 1966.



For Magnetic Tape Cartridges and Portable Cartridge Tape Players.
First use July 21, 1966.

SN 255,651. Spanish World Records, Inc., New York, N.Y. Filed Oct. 3, 1966.



Owner of Reg. Nos. 593,641, 644,905, and 691,690.
For Phonograph Records.
First use Oct. 1, 1952.

SN 255,722. Radio Corporation of America, New York, N.Y. Filed Oct. 4, 1966.



For Pre-Recorded Music Tape and the Reel on Which It Is Wound.
First use on or about Aug. 31, 1962.

Class 37 — Paper and Stationery

SN 256,561. Joseph Mack Associates, Incorporated, New York, N.Y. Filed Oct. 17, 1966.

IDENTA-DRINK

For Blank Labels To Identify Personal Cocktail Glasses, Liquor Glasses, and Drinking Glasses.
First use Aug. 25, 1966.

SN 256,576. Micropoint, Inc., Sunnyvale, Calif. Filed Oct. 17, 1966.

TRADE MARKER

The word "Marker" is disclaimed apart from the word mark in its entirety.
For Pens.
First use Aug. 19, 1966.

SN 258,245. Joseph Redegeld & Co., Inc., Elizabeth, N.J. Filed Nov. 8, 1966.

JOREDCO

For Drawing Tablets, Filler Paper, Tablets, Hard Cover Note Books, Air Mail Tablets, Gem Clip Paper Fasteners, Pencils, Envelopes, Writing Paper, Loose Leaf Covers, Bill Heads and Statements, Bond Paper, Tissue Paper, Tracing Paper, Quadrille Pads, and Index Cards.
First use November 1933.

SN 259,647. Dental Printing Co., Inc., Bellmore, N.Y. Filed Nov. 29, 1966.

3 IN 1

For Envelopes.
First use on or about Jan. 15, 1960.

SN 259,854. Ritepoint Corporation, St. Louis, Mo. Filed Dec. 1, 1966.

CONSUL

For Ball Point Pens.
First use Nov. 12, 1966.

SN 259,863. Straubel Paper Company, Green Bay, Wis. Filed Dec. 1, 1966.

HOLIDAY TIME

For Paper Table Covers.
First use Nov. 2, 1966.

SN 260,546. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 12, 1966.

VITAWRAP

For Packaging Film.
First use Oct. 5, 1966.

SN 260,547. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 12, 1966.

VITAPAK

For Packaging Film.
First use Oct. 5, 1966.

SN 260,890. Simpson Lee Paper Company, Vicksburg, Mich. Filed Dec. 15, 1966.

TELEMARK

For Text and Cover Paper.
First use Nov. 23, 1966.

SN 260,979. Westab Inc., Dayton, Ohio. Filed Dec. 16, 1966.

**TWIN
WIRE**

For Loose Leaf Notebooks.
First use Sept. 20, 1966.

SN 265,953. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 6, 1967.

3M

Owner of Reg. No. 815,498, and others.
For Unprinted Labels.
First use Jan. 20, 1967.

SN 268,654. St. Joe Paper Company, Jacksonville, Fla. Filed Apr. 10, 1967.

SURF-LITE

For Paper in the Form of White Top Kraft Liner Board.
First use on or before Mar. 15, 1967.

SN 268,655. St. Joe Paper Company, Jacksonville, Fla. Filed Apr. 10, 1967.

SHADO-BRITE

For Paper in the Form of Mottled White Kraft Liner Board.
First use on or before Mar. 15, 1967.

SN 272,557. Binney & Smith Inc., New York, N.Y. Filed May 29, 1967.

THRIFTLINE

For Chalkboard Erasers.
First use May 2, 1967.

SN 272,558. Binney & Smith Inc., New York, N.Y. Filed May 29, 1967.

BINNEY & SMITH
THRIFTLINE

For Chalkboard Erasers.
First use May 2, 1967.

Class 38 — Prints and Publications

SN 250,611. University of Miami, d.b.a. The University of Miami, Coral Gables, Fla. Filed July 19, 1966.

SN 245,572. August Derleth, d.b.a. Arkham House Publishers, Sauk City, Wis. Filed May 13, 1966.

**ARKHAM HOUSE: PUBLISHERS**

Applicant does not claim any exclusive right to the word "Publishers" apart from the mark as a whole. The horizontal lining does not represent color.
For Books.
First use July 17, 1944.

SN 246,402. Telegraphic Cable and Radio Registrations, Inc., New York, N.Y. Filed May 23, 1966.

**MARCONI'S
INTERNATIONAL
REGISTER**

For Trade Directory Which Is Published Annually.
First use March 1945.

SN 247,581. Continental Illinois National Bank and Trust Company of Chicago, Chicago, Ill. Filed June 8, 1966.

THE FAMILY BANKER

For Newsletter Which Furnishes Information on Money Management.
First use Feb. 22, 1966.

SN 248,601. Dial-A-Isle Corporation, Jackson, Miss. Filed June 21, 1966.

DIAL-A-ISLE

For Printed Dial Guide for Use in Locating Merchandise in a Store.
First use Apr. 20, 1966.

SN 249,545. Mai-Kai, Inc., d.b.a. Mai-Kai Restaurant, Fort Lauderdale, Fla. Filed July 5, 1966.

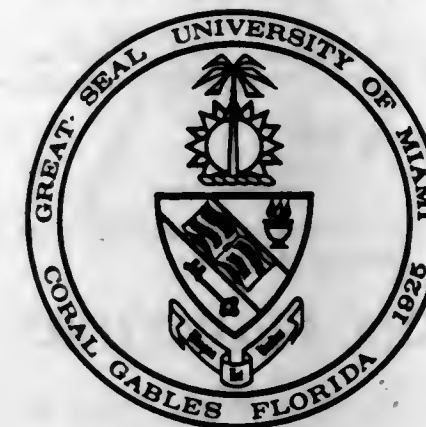
MAI-KAI

Owner of Reg. No. 764,025.
For Magazine Published Quarterly.
First use January 1963.

SN 250,584. George P. Lamb and Carrington Shields, Washington, D.C. Filed July 19, 1966.

**TRADE ASSOCIATION LAW
DIGEST**

For Monthly Digest of Court Opinions and Reports of Other Legal Development of Interest to Trade Association Executives and Members.
First use Feb. 1, 1946.



The English translation of the wording on the shield is "Investigation (discovery), preservation, and dissemination of knowledge." The wording below the shield is "great is truth." Owner of Reg. No. 664,741.

For Educational Publications—Namely, Books, Periodicals, Leaflets, Bulletins, Manuals, Motion Pictures, Student Magazines, and Pamphlets.
First use June 14, 1966.

SN 252,674. McGraw-Hill, Inc., New York, N.Y. Filed Aug. 18, 1966.

AUTOMOBILE INTERNATIONAL
FLEET INTERNATIONAL **AUTOGRAM**

Owner of Reg. Nos. 742,137 and 779,485.
For Monthly Newsletter.
First use Aug. 5, 1966.

SN 254,642. Yankee Colour Corporation, Southboro, Mass. Filed Sept. 16, 1966.

HISTORAMA

For Full Color Souvenir Folders, Brochures, and Post Cards.
First use May 1, 1964.

SN 255,019. The Purse Company, Chattanooga, Tenn. Filed Sept. 23, 1966.



The drawing is lined for the color blue, but color is not claimed as an essential feature of the mark.

For Pamphlet Issued Periodically for Distribution Under the Auspices of Trust Institutions, Dealing With Subjects Related to Trust and Wills.
First use Aug. 5, 1966.

SN 256,097. The International Oceanographic Foundation, Miami, Fla. Filed Oct. 10, 1966.

SEA SECRETS

For Educational Leaflet, Issued Periodically, on Marine Science and Technology, Consisting Essentially of Questions and Answers.

First use Apr. 23, 1957.

SN 256,098. The International Oceanographic Foundation, Miami, Fla. Filed Oct. 10, 1966.

SEA FRONTIERS

For Magazine Devoted to Marine Science and Technology.

First use on or about Mar. 1, 1957.

SN 256,936. The Food and Drug Law Institute, Inc., New York, N.Y. Filed Oct. 21, 1966.



The words "Food," "Drug," and "Law Institute" are disclaimed except as part of the mark as shown.

For Books, Booklets, and a Monthly Magazine.

First use May 26, 1966.

SN 257,505. Norcross, Inc., New York, N.Y. Filed Oct. 28, 1966.

FUNSTERS

For Greeting Cards.

First use June 24, 1966.

SN 257,974. McGraw-Hill, Inc., New York, N.Y. Filed Nov. 4, 1966.

A YOUNG PIONEER BOOK

No registration rights are claimed in the word "Book."

For Series of Juvenile Books.

First use Oct. 28, 1966.

SN 262,659. The Butterick Company, Inc., New York, N.Y. Filed Jan. 17, 1967.



For Magazine.

First use Jan. 4, 1967.

Class 39 — Clothing

SN 231,051. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Oct. 22, 1965.

*Highlights
of Paris*

No exclusive claim is made to the words "Of Paris" apart from the mark as shown.

For Ladies' Hosiery.

First use Nov. 13, 1957.

SN 247,533. Spatz Bros. Inc., New York, N.Y. Filed June 7, 1966.

JUNIOR POLICE PATROL

For Raincoats.

First use May 15, 1966.

SN 250,931. Lane Bryant, Inc., New York, N.Y. Filed July 25, 1966.

COUNTRY SCENE

For Women's and Children's Clothes and Accessories—Namely, Coats, Suits, Dresses, Skirts, Waistbands, Blouses, Underwear, Sweaters, Hats, Hosiery, Shoes, Belts, Scarves, Shawls, Gloves, Robes, Shirts, and Jackets.

First use July 7, 1966.

SN 253,522. Glen Oaks Sales Co., Inc., New York, N.Y. Filed Aug. 31, 1966.

CHANCELLOR ROW

For Men's, Women's, Teen-Agers' and Children's Slacks, Trousers, Pants, and Shorts.

First use May 15, 1966.

SN 254,262. John E. Dorsey, d.b.a. John E. Dorsey Co., Boston, Mass. Filed Sept. 12, 1966.

DORSEY
Life guard

The word "Dorsey" is disclaimed apart from the mark as shown.

For Rain Suits, Rain Coats, Rain Footwear, and Rain Hats.

First use September 1964.

SN 254,656. Allied Stores Corporation, New York, N.Y. Filed Sept. 19, 1966. SN 258,821. Lion Uniform, Inc., Dayton, Ohio. Filed Nov. 16, 1966.

Stern Brothers

Owner of Reg. Nos. 238,857, 582,485, and others.

For Women's, Misses', Junior Misses', and/or Children's Coats, Sport Coats, Jackets, Suits, Raincoats; Fur Coats, Fur Neck Pieces; Skirts, Blouses, Sweaters; Dresses, Bridal Dresses; House Dresses, Nurses' and Maids' Uniforms, Aprons; Robes; Bathing Suits, Shorts, Bermuda Shorts, Torador Pants, Dungarees, Pedal Pushers; Women's Hats; Hosiery; Collar and Cuff Sets; Scarfs, Sleepwear; Daytime Underwear; Corsets, Corselets, Girdles, Bras, Garter Belts; Negligees; Lingerie—Namely, Drawers, Bloomers, Vests, Chemises, Dancing Sets; Slips, Petticoats; Belts, Gloves, Shoes, Slippers, Rubbers; Infants' and Toddlers' Dresses, Suits, Shawls, and Pramsuits; Men's, Young Men's, and Boys' Suits, Overcoats, Topcoats, Sport Coats, Raincoats, Slacks, Shirts, Sport Shirts; Sweaters; Robes; Pajamas; Underwear; Bathing Suits, Shorts, Bermuda Shorts; Ties, Mufflers; Hats, Caps; Gloves; Belts; Hosiery; Shoes, Slippers, Rubbers.

First use 1867.

Zip Suit

For the purpose of this application only and without waiver of common law rights, applicant makes no claim to the word "Suit" used apart from the mark as shown.

For Coverall Uniforms for Industrial and Service Personnel.

First use May 14, 1964.

SN 263,375. I. B. Kleinert Rubber Company, New York, N.Y. Filed Jan. 26, 1967.

WEIGHT WATCHER

For Girdles.

First use Dec. 1, 1966.

MAN IN SPORT

Owner of Reg. No. 576,004.

For Men's Coats, Vests, and Trousers.

First use May 26, 1966.

SN 255,471. Spartans Industries, Inc., New York, N.Y. Filed Sept. 29, 1966.

Marcy Gale

The name "Marcy Gale" is fanciful.

For Girls' Wearing Apparel—Namely, Sweaters, Coats, Blouses, and Hose.

First use Sept. 15, 1960.

SN 257,281. Kayser-Roth Corporation, New York, N.Y. Filed Oct. 26, 1966.

NOLDE

Owner of Reg. Nos. 399,257, 567,918, and others.

For Women's and Girls' Stretch Pants, Stretch Tops, Panties, Vests, Sanitary Panties, Maternity Panties, Girdles, Brassieres, Garter Belts, Slips, Petticoats, Sleepwear, Robes, Dusters, Dresses and Children's Vests and Underwear.

First use Nov. 19, 1965.

SN 257,953. J. Freezer & Son, Inc., New York, N.Y. Filed Nov. 4, 1966.

BEEKMAN
SHIRTMAKERS

The word "Shirtmakers" is disclaimed apart from the mark as shown. Owner of Reg. No. 628,324.

For Men's and Boys' Shirts.

First use May 24, 1965.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 255,988. Lady Kathy Corporation, Holland, Mich. Filed Oct. 7, 1966.

THE BUMP'S GONE!

For Garters.

First use Aug. 27, 1966.

SN 256,673. Marketing/70, Marina Del Rey, Calif. Filed Oct. 18, 1966.

knee-o-geo

For Pressure Sensitive Decorative Stickers for Application to the Body or Articles.

First use July 15, 1966.

SN 263,156. Henry G. Anderson, d.b.a. Panic Button Company, Falls Church, Va. Filed Jan. 24, 1967.

PANIC BUTTON

The word "Button" is disclaimed apart from the mark as shown.

Buttons Having Attached Securement Means.

First use February 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 248,961. Besmer Teppichfabrik Mertens K.G., Hameln, Germany. Filed June 27, 1966.



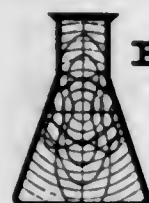
For Floor Covering—Namely, Textile Rugs, Runners, Mats, and Scatter Rugs.
First use August 1953; in commerce August 1953.

SN 250,044. Southern Mills, Inc., Atlanta, Ga. Filed July 11, 1966.

KNIT-PAK

For Textile Netting for Use in the Wrapping of Meat.
First use June 13, 1966.

SN 253,296. Fiberchem, Inc., Seattle, Wash. Filed Aug. 29, 1966.



FIBERCHEM

For Knitted, Netted, Woven and Non-Woven Synthetic Fabrics for Industrial Uses; and for Quilts, Bedspreads, Bed-sheets, Draperies, and Household Linens.
First use Mar. 25, 1956.

SN 256,530. Debron Carpets Limited, Kidderminster, Eng-land. Filed Oct. 17, 1966.

DEBRON

Owner of British Reg. Nos. 856,311, dated Nov. 8, 1963, and 892,632, dated Mar. 30, 1961.
For Textile Carpets, Carpeting, Rugs, and Floor Coverings.

SN 256,730. English Sewing Limited, Manchester, England. Filed Oct. 19, 1966.

SELVYT

Owner of British Reg. No. 667,989, dated Mar. 22, 1948; and U.S. Reg. No. 797,857.
For Cotton Piece Goods.

SN 257,941. Concord Fabrics Inc., New York, N.Y. Filed Nov. 4, 1966.

STAGECOACH

For Textile Fabrics Made of Cotton and/or Synthetic Fibers.
First use May 18, 1966.

SN 259,667. Abney Mills, Greenwood, S.C. Filed Nov. 29, 1966.

THERMALOC

For Woven Fabrics With Acrylic Backing Used in Making Drapery and Drapery Linings.
First use Nov. 3, 1966.

Class 43—Thread and Yarn

SN 269,487. William Unger & Co., New York, N.Y. Filed Apr. 10, 1967.

BIM BAM

For Yarn.
First use June 15, 1966.

Class 44—Dental, Medical, and Surgical Appliances

SN 272,783. E. I. du Pont de Nemours and Company, Wil-
mington, Del. Filed June 1, 1967.



Owner of Reg. Nos. 281,193, 541,064, and others.
For Catamenial Devices.
First use May 16, 1967.

SN 272,784. E. I. du Pont de Nemours and Company, Wil-
mington, Del. Filed June 1, 1967.

DELAKINS

Owner of Reg. No. 780,484.
For Catamenial Devices.
First use May 16, 1967.

SN 272,787. Bio-Neering, Inc., Carmel, Ind. Filed June 1, 1967.

ZIP-LOAD

For Glass Container in the Form of a Cartridge To Be
Used in Plastic Syringe Guns for Use in Injecting Medicines
Into Animals.
First use Feb. 17, 1967.

Class 46—Foods and Ingredients of Foods

SN 196,724. Jos. Schmid, d.b.a. Jos. Schmid Co., Beaver Dam,
Wis. Filed June 29, 1964.

BEAVER

For Cheese.
First use on or prior to July 1, 1937.

SN 197,658. Nibb-It Corporation of America, Studio City, Calif., assignee of Bell Brand Foods, Ltd., Los Angeles, Calif. Filed July 13, 1964.



The drawing is lined for red, gold and two shades of brown but no claim to color is made.
For Potato Snack Products Made From Expanded and Fried Potato Flour.
First use Apr. 28, 1964.

SN 198,069. National Tea Co., d.b.a. National Food Stores, Chicago, Ill. Filed July 17, 1964.

NATIONAL

Applicant claims use for the area comprising the States of Arkansas, Colorado, Illinois, Indiana, Iowa, Minnesota, Michi-
gan, Mississippi, Missouri, Nebraska, North Dakota, South
Dakota, Tennessee, West Virginia, Wisconsin, and Wyoming.
Owner of Reg. Nos. 702,661 and 723,167.

For Fresh, Frozen, Smoked and Prepared Canned Meats
Excepting Canned Corned Beef, Canned Roast Beef, and Pack-
aged Beef Extract; Fresh and Frozen Poultry and Parts
Thereof; Fresh, Frozen and Canned Fish; Fresh, Preserved,
Dried, Frozen and Canned Fruits and Vegetables; Jellies,
Jams, Peanut Butter, Salad Dressings, and Bread Spreads;
Honey, Salt, Mustard, Pepper, Vinegar and Spices; Edible
Oils, Vegetable Shortening, and Lard; Prepared and Partially
Prepared Frozen Sea Food, Fish, Meat, and Poultry Dinners.
First use September 1902.
Subj. to Con. Use Proc. with Reg. No. 116,424.

SN 217,681. United Coconut Corporation, New York, N.Y.
Filed Apr. 29, 1965.



The word "Brand" is disclaimed as part of the trademark.
For Desiccated Coconut for Use in Baked Goods, Confec-
tions, Candies, Dessert Preparations, and Cake Mixes and
Which Is Sold Only to the Wholesale Trade.
First use Apr. 14, 1965.

SN 232,414. New England Apple Products Co., Inc., Little-
ton, Mass. Filed Nov. 9, 1965.

JOHNNY APPLESEED

"Johnny Appleseed" is not the name of any known living
individual.
For Apple Products—Namely, Apple Juice and Apple Sauce.
First use June 23, 1954.

SN 237,117. Hills Bros. Coffee, Inc., San Francisco, Calif.
Filed Jan. 24, 1966.



Applicant disclaims exclusive rights in the configuration
of the container apart from the mark as shown. The mark
consists of the configuration of the container for the goods
and the wording and design which appear thereon. Owner of
Reg. Nos. 163,338, 822,055, and others.
For Coffee.
First use Apr. 20, 1965; Mar. 1, 1878, as to "Hill Bros."

SN 237,121. Hills Bros. Coffee, Inc., San Francisco, Calif.
Filed Jan. 24, 1966.



Applicant disclaims exclusive rights in the configuration
of the container apart from the mark as shown. The mark
consists of the configuration of the container for the goods
and the wording and designs which appear thereon. Owner of
Reg. Nos. 51,468, 821,231, and others.
For Coffee.
First use Apr. 20, 1965; Mar. 1, 1878, as to "Hills Bros.";
June 1, 1897, as to the Arab figure.

SN 237,122. Hills Bros. Coffee, Inc., San Francisco, Calif.
Filed Jan. 24, 1966.



Applicant disclaims exclusive rights in the configuration
of the container apart from the mark as shown. The mark
consists of the configuration of the container for the goods
and a crown design thereon. Owner of Reg. No. 822,055.
For Coffee.
First use Apr. 20, 1965.

SN 240,397. Wells Dairies Cooperative, Columbus, Ga. Filed Mar. 7, 1966.



For Homogenized Fluid Milk, Whipping Cream, Half and Half Cream, Reconstituted Orange Juice Sold in Cartons, and Ice Milk.
First use Nov. 10, 1965.

SN 241,616. Acme Markets, Inc., Philadelphia, Pa. Filed Mar. 23, 1966.



Owner of Reg. Nos. 569,043, 804,543, and others.
For Iodized Salt, Peanut Butter, Ice Cream, Fresh, Frozen and Smoked Meats, and Kidney Bean Salad.
First use Mar. 31, 1964.

SN 251,059. Hayden Flour Mills, Tempe, Ariz. Filed July 26, 1966.

Kitchen Best

The word "Best" is disclaimed apart from the mark as shown.
For Enriched Bleached All Purpose Flour.
First use June 27, 1966.

SN 251,154. Ruxford Laboratories, Inc., Newark, N.J. Filed July 27, 1966.

RUXCOTONE

For Hydrous Sweet Spice Flavoring Paste.
First use December 1964.

SN 251,156. Ruxford Laboratories, Inc., Newark, N.J. Filed July 27, 1966.

RUXCOCHOC

For Natural Plastic Cocoa Flavoring Based in Vegetable Fat, Anhydrous.
First use January 1965.

SN 251,158. Ruxford Laboratories, Inc., Newark, N.J. Filed July 27, 1966.

RUXCAFE

For Natural Coffee Flavoring Combining Coffees and Spices, Herbs and Roots for Use Either as a Liquid Extract, a Soluble Powder or as Anhydrous Paste or Cake, or as a Cream.
First use May 1964.

SN 251,645. Milk Proteins, Inc., Detroit, Mich. Filed Aug. 3, 1966.

CHEF TOP

For Non-Dairy Imitation Sour Cream Base.
First use on or about July 11, 1966.

SN 251,780. Arnold Bakers, Inc., Greenwich, Conn. Filed Aug. 5, 1966.

CHE-SEN

For Rice and Cheese-Flavored Cracker-Type Product.
First use July 22, 1966.

SN 252,259. Standard Fruit and Steamship Company, New Orleans, La. Filed Aug. 12, 1966.

FIESTA

Owner of Reg. No. 708,162.
For Fresh Fruits and Vegetables.
First use Oct. 30, 1959.

SN 252,372. The Fleming Co. Incorporated, Topeka, Kans. Filed Aug. 15, 1966.

First Pick

Owner of Reg. No. 65,801.
For Canned Vegetables, Canned Fruits, Canned Apple Sauce, Canned Preserves, Canned Fruit Cocktail, and Catsup.
First use Jan. 1, 1963.

SN 252,573. Hales & Hunter Co., Chicago, Ill. Filed Aug. 17, 1966.

ROASTERETTE

For Dressed Fresh and Frozen Chickens.
First use Oct. 30, 1965.

SN 253,900. McKee Baking Company, Collegedale, Tenn. Filed Sept. 6, 1966.

JEL-CREME ROLLS

The word "Rolls" is disclaimed apart from the mark as shown.
For Jelly Rolls With Cream.
First use July 8, 1966.

SN 254,194. The Schratte Import Co. Inc., New York, N.Y. Filed Sept. 9, 1966.

LE DELICE DE VITTEL

The English translation of the mark "Le Délice de Vittel" is "the delight of Vittel." "Vittel" is a spa or watering place. For Cheese.
First use Nov. 10, 1964.

SN 255,060. Capri Macaroni Corporation, Newtown, Conn. Filed Sept. 26, 1966.

COLO-RONI

For Colored Alimentary Paste, Pasta, and Macaroni Tinted Light Red or Green in Color by Pure Tomato or Spinach Juices and Packaged Individually, Together, or Mixed With Uncolored Macaroni.
First use on or before Sept. 16, 1966.

SN 259,296. Beatrice Foods Co., Chicago, Ill. Filed Nov. 23, 1966.

AFTER DINNER

Owner of Reg. No. 45,034.
For Mint Candy.
First use May 15, 1961.

SN 259,333. National Biscuit Company, New York, N.Y. Filed Nov. 23, 1966.

ALPHABET

For Pretzels.
First use Oct. 11, 1966.

SN 259,457. National Biscuit Company, New York, N.Y. Filed Nov. 25, 1966.

POP-A-PIZZA

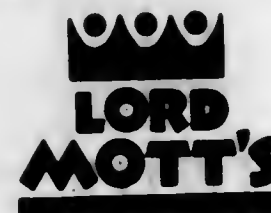
For Biscuits and Crackers.
First use Nov. 19, 1966.

SN 259,562. Mother's Cake & Cookie Co., Oakland, Calif. Filed Nov. 28, 1966.

MOTHER'S

Owner of Reg. Nos. 577,159 and 635,300.
For Ice Cream Sandwich.
First use Oct. 20, 1966.

SN 259,648. Duffy-Mott Company, Inc., New York, N.Y. Filed Nov. 29, 1966.



Owner of Reg. Nos. 160,454, 802,371, and others.
For Canned Vegetables and Other Canned and Frozen Food Products—Namely, Canned Corn, Beets, Green Beans, Peas, Carrots, Peas and Carrots, Onions, Spinach, Sweet Potatoes, White Potatoes, Whole Tomatoes, Stewed Tomatoes, Tomato Puree, Chestnuts, and Wild Rice; and Canned Steamed Clams; and Frozen Deviled Crabs, Crab Cakes, Crab Sticks, Fried Clams, Stuffed Flounder, Whipped Sweet Potato Casserole.
First use July 11, 1966; 1836 as to "Lord Mott's."

SN 259,736. Evelyn M. Johnson, d.b.a. Morris Enterprises, New York, N.Y. Filed Nov. 30, 1966.

"FLAV'R-BROWN"

For Unbleached Flour for Seasoning and Browning Meats.
First use Apr. 20, 1965.

SN 259,738. Kadison Laboratories, Inc., Chicago, Ill. Filed Nov. 30, 1966.

SNOW BRIGHT

For Processed Dried Milk Albumin.
First use on or about June 10, 1966.

SN 259,828. Hudson National, Inc., New York, N.Y. Filed Dec. 1, 1966.

PET-A-BONE

For Pet Foods.
First use Sept. 16, 1966.

SN 259,902. Dana Brown-Private Brands, Inc., St. Louis, Mo. Filed Dec. 2, 1966.

TIGER

For Coffee.
First use Nov. 21, 1966.

SN 259,908. A. Duda & Sons Cooperative Association, Slavia, Oviedo, Fla. Filed Dec. 2, 1966.

REDICEL

For Canned Celery.
First use Aug. 31, 1966.

SN 260,041. General Foods Corporation, White Plains, N.Y. Filed Dec. 5, 1966.

FLAVO-RINGS

For Coffee.
First use June 28, 1966.

SN 260,042. General Foods Corporation, White Plains, N.Y. Filed Dec. 5, 1966.

PERFIC-PAX

For Coffee.
First use June 28, 1966.

SN 260,043. General Foods Corporation, White Plains, N.Y. Filed Dec. 5, 1966.

MEASU-RINGS

For Coffee.
First use June 28, 1966.

SN 260,044. General Foods Corporation, White Plains, N.Y. Filed Dec. 5, 1966.

POT SHOTS

For Coffee.
First use June 27, 1966.

SN 260,045. General Foods Corporation, White Plains, N.Y. Filed Dec. 5, 1966. SN 260,758. Mother's Cake & Cookie Co., Oakland, Calif. Filed Dec. 14, 1966.

COFFEE-COUNTS

For Coffee.
First use June 28, 1966.

SN 260,114. Mildred F. Williams, d.b.a. Lake Side Aquarium, Monticello, Ind. Filed Dec. 5, 1966.

LAKE SIDE

For Fish Food.
First use in or about October 1964.

SN 260,526. The Cheese Shop of West Hartford, Inc., West Hartford, Conn. Filed Dec. 12, 1966.

APPLENOCKER

For Cheese.
First use on or before Oct. 1, 1965.

SN 260,635. Abbey of the Genesee, Piffard, N.Y. Filed Dec. 13, 1966.



Owner of Reg. Nos. 645,207 and 813,544.
For Bread.
First use Nov. 18, 1966.

SN 260,654. Corn Products Company, New York, N.Y. Filed Dec. 13, 1966.

SKIPPY

Owner of Reg. No. 504,940.
For Edible Nuts.
First use at least as early as May 13, 1966.

SN 260,658. General Mills, Inc., Minneapolis, Minn. Filed Dec. 13, 1966.

CORNADOS

For Ready-To-Eat Breakfast Cereal.
First use Nov. 9, 1966.

SN 260,674. National Molasses Company, Willow Grove, Pa. Filed Dec. 13, 1966.

NAMOLCO

For Surfactant Affecting Viscosity and Surface Tension To Reduce Foaming in Molasses.
First use May 27, 1966.

TWO PLUS TWO

For Cookies.
First use Nov. 22, 1966.

SN 265,870. The Quaker Oats Company, Chicago, Ill. Filed Mar. 3, 1967.

**BIG DOG**

Without waiver of any common law rights in the mark as a whole or any feature thereof, applicant disclaims the words "Ration" and "Dog" apart from the mark as shown. Owner of Reg. Nos. 188,326, 746,309, and others.
For Dog Food.
First use Feb. 3, 1967; Jan. 22, 1923, as to "Ken-L-Ration."

SN 265,871. The Quaker Oats Company, Chicago, Ill. Filed Mar. 3, 1967.

**Training Table**

Without waiver of any common law rights in the mark as a whole or any feature thereof, applicant disclaims the word "Ration" apart from the mark as shown. Owner of Reg. Nos. 188,326, 746,309, and others.
For Dog Food.
First use Feb. 3, 1967; Jan. 22, 1923, as to "Ken-L-Ration."

SN 265,872. The Quaker Oats Company, Chicago, Ill. Filed Mar. 3, 1967.

**LITTLE DOG**

Without waiver of any common law rights in the mark as a whole or any feature thereof, applicant disclaims the words "Ration" and "Dog" apart from the mark as shown. Owner of Reg. Nos. 188,326, 746,309, and others.
For Dog Food.
First use Feb. 3, 1967; Jan. 22, 1923, as to "Ken-L-Ration."

SN 267,589. R.G.B. Laboratories, Inc., Kansas City, Mo. Filed Mar. 27, 1967.



For Vegetable Derived, Non-Dairy Whipped Topping.
First use Mar. 15, 1967.

SN 267,710. Mead Johnson & Company, Evansville, Ind. Filed Mar. 28, 1967.

ENFAMIL NURSETTE

Owner of Reg. Nos. 696,534, 822,131, and others.
For Simulated Breast Milk Formula in Liquid and Powder Form for Infants.
First use on or prior to Mar. 18, 1967.

SN 267,935. Faultless Starch Company, Kansas City, Mo. Filed Mar. 30, 1967.

PANTRY SHELF

For Seasoning Preparation Comprising Chiefly a Blend of Vinegar and Spices To Be Used as a Base in Preparing Salad Dressings, and Also Useful for Seasoning Gravies, Soups, and Other Foods.
First use Mar. 17, 1967.

SN 268,925. Vasek and Kovar Potato Company, East Grand Forks, Minn., by change of name from Vasek-Kovar Potato Co., East Grand Forks, Minn. Filed Apr. 12, 1967.

APPLES OF THE EARTH

For Potatoes in Their Natural State.
First use about Dec. 18, 1956.

SN 274,142. William H. Hall & Co., Inc., Lutherville, Md. Filed June 19, 1967.

TASTEMASTER

For Tea.
First use June 7, 1967.

SN 274,566. Heggblade-Marguleas Co., San Francisco, Calif. Filed June 23, 1967.

HONEY-LOPE

For Fresh Cantaloupes.
First use June 9, 1967.

Class 48 — Malt Beverages and Liquors

SN 259,155. Pripp-Bryggerierna AB, Goteborg, Sweden. Filed Nov. 21, 1966.

PRIPPS

Owner of U.S. Reg. No. 815,111.
For Beer.
First use Apr. 12, 1897; in commerce Oct. 21, 1966.

Class 49 — Distilled Alcoholic Liquors

SN 243,835. J. T. S. Brown's Son Company, d.b.a. Executive Club Distilling Co., Cincinnati, Ohio. Filed Apr. 20, 1966.

Limited Reserve

Applicant asserts exclusive rights in the word "Reserve" only in combination with the word "Limited" as shown.
For Whiskey.
First use Oct. 13, 1965.

SN 255,058. Bohemian Distributing Company, d.b.a. International Distilleries Co., Los Angeles, Calif. Filed Sept. 26, 1966.

St. Elmo

For Rum.
First use Nov. 4, 1964.

SN 255,474. Star Industries, Inc., Long Island City, N.Y. Filed Sept. 29, 1966.

CARNABY'S Inne

For Gin.
First use Sept. 1, 1966.

SN 259,170. Sazerac Company, Inc., d.b.a. John Handy Co., New Orleans, La. Filed Nov. 21, 1966.

John Handy Esquire

The name "John Handy" is fanciful. Owner of Reg. No. 753,060.
For Scotch Whisky.
First use Mar. 4, 1966; January 1954 as to "John Handy."

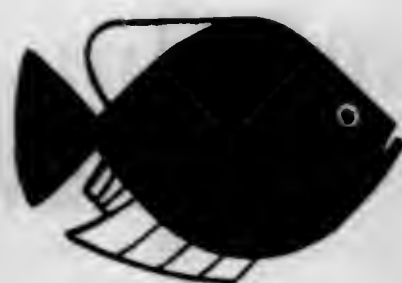
SN 259,356. Tuxedo Ltd., Glasgow, Scotland. Filed Nov. 23, 1966.

TUXEDO

Owner of British Reg. No. 859,799, dated Feb. 5, 1964.
For Scotch Whisky.

Class 50—Merchandise Not Otherwise Classified

SN 257,524. Sterno Industries, Inc. Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736.
For Fish Breeding Containers and Fish Feeder Trays.
First use Sept. 4, 1962.

SN 257,812. American Garment Hanger Company, Incorporated, Silver Spring, Md. Filed Nov. 3, 1966.

EXTENSO

For Skirt Hangers.
First use June 1965.

SN 270,852. Eldon Industries, Inc., Hawthorne, Calif. Filed May 8, 1967.

SCULPT-ART

For Sculpturing Set Comprising Tools, Plaques, Paints, Paint Brush, and Instructions.
First use Mar. 25, 1967.

Class 51—Cosmetics and Toilet Preparations

SN 244,183. Jack Fraley Bermond, London, England. Filed Apr. 25, 1966.

FADO

Owner of British Reg. No. 886,168, dated Oct. 28, 1965.
For Perfumes, Colognes, Face and Body Creams and Lotions, Hair Creams and Tonic, and Personal Deodorants.

SN 247,753. Rose Valois, Paris, France. Filed June 8, 1966.

MAROTTE

Owner of French Reg. No. 524,096, dated Sept. 4, 1964 (Seine); Natl. Inst. No. 231,651.
For Powders, Creams, Lotions for Face Make-Up and Face Make-Up Removing, Skin Lotions, Hair Lotions, Hand Creams, and Toiletary Talc Powder.

SN 250,299. Helena Rubinstein, Inc., New York, N.Y. Filed July 14, 1966.

TAN-IN-A-MINUTE

Owner of Reg. No. 627,556.
For Liquid Beauty Preparation for Making Up Suntanned Face, Body, and Legs.
First use Feb. 4, 1954.

SN 250,303. Helena Rubinstein, Inc., New York, N.Y. Filed July 14, 1966.

WAVE SHEEN CREAM

Owner of Reg. No. 596,142.
For Hair Cream.
First use Aug. 8, 1952.

SN 252,342. John H. Breck, Inc., Springfield, Mass. Filed Aug. 15, 1966.

SHAMPALE

For Hair Color Preparation.
First use Aug. 2, 1966.

SN 252,343. John H. Breck, Inc., Springfield, Mass. Filed Aug. 15, 1966.

SHINING LADY

For Hair Color Preparation.
First use Aug. 2, 1966.

SN 252,345. John H. Breck, Inc., Springfield, Mass. Filed Aug. 15, 1966.

I FEEL PRETTY

For Hair Color Preparation.
First use Aug. 2, 1966.

SN 253,225. Manufacturers Marketing Co., New York, N.Y. Filed Aug. 26, 1966.

WILD FLOWERS OF MERRIE ENGLAND

Owner of Reg. No. 720,759.
For Perfume, Hair Spray, Hand Lotion, Rouge, and Face Powder.
First use Apr. 14, 1966.

SN 253,506. Duvidell Sales Corporation, New York, N.Y. Filed Aug. 31, 1966.

LAURA PRESTON

The name "Laura Preston" is fictitious.
For Cologne.
First use Aug. 12, 1966.

SN 253,508. Duvidell Sales Corporation, New York, N.Y. Filed Aug. 31, 1966.

ROBERTA DEAN

The name "Roberta Dean" is fictitious.
For Cologne.
First use Aug. 12, 1966.

SN 255,439. Humphreys Medicine Company, Incorporated, Rutherford, N.J. Filed Sept. 29, 1966.

PRAETORIUS

"Praetorius" is a Latin word meaning "Roman magistrate."
For Cologne, Toilet Water, and Perfume.
First use Sept. 14, 1966.

SN 257,041. De Laire, Inc., New York, N.Y. Filed Oct. 24, 1966.



The lining and stippling shown on the drawing form an integral part of the mark and accordingly are not for the purpose of indicating color.

For Aromatic Substances, Raw and Refined Essences, Both Natural and Synthetic, and Compounds Thereof, All for Use as Perfume Ingredients.
First use July 1, 1953.

SN 259,512. A. Sulka & Company, New York, N.Y. Filed Nov. 28, 1966.

SULKA

Owner of Reg. Nos. 431,996, 827,153, and others.
For Cologne and After Shave Lotion.
First use November 1962.

SN 261,635. Clairol Incorporated, New York, N.Y. Filed Dec. 29, 1966.

HURRICANE

For Perfume.
First use Sept. 26, 1966.

SN 261,682. Sales Affiliates, Inc., New York, N.Y. Filed Dec. 29, 1966.



Owner of Reg. No. 815,145.
For Permanent Waving Lotion, Neutralizer, and Hair Conditioner.
First use Dec. 13, 1966.

SN 262,317. Clairol Incorporated, New York, N.Y. Filed Jan. 11, 1967.

TOUCH-BACK

For Hair Tinting, Dyeing and Coloring Preparation.
First use Sept. 26, 1966.

SN 263,007. Avon Products, Inc., New York, N.Y. Filed Jan. 23, 1967.

CHARISMA

For Perfume, Solid Perfume, Perfume Oil, Cologne, Cologne Mist, Dusting Powder, Powder Sachet, and Cream Sachet.
First use Jan. 4, 1967.

SN 263,088. L. T. York Company, Brookfield, Mo. Filed Jan. 23, 1967.

BENGEL TIGER

Owner of Reg. Nos. 321,154, 752,248, and others.
For Hair Tonic, After Shave and Cologne.
First use Dec. 30, 1966.

SN 266,095. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Mar. 6, 1967.

CONQUOR

For Cologne.
First use Feb. 3, 1967.

Class 52—Detergents and Soaps

SN 244,527. S and W Fine Foods, Inc., d.b.a. Equitable Cash Grocery Co., San Francisco, Calif. Filed Apr. 28, 1966.

GOOD DAY

For Powdered Detergent for Laundry and Dishwashing Purposes.
First use Mar. 24, 1966.

SN 246,818. A. E. Staley Manufacturing Company, Decatur, Ill. Filed May 27, 1966.

DIAPER MAGIC

Without prejudice to its common law rights and for the purpose of this registration only, applicant makes no claim to the word "Diaper" apart from the mark as shown. Owner of Reg. No. 723,747.
For Composition for Washing and Softening Diapers and All Baby Clothes.
First use Mar. 16, 1966.

SN 253,507. Duvidell Sales Corporation, New York, N.Y. Filed Aug. 31, 1966.

LAURA PRESTON

The name "Laura Preston" is fictitious.
For Hair Shampoo.
First use Aug. 12, 1966.

SN 253,509. Duvidell Sales Corporation, New York, N.Y. Filed Aug. 31, 1966.

ROBERTA DEAN

The name "Roberta Dean" is fictitious.
For Hair Shampoo.
First use Aug. 12, 1966.

SN 254,872. Gojer, Inc., Akron, Ohio. Filed Sept. 21, 1966.

GOOF PROOF

For Laundry Detergent.
First use Sept. 9, 1966.

SN 256,327. Windsor Wax Co., Inc., Hoboken, N.J. Filed Oct. 12, 1966.

WINDSOR SUPER DRI FOAM

The words "Super Dri Foam" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 196,190, 629,329, and 718,069.

For Carpet Shampoo.
First use December 1965.

SN 258,468. American Home Products Corporation, New York, N.Y. Filed Nov. 14, 1966.

AERO

Owner of Reg. Nos. 345,361 and 775,946.
For Dry Cleaning Fluid and Spot Remover.
First use on or before Mar. 31, 1956.

SN 259,767. Sea-Air Chemical Corporation, Long Island City, N.Y. Filed Nov. 30, 1966.

TANK-GLO

For Tank and Bilge Cleaning Compound in Liquid Form.
First use 1958.

SN 260,260. Madison Chemical Corporation, Maywood, Ill. Filed Dec. 7, 1966.

ELECTROLOID

For Oil and Grease Solvent.
First use Apr. 27, 1966.

SN 261,281. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 22, 1966.

PROMISE

Owner of Reg. No. 776,327.
For Dishwashing Detergent.
First use Dec. 16, 1966.

SN 263,008. Avon Products, Inc., New York, N.Y. Filed Jan. 23, 1967.

CHARISMA

For Toilet Soap.
First use Jan. 4, 1967.

SN 269,030. American Home Products Corporation, New York, N.Y. Filed Apr. 13, 1967.

DEPEND

For Toilet Cleaner and Deodorizer.
First use Apr. 4, 1967.

SN 274,140. The Goodwin Ammonia Company, d.b.a. The Goodwin Co., Los Angeles, Calif. Filed June 19, 1967.



For All Purpose Spray Cleaner.
First use May 31, 1967.

SERVICE MARKS**Class 100 — Miscellaneous**

SN 240,034. Southwestern Petroleum Corporation, Fort Worth, Tex. Filed Mar. 2, 1966.

SWPECO

Owner of Reg. Nos. 808,029 and 812,373.
For Inspections and Surveys Made To Anticipate Required Roof Repairs and Improvements.
First use Oct. 19, 1965.

SN 240,679. Texaco Inc., New York, N.Y. Filed Mar. 10, 1966.

STOP LOSS

For Lubrication Engineering Services for Others, Including Analysis and Assistance in Establishing and Maintaining Lubrication Control Systems.
First use Aug. 18, 1960.

SN 252,278. Ramada Inns, Inc., Phoenix, Ariz. Filed Aug. 12, 1966.

RAMADA INN-STANT

Owner of Reg. Nos. 686,471, 718,705, and 741,047.
For Hotel and Inn Reservation Services.
First use June 1, 1966.

SN 255,499. The H. K. Ferguson Company, Cleveland, Ohio. Filed Sept. 30, 1966.

SPATS

For Services of Planning and Programming Construction Work for Others.
First use Nov. 1, 1963.

SN 256,933. Embers of Washington, Inc., Washington, D.C. Filed Oct. 21, 1966.



Owner of Reg. No. 565,606.
For Restaurant Services.
First use June 1, 1962; February 1949 as to "Embers."

SN 261,264. Arbaugh's Restaurant, Inc., d.b.a. Arbaugh's, Washington, D.C. Filed Dec. 22, 1966.



For Restaurant Services.
First use Mar. 15, 1938.

SN 272,449. Westward Ho! Restaurants, Inc., Miami, Fla. Filed May 26, 1967.

Westward HO!

For Restaurant Services.
First use Nov. 24, 1964.

Class 101 — Advertising and Business

SN 232,108. Advertising Measurements, Inc., New York, N.Y. Filed Nov. 4, 1965.

AMI

For Compiling and Analyzing Information Concerning the Effectiveness of Advertising of Others.
First use Oct. 19, 1965.

SN 244,866. Acme Premium & Supply Corp., St. Louis, Mo. Filed May 4, 1966.



For Promoting the Sale of Goods and Services of Others by Means of Trading Stamps Redeemable by Applicant.
First use Oct. 15, 1965.

SN 251,830. G. C. Murphy Company, McKeesport, Pa. Filed Aug. 5, 1966.

A-A

For Retail Department Store Services.
First use Apr. 11, 1966.

SN 258,077. Eastman Kodak Company, Rochester, N.Y. Filed Nov. 7, 1966.

PRESTOLITH

For Duplicating Service.
First use Oct. 13, 1966.

SN 258,143. George Dary Philbrick, d.b.a. Philbrick Patent Personnel, Middletown, N.Y. Filed Nov. 7, 1966.



For Placement of Patent and Trademark Professional Personnel.
First use Sept. 23, 1966.

SN 258,535. Geophysics & Computer Services, Inc., New Orleans, La. Filed Nov. 14, 1966.

GEOCOM

For Data Processing.
First use July 1, 1966.

SN 267,763. The Stork Club, Inc., New York, N.Y. Filed Mar. 21, 1967.



For Services Performed for Banking Institutions—Namely, Designing and Preparing Advertising Copy, Display Pieces and Printed Promotional Materials To Promote Said Banking Institution's Business.
First use Apr. 18, 1966.

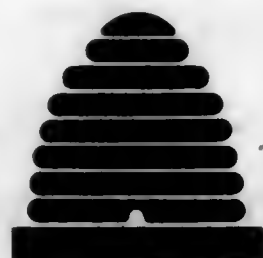
Class 102 — Insurance and Financial

SN 245,568. The Congress Company, Phoenix, Ariz. Filed May 13, 1966.

CONGRESS

For Administering Insurance Services.
First use Aug. 30, 1965.

SN 249,868. The New York Bank for Savings, New York, N.Y. Filed July 8, 1966.



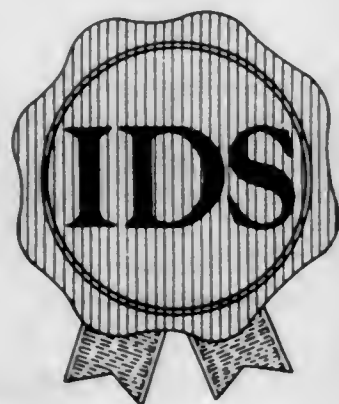
Owner of Reg. No. 759,375.
For Banking Services.
First use Aug. 17, 1963.

SN 255,016. Provident Life and Accident Insurance Company, Chattanooga, Tenn. Filed Sept. 23, 1966.



The mark is fanciful and represents no living person.
For Keeping Employees Covered by Group Insurance Informed of the Benefits To Be Derived From This Type of Coverage.
First use May 6, 1966.

SN 267,335. Investors Syndicate Life Insurance and Annuity Company, Minneapolis, Minn. Filed Mar. 22, 1967.

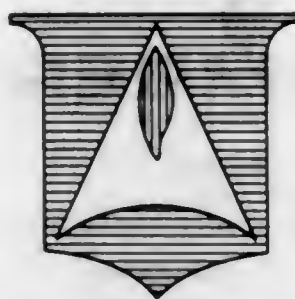


The seal on the drawing is lined for red. The ribbon represents no particular color. Owner of Reg. No. 814,697 and others.

For Underwriting Life Insurance and Disability Insurance.
First use Jan. 23, 1967.

Class 103 — Construction and Repair

SN 241,569. Akron Sand Blast & Metallizing Co., Barberton, Ohio. Filed Mar. 22, 1966.



The drawing is lined for red and blue.
For Sand Blasting, Metallizing, High Temperature and Corrosion Protection, and Protective Coating of Articles and Surfaces for Industry.
First use Feb. 1, 1966.

SN 250,707. Watkins Motors, Chester, Pa. Filed July 20, 1966.

WATKINS SYSTEM

Owner of Reg. No. 784,201.
For Maintenance and Repair Services for Motor Vehicles.
First use June 1, 1961.

SN 251,617. Eastern Railroad Builders, Inc., South Plainfield, N.J. Filed Aug. 3, 1966.



The mark depicts the outline of a section of railroad track installation with the outline of two railroad track switches and turnouts coming off the main track.
For Installation of Railroad Tracks.
First use May 15, 1966.

SN 253,850. The Dow Chemical Company, Midland, Mich. Filed Sept. 6, 1966.

DIVERTAFRAC

Owner of Reg. Nos. 584,015, 714,507, and others.
For Well Treating Services—Namely, Fracturing of Underground Earth Formations.
First use at least as early as May 4, 1965.

SN 265,867. Garvey Products Corporation, Hammonton, N.J. Filed Mar. 3, 1967.

GARVEY

For Machine Shop Services—Namely, Machining Glass Handling and Factory Production Equipment and Parts of Others.
First use 1926.

Class 104 — Communication

SN 251,836. Rusk Corporation, Houston, Tex. Filed Aug. 5, 1966.

THE TALK OF HOUSTON, KTRH

The letters "KTRH" and the word "Houston" are disclaimed apart from the mark as shown.
For Radio Broadcasting Services.
First use Feb. 11, 1963.

Class 105 — Transportation and Storage

SN 255,886. Empress Travel Service Inc., New York, N.Y. Filed Oct. 6, 1966.

FIESTA RICO

For Guided Travel Tour and Travel Agency Services.
First use on or about May 1, 1965.

SN 257,515. San Marino Travel Service, d.b.a. Sanmar Tours, San Marino, Calif. Filed Oct. 28, 1966.

SANMAR

For Travel Tours.
First use on or about Sept. 1, 1964.

Class 106 — Material Treatment

SN 244,039. Texas Technical Enterprises, Inc., Houston, Tex. Filed Apr. 21, 1966.

TE XTRA LIFE

Without relinquishing any common law rights, applicant disclaims the words "Xtra Life" apart from the mark as shown.

For Coating of Brake Rims, Tool Joints, Drill Collars, Draw Works Catheads, Pump Rods, Wash Pipes, and Drilling Rig Rotary Master Bushings With Hard Surfacing Materials.
First use at least as early as May 28, 1965.

TM 842 O.G.—2

Class 107 — Education and Entertainment

SN 250,610. University of Miami, d.b.a. The University of Miami, Coral Gables, Fla. Filed July 19, 1966.



The English translation of the Latin wording on the shield is "Investigation (discovery), preservation, and dissemination of knowledge." The wording below the shield is "great is truth." Owner of Reg. No. 694,706.

For Conducting Research for Others in the Fields of Economics, Housing, Meteorology, and Marine Sciences; Lending Publications in Various Scientific Fields, Operating a Personnel Placement Service for Students and Graduates of the University.
First use June 14, 1966.

SN 252,580. King Louie Bowling Corporation of Missouri, Kansas City, Mo. Filed Aug. 17, 1966.

King Louie

Owner of Reg. No. 827,677.
For Entertainment Services—Namely, the Operation of Establishments for Bowling, Skating, Racing Miniature Cars, Playing Billiards, Pool and Snooker; and Providing Instructions in Bowling and Cue Games.
First use in or about Sept. 1955.

SN 252,670. Los Angeles Dodgers, Inc., Los Angeles, Calif. Filed Aug. 18, 1966.

DODGERS

For Entertainment Services in the Nature of Baseball Exhibitions.
First use prior to 1916.

SN 252,671. Los Angeles Dodgers, Inc., Los Angeles, Calif. Filed Aug. 18, 1966. SN 255,350. The Philadelphia National League Club, Philadelphia, Pa. Filed Sept. 28, 1966.

Dodgers

For Entertainment Services in the Nature of Baseball Exhibitions.
First use prior to 1916.

P

SN 255,349. The Philadelphia National League Club, Philadelphia, Pa. Filed Sept. 28, 1966.

For Baseball Exhibitions, Which May Be Rendered in Stadia and Through Medium of Radio and Television Broadcasts.
First use Apr. 10, 1949.

Phillies

For Baseball Exhibitions, Which May Be Rendered in Stadia and Through Medium of Radio and Television Broadcasts.
First use 1883.

SN 258,257. Show Biz, Inc., Nashville, Tenn. Filed Nov. 8, 1966.

MUSIC CITY U.S.A.

For Title of a Television Program—Namely, a Musical Variety Show.
First use Oct. 8, 1966.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 223,555. J. Warren Hull and Associates, Anaheim, Calif. Filed July 16, 1965.



The drawing is lined for the colors red and gold.
For Indicating Membership in the Applicant Association.
First use Apr. 1, 1964.

SN 253,559. The Rinkeydinks, Inc., New York, N.Y. Filed Aug. 31, 1966.



For Indicating Membership in or Association With Applicant.
First use Mar. 13, 1952.

SN 254,060. National Association of Frozen Food Packers, Washington, D.C. Filed Sept. 8, 1966.



For Indicating Membership in Applicant.
First use October 1955.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

834,516. SMOOTH-ON AND DESIGN. Smooth-On Manufacturing Company. MULTIPLE CLASS (Classes 1, 5, 12, 16, and 21). SN 228,410. Pub. 6-20-67. Filed 9-22-65.

834,517. THERMALUX. Westlake Plastics Company. SN 234,264. Pub. 3-21-67. Filed 12-8-65.

834,518. INVERTED TRIANGLE (DESIGN). Peel's Poultry Farm Limited. SN 235,932. Pub. 6-20-67. Filed 1-6-66.

834,519. THERM-O-LUX. Therm-O-Lux International, Inc. SN 237,174. Pub. 3-7-67. Filed 1-24-66.

834,520. THERM-O-LUX AND DESIGN. Therm-O-Lux International, Inc. SN 237,175. Pub. 3-14-67. Filed 1-24-66.

834,521. RP ETC. AND DESIGN. W. R. Grace & Co. SN 239,045. Pub. 6-20-67. Filed 2-17-66.

834,522. THREE MAIZE HEADS ON STARRED STATE OF TEXAS (DESIGN). George Ledbetter, d.b.a. Ledbetter Feed and Seed Company. SN 248,484. Pub. 6-20-67. Filed 6-20-66.

834,523. UNION CAMP AND DESIGN. Union Camp Corporation. MULTIPLE CLASS (Classes 1, 2, 6, 12, 15, 16, 19, 37, 38, and 50). SN 252,144. Pub. 6-20-67. Filed 8-10-66.

834,524. HOSS! BARBEQUE WOOD AND DESIGN. Levin V. Davis. SN 253,210. Pub. 6-20-67. Filed 8-26-66.

834,525. QUARTERBACKER. Stanbee Company, Inc. SN 253,569. Pub. 6-20-67. Filed 8-31-66.

Class 2—Receptacles

834,523. (See Class 1 for this trademark.)

834,526. DESIGNED WOOD AND DESIGN. Lignum-Vitae Products Corporation. MULTIPLE CLASS (Classes 2, 8, 23, 34, 37, and 50). SN 226,651. Pub. 6-20-67. Filed 8-27-65.

834,527. CF. Olinkraft, Inc., assignee of Olin Mathieson Chemical Corporation. SN 238,274. Pub. 3-28-67. Filed 2-7-66.

834,528. DUAL-PAK AND DESIGN. Auto Pak Company. MULTIPLE CLASS (Classes 2 and 23). SN 239,854. Pub. 4-18-67. Filed 3-1-66.

834,529. JIFFY-STRIPS. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America. SN 241,019. Pub. 6-20-67. Filed 3-15-66.

834,530. CHERUB. Wilbert W. Haase Co. SN 243,320. Pub. 6-20-67. Filed 4-13-66.

834,531. IPCO. International Paper Company. SN 243,876. Pub. 6-20-67. Filed 4-20-66.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

834,532. SOFTONE TUFIDE AND DESIGN. Stecco Products Corporation, by change of name from Stein Bros. Mfg. Co. SN 141,899. Pub. 5-7-63. Filed 4-9-62.

834,533. WAYCRAFT. Apex Products Corporation. SN 262,113. Pub. 6-20-67. Filed 1-9-67.

834,534. IDEAL. The Johnson Ideal Halter Co. SN 262,267. Pub. 6-20-67. Filed 1-10-67.

834,535. KEYSTON ETC. AND DESIGN. Keystone Bros. SN 265,764. Pub. 6-20-67. Filed 3-2-67.

Class 4—Abrasives and Polishing Materials

834,536. REEFER-GALLER. Colgate-Palmolive Company. MULTIPLE CLASS (Classes 4, 6, and 52). SN 242,309. Pub. 6-20-67. Filed 3-31-66.

834,537. REEFER-GALLER AND DESIGN. Colgate-Palmolive Company. MULTIPLE CLASS (Classes 4, 6, and 52). SN 242,416. Pub. 6-20-67. Filed 4-1-66.

834,538. KIWI. The Kiwi Polish Company Proprietary Limited. SN 244,502. Pub. 6-20-67. Filed 4-28-66.

834,539. SINCLAIR AND DINOSAUR DESIGN. Sinclair Refining Company. SN 245,349. Pub. 6-20-67. Filed 5-10-66.

834,540. CUTRITE RESINITE. Minnesota Mining and Manufacturing Company. SN 267,790. Pub. 6-20-67. Filed 3-30-67.

834,541. ULTRALAP. Chas. Pfizer & Co., Inc. SN 268,267. Pub. 6-20-67. Filed 4-4-67.

Class 5—Adhesives

834,516. (See Class 1 for this trademark.)

834,542. MAN WITH ARMS RAISED (DESIGN). The Glidden Company. SN 231,112. Pub. 11-1-66. Filed 10-22-65.

834,543. HOT-KURE AND DESIGN. G. E. Smith, Inc. SN 238,673. Pub. 6-20-67. Filed 2-11-66.

834,544. KOLD-KURE. G. E. Smith, Inc. SN 238,674. Pub. 6-20-67. Filed 2-11-66.

834,545. LGC. Lauhoff Grain Company. SN 246,334. Pub. 6-20-67. Filed 5-23-66.

Class 6—Chemicals and Chemical Compositions

834,523. (See Class 1 for this trademark.)

834,536. (See Class 4 for this trademark.)

834,537. (See Class 4 for this trademark.)

834,546. BERJE. Berje Chemical Products, Inc. SN 245,058. Pub. 6-20-67. Filed 5-6-66.

834,547. CLUB. P. Robertet, Inc. SN 247,834. Pub. 6-20-67. Filed 6-10-66.

834,548. GLIDDEN AND DESIGN. The Glidden Company. SN 252,656. Pub. 6-20-67. Filed 8-18-66.

834,549. SPAZIT. Wica Chemicals, Incorporated. SN 257,222. Pub. 6-20-67. Filed 10-25-66.

834,550. TRU-WAY. Textize Chemicals, Inc. SN 259,186. Pub. 6-20-67. Filed 11-21-66.

834,551. MICROGEN. Madison Chemical Corporation. SN 259,328. Pub. 6-20-67. Filed 11-23-66.

834,552. PRIMAZE. Gelgy Chemical Corporation. SN 266,282. Pub. 6-20-67. Filed 3-9-67.

834,553. SYSTEMEX. Germain's, Inc. SN 266,483. Pub. 6-20-67. Filed 3-13-67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

- 834,526. (See Class 2 for this trademark.)
834,554. L LENOX AND DESIGN. Lenox, Incorporated. SN 230,665. Pub. 6-20-67. Filed 10-20-65.

Class 10 — Fertilizers

- 834,555. PLUS 4. O. M. Scott and Sons Company. SN 206,654. Pub. 6-20-67. Filed 11-20-64.
834,556. AGRI-N. Continental Oil Company. SN 254,256. Pub. 6-20-67. Filed 9-12-66.
834,557. LIFELITE. Radiant Color Company. SN 259,851. Pub. 6-20-67. Filed 12-1-66.
834,558. TRIPLE BIG 6. Kellogg Supply Co., Inc. SN 260,164. Pub. 6-20-67. Filed 12-6-66.
834,559. TRIPLE XXX AND ARROW DESIGN. The Stadler Fertilizer Co. SN 260,777. Pub. 6-20-67. Filed 12-14-66.
834,560. AGRON. Pfanzstiel Laboratories, Inc. SN 261,100. Pub. 6-20-67. Filed 12-19-66.

Class 12 — Construction Materials

- 834,516. (See Class 1 for this trademark.)
834,523. (See Class 1 for this trademark.)
834,561. KLEECO. The Klein Steel Company. MULTIPLE CLASS (Classes 12 and 23). SN 235,107. Pub. 6-20-67. Filed 12-22-65.
834,562. KOLD-SEAL AND DESIGN. Kold-Seal. SN 241,149. Pub. 6-20-67. Filed 3-16-66.
834,563. SANTA MARIA. G. Antolini & Sons. SN 241,302. Pub. 6-20-67. Filed 3-18-66.
834,564. VIKING INTERNATIONAL. Bel Air Pools, Inc. SN 242,420. Pub. 6-20-67. Filed 4-1-66.
834,565. BAR AND STRIPE (DESIGN). Kaiser Aluminum & Chemical Corporation. SN 243,449. Pub. 6-20-67. Filed 4-14-66.
834,566. MARPROX. The Valspar Corporation. SN 244,442. Pub. 6-20-67. Filed 4-27-66.
834,567. STAN GARD AND DESIGN. Logan Co. SN 247,374. Pub. 4-25-67. Filed 6-6-66.
834,568. FIRM-UP. Grout Supply Company. SN 247,916. Pub. 6-20-67. Filed 6-13-66.
834,569. YTCO. Yarte Tile Company. SN 250,709. Pub. 6-20-67. Filed 7-20-66.
834,570. C-SASH. The Bailey Company, Inc. SN 250,731. Pub. 6-20-67. Filed 7-21-66.
834,571. HPI AND DESIGN. Honeycomb Products, Inc. SN 250,964. Pub. 6-20-67. Filed 7-25-66.
834,572. THERMOMIX. Johns-Manville Corporation. SN 251,221. Pub. 6-20-67. Filed 7-28-66.
834,573. ZERO-FIBER. Johns-Manville Corporation. SN 251,309. Pub. 6-20-67. Filed 7-29-66.
834,574. MARBLE-FLOW. William J. Bennett, d.b.a. Marble Crete Company. SN 262,014. Pub. 6-20-67. Filed 1-6-67.
834,575. GREFCO AND DESIGN. General Refractories Company. SN 264,126. Pub. 6-20-67. Filed 2-7-67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 834,576. CLAYTON. Cla-Val Co. SN 75,400. Pub. 3-1-60. Filed 6-9-59.

- 834,577. CHAMP-ITEMS. Champ-Items, Inc. MULTIPLE CLASS (Classes 13, 19, 23, 26, and 35). SN 218,043. Pub. 7-26-66. Filed 5-5-65.
834,578. THE ROYAL BATH OF SUMERIA ETC. AND DESIGN. Edmond Bordeaux Szekely, also known as Edmond S. Bordeaux. SN 234,111. Pub. 10-11-66. Filed 12-7-65.
834,579. TUBRACORD AND DESIGN. Societa Metallurgica Italiana. SN 236,930. Pub. 6-20-67. Filed 1-20-66.
834,580. SPANCO. Parker-Hannifin Corporation. SN 240,471. Pub. 6-20-67. Filed 3-8-66.
834,581. CRYSTAL GLO. Harvey Aluminum (Incorporated). SN 247,793. Pub. 6-20-67. Filed 6-10-66.
834,582. BRYANT AND DESIGN. Carrier Corporation. MULTIPLE CLASS (Classes 13, 26, 31, and 34). SN 248,019. Pub. 6-20-67. Filed 6-14-66.
834,583. PRECEDENT PLUS. Leltner Equipment Company. MULTIPLE CLASS (Classes 13 and 31). SN 250,714. Pub. 6-20-67. Filed 7-21-66.
834,584. RICO. Miami Cookware Manufacture, Inc. SN 267,382. Pub. 6-20-67. Filed 3-23-67.

Class 14 — Metals and Metal Castings and Forgings

- 834,585. HOLDERTEM AND DESIGN. Heppenstall Company. SN 245,480. Pub. 6-20-67. Filed 5-12-66.
834,586. CROSSED RIBS (DESIGN). Braithwaite & Co. Engineers Limited. SN 246,536. Pub. 6-20-67. Filed 5-25-66.
834,587. 80 (DESIGN). Lukens Steel Company. SN 247,236. Pub. 6-20-67. Filed 6-3-66.

Class 15 — Oils and Greases

- 834,523. (See Class 1 for this trademark.)
834,588. GRAND PRIX. Stonetree Chemical Corporation. SN 192,097. Pub. 5-10-66. Filed 4-27-64.
834,589. E-Z-MIX. Richfield Oil Corporation. SN 235,528. Pub. 6-20-67. Filed 12-29-65.
834,590. NEXOL AND DESIGN. David Miller, d.b.a. The Nexol Company. SN 247,942. Pub. 6-20-67. Filed 6-13-66.
834,591. WHEELMATE. Norton Company. SN 249,175. Pub. 6-20-67. Filed 6-28-66.
834,592. PETRELAB. Saco Products Company. SN 251,956. Pub. 6-20-67. Filed 8-8-66.

Class 16 — Protective and Decorative Coatings

- 834,516. (See Class 1 for this trademark.)
834,523. (See Class 1 for this trademark.)
834,593. STRATABOND. The Lubrizol Corporation. SN 165,796. Pub. 12-29-64. Filed 4-1-63.
834,594. WIXCOTE. The Wickes Corporation. SN 231,868. Pub. 6-20-67. Filed 10-29-65.
834,595. GLIDDEN AND DESIGN. The Glidden Company. SN 234,817. Pub. 6-20-67. Filed 12-17-65.
834,596. RICH ACRAL. Rich Art Color Company, Inc. SN 256,684. Pub. 6-20-67. Filed 10-18-66.

Class 17 — Tobacco Products

- 834,597. PICTURE (DESIGN). Camacho Cigars, Inc. SN 241,233. Pub. 4-11-67. Filed 3-17-66.

- 834,598. SANTAELLAS. Universal Cigar Corporation. SN 267,880. Pub. 6-20-67. Filed 3-30-67.
834,599. XL'S. Philip Morris Incorporated. SN 267,889. Pub. 6-20-67. Filed 3-30-67.
834,600. OLYMPIA. Universal Cigar Corporation. SN 268,133. Pub. 6-20-67. Filed 4-3-67.

Class 18 — Medicines and Pharmaceutical Preparations

- 834,601. MAC-O-QWN AND DESIGN. Helen M. Shriver, d.b.a. Western Yeast Products. SN 249,607. Pub. 6-20-67. Filed 7-5-66.
834,602. MAC-O-LAC AND DESIGN. Helen M. Shriver, d.b.a. Western Yeast Products. SN 249,608. Pub. 6-20-67. Filed 7-5-66.
834,603. VENOLIEN. Bocage, Bujalance & Cia. SN 254,227. Pub. 6-20-67. Filed 9-12-66.
834,604. TREMERAD. Parke, Davis & Company. SN 266,284. Pub. 6-20-67. Filed 3-9-67.
834,605. TRIND-D. Mead Johnson & Company. SN 267,223. Pub. 6-20-67. Filed 3-21-67.

Class 19 — Vehicles

- 834,523. (See Class 1 for this trademark.)
834,577. (See Class 13 for this trademark.)
834,606. MUSTANG AND DESIGN. Westward Coach Manufacturing Company, Inc. SN 158,116. Pub. 11-24-64. Filed 11-28-62.
834,607. MTD ETC. AND DESIGN. Midwest Tire Distributors, Inc. MULTIPLE CLASS (Classes 19, 21, 23, 31, and 35). SN 220,669. Pub. 9-6-66. Filed 10-8-65.
834,608. RAIL-TAINER. Steadman Industries Limited. MULTIPLE CLASS (Classes 19 and 23). SN 230,303. Pub. 3-28-67. Filed 10-15-65.
834,609. SPACE MOBILE. John C. May, assignee, by mesne assignment, of John C. May. SN 237,858. Pub. 5-23-67. Filed 2-2-66.
834,610. ENOTS. Enots Limited. SN 247,587. Pub. 6-20-67. Filed 6-8-66.
834,611. GOLDEN FALCON. The Firestone Tire & Rubber Company. SN 249,969. Pub. 6-20-67. Filed 7-11-66.
834,612. SILVER FALCON. The Firestone Tire & Rubber Company. SN 249,970. Pub. 6-20-67. Filed 7-11-66.
834,613. IV-M. Sellon, Inc. SN 250,405. Pub. 6-20-67. Filed 7-15-66.
834,614. ALGLAS. Alglas Corporation. SN 257,746. Pub. 6-20-67. Filed 11-2-66.
834,615. TRUCKCENTER. Truck Center, Inc. SN 261,535. Pub. 6-20-67. Filed 12-27-66.

Class 20 — Linoleum and Oiled Cloth

- 834,616. FLEXAR. J. Josephson, Inc. SN 195,302. Pub. 4-20-65. Filed 6-10-64.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 834,516. (See Class 1 for this trademark.)
834,607. (See Class 19 for this trademark.)
834,617. TRANSITROL. Jeffrey Gallon Manufacturing Company. SN 137,855. Pub. 4-14-64. Filed 2-13-62.

- 834,618. KMC. Kevlin Manufacturing Co. SN 208,939. Pub. 11-30-65. Filed 12-28-64.
834,619. SPECOS. Components Specialties, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 218,393. Pub. 4-18-67. Filed 5-10-65.
834,620. MARTEL AND DESIGN. Martel Electronics Sales, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 223,429. Pub. 6-20-67. Filed 7-15-65.
834,621. FANCIFUL LETTER M WITHIN A RECTANGLE. Martel Electronics Sales, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 223,430. Pub. 6-20-67. Filed 7-15-65.
834,622. VIS A TROL. Hall Ski-Lift Company, Inc. SN 233,500. Pub. 6-20-67. Filed 11-29-65.
834,623. SAF-DOR. Roman Szpur. SN 235,239. Pub. 6-20-67. Filed 12-23-65.
834,624. HANDI-AMP. The Gregory Amplifier Corp. SN 243,239. Pub. 6-20-67. Filed 4-12-66.
834,625. EMPIRICAL-LOG. Telrex, Inc. SN 243,809. Pub. 6-20-67. Filed 4-19-66.
834,626. SPARKELESCENT. Duro-Test Corporation. SN 244,892. Pub. 6-20-67. Filed 5-4-66.
834,627. BRAKE-ALERT. Surelock Manufacturing Company, Inc. SN 245,427. Pub. 6-20-67. Filed 5-11-66.
834,628. ECHOMATE. Automatic Radio Mfg. Co., Inc. SN 245,666. Pub. 6-20-67. Filed 5-16-66.
834,629. TRAM. Tram Electronics Incorporated. SN 245,768. Pub. 6-20-67. Filed 5-16-66.
834,630. LECTRA-SOX. Timely Products Corporation. SN 246,500. Pub. 6-20-67. Filed 5-24-66.
834,631. MZ (DESIGN). Myron J. Zucker, d.b.a. Myron Zucker Engineering Co. SN 247,434. Pub. 6-20-67. Filed 6-6-66.
834,632. BEMAC. Electric Machinery Mfg. Company. SN 249,744. Pub. 6-20-67. Filed 7-7-66.
834,633. AMPLI/CATOR. Tensitron, Inc. SN 250,052. Pub. 6-20-67. Filed 7-11-66.
834,634. SINOS. Farmer Electric Products Co., Inc. SN 250,370. Pub. 6-20-67. Filed 7-15-66.
834,635. GEOLUME. Omega Lighting, Inc. SN 250,395. Pub. 6-20-67. Filed 7-15-66.
834,636. SPEAKIN' BEACON. Anzac Industries, Inc. SN 250,817. Pub. 6-20-67. Filed 7-22-66.

Class 22 — Games, Toys, and Sporting Goods

- 834,637. DON CARTER CLASSIC. Stowe-Woodward, Inc. SN 197,345. Pub. 3-8-66. Filed 7-7-64.
834,638. MAVER-NIK. Uneeda Doll Co., Inc. SN 211,761. Pub. 9-7-65. Filed 2-10-65.
834,639. RODDY AND DESIGN. Plymouth Wholesale Corporation, by merger and mesne assignment from Roddy Recreation Products, Inc. SN 220,234. Pub. 6-20-67. Filed 6-2-65.
834,640. RODMASTER. Plymouth Wholesale Corporation, by merger and mesne assignment from Roddy Recreation Products, Inc. SN 220,236. Pub. 6-20-67. Filed 6-2-65.
834,641. ROD-O-MATIC. Plymouth Wholesale Corporation, by merger and mesne assignment from Roddy Recreation Products, Inc. SN 220,969. Pub. 6-20-67. Filed 6-11-65.
834,642. KOMMISSAR. Selchow & Richter Company. SN 249,803. Pub. 6-20-67. Filed 7-7-66.
834,643. MIMSY. American Character, Inc. SN 250,233. Pub. 6-20-67. Filed 7-14-66.
834,644. HORSEHEAD. Atwell Motley. SN 250,504. Pub. 6-20-67. Filed 7-18-66.
834,645. DOVRE. Dovre Ski Binding, Inc. SN 250,648. Pub. 6-20-67. Filed 6-20-66.
834,646. CHARGER. Arnold Palmer Golf Company. SN 250,764. Pub. 6-20-67. Filed 7-21-66.
834,647. KEYSTON AND DESIGN. Keystone Bros., Inc. SN 265,762. Pub. 6-20-67. Filed 3-2-67.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 834,526. (See Class 2 for this trademark.)
 834,528. (See Class 2 for this trademark.)
 834,561. (See Class 12 for this trademark.)
 834,577. (See Class 13 for this trademark.)
 834,607. (See Class 19 for this trademark.)
 834,608. (See Class 19 for this trademark.)
 834,648. DIAMOND PATTERN (DESIGN). Clark Cutler McDermott Company. SN 202,232. Pub. 6-20-67. Filed 9-21-64.
 834,649. SCHICK. Schick Products, Inc. SN 211,105. Pub. 6-20-67. Filed 2-1-65.
 834,650. "SQUEEZ-GRIP." The Fyr-Fyter Company. SN 229,086. Pub. 6-20-67. Filed 10-1-65.
 834,651. HC. Hart-Carter Company. SN 231,750. Pub. 4-11-67. Filed 10-28-65.
 834,652. VAC-U-TRON. Bernard Bros., Inc. SN 233,064. Pub. 6-20-67. Filed 11-22-65.
 834,653. COMPACT. Compact Industries, Inc. SN 233,780. Pub. 6-20-67. Filed 12-2-65.
 834,654. MISCELLANEOUS DESIGN. Fluco, Inc. SN 233,892. Pub. 6-20-67. Filed 12-3-65.
 834,655. TILT-LOCK AND DESIGN. Herbert F. Dalglish. SN 239,235. Pub. 6-20-67. Filed 2-21-66.
 834,656. HYDRA ORTON AND DESIGN. Orton Crane and Shovel Company. SN 239,303. Pub. 6-20-67. Filed 2-21-66.
 834,657. TABER AND DESIGN. Taber Pump Co., Inc. SN 240,675. Pub. 6-20-67. Filed 3-10-66.
 834,658. HELTZEL. The Heltzel Steel Form and Iron Co. SN 240,909. Pub. 6-20-67. Filed 3-14-66.
 834,659. PORTA-SEALER. Clipper Manufacturing Company, Inc. SN 241,124. Pub. 6-20-67. Filed 3-16-66.
 834,660. XPANDO. Plant Protection Limited. SN 241,512. Pub. 6-20-67. Filed 3-21-66.
 834,661. DAVCO AND DESIGN. Davis Industries, Inc., d.b.a. Davco Manufacturing Company. SN 241,584. Pub. 6-20-67. Filed 3-22-66.
 834,662. YOUNG. C. A. Young Products Corp. SN 242,082. Pub. 6-20-67. Filed 3-28-66.
 834,663. TINUNEAL. Synchro Machine Company. SN 242,292. Pub. 6-20-67. Filed 3-30-66.
 834,664. AIRPLACO. Clipper Manufacturing Company, Inc., assignee of Air Placement Equipment Co., Inc. SN 243,065. Pub. 6-20-67. Filed 4-11-66.
 834,665. AQUAMARK. Jay International Corp. SN 244,221. Pub. 6-20-67. Filed 4-25-66.
 834,666. CENTERCORE. The Plymouth Corporation. SN 245,503. Pub. 6-20-67. Filed 5-12-66.
 834,667. MONTCLAIR. McCrory Corporation. SN 245,846. Pub. 6-20-67. Filed 5-17-66.
 834,668. TOW-ALL. Anchor Steel & Conveyor Company. SN 246,526. Pub. 6-20-67. Filed 5-25-66.
 834,669. CHALLENGER. Acme Juicer Mfg. Co. SN 246,739. Pub. 6-20-67. Filed 5-27-66.
 834,670. SM-CYCLO DRIVE. Sumitomo Machinery Co., Ltd. SN 247,644. Pub. 6-20-67. Filed 6-8-66.
 834,671. INFINIT-INDEXER. United Shoe Machinery Corporation. SN 247,849. Pub. 6-20-67. Filed 6-10-66.
 834,672. IWD AND DESIGN. Indiana Wire Die Company, Inc. SN 249,014. Pub. 6-20-67. Filed 6-27-66.
 834,673. DIRECTOR. M-H Equipment Co., Inc. SN 249,025. Pub. 6-20-67. Filed 6-27-66.
 834,674. PATHFINDER. Root Manufacturing Company, Inc. SN 249,072. Pub. 6-20-67. Filed 6-27-66.
 834,675. STYLIZED LETTER J. Jacobsen Manufacturing Company. SN 249,332. Pub. 6-20-67. Filed 6-30-66.
 834,676. ARMITE. S. A. Armstrong Limited. SN 249,489. Pub. 6-20-67. Filed 7-5-66.

- 834,677. HYDROSPAN. Hydrotile Machinery Company. SN 250,965. Pub. 6-20-67. Filed 7-25-66.
 834,678. BURN-PRUF. David E. Lyle. SN 250,983. Pub. 6-20-67. Filed 7-25-66.
 834,679. "VACU-CUTTER." General Slicing Machine Co., Inc. SN 251,209. Pub. 6-20-67. Filed 7-28-66.
 834,680. SPAN-DECK. Span-Deck, Inc. SN 251,246. Pub. 6-20-67. Filed 7-28-66.
 834,681. T AND DESIGN. Timberland Machines, Inc. SN 251,969. Pub. 6-20-67. Filed 8-8-66.
 834,682. RIGIDFLEX. Mahaffy & Harder Engineering Company. SN 252,583. Pub. 6-20-67. Filed 8-17-66.
 834,683. EAGLE (DESIGN). Eversharp, Inc. SN 255,195. Pub. 6-20-67. Filed 9-27-66.
 834,684. YOUNG AND DESIGN. William E. Young & Company. SN 263,724. Pub. 6-20-67. Filed 2-1-67.
 834,685. U-DEX-IT. Koebel Diamond Tool Co. SN 267,491. Pub. 6-20-67. Filed 3-24-67.
 834,686. GENERAL. Riccar America Company. SN 267,580. Pub. 6-20-67. Filed 3-27-67.

Class 24 — Laundry Appliances and Machines

- 834,687. WASII A RAMA AND DESIGN. Augustus Antonopoulos. SN 243,621. Pub. 6-20-67. Filed 4-18-66.

Class 25 — Locks and Safes

- 834,688. SINGLE SOURCE SERVICE. Dominion Lock Company, Ltd. SN 208,174. Pub. 6-20-67. Filed 12-15-64.

Class 26 — Measuring and Scientific Appliances

- 834,577. (See Class 13 for this trademark.)
 834,582. (See Class 13 for this trademark.)
 834,689. SHIELD (DESIGN). Lear Siegler, Inc., assignee of Cimron Corporation. SN 211,346. Pub. 6-20-67. Filed 2-4-65.
 834,690. AUXITROL. Materiel et Auxiliaire de Signalisation et de Controle pour l'Automatisme—Auxitrol, Societe Anonyme. SN 211,369. Pub. 6-20-67. Filed 2-4-65.
 834,691. ROMAN MALE HEAD (DESIGN). J. S. Staedtler. MULTIPLE CLASS (Classes 26 and 37). SN 214,294. Pub. 6-20-67. Filed 3-16-65.
 834,692. MISCELLANEOUS DESIGN. Ultronic Systems Corp. SN 234,687. Pub. 6-20-67. Filed 12-15-65.
 834,693. CEI. Communication Electronics Incorporated. SN 237,426. Pub. 2-7-67. Filed 1-27-66.
 834,694. CALMA. Calma Company. SN 239,588. Pub. 6-20-67. Filed 2-25-66.
 834,695. IPC AND DESIGN. Ion Physics Corporation. SN 240,618. Pub. 9-20-66. Filed 3-10-66.
 834,696. LIBRAFILE. General Precision, Inc. SN 242,588. Pub. 6-20-67. Filed 4-4-66.
 834,697. MCCANNAPAK. Hills-McCanna Company. SN 243,244. Pub. 6-20-67. Filed 4-12-66.
 834,698. MATHATRONICS. Barry Wright Corporation, assignee of Mathatronics, Inc. SN 244,910. Pub. 6-20-67. Filed 5-4-66.
 834,699. SL (DESIGN). American Optical Company. SN 244,958. Pub. 6-20-67. Filed 5-5-66.
 834,700. CRIS. Litton Systems Incorporated. SN 245,083. Pub. 6-20-67. Filed 5-6-66.
 834,701. INSTA-CUBE. Imperial Camera Corp. SN 245,491. Pub. 6-20-67. Filed 5-12-66.

- 834,702. EXTRALON. The Chemical Rubber Company. SN 249,137. Pub. 6-20-67. Filed 6-28-66.
 834,703. MAGNA-THERM. William Mack. SN 249,341. Pub. 6-20-67. Filed 6-30-66.
 834,704. WELDCO. The Youngstown Welding & Engineering Company. SN 249,380. Pub. 6-20-67. Filed 6-30-66.
 834,705. PANAVISION. Panavision, Incorporated. SN 249,666. Pub. 6-20-67. Filed 7-6-66.
 834,706. ELECTROWEIGH. Emerson Eugene Hess, d.b.a. Electroweigh Company. SN 249,764. Pub. 6-20-67. Filed 7-7-66.
 834,707. PROGRAMMA 101. Ing. C. Olivetti & C., S.p.A. SN 260,985. Pub. 6-20-67. Filed 7-18-66.

Class 27 — Horological Instruments

- 834,708. AQUAMARK. The Jay International Corp. SN 244,223. Pub. 6-20-67. Filed 4-25-66.

Class 28 — Jewelry and Precious-Metal Ware

- 834,709. ALEXANDRA. Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Company. SN 245,071. Pub. 6-20-67. Filed 5-6-66.

- 834,710. LEDO AND DESIGN. Polcini Manufacturing Corporation. SN 262,664. Pub. 6-20-67. Filed 1-17-67.

Class 29 — Brooms, Brushes, and Dusters

- 834,711. OSTER. John Oster Manufacturing Co. SN 239,278. Pub. 6-20-67. Filed 2-21-66.
 834,712. PRO. Pro-phy-lac-tic Brush Company. SN 261,942. Pub. 6-20-67. Filed 1-4-67.
 834,713. PRO DOUBLE DUTY. Pro-phy-lac-tic Brush Company. SN 261,943. Pub. 6-20-67. Filed 1-4-67.
 834,714. PROLONG. Pro-phy-lac-tic Brush Company. SN 261,944. Pub. 6-20-67. Filed 1-4-67.

Class 30 — Crockery, Earthenware, and Porcelain

- 834,715. SUTTON. Shenango Ceramics, Inc. SN 212,598. Pub. 6-20-67. Filed 2-23-65.
 834,716. CASTLETON CHINA AND DESIGN. Castleton China, Inc. MULTIPLE CLASS (Classes 30 and 50). SN 217,841. Pub. 6-20-67. Filed 5-3-65.
 834,717. LLADRO. Well Ceramics & Glass, Inc. SN 238,376. Pub. 6-20-67. Filed 2-8-66.
 834,718. CHELTENHAM. World Mart, Inc. SN 244,283. Pub. 6-20-67. Filed 4-25-66.
 834,719. C'BON. Shenango Ceramics, Inc. SN 244,928. Pub. 6-20-67. Filed 5-4-66.

Class 31 — Filters and Refrigerators

- 834,582. (See Class 13 for this trademark.)
 834,583. (See Class 13 for this trademark.)
 834,607. (See Class 19 for this trademark.)
 834,720. FILTERVEYOR. Metalwash Machinery Corporation. SN 247,384. Pub. 6-20-67. Filed 6-6-66.

Class 32 — Furniture and Upholstery

- 834,721. FOR PEOPLE WHO GET LESS THAN EIGHT HOURS SLEEP. Eclipse Sleep Products, Inc. SN 231,986. Pub. 6-20-67. Filed 11-2-65.
 834,722. MODULUS. Drexel Enterprises, Inc. SN 234,011. Pub. 6-20-67. Filed 12-6-65.
 834,723. BLUE SEAL. Blue Seal Mattress Co., Inc. SN 239,960. Pub. 6-20-67. Filed 3-2-66.
 834,724. CONTESSA. The Tappan Company. SN 243,496. Pub. 6-20-67. Filed 4-14-66.
 834,725. TEMPO. The Tappan Company. SN 243,498. Pub. 6-20-67. Filed 4-14-66.
 834,726. DAWN. Clorpy Corporation. SN 254,991. Pub. 6-20-67. Filed 9-23-66.
 834,727. COL' LEGERE. Stanley Furniture Company, Inc. SN 255,155. Pub. 6-20-67. Filed 9-22-66.

Class 33 — Glassware

- 834,728. LIBBEY. Owens-Illinois, Inc. SN 243,890. Pub. 6-20-67. Filed 4-20-66.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 834,526. (See Class 2 for this trademark.)
 834,582. (See Class 13 for this trademark.)
 834,729. FIVE POINTED STAR (DESIGN). Vernco Corporation. SN 200,310. Pub. 1-12-65. Filed 8-20-64.
 834,730. TUTTLE & BAILEY. Allied Thermal Corporation. SN 229,175. Pub. 6-20-67. Filed 10-4-65.
 834,731. ZAP GUN. Rayclad Tubes, Inc. SN 241,371. Pub. 6-20-67. Filed 3-18-66.
 834,732. SAFGARD. Briggs Manufacturing Company. SN 243,088. Pub. 6-20-67. Filed 4-11-66.
 834,733. GLASGARD. Briggs Manufacturing Company. SN 243,089. Pub. 6-20-67. Filed 4-11-66.
 834,734. SAFEGARD. Briggs Manufacturing Company. SN 243,090. Pub. 6-20-67. Filed 4-11-66.
 834,735. FS. Dorr-Oliver Incorporated. SN 243,229. Pub. 6-20-67. Filed 4-12-66.
 834,736. AIR POLLUTION CONTROL AND DESIGN. Plastic & Metal Fabricators, Inc. SN 246,604. Pub. 6-20-67. Filed 5-25-66.
 834,737. COMMANDO. J. M. Ragle Industries, Incorporated. SN 248,528. Pub. 6-20-67. Filed 6-20-66.
 834,738. HERITAGE HOUSE. American Hardware Supply Company. SN 251,087. Pub. 6-20-67. Filed 7-13-66.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 834,577. (See Class 13 for this trademark.)
 834,607. (See Class 19 for this trademark.)
 834,739. MIDWEST. The Midwest Tire Company. SN 224,774. Pub. 9-6-66. Filed 8-2-65.

Class 36 — Musical Instruments and Supplies

- 834,619. (See Class 21 for this trademark.)
 834,620. (See Class 21 for this trademark.)

- 834,821. (See Class 21 for this trademark.)
 834,740. AUTO SONIC. S.J.B. Inc. SN 220,238. Pub. 6-20-67. Filed 6-2-65.
 834,741. MISCELLANEOUS DESIGN. Chess Producing Corporation. SN 242,087. Pub. 6-20-67. Filed 3-14-66.

Class 37—Paper and Stationery

- 834,523. (See Class 1 for this trademark.)
 834,526. (See Class 2 for this trademark.)
 834,691. (See Class 26 for this trademark.)
 834,742. E-Z NAPS. Gulf States Paper Corporation. SN 149,844. Pub. 11-5-63. Filed 7-26-62.
 834,743. E-Z LOAD. Krauth and Benninghofen, Inc., assignee of Krauth and Benninghofen. SN 177,356. Pub. 1-12-65. Filed 9-19-63.
 834,744. GALA. American Can Company. SN 190,944. Pub. 11-10-64. Filed 8-17-64.
 834,745. XEROX. Xerox Corporation. SN 241,001. Pub. 6-20-67. Filed 3-14-66.
 834,746. STRAIGHT A AND DESIGN. Zayre Corp. SN 245,127. Pub. 6-20-67. Filed 5-9-66.
 834,747. MAGIC-TOUCH. Taufek H. Ramsey, d.b.a. West Coast Sales. SN 246,942. Pub. 6-20-67. Filed 5-31-66.
 834,748. COLOR-VISION. Blaisdell Pencil Company. SN 247,189. Pub. 11-29-66. Filed 6-3-66.
 834,749. MONOCODE. West Virginia Pulp and Paper Company. SN 247,279. Pub. 6-20-67. Filed 6-3-66.
 834,750. LIFETIME. The Mead Corporation. SN 255,909. Pub. 6-20-67. Filed 10-6-66.
 834,751. REMLIFE. Sperry Rand Corporation. SN 256,013. Pub. 6-20-67. Filed 10-7-66.
 834,752. STUB-WAY. Edward C. Esser. SN 256,080. Pub. 6-20-67. Filed 10-10-66.

Class 38—Prints and Publications

- 834,523. (See Class 1 for this trademark.)
 834,753. THE A.D.O.A. NEWS. Clissold Publishing Co. SN 215,187. Pub. 6-20-67. Filed 3-29-65.
 834,754. BRIEF. American Home Products Corporation. SN 264,283. Pub. 6-20-67. Filed 2-9-67.
 834,755. STRICTLY ANIMAL. Betty Jones. SN 266,132. Pub. 6-20-67. Filed 3-7-67.

Class 39—Clothing

- 834,756. LINE TAMER. Blair Fashions, Inc. SN 175,463. Pub. 8-11-64. Filed 8-21-63.
 834,757. SASSY. Greg Draddy, Inc. SN 210,281. Pub. 7-4-67. Filed 1-21-65.
 834,758. SNEAKETTES. Sondra Manufacturing Co., Inc. SN 213,810. Pub. 5-31-66. Filed 3-10-65.
 834,759. SOCK-EEZ SNEAKETTES AND DESIGN. Sondra Manufacturing Co., Inc. SN 213,813. Pub. 5-31-66. Filed 3-10-65.
 834,760. PERMAFORM. Beaver Shirt Company, assignee of Beaver Shirt Manufacturing Co. Inc. SN 216,250. Pub. 5-17-66. Filed 4-12-65.
 834,761. NATURALPRESS. Arnold J. Weber. SN 225,084. Pub. 6-20-67. Filed 8-5-65.
 834,762. BLOUSECRAFT. The Blousecraft Company, Inc. SN 228,613. Pub. 6-20-67. Filed 9-27-65.
 834,763. PERMAREP. Wembley, Inc. SN 236,029. Pub. 6-20-67. Filed 1-7-66.
 834,764. FAWN AND DESIGN. C. W. Anderson Hosiery Company. SN 236,348. Pub. 6-20-67. Filed 1-13-66.
 834,765. BONNIE ROY. Rob Roy Company, Inc. SN 236,652. Pub. 6-20-67. Filed 1-17-66.
 834,766. LIONHEARTED AND DESIGN. Wembley, Inc. SN 240,559. Pub. 6-20-67. Filed 3-9-66.
 834,767. JU LO. Julo of Vassar. SN 241,475. Pub. 6-20-67. Filed 3-21-66.
 834,768. FOLK SONGS BY FOOT FLAIRS AND DESIGN. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 241,839. Pub. 6-20-67. Filed 3-25-66.
 834,769. CITY BROGUES. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 241,840. Pub. 6-20-67. Filed 3-25-66.
 834,770. SOLOS. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 241,841. Pub. 6-20-67. Filed 3-25-66.
 834,771. MISCELLANEOUS DESIGN. S.p.A. Imprese Commerciale e Industriale Maglierificio Santo Dasso & Figli. SN 242,051. Pub. 6-20-67. Filed 3-28-66.
 834,772. SWATCHES. Andrea Joyce Togs Inc. SN 242,197. Pub. 6-20-67. Filed 3-30-66.
 834,773. PERMA-TACH. M. H. Pierce & Co. SN 242,387. Pub. 6-20-67. Filed 3-30-66.
 834,774. QUABBIN. Hershberg Shoe Company, Inc. SN 243,133. Pub. 6-20-67. Filed 4-11-66.
 834,775. HELLION ORIGINALS AND DESIGN. Alice Ann Davis, d.b.a. Hellion Originals. SN 243,413. Pub. 6-20-67. Filed 4-14-66.
 834,776. PUNTO BLANCO AND DESIGN. Industrias Valls, S.A. SN 244,115. Pub. 6-20-67. Filed 4-22-66.
 834,777. PLEBE AND DESIGN. Plebe Sportswear Co., Inc. SN 245,012. Pub. 6-20-67. Filed 5-5-66.
 834,778. DORCE. Fashion Accessories. SN 245,467. Pub. 6-20-67. Filed 5-12-66.
 834,779. MONKEYS. Melville Shoe Corporation. SN 246,189. Pub. 5-23-67. Filed 5-20-66.
 834,780. AS LONG AS IT'S HAND SHAPED AND DESIGN. Grossman Clothing Co., Inc. SN 248,132. Pub. 6-20-67. Filed 6-15-66.
 834,781. DELASORBS. E. I. du Pont de Nemours and Company. SN 249,741. Pub. 4-4-67. Filed 7-7-66.
 834,782. LEW MAGRAM SHIRTMAKER TO THE STARS. Lew Magram, Shirtmaker to the Stars, Ltd. SN 251,112. Pub. 6-20-67. Filed 7-27-66.
 834,783. HUSTLER. The Servus Rubber Company. SN 251,959. Pub. 4-11-67. Filed 8-8-66.
 834,784. SKIN THIN. Julius Schmid, Inc. SN 252,284. Pub. 6-20-67. Filed 8-12-66.
 834,785. MOONLIGHTERS AND DESIGN. Wayne-Gossard Corporation, by merger and change of name from Wayne Knitting Mills. SN 252,608. Pub. 3-14-67. Filed 8-17-66.
 834,786. MARTINO. Adolph Blank, Incorporated. SN 252,636. Pub. 4-11-67. Filed 8-18-66.
 834,787. BOPTOP. James S. Massa, d.b.a. Heidi Sport Caps. SN 252,864. Pub. 6-20-67. Filed 8-22-66.
 834,788. JOMAFRE AND DESIGN. Jomafre Industria de Malhas S.A. SN 253,442. Pub. 6-20-67. Filed 8-30-66.
 834,789. WAGGS LTD. Arthur Winer, Incorporated. SN 254,753. Pub. 6-20-67. Filed 9-19-66.
 834,790. TRAVELER CHECK. Lamm Brothers, Inc. SN 255,214. Pub. 6-20-67. Filed 9-27-66.
 834,791. SHUTTER BUG. Max Siegel Associates, Inc., assignee of Shutter Bug, Inc. SN 255,950. Pub. 6-20-67. Filed 10-7-66.
 834,792. HARRY'S BAR. Federated Department Stores, Inc. SN 256,833. Pub. 6-20-67. Filed 10-20-66.
 834,793. VISTA I. Harry Irwin, Inc. SN 258,547. Pub. 6-20-67. Filed 11-14-66.
 834,794. MASTER CHEX. Farah Manufacturing Company, Inc. SN 258,986. Pub. 6-20-67. Filed 11-18-66.
 834,795. VEGAS CHEX. Farah Manufacturing Company, Inc. SN 258,988. Pub. 6-20-67. Filed 11-18-66.
 834,796. SHORT RIBS. Blue Bell, Inc. SN 260,634. Pub. 6-20-67. Filed 12-13-66.

- 834,797. JUBILEE. Flexees International, Inc. SN 262,302. Pub. 6-20-67. Filed 1-11-67.
 834,798. REALCRAFT. Flexees International, Inc. SN 262,303. Pub. 6-20-67. Filed 1-11-67.
 834,799. KEYSTON ETC. AND DESIGN. Keystone Bros. SN 265,763. Pub. 6-20-67. Filed 3-2-67.
 834,800. RPV. Ramer Industries, Inc. SN 267,378. Pub. 6-20-67. Filed 3-23-67.
 834,801. SUNBORN. Ohrbach's, Inc. SN 267,574. Pub. 6-20-67. Filed 3-27-67.
 834,802. L-OHR-DS. Ohrbach's, Inc. SN 267,576. Pub. 6-20-67. Filed 3-27-67.
 834,803. FLEX-ACTION. Tandy Corporation. SN 268,121. Pub. 6-20-67. Filed 4-3-67.

Class 40—Fancy Goods, Furnishings, and Notions

- 834,804. LECLABART. J. Leclabart. SN 247,820. Pub. 6-20-67. Filed 6-10-66.

Class 41—Canes, Parasols, and Umbrellas

- 834,805. MISCELLANEOUS DESIGN. John Reynolds. SN 256,597. Pub. 6-20-67. Filed 10-17-66.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 834,806. NATURALPRESS. Arnold J. Weber. SN 225,085. Pub. 6-20-67. Filed 8-5-65.
 834,807. CELANESE. Celanese Corporation, by change of name from Celanese Corporation of America. SN 235,160. Pub. 6-20-67. Filed 12-23-65.
 834,808. C CELANESE. Celanese Corporation, by change of name from Celanese Corporation of America. SN 235,162. Pub. 6-20-67. Filed 12-23-65.
 834,809. ONE STEP. N. Erlanger, Blumgart & Co., Inc. SN 246,057. Pub. 6-20-67. Filed 5-19-66.
 834,810. CARAVELLE. Max P. Steinway. SN 246,617. Pub. 4-11-67. Filed 5-25-66.
 834,811. SPARTA-CLOTH. Beverly E. Williams, assignee of Hodges Research & Development Company. SN 251,920. Pub. 6-20-67. Filed 8-8-66.
 834,812. WELLINGTON SEARS. West Point-Pepperell, Inc. SN 253,184. Pub. 6-20-67. Filed 8-25-66.
 834,813. PRIDE O'ERIN. Allied Stores Corporation. SN 255,585. Pub. 6-20-67. Filed 10-3-66.
 834,814. INDOHARA. Pande, Cameron & Co. of New York, Inc. SN 256,129. Pub. 6-20-67. Filed 10-10-66.

Class 43—Thread and Yarn

- 834,815. POMFLECK. Brunswick Worsted Mills, Inc. SN 249,219. Pub. 6-20-67. Filed 6-29-66.
 834,816. SCHEEPJESWOL AND SKEIN DESIGN. N.V. Koninklijke Veenendaalsche Sijet- en Vlijfschacht-Fabriek Voorheen Weduwe D.S. Van Schuppen en Zoon. SN 250,492. Pub. 6-20-67. Filed 7-18-66.
 834,817. INVISO. R. & H. Schaefer Industries, Inc. SN 255,648. Pub. 6-20-67. Filed 10-3-66.

Class 44—Dental, Medical, and Surgical Appliances

- 834,818. PERI-DENS. J. L. Brown & Co. Proprietary Limited. SN 231,038. Pub. 6-20-67. Filed 10-26-65.
 834,819. ORTHO-COMFORT. Sears, Roebuck and Co. SN 241,528. Pub. 12-20-66. Filed 3-21-66.
 834,820. MISCELLANEOUS DESIGN. Medical Services, Inc. SN 243,252. Pub. 6-20-67. Filed 4-12-66.
 834,821. VENT O MATIC AND DESIGN. Whaledent, Inc. SN 247,171. Pub. 6-20-67. Filed 6-2-66.
 834,822. RAFLUOR. Pascal Company, Inc. SN 253,398. Pub. 6-20-67. Filed 8-29-66.
 834,823. SAFT-CATH. Deseret Pharmaceutical Company, Inc. SN 253,854. Pub. 6-20-67. Filed 9-6-66.
 834,824. COMO. Yardney Chemical Inc. SN 254,350. Pub. 6-20-67. Filed 9-12-66.
 834,825. CAMBRIDGE. The Vicon Instrument Company. SN 254,412. Pub. 6-20-67. Filed 9-13-66.
 834,826. RAYSWAB. Colab Laboratories, Inc. SN 254,586. Pub. 6-20-67. Filed 9-16-66.
 834,827. MICROKNIT AND DESIGN. Bearing Products Company. SN 254,660. Pub. 6-20-67. Filed 9-19-66.
 834,828. ROB-NEL. Brunswick Corporation. SN 254,666. Pub. 6-20-67. Filed 9-19-66.
 834,829. RETRO-GUARD. Brunswick Corporation. SN 254,667. Pub. 6-20-67. Filed 9-19-66.
 834,830. COUGH-LOK. Hawksley & Sons Limited. SN 254,683. Pub. 6-20-67. Filed 9-19-66.
 834,831. SEPPS. Medical Supply Company. SN 254,702. Pub. 6-20-67. Filed 9-19-66.
 834,832. CEPTI-SEAL. Medical Supply Company. SN 254,703. Pub. 6-20-67. Filed 9-19-66.
 834,833. PLATE-WELD. Home Dental Aids Company, d.b.a. Home Dental Aids Co., Inc. SN 254,786. Pub. 6-20-67. Filed 9-20-66.
 834,834. ICETTE PAK. Eastern Medical Plastics, Inc. SN 255,193. Pub. 6-20-67. Filed 9-27-66.
 834,835. THERMOLAST. The Teltscher Corporation. SN 255,244. Pub. 6-20-67. Filed 9-27-66.
 834,836. JET AGE AND DESIGN. Jet Age Sales Corp. SN 255,327. Pub. 6-20-67. Filed 9-28-66.
 834,837. PLANTAR-FORM. Allan Sloan, d.b.a. Brent Products Company. SN 255,469. Pub. 6-20-67. Filed 9-29-66.
 834,838. PLANTARGRAPH. Allan Sloan, d.b.a. Brent Products Company. SN 255,470. Pub. 6-20-67. Filed 9-29-66.
 834,839. ELASTO-GAUZE. Lily White Sales Co., Inc. SN 256,290. Pub. 6-20-67. Filed 10-12-66.
 834,840. VARI-VAC. American Hospital Supply Corporation. SN 256,339. Pub. 6-20-67. Filed 10-13-66.

Class 46—Foods and Ingredients of Foods

- 834,841. BRIDGE MIX. Keebler Company, by change of name from United Biscuit Company of America. SN 193,722. Pub. 2-1-66. Filed 5-18-64.
 834,842. CHEEZELETS. Jays Foods, Inc. SN 203,096. Pub. 2-23-65. Filed 10-1-64.
 834,843. SCOOTER PIE. The Quaker Oats Company. SN 203,529. Pub. 6-20-67. Filed 10-7-64.
 834,844. STATE FAIR. State Fair Provision Co. Inc., d.b.a. State Fair Provision Co. SN 206,896. Pub. 8-10-65. Filed 11-24-64.
 834,845. BONAY AND DESIGN. Baronet Confections, Inc. SN 239,207. Pub. 6-20-67. Filed 2-21-66.
 834,846. BROWN & HALEY. Brown & Haley. SN 239,217. Pub. 6-20-67. Filed 2-21-66.
 834,847. FLEISCHMANN'S. Standard Brands Incorporated. SN 239,332. Pub. 6-20-67. Filed 2-21-66.

- 834,848. PALABITS. Ralph Wells & Co. SN 242,157. Pub. 6-20-67. Filed 3-29-66.
- 834,849. RIVIANA. Riviana Foods Inc. SN 244,252. Pub. 6-20-67. Filed 4-25-66.
- 834,850. CABLE CAR. Martines Food Cannery, Ltd. SN 244,835. Pub. 6-20-67. Filed 5-3-66.
- 834,851. PELLETENE. Flavor Corporation of America. SN 245,919. Pub. 6-20-67. Filed 5-18-66.
- 834,852. ALMOND-EEN. Tri-Co Almonds, Inc. SN 246,982. Pub. 6-20-67. Filed 5-9-66.
- 834,853. MORU. Moru Candy Company. SN 250,014. Pub. 6-20-67. Filed 7-11-66.
- 834,854. STRIPER. Consolidated Foods Corporation, d.b.a. Joe Lowe Company. SN 251,390. Pub. 6-20-67. Filed 8-1-66.
- 834,855. BESMAID. Druggists Co-Operative Ice Cream Co., Inc. SN 251,399. Pub. 6-20-67. Filed 8-1-66.
- 834,856. FRANCISCAN AND DESIGN. Early California Foods, Inc. SN 262,551. Pub. 6-20-67. Filed 1-16-67.
- 834,857. JAPAN ROSE. Japan Food Corporation, d.b.a. Japan Food Corp. SN 265,949. Pub. 6-20-67. Filed 3-6-67.

Class 47 — Wines

- 834,858. PORT O' CALL. Charles N. May & Company. SN 231,577. Pub. 6-20-67. Filed 10-24-65.
- 834,859. SANT'GRIA OF YAGO. Bodegas Rioja Santiago, S.A., d.b.a. Rioja Santiago, S.A. SN 238,395. Pub. 6-20-67. Filed 2-9-66.
- 834,860. KELLERGEIST. S. F. & O. Hallgarten. SN 247,599. Pub. 6-20-67. Filed 6-8-66.
- 834,861. SAN VALENTIN. Miguel Torres. SN 253,457. Pub. 6-20-67. Filed 8-30-66.
- 834,862. CHATEAU NOIR. E. & J. Gallo Winery, d.b.a. Gallo Vineyards. SN 255,083. Pub. 6-20-67. Filed 9-26-66.

Class 49 — Distilled Alcoholic Liquors

- 834,863. GEORGE M. TIDY & SONS LTD. AND DESIGN. Mohawk Liqueur Corporation, d.b.a. George M. Tiddy & Sons, Ltd. SN 249,346. Pub. 6-20-67. Filed 6-30-66.
- 834,864. GEORGE M. TIDY'S ETC. AND DESIGN. Mohawk Liqueur Corporation, d.b.a. George M. Tiddy & Sons, Ltd. SN 249,347. Pub. 6-20-67. Filed 9-19-66.

Class 50 — Merchandise Not Otherwise Classified

- 834,523. (See Class 1 for this trademark.)
- 834,526. (See Class 2 for this trademark.)
- 834,716. (See Class 30 for this trademark.)
- 834,865. PLASTICAP. Anchor Hocking Glass Corporation. SN 255,053. Pub. 6-20-67. Filed 9-26-66.
- 834,866. GRO RINGS. Charles R. Stull, d.b.a. Hortiscap. SN 255,831. Pub. 6-20-67. Filed 10-5-66.
- 834,867. D AND DESIGN. Dadant and Sons. SN 257,549. Pub. 6-20-67. Filed 9-27-66.
- 834,868. INSTA-FOLDA. Frederick A. Schwartz. SN 265,240. Pub. 6-20-67. Filed 2-23-67.

Class 51 — Cosmetics and Toilet Preparations

- 834,869. KANAKA. Kanaka, Ltd. SN 183,684. Pub. 8-4-64. Filed 12-27-63.
- 834,870. GRAND PRIZE. Helene Curtis Industries, Inc. SN 213,950. Pub. 4-5-66. Filed 3-12-65.
- 834,871. KIDEF. Eugene-Gallia S.A. SN 238,415. Pub. 6-20-67. Filed 2-9-66.
- 834,872. BOSS. Riverton Laboratories Incorporated, d.b.a. Riverton Cosmetic Laboratories. SN 238,567. Pub. 6-20-67. Filed 2-10-66.
- 834,873. THE MOST. DeMert & Dougherty, Inc. SN 242,803. Pub. 6-20-67. Filed 4-6-66.
- 834,874. WHY ASK. Elizabeth Arden Sales Corporation. SN 244,652. Pub. 6-20-67. Filed 5-2-66.
- 834,875. Y-NOT MR. Lito Corporation, Inc. SN 247,821. Pub. 6-20-67. Filed 6-10-66.
- 834,876. TUBLETS. Schratz Products, Inc. SN 249,584. Pub. 6-20-67. Filed 7-5-66.
- 834,877. DIAL. Armour and Company. SN 250,126. Pub. 6-20-67. Filed 7-13-66.
- 834,878. SUN DAY KIND OF BLONDE. Clairol Incorporated. SN 254,233. Pub. 6-20-67. Filed 9-12-66.
- 834,879. HOT ICE. Ar. Winarick, Inc. SN 256,257. Pub. 6-20-67. Filed 10-12-66.
- 834,880. FOLLOW THROUGH. Noxell Corporation. SN 256,584. Pub. 6-20-67. Filed 10-17-66.
- 834,881. APPROACH. Noxell Corporation. SN 256,586. Pub. 6-20-67. Filed 10-17-66.
- 834,882. TOUGH & TENDER. Carter-Wallace, Inc. SN 257,368. Pub. 6-20-67. Filed 10-27-66.
- 834,883. WINNER'S CIRCLE. Carter-Wallace, Inc. SN 257,691. Pub. 6-20-67. Filed 11-1-66.
- 834,884. WINNER'S CIRCLE. Carter-Wallace, Inc. SN 258,981. Pub. 6-20-67. Filed 11-18-66.
- 834,885. SHOT & SHELL. The Procter & Gamble Company. SN 267,783. Pub. 6-20-67. Filed 3-29-67.

Class 52 — Detergents and Soaps

- 834,536. (See Class 4 for this trademark.)
- 834,537. (See Class 4 for this trademark.)
- 834,886. MAGIC MIST. Dorex, Inc. SN 209,998. Pub. 9-28-65. Filed 1-15-65.
- 834,887. FURY. Epic Chemicals, Inc., d.b.a. EPIC Chemicals, Inc. SN 241,248. Pub. 6-20-67. Filed 3-17-66.

Service Marks**Class 100 — Miscellaneous**

- 834,888. VASATA AND DESIGN. Jaroslav Vasata, d.b.a. Restaurant Vasata. SN 233,544. Pub. 6-20-67. Filed 11-29-65.
- 834,889. T TOPPER'S AND DESIGN. Topper's Steakhouses. SN 233,961. Pub. 6-13-67. Filed 12-3-65.
- 834,890. INGRAM IN CIRCLE (DESIGN). Ingram Corporation. SN 245,711. Pub. 6-20-67. Filed 5-16-66.

Class 101 — Advertising and Business

- 834,891. GC AND DESIGN. General Computing Corporation. SN 235,097. Pub. 6-20-67. Filed 12-22-65.

- 834,892. KELLY SERVICES. Kelly Services, Inc. SN 245,720. Pub. 6-20-67. Filed 5-16-66.
- 834,893. KELLY SERVICES (SPECIAL FORM). Kelly Services, Inc. SN 245,721. Pub. 6-20-67. Filed 5-16-66.
- 834,894. M AND DESIGN. Meridian Enterprises, Inc. SN 248,353. Pub. 6-20-67. Filed 6-17-66.
- 834,895. THE CREDIT BUREAU, INC. 1930 AND DESIGN. Retail Credit Company. SN 250,401. Pub. 6-20-67. Filed 7-15-66.

Class 102 — Insurance and Financial

- 834,896. GARDEN STATE LIFE INSURANCE COMPANY AND DESIGN. Garden State Life Insurance Company. SN 224,085. Pub. 6-20-67. Filed 7-23-65.
- 834,897. ACB AND DESIGN. Associated Collection Bureau, Inc. SN 234,871. Pub. 6-20-67. Filed 12-20-65.
- 834,898. ACB. Associated Collection Bureau, Inc. SN 234,989. Pub. 6-20-67. Filed 12-21-65.

Class 103 — Construction and Repair

- 834,899. HELTZEL. The Heltzel Steel Form and Iron Co. SN 240,910. Pub. 6-20-67. Filed 3-14-66.
- 834,900. MERCEDES-BENZ. Daimler-Benz Aktiengesellschaft. SN 266,128. Pub. 6-20-67. Filed 3-7-67.

Class 105 — Transportation and Storage

- 834,901. DENVER CHICAGO. D.C. International, Inc. SN 243,646. Pub. 6-20-67. Filed 4-18-66.
- 834,902. HR HUBLER RENTALS INC. AND DESIGN. Hubler Rentals, Inc. SN 245,487. Pub. 6-20-67. Filed 5-12-66.
- 834,903. ALLIED 1 AND DESIGN. Allied Van Lines, Inc. SN 250,439. Pub. 6-20-67. Filed 7-18-66.

Class 107 — Education and Entertainment

- 834,904. TOP OF THE BOOKSHELF. Helen Reed. SN 240,199. Pub. 6-20-67. Filed 3-4-66.
- 834,905. ICTA ETC. AND DESIGN. The Institute of Certified Travel Agents. SN 243,136. Pub. 6-20-67. Filed 4-11-66.
- 834,906. CANDID CAMERA. Candid Camera Company. SN 263,222. Pub. 6-20-67. Filed 1-20-67.

Collective Membership Mark**Class 200**

- 834,907. GREEK LETTERS PHI BETA (DESIGN). Phi Beta. SN 182,649. Pub. 3-16-65. Filed 12-9-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 38 — Prints and Publications

- 834,908. Arlington Publishing Company, Arlington Heights, Ill. SN 246,636. Filed P.R. 5-26-66; Am. S.R. 6-19-67.

FOOD PRODUCT DEVELOPMENT

For Magazine.
First use Apr. 25, 1966.

- 834,909. Federal Publications, Inc., Washington, D.C. SN 249,751. Filed P.R. 7-7-66; Am. S.R. 6-23-67.

YEARBOOK OF PROCUREMENT ARTICLES

For Annually Published Volumes Containing (1) Reprints of Articles on U.S. Government Procurement Which Originally Appeared in Law Reviews and Other Journals, (2) Various Special Indexes to the Articles, and (3) Original Editorial Commentary on Government Procurement Problems.
First use June 22, 1966.

- 834,910. Clissold Publishing Company, Chicago, Ill. SN 256,346. Filed P.R. 10-13-66; Am. S.R. 6-26-67.

HOSPITAL FORMULARY MANAGEMENT

For Medical Trade Journal.
First use Feb. 1, 1966.

TRADEMARK REGISTRATIONS RENEWED

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| 29,840. SANITOL. Cl. 51. 4-13-1897. | 229,895. JASMINIQUE. Cl. 6. 7-5-27. |
| 30,580. JOHN DEERE. Cl. 19. 9-21-1897. | 229,794. SCOTSDALE. Cl. 39. 7-5-27. |
| 30,606. "EUREKA FIRE HOSE" ETC. AND REPRESENTATIONS OF AN EAGLE, HYDRANT, AND HOSE. Cl. 35. 10-5-1897. | 229,929. TUDO-REPP. Cl. 42. 7-12-27. |
| 63,284. GOLD MEDAL AND DESIGN. Cl. 46. 6-11-07. | 230,144. ESSKAY QUALITY. Cl. 46. 7-12-27. |
| 63,856. MONARCH. Cl. 34. 7-9-07. | 230,741. SWANELLA. Cl. 42. 8-2-27. |
| 64,731. "ZENITH." Cl. 27. 8-20-07. | 230,975. SEA SHELL. Cl. 39. 8-9-27. |
| 65,997. WALES GOODYEAR. Cl. 39. 11-5-07. | 231,203. METRO-GOLDWYN MAYER AND DESIGN. Cl. 26. 8-16-27. |
| 66,508. THE SUNDAY STAR. Cl. 38. 12-10-07. | 232,310. SHAPES OF CLAY. Cl. 38. 9-6-27. |
| 66,509. THE EVENING STAR. Cl. 38. 12-10-07. | 232,631. GAYTEES. Cl. 39. 9-13-27. |
| 66,521. SERGEANT'S. Cl. 18. 12-10-07. | 232,989. THE BANKERS MONTHLY. Cl. 38. 9-20-27. |
| 227,427. RED JACKET. Cl. 46. 5-3-27. | 233,233. TOM'S TOASTED PEANUTS. Cl. 46. 9-27-27. |
| 227,939. DAWN. Cl. 46. 5-17-27. | 233,567. MIL-COA. Cl. 45. 10-4-27. |
| 229,232. 2 ARROWS (DESIGN). Cl. 52. 6-21-27. | 234,216. CELESTION. Cl. 21. 10-18-27. |
| | 234,892. MCCARTHY FOROBLIQUE. Cl. 44. 11-1-27. |

- 235,317. "DUBL DUCK" AND DESIGN OF TWO DUCKS. Cl. 23. 11-15-27.
 235,568. SO-LITE. Cl. 39. 11-22-27.
 236,278. EPHEDEROL. Cl. 6. 12-6-27.
 236,413. HI-HO. Cl. 6. 12-13-27.
 423,295. SAN GABRIEL. Cl. 39. 8-27-46.
 423,841. PMCO AND DESIGN. Cl. 23. 4-8-47.
 423,843. JEWEL TREE. Cl. 38. 4-8-47.
 423,844. GINGHAM GIRL. Cl. 38. 4-8-47.
 423,845. ROSEBUD. Cl. 38. 4-8-47.
 423,856. DOWNY DUCK. Cl. 38. 4-8-47.
 423,858. SIMPLE SAL. Cl. 38. 4-8-47.
 423,873. MR. 'N' MRS. Cl. 38. 4-8-47.
 423,874. SLANGUAGE. Cl. 38. 4-8-47.
 423,903. SIGNATURE. Cl. 38. 4-8-47.
 429,905. GOLD RUSH. Cl. 2. 5-20-47.
 430,420. CHAMPION. Cl. 22. 6-10-47.
 430,626. BIO-THESIOMETER. Cl. 26. 6-17-47.
 430,958. CHASSE GARDEE. Cl. 51. 7-1-47.
 430,967. VIGIL. Cl. 6. 7-1-47.
 430,977. GAY GODDESS. Cl. 51. 7-1-47.
 431,025. AMBROTAL. Cl. 18. 7-1-47.
 431,059. FEDAR. Cl. 26. 7-1-47.
 431,264. REVELETTE. Cl. 46. 7-15-47.
 431,267. DECAR. Cl. 26. 7-15-47.
 431,467. SYNCHRO STEM. Cl. 8. 7-22-47.
 431,680. BELDAM'S PILOT AND DESIGN. Cl. 12. 7-29-47.
 431,740. ZERO STAR. Cl. 12. 8-5-47.
 431,871. WELLCOME NEWS. Cl. 38. 8-12-47.
 431,981. CENTENNIAL. Cl. 28. 8-12-47.
 432,088. OKOPRENE. Cl. 21. 8-19-47.
 432,210. OTOMIDE. Cl. 18. 8-26-47.
 432,408. FRAGONARD. Cl. 51. 9-2-47.
 432,669. OUR LITTLE DARLING. Cl. 28. 9-9-47.
 432,949. DURCO. Cl. 23. 9-23-47.
 433,442. SILANEAL. Cl. 6. 10-14-47.
 433,575. EMPRITE. Cl. 23. 10-21-47.
 433,691. TUAMINE SULFATE. Cl. 18. 10-28-47.
 433,702. NOPCOWET. Cl. 11. 10-28-47.
 433,858. PERMALITE. Cl. 1. 11-4-47.
 433,905. BETA-CEVALIN COMPOUND. Cl. 18. 11-4-47.
 433,993. PLOVER. Cl. 37. 11-4-47.
 434,010. 100. Cl. 1. 11-4-47.
 434,012. MICO. Cl. 1. 11-4-47.
 434,013. MIC-8009. Cl. 1. 11-4-47.
 434,041. SELVA. Cl. 46. 11-4-47.
 434,186. MERRIMENT. Cl. 51. 11-11-47.
 434,652. COBLAC. Cl. 16. 12-2-47.
 434,975. LIPAN. Cl. 18. 12-9-47.
 434,983. SIRLOIN OF SALMON. Cl. 46. 12-9-47.
 435,125. ISO-BROVITE. Cl. 18. 12-9-47.
 435,182. SKYSCRAPER AND DESIGN. Cl. 39. 12-16-47.
 435,388. POINTER AND GLOBE (DESIGN). Cl. 38. 12-23-47.
 436,102. STRONGBOW. Cl. 7. 1-20-48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

- 699,037. GALOCHA MARNE. Cl. 39. 6-7-60.
 830,108. CUMULIN. Cl. 18. 6-13-67.

Section 8

The following registrations issued July 18, 1961

- 718,384. LONCOR. Cl. 1.
 718,388. KING'S BRAND ETC. AND DESIGN. Cl. 1.
 718,390. OILSTATE. Cl. 1.
 718,399. POLIGLO. Cl. 1.
 718,407. BRISTOL. Cl. 1.
 718,414. POLARPAC. Cl. 2.
 718,420. PARCOSEAL. Cl. 6.
 718,421. EDOXOL. Cl. 6.
 718,424. FLUOROPAK. Cl. 6.
 718,425. ARDOL. Cl. 6.
 718,428. REPRESENTATION OF A FIREBIRD. Cl. 6.
 718,432. COPIFOUNT. Cl. 6.
 718,434. TIPERSUL. Cl. 6.
 718,439. ANSULOY. Cl. 6.
 718,448. WEAREVER. Cl. 12.
 718,455. UNI-SET. Cl. 12.
 718,456. WEVEDOR. Cl. 12.
 718,457. ALPACCA BERNDORF AUSTRIA AND DESIGN. Cl. 13.
 718,464. VASOTRATE. Cl. 18.
 718,465. CS. Cl. 18.
 718,466. CS AND DESIGN. Cl. 18.
 718,470. PRIMASE. Cl. 18.
 718,482. BRYREL. Cl. 18.
 718,481. WIN-CODIN. Cl. 18.
 718,484. FIRM-O-SHELL. Cl. 18.
 718,485. HEMAFAER. Cl. 18.
 718,494. TROLLY MOBILE AND DESIGN. Cl. 19.
 718,497. BENIDA. Cl. 21.
 718,499. TECH SERV. Cl. 21.
 718,503. PULSEOHM. Cl. 21.
 718,504. INTRANSIC AND DESIGN. Cl. 21.
 718,505. "FLASHY." Cl. 21.
 718,510. "COUNTY THE CLOWN." Cl. 22.
 718,514. BA-LAN-STIK AND DESIGN. Cl. 22.
 718,515. NAUGHTY NICOLE. Cl. 22.
 718,516. WESTERN TRAILS. Cl. 22.
 718,517. BOWL-N-MITT. Cl. 22.
 718,518. WATE-MATE. Cl. 22.
 718,519. INSTRUCTO-MIRROR. Cl. 22.
 718,521. TAC-L-PAK. Cl. 22.
 718,523. FOTO-FUN. Cl. 22.
 718,524. THE VISIBLE WOMAN. Cl. 22.
 718,530. ROLO-BEND. Cl. 23.
 718,531. STRATO-FLAIR. Cl. 23.
 718,537. IMPERIAL. Cl. 23.
 718,543. DATASCOPE. Cl. 26.
 718,544. DATASCOPE. Cl. 26.
 718,545. OKI ETC. AND DESIGN. Cl. 26.
 718,554. CAMP-HOT. Cl. 34.
 718,561. THEATER HOMES. Cl. 36.
 718,563. EDUCATION THROUGH ENJOYMENT ETC. AND DESIGN. Cl. 36.
 718,568. TWINSETS. Cl. 37.
 718,570. BABY SITTER'S. Cl. 37.
 718,575. ACCURITE BUSINESS FORMS. Cl. 37.
 718,576. VIGIL. Cl. 37.
 718,577. FRATERNAL BOND. Cl. 37.
 718,578. HANDY SANDY AND DESIGN. Cl. 37.
 718,583. U.S. INDUSTRIAL DIGEST. Cl. 38.
 718,588. THE DISTILLATE. Cl. 38.
 718,589. 21. Cl. 38.
 718,591. IVY TIE. Cl. 39.
 718,596. BUCKLON. Cl. 39.
 718,603. FOAMETTE. Cl. 42.
 718,607. TASTY-Q-BURGER. Cl. 46.
 718,610. JAKE BROWN'S. Cl. 46.
 718,611. PARKS HOT N' SAGEY AND DESIGN. Cl. 46.
 718,613. SUNNYFARM AND DESIGN. Cl. 46.
 718,614. "LITTLE MISS COOKIE" AND DESIGN. Cl. 46.
 718,617. 7 TILL ELEVEN AND DESIGN. Cl. 46.
 718,645. PIONEER-ED. Cl. 46.
 718,648. DEMADEX. Cl. 46.
 718,649. PEAK AND DESIGN. Cl. 46.
 718,650. SPECIFY AND DESIGN. Cl. 46.
 718,656. MIJ'ET. Cl. 47.
 718,665. KLEEN-KAKE. Cl. 50.
 718,673. BLUEBEARD. Cl. 51.
 718,678. CREME SIMON ETC. AND DESIGN. Cl. 51.
 718,679. FACEFAIR. Cl. 51.
 718,681. GEISER. Cl. 51.
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 718,687. GARDE. Cl. 51.
 718,688. VEL O ROSE. Cl. 51.
 718,692. CLYNOLA. Cl. 51.
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 718,702. A SEAWAY HOTEL AND DESIGN. Cl. 100.
 718,703. CV AND DESIGN. Cl. 100.

- 718,707. POINT OF PURCHASE ADVERTISING ETC. AND DESIGN. Cl. 101.
 718,708. ELECTRA CITY USA. Cl. 101.
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 718,732. TINYTOYS. Cl. 22.
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 718,735. WHAT THEY THINK. Cl. 38.
 718,736. TOP OF THE WEEK. Cl. 38.
 718,737. TEN TO TUNE IN. Cl. 38.
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 718,741. THE FLOUR YOU FIND IN KITCHENS WHERE ONLY THE BEST WILL DO. Cl. 46.
 718,743. GOING AWAY KIT AND DESIGN. Cl. 50.
 718,744. ROLLZON. Cl. 51.
 718,745. LOTION GARNIER ETC. AND DESIGN. Cl. 51.
 718,755. TILE SPRAY. Cl. 52.
 718,268. WINDSOR. Cl. 39. 7-11-61.

Section 18

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 430,403. June 10, 1947. The Codette Manufacturing Company, Baltimore, Md. Pub. by National Fashions Corporation, Baltimore, Md.



For Ladies' Handbags.

Class 4 — Abrasives and Polishing Materials

- 127,123. Oct. 21, 1919. Weldon Robert's Rubber Co., Newark, N.J. Pub. by registrant.



For Metal Polishing or Cleaning Erasers of Rubber, etc.

Class 6 — Chemicals and Chemical Compositions

- 433,802. Oct. 28, 1947. E. I. du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

ZERLATE

For Agricultural Fungicides.

- 433,809. Oct. 28, 1947. E. I. du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

HITEC

For Chemical Compound, etc.

- 434,069. Nov. 4, 1947. Monsanto Chemical Company, St. Louis, Mo. Pub. by Monsanto Company, St. Louis, Mo.

NIRAN

For Chemical Toxicants for Use as Agricultural Insecticides, etc.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

- 64,360. Aug. 6, 1907. The Hazard Powder Company, Hazardville, Conn. Pub. by E. I. du Pont de Nemours and Company, Wilmington, Del.



For Gunpowder.

Class 12 — Construction Materials

- 231,136. Aug. 16, 1927. United States Quarry Tile Co., East Sparta, Ohio. Pub. by United States Ceramic Tile Company, Canton, Ohio.

ROMANY RAINBOW

For Quarry Tiles.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

233,193. Sept. 27, 1927. The W. S. Tyler Company, Cleveland, Ohio. Pub. by W. S. Tyler, Incorporated, Mentor, Ohio.

DUR-LOY

For Wire Fabric for Screening Purposes.

Class 16—Protective and Decorative Coatings

65,840. Oct. 22, 1907. The Tropical Oil Company, Cleveland, Ohio. Pub. by Hooker Chemical Corporation, Niagara Falls, N.Y.

ELASTIKOTE

For Mixed Paints.

Class 21—Electrical Apparatus, Machines, and Supplies

64,168. July 30, 1907. W. M. Habirshaw, Yonkers, N.Y. Pub. by Phelps Dodge Copper Products Corporation, New York, N.Y.

HABIRSHAW

For Insulated Wire, Cables and Cords.

430,782. June 24, 1947. Phelps Dodge Copper Products Corporation, New York, N.Y. Pub. by registrant.

For Insulated Wire for Electrical Apparatus, etc.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

432,268. Aug. 26, 1947. The Pfaudler Co., Rochester, N.Y. Pub. by Ritter Pfaudler Corporation, Rochester, N.Y.

Pfaudler

For Liquid Evaporating Equipment Comprising Containers Having Agitators, Valves, etc.

442,273. Mar. 22, 1949. New Plastic Corporation, Los Angeles, Calif. Pub. by registrant.



For Plastic Hammers and Plastic Hammer Tips.

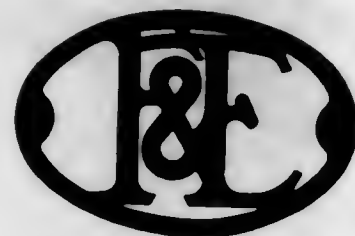
Class 34—Heating, Lighting, and Ventilating Apparatus

424,214. Sept. 24, 1946. The American Oil Company, Chicago, Ill. Pub. by registrant.

AMOCO

For Oil Burners for Heating Equipment.

431,663. July 29, 1947. Flynn & Emrich Company, Baltimore, Md. Pub. by registrant.



For Industrial and Domestic Coal Stokers.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

30,394. July 20, 1897. Eureka Fire Hose Company, New York, N.Y. Pub. by Uniroyal, Inc., New York, N.Y.

EAGLE

For Hydraulic Hose.

Class 38—Prints and Publications

224,976. Mar. 8, 1927. Men's Wear Service Corporation, Chicago, Ill. Pub. by Esquire, Inc., New York, N.Y.

GENTLEMEN'S QUARTERLY

For Quarterly Magazine.

Class 39—Clothing

276,855. Oct. 28, 1930. Brooks Brothers, New York, N.Y. Pub. by Julius Garfinckel & Co., Incorporated, Washington, D.C.

POLO

For Collars.

282,734. Apr. 28, 1931. Brooks Brothers, New York, N.Y. Pub. by Julius Garfinckel & Co., Incorporated, Washington, D.C.

GOLF

For Collars.

431,386. July 22, 1947. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.

STRATOCRUISER

For Hats and Caps for Men, etc.

432,463. Sept. 2, 1947. Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Incorporated, Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

IT'S A

DAN RIVER

FABRIC

For Men's Shirts, Shorts, and Pajamas, etc.

Class 40—Fancy Goods, Furnishings, and Notions

430,368. June 10, 1947. David Guss & Company, Philadelphia, Pa. Pub. by Manco Watch Strap Co., Inc., Jersey City, N.J.

EL DORADO

For Watchbands.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

432,508. Sept. 2, 1947. Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Incorporated, Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

Mc DAN

For Piece Goods of Cotton, Rayon, Wool, or Mixtures Thereof.

432,948. Sept. 23, 1947. Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Incorporated, Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

Security

For Sheets and Pillow Cases Made of Cotton.

433,024. Sept. 23, 1947. Riverside & Dan River Cotton Mills, Inc., Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

GRACIOUS

For Sheets and Pillowcases.

Class 44—Dental, Medical, and Surgical Appliances

30,360. July 13, 1897. The S. S. White Dental Mfg. Co., Philadelphia, Pa. Pub. by S. S. White Company, Philadelphia, Pa.

**REVELATION
BURS.**

For Dental and Surgical Burs.

Class 45—Soft Drinks and Carbonated Waters

328,965. Oct. 8, 1935. J. F. Lazier Manufacturing Co., Inc., St. Louis, Mo. Pub. by Mil-Kay Corporation of America, St. Louis, Mo.

MIL-K-BOTL

For Non-Alcoholic Maltless Extracts and Concentrated Fruit Syrup Used in the Preparation of Soft Drinks, etc.

341,558. Dec. 15, 1936. J. F. Lazier Manufacturing Co., Inc., St. Louis, Mo. Pub. by Ma Cherie Sales Corporation of America, St. Louis, Mo.

NATURAL SET UP

For Nonalcoholic Maltless Extracts and Concentrated Fruit Syrups, etc.

66,403. Nov. 26, 1907. Baker Extract Company, Portland, Maine, and Springfield, Mass. Pub. by McCormick & Company, Incorporated, Baltimore, Md.



For Flavoring Extracts.

228,573. June 7, 1927. Gertrude H. Ford, d.b.a. Clynton Tea Co., New York, N.Y. Pub. by Clinton S. L. Ramsay, d.b.a. Clynton Tea Company, Poughkeepsie, N.Y.

OOPUR

For Teas of All Blends.

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- Admiral Shoe Corp., d.b.a. Mutual Shoe Sales Co., Manchester, N.H. 834,768-70, pub. 6-20-67. Cl. 39.
- Air Placement Equipment Co., Inc.: See—
Clipper Mfg. Co., Inc.
- Algas Corp., Egg Harbor City, N.J. 834,614, pub. 6-20-67. Cl. 19.
- Allied Stores Corp., New York, N.Y. 834,813, pub. 6-20-67. Cl. 42.
- Allied Thermal Corp., New Britain, Conn. 834,730, pub. 6-20-67. Cl. 34.
- Allied Van Lines, Inc., Broadview, Ill. 834,903, pub. 6-20-67. Cl. 105.
- American Bio-Chemical Corp., d.b.a. Bauer Pharmaceuticals, Los Angeles, Calif. 718,470, canc. Cl. 18.
- American Business Systems, Inc., Philadelphia, Pa. 718,508, canc. Cl. 37.
- American Can Co., New York, N.Y. 834,744, pub. 11-10-64. Cl. 37.
- American Character, Inc., Brooklyn, N.Y. 834,643, pub. 6-20-67. Cl. 22.
- American Cystoscope Makers, Inc., Pelham Manor, N.Y. 234-692, ren. 9-5-67. Cl. 44.
- American Hardware Supply Co., East Butler, Pa. 834,738, pub. 6-20-67. Cl. 34.
- American Home Products Corp., New York, N.Y. 830,108, canc. Cl. 18.
- American Home Products Corp., New York, N.Y. 834,754, pub. 6-20-67. Cl. 38.
- American Hospital Supply Corp., Evanston, Ill. 834,840, pub. 6-20-67. Cl. 44.
- American Map Co., Inc., New York, N.Y. 435,388, ren. 9-5-67. Cl. 38.
- American Oil Co., The, Chicago, Ill. 424,214, 12(c) pub. 9-5-67. Cl. 34.
- American Optical Co., Southbridge, Mass. 834,699, pub. 6-20-67. Cl. 26.
- American Pad & Textile Co., The, Pittsburgh, Pa. 718,521, canc. Cl. 22.
- Amplifier Corp. of America, New York, N.Y. 718,504, canc. Cl. 21.
- Anchor Hocking Glass Corp., Lancaster, Ohio. 834,865, pub. 6-20-67. Cl. 50.
- Anchor Steel & Conveyor Co., Dearborn, Mich. 834,608, pub. 6-20-67. Cl. 23.
- Anderson, C. W., Hosliery Co., Clinton, S.C. 834,764, pub. 6-20-67. Cl. 39.
- Ansul Chemical Co., Marinette, Wis. 718,439, canc. Cl. 6.
- Antolini, G. & Sons, Santa Barbara, Calif. 834,563, pub. 6-20-67. Cl. 12.
- Antonopoulos, Augustus, North Palm Beach, Fla. 834,687, pub. 6-20-67. Cl. 24.
- Anzac Industries, Inc., Cleveland, Ohio. 834,636, pub. 6-20-67. Cl. 21.
- Apex Products Corp., Dania, Fla. 834,533, pub. 6-20-67. Cl. 3.
- Archer, A. W., Co., Inc., New York, N.Y. 436,102, ren. 9-5-67. Cl. 7.
- Archer-Daniels-Midland Co., Minneapolis, Minn. 718,425, canc. Cl. 6.
- Arden, Elizabeth, Sales Corp., New York, N.Y. 429,905, ren. 9-5-67. Cl. 2.
- Arden, Elizabeth, Sales Corp., New York, N.Y. 834,874, pub. 6-20-67. Cl. 51.
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- Armour & Co., Chicago, Ill. 718,399, canc. Cl. 1.
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- Ashe, H. J., Co., Inc., The, Glenbrook, Conn. 718,505, canc. Cl. 21.
- Associated Collection Bureau, Inc., Denver, Colo. 834,897-8, pub. 6-20-67. Cl. 102.
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- Atlantic Mills, The, Olneyville, R.I., and Stottville, N.Y., to United Merchants and Manufacturers, Inc., New York, N.Y. 230,741, ren. 9-5-67. Cl. 42.
- Auto Pak Co., Washington, D.C. 834,528, pub. 4-18-67. Multiple Class (Classes 2 and 23).
- Automatic Radio Mfg. Co., Inc., Melrose, Mass. 834,628, pub. 6-20-67. Cl. 21.
- Avon Products, Inc., New York, N.Y. 434,186, ren. 9-5-67. Cl. 51.
- Babbitt, B. T., Inc., New York, N.Y. 718,698, canc. Cl. 52.
- Bailey Co., Inc., The, Amesbury, Mass. 834,570, pub. 6-20-67. Cl. 12.
- Baker Extract Co., Portland, Maine, and Springfield, Mass., by McCormick & Co., Inc., Baltimore, Md. 66,403, 12(c) pub. 9-5-67. Cl. 46.
- Bail, Geo. J., Inc., d.b.a. Jiffy-Pot Co. of America, West Chicago, Ill. 834,529, pub. 6-20-67. Cl. 2.
- Baronet Confections, Inc., East Farmingdale, N.Y. 834,845, pub. 6-20-67. Cl. 46.
- Barry-Wright Corp., from Mathatronics, Inc., Waltham, Mass. 834,698, pub. 6-20-67. Cl. 26.
- Bauer Pharmaceuticals: See—
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- Bearing Products Co., Philadelphia, Pa. 834,827, pub. 6-20-67. Cl. 44.
- Beau Marks, The, Montreal, Quebec, Canada. 718,721, canc. Cl. 107.
- Beaver Shirt Co., Greensboro, N.C., from Beaver Shirt Mfg. Co., Inc., New York, N.Y. 834,760, pub. 5-17-66. Cl. 39.
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- Bel Air Pools, Inc., Southfield, Mich. 834,564, pub. 6-20-67. Cl. 12.
- Beldam Packing & Rubber Co., Ltd., The, London, England. 431,680, ren. 9-5-67. Cl. 12.
- Bennett, William J., d.b.a. Marble Crete Co., Williamsville, N.Y. 834,574, pub. 6-20-67. Cl. 12.
- Berje Chemical Products, Inc., Long Island City, N.Y. 834,546, pub. 6-20-67. Cl. 6.
- Bernardi Bros., Inc., Harrisburg, Pa. 834,652, pub. 6-20-67. Cl. 23.
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- Blair Fashions, Inc., Chicago, Ill. 834,756, pub. 8-11-64. Cl. 39.
- Blaisdell Pencil Co., Bethayres, Pa. 834,748, pub. 11-29-66. Cl. 37.
- Blank, Adolph, Inc., New York, N.Y. 834,786, pub. 4-11-67. Cl. 39.
- Blind-Brite Co.: See—
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- Blousecraft Co., Inc., The, New York, N.Y. 834,762, pub. 6-20-67. Cl. 39.
- Blue Bell, Inc., Greensboro, N.C. 834,796, pub. 6-20-67. Cl. 39.
- Blue Seal Mattress Co., Inc., Brooklyn, N.Y. 834,723, pub. 6-20-67. Cl. 32.
- Bocage, Bujalance & Cia, Montevideo, Uruguay. 834,603, pub. 6-20-67. Cl. 18.
- Bodegas Rioja Santiago, S.A., d.b.a. Rioja Santiago, S.A., Haro, Logrono, Spain. 834,859, pub. 6-20-67. Cl. 47.
- Bodner, Richard J., Cleveland, Ohio. 718,514, canc. Cl. 22.
- Bordeaux, Edmond S.: See—
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- Bowling Instruction Enterprises, Inc., Virginia Beach, Va. 718,519, canc. Cl. 22.
- Braithwaite & Co. Engineers, Ltd., Surrey, England. 834,586, pub. 6-20-67. Cl. 14.
- Brent Products Co.: See—
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- Bresnick, Carl S., New York, N.Y., to Pearlduck, Inc., Jamaica, N.Y. 235,317, ren. 9-5-67. Cl. 23.
- Briggs Mfg. Co., Warren, Mich. 834,732-4, pub. 6-20-67. Cl. 34.
- Brillion Iron Works, Inc., Brillion, Wis. 718,518, canc. Cl. 22.
- Broemmel Pharmaceuticals: See—
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- Broemmel's Pharmaceuticals, to Broemmel Pharmaceuticals, San Francisco, Calif. 435,125, ren. 9-5-67. Cl. 18.
- Bronson, Melvin W., d.b.a. Bronson Products Co., Chicago, Ill. 718,682, canc. Cl. 51.
- Bronson Products Co.: See—
Bronson, Melvin W.
- Brooks Brothers, New York, N.Y., by Julius Garfinckel & Co., Inc., Washington, D.C. 276,855, 12(c) pub. 9-5-67. Cl. 39.
- Brooks Brothers, New York, N.Y., by Julius Garfinckel & Co., Inc., Washington, D.C. 282,734, 12(c) pub. 9-5-67. Cl. 39.
- Brown, Elmer F.: See—
Brown's, Jake, Inc.
- Brown & Haley, Tacoma, Wash. 834,846, pub. 6-20-67. Cl. 46.
- Brown, J. L., & Co. Proprietary, Ltd., Melbourne, Victoria, Australia. 834,818, pub. 6-20-67. Cl. 44.
- Brown Shoe Co., Inc., St. Louis, Mo. 718,596, canc. Cl. 39.
- Brown's, Jake, Bar-B-Q: See—
Brown's, Jake, Inc.
- Brown's, Jake, Inc., from Elmer F. Brown, d.b.a. Jake Brown's Bar-B-Q, Kansas City, Kans. 718,610, canc. Cl. 46.
- Brunswick Corp., Chicago, Ill. 834,828-9, pub. 6-20-67. Cl. 44.
- Brunswick Worsted Mills, Inc., Moosup, Conn. 834,815, pub. 6-20-67. Cl. 43.
- Burroughs Wellcome & Co., (U.S.A.), Inc., Tuckahoe, N.Y. 431,871, ren. 9-5-67. Cl. 38.
- Calma Co., Santa Clara, Calif. 834,694, pub. 6-20-67. Cl. 26.
- Camacho Cigars, Inc., Miami, Fla. 834,597, pub. 4-11-67. Cl. 17.
- Candid Camera Co., New York, N.Y. 834,906, pub. 6-20-67. Cl. 107.
- Carnation Co.: See—
Mohawk Condensed Milk Co.
- Carrier Corp., Syracuse, N.Y. 834,582, pub. 6-20-67. Multiple Class (Classes 13, 26, 31, and 34).

- Carter-Wallace, Inc., New York, N.Y. 834,882-4, pub. 6-20-67. Cl. 51.
- Castleton China, Inc., New Castle, Pa. 834,716, pub. 6-20-67. Multiple Class (Classes 30 and 50).
- Celanese Corp., from Celanese Corp. of America, New York, N.Y. 834,807-8, pub. 6-20-67. Cl. 42.
- Celanese Corp. of America: See—
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- Champ-Items, Inc., St. Louis, Mo. 834,577, pub. 7-26-66. Multiple Class (Classes 13, 19, 23, 26, and 35).
- Chance, Vought, Aircraft, Inc.: See—
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- Chemical Rubber Co., The, Cleveland, Ohio. 834,702, pub. 6-20-67. Cl. 26.
- Chess Producing Corp., Chicago, Ill. 834,741, pub. 6-20-67. Cl. 36.
- Chickasha Cotton Oil Co., Chickasha, Okla. 718,613, cancl. Cl. 46.
- Churchill, J. F., d.b.a. Blind-Brite Co., San Francisco, Calif. 718,753, cancl. Cl. 52.
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Siegler, Lear, Inc.
- Clairol, Inc., New York, N.Y. 834,878, pub. 6-20-67. Cl. 51.
- Cla-Val Co., Newport Beach, Calif. 834,576, pub. 3-1-60. Cl. 13.
- Clipper Mfg. Co., Inc., Grandview, Mo. 834,659, pub. 6-20-67. Cl. 23.
- Clipper Mfg. Co., Inc., from Air Placement Equipment Co., Inc., Grandview, Mo. 834,664, pub. 6-20-67. Cl. 23.
- Cissoid Publishing Co., Chicago, Ill. 834,753, pub. 6-20-67. Cl. 38.
- Cissoid Publishing Co., Chicago, Ill. 834,910, Cl. 38.
- Clopay Corp., Cincinnati, Ohio. 834,722, pub. 6-20-67. Cl. 32.
- Clynton Tea Co.: See—
Ford, Gertrude H.
- Codette Mfg. Co., The, by National Fashions Corp., Baltimore, Md. 430,403, 12(c) pub. 9-5-67. Cl. 3.
- Cohn Hall Marx Co., to United Merchants and Manufacturers, Inc., New York, N.Y. 229,929, ren. 9-5-67. Cl. 42.
- Colab Laboratories, Inc., Chicago Heights, Ill. 834,826, pub. 6-20-67. Cl. 44.
- Colgate-Palmolive Co.: See—
Flaster, Alfred A.
- Colgate-Palmolive Co., New York, N.Y. 834,536-7, pub. 6-20-67. Multiple Class (Classes 4, 6, and 52).
- Columbian Carbon Co.: See—
Binney & Smith Co.
- Communication Electronics, Inc., Rockville, Md. 834,693, pub. 2-7-67. Cl. 26.
- Compact Industries, Inc., Northbrook, Ill. 834,653, pub. 6-20-67. Cl. 23.
- Components Specialties, Inc., Freeport, N.Y. 834,619, pub. 4-18-67. Multiple Class (Classes 21 and 30).
- Consolidated Foods Corp.: See—
Lowe, Joe, Corp.
- Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 834,854, pub. 6-20-67. Cl. 46.
- Continental Oil Co., Ponca City, Okla. 834,556, pub. 6-20-67. Cl. 10.
- Cookietime Products: See—
Goodhue, Joseph A.
- Coöperatieve Vereeniging Tot Berelding Van Melkproducten Korthelshalve Coöperatieve Condensfabriek Friesland, Leeuwarden, Netherlands. 718,649, cancl. Cl. 46.
- Copease Corp., New York, N.Y. 718,432, cancl. Cl. 6.
- Copia Mfg. Corp.: See—
Federal Mfg. & Engineering Corp.
- Corn States Laboratories, Inc., Omaha, Nebr. 718,465-6, cancl. Cl. 18.
- Coro, Inc., New York, N.Y. 432,669, ren. 9-5-67. Cl. 28.
- Crete Simon, Anciennement J. Simon & Cie, Lyon, Rhone, France. 718,678, cancl. Cl. 51.
- Curtis, Helene, Industries, Inc., Chicago, Ill. 834,870, pub. 4-5-66. Cl. 51.
- D.C. International, Inc., Denver, Colo. 834,901, pub. 6-20-67. Cl. 105.
- Dédant & Sons, Hamilton, Ill. 834,867, pub. 6-20-67. Cl. 50.
- Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany. 834,900, pub. 6-20-67. Cl. 103.
- Dalglisch, Herbert F., St. Paul, Minn. 834,655, pub. 6-20-67. Cl. 23.
- Dan River Mills, Inc.: See—
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- Davco Mfg. Co.: See—
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- Davis, Alice A., d.b.a. Hellion Originals, Missoula, Mont. 834,775, pub. 6-20-67. Cl. 39.
- Davis Industries, Inc., d.b.a. Davco Mfg. Co., Thomasville, Ga. 834,661, pub. 6-20-67. Cl. 23.
- Davis, Levin V., Odessa, Tex. 834,524, pub. 6-20-67. Cl. 1.
- Dawe's Laboratories, Inc., Chicago, Ill. 718,484, cancl. Cl. 18.
- Dawn Donut Co., Inc.: See—
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- Dawn Donut Co. of Jackson, to Dawn Donut Co., Inc., Jackson, Mich. 227,939, ren. 9-5-67. Cl. 40.
- Deere & Co., Moline and Decatur, Ill., Council Bluffs, Des Moines, and Keokuk, Iowa, Kansas City and St. Louis, Mo., Minneapolis, Minn., and San Francisco, Calif., to Deere & Co., Moline, Ill. 30,580, ren. 9-5-67. Cl. 19.
- Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany. 718,421, cancl. Cl. 6.
- Demert & Dougherty, Inc., Chicago, Ill. 834,873, pub. 6-20-67. Cl. 51.
- Deseret Pharmaceutical Co., Inc., Salt Lake City, Utah. 834-823, pub. 6-20-67. Cl. 44.
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- Dominion Lock Co., Ltd., Montreal, Quebec, Canada. 834,688, pub. 6-20-67. Cl. 25.
- Dorex, Inc., Madison, Wis. 834,886, pub. 9-28-65. Cl. 52.
- Dorr-Oliver, Inc., Stamford, Conn. 834,735, pub. 6-20-67. Cl. 34.
- Dovre Ski Binding, Inc., West Concord, Mass. 834,645, pub. 6-20-67. Cl. 22.
- Dow Corning Corp., Midland, Mich. 433,442, ren. 9-5-67. Cl. 6.
- Draddy, Greg, Inc., New York, N.Y. 834,757, pub. 7-4-67. Cl. 39.
- Drexel Enterprises, Inc., Drexel, N.C. 834,722, pub. 6-20-67. Cl. 32.
- Druggists Co-Operative Ice Cream Co., Inc., Atlanta, Ga. 834-855, pub. 6-20-67. Cl. 46.
- DuBarry of Hollywood, Inc., Los Angeles, Calif. 718,603, cancl. Cl. 42.
- Du Pont de Nemours, E. I., and Co.: See—
Hazard Powder Co., The.
- Du Pont de Nemours, E. I., and Co., Wilmington, Del. 433,802, 12(c) pub. 9-5-67. Cl. 6.
- Du Pont de Nemours, E. I., and Co., Wilmington, Del. 433,809, 12(c) pub. 9-5-67. Cl. 6.
- Du Pont de Nemours, E. I., and Co., Wilmington, Del. 718,434, cancl. Cl. 6.
- Du Pont de Nemours, E. I., and Co., Wilmington, Del. 834,781, pub. 4-4-67. Cl. 39.
- Durlon Co., Inc., The, Dayton, Ohio. 432,949, ren. 9-5-67. Cl. 23.
- Duro-Test Corp., North Bergen, N.J. 834,626, pub. 6-20-67. Cl. 21.
- E-Z Toy Co.: See—
Pavola, Robert S.
- Early California Foods, Inc., Los Angeles, Calif. 834,856, pub. 6-20-67. Cl. 46.
- Eastern Medical Plastics, Inc., Hingham, Mass. 834,834, pub. 6-20-67. Cl. 44.
- Eastman Kodak Co., Rochester, N.Y. 718,544, cancl. Cl. 26.
- Eclipse Sleep Products, Inc., Brooklyn, N.Y. 834,721, pub. 6-20-67. Cl. 32.
- Electric Machinery Mfg. Co., Minneapolis, Minn. 834,632, pub. 6-20-67. Cl. 21.
- Electrical Living Show, Inc., New York, N.Y. 718,708, cancl. Cl. 101.
- Electrical Mfg. & Plating Co., Hampton Wick, Kingston-On-Thames, England, to Roia Celestion, Ltd., Wembley, England. 234,216, ren. 9-5-67. Cl. 21.
- Electroweigh Co.: See—
Hess, Emerson E.
- Empire Tool Co., Memphis, Mich. 433,575, ren. 9-5-67. Cl. 23.
- Enots, Ltd., Birmingham, England. 834,610, pub. 6-20-67. Cl. 10.
- Epic Chemicals, Inc., d.b.a. EPIC Chemicals, Inc., Brooklyn, N.Y. 834,887, pub. 6-20-67. Cl. 52.
- EPIC Chemicals, Inc.: See—
Epic Chemicals, Inc.
- Erlanger, N., Blumgart & Co., Inc., New York, N.Y. 834,809, pub. 6-20-67. Cl. 42.
- Esquire, Inc.: See—
Men's Wear Service Corp.
- Esser, Edward C., Madison, Wis. 834,752, pub. 6-20-67. Cl. 37.
- Eugene-Gallia S.A., Paris, France. 834,871, pub. 6-20-67. Cl. 51.
- Eureka Fire Hose Co., by Uniroyal, Inc., New York, N.Y. 30-394, 12(c) pub. 9-5-67. Cl. 35.
- Eureka Fire Hose Co., to Uniroyal, Inc., New York, N.Y. 30-606, ren. 9-5-67. Cl. 35.
- Evening Star Newspaper Co., The, Washington, D.C. 66,508-9, ren. 9-5-67. Cl. 38.
- Eversharp, Inc., Milford, Conn. 834,683, pub. 6-20-67. Cl. 23.
- Fabriques des Montres Zenith S.A.: See—
Favre-Jacot, Georges, & Co.
- Farah Mfg. Co., Inc., El Paso, Tex. 834,794-5, pub. 6-20-67. Cl. 39.
- Farmer Electric Products Co., Inc., Natick, Mass. 834,634, pub. 6-20-67. Cl. 21.
- Fashion Accessories, Hong Kong. 834,778, pub. 6-20-67. Cl. 39.
- Favre-Jacot, Georges, & Co., to Fabriques des Montres Zenith S.A., Le Locle, Switzerland. 64,731, ren. 9-5-67. Cl. 27.
- Federal Mfg. & Engineering Corp., Brooklyn, to Copia Mfg. Corp., Garden City, N.Y. 431,059, ren. 9-5-67. Cl. 26.
- Federal Mfg. & Engineering Corp., Brooklyn, to Copia Mfg. Corp., Garden City, N.Y. 431,267, ren. 9-5-67. Cl. 26.
- Federal Publications, Inc., Washington, D.C. 834,909, Cl. 38.
- Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 834,709, pub. 6-20-67. Cl. 28.
- Federated Department Stores, Inc., New York, N.Y. 834,792, pub. 6-20-67. Cl. 39.
- Filene's, Wm., Sons Co.: See—
Federated Department Stores, Inc.
- Fillmore Lemon Assn., Fillmore, to Saticoy Lemon Assn., Saticoy, Calif. 434,041, ren. 9-5-67. Cl. 46.
- Firestone Tire & Rubber Co., The, Akron, Ohio. 834,611-12, pub. 6-20-67. Cl. 19.
- Flaster, Alfred A., to Colgate-Palmolive Co., New York, N.Y. 430,977, ren. 9-5-67. Cl. 51.
- Flavor Corp. of America, Northbrook, Ill. 834,851, pub. 6-20-67. Cl. 46.
- Flexeas International, Inc., New York, N.Y. 834,797-8, pub. 6-20-67. Cl. 39.
- Fluco, Inc., Rockford, Ill. 834,654, pub. 6-20-67. Cl. 23.

- Fluorocarbon Co., The, Fullerton, Calif. 718,424, cancl. Cl. 6.
- Flynn & Emrich Co., Baltimore, Md. 431,663, 12(c) pub. 9-5-67. Cl. 34.
- Ford, Gertrude H., d.b.a. Clynton Tea Co., New York, by Clinton S. L. Ramsay, d.b.a. Clynton Tea Co., Poughkeepsie, N.Y. 228,573, 12(c) pub. 9-5-67. Cl. 46.
- Frank, S. M., & Co., Inc.: See—
Relas-Premier Corp., The.
- Frohring, William O., d.b.a. Bio-Medical Instrument Co., Chagrin Falls, Ohio, to Rova Co., Newbury, Ohio. 430,626, ren. 9-5-67. Cl. 26.
- Frontenac Wine Co., Inc., Detroit, Mich. 718,656, cancl. Cl. 47.
- Fyr-Fyter Co., The, Dayton, Ohio. 834,650, pub. 6-20-67. Cl. 23.
- Gallon, Jeffrey, Mfg. Co., Columbus, Ohio. 834,617, pub. 4-14-64. Cl. 21.
- Gallo, E. & J., Winery, d.b.a. Gallo Vineyards, Modesto, Calif. 834,862, pub. 6-20-67. Cl. 47.
- Gallo Vineyards: See—
Gallo, E. & J., Winery.
- Garber, Willie P., d.b.a. Rock-A-Teria, Broadway, Va. 718,607, cancl. Cl. 46.
- Garden State Life Insurance Co., Newark, N.Y. 834,896, pub. 6-20-67. Cl. 102.
- Garfinkel, Julius, & Co., Inc.: See—
Brooks Brothers.
- Gelgy Chemical Corp., Ardsley, N.Y. 834,552, pub. 6-20-67. Cl. 6.
- General Computing Corp., New York, N.Y. 834,891, pub. 6-20-67. Cl. 101.
- General Kinetics, Inc., Arlington, Va. 718,545, cancl. Cl. 26.
- General Precision, Inc., Glendale, Calif. 834,696, pub. 6-20-67. Cl. 26.
- General Refractories Co., Philadelphia, Pa. 834,575, pub. 6-20-67. Cl. 12.
- General Slicing Machine Co., Inc., Walden, N.Y. 834,679, pub. 6-20-67. Cl. 23.
- Gennaro Industries, Inc., Hazleton, Pa. 718,494, cancl. Cl. 19.
- Germal's, Inc., Los Angeles, Calif. 834,553, pub. 6-20-67. Cl. 6.
- Gladding McBean & Co., San Francisco, to International Pipe and Ceramics Corp., Los Angeles, Calif. 232,310, ren. 9-5-67. Cl. 38.
- Gldden Co., The, Cleveland, Ohio. 834,542, pub. 11-1-66. Cl. 5.
- Gldden Co., The, Cleveland, Ohio. 834,548, pub. 6-20-67. Cl. 6.
- Gldden Co., The, Cleveland, Ohio. 834,595, pub. 6-20-67. Cl. 16.
- Goodhue, Joseph A., d.b.a. Cookietime Products, Leominster, Mass. 718,614, cancl. Cl. 46.
- Goodyear's Metallic Rubber Shoe Co., The, Naugatuck, Conn., to Uniroyal, Inc., New York, N.Y. 65,997, ren. 9-5-67. Cl. 39.
- Grace, W. R., & Co., New York, N.Y. 834,521, pub. 6-20-67. Cl. 1.
- Grand Pop Bottling Co.: See—
Mil-Coa Co., The.
- Grefco, Inc.: See—
Permalite Corp.
- Gregory Amplifier Corp., The, Bronx, N.Y. 834,624, pub. 6-20-67. Cl. 21.
- Grossman Clothing Co., Inc., New York, N.Y. 834,780, pub. 6-20-67. Cl. 39.
- Grout Supply Co., Brecksville, Ohio. 834,568, pub. 6-20-67. Cl. 12.
- Gulf States Paper Corp., Tuscaloosa, Ala. 834,742, pub. 11-5-63. Cl. 37.
- Guss, David, & Co., Philadelphia, Pa., by Manco Watch Strap Co., Inc., Jersey City, N.J. 430,368, 12(c) pub. 9-5-67. Cl. 40.
- Haase, Wilbert W., Co., Forest Park, Ill. 834,530, pub. 6-20-67. Cl. 2.
- Hablirshaw, W. M., Yonkers, by Phelps Dodge Copper Products Corp., New York, N.Y. 64,166, 12(c) pub. 9-5-67. Cl. 21.
- Hales & Hunter Co., Chicago Ill. 718,645, cancl. Cl. 46.
- Hall Ski-Lift Co., Inc., Watertown, N.Y. 834,622, pub. 6-20-67. Cl. 21.
- Hallgarten, S. F., & O., London, England. 834,860, pub. 6-20-67. Cl. 47.
- Hart-Carter Co., Minneapolis, Minn. 834,651, pub. 4-11-67. Cl. 23.
- Harvey Aluminum, Inc., Torrance, Calif. 834,581, pub. 6-20-67. Cl. 13.
- Hawksley & Sons, Ltd., Lancing, Sussex, England. 834,830, pub. 6-20-67. Cl. 44.
- Hazard Powder Co., The, Hazardville, Conn., by E. I. du Pont de Nemours and Co., Wilmington, Del. 64,360, 12(c) pub. 9-5-67. Cl. 9.
- Heldi Sport Caps: See—
Massa, James S.
- Hillion Originals: See—
Davis, Alice A.
- Heltzel Steel Form & Iron Co., The, Warren, Ohio. 834,058, pub. 6-20-67. Cl. 23.
- Heltzel Steel Form and Iron Co., The, Warren, Ohio. 834,899, pub. 6-20-67. Cl. 103.
- Heppenstall Co., Pittsburgh, Pa. 834,585, pub. 6-20-67. Cl. 14.
- Hersberg Shoe Co., Inc., Boston, Mass. 834,774, pub. 6-20-67. Cl. 39.
- Hess, Emerson E., d.b.a. Electroweigh Co., Powell, Ohio. 834,706, pub. 6-20-67. Cl. 26.
- Hills-McCanna Co., Carpentersville, Ill. 834,697, pub. 6-20-67. Cl. 26.
- Hillyard Chemical Co., to Hillyard Enterprises, Inc., St. Joseph, Mo. 236,413, ren. 9-5-67. Cl. 6.
- Hillyard Enterprises, Inc.: See—
Hillyard Chemical Co.
- Hilvert, Fred G., Co.: See—
Hilvert, Fred G., Co., Inc.
- Hilvert, Fred G., Co., Inc., d.b.a. Fred G. Hilvert Co., Glendale, Ariz. 718,650, cancl. Cl. 46.
- Hiss Pharmacal Co., Inc., New Hartford, N.Y. 718,464, cancl. Cl. 18.
- Hodges Research & Development Co.: See—
Williams, Beverly E.
- Home Dental Aids Co., d.b.a. Home Dental Aids Co., Inc., Bakersfield, Calif. 834,833, pub. 6-20-67. Cl. 44.
- Home Dental Aids Co., Inc.: See—
Home Dental Aids Co.
- Honeycomb Products, Inc., Fredericktown, Ohio. 834,571, pub. 6-20-67. Cl. 12.
- Hooker Chemical Corp.: See—
Tropical Oil Co., The.
- Hortiscap: See—
Stull, Charles R.
- Hubler Rentals, Inc., Allentown, Pa. 834,902, pub. 6-20-67. Cl. 105.
- Huston, Tom, d.b.a. Tom Huston Peanut Co., to Tom Huston Peanut Co., Columbus, Ga. 233,233, ren. 9-5-67. Cl. 46.
- Huston, Tom, Peanut Co.: See—
Huston, Tom.
- Hydrotile Machinery Co., Nashua, Iowa. 834,677, pub. 6-20-67. Cl. 23.
- Imperial Camera Corp., Chicago, Ill. 834,701, pub. 6-20-67. Cl. 26.
- Indiana Wire Die Co., Inc., Fort Wayne, Ind. 834,672, pub. 6-20-67. Cl. 23.
- Industrias Valls, S.A., Igualada, Barcelona, Spain. 834,776, pub. 6-20-67. Cl. 39.
- Ingram Corp., New Orleans, La. 834,890, pub. 6-20-67. Cl. 100.
- Institute of Certified Travel Agents, The, Washington, D.C. 834,905, pub. 6-20-67. Cl. 107.
- International Communications, Inc., Westport, Conn. 718,583, cancl. Cl. 38.
- International Milling Co., Inc.: See—
New Ulm Roller Mill Co.
- International Paper Co., New York, N.Y. 834,531, pub. 6-20-67. Cl. 2.
- International Pipe & Ceramics Corp.: See—
Gladding McBean & Co.
- International Silver Co., The, Meriden, Conn. 431,981, ren. 9-5-67. Cl. 28.
- Ion Physics Corp., Burlington, Mass. 834,695, pub. 9-20-66. Cl. 26.
- Irwin, Harry, Inc., New York, N.Y. 834,793, pub. 6-20-67. Cl. 39.
- Jacobsen Mfg. Co., Racine, Wis. 834,675, pub. 6-20-67. Cl. 23.
- Japan Food Corp., d.b.a. Japan Food Corp., San Francisco, Calif. 834,857, pub. 6-20-67. Cl. 46.
- Jay International Corp., Chicago, Ill. 834,665, pub. 6-20-67. Cl. 23.
- Jay International Corp., The, Chicago, Ill. 834,708, pub. 6-20-67. Cl. 27.
- Jays Foods, Inc., Chicago, Ill. 834,842, pub. 2-23-65. Cl. 46.
- Jet Age Sales Corp., Clifton, N.J. 834,836, pub. 6-20-67. Cl. 44.
- Jiffy-Pot Co. of America: See—
Ball, Geo. J., Inc.
- Johns-Manville Corp., New York, N.Y. 834,572-3, pub. 6-20-67. Cl. 12.
- Johnson Ideal Halter Co., The, Aurora, Ill. 834,534, pub. 6-20-67. Cl. 3.
- Jomafre Industria de Malhas S.A., Rio De Janeiro, Guanabara, Brazil. 834,788, pub. 6-20-67. Cl. 39.
- Jones, Betty, Logansport, Ind. 834,755, pub. 6-20-67. Cl. 38.
- Jo-Nor Mfg. Co.: See—
North, Evelyn L.
- Josephson, J., Inc., New York, N.Y. 834,616, pub. 4-20-65. Cl. 20.
- Joyce, Andrea, Togs, Inc., New York, N.Y. 834,772, pub. 6-20-67. Cl. 39.
- Julo of Vassar, Vassar, Mich. 834,767, pub. 6-20-67. Cl. 39.
- Kaiser Aluminum & Chemical Corp., Oakland, Calif. 834,565, pub. 6-20-67. Cl. 12.
- Kalamazoo Sled Co., The, to Kalamazoo Sled and Toys, Inc., Kalamazoo, Mich. 430,420, ren. 9-5-67. Cl. 22.
- Kalamazoo Sled and Toys, Inc.: See—
Kalamazoo Sled Co., The.
- Kanaka, Ltd., Brooklyn, N.Y. 834,869, pub. 8-4-64. Cl. 51.
- Kappa Nu Fraternity, Inc., Bala-Cynwyd, Pa. 718,722, cancl. Cl. 200.
- Keebler Co., from United Biscuit Co. of America, Melrose Park, Ill. 834,841, pub. 2-1-66. Cl. 46.
- Kellogg Supply Co., Inc., Wilmington, Calif. 834,558, pub. 6-20-67. Cl. 10.
- Kelly Services, Inc., Detroit, Mich. 834,892-3, pub. 6-20-67. Cl. 101.
- Kennison Products Co., Baltimore, Md. 718,685-6, cancl. Cl. 51.
- Kevlin Mfg. Co., Woburn, Mass. 834,618, pub. 11-30-65. Cl. 21.
- Keyston Bros., San Francisco, Calif. 834,535, pub. 6-20-67. Cl. 3.
- Keyston Bros., San Francisco, Calif. 834,647, pub. 6-20-67. Cl. 22.
- Keyston Bros., San Francisco, Calif. 834,799, pub. 6-20-67. Cl. 39.
- Kirk, James S., & Co., Chicago, Ill., to The Procter & Gamble Co., Cincinnati, Ohio. 229,232, ren. 9-5-67. Cl. 52.
- Kiwi Polish Co. Proprietary, Ltd., The, Victoria, Australia. 834,538, pub. 6-20-67. Cl. 4.
- Kleen-Kake Co.: See—
Young, Sidney G.

Klein Steel Co., The, Bellevue, Ohio. 834,561, pub. 6-20-67. Multiple Class (Classes 12 and 23).
 Kleinert, I. B., Rubber Co., New York, N.Y. 230,975, ren. 9-5-67. Cl. 39.
 Kleinol-Produktion Gesellschaft mit beschränkter Haftung, Hamburg, Germany. 718,692, can. Cl. 51.
 Koebel Diamond Tool Co., Detroit, Mich. 834,685, pub. 6-20-67. Cl. 23.
 Kold-Seal, San Mateo, Calif. 834,562, pub. 6-20-67. Cl. 12.
 Krauth & Benninghofen: See—
 Krauth & Benninghofen, Inc.
 Krauth & Benninghofen, Inc., from Krauth & Benninghofen, Hamilton, Ohio. 834,743, pub. 1-12-65. Cl. 37.
 Laboratoire Garnier, Paris, France. 718,745, can. Cl. 51.
 Lamm Brothers, Inc., Baltimore, Md. 834,790, pub. 6-20-67. Cl. 39.
 Laubhoff Grain Co., Danville, Ill. 834,545, pub. 6-20-67. Cl. 5.
 Lazier, J. F., Mfg. Co., Inc., by Mil-Kay Corp. of America, St. Louis, Mo. 328,965, 12(c) pub. 9-5-67. Cl. 45.
 Lazier, J. F., Mfg. Co., Inc., by Ma Cherie Sales Corp. of America, St. Louis, Mo. 341,558, 12(c) pub. 9-5-67. Cl. 45.
 Leclabart, J., Paris, France. 834,804, pub. 6-20-67. Cl. 40.
 Ledbetter Feed and Seed Co.: See—
 Ledbetter, George.
 Ledbetter, George, d.b.a. Ledbetter Feed and Seed Co., Ralls, Tex. 834,522, pub. 6-20-67. Cl. 1.
 Leitner Equipment Co., Franklin Park, Ill. 834,583, pub. 6-20-67. Multiple Class (Classes 13 and 31).
 Lenox, Inc., Trenton, N.J. 834,554, pub. 6-20-67. Cl. 8.
 Leonard, Ward, Electric Co., Mount Vernon, N.Y. 718,503, can. Cl. 21.
 Library of Sound Education, Inc., New York, N.Y. 718,563, can. Cl. 36.
 Lichty Printing & Business Forms, Inc., Phoenix, Ariz. 718,575, can. Cl. 37.
 Lignum-Vitae Products Corp., Jersey City, N.J. 834,526, pub. 6-20-67. Multiple Class (Classes 2, 8, 23, 34, 37, and 50).
 Lilly, Eli, & Co., Indianapolis, Ind. 236,278, ren. 9-5-67. Cl. 6.
 Lilly, Eli, & Co., Indianapolis, Ind. 433,691, ren. 9-5-67. Cl. 18.
 Lilly, Eli, & Co., Indianapolis, Ind. 433,905, ren. 9-5-67. Cl. 18.
 Lily White Sales Co., Inc., New York, N.Y. 834,839, pub. 6-20-67. Cl. 44.
 Limestone Products Corp. of America, Newton, N.J. 434,010, ren. 9-5-67. Cl. 1.
 Limestone Products Corp. of America, Newton, N.J. 434,012-13, ren. 9-5-67. Cl. 1.
 Link Research Corp., Beverly Hills, Calif. 718,732, can. Cl. 22.
 Lito Corp., Inc., Las Vegas, Nev. 834,875, pub. 6-20-67. Cl. 51.
 Littleplay Co., The, Park Ridge, Ill. 718,554, can. Cl. 34.
 Litton Systems, Inc., Silver Spring, Md. 834,700, pub. 6-20-67. Cl. 26.
 Logan Co., Louisville, Ky. 834,567, pub. 4-25-67. Cl. 12.
 Lowe, Joe, Co.: See—
 Consolidated Foods Corp.
 Lowe, Joe, Corp.
 Lowe, Joe, Corp., New York, N.Y., to Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 431,264, ren. 9-5-67. Cl. 46.
 Lowell Toy Corp., New York, N.Y. 718,523, can. Cl. 22.
 Lubrizol Corp., The, Wickliffe, Ohio. 834,593, pub. 12-29-64. Cl. 16.
 Lukens Steel Co., Coatesville, Pa. 834,587, pub. 6-20-67. Cl. 14.
 Luyties, Herman C. G., and F. A. Luyties, St. Louis, Mo., to Standard Laboratories, Inc., Morris Plains, N.J. 29,840, ren. 9-5-67. Cl. 51.
 Lyle, David E., Atlanta, Ga. 834,678, pub. 6-20-67. Cl. 23.
 M-H Equipment Co., Inc., Duncanville, Tex. 834,673, pub. 6-20-67. Cl. 23.
 Ma Cherie Sales Corp. of America: See—
 Lazier, J. F., Mfg. Co., Inc.
 Mack, William, Commack, N.Y. 834,703, pub. 6-20-67. Cl. 26.
 Madison Chemical Corp., Maywood, Ill. 834,551, pub. 6-20-67. Cl. 6.
 Magram, Lew, Shirtmaker to the Stars, Ltd., New York, N.Y. 834,782, pub. 6-20-67. Cl. 39.
 Mahaffy & Harder Engineering Co., Totowa, N.J. 834,682, pub. 6-20-67. Cl. 23.
 Malleable Iron Range Co., Beaver Dam, Wis. 63,856, ren. 9-5-67. Cl. 34.
 Man, Edward M.: See—
 Tech Serv, Inc.
 Manco Watch Strap Co., Inc.: See—
 Gusa, David, & Co.
 Mandel's of California, to Mandel's of California, Los Angeles, Calif. 435,182, ren. 9-5-67. Cl. 39.
 Marble Crete Co.: See—
 Bennett, William J.
 Martel Electronics Sales, Inc., Los Angeles, Calif. 834,620-1, pub. 6-20-67. Multiple Class (Classes 21 and 36).
 Martinez Food Canners, Ltd., Martinez, Calif. 834,850, pub. 6-20-67. Cl. 46.
 Marubeni-Iida (America), Inc., New York, N.Y. 718,497, can. Cl. 21.
 Massa, James S., d.b.a. Heidi Sport Caps, Oakland, Calif. 834,787, pub. 6-20-67. Cl. 39.
 Mastic Tile Corp. of America, The, Newburgh, N.Y. 718,448, can. Cl. 12.
 Materiel et Auxiliaire de Signalisation et de Controle pour l'Automatisme Auxitrol, Societe Anonyme, Courbevoie, Seine, France. 834,690, pub. 6-20-67. Cl. 26.

Mathatronics, Inc.: See—
 Barry-Wright Corp.
 May, Charles N., & Co., Chicago, Ill. 834,858, pub. 6-20-67. Cl. 47.
 May, John C.: See—
 Space-Craft Trailer Manufacturers, Inc.
 McCormick & Co., Inc.: See—
 Baker Extract Co.
 McCrory Corp., Tulsa, Okla. 834,667, pub. 6-20-67. Cl. 23.
 McDermott, Clark Cutler, Co., Franklin, Mass. 834,648, pub. 6-20-67. Cl. 23.
 Mead Corp., The, Dayton, Ohio. 834,750, pub. 6-20-67. Cl. 37.
 Mead Johnson & Co., Evansville, Ind. 834,005, pub. 6-20-67. Cl. 18.
 Medical Services, Inc., Dallas, Tex. 834,820, pub. 6-20-67. Cl. 44.
 Medical Supply Co., Rockford, Ill. 834,831-2, pub. 6-20-67. Cl. 44.
 Mel Rose Mfg. Co., to Mel Rose Mfg. Co., Dallas, Tex. 423,295, ren. 9-5-67. Cl. 39.
 Melville Shoe Corp., New York, N.Y. 834,779, pub. 5-23-67. Cl. 39.
 Men's Wear Service Corp., Chicago, Ill., by Esquire, Inc., New York, N.Y. 224,976, 12(c) pub. 9-5-67. Cl. 38.
 Meridian Enterprises, Inc., Los Angeles, Calif. 834,894, pub. 6-20-67. Cl. 101.
 Metalwash Machinery Corp., Elizabeth, N.J. 834,720, pub. 6-20-67. Cl. 31.
 Metro-Goldwyn Pictures Corp., New York, N.Y. 231,203, ren. 9-5-67. Cl. 26.
 Miami Cookware Manufacture, Inc., Hialeah, Fla. 834,584, pub. 6-20-67. Cl. 13.
 Michell, Henry F., Co., King of Prussia, Pa. 718,388, can. Cl. 1.
 Microsound, Inc., Culver City, Calif. 718,543, can. Cl. 26.
 Midwest Tire Co., The, St. Louis, Mo. 834,739, pub. 9-6-66. Cl. 35.
 Midwest Tire Distributors, Inc., Adrian, Mich. 834,607, pub. 9-6-66. Multiple Class (Classes 19, 21, 23, 31, and 35).
 Mil-Coa Co., The, to Grand Pop Bottling Co., Cincinnati, Ohio. 233,567, ren. 9-5-67. Cl. 45.
 Mil-Kay Corp. of America: See—
 Lazier, J. F., Mfg. Co., Inc.
 Miller, David, d.b.a. The Nexol Co., River Edge, N.J. 834,590, pub. 6-20-67. Cl. 15.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 834,540, pub. 6-20-67. Cl. 4.
 Mohawk Condensed Milk Co., Saint Johnsville, N.Y., to Carnation Co., Los Angeles, Calif. 63,284, ren. 9-5-67. Cl. 46.
 Mohawk Liqueur Corp., d.b.a. George M. Tiddy & Sons, Ltd., Detroit, Mich. 834,863-4, pub. 6-20-67. Cl. 49.
 Monogram Publications, Inc., Inglewood, Calif. 718,589, can. Cl. 38.
 Monsanto Chemical Co., by Monsanto Co., St. Louis, Mo. 434,069, 12(c) pub. 9-5-67. Cl. 6.
 Monsanto Co.: See—
 Monsanto Chemical Co.
 Morris, Philip, Inc., New York, N.Y. 834,599, pub. 6-20-67. Cl. 17.
 Moru Candy Co., Roselle, N.J. 834,853, pub. 6-20-67. Cl. 46.
 Motley, Atwell, Albertville, Ala. 834,644, pub. 6-20-67. Cl. 22.
 Mutual Shoe Sales Co.: See—
 Admiral Shoe Corp.
 N.V. Koninklijke Veenendaalse Sijet- en Vijfschacht-Fabriek Voorheen Weduwe S. S. Van Schuppen en Zoon, Veenendaal, Netherlands. 834,816, pub. 6-20-67. Cl. 43.
 National Fashions Corp.: See—
 Codette Mfg. Co., The.
 National Oil Products Co., now by change of name Nopco Chemical Co., Harrison, N.J., to Diamond Alkali Co., Cleveland, Ohio. 433,702, ren. 9-5-67. Cl. 11.
 Nekoosa-Edwards Paper Co.: See—
 Whiting-Plover Paper Co.
 New Plastic Corp., Los Angeles, Calif. 442,273, 12(c) pub. 9-5-67. Cl. 23.
 Newport Shoe Mfg. Corp., Lowell, Mass. 718,268, can. Cl. 39.
 Newsweek, Inc., New York, N.Y. 718,735-8, can. Cl. 38.
 New Ulm Roller Mill Co., New Ulm, to International Milling Co., Inc., Minneapolis, Minn. 227,427, ren. 9-5-67. Cl. 46.
 Nexol Co., The: See—
 Miller, David.
 Nopco Chemical Co.: See—
 National Oil Products Co.
 Norcross, to Norcross, Inc., New York, N.Y. 428,843-5, ren. 9-5-67. Cl. 38.
 Norcross, to Norcross, Inc., New York, N.Y. 428,856, ren. 9-5-67. Cl. 38.
 Norcross, to Norcross, Inc., New York, N.Y. 428,858, ren. 9-5-67. Cl. 38.
 Norcross, to Norcross, Inc., New York, N.Y. 428,873-4, ren. 9-5-67. Cl. 38.
 Norcross, to Norcross, Inc., New York, N.Y. 428,903, ren. 9-5-67. Cl. 38.
 Norcross, Inc.: See—
 Norcross.
 North, Evelyn L., d.b.a. Jo-Nor Mfg. Co., Fort Plain, N.Y. 718,517, can. Cl. 22.
 Norton Co., Worcester, Mass. 718,428, can. Cl. 6.
 Norton Co., Worcester, Mass. 834,591, pub. 6-20-67. Cl. 15.
 Noxell Corp., Baltimore, Md. 834,880-1, pub. 6-20-67. Cl. 51.
 Odell Co., Inc., The, Newark, N.J. 718,688, can. Cl. 51.
 Ohrbach's, Inc., New York, N.Y. 834,801-2, pub. 6-20-67. Cl. 39.
 Oilstate, Inc., Tulsa, Okla. 718,390, can. Cl. 1.

Okonite Co., The, to The Okonite Co., Passaic, N.J. 432,088, ren. 9-5-67. Cl. 21.
 O'Leary, Lydia, Inc., New York, N.Y. 718,679, can. Cl. 51.
 Olinkraft, Inc., West Monroe, La., from Olin Mathieson Chemical Corp., New York, N.Y. 834,527, pub. 3-28-67. Cl. 2.
 Olin Mathieson Chemical Corp.: See—
 Olinkraft, Inc.
 Olivetti, Ing. C., & C., S.p.A., Ivrea, Italy. 834,707, pub. 6-20-67. Cl. 26.
 Omega Lighting, Inc., Brooklyn, N.Y. 834,635, pub. 6-20-67. Cl. 21.
 Orton Crane & Shovel Co., Chicago, Ill. 834,656, pub. 6-20-67. Cl. 23.
 Oster, John, Mfg. Co., Milwaukee, Wis. 834,711, pub. 6-20-67. Cl. 29.
 Owens-Illinois, Inc., Toledo, Ohio. 834,728, pub. 6-20-67. Cl. 33.
 Pacific Alaska Fisheries, Inc.: See—
 Pacific American Fisheries, Inc.
 Pacific American Fisheries, Inc., South Bellingham, to Pacific Alaska Fisheries, Inc., Seattle, Wash. 434,983, ren. 9-5-67. Cl. 46.
 Pacific Tile & Porcelain Co., Paramount, Calif. 718,455, can. Cl. 12.
 Palmer, Arnold, Golf Co., Chattanooga, Tenn. 834,646, pub. 6-20-67. Cl. 22.
 Panavision, Inc., Los Angeles, Calif. 834,705, pub. 6-20-67. Cl. 26.
 Pande, Cameron, & Co. of New York, Inc., New York, N.Y. 834,814, pub. 6-20-67. Cl. 42.
 Pardee, C. G., Co., Inc., Long Island City, N.Y. 718,420, can. Cl. 6.
 Parfumerie Fragonard G. Fuchs & Cie, assor. to Hudnut Sales Co., Inc., to Parfumerie Fragonard Georges Fuchs & Cie, Paris, France. 432,408, ren. 9-5-67. Cl. 51.
 Parfumerie Fragonard Georges Fuchs & Cie: See—
 Parfumerie Fragonard G. Fuchs & Cie, assor. to Hudnut Sales Co., Inc.
 Parke, Davis & Co., Detroit, Mich. 834,604, pub. 6-20-67. Cl. 18.
 Parker-Hannifin Corp., Cleveland, Ohio. 834,580, pub. 6-20-67. Cl. 13.
 Parks, H. G., Inc., Baltimore, Md. 718,611, can. Cl. 46.
 Pascal Co., Inc., Seattle, Wash. 834,822, pub. 6-20-67. Cl. 44.
 Pavela, Robert S., d.b.a. E-Z Toy Co., Rockwood, Mich. 718,510, can. Cl. 22.
 Pearlduck, Inc.: See—
 Bresnick, Carl S.
 Peel's Poultry Farm, Ltd., Port Perry, Ontario, Canada. 834,518, pub. 6-20-67. Cl. 1.
 Permalite Corp., New York, N.Y., to Greco, Inc., Philadelphia, Pa. 433,858, ren. 9-5-67. Cl. 1.
 Pest-Guard Products, Inc., d.b.a. The Vigil Co., Dallas, Tex. 718,576, can. Cl. 37.
 Pettibone Mulliken Corp., Chicago, Ill. 428,841, ren. 9-5-67. Cl. 23.
 Pfanzstiel Laboratories, Inc., Waukegan, Ill. 834,560, pub. 6-20-67. Cl. 10.
 Pfaudler Co., The, by Ritter Pfaudler Corp., Rochester, N.Y. 432,268, 12(c) pub. 9-5-67. Cl. 23.
 Pfizer, Chas., & Co., Inc., New York, N.Y. 834,541, pub. 6-20-67. Cl. 4.
 Phelps Dodge Copper Products Corp.: See—
 Habirshaw, W. M.
 Phelps Dodge Copper Products Corp., New York, N.Y. 430,782, 12(c) pub. 9-5-67. Cl. 21.
 Phi Beta, Chicago, Ill. 834,907, pub. 3-16-65. Cl. 200.
 Pierce, M. H., & Co., Port Chester, N.Y. 834,773, pub. 6-20-67. Cl. 39.
 Pierre, Jon, Cosmetics, Inc., New York, N.Y. 718,687, can. Cl. 51.
 Pillsbury Co., The, Minneapolis, Minn. 718,741, can. Cl. 46.
 Plant Protection, Ltd., Kent, England. 834,660, pub. 6-20-67. Cl. 23.
 Plastic & Metal Fabricators, Inc., West Haven, Conn. 834,736, pub. 6-20-67. Cl. 34.
 Plebe Sportswear Co., Inc., New York, N.Y. 834,777, pub. 6-20-67. Cl. 39.
 Plymouth Corp., The, Cleveland, Ohio. 834,666, pub. 6-20-67. Cl. 23.
 Plymouth Wholesale Corp., New York, N.Y., from Roddy Recreation Products, Inc., Gardena, Calif. 834,639-41, pub. 6-20-67. Cl. 22.
 Plywall Products Co., Inc., Fort Wayne, Ind. 718,456, can. Cl. 12.
 Polcini Mfg. Corp., Long Island City, N.Y. 834,710, pub. 6-20-67. Cl. 28.
 Polk Miller Drug Co., to Polk Miller Products Corp., Richmond, Va. 66,521, ren. 9-5-67. Cl. 18.
 Polk Miller Products Corp.: See—
 Polk Miller Drug Co.
 Polymers, Inc., Middlebury, Vt. 718,384, can. Cl. 1.
 Procter & Gamble Co., The: See—
 Kirk, James S., & Co.
 Procter & Gamble Co., The, Cincinnati, Ohio. 834,885, pub. 6-20-67. Cl. 51.
 Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 834,712-14, pub. 6-20-67. Cl. 29.
 Puritan Stationery Co., Inc., Philadelphia, Pa. 718,570, can. Cl. 37.
 Pyramid Products Corp., Philadelphia, Pa. 718,707, can. Cl. 101.
 Quaker Oats Co., The, Chicago, Ill. 834,843, pub. 6-20-67. Cl. 46.
 Radiant Color Co., Richmond, Calif. 834,557, pub. 6-20-67. Cl. 10.
 Ragle, J. M., Industries, Inc., Grandview, Mo. 834,737, pub. 6-20-67. Cl. 34.
 Ramer Industries, Inc., Brooklyn, N.Y. 834,800, pub. 6-20-67. Cl. 39.
 Ramsay, Clinton S. L.: See—
 Ford, Gertrude H.
 Ramsey, Taufek H., d.b.a. West Coast Sales, Campbell, Calif. 834,747, pub. 6-20-67. Cl. 37.
 Rand McNally & Co., Chicago, to Rand McNally & Co., Skokie, Ill. 232,989, ren. 9-5-67. Cl. 38.
 Rayclad Tubes, Inc., Redwood City, Calif. 834,731, pub. 6-20-67. Cl. 34.
 Reed, Helen, Milwaukee, Wis. 834,904, pub. 6-20-67. Cl. 107.
 Reefer-Galler, Inc., New York, N.Y. 718,726, can. Cl. 6.
 Reeve Chemical Co., Inc., New York, N.Y. 431,025, ren. 9-5-67. Cl. 18.
 Reiss-Premier Corp., The, West New York, N.J., to S. M. Frank & Co., Inc., New York, N.Y. 431,467, ren. 9-5-67. Cl. 8.
 Renewal Toy Corp., Mineola, N.Y. 718,524, can. Cl. 22.
 Restaurant Vasata: See—
 Vasata, Jaroslav.
 Retail Credit Co., Atlanta, Ga. 834,895, pub. 6-20-67. Cl. 101.
 Reynolds, John, Bronxville, N.Y. 834,805, pub. 6-20-67. Cl. 41.
 Riccar America Co., Anaheim, Calif. 834,686, pub. 6-20-67. Cl. 23.
 Rich Art Color Co., Inc., New York, N.Y. 834,596, pub. 6-20-67. Cl. 16.
 Richfield Oil Corp., Los Angeles, Calif. 834,589, pub. 6-20-67. Cl. 15.
 Rioja Santiago, S.A.: See—
 Bodegas Rioja Santiago, S.A.
 Ritter Pfaudler Corp.: See—
 Pfaudler Co., The.
 Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Inc., by Dan River Mills, Inc., Danville, Va. 432,463, 12(c) pub. 9-5-67. Cl. 39.
 Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Inc., by Dan River Mills, Inc., Danville, Va. 432,508, 12(c) pub. 9-5-67. Cl. 42.
 Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Inc., by Dan River Mills, Inc., Danville, Va. 432,948, 12(c) pub. 9-5-67. Cl. 42.
 Riverside & Dan River Cotton Mills, Inc., by Dan River Mills, Inc., Danville, Va. 433,024, 12(c) pub. 9-5-67. Cl. 42.
 Riverton Cosmetic Laboratories: See—
 Riverton Laboratories, Inc.
 Riverton Laboratories, Inc., d.b.a. Riverton Cosmetic Laboratories, Newark, N.J. 834,872, pub. 6-20-67. Cl. 51.
 Riviana Foods, Inc., Houston, Tex. 834,849, pub. 6-20-67. Cl. 46.
 Robert, P., Inc., New York, N.Y. 834,547, pub. 6-20-67. Cl. 6.
 Roberts, Weldon, Rubber Co., Newark, N.J. 127,123, 12(c) pub. 9-5-67. Cl. 4.
 Rock-A-Teria: See—
 Garber, Willie P.
 Roddy Recreation Products, Inc.: See—
 Plymouth Wholesale Corp.
 Rola Celestion, Ltd.: See—
 Electrical Mfg. & Plating Co.
 Root Mfg. Co., Inc., Baxter Springs, Kans. 834,674, pub. 6-20-67. Cl. 23.
 Roval Co.: See—
 Frohring, William O.
 Roy, Rob. Co., Inc., New York, N.Y. 834,765, pub. 6-20-67. Cl. 39.
 S.J.B., Inc., Los Angeles, Calif. 834,740, pub. 6-20-67. Cl. 36.
 S.P.A. Imprese Commerciali e Industriali Maglierificio Santo Dasso & Figli, Genoa, Italy. 834,771, pub. 6-20-67. Cl. 39.
 Saco Products Co., Akron, Ohio. 834,592, pub. 6-20-67. Cl. 15.
 Saks & Co., New York, N.Y. 718,515, can. Cl. 22.
 Santa Monica Bank, Santa Monica, Calif. 718,711, can. Cl. 102.
 Saticoy Lemon Association: See—
 Fillmore Lemon Association.
 Schaefer, R. & H., Industries, Inc., New York, N.Y. 834,817, pub. 6-20-67. Cl. 43.
 Schiek Products, Inc., Belmont, Calif. 834,649, pub. 6-20-67. Cl. 23.
 Schluderberg, Wm., The-T. J. Kurdie Co., to Schluderberg-Kurdie Co., Inc., Baltimore, Md. 230,144, ren. 9-5-67. Cl. 46.
 Schluderberg-Kurdie Co., Inc.: See—
 Schluderberg, Wm., The-T. J. Kurdie Co.
 Schmid, Julius, Inc., New York, N.Y. 834,784, pub. 6-20-67. Cl. 39.
 Schoeneman, J., Inc., Baltimore, to J. Schoeneman, Inc., Owings Mills, Md. 229,794, ren. 9-5-67. Cl. 39.
 Schratz Products, Inc., Detroit, Mich. 834,876, pub. 6-20-67. Cl. 51.
 Schriver, Helen M., d.b.a. Western Yeast Products, Spokane, Wash. 834,601, pub. 6-20-67. Cl. 18.
 Schwartz, Frederick A., Dobbs Ferry, N.Y. 834,868, pub. 6-20-67. Cl. 50.
 Schwarzkopf, Hans, Hamburg-Altona, Germany. 718,681, can. Cl. 51.
 Scott, O. M., & Sons Co., Marysville, Ohio. 834,555, pub. 6-20-67. Cl. 10.
 Sears, Roebuck & Co., Chicago, Ill. 834,819, pub. 12-20-66. Cl. 44.
 Seaway Hotels, Ltd., Toronto, Ontario, Canada. 718,702, can. Cl. 100.
 Sellon, Inc., Toledo, Ohio. 834,613, pub. 6-20-67. Cl. 19.

- Selchow & Richter Co., Bay Shore, N.Y. 834,642, pub. 6-20-67. Cl. 22.
- Servus Rubber Co., The, Rock Island, Ill. 834,783, pub. 4-11-67. Cl. 39.
- Seven Eleven Stores: See—
Southland Corp., The.
- Shenango Ceramics, Inc., New Castle, Pa. 834,715, pub. 6-20-67. Cl. 30.
- Shenango Ceramics, Inc., New Castle, Pa. 834,719, pub. 6-20-67. Cl. 30.
- Shriver, Helen M., d.b.a. Western Yeast Products, Spokane, Wash. 834,602, pub. 6-20-67. Cl. 18.
- Shutter Bug, Inc.: See—
Siegel, Max, Associates, Inc.
- Siegel, Max, Associates, Inc., from Shutter Bug, Inc., New York, N.Y. 834,791, pub. 6-20-67. Cl. 39.
- Siegler, Lear, Inc., Santa Monica, from Cimron Corp., San Diego, Calif. 834,659, pub. 6-20-67. Cl. 26.
- Shalair Refining Co., New York, N.Y. 834,539, pub. 6-20-67. Cl. 4.
- Snij-It, Wildwood, N.J. 718,731, can. Cl. 21.
- Sloan, Allan, d.b.a. Brent Products Co., Detroit, Mich. 834-837-8, pub. 6-20-67. Cl. 44.
- Smith, G. E., Inc., Pittsburgh, Pa. 834,543-4, pub. 6-20-67. Cl. 5.
- Smooth-On Mfg. Co., Jersey City, N.J. 834,516, pub. 6-20-67. Multiple Class (Classes 1, 5, 12, 18, and 21).
- Societa Metallurgica Italiana, Florence, Italy. 834,579, pub. 6-20-67. Cl. 13.
- Societe Anonyme de Diffusion Internationale de Parfumerie, to Societe S.C.A.R.P., Paris, France. 430,958, ren. 9-5-67. Cl. 51.
- Societe S.C.A.R.P.: See—
Societe Anonyme de Diffusion Internationale de Parfumerie.
- Sondra Mfg. Co., Inc., New York, N.Y. 834,758-9, pub. 5-31-66. Cl. 39.
- Southland Corp., The, d.b.a. Seven Eleven Stores, Dallas, Tex. 718,617, can. Cl. 46.
- Southland Engineering, Inc., Santa Monica, Calif. 718,516, can. Cl. 22.
- Space-Craft Trailer Manufacturers, Inc., Blue Springs, from John C. May, Independence, Mo. 834,609, pub. 5-23-67. Cl. 19.
- Span-Deck, Inc., Franklin, Tenn. 834,680, pub. 6-20-67. Cl. 23.
- Sperry Rand Corp., New York, N.Y. 834,751, pub. 6-20-67. Cl. 37.
- Spirit & Co., Inc., Waterbury, Conn. 434,975, ren. 9-5-67. Cl. 18.
- Stadler Fertilizer Co., The, Cleveland, Ohio. 834,559, pub. 6-20-67. Cl. 10.
- Staedtler, J. S., Nuernberg, Germany. 834,691, pub. 6-20-67. Multiple Class (Classes 26 and 37).
- Stanbee Co., Inc., Hasbrouck Heights, N.J. 834,525, pub. 6-20-67. Cl. 1.
- Standard Brands Inc., New York, N.Y. 834,847, pub. 6-20-67. Cl. 46.
- Standard Fuel Engineering Co., Detroit, Mich. 431,740, ren. 9-5-67. Cl. 12.
- Standard Laboratories, Inc.: See—
Luyties, Herman C. G., and F. A. Luyties.
- Stanley Furniture Co., Inc., Stanleytown, Va. 834,727, pub. 6-20-67. Cl. 32.
- State Fair Provision Co.: See—
State Fair Provision Co., Inc.
- State Fair Provision Co., Inc., d.b.a. State Fair Provision Co., Philadelphia, Pa. 834,844, pub. 8-10-65. Cl. 46.
- Steadman Industries, Ltd., Cooksville, Ontario, Canada. 834-608, pub. 3-28-67. Multiple Class (Classes 19 and 23).
- Stebco Products Corp., from Stein Bros. Mfg. Co., Chicago, Ill. 834,532, pub. 5-7-63. Cl. 3.
- Stein Bros. Mfg. Co.: See—
Stebco Products Corp.
- Steinway, Max P., Detroit, Mich. 834,810, pub. 4-11-67. Cl. 42.
- Sterling Drug, Inc., New York, N.Y. 718,481-2, can. Cl. 18.
- Stetson, John B., Co., by John B. Stetson Co., Philadelphia, Pa. 431,356, 12(c) pub. 9-5-67. Cl. 39.
- Stetson Shoe Co., Inc., The, South Weymouth, Mass. 718,591, can. Cl. 39.
- Stonetree Chemical Corp., Chicago, Ill. 834,588, pub. 5-10-66. Cl. 15.
- Stowe-Woodward, Inc., Newton, Mass. 834,637, pub. 3-8-66. Cl. 22.
- Strathmore Paper Co., West Springfield, Mass. 718,577, can. Cl. 37.
- Stuart Co., The, Pasadena, Calif. 718,485, can. Cl. 18.
- Stull, Charles R., d.b.a. Hortiscape, Ann Arbor, Mich. 834-866, pub. 6-20-67. Cl. 50.
- Sumitomo Machinery Co., Ltd., Osaka, Japan. 834,670, pub. 6-20-67. Cl. 23.
- Supreme Builders, Inc., Phoenix, Ariz. 718,716, can. Cl. 103.
- Surelock Mfg. Co., Inc., Newark, N.J. 834,627, pub. 6-20-67. Cl. 21.
- Synco Machine Co., Perth Amboy, N.J. 834,663, pub. 6-20-67. Cl. 23.
- Szekely, Edmond B., also known as Edmond S. Bordeaux, San Diego, Calif. 834,578, pub. 10-11-66. Cl. 13.
- Szpur, Roman, Dayton, Ohio. 834,623, pub. 6-20-67. Cl. 21.
- Taber Pump Co., Inc., Buffalo, N.Y. 834,657, pub. 6-20-67. Cl. 23.
- Tandy Corp., Forth Worth, Tex. 834,803, pub. 6-20-67. Cl. 39.
- Tappan Co., The, Mansfield, Ohio. 834,724-5, pub. 6-20-67. Cl. 32.
- Tech Serv.: See—
Tech Serv, Inc.
- Tech Serv, Inc., College Park, from E. M. Man, Jr., d.b.a. Tech Serv, Silver Spring, Md. 718,490, can. Cl. 21.
- Telrex, Inc., Asbury Park, N.J. 834,625, pub. 6-20-67. Cl. 21.
- Teltacher Corp., The, New York, N.Y. 834,835, pub. 6-20-67. Cl. 44.
- Tensitron, Inc., Harvard, Mass. 834,633, pub. 6-20-67. Cl. 21.
- Texize Chemicals, Inc., Greenville, S.C. 834,550, pub. 6-20-67. Cl. 6.
- Therm-O-Lux International, Inc., Cambridge, Mass. 834,519-20, pub. 3-7-67. Cl. 1.
- Tiddy, George M., & Sons, Ltd.: See—
Mohawk Liqueur Corp.
- Timberland Machines, Inc., Lancaster, N.H. 834,681, pub. 6-20-67. Cl. 23.
- Timely Products Corp., Bridgeport, Conn. 834,630, pub. 6-20-67. Cl. 21.
- Topper's Steakhouses, Roseville, Calif. 834,889, pub. 6-13-67. Cl. 100.
- Torch Rubber Co., Inc., New York, N.Y. 699,037, can. Cl. 39.
- Torres, Miguel, Panades, Spain. 834,861, pub. 6-20-67. Cl. 47.
- Totem International Shipping Corp., Nassau, Bahamas. 718-719, can. Cl. 105.
- Tram Electronics, Inc., Winalmsquam, N.H. 834,629, pub. 6-20-67. Cl. 21.
- Tri-Co Almonds, Inc., Chico, Calif. 834,852, pub. 6-20-67. Cl. 46.
- Tropical Oil Co., The, Cleveland, Ohio, by Hooker Chemical Corp., Niagara Falls, N.Y. 65,840, 12(c) pub. 9-5-67. Cl. 16.
- Trubek Laboratories, The, East Rutherford, N.J. 718,588, can. Cl. 38.
- Truck Center, Inc., St. Louis, Mo. 834,615, pub. 6-20-67. Cl. 19.
- Tyler, W. S., Co., The, Cleveland, by W. S. Tyler, Inc., Mentor, Ohio. 233,193, 12(c) pub. 9-5-67. Cl. 18.
- Tyler, W. S., Inc.: See—
Tyler, W. S., Co., The.
- Ultronic Systems Corp., Pennsauken, N.J. 834,692, pub. 6-20-67. Cl. 26.
- Unedda Doll Co., Inc., Brooklyn, N.Y. 834,638, pub. 9-7-65. Cl. 22.
- Union Camp Corp., New York, N.Y. 834,523, pub. 6-20-67. Multiple Class (Classes 1 and 50).
- Union Sales Corp., Columbus, Ind. 718,648, can. Cl. 46.
- Uniroyal, Inc.: See—
Eureka Fire Hose Co.
- Goodyear's Metallic Rubber Shoe Co., The.
- United States Rubber Co.
- United Blacuit Co. of America: See—
Keebler Co.
- United Merchants & Manufacturers, Inc.: See—
Atlantic Mills, The.
- Cohn Hall Marx Co.
- United Shoe Machinery Corp., Boston, Mass. 834,671, pub. 6-20-67. Cl. 23.
- United States Ceramic Tile Co.: See—
United States Quarry Tile Co.
- United States Quarry Tile Co., East Sparta, by United States Ceramic Tile Co., Canton, Ohio. 231,136, 12(c) pub. 9-5-67. Cl. 12.
- United States Rubber Co., to Uniroyal, Inc., New York, N.Y. 232,631, ren. 9-5-67. Cl. 39.
- United States Rubber Co., New Brunswick, N.J., and New York, N.Y., to Uniroyal, Inc., New York, N.Y. 235,508, ren. 9-5-67. Cl. 39.
- Universal Cigar Corp., New York, N.Y. 834,598, pub. 6-20-67. Cl. 17.
- Universal Cigar Corp., New York, N.Y. 834,600, pub. 6-20-67. Cl. 17.
- Valspar Corp., The, Rockford, Ill. 834,566, pub. 6-20-67. Cl. 12.
- Vasata, Jaroslav, d.b.a. Restaurant Vasata, New York, N.Y. 834,888, pub. 6-20-67. Cl. 100.
- Venda-Can, Inc., Hartford, Conn. 718,733, can. Cl. 23.
- Verenigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Upper Austria, Austria. 718,457, can. Cl. 13.
- Verley, Albert, & Co.: See—
Verley, Albert, Inc.
- Verley, Albert, Inc., Chicago, Ill., to Albert Verley & Co., Linden, N.J. 229,695, ren. 9-5-67. Cl. 6.
- Vernco Corp., Columbus, Ind. 834,729, pub. 1-12-65. Cl. 34.
- Vernon Co., The, Newton, Iowa. 718,578, can. Cl. 37.
- Vicon Instrument Co., The, Colorado Springs, Colo. 834,825, pub. 6-20-67. Cl. 44.
- Vigil Co., The: See—
Pest-Guard Products, Inc.
- Vigilant Products Co., to Vigilant Products Co., Inc., New York, N.Y. 430,967, ren. 9-5-67. Cl. 6.
- Vigilant Products Co., Inc.: See—
Vigilant Products Co.
- Wayne-Gossard Corp., from Wayne Knitting, Humboldt, Tenn. 834,785, pub. 3-14-67. Cl. 39.
- Wayne Home Equipment Co., Inc., Fort Wayne, Ind. 718,537, can. Cl. 23.
- Wayne Knitting: See—
Wayne-Gossard Corp.
- Weber, Arnold J., New York, N.Y. 834,761, pub. 6-20-67. Cl. 39.
- Weber, Arnold J., New York, N.Y. 834,806, pub. 6-20-67. Cl. 42.
- Well Ceramics & Glass, Inc., New York, N.Y. 834,717, pub. 6-20-67. Cl. 30.
- Wells, Ralph, & Co., Monmouth, Ill. 834,848, pub. 6-20-67. Cl. 46.
- Wembley, Inc., New Orleans, La. 834,763, pub. 6-20-67. Cl. 39.

- Wembley, Inc., New Orleans, La. 834,766, pub. 6-20-67. Cl. 39.
- West Coast Sales: See—
Ramsey, Taufek H.
- West Point-Pepperell, Inc., West Point, Ga. 834,812, pub. 6-20-67. Cl. 42.
- West Virginia Pulp & Paper Co., New York, N.Y. 834,749, pub. 6-20-67. Cl. 37.
- Western Yeast Products: See—
Schriver, Helen M.
- Westlake Plastics Co., Lenni Mills, Pa. 834,517, pub. 3-21-67. Cl. 1.
- Westward Coach Mfg. Co., Inc., Lafayette, Ind. 834,606, pub. 11-24-64. Cl. 19.
- Weyerhaeuser Co., Tacoma, Wash. 718,414, can. Cl. 2.
- Whaledent, Inc., Brooklyn, N.Y. 834,821, pub. 6-20-67. Cl. 44.
- White Laboratories, Inc., Kenilworth, N.J. 432,210, ren. 9-5-67. Cl. 18.
- White, S. S., Co.: See—
White, S. S., Dental Mfg. Co., The.
- White, S. S., Dental Mfg. Co., The, by S. S. White Co., Philadelphia, Pa. 30,360, 12(c) pub. 9-5-67. Cl. 44.
- Whiting-Plover Paper Co., Stevens Point, to Nekooosa-Edwards Paper Co., Port Edwards, Wis. 433,993, ren. 9-5-67. Cl. 37.
- Wica Chemicals, Inc., Charlotte, N.C. 834,549, pub. 6-20-67. Cl. 6.
- Wickes Corp., The, Saginaw, Mich. 834,594, pub. 6-20-67. Cl. 16.
- Williams, Beverly E., LaGrange Park, Ill., from Hodges Research & Development Co., New York, N.Y. 834,811, pub. 6-20-67. Cl. 42.
- Wilson Mfg. Co.: See—
Wimco Mfg. Co.
- Wimco Mfg. Co., Chicago, Ill., from Wilson Mfg. Co., Memphis, Tenn. 718,530-1, can. Cl. 23.
- Winarick, Ar., Inc., New York, N.Y. 834,879, pub. 6-20-67. Cl. 51.
- Winer, Arthur, Inc., Gary, Ind. 834,789, pub. 6-20-67. Cl. 39.
- World Mart, Inc., Miami, Fla. 834,718, pub. 6-20-67. Cl. 30.
- Xerox Corp., Rochester, N.Y. 834,745, pub. 6-20-67. Cl. 37.
- Yardney Chemicals, Inc., New York, N.Y. 834,824, pub. 6-20-67. Cl. 44.
- Yarte Tile Co., Woodville, Tex. 834,569, pub. 6-20-67. Cl. 12.
- Young, C. A., Products Corp., Brookfield, Ill. 834,662, pub. 6-20-67. Cl. 23.
- Young, Sidney G., d.b.a. Kleen-Kake Co., London, England. 718,665, can. Cl. 50.
- Young, William E., & Co., Saddle Brook, N.J. 834,084, pub. 6-20-67. Cl. 23.
- Youngstown Welding & Engineering Co., The, Youngstown, Ohio. 834,704, pub. 6-20-67. Cl. 26.
- Zayre Corp., Natick, Mass. 834,746, pub. 6-20-67. Cl. 37.
- Zotex Pharmacal Co., Inc., Stamford, Conn. 718,673, can. Cl. 51.
- Zucker, Myron, Engineering Co.: See—
Zucker, Myron J.
- Zucker, Myron J., d.b.a. Myron Zucker Engineering Co., Bloomfield Hills, Mich. 834,631, pub. 6-20-67. Cl. 21.

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of July 1967

Examiner affirmed	177
Examiner affirmed in part	32
Examiner reversed	50
Total	259

Vacancy Announcement

Position

Director, Office of International Patent and Trademark Affairs, U.S. Patent Office, GS-1220-15. Although this position is presently allocated at grade GS-15, a request that the position be classified at the GS-17 level is now pending at the Civil Service Commission.

Area of Consideration

All candidates who have served a minimum of one year in grade GS-14. Candidates outside the Patent Office who have equivalent qualifications will be considered.

Duties

The Director (1) works under the general administrative direction of an Assistant Commissioner of Patents, and within international guidelines provided by the State and Commerce Departments; (2) heads the entire international patent and trademark program for the United States; (3) formulates the broad objectives and the specific goals of the program; (4) plays a significant role in the establishment and the implementation of national and international policy in the patent field; (5) heads a staff of professionals who are involved in negotiations on technological, legal, and economic matters; (6) negotiates personally with foreign officials on international exchanges and agreements; (7) manages international study projects dealing with varying technical and legal situations; and (8) acts as an advisor to the Commissioner of Patents and other Federal officials.

Qualifications

A minimum of five years of progressively responsible experience in the patent field showing the attainment of a position requiring a very high level of responsibility. Such experience must have demonstrated the following competence:

(1) A broad knowledge of diverse scientific and engineering fields, of domestic and foreign legal systems, of international agreements, and of world trade and patent economics;

(2) Analytical ability, general executive ability, and negotiating ability; and
(3) Ability to present, defend, and interpret the programs to top levels of authority.

Candidates must submit a written request, including a résumé of background and professional experience, to the Personnel Officer, Room 3609, Main Commerce Building, U.S. Patent Office, Washington, D.C., 20231, not later than Oct. 6, 1967, in order to be considered for this position. Personal interviews may be required and candidates outside the Patent Office will be expected to pay their own expenses for such interview.

Candidates who have submitted applications prior to this announcement will be considered along with any submitted thereunder.

Classification Order No. 389

Classification Order No. 389, dated Aug. 4, 1967, incorporates changes in the following classes:

43, FISHING, TRAPPING AND VERMIN DESTROYING
47, PLANT HUSBANDRY
73, MEASURING AND TESTING
202, DISTILLATION: APPARATUS
239, FLUID SPRINKLING, SPRAYING AND DIFFUSING
260, CHEMISTRY, CARBON COMPOUNDS
275, SCATTERING-UNLOADERS—Abolished

Design Classes

D 1, FOODSTUFFS AND DIETETIC FOODS—Established
D 1, ADVERTISING—Abolished
D 6, BOOK BINDING—Abolished
D 8, BREAD, CRACKERS AND LOZENGES—Abolished
D12, CARE OF LIVESTOCK—Abolished
D23, DAIRY APPLIANCES—Abolished
D30, CARE AND HANDLING OF ANIMALS—Established
D31, BIRD CAGES AND ATTACHMENTS—Abolished
D38, HARNESS—Abolished
D54, METAL WORKING
D82, SUGAR AND SALT—Abolished
D91, WATER DISTRIBUTION
D96, ADVERTISING—Established
D97, BOOK BINDING—Established
D98, DAIRY APPLIANCES—Established

All of the above changes will be incorporated in the Manual of Classification replacement pages dated October 1967.

E. C. DARSCH,

Acting Administrator, Office of Examining and Classifying Control.

New Applications Received During July 1967

Patents	6871
Designs	410
Plant Patents	10
Reissues	27
Total	7318

Issue—September 12, 1967

Patents.....	1319—No. 3,340,542 to No. 3,341,860, incl.
Designs.....	93—No. 208,527 to No. 208,619, incl.
Plant Patents..	2—No. 2,766 to No. 2,767, incl.
Reissues	3—No. 26,264 to No. 26,266, incl.
Total.....	1417

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 17, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—L. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-4-64	5-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-10-64	3-1-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	5-8-64	3-9-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-10-64	5-8-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-21-64	12-12-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-11-64	2-11-63
SECURITY, GROUP 220—S. BOYD, Manager..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-30-65	11-19-63
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	11-6-63	11-29-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-30-64	11-3-61
PHYSICS, GROUP 280—R. L. EVANS, Manager..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-5-64	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager..... Industrial Arts; Household, Personal and Fine Arts.	12-6-65	8-25-65
Total number of pending applications (excluding Designs).....	184, 972	
Total number of Design applications pending.....	4, 497	
Total number of applications awaiting action (excluding Designs).....	135, 313	
Total number of Design applications awaiting action.....	2, 374	
Date of oldest new application awaiting action.....	Nov. 6, 1963	
Date of oldest amended application awaiting action.....	Nov. 3, 1961	

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during September 1967, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.
 Patents..... Numbers 2,520,900 to 2,524,025, inclusive
 Plant Patents..... Numbers 978 to 981, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.

	New	Amended
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid, Flexible and Special Receptacles and Packages.	1-3-66	8-17-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Wood-working; Tools; Cutlery; Jacks; Fasteners.	6-2-65	2-7-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Type-writers; Stationery; Information Dissemination.	2-4-65	1-22-63
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	1-3-66	12-2-64
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9-14-65	4-30-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager..... Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	7-26-65	8-28-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE FRANKLIN W. HERRICK AND LOUIS H. BOCK

No. 7749. Decided May 4, 1967

[54 CCPA —; 377 F.2d 607; 153 USPQ 458]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ADHESIVE COMPOSITION."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Adhesive Composition" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 96,665.

AFFIRMED.

Charles N. Shane, Jr. for appellants.

Joseph Schimmel (Fred W. Sherling, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, ALMOND, Associate Judges, and WILLIAM H. KIRKPATRICK¹

WORLEY, Chief Judge, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1-9 in appellants' application² for "Adhesive Composition."

The invention relates to a resorcinol-formaldehyde cold-setting adhesive resin base³ in which one-third-two-thirds of the usual amount of relatively expensive resorcinol is said to be "replaced" by an extract from quebracho wood. According to appellants, the quebracho can be used without adversely affecting the "cure-time," "pot life," "spreadability," "strength" and "water-resistance" of the adhesive mixture. After mixing with a hardener, e.g., paraformaldehyde, and filler material, appellants' particular adhesive base, as reflected in claim 1, finds use in plywood manufacture:

1. An adhesive base for a cold-setting adhesive comprising a resorcinol-formaldehyde condensate in which the mole ratio of formaldehyde to resorcinol is from 0.5 to 0.8 and an aqueous extract of quebracho, the extract of quebracho being present in an amount by weight equal to at least one-third the amount of resorcinol by weight.

The references are:

Spahr, 2,490,927, December 13, 1949.

British patent, 723,884, February 16, 1955.

Adams et al., "Absorptive Properties of Synthetic Resins," Journal of the Society of Chemical Industry Transaction, volume 54 (1935), pages 1T and 2T.

Delmonte, "Technology of Adhesives," published by Reinhold Publishing Corp., 1947, pages 22-31.

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² Serial No. 96,665, filed March 20, 1961.

³ Appellants' brief provides the following background information:

Resorcinol-formaldehyde or resorcinol-phenol-formaldehyde cold-setting adhesive bases have been previously prepared and are widely used. These adhesive bases are quite stable and can be stored indefinitely. When it is desired to form the adhesive for use, the adhesive base is mixed with a hardener, usually paraformaldehyde, and a filler such as walnut shell flour. By the addition of the hardeners, the "pot life" (the time it takes to gel in a container prior to being applied to laminates) as contrasted with the "shelf life" (storage life) of the adhesive base is relatively short, normally ranging from about one to four hours. . . .

The specification states that resorcinol-formaldehyde adhesive bases in commercial use have a mole ratio of formaldehyde to resorcinol of 0.5 to 0.8. In making their particular adhesive, appellants first prepare or obtain such a commercial resin base, then add to it amounts of a commercial or prepared quebracho extract. The resultant adhesive base is mixed with hardener and filler to form the adhesive.

The Examiner rejected claims 1-9 as "unpatentable over British taken with Spahr," presumably under 35 U.S.C. 103.

British discloses preparation of phenol-formaldehyde adhesive resins for use in plywood manufacture. The patentee first prepares a stable phenol-formaldehyde condensation product, then adds a quebracho tannin extract in amounts ranging from 10-100 parts quebracho solids for each 100 parts solid phenol-formaldehyde resin. Amounts of filler and "accelerators of hardening," such as paraformaldehyde, are also included in the adhesive. A plywood bonded with the resin modified with quebracho extract, tested when dry or wet, is said to give . . .

. . . higher bond strengths than unmodified phenol-formaldehyde adhesives when cured for the same length of time, or alternatively, give in a much shorter curing time bond strengths equal to those obtained with unmodified phenol-formaldehyde adhesives.

Spahr discloses resorcinol-formaldehyde adhesive bases in which the mole ratio of formaldehyde to resorcinol ranges from 0.5 to 0.73. Shortly prior to use in laminating wood, paraformaldehyde is added to effect curing of that adhesive base. Spahr points out, as does the Delmonte background reference, that curing of resorcinol-formaldehyde resins occurs at room temperature, in contrast to the sometimes impractical elevated temperatures required to cure phenol-formaldehyde resins.

Adams was also relied on by the Examiner as background art. It discloses that quebracho tannin, like phenol, resorcinol and catechol, was known to react with formaldehyde to produce a resin material.⁴

The Examiner was of the view that it would be obvious to one of ordinary skill in the art to employ a resorcinol-formaldehyde condensate, as disclosed by Spahr, in place of the phenol-formaldehyde condensate material of British in order to obtain, as expected, a "cold-setting" adhesive. The Board agreed, as do we.

Appellant contends here, as below, that the quebracho extract employed by British is used "exclusively as an accelerator" for the curing of the phenol-formaldehyde, and that it would not be obvious that it could be used in place of some of the resorcinol in resorcinol-formaldehyde adhesives. We would observe that the use of the term "accelerator" to describe the allegedly sole purpose and action of quebracho in British originates with appellant, not with that reference. As the Examiner pointed out:

. . . While the presence of this material speeds up the curing of the phenol-aldehyde condensate it is not likely that the sole function of 100 parts of the quebracho per 100 parts of the phenol aldehyde condensate was an accelerator. Note also that British teaches that paraformaldehyde is added to the composition as an accelerator for hardening . . .

That quebracho does react with formaldehyde to produce resins is clear from Adams. In so reacting, quebracho serves to increase the wet or dry strength (while having no apparent effect on adhesive properties) of phenol-formaldehyde resins in which it is placed in comparison to unmodified resins cured for the same length of time, as demonstrated by British. Insofar as the record shows, one skilled in the art would not expect quebracho to adversely affect the "cure-time," "pot life," "spreadability," "strength" and "water-resistance"

⁴ Appellants argue here that Adams shows only that "sulphited quebracho" is reactive with formaldehyde. That position appears in marked contrast to their position before the Examiner and Board that Adams discloses that "quebracho is formaldehyde-reactive." In any event, Adams does clearly disclose that he prepared resin products from "available catechol tannins, which were . . . quebracho (sulphited and unsulphited) . . . extracts."

of resorcinol-formaldehyde adhesives. Whether the claimed subject matter be thought of as reflecting replacement of resorcinol by quebracho as appellants allege, or simply as addition of quebracho to a resorcinol-formaldehyde resin base with concomitant necessity of adding further paraformaldehyde hardener for curing purposes,⁵ we think the references would make the claimed invention obvious to one of ordinary skill in the art.

[1] Our review of the record, with due regard for appellants' arguments, satisfies us that no reversible error appears in the decision below, and it is affirmed.

AFFIRMED.

SMITH, J., dissenting.

Appellants' brief states:

This invention is based on the discovery that material extracted from quebracho wood with water or with aqueous alkali solutions of hydroxides and carbonates of sodium, potassium and ammonia, can be incorporated in the resorcinol-formaldehyde adhesive base solution to thereby displace from one-third to two-thirds of the relatively expensive resorcinol.

In other words, appellants' contribution to the art is their discovery that extracts of quebracho wood can be used to replace one-third to two-thirds of the costly resorcinol component of a conventional cold-setting resorcinol-formaldehyde resin and yet not adversely affect the "pot life," "cure-time," "spreadability," "strength," and "water-resistance" of the adhesive mixture. Appellants' further contribution is that the addition of this quebracho extract to a conventional resorcinol-formaldehyde condensation base lessens the need for careful control of the viscosity of the adhesive base so as not to unduly increase the "pot life" of the adhesive.

I do not find the majority opinion to be convincing on this issue. Appellants' invention appears to me to contribute the foregoing advance in this art and I do not find it to be obvious in view of the prior art of record. Therefore, it seems to me the decision of the Board should be reversed.

⁵ Appellants' specification states: "... the resorcinol must first be reacted with the formaldehyde in a mole ratio of not over 0.5 to 0.8 mole formaldehyde per mole of phenolic material and then, after this mixture has partially condensed, the quebracho extract is added. As a result, of course, the mole ratio of the formaldehyde to total phenolic material in the quebracho extract containing adhesive base will be lower than 0.5 to 0.8 to 1. The deficiency on formaldehyde is made up by use of additional hardener (paraformaldehyde) when the adhesive is prepared for use."

U.S. Court of Customs and Patent Appeals

IN RE JACQUES GEORGES POTTIER

No. 7790. Decided April 27, 1967

[54 CCPA —; 376 F.2d 328; 153 USPQ 407]

1. PATENTABILITY—UTILITY—OPERATIVENESS—EVIDENCE REQUIRED WHERE OPERATIVENESS UNLIKELY.

"When the operativeness of any process would be deemed unlikely by one of ordinary skill in the art, it is not improper for the Examiner to call for evidence of operativeness. *In re Novak*, supra. Special considerations may, indeed, apply in cases which involve human therapy. See *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516 (1963). However, whatever the nature of the subject matter, it has not hitherto been supposed that reasonable requests for evidence were inappropriate where operativeness was not apparent."

2. SAME—SAME—SAME—SAME—*In re Ruskin* CONSTRUED.

"In *In re Ruskin*, 53 CCPA 872, 354 F.2d 395, 148 USPQ 221 (1966), a case which involved a process of treating a fossil fuel to increase its energy release on combustion, we held that the Examiner was justified in requiring some proof of operativeness in view of the inability of the specification and cited art to satisfy one of ordinary skill in the relevant art on the point. Judge Smith

dissented because he felt that one of ordinary skill would consider the claimed invention operative. There was, of course, no support in either the majority or dissenting opinions for the proposition that proof of operativeness may never be called for save in cases involving human therapy."

3. SAME—SAME—SAME—SAME—*In re Woody* CONSTRUED.

"Similarly, in *In re Woody*, 51 CCPA 1317, 331 F.2d 636, 141 USPQ 518 (1965), we unanimously affirmed the Examiner's rejection of claims to a method for excavating a subterranean salt formation with nuclear explosives. The rejection was based, in part, on the alleged inoperativeness of the claimed procedure. There evidence was supplied by the applicant. However, the Examiner, Board, and this court found it inadequate. We certainly did not deem evidence unnecessary despite the obvious difference between the blasting and the healing arts."

APPEAL from the Patent Office. Serial No. 145,731.

AFFIRMED.

Fulton B. Flick for appellant.

Joseph Schimmel (George C. Roeming, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND, Associate Judges; and WILLIAM H. KIRKPATRICK¹

RICH, J., delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 3, 9, 10, 12, and 13 in application Serial No. 145,731, filed October 17, 1961, for "Process for Modifying the Biochemical Characteristics of Plants by Cold Shock." No. claim has been allowed.

The invention is a process in which hydrated plantlets are subjected to extreme cold for a few seconds. Claim 9 is illustrative:

9. A method of dwarfing sugar beets by cold shock, characterized by thoroughly hydrating a germinating sugar beet plant and then subjecting it to a temperature below -150° C. for between 5 and 10 seconds, whereby to reduce the size of the mature plant.

The appellant asserts that the process affects both the size of the plants which grow from the treated plantlets and their resistance to cold.

The Examiner criticized the disclosure as inadequate, some of the claims as indefinite, and all of the claims as defining processes inoperative for the purpose intended and without utility.

The only rejection with which we find it necessary to deal is the one last mentioned. The issue is whether the processes of appellant's claims fail to meet the utility requirement of 35 U.S.C. 101 because they are inoperative, i.e., they fail to produce the result intended.

The Examiner thought that the process would kill the plantlets. He demanded affidavits from "qualified plant physiologists" attesting to the contrary. None was tendered.

The Board affirmed, noting with approval the Examiner's citation of *Isenstein v. Watson*, 115 USPQ 408 (D.D.C. 1957); *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516 (1963); and *In re Citron*, 51 CCPA 859, 325 F.2d 254, 139 USPQ 520 (1963) and citing, additionally, *In re Novak*, 49 CCPA 1283, 306 F.2d 924, 134 USPQ 335 (1962) in which we said:

"... when an applicant bases utility for a claimed invention on allegations of the sort made by appellants here, unless one with ordinary skill in the art would accept those allegations as obviously valid and correct, it is proper for the Examiner to ask for evidence which substantiates them."

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

The Board held that it was certainly proper to call for evidence in this case in which appellant admitted that his "discovery runs counter to what would be believed would happen by the ordinary person, who would think that the plants would immediately be frozen beyond revival."

Appellant dismisses the latter as a mere statement of compliance with 35 U.S.C. 103.² He argues that the cited cases do not control inasmuch as each was concerned with human therapy. The treatment "of mere plantlets," in appellant's opinion, is not analogous.

We do not agree. [1] When the operativeness of any process would be deemed unlikely by one of ordinary skill in the art, it is not improper for the Examiner to call for evidence of operativeness. *In re Novak*, supra. Special considerations may, indeed, apply in cases which involve human therapy. See *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516 (1963). However, whatever the nature of the subject matter, it has not hitherto been supposed that reasonable requests for evidence were inappropriate where operativeness was not apparent.

[2] In *In re Ruskin*, 53 CCPA 872, 354 F.2d 395, 148 USPQ 221 (1966), a case which involved a process of treating a fossil fuel to increase its energy release on combustion, we held that the Examiner was justified in requiring some proof of operativeness in view of the inability of the specification and cited art to satisfy one of ordinary skill in the relevant art on the point. Judge Smith dissented because he felt that one of ordinary skill would consider the claimed invention operative. There was, of course, no support in either the majority or dissenting opinions for the proposition that proof of operativeness may never be called for save in cases involving human therapy.

[3] Similarly, in *In re Woody*, 51 CCPA 1317, 331 F.2d 636, 141 USPQ 518 (1965), we unanimously affirmed the Examiner's rejection of claims to a method for excavating a subterranean salt formation with nuclear explosives. The rejection was based, in part, on the alleged inoperativeness of the claimed procedure. There evidence was supplied by the applicant. However, the Examiner, Board, and this court found it inadequate. We certainly did not deem evidence unnecessary despite the obvious differences between the blasting and the healing arts.

The decision of the Board is affirmed.

AFFIRMED.

² Appellant argues: "The statement in question is a common one and was made simply to show that what the applicant had accomplished was not obvious but was an unexpected result. To have contended otherwise would have been to admit that no [patentable?] invention had been made." We cannot agree. The operativeness of many unobvious inventions is manifest as soon as the invention is described. Furthermore, whether or not an invention would be deemed operative by one of ordinary skill in the art is determined, not at the time the invention was made but rather (at the earliest) at the time of the Examiner's call for proof. In *In re Woody*, 51 CCPA 1317, 331 F.2d 636, 141 USPQ 518 (1965), the Board considered evidence made available after the Examiner's answer and presumably reflecting the state of the art at the time of appeal.

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17480-C, Edward P. Barrett, executor of the estate of Clifford C. Jones, Sr., deceased v. United Airlines, Inc. Same, Doc. 17481-C, Edward P. Barrett, executor of the estate of Clifford C. Jones, Sr., deceased v. Delta Airlines, Inc. Same, Doc. 17482-C, Edward P. Barrett, executor of the estate of Clifford C. Jones, Sr., deceased v. Trans World Airlines, Inc. Stipulation of dismissal with prejudice, June 5, 1967.

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3,088,359. (See 2,953,878.)

3,096,013. (See 3,101,887.)

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3,240,643. (See 3,216,459.)

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Re. 25,738. (See Re. 25,716.)

Erratum

Under "Patent Suits," published at 838 O.G. 1629, line 8, 1st column, should read: Inc. Judgment of lower court affirmed. O'Sullivan, Circuit Judge, dissenting.

REISSUES

SEPTEMBER 12, 1967

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

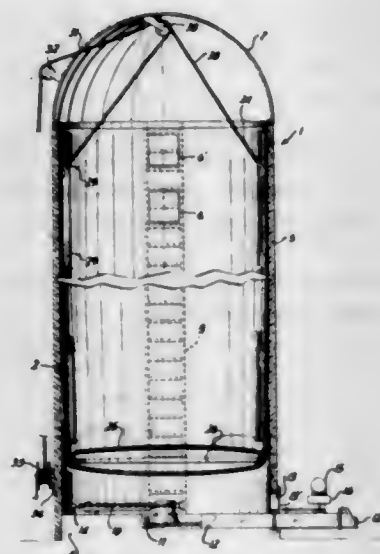
26,264

SILO

Paul H. Beach, P.O. Box 63, Merrill, Mich. 48637

Original No. 3,016,814, dated Jan. 16, 1962, Ser. No. 819,303, June 10, 1959. Application for reissue Oct. 14, 1963, Ser. No. 316,496

7 Claims. (Cl. 99—235)



1. A container for the storage of forage crops comprising, a normally upright supporting structure providing a storage chamber therein, said chamber having an unloading zone adjacent the lower end thereof, means defining an access opening through said supporting structure adjacent the upper end of said chamber for loading the same, a flexible bag of substantially air impervious material secured adjacent its upper end to said supporting structure in substantially air tight relation thereto at a point above said access opening, said bag having a bottom wall normally resting on the upper surface of crops stored within said chamber, said bag bottom wall being slightly smaller in size than the interior cross section of said chamber and free to follow the upper surface of such stored crops as the same is lowered, said bag being of a length *sufficient to extend substantially the height of the container while maintaining its said bottom wall out of said unloading zone when said bag is fully extended*, and means for collapsing said bag upwardly above said access opening when it is desired to load said chamber, said bag thereby providing a movable top wall for said chamber and said supporting structure providing normally substantially air tight side and bottom walls therefor.

26,265

PLASTIC MOLDING APPARATUS

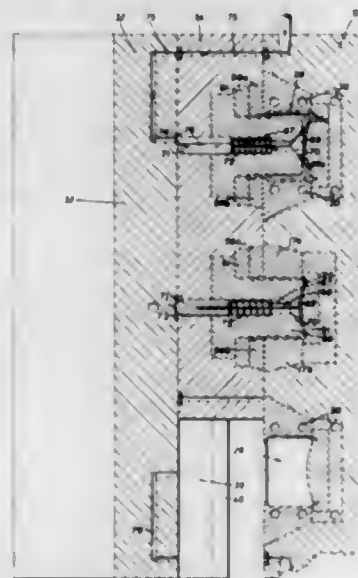
Francis Farkas, Willowdale, Ontario, Canada, assignor to Canada Lighter & Plastics Limited, Willowdale, Ontario, Canada

Original No. 3,183,552, dated May 18, 1965, Ser. No. 253,964, Jan. 25, 1963. Application for reissue Dec. 20, 1966, Ser. No. 606,503

15 Claims. (Cl. 18—5)

1. Apparatus for blow molding articles having necks comprising: a first block and a second block mounted

in an opposed spaced apart parallel relationship; said first block having *blow and blank molds*, including at least [a first blow mold and a second blank mold] *first and second molds which are respectively blow and blank*, molds, mounted therein in a spaced apart relationship, said blank [mold] and [said] blow [mold] molds each comprising separable sections biased to project in open positions outward of said block and slidable into closed positions flush with said block, said second block having mounted thereon first and second fixed plungers, one individual to each of said *first and second molds* and registrable therewith, a plurality of pairs of separable neck mold sections, one pair surrounding each of said plungers, each of said neck mold sections being slidable into and out of open and closed positions adjacent the outermost



extremity of said plungers, and adjacent the near face of said second block respectively, means for moving said first and second blocks into a face to face abutting engagement with said plungers registered with their opposed mold sections; switch means responsive to said engagement; means actuated by said switch means for injecting plastic into said [blank] *second mold* to produce a blank; and means actuated by said switch for simultaneously introducing air into a blank in said [blow] *first mold* to produce one of said articles; and means for *alternatively* aligning said first and second plungers [with said second and first molds] respectively *with a blank mold and a blow mold* on said first block after separation of said blocks.

26,266

LOAD CONTROL SYSTEM FOR GENERATING UNITS

William E. Phillips, Drexel Hill, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Original No. 2,754,429, dated July 10, 1956, Ser. No. 211,663, Feb. 19, 1951. Application for reissue July 2, 1958, Ser. No. 747,324

39 Claims. (Cl. 307—57)

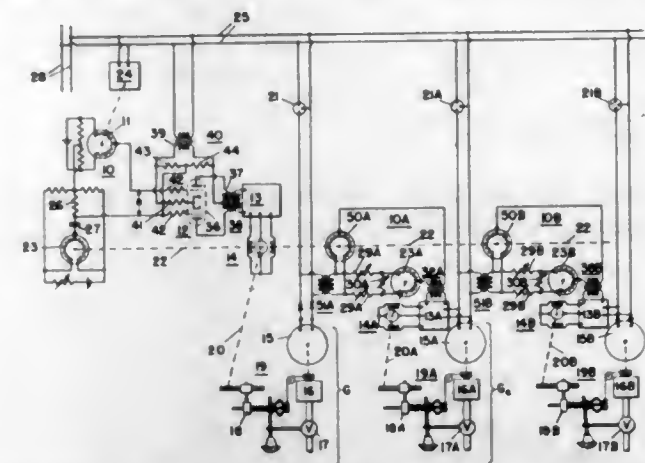
1. A control system for generators supplying electric power to a distribution system comprising a master net-

SEPTEMBER 12, 1967

U. S. PATENT OFFICE

423

work unbalanced in accordance with the sense and extent of deviations of a variable of said system from a prede-



termined magnitude thereof, a master motor responsive to unbalance of said network to effect rebalancing adjust-

ment of an impedance thereof, balancable follower networks each including an unbalancing impedance adjusted concurrently with rebalancing of said master network, control members respectively adjustable to vary the inputs to the prime movers of the corresponding generators, follower motors respectively responsive to unbalance of said follower networks for adjusting the corresponding input control members, and balancing impedances respectively included in said follower networks and adjusted by the follower motors to rebalance the corresponding follower network whereby all of said input control members upon occurrence of a deviation of said variable promptly move each to a predetermined position corresponding with the rebalance adjustment of said master network.

PLANT PATENTS

GRANTED SEPTEMBER 12, 1967

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,766

ROSE PLANT

Walter E. Lammerts, Watsonville, Calif., assignor to Amling-Devor Nurseries, Inc., Livermore, Calif., a corporation of California

Filed May 9, 1966, Ser. No. 548,814

1 Claim. (Cl. Plt.—22)

A new and distinct variety of rose plant of the floribunda class substantially as herein shown and described primarily characterized by: a marked improvement in petal substance when compared with Queen Elizabeth, a marked increase in flower size when compared with Rumba, an unusual deepening and enrichment of the coral-orange flower color with age and a high flower production, especially under greenhouse conditions.

2,767

NECTARINE TREE

Samuel Y. Maeda, Livingston, Calif., assignor to Kim Bros., Reedley, Calif., a co-partnership doing business with the fictitious name and style of Reedley Nursery

Filed Aug. 25, 1966, Ser. No. 575,196

1 Claim. (Cl. Plt.—41)

A new and distinct variety of nectarine tree, substantially as illustrated and described, which is a regular bearer of yellow flesh freestone fruit having yellow skin overspread with red; the variety, while generally similar to the Early Sun Grand, being characterized, as to novelty, by fruit which ripens approximately ten days earlier.

PATENTS

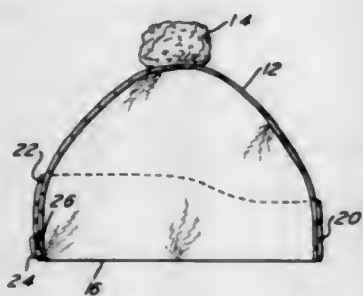
GRANTED SEPTEMBER 12, 1967

GENERAL AND MECHANICAL

3,340,542

CAP

Burton L. Greenwald, 304 N. Main Ave.,
Scranton, Pa. 18504
Filed Dec. 10, 1965, Ser. No. 512,992
1 Claim. (Cl. 2-172)

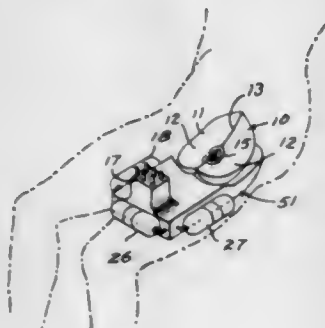


A convertible cap comprising a knitted stretchable generally cup-shaped crown, a knitted stretchable endless annular band, said endless band extending around the periphery of said crown and overlying a portion of said crown adjacent the rim of said crown when in an upright first position, said endless band extending downwardly below the rim of said crown around the entire periphery of said crown when in an inverted second position, said band having a front portion and a rear portion, cooperating elements adjacent the rim of said crown and said band including means on the rear portion of said crown adjacent the rim and on the rear portion of the band for detachably securing the rear portion of the band to the crown, the height of said front portion being less than the height of said rear portion so that said rear portion is adapted to overlie the ears of a wearer and the front portion is adapted to overlie the chin of the wearer when said band is in said second position, and whereby said band may be used by itself when detached from said crown to overlie the ears and forehead of a wearer.

3,340,543

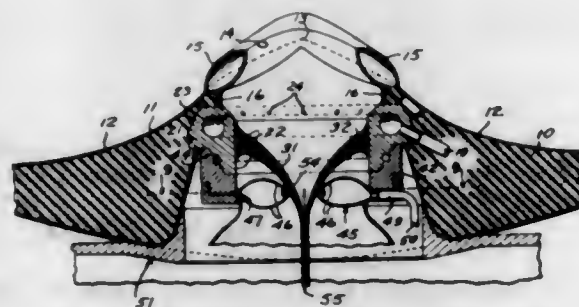
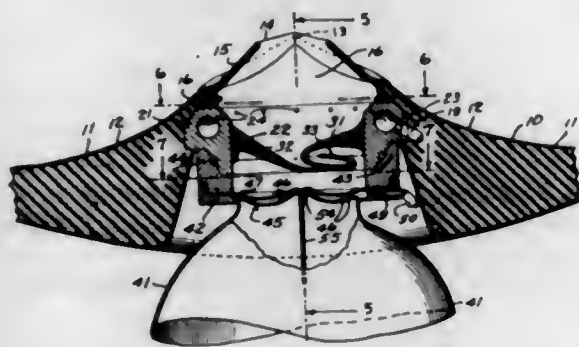
ZERO GRAVITY TOILET

Richard T. Cella, 35 Park Ave.,
New York, N.Y. 10016
Filed Apr. 8, 1965, Ser. No. 446,633
9 Claims. (Cl. 4-10)



1. A toilet for use under zero-gravity conditions comprising a pad having a surface conformed to the shape

of the body and having an opening therethrough, an annular housing containing a flush ring disposed in said

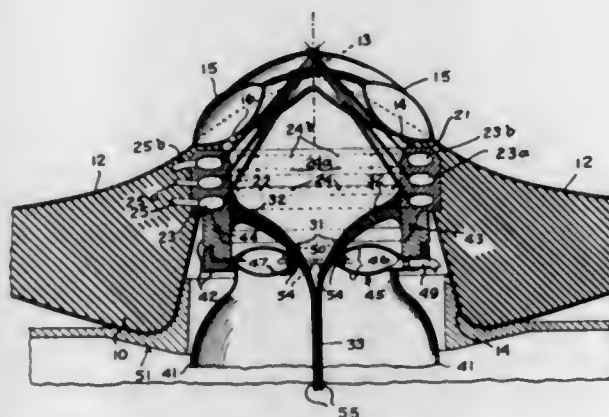


opening and adapted to be coupled to a receiver, and means supplying fluids under pressure to said flush ring.

3,340,544

ZERO GRAVITY TOILET

Richard T. Cella, 35 Park Ave.,
New York, N.Y. 10016
Filed Feb. 28, 1966, Ser. No. 530,437
7 Claims. (Cl. 4-10)



1. The method of operating a toilet having a member to be sealed against the body and provided with a passage communicating with a waste receiver, under zero gravity conditions, which comprises the steps of introducing through said passage against the body a settleable resin in liquid form and a setting agent under conditions to cause the resin to set in the form of a plug and introducing fluid pressure above said plug to force said plug through said passage into said container for thereby purging said passage.

SEPTEMBER 12, 1967

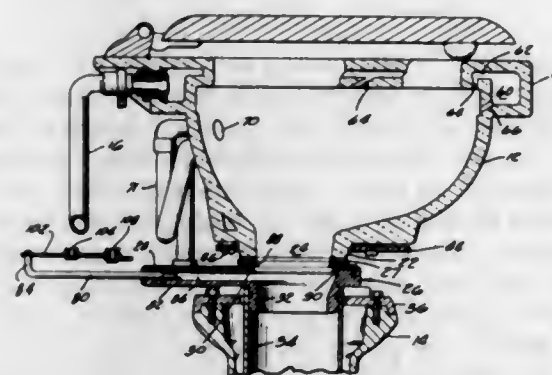
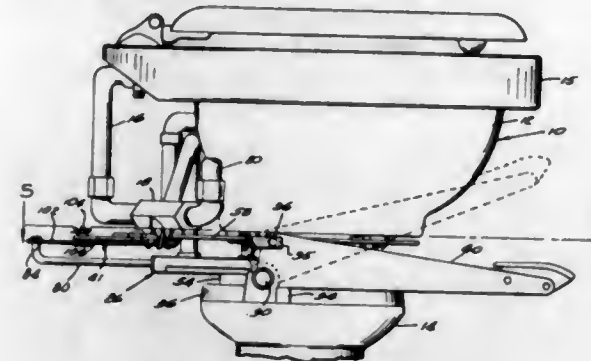
GENERAL AND MECHANICAL

425

3,340,545

WATER CLOSET

Charles L. Sargent, Ann Arbor, Mich., assignor to Thetford Engineering Corporation, Ann Arbor, Mich., a corporation of Michigan
Filed Apr. 2, 1965, Ser. No. 445,105
7 Claims. (Cl. 4-79)

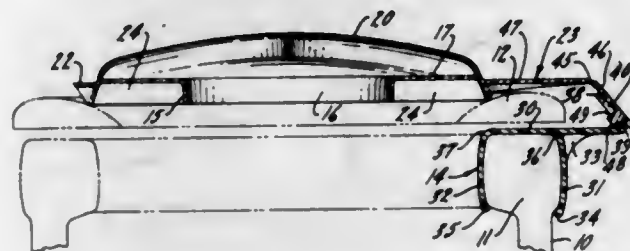


1. In a water closet a bowl having a waste outlet and a water inlet, a gate valve mounted on said closet below said outlet, said gate valve having a valve gate slidably supported for generally rectilinear motion to open and close said outlet, a rotary valve mounted on said closet rearwardly of said outlet for controlling flow of water through said inlet, and a manually operated mechanism for retracting said valve gate along a generally rectilinear path to open said outlet and for substantially simultaneously rotating said rotary valve to admit water into said closet.

3,340,546

TOILET SEAT FOR INFANTS

Alex H. Moore and Louis H. Barnett, Fort Worth, Tex., assignors to Loma Industries, Fort Worth, Tex., a corporation of Texas
Filed Sept. 7, 1965, Ser. No. 485,265
7 Claims. (Cl. 4-239)



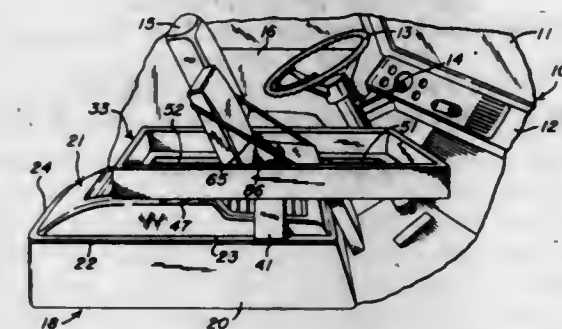
1. A child's toilet seat assembly for mounting on a toilet including
a support member adapted to rest on the rim of the toilet bowl and having a pair of spaced depending legs at least one of which is biased to clamp the legs respectively against the inner and outer walls of said toilet bowl,
an inclined arm attached to said support member and extending upwardly in a direction towards the toilet bowl,

an auxiliary toilet seat adapted to rest on the toilet bowl seat,
an arm formed as part of said auxiliary seat and extending laterally thereof,
hinge means located intermediate the ends of said arm to permit folding of said arm upon itself,
pivotal means connecting said inclined arm and said auxiliary seat arm to permit said seat to be rotated about an axis inclined from the vertical and extending upwardly in a direction away from said toilet bowl,
said pivotal means including a pivot post formed as part of one of said arms, an elongated slot to receive and guide said pivot post formed in the other of said arms and extending longitudinally thereof, and locking means to hold said post in said slot.

3,340,547

SEAT BED

Eugene F. Weldt, 735 N. Summit St.,
Dayton, Ohio 45407
Filed Oct. 22, 1965, Ser. No. 501,343
6 Claims. (Cl. 5-118)



1. An auxiliary seat bed adapted for use in a station bus having a motor housing between the front seats with a horizontal flange surrounding the sides of the motor housing, comprising a rectangular frame, support legs extending downwardly from central portions of the opposite sides of said frame for engagement with said horizontal flange, means securing the rear portion of said frame to the motor housing, a bottom wall in said frame having a central section, and a leg panel pivotally secured adjacent the forward edge of said central section, said leg panel being disposed forwardly of the front of the motor housing and adapted to pivot downwardly to accommodate the legs of a person sitting on said central section, said bottom wall also having a back panel secured thereto to pivot upwardly adjacent the rear edge of said central section to support the back of a person sitting on said central section, said leg and back panels adapted to be moved to a retracted position wherein they cooperate with said central section to provide a flat bed surface.

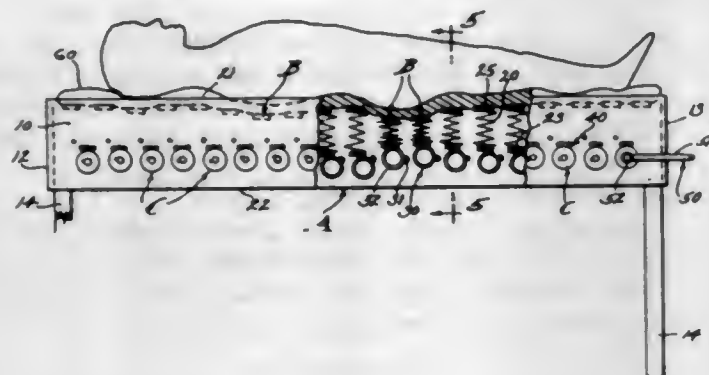
3,340,548

BEDDING PRESCRIPTION APPARATUS

Melvin N. Janapol, Los Angeles, Calif., assignor to Wortso Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 1, 1965, Ser. No. 491,906
6 Claims. (Cl. 5-243)

1. A bedding prescription apparatus for determination of support pressure to be applied at the rows of springs of the bedding, and including:
(a) a frame with side rails and open therebetween;
(b) a pressure applying support means comprising, a stiff, vertically shiftable and depressible header simulating the placement and disposition of a row of springs and guided by and between the side rails of the frame, and a variable pressure means supporting the header;

(c) and indicative adjustment means selectively varying the pressure means so as to elevate the header



and overlying area and body of a person reclining on the apparatus.

3,340,549

ARTICLE OF BEDDING

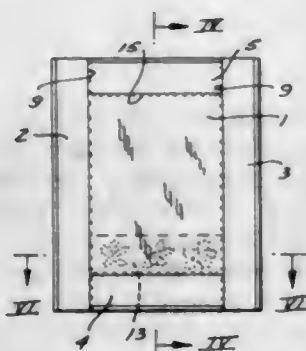
Gerd Billerbeck, Augustastraße 116, Wuppertal-Elberfeld, Germany

Filed July 7, 1965, Ser. No. 470,295

Claims priority, application Germany, July 7, 1964,

R 38,298

5 Claims. (Cl. 5—335)



1. A textile cover for a filler such as a pillow, a blanket or a quilted bed cover, comprising a substantially flat pocket adapted to receive said filler, said pocket being formed from a single elongated strip of textile material folded once in longitudinal direction so as to form a pair of superposed webs of material having four edges and seamed along two of said four edges to form a pocket having two closed longitudinal sides, one closed transverse side and one open transverse side opposite said closed transverse side; three strips of material respectively secured to and extending along one of said closed sides of said pocket and laterally therebeyond, at least the strips extending along said longitudinal sides having a requisite width so as to be adapted to be tucked under a mattress which said cover overlies to thereby hold said cover in place; and a fourth strip of material extending along one of said pair of webs at said open side of said pocket, said fourth strip having two parallel longitudinal edges one of which is secured to said open side of said pocket and the other of which is free and being folded in the direction toward said closed transverse side along a fold line extending in longitudinal direction parallel to said edges, said strip further having a pair of lateral edges extending intermediate said parallel longitudinal edges and being secured to the corresponding edges of said pocket whereby said strip forms with said pocket a closure for said open end of the latter.

3,340,550 APPARATUS FOR SUPPORTING A BODY ON A GASEOUS CUSHION

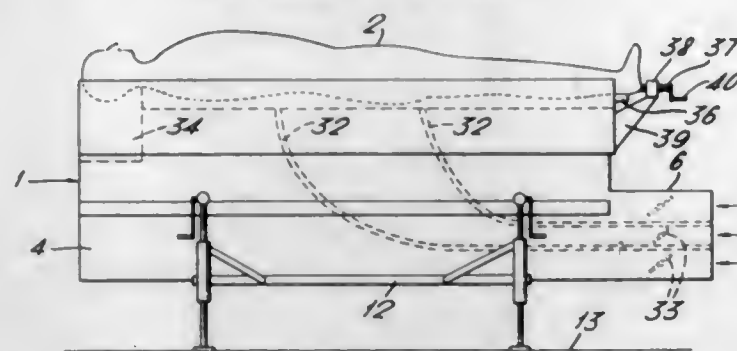
Leslie Arthur Hopkins, Dibden Purlieu, and Alan Ritson Tripp, Cowes, Isle of Wight, England, assignors to National Research Development Corporation, London, England, a British corporation

Filed Apr. 26, 1966, Ser. No. 545,282

Claims priority, application Great Britain, Sept. 30, 1965,

41,564/65

13 Claims. (Cl. 5—348)



1. Apparatus for supporting at least part of a body on a gaseous cushion comprising a base structure, flexible barrier means attached to the base structure, the barrier means being constructed from flexible sheet material and being inflatable so as to cooperate with the base structure and the body part when the body part is brought into a contiguous relationship with the barrier means and define with the body part and the base structure a cushion space, and means for supplying pressurized gas to the cushion space so as to form therein a cushion of pressurized gas to provide support to the body part, said barrier means including a plurality of barrier members disposed in two rows facing each other across the top of the base structure, and arranged so that when the barrier means are inflated, but before the body part is brought into contiguous relationship with the barrier means, oppositely facing barrier members form a surface extending substantially across the top of the base structure.

3,340,551

APPARATUS FOR SUPPORTING A BODY ON A GASEOUS CUSHION

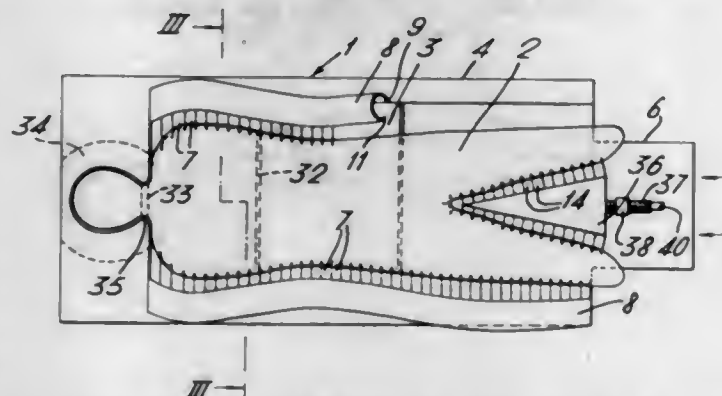
Leslie Arthur Hopkins, Dibden Purlieu, England, assignor to National Research Development Corporation, London, England, a British corporation

Filed Apr. 26, 1966, Ser. No. 545,388

Claims priority, application Great Britain, Apr. 27, 1965,

17,642/65, 17,643/65; July 21, 1965, 31,007/65

30 Claims. (Cl. 5—348)



1. Apparatus for supporting at least part of a body on a gaseous cushion comprising a base structure, flexible barrier means attached to the base structure, the barrier means being constructed from flexible sheet material and being inflatable so as to form two relatively movable rows facing each other across the top of the base structure and to cooperate with the base structure and the body part when the body part is brought into a contiguous relationship with the barrier means and define with the

body part and the base structure a cushion space, and means for supplying pressurized gas to the cushion space so as to form therein a cushion of pressurized gas to provide support to the body part.

3,340,552

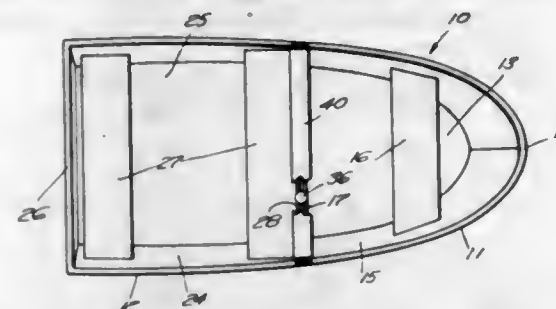
TWO-PIECE SKIFF

Benjamin H. Moye, 66 Beach St.,

Warren, R.I. 02885

Filed Oct. 21, 1965, Ser. No. 500,016

4 Claims. (Cl. 9—2)



1. A two-piece skiff comprising a front boat section having a watertight bulkhead at the rear thereof, a rear boat section having a watertight bulkhead at the front thereof, complementary means on the outer sides of said bulkheads for locking said boat sections to each other when said sections are floating in the water, said complementary locking means comprising a pair of spaced angle irons mounted adjacent the bottom edge of the rear section bulkhead, said angle irons having vertical central openings, a vertical rod slidably mounted over each opening, each rod having a threaded lower end and a manually engageable top, a spring surrounding each rod at the upper end to resiliently retain each rod in withdrawn position, spaced angle irons adjacent the bottom edge of the front section bulkhead, said angle irons on said front section having threaded openings for receiving the threaded ends of said rods when said angle irons are in aligned position, and means on said bulkheads for guiding said sections toward each other to align said complementary locking means.

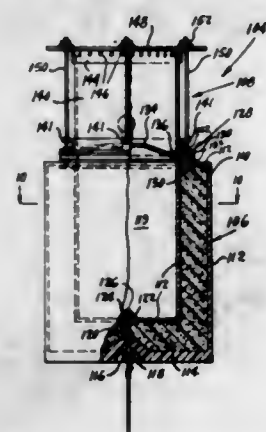
3,340,553

MARINE FLOATS AND METHOD FOR MAKING SAME

Ralph L. Jones, 115 N. Main St.,
Broken Arrow, Okla. 74012

Filed Apr. 30, 1965, Ser. No. 452,123

10 Claims. (Cl. 9—8)



1. A marine float comprising a substantially cylindrical inner core having a longitudinal axis and dimension, a diameter, and an exterior surface, said core having a centrally disposed blind aperture with an inwardly facing wall therein; said exterior surface and said inwardly facing wall carrying a spray coated masonry surface, and an annular ring having peripherally spaced threaded apertures positioned adjacent said blind aperture between said

core and said masonry surface, said masonry surface having a plurality of openings coaxial with and immediately above said threaded apertures of said annular ring.

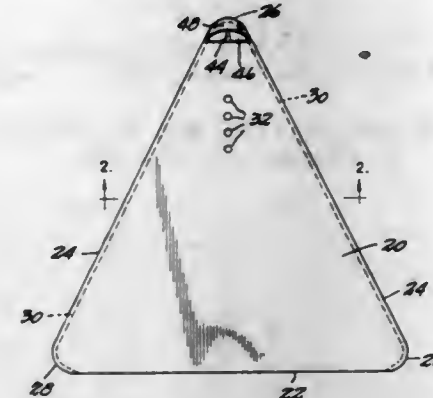
3,340,554

WATER SKI BOARD

Forrest R. Allender, South Bend, Ind., assignor, by direct and mesne assignments, to Delta Wing Ski Board, Inc., a corporation of Indiana

Filed Apr. 4, 1966, Ser. No. 539,773

9 Claims. (Cl. 9—310)



1. A water ski board comprising a flat rigid member of substantially uniform thickness throughout, said member being of a substantially triangular shape substantially symmetrical and balanced relative to the longitudinal center line thereof and having similar rearwardly diverging downwardly inwardly bevelled side edges equiangularly related to said center line and a transverse rear water resistance edge, a hand line, means at the front portion of said member located at said longitudinal center line for anchoring said hand line, upwardly projecting water deflecting means forwardly of said line anchor means and symmetrical relative to said center line, a tow line, and means located on said longitudinal center line spaced rearwardly from said hand line anchor means and forwardly of the longitudinal center of the member for anchoring said tow line to extend forwardly below the front portion of said member.

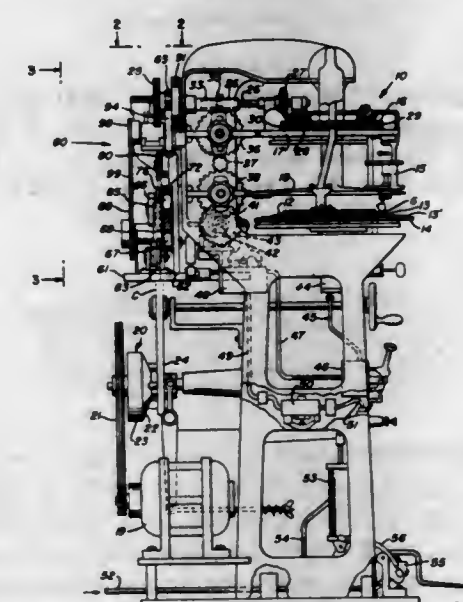
3,340,555

SOLE CUTTING APPARATUS

Lawrence P. Vanderhagen, Mishawaka, Ind., assignor to Wellman Company, Medford, Mass., a corporation of Maine

Filed May 18, 1964, Ser. No. 368,131

7 Claims. (Cl. 12—86.6)



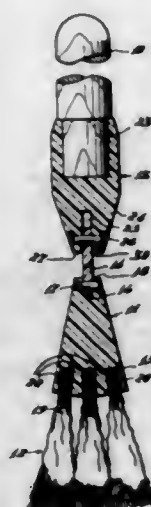
1. A sole cutting machine comprising: a cutting knife; a drive means for driving said knife in a circuitous path;

a table means for moving sole stock into said knife path during a cutting revolution of said knife and for moving said stock out of said path during an indexing revolution of said knife; a motor for supplying uniform rotary power; and speed control means operatively interconnecting said drive means and said motor for varying the speed of said knife about said path, so that, said knife is caused to travel at an increasing speed during said cutting revolution and at a decreasing speed during said indexing revolution.

3,340,556 BROOM

William M. Allen, Cincinnati, Ohio, assignor to Battelle Memorial Institute, Columbus, Ohio, a corporation of Ohio

Filed Aug. 23, 1965, Ser. No. 481,730
10 Claims. (Cl. 15-159)

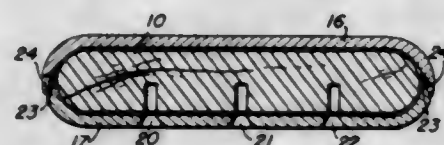


10. A broom comprising an elongated rigid handle, a resilient head, said head having a resilient portion made of plastic material that is capable of flexing back and forth with respect to a path being swept when the broom is in use, a multiplicity of crimped, plastic bristles projecting from the underside of said head, said bristles collectively capable of flexing back and forth with respect to a path being swept to a degree greater than that of the resilient portion of said head, and rigid means interconnecting said resilient head to said rigid handle, said means including pivot means centered in the upper portion of said head such that the head is normally in balance on said pivot means and said handle is adapted for limited movement toward the sides of a path being swept.

3,340,557

DEMOUNTABLE PAINT BRUSH

Benjamin Rosenzweig, New York, N.Y.
(173-27 Fairchild Ave., Flushing, N.Y. 11358)
Filed May 20, 1966, Ser. No. 551,575
2 Claims. (Cl. 15-176)



1. A demountable paint brush, having a handle terminating in a flared shape at its lower end, a single brush unit comprising bristles attached to a block of adhesive material, and two ferrules enclosing the brush unit, each ferrule being adapted with reciprocal integral fastening means at its vertical edges, with one ferrule being secured along its upper edge to the flared lower end of the handle by rivets, while the other ferrule is an independent part,

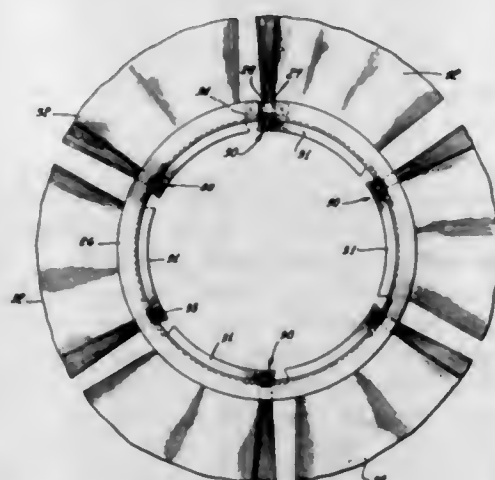
which is detachably secured to the riveted ferrule by said fastening means, thus releasably engaging the brush unit at will, with the brush block of adhesive material having a raised bead running around its entire length, while the interior surfaces of the ferrules have a groove running around their entire length, with said bead and groove positioned to engage each other when the ferrules are fastened together.

3,340,558

DISPOSABLE BROOM ASSEMBLY

Simon Tamny, Los Angeles, Calif., assignor to Wayne Manufacturing Company, Pomona, Calif., a corporation of California

Filed Apr. 11, 1966, Ser. No. 541,552
12 Claims. (Cl. 15-182)



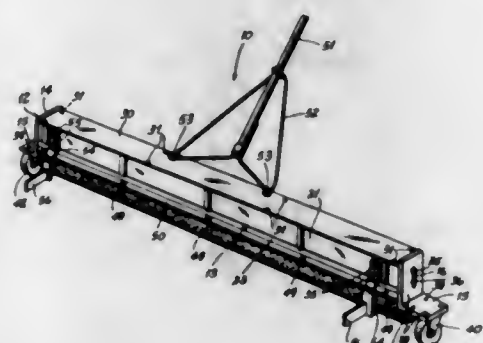
1. A disposable essentially cylindrical sweeper broom structure comprising a sheet metal cylindrical shell having outwardly radial end flanges as integral continuances of the shell metal, circularly spaced slots through the shell and extending continuously essentially longitudinally thereof the distance between said end flanges, and brush strips comprising elongated channel retainers received within said slots and terminating at the end flanges, said channels, being secured to the shell and containing bristles projecting outwardly therefrom.

3,340,559

CLEANING DEVICE FOR BOWLING LANES

Alfred P. Klose, St. Louis, Mo., assignor to Manufacturers Specialty Company, Inc., St. Louis, Mo., a corporation of Missouri

Filed Nov. 6, 1964, Ser. No. 409,480
6 Claims. (Cl. 15-210)



1. A cleaning device for bowling lanes comprising an elongated heavy body having a width at least as great as the width of a standard bowling lane, the body having front, back and side walls, and a lower surface of convex curvature about an axis parallel to the front and back walls, a resilient foam pad positioned against the lower surface, a flexible retainer positioned against the lower

surface of the pad, a pair of horizontal shoulders between the front and back walls and the lower surface, the flexible retainer having front and back margins overlying the shoulders, means for fastening the margins of the retainer to the shoulders, a pair of side support members, means to fasten the side support members to the sides of the body, a wheel rotatably fastened to each side support member and projecting below the lower surface of the flexible retainer, the wheels being spaced apart by substantially the same distance as the space between the centers of gutters on opposite sides of a standard bowling lane.

3,340,560

FIBER TIP WRITING UTENSILS

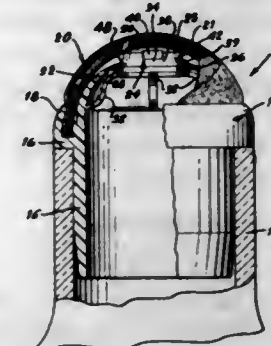
Shunichi Nakata, Tokyo, Japan, assignor to Platinum Pen Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Oct. 7, 1964, Ser. No. 402,153
Claims priority, application Japan, Feb. 21, 1964,
39/11,611
5 Claims. (Cl. 15-563)



1. A writing utensil having a forward writing end and a rearward opposite end, comprising: a disposable writing tip means consisting essentially of an elongate columnar writing element of ink absorbing material and a holder having a longitudinal bore therethrough frictionally holding said writing element therein with the rearward end portion of said writing element extending out of said holder and with the forward tip end extending forwardly out of the holder to form a writing point; a hollow cylindrical body having means for detachably engaging said holder for securely supporting said writing tip means thereon; an ink adjusting member mounted within said hollow cylindrical body and having a longitudinal bore for receiving therein said rearward end portion of said writing element; said adjusting member having its rearward portion formed as an elongated hollow cylindrical extension; said ink adjusting member comprising a tubular core and a plurality of coaxially spaced parallel annular discs connecting with one another by and mounted on said tubular core; said adjusting member having a longitudinally extending passageway forming communication paths between said adjusting member longitudinal bore and the spaces between said discs; a replaceable ink reservoir disposed in said hollow cylindrical body and having a forward opening snugly fitted in ink sealing engagement on said rearward extension of said ink adjusting member; said longitudinal bore opening into said reservoir; and the rearward end of said writing element extending at least substantially the length of said longitudinal bore for conducting ink directly from said reservoir through said longitudinal bore.

3,340,561
APPLICATOR HAVING ONE-PIECE BODY
Gilbert Schwartzman, 20 Wilmot Circle,
Scarsdale, N.Y. 10583
Filed Feb. 18, 1965, Ser. No. 433,739
1 Claim. (Cl. 15-566)



A fluid applicator comprising a retainer ring having a projecting portion, said retaining ring being tapered upwardly to form a flexible crown having a reduced thickness, said crown having an opening therein forming a valve seat, a valve head movable with respect to said valve seat to control fluid flow through said opening, a plurality of resilient spring filaments integrally formed with and undercut from said valve head and to said crown at a location spaced considerably below said opening and set to normally urge said valve head into said opening and against said crown, said valve head including a stepped portion including a relatively larger lower part and a relatively smaller upper part, said lower part being of larger diameter than said opening with said crown initially clampingly engaging said lower part and so that upon initial depression of said valve head, said lower part passes through said opening, the force exerted by said spring filaments being insufficient to thereafter force said lower part through said opening so that the upper outer peripheral edge of said lower part engages said crown for closing said fluid applicator, said upper part being fluted for allowing fluid flow upon slight depression thereafter of said valve head.

3,340,562

FLUID SUPPLY MECHANISM FOR STANDARD PAINT ROLL EQUIPMENT

Phil Skandalaris, 711 Virginia Ave.,
Tarpon Springs, Fla. 33589
Filed Sept. 19, 1966, Ser. No. 580,477
9 Claims. (Cl. 15-575)



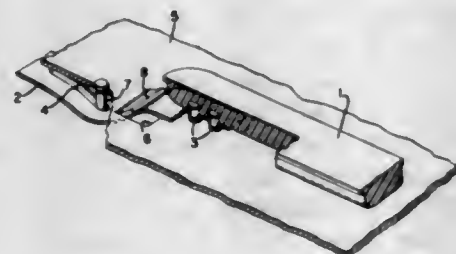
5. Apparatus for applying a coating material to a surface comprising a substantially U-shaped yoke having generally parallel arms, an elongated manipulating handle connected to said yoke, shaft means connecting said arms adjacent to the free ends thereof, a coating roller having a relatively soft outer surface and being freely rotatably mounted on said shaft means, a bracket carried by each

of said arms, a tubular header extending from one bracket to the other and connected thereto in spaced generally parallel relation to said roller, means on said brackets for adjustably positioning said header toward and from said roller, means for supplying coating material to said header, and said header having means for discharging material therefrom onto said roller, whereby said header can be moved toward and from said roller while remaining in spaced relation thereto and coating material will be discharged from said header onto said roller so that when the roller is moved over a surface the coating material will be transferred to the surface.

3,340,563

RETRACTABLE HANDLE FOR PORTABLE TELEVISION RECEIVER

John M. Parsons, Baldwinsville, and Frank M. Grunwald, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 29, 1965, Ser. No. 429,068
6 Claims. (Cl. 16-115)

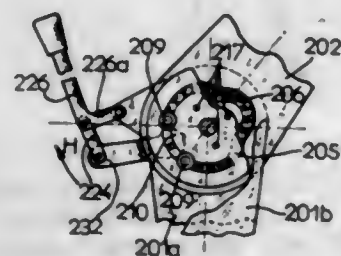


1. A spring loaded retractable handle for a portable television receiver including a top closure member having first and second apertures therein, said handle comprising:
 - (A) a grip member,
 - (B) elongated spring strap means attached to said grip member including first and second slotted strap portions extending through the first and second apertures and having first and second slots respectively which are elongated in the direction of elongation of said strap means, and
 - (C) first and second rigid strap engaging members mounted to the closure member and extending through said first and second longitudinally extending slots to slidably engage said first and second slotted strap portions respectively.

3,340,564

LOCKING MECHANISM

Marc Paul Gaston Lebreton, Lagny, France, assignor to Demaria-Lapierre & Mollier, Lagny, France, a corporation of France
Filed Mar. 8, 1965, Ser. No. 437,691
Claims priority, application France, Mar. 9, 1964, 966,711; Nov. 13, 1964, 994,972
5 Claims. (Cl. 16-140)



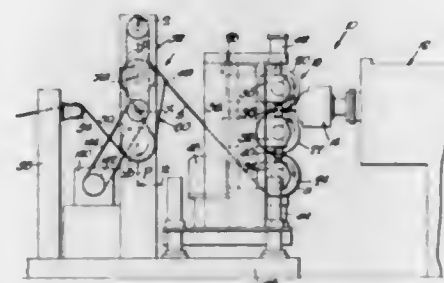
1. A device for locking against relative rotational movement two pieces coaxially mounted about a com-

mon rotation axis characterized in that it comprises a channel extending around said axis along a plan curve, said channel being provided in the first of said two pieces, movable members located in said channel the width of which is substantially the same as the width of said movable members, a shaft rigidly fixed to the second of said pieces and inserted in said channel, a cam member revolving about said shaft and having at least two cam-forming parts which are respectively in contact with at least two projecting parts, which project outside said channel, two movable stop members between which said shaft is inserted and which are themselves inserted in said channel between and in contact with two consecutive ones of said movable members and lever means for revolving said cam member around said shaft between two extreme positions, said movable members being pressed against one another, against the walls of said channel and against said two movable stop members and said cam member in one of said extreme positions or locked position and released in the other extreme position or unlocked position.

3,340,565

COOLING DEVICE FOR SOLIDIFICATION OF CONTINUOUSLY EXTRUDED THERMOPLASTIC STOCK

Charles H. Holly, Pawcatuck, Conn., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 23, 1965, Ser. No. 502,971
1 Claim. (Cl. 18-1)

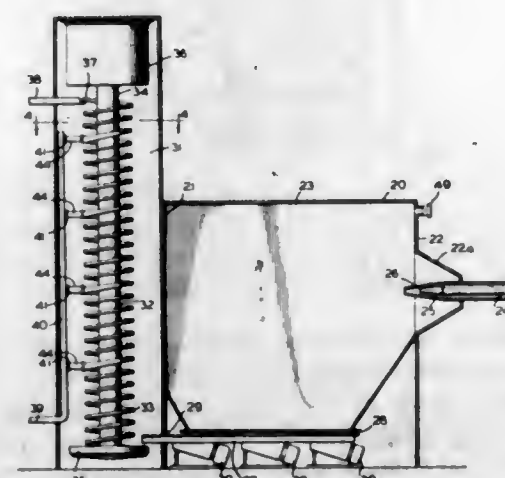


A post-cooling device for extruded plastic sheet, comprising spaced bearings with a common axis, two supports each having a journal member and a transverse arm on one end of said member, with said journal members being mounted in said bearings so that said arms are next to but spaced from each other, and said supports being independently turnable about said axis; a pair of spaced cooling rolls between said arms and journaled with their ends in said arms for rotation about second axes parallel to said common axis, with said journaled rolls solely joining said arms for rotation of said supports and rolls as a unit about said common axis; means to drive said rolls in opposite directions; and means for adjusting said unit in different angular positions which comprises an operating shaft member outside the rotary region of said unit and turnable about an axis parallel to said common axis, two chain drives between said shaft member and respective journal members, and means for turning said shaft member, with each of said chain drives providing two separate chains and sprocket means therefor on said shaft member and respective journal member, of which one of said sprocket means is in the form of two coaxial first and second sprockets, one for each chain, with said first sprocket being turnable with its respective member and said second sprocket being turnable relative to said first sprocket, and means for angularly adjusting said coaxial sprockets of each chain drive to tighten said chains and thereby also lock said supports and rolls in their unit-forming relation.

3,340,566

APPARATUS FOR THE PRODUCTION OF METAL PARTICLES

William P. Woosley, John S. Connor, and Vincent E. Furnas, Jr., Jefferson County, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Original application Aug. 16, 1962, Ser. No. 217,414.
Divided and this application Jan. 18, 1966, Ser. No. 541,405
9 Claims. (Cl. 18-2.5)



1. Apparatus for the production of fine spherical metal particles from molten metals, comprising a substantially closed spherical metal particle forming and cooling first chamber contiguous to and in communication with a substantially closed metal particle cooling and oxidizing second chamber, means supported on a wall of said first chamber for forming fine molten metal particles and discharging them into said chamber, means located at the bottom of said first chamber for collecting and transporting the spherical metal particles to said second chamber, means located in the interior of said second chamber for receiving and transporting a stream of the metal particles between the lower and upper portions of said chamber while interrupting said particle stream at intervals to produce a downward cascading thereof, means for subjecting the downwardly cascading particles to the action of a treating gas in a direction transverse to the direction of fall of the cascade, and means for removing the treated spherical particles.

7. A vibratory conveyor having a helical conveyor surface including a series of turns about a central axis, said surface being interrupted at intervals to provide a discontinuity forming a step to permit material moving upward on the conveyor to fall to a lower conveyor surface, and means for subjecting the falling material to the action of a treating gas.

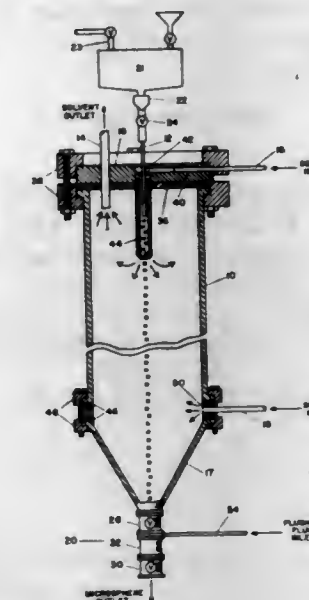
3,340,567

APPARATUS FOR PRODUCING SOL MICROSPHERES

Herbert P. Flack, Ellicott City, and Jean Gillen Smith and Frederick T. Fitch, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed May 5, 1964, Ser. No. 364,931
5 Claims. (Cl. 18-2.7)

1. An apparatus for making sols into spherical forms comprising in combination:
 - (a) an extraction column having a first and a second end,
 - (b) an extraction solvent inlet at the first end of the column,
 - (c) a spherical particle outlet at the first end of the column,
 - (d) an extraction solvent outlet at the second end of the column, and

(e) a sol introduction means at the second end of the column comprising a means for introducing the sol into a stream of solvent to form a droplet-solvent dispersion and for introducing the droplet-solvent dispersion into the second end of the column, the sol introduction means comprising a casing tube and an

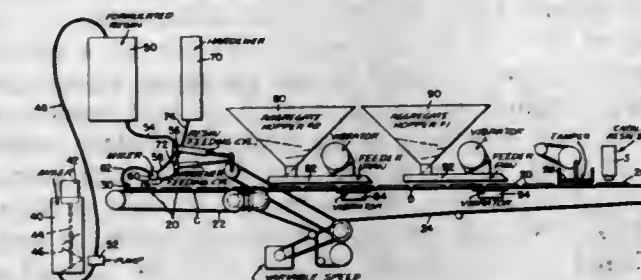


injection tube extending into the casing tube, the injection tube having an inside diameter of from 0.15 to 0.60 mm., having an outer diameter at least one mm. smaller than the inner diameter of the casing tube, and being axially aligned with and terminating at least about 2 inches from the end of the casing tube.

3,340,568

APPARATUS FOR MAKING DUAL PURPOSE TILES

Lester L. Wolpa and William V. McNeely, Cincinnati, Ohio, assignors to Clpco-Cincinnati Industrial Products Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 23, 1963, Ser. No. 282,686
4 Claims. (Cl. 18-4)



1. An apparatus for automatically producing dual purpose tile-like products which comprises conveyor means having an upper, pan-supporting reach, means positioned above said reach for uniformly applying a metered quantity of catalyzed resin into each of a plurality of pans supported on said reach, other means positioned above said reach for uniformly applying a metered quantity of aggregate into said pans and onto the resin therein, means adjacent said reach to vibrate the pans for imbedding the aggregate in the resin, other means positioned above said reach for uniformly applying a second metered quantity of aggregate into said pans and onto the contents thereof, means adjacent said reach to vibrate the pans for imbedding the last applied aggregate into the contents of the

pan, with portions of the last applied aggregate projecting in random fashion, means for tamping the contents of each pan to define the maximum amount by which the aggregate particles project from the pan, means applying a uniform coating of catalyzed resin over the projecting portions of all of the last applied aggregate for encapsulating same, means for heating said pans and their contents for effecting a curing and rigidifying of the resin while simultaneously bonding the aggregate therein, and means for gradually reducing to ambient the temperature of the contents of the pans.

3,340,569

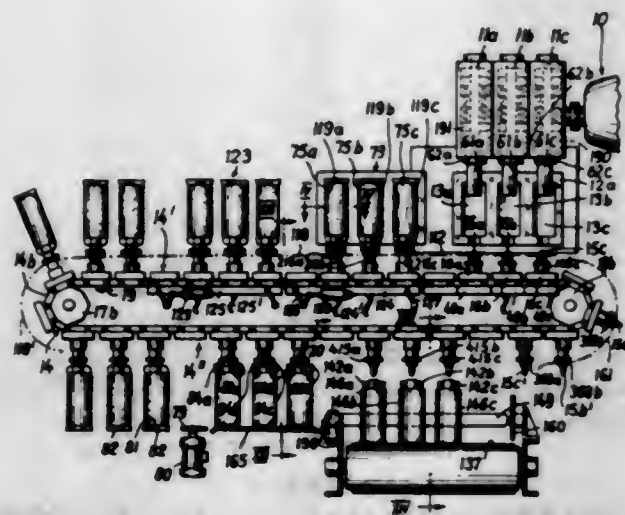
APPARATUS FOR PRODUCING HOLLOW PLASTIC ARTICLES

Reinold Hagen, Hangelar über Siegburg,
Rhineland, Germany

Filed Feb. 12, 1964, Ser. No. 344,419

Claims priority, application Germany, Feb. 16, 1963,
K 48,967

22 Claims. (Cl. 18—5)



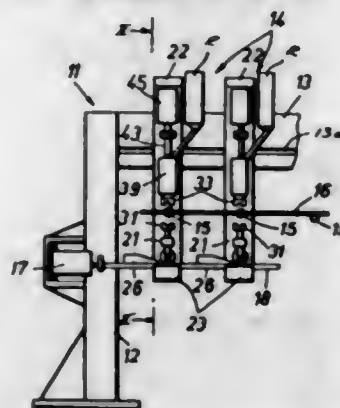
10. In an apparatus for the production of hollow thermoplastic articles, in combination, an extruding machine including an extrusion nozzle having a vertical axis and arranged to discharge a plastic tube vertically downwardly; a conveyor arranged to advance in a predetermined path having a straight horizontal portion adjacent to but spaced from and extending substantially at right angles to the axis of and below said nozzle; a plurality of spaced holders secured to said conveyor; an elongated blowing mandrel mounted in each of said holders and movable with reference to the respective holder in directions at right angles to the axis thereof, each mandrel which is temporarily located in said straight portion of said path extending upwardly from said conveyor and its axis being at least nearly parallel with the axis of said nozzle; an open-and-shut blow mold disposed between said nozzle and said horizontal portion of said path and defining a mold cavity which registers with said nozzle when the mold is shut so that a length of plastic tube may be accommodated and expanded in said mold cavity; advancing means for intermittently advancing said conveyor through such distances that, during each interval between intermittent advances of said conveyor, one of said mandrels is held in vertical position and registers at least approximately with said nozzle and with said mold cavity whereby said one mandrel may extend into one end of the tube in said mold cavity to expand the same, said one mandrel being held by said conveyor in vertical position, at least for a short period of time, during travel away from registry with said nozzle; and centering means for automatically centering said one mandrel into accurate registry with said nozzle.

3,340,570 MACHINE FOR THE PRODUCTION OF STRUCTURAL STEEL MATS OR THE LIKE

Willy Korf, Baden-Baden, Germany, assignor to
Ferrotest G.m.b.H., Basel, Switzerland

Filed Feb. 4, 1965, Ser. No. 430,288

7 Claims. (Cl. 18—5)



1. A machine for forming plastic jackets around the intersections between longitudinal and transverse rods of structural steel mats or the like, comprising means for guiding and supporting a series of longitudinal rods in a common plane so that at least one transverse rod may be located in a position in which it intersects such longitudinal rods at points which are arranged in a row; means for feeding transverse rods into positions for attachment to longitudinal rods; a plurality of separate jacket-forming units each comprising a pair of normally spaced mold sections located at the opposite sides of said plane, at least one mold section of each pair being movable toward the other mold section to define therewith a mold cavity which receives one of said points of intersection; actuating means for reciprocating said one mold section of each unit; and means for admitting plastic material into said mold cavities.

3,340,571

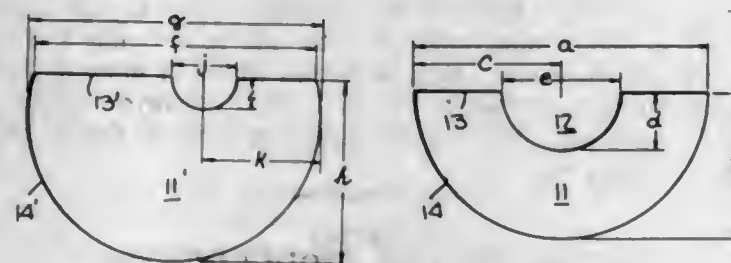
SPINNERET FOR MAKING HOLLOW FILAMENTS

Clarence Edward Bishop and Paul Harold Young, Narrows, Va., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Original application Apr. 2, 1964, Ser. No. 356,725.

Divided and this application Sept. 27, 1965, Ser. No. 511,003

12 Claims. (Cl. 18—8)



1. A spinnerette having formed therein at least one jet opening the basic shape of which is a segment of a circle, the straight boundary wall of said jet opening being provided with a small protuberance extending toward the opposed curved boundary wall of said jet opening.

3,340,572

MULTI-STRAND EXTRUDING DIE

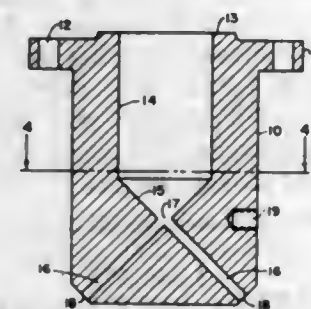
Robert J. Lurie, Morristown, N.J., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Jan. 5, 1966, Ser. No. 518,811

2 Claims. (Cl. 18—8)

1. In a multi-strand extruding die, means for axially directing a mass of molten thermoplastic material through

a plurality of die orifices, the axial directing means comprising a plenum chamber having an inlet and a gradually narrowing substantially conical outlet portion, and a plurality of passageways extending radially outward from said outlet portion, one end of each of said passageways



intersecting said outlet portion at its apex and the other end of each of said passageways forming one of said die orifices, said passageways being in a substantially parallel and coextensive relationship to the surface of said outlet portion.

3,340,573

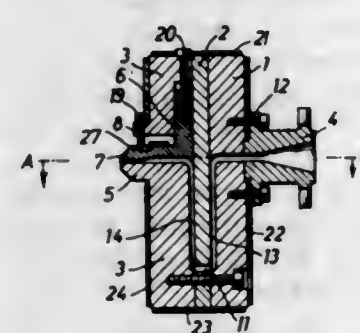
METHOD AND APPARATUS FOR PRODUCING PLANAR OBJECTS FROM PLASTICS

Franz Sommerfeld, Frankfurter Strasse 267,
Porz-Wahn, Germany

Filed Jan. 17, 1964, Ser. No. 338,399

Claims priority, application Germany, Jan. 22, 1963,
S 83,360

7 Claims. (Cl. 18—12)



1. An apparatus for manufacturing planar products from a stream of plastic material comprising an inlet channel for receiving said stream of plastic material; a first chamber having an arc shaped bottom, coplanar walls and a linear top connected with said inlet channel; a second chamber having substantially the same configuration as said first chamber and being arranged in spaced relationship with the latter; an overflow channel having an arc-shaped cross-section and connecting circumferentially said first and second chamber to overflow said plastic material from one chamber to another; an outlet extrusion channel having a linear wide slot cross-section and being connected to the linear top of said second chamber.

3,340,574

UNIVERSAL FORMING PRESS

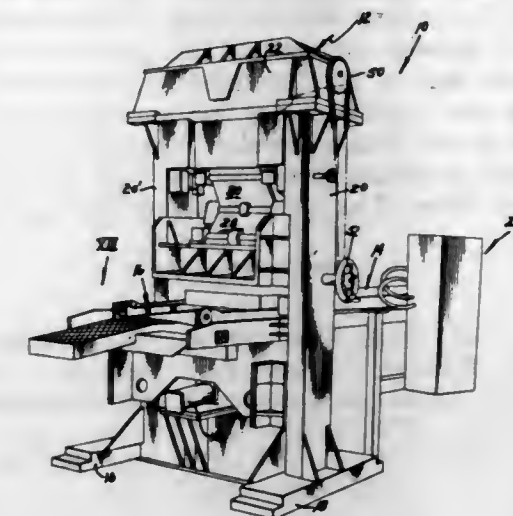
Robert E. O'Brien and Dietrich K. Roth, Grand Rapids, Mich., assignors to Kirkhof Manufacturing Corporation, Grand Rapids, Mich., a corporation of Michigan

Filed July 22, 1965, Ser. No. 474,132

4 Claims. (Cl. 18—16)

1. A forming press having capacity for different type forming operations comprising: platen support means including a rigid support frame having a pair of spaced uprights with a top cross beam therebetween and a base; upper platen means and lower platen means between said uprights for forming materials therebetween; shiftable means suspending said upper platen means beneath said cross beam, and shiftable means to shift it vertically toward and away from said lower platen means; means

supporting the lower platen above said base, and shiftable means to shift said lower platen means toward and away from said upper platen means, whereby the platen means can be shifted together and apart; platen locking means between said lower platen means and said platen support means, operably lockable to securely lock said lower platen means in one fixed position to cause it to comprise



a rigid platform for forming operations by movement only of said upper platen means; control means operably associated with both said shiftable means, and including means to cause operation of both said shiftable means, and alternatively, to cause operation of only said upper platen shiftable means.

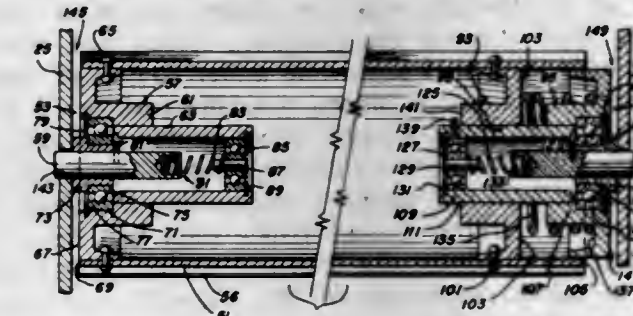
3,340,575

GIN STAND SEED COTTON ROLL CORE

William F. Sievers, Jr., 3233 Homewood Drive,
Memphis, Tenn. 38128

Filed July 8, 1965, Ser. No. 470,450

10 Claims. (Cl. 19—55)



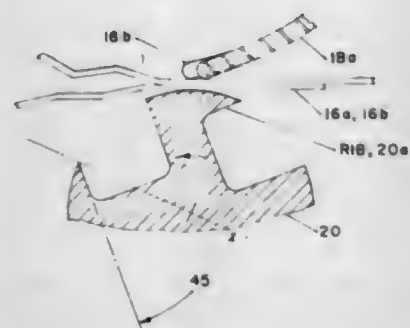
1. A seed cotton roll core for mounting in a gin stand having means including gin stand end walls defining a pair of oppositely disposed holes, said core comprising a tubular body having a substantially cylindrical periphery, first and second hub assemblies disposed respectively at opposite ends of said tubular body; said first hub assembly including a first annular member fixedly secured concentrically in one end of said tubular body, a first axle, first bearing means interengaging said first axle and said first annular member with said first axle being axially displaceable, first spring means biased from said first annular member for yieldably urging said first axle axially outwardly of said tubular body, and means for limiting the axial displacement of said first axle; said second hub assembly including a second annular member fixedly secured concentrically in the end of said tubular body opposite from said first hub assembly, a third annular member axially movably secured in said tubular body, a second axle, second bearing means interengaging said second axle and said third annular member with said second axle being axially displaceable, second spring means biased from said third annular member for yieldably urging said second axle axially outwardly of said tubular body, means for limiting the axial displacement of said second axle;

and third spring means for yieldably urging said third annular member, said second axle, said second bearing means and said second spring means axially outwardly of said tubular body; said tubular body being adapted to be rotatably supported in said seed cotton roll box enclosure with said first and second axles respectively of said first and second hub assemblies being fitted in said holes in said oppositely disposed end walls of said gin stand wall structure, with said third spring means urging said third annular member of said second hub assembly toward one wall of said gin stand wall structure, and with said first and second spring means respectively of said first and second hub assemblies urging said first and second axles respectively oppositely and securely in the respective holes of said end walls of said gin stand wall structure.

3,340,576

METHOD FOR BLOOMING TOW

James K. Pannill, Jr., and Paul Gallagher, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 5, 1966, Ser. No. 540,396
3 Claims. (Cl. 19-65)

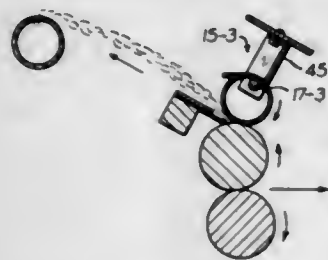


1. The method of applying blooming forces to a crimped continuous multifilament tow comprising the steps of maintaining said tow under controlled tension during application of the blooming forces, and continuously advancing said tow while under controlled tension between (1) a discontinuous movable surface of transverse ribs and flutes having perpendicular axes disposed at angles other than 90° to the direction of tow movement and (2) at least one member cooperating therewith with elements of varying characteristics such that the action between the discontinuous movable surface and member induces lateral vibration to the filaments resulting in blooming of the tow.

3,340,577

DOCTOR BLADE CLEARER

Alfred C. Morrow, Lowell, and Harry S. Barr, Jr., Charlotte, N.C., assignors to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 360,978
10 Claims. (Cl. 19-98)



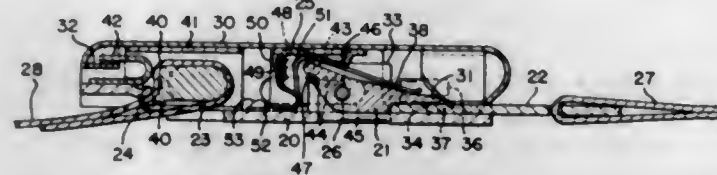
1. In combination with a moving surface and an adjacent stationary surface, means for clearing foreign matter from said moving surface and said adjacent stationary surface, said means comprising: surface contacting means movably positioned adjacent said moving surface for

movement thereby as a result of contact therewith; wiping means on said contacting means periodically displacing said contacting means from said moving surface as a result of the movement of said contacting means and wiping foreign matter from the surfaces to be cleared; support means for said surface contacting means, said stationary support means frictionally engaging the interior of the surface contacting means to resist the movement of the surface contacting means imparted to said contacting means as a result of its contact with said moving surface to insure relative movement between said surface contacting means and said moving surface.

3,340,578

SAFETY BELT BUCKLE

Edward R. Straight, Penfield, and Arthur A. Robson, Scottsville, N.Y., assignors to Vogt Manufacturing Corporation, Rochester, N.Y., a corporation of New York
Filed Feb. 14, 1966, Ser. No. 527,191
10 Claims. (Cl. 24-77)



1. In a safety belt buckle having movable, biased latch means for latching in place a tongue and having movable cinch means for adjustably retaining a length of belt, said latch means and said cinch means being arranged on a base, the improvement comprising: an actuator slidable in opposed directions over said base; first means on said actuator for moving said cinch means upon movement of said actuator in a first one of said directions to allow length adjustment of said belt relative to said cinch means; and second means on said actuator for moving said latch means upon movement of said actuator in a second one of said directions to open said latch means for releasing said tongue.

3,340,579

SLIDE FASTENERS

Michiyuki Tamura, Yakohama-shi, Kanagawa-ken, Japan, assignor to Yoshida Kogyo K.K., Tokyo, Japan, a corporation of Japan
Filed Nov. 29, 1965, Ser. No. 510,182
Claims priority, application Japan, Sept. 10, 1965, 40/55,497
1 Claim. (Cl. 24-205)



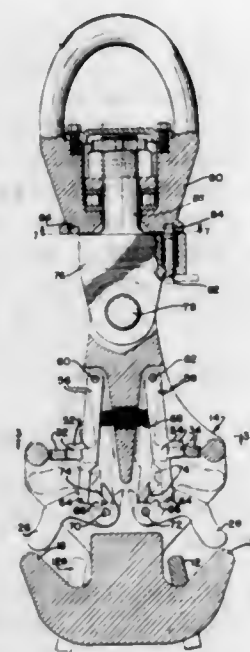
A slide fastener chain comprising a pair of tape stringers of substantially endless length, one of said tape stringers being provided with fastener elements along the

entire tape edge and the other being provided with tape portions devoid of fastener elements at predetermined intervals thereby forming a series of spaced groups of fastener elements.

3,340,580

DOUBLE HOOK ARRANGEMENT FOR USE WITH HOISTING EQUIPMENT

John Hart Wilson and Leroy P. Wilson, both c/o Wilson Manufacturing Co., P.O. Box 1031, Wichita Falls, Tex. 76307, and Frank M. Pool, P.O. Box 1940, San Angelo, Tex. 76901
Filed June 10, 1965, Ser. No. 462,892
6 Claims. (Cl. 24-241)



5. A double hook arrangement for use with hoist lines and the like, which double hook arrangement comprises: (a) a body having a pair of hooks formed thereon in back-to-back relation, which hooks extend upwardly and outwardly therefrom, (b) a pair of guard latches pivotally mounted on said body of said hook arrangement and being so positioned as to close the throat of each said hook, when said guard latches are in one position, (1) the pivot axes of said guard latches lying in a horizontal plane, which guard latches are arcuately movable to move out of the respective open throats of said hooks when in another position, and (c) operating means pivotally mounted on said body and being operatively connected to said respective guard latches to actuate said guard latches simultaneously.

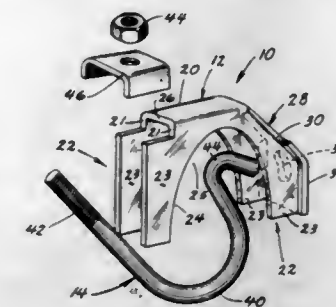
3,340,581

CLAMP

Milton C. Engman and Avery Van Zee, Des Moines, Iowa, assignors to Engman Manufacturing Company, Des Moines, Iowa, a corporation of Iowa
Filed Sept. 13, 1965, Ser. No. 486,922
9 Claims. (Cl. 24-276)

1. A clamp, comprising, a pair of sections interconnected to extend completely around the pieces being clamped, one of said sections having a pair of legs and an opening formed on one of said legs, the other section having a pair of legs and one of said legs having a hook end portion for pivotal engagement with said opening, and means for adjustably interlocking said one section to the other leg of said other section, said one section being formed of sheet metal and having a center portion

along its length which is channel shaped in cross-section to present a base wall interconnecting two side wall flanges, said side wall flanges having inner peripheral edges for engagement with the pieces being clamped together, said sidewall flanges extending outwardly lengthwise to form the legs of said one section and an end wall

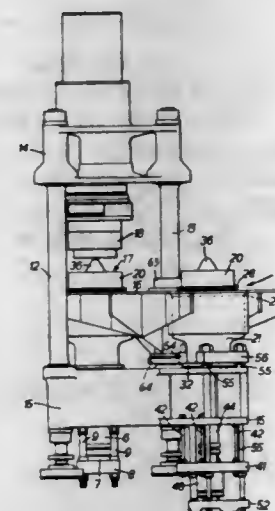


extending between and over the side wall flanges of one leg, and said opening being formed in said end wall whereby said end wall is adapted to bear against the outer peripheral edges of said adjacent flanges and force said flanges along their inner peripheral edges into clamping engagement with said work pieces.

3,340,582

MOULDING PRESS

Jack Herbert Beard, Sheffield, England, assignor to Davy and United Engineering Company Limited, Sheffield, England
Filed June 25, 1965, Ser. No. 466,884
8 Claims. (Cl. 25-66)



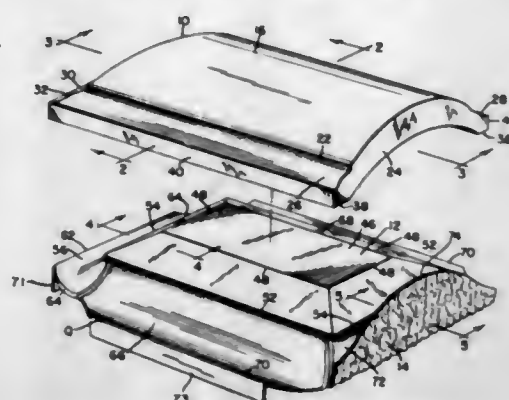
1. A moulding press comprising a plurality of fixed columns connected by a fixed crosshead, a plurality of operating stations, a rotatable support table, a plurality of similar mould assemblies arranged at equiangularly spaced intervals on the support table, the mould assemblies being free to move upwards from the support table, each mould assembly having a mould band and a mould base movable in the mould band, means for rotating the table to move the assemblies through the plurality of operating stations in sequence, one of the stations being an ejector station including an ejector piston and cylinder assembly arranged beneath the table to act upwardly on the mould base of a mould assembly at that station, and means independent of the table for clamping the mould band of the assembly at said ejector station to said fixed crosshead, said mould assembly having a projecting clamping flange beneath the support table, in a position to be engaged by the clamping means to resist upward movement during ejection.

3,340,583

HEAD CAP LINER CONSTRUCTION FOR BURIAL CASKETS

Carl H. Ross, Cincinnati, Ohio, assignor to The Crane & Breed Casket Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 4, 1965, Ser. No. 453,576
22 Claims. (Cl. 27-19)

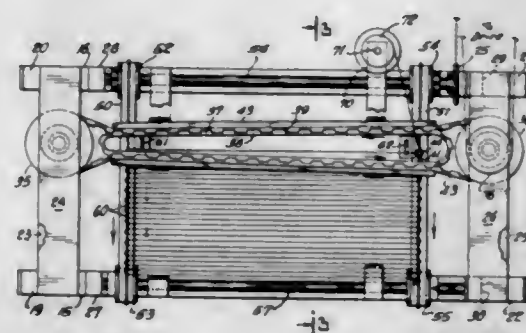


21. A decorative liner for application to the head cap of a burial casket, comprising in combination: a center panel of shallow truncated pyramid formation presenting lines of contact to abut an interior surface of the head cap, said panel having opposed side margins and opposed end margins; a plurality of resilient wings each having a base portion, an outer anchorage edge, and a pair of opposed mitered ends; means fixing the base portions of the wings to the margins of the panel whereby each wing depends from a panel margin, said wings being of a flexible inherently resilient sheet material preformed to curve downwardly and outwardly in roll formation, with the span of opposed wings exceeding the overall dimensions of the head cap.

3,340,584

APPARATUS FOR CROSS-LAYING FIBROUS MATERIAL

Frank Kalwaites, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed June 17, 1965, Ser. No. 464,762
11 Claims. (Cl. 28-1)



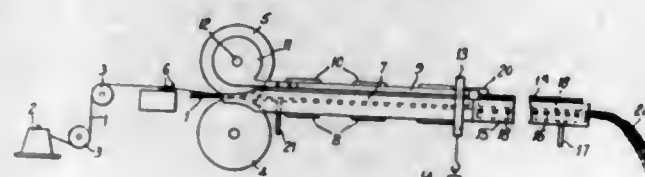
1. Apparatus for cross-laying fibrous materials comprising: a pair of endless belts of different lengths arranged so that the shorter belt is nested inside the longer belt, means for driving the longer belt which in turn drives the shorter belt, feed means attached to the shorter belt, a pair of guide means positioned in contact with the straight flights of said longer belt to control the path of said belts and the feed means attached thereto, conveying means positioned beneath and at an angle to said pair of endless belts, said conveying means being substantially as wide as the length of said guide means and holding means positioned at the edges of said conveying means whereby fibrous material from said feed means is held by said holding means at the edge of said conveying means and is passed to the other edge of said conveying means and held by said holding means at said edge as the shorter belt passes along a straight flight of its path.

3,340,585

YARN CRIMPING METHOD AND APPARATUS

Gordon Stuart Buckley, Coventry, England, and Ronald Arthur Robb, Holywell, Wales, assignors to Courtaulds Limited, London, England, a British company

Filed Aug. 18, 1965, Ser. No. 480,566
Claims priority, application Great Britain, Aug. 20, 1964, 34,020/64
14 Claims. (Cl. 28-1)



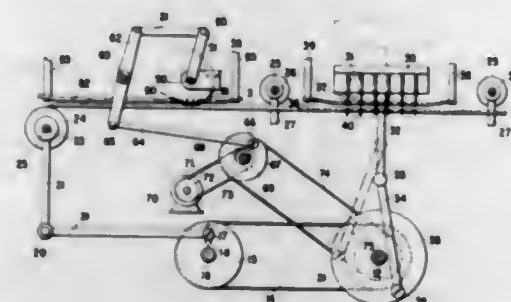
8. Yarn-crimping apparatus which comprises means for forcing a plurality of yarns, parallel to and in contact with each other, in a single layer, by means of a pair of nip rollers, into a heated channel having a width such that the yarns are maintained under lateral compression, means comprising a heated surface against said layer of yarns for applying pressure on said yarns as said yarns are passed through said channel, and means for ejecting said yarns from said channel onto a cool surface, thereby cooling the yarns to set crimp developed in said heated channel.

3,340,586

METHODS AND APPARATUS FOR NEEDLING TEXTILE FIBERS

Josef Zocher, Birkesdorf, Duren, Germany, assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 30, 1965, Ser. No. 483,697
15 Claims. (Cl. 28-4)



3. Mechanism for needling textile webs comprising means providing a work supporting surface for a textile web, a needle rock shaft journaled at one side of said work supporting surface, a barbed felting needle carried by said needle rock shaft and formed with a circularly curved blade having a center of curvature substantially coincident with the axis of said needle rock shaft, means for oscillating said needle rock shaft to effect work penetration of a textile web on said work supporting surface with entry and emergence of said curved felting needle on the same surface of said textile web during each needle penetration, and means for advancing said textile web along said work supporting surface between successive needle penetrations.

3,340,587

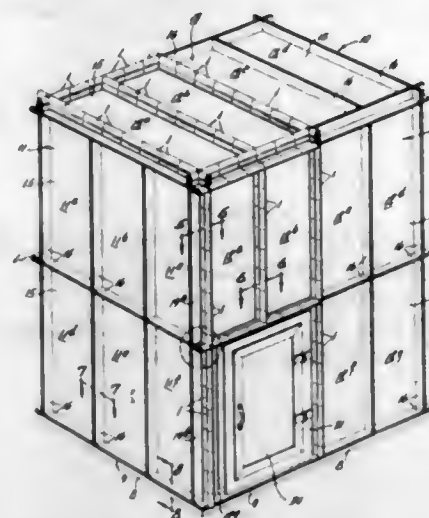
METHOD OF FABRICATING SHIELDING ENCLOSURES

Herbert K. Beyer, 600 Pine St., Royersford, Pa. 19468

Filed Nov. 26, 1965, Ser. No. 509,979
7 Claims. (Cl. 29-155)

1. A method of fabricating a modular demountable enclosure for shielding against electromagnetic radiation and static or varying flux fields, said enclosure having

top, bottom and side walls at least one of which walls comprises a plurality of electrically conductive panels, each of said panels having a body portion and upstanding flanges circumscribing said body portion, said method comprising the steps of: disposing said panels adjoining one another with their flanges in face-to-face abutting



relation, providing U-shaped spring clips having an interior lateral width at the open end thereof less than the width of said abutting flanges, forming an electrically continuous wall of said panels by forcing said clips over said abutting flanges to thereby secure adjacent panels to each other.

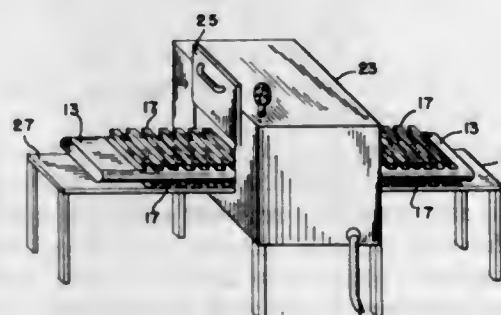
3,340,588

METHOD OF MAKING HEAT EXCHANGERS

Heinz E. Mueller, Littleton, Colo., and Dietrich E. Singelmann, Buffalo, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Original application Oct. 19, 1960, Ser. No. 63,691.
Divided and this application Dec. 11, 1962, Ser. No. 243,981

3 Claims. (Cl. 29-157.3)



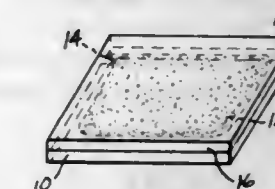
1. The method of fabricating a spiral heat exchanger having a means provided for conducting a fluid coolant therethrough comprising the steps of positioning a corrugated radiating member in contact with the outer surface of a laterally elongated fluid conducting tubular member, brazing said positioned members by passage through a heated furnace using a continuous brazing process, inserting filler blocks into the recesses in the corrugations of said radiating member, attaching a separating strip to the outermost extremities of the corrugations on said radiating member, winding said brazed heat exchanger and attached separating strip into spiral form, said separating strip serving to prevent meshing action of adjacently disposed sections of said corrugating member, and removing said filler blocks from the corrugations in said radiating member thereby allowing substantially free passage of heat carrying gaseous fluid through the area between adjacent windings of the tubular member.

3,340,589

METHOD OF MAKING SHEET METAL PANEL

Ulric R. Jaeger, Greenwich, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Mar. 10, 1964, Ser. No. 350,890
3 Claims. (Cl. 29-157.3)



1. A method of making a sheet metal panel having a pattern of interior hollow cavities defined between a pair of partially unified sheets comprising:

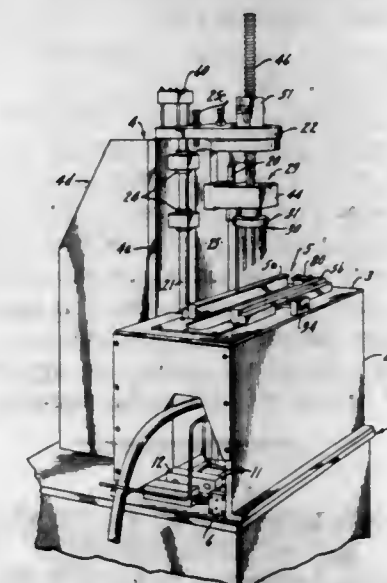
- (A) applying a continuous, substantially uninterrupted layer of stop weld material to an entire confronting face of at least one of said sheets except for a marginal edge portion extending substantially around the periphery of said confronting face, said layer being of such thickness as to allow relatively low quality bonding of said sheets,
- (B) forming a blank by positioning said sheets adjacent one another with said layer of stop weld material interposed therebetween,
- (C) hot rolling said blank to simultaneously integrally unify said sheets over said marginal edge portion and to unify said sheets with a low quality bond over the portion thereof coated with said stop weld material, and
- (D) inflating said unified blank in the area of said low quality bond by injecting therein a fluid under pressure between a pair of hold down dies having cavities formed therein corresponding to the pattern of internal cavities desired in said panel whereby said sheets expand into said die cavities and remain unified in those areas where said dies are not relieved.

3,340,590

BALL BEARING SEPARATOR

Curtiss A. Reynolds, Rockford, Ill., assignor to Rehnberg-Jacobson Mfg. Co. Inc., Rockford, Ill., a corporation of Illinois

Filed Mar. 1, 1965, Ser. No. 436,026
16 Claims. (Cl. 29-201)

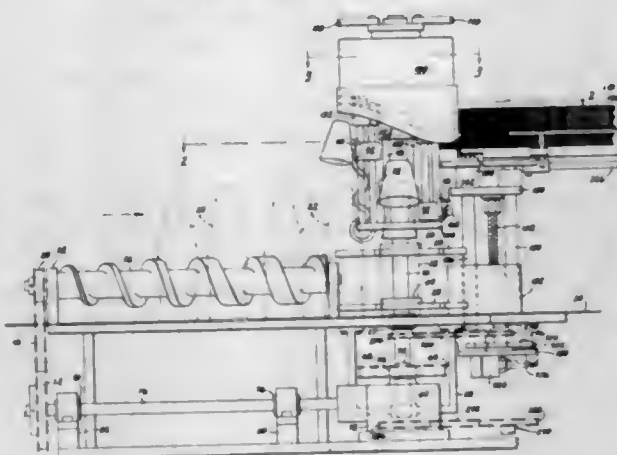


1. Means for automatically treating a bearing assembly which includes an inner and outer race and a plurality of bearing balls at loose random between said races, said means including a track having a receiver station, a separator station and a removal station, a transfer assembly adjacent said track, a separator assembly adjacent said

track and automatic means for alternately moving said transfer assembly along said track to transfer bearing assemblies therealong and moving said separator assembly across said track to separate said balls into equally spaced circumferential relationship between said races, a sliding connection between said transfer and separator assemblies, ball positioner means carried by said transfer assembly, said connection being effective to cause movement of said positioner means across said track in response to movement of said separator assembly.

3,340,591

BOTTLE COLLAR APPLYING MECHANISM
Harland S. Fisher, Longmeadow, and Charles A. Dumas, Westfield, Mass., assignors to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed June 23, 1964, Ser. No. 377,361
19 Claims. (Cl. 29—208)



1. A machine for applying a collar to the top neck portion of a bottle moving along a conveyor comprising:
 - (a) a collar handling device having a substantially circular path of movement for accepting a collar from a supply source and subsequently guiding it over the neck portion of a bottle and releasing it, said collar handling device having means for grasping a collar when contact is made therewith,
 - (b) means for positively controlling movement of said bottle through an arc, in approximately vertical alignment with said collar handling device,
 - (c) a collar magazine having a discharge end in close proximity to a point on the path of said collar handling device, and oriented such as to discharge collars from a nest, small-end-first in a direction substantially tangent to the path of movement of said collar handling device, and
 - (d) means causing said collar handling device to remove a collar from said magazine as it passes the discharge end thereof including means for oscillating the discharge end of said magazine radially inward and outward relative to the path of said collar handling device and in timed relation therewith, such that the wall of the end collar in said magazine is moved into intersecting position with the path of said collar handling device at approximately the instant of arrival of said collar handling device.

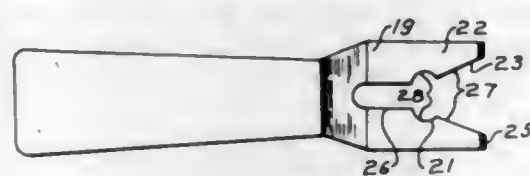
3,340,592

TOOL FOR REMOVING DOOR HANDLE RETAINING SPRINGS

Ervin C. Carpenter, 8201 49th St. N., Pinellas Park, Fla. 33565
Filed Oct. 19, 1965, Ser. No. 498,054
1 Claim. (Cl. 29—229)

A hand tool for the removal of a door handle retaining spring comprising a head made of thin sheet metal, said head comprising an outside edge, a tapered recess projecting inwardly from said outside edge and having a curved

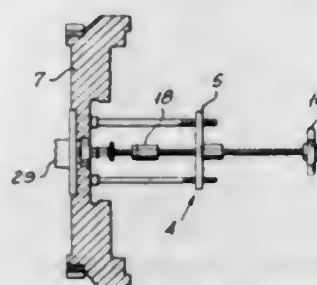
recess inwardly of said tapered portion proportioned to closely conform to the outside shape of said spring, and



having an elongated slot beyond said curved recess proportioned to provide resiliency to said curved recess.

3,340,593

SPLIT SLEEVE BEARING PULLER
Dominic Savastano, 15 Iowa Ave., Paterson, N.J. 07503
Filed Oct. 12, 1966, Ser. No. 586,069
1 Claim. (Cl. 29—262)



- A bearing puller comprising a yoke adapted to engage an object,
- a threaded rod extending through said yoke, said rod terminating in a frustum-shaped head,
 - a nut threaded on said rod between said yoke and said head, said nut having a cylindrical collar,
 - a bearing gripping unit having two fingers each comprising one longitudinal half of a cylinder, each of said fingers being provided at one end with a semi-cylindrical peripheral flange in position when expanded to grip the radial face of a bearing confined in a bore of said object over substantially the circumference thereof and adapted at the other end to receive said cylindrical collar, said fingers being radially expanded by said frustum-shaped head from a closed position about said rod on the withdrawal of said rod through said yoke,
 - said fingers having a circumferential groove in the external surface thereof substantially midway of the length, and a unitary resilient split ring spring member disposed in said groove embracing the fingers and normally tending to urge the latter from an expanded position to a closed position about said rod, and
 - means for withdrawing said rod through said yoke.

3,340,594

METHOD OF AND APPARATUS FOR THE PRODUCTION OF INDIVIDUAL SLIDE FASTENERS
Alfons Fröhlich and Heinz Smyczek, Essen, Germany, assignors to Opti-Holding A.G., Glarus, Switzerland, a corporation of Switzerland
Filed July 19, 1965, Ser. No. 473,003
Claims priority, application Germany, Apr. 6, 1965, O 10,769

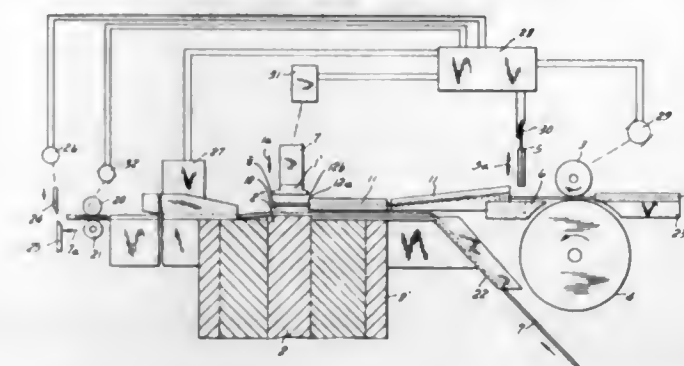
18 Claims. (Cl. 29—408)

1. A method of producing individual slide fasteners from a continuous slide-fastener strip having a pair of continuously coupled fastener half-strips each comprising a support band and a fastening element coupled with the fastening element of the other band, said method comprising the steps of:

advancing said slide-fastener strip substantially continuously past a heat-sealing station;

feeding a continuous strip of heat-sealable foil in the direction of advance of said slide-fastener strip and generally parallel thereto to said station whereby successive sections of said foil are juxtaposed with said slide-fastener strip;

severing the successive sections of said foil from the continuous strip thereof transversely to said strip and applying said sections to said slide-fastener strip under pressure while heating said sections to bond them to said slide-fastener strip; and

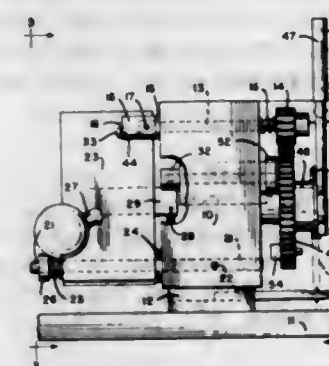


severing successive individual lengths of slide fastener from said slide-fastener strip through the foil sections heat-bonded to said slide-fastener strip between said successive lengths, thereby simultaneously forming from said foil sections end stops for successive individual slide fasteners severed from said slide fastener strip.

3,340,595

METHOD OF, AND APPARATUS FOR, CONNECTING APERTURED MEMBERS TO SPLIT RINGS

Arthur T. Hoadley, 89 Regent Terrace, Devon, Conn. 06460
Filed Feb. 2, 1965, Ser. No. 429,760
16 Claims. (Cl. 29—433)



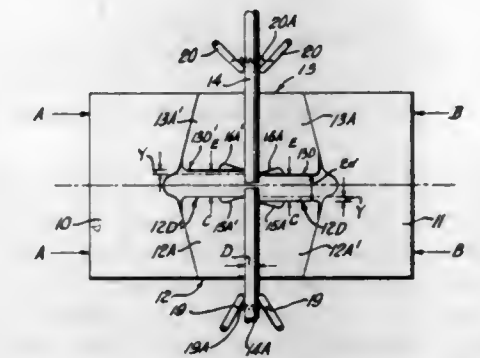
1. The method of looping together a split ring formed by close wound helical convolutions of spring wire having a leading end and a trailing end and a member containing an anchorage aperture spaced from an edge of said member by a slim margin of the latter, which comprises the steps of, immobilizing substantially all of said ring except a first convolution thereof that terminates in a free leading end of said wire, stationing a wedge between said first convolution and an axially adjacent convolution at a point on said ring sufficiently near said free end of said wire to hold said leading end axially separated from said adjacent convolution by a space substantially as wide as said margin of said member, threading the aperture in said member over said leading end of said wire into occupancy of said space in the neighborhood of said wedge, arresting said member against departure from the neighborhood of said wedge, and rotating said ring circumferentially a sufficient angular extent to cause the trailing end of said wire to pass and clear both said wedge and said member, whereby to permit escape of said ring from said stationary wedge and imprison said member on said ring.

3,340,596

COLD PRESSURE WELDING OF WIRES AND THE LIKE

Walter J. Rozmus, Hubbardville, N.Y., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,833
13 Claims. (Cl. 29—470.1)



1. A method of cold pressure welding the ends of wires and the like workpieces comprising the steps of

- (1) gripping the end portions of a pair of wires by die means inwardly of the end faces of the wires so that the end faces of said wires are in abutting relationship,
- (2) subjecting the butted wires to endwise pressure through said die means, to force said end faces together and to create an interfacial metal flow substantially radially of the wires and to thereby produce an initial ring-shaped upset flash by the displaced metal extending outwardly from the wires,
- (3) displacing, while continuing the upset pressure, the metal of one half-section of said flash in one direction axially of said wires and displacing the metal of the other half-section of said flash in the opposite axial direction, and
- (4) continuing said pressure until effecting a complete axial separation of said flash sections and joining of said wires in a solid-phase welding bond at an interfacial area of substantially S-shaped configuration.

3,340,597

METHOD OF BONDING

George Ernest Stein, Henrico County, Va., and Frank Leonard Arnold, Fairview Village, Pa., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed June 28, 1963, Ser. No. 291,258
11 Claims. (Cl. 29—488)

1. Method of bonding aluminum or an aluminum base alloy to stainless steel to form a composite, which comprises treating the bonding surface of the aluminous metal to effect removal of aluminum oxide film, heating the aluminous metal to a temperature between about 600° F. and about 1200° F., and rolling said treated surface against the stainless steel while maintaining the stainless steel at a temperature between ambient temperature and about 450° F., the temperature differential between the metals being at least 450° F.

3,340,598

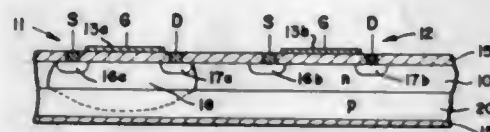
METHOD OF MAKING FIELD EFFECT TRANSISTOR DEVICE

Owen W. Hatcher, Sunnyvale, Calif., assignor, by mesne assignments, to Teledyne, Inc., Hawthorne, Calif., a corporation of Delaware

Filed Apr. 19, 1965, Ser. No. 448,953
5 Claims. (Cl. 29—571)

1. A process for forming a field effect transistor of the type described comprising: providing a semiconductive substrate of one conductivity type; depositing on a se-

lected area of one surface of said substrate a high impurity concentration region of said one conductivity type; placing a semiconductive layer of opposite conductivity type in contiguous relationship with said surface to form a rectifying junction therewith; depositing on the surface of said semiconductive layer in substantial juxtaposition with said selected area a pair of spaced semiconductive



regions of said opposite conductivity type; diffusing said high impurity concentration region into said semiconductive layer toward said surface of said layer; monitoring said diffusion by placing a voltage across said spaced pair of regions; and stopping such diffusion when said monitoring indicates a substantial diode action between one of said spaced regions and said semiconductive layer.

3,340,599

SIMPLE METHOD OF MAKING PHOTOVOLTAIC JUNCTIONS

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Sidney G. Ellis, Princeton, N.J.
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,135
6 Claims. (Cl. 29-572)

1. The method of making a photovoltaic junction comprising the steps of: forming an n-type gallium arsenide layer on a metal substrate; and depositing a film of p-type cuprous iodide on the exposed surface of said layer.

3,340,600

METHOD OF INTERCONNECTING CONDUCTORS LOCATED ON OPPOSITE SIDES OF AN INSULATING BASE

Richard A. Harris, High Point, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 2, 1964, Ser. No. 408,305
5 Claims. (Cl. 29-581)



1. A method of interconnecting conductive elements located on opposite sides of an insulating base, comprising the steps of:

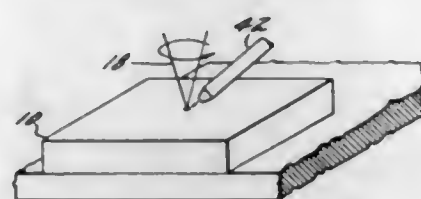
coating said conductive elements with a fluxing agent having insulating characteristics, inserting a deformable conductive member having a fusible metal coating thereon into an aperture formed through the conductive elements and the insulating base, deforming said conductive member about at least one of said conductive elements with a ram and an anvil, each having a contact surface larger than the diameter of said conductive member to mechanically interconnect said elements, and directing a pulse of electrical current through said ram, said deformed conductive member, and said anvil, while said fluxing agent maintains electrical insulation between the contact surfaces of said ram and anvil and said conductive elements to thereby pass substantially all of said current through said member

to melt said metal coating on said member to form an electrical connection between said conductive elements and said member.

3,340,601

ALLOY DIFFUSED TRANSISTOR

Domenick J. Garibotti, Longmeadow, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 17, 1963, Ser. No. 295,635
4 Claims. (Cl. 29-582)

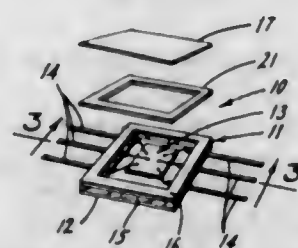


1. A method of fabricating a semiconductor device comprising: directing an intense beam of charged particles at a discrete area on the surface of a body of host semiconductor material rich in an impurity of a first conductive type, adjusting the power density of the beam of charged particles to a value that will permit the particles to penetrate into the host material and cause fusion thereof in a zone having a depth greater than its width, deflecting the beam of charged particles across the body of host material in accordance with a desired pattern to form a fusion area having the desired surface pattern, adding an impurity of a second conductive type to the fused zone until it becomes degenerate, and heating the body of semiconductor material to cause second type impurity atoms to diffuse out of the fusion zone into the host material until a diffusion junction has been achieved in a limited region of the host material surrounding the fusion zone.

3,340,602

PROCESS FOR SEALING

Thomas H. Hontz, Cedars, Pa., assignor to Philco Ford Corporation, a corporation of Delaware
Filed Feb. 1, 1965, Ser. No. 429,471
12 Claims. (Cl. 29-588)



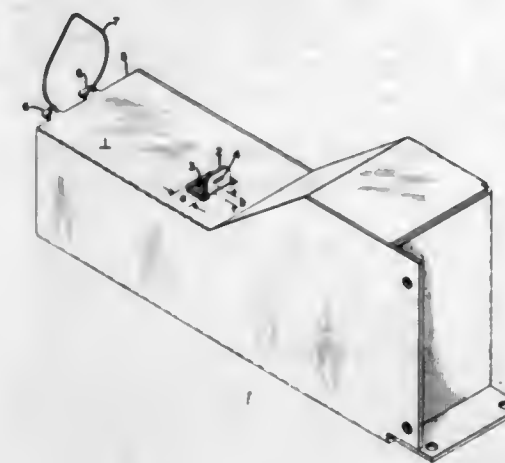
8. In a process for hermetically sealing electrical circuit means, including gold-to-aluminum bonded connections, in a housing having a sealing surface of gold, by solder bonding thereto a cap having a mating sealing surface of gold, the steps comprising: heating said cap and housing, in the presence of hydrogen, to a temperature sufficient to render the sealing surfaces receptive to solder bonding without adversely heating the circuit means; cooling said cap and housing; interposing a body of solder comprising a gold-tin alloy between said cap and housing sealing surfaces; subjecting the cap, the housing, and the solder thus assembled to an ambient atmosphere of nitrogen while heating the recited assembly to a temperature sufficient to melt the solder and dis-

solve adjacent portions of the gold sealing surface without adversely heating the circuit means and housing; and permitting the solder to solidify.

3,340,603

ELECTROLYTIC CAPACITOR MOUNTING APPARATUS AND METHOD

Charles W. Charles, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 25, 1965, Ser. No. 427,681
7 Claims. (Cl. 29-592)



1. An apparatus for mounting an electrolytic capacitor having an index lug positioned at one end thereof, said apparatus comprising: a support member including a lanced-out tab having a lug receiving slot therein, engageable with the index lug of the capacitor, capacitor restraining means connected to said support member, and engageable with the end of the capacitor opposite the end where the lug is located to hold the capacitor against said support member.
6. A method for mounting to a support member an electrolytic capacitor having electric terminals and an index lug at one end thereof, said method comprising the steps of: (A) forming from the support member a lanced out tab having a lug receiving slot therein, (B) securing capacitor restraining means to said support member, (C) electrically connecting the terminals to desired circuit points, (D) inserting the index lug in the lug receiving slot, (E) positioning the capacitor flush to the support member, and (F) engaging the end of the capacitor opposite the lug with the capacitor restraining means.

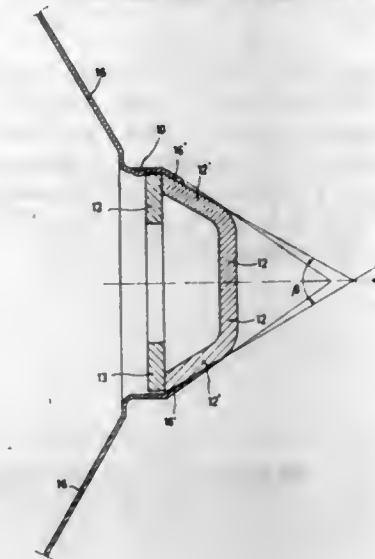
3,340,604

METHOD OF SECURING STACKED PARTS OF A LOUDSPEAKER

Roland Parain, Amandiers-Nanterre, France, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1964, Ser. No. 393,544
Claims priority, application France, Sept. 2, 1963, 946,305
2 Claims. (Cl. 29-594)

1. A method of assembling the magnetic pot, pole plate and supporting frame of a loudspeaker comprising the steps of forming a truncated conical portion defining an apical angle β at one end of said loudspeaker frame member, forming a generally U shape magnetic pot part having a frusto-conical side wall portion defining an apical angle α which is less than said apical angle β , inserting said pot part concentrically within said truncated conical

portion of said frame in an upright position so that said frusto-conical side wall portion engages said truncated portion, placing said pole plate within said truncated conical portion overlying the upright walls of said pot

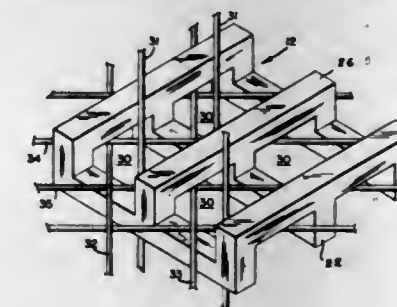


part, positioning said pot part and associated plate within said truncated portion to stress said truncated portion and deforming said truncated portion adjacent to said pole plate to hold said parts in said position.

3,340,605

PROCESS OF FORMING A MULTI-APERTURED MAGNETIC DEVICE

Joseph W. Crownover, La Jolla, Calif., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Original application Jan. 5, 1962, Ser. No. 164,525.
Divided and this application Apr. 10, 1964, Ser. No. 363,321
6 Claims. (Cl. 29-604)



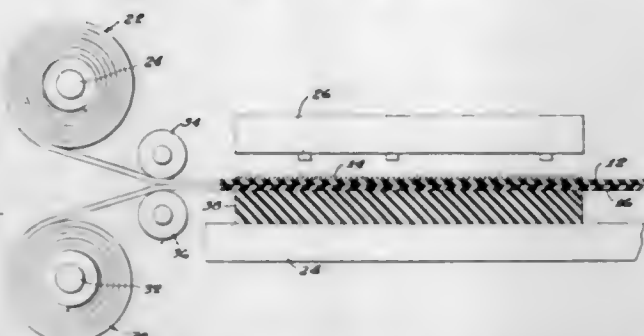
1. A method of manufacturing a multi-apertured magnetic device in which the magnetic material surrounding each aperture is capable of being selectively magnetized to either of two different senses of remanent magnetization to represent digital information, said method comprising the steps of:

forming a slab of magnetic material that exhibits a substantially rectangular magnetic hysteresis characteristic and has parallel first and second planar surfaces; removing material in a plurality of identical patterns, each to a prescribed depth, from the first surface of said slab; removing material to a prescribed depth from said second surface in a plurality of patterns which are out of alignment with, but which overlap, patterns in said first surface, the sum of the prescribed depths to which the patterns are removed from said first and second surfaces being greater than the thickness of said slab resulting in the intersection of the patterns in said first and second surfaces, and the widths of each of said patterns in the first and second surfaces being substantially greater than spacing be-

tween adjacent ones of said patterns, to establish effective passageways within said slab in a plane substantially parallel to said slab surfaces.

3,340,606 PRINTED CIRCUIT STRUCTURE AND METHOD OF MAKING THE SAME

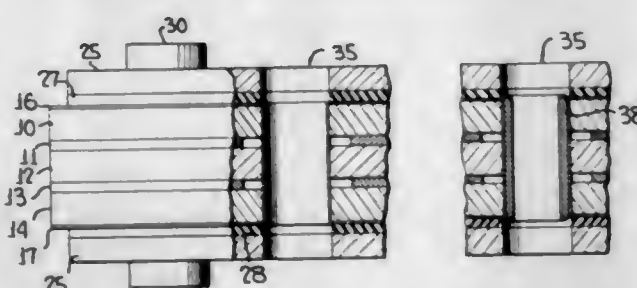
Paul L. Anderson, Vernon, Conn., and John A. Zagusta, Jackson Heights, N.Y., assignors to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts
Filed Nov. 13, 1962, Ser. No. 236,920
3 Claims. (Cl. 29—625)



1. A method of making a printed circuit structure which comprises the steps of superimposing a non-stretchable fibrous sheet on a tough synthetic stretchable backing sheet coated with a curable resin, placing the assembly on a resilient base member supported on a die base, placing a relatively thin conductive metal foil on the fibrous sheet, and die stamping said foil sheet to cut and produce a circuit pattern without damage to said fibrous sheet by virtue of the stretchability of said backing sheet and the resiliency of said base member and to adhere the glass fabric and backing sheet together and the circuit pattern to the glass fabric sheet to provide a flexible heat-resistant assembly.

3,340,607 MULTILAYER PRINTED CIRCUITS

James R. Shutt, Alexandria, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 410,474
2 Claims. (Cl. 29—625)

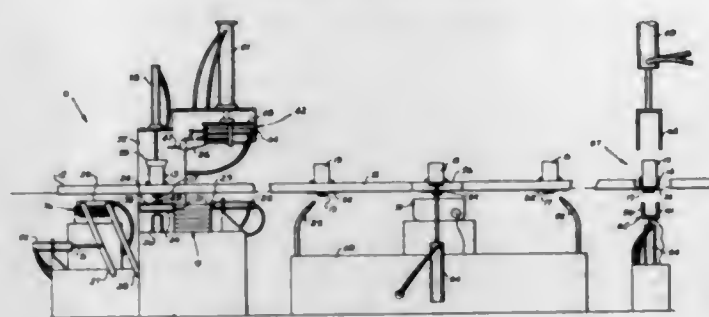


1. In the process of manufacturing multilayer printed circuit boards, each board comprising a plurality of insulative sheets having conductive circuit patterns thereon, bonded together to form a plurality of insulated circuit strata between exterior insulative surfaces, and a plurality of holes therethrough, the steps of seeding said exterior surfaces and the walls of said holes with a thin film of conductive material; completely masking said exterior surfaces with rigid insulative templates having resilient surfaces and having holes corresponding to those in the board, by placing said resilient surfaces against said seeded exterior surfaces of said board with the template holes disposed in registry with the holes in said board; maintaining said templates in place under pressure to force said resilient surfaces thereof against said seeded exterior surfaces of said board, thereby preventing exposure of said seeded exterior surfaces to plating material,

while electroplating the conductive film on the walls of said holes via a conductive path including the conductive film on said seeded exterior surfaces, to electrically connect said circuit strata through a relatively thick conductive layer; and removing said templates and the thin conductive film from said seeded exterior surfaces to expose said insulative exterior surfaces with padless plated through-holes therebetween.

3,340,608 METHODS OF ASSEMBLING COMPONENTS WITH PRINTED CIRCUITS

Harold F. Blair, Worthington, and Donald F. Thomas, Upper Arlington, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 3, 1963, Ser. No. 249,181
3 Claims. (Cl. 29—626)



1. A method of assembling terminals of a unit with printed circuit panels, which comprises the steps of; positioning a support pad on a platform, positioning a flexible printed circuit on the support pad, supporting the unit so that the terminals of the unit are aligned spatially with land areas of the printed circuit, and moving relatively the platform and the extended terminals of the unit together, whereby the terminals punch through the panel and the land areas of the flexible printed circuit and into the support pad.

3,340,609 COLLAPSIBLE SAFETY RAZOR

Maurice H. Sacharow, 3131 Washington Ave., Cleveland, Ohio 44113
Filed Oct. 20, 1965, Ser. No. 498,316
3 Claims. (Cl. 30—47)

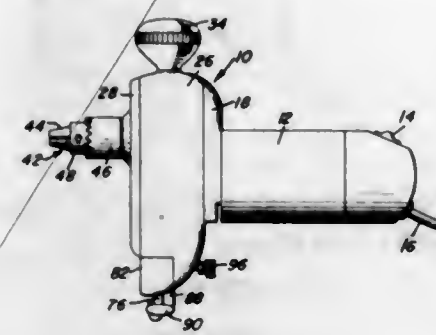


1. A collapsible razor comprising a case and a handle having means at one end for attaching a razor head thereto, said case having a generally rectangular configuration with a longitudinally extending slot in one of the sides, said handle having a pair of flexible arms interconnected by a base portion, said arms in their relaxed condition diverging away from each other, said base portion being closely slidably received in said case with said arms resiliently engaging opposite sides of said case, and an integral button projecting from one of said arms and

extending through said slot for limiting the extent to which said handle may be extended from and retracted into said case with said razor head detached from said handle, said button being located adjacent said base portion, whereby substantial flexing of the outer ends of said arms toward each other will be ineffective in disengaging said button from said slot.

3,340,610 PORTABLE CUTTING, SLITTING AND DRILLING MACHINE

Otto Hendrickson, Azusa, Calif. (P.O. Box 5316, Canyon Crest Station, Riverside, Calif. 92507)
Filed Nov. 16, 1964, Ser. No. 411,278
8 Claims. (Cl. 30—123)

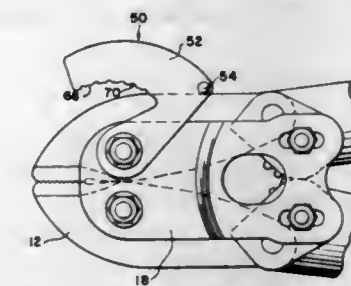


1. A portable cutting and slitting machine comprising a housing, a cutter reciprocally mounted in said housing, means on said housing for reciprocating said cutter, said housing including a stationary cutter bar guiding said cutter, a foot supported from said housing and receiving an end portion of said cutter, the end portion of said cutter projecting outwardly from the cutter bar and guidingly associated with said foot, said cutter bar and said cutter having cooperating cutting edges for cutting a slot in material, said foot adapted to engage under the material, said cutting bar adapted to engage the material in opposed relation to the foot, said cutter reciprocating through the material and including upwardly facing cutting edges orientated in opposed relation to the cutting edges on the cutting bar for sequentially piercing, shearing and deburring the material being cut while leaving a smooth, clean cut in the material, said cutting edges on the cutter including a notch in the forward edge of the cutter, the lower edge of the notch being defined by an upwardly and forwardly inclined surface terminating in a transverse piercing edge, the side edges of the inclined surface of the notch defining downwardly and rearwardly inclined shear edges, said foot including a pair of foot elements, a slide bar mounted on the housing for adjusting the position of the foot elements for varying the spatial relation between the foot elements and the cutter bar for receiving different thicknesses of material therebetween, said slide bar being disposed behind said reciprocating cutter, said cutter and slide bar being relieved in the area received in the slot to enable the device to cut curved slots.

3,340,611 BOLT CUTTER HAVING HANDLES INTERLINKED WITH CAM MEANS AND GEAR MEANS

William A. Lauck, Elyria, Ohio, assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed July 18, 1966, Ser. No. 566,064
7 Claims. (Cl. 30—124)

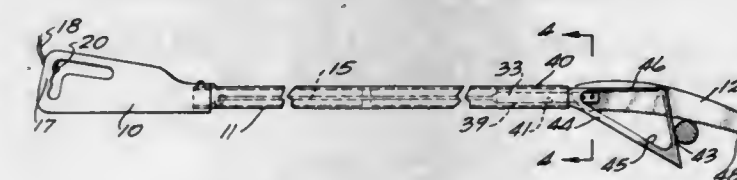
1. In a bolt cutter having a pair of spaced plates with first and second cutter jaws disposed therebetween with pivot means pivotally mounting said jaws thereto, first and second handles connected to the first and second cut-



ter jaws by first and second pivot pins, and means to slidably engage said handles with said plates, and wherein said jaws are operable by said handles for pivotal cutting movement, the improvement which comprises, mutually engaged smooth cam surface means on said handles, and

3,340,612 ELECTRIC TREE PRUNING SAW

Erwin C. Knight, Watertown, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,759
4 Claims. (Cl. 30—166)



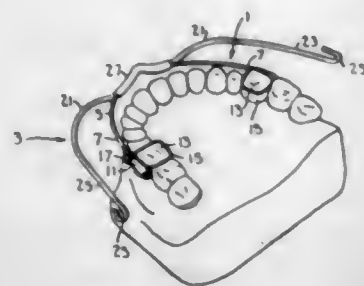
1. In an electric pruning saw, the combination of a hollow housing having a handle portion integral therewith, an elongated tubular pole affixed at one end to said housing, a guide affixed at one end thereof to the other end of said pole and having a noncircular opening axial of said pole and a tree limb support portion with a cross head generally transverse to the axis of said pole and a connecting portion extending from said cross head to said one end of said guide, a blade support member having a noncircular cross section complementary to said opening and being reciprocable longitudinally within said opening, a pruning saw blade, means for securing said blade to said blade support member, said limb support portion having longitudinal and transverse blade guiding slots therein slidably receiving said blade providing continuous lateral support to said blade from said blade support member to said cross head to prevent buckling thereof during cutting, an electric motor within said housing having an output shaft, an elongated operating rod extending axially within said tubular pole and being affixed at one end to said blade support member, power transmitting means within said housing having the input operatively connected to said rod and means for converting rotation of said power transmitting means into reciprocation of said saw blade.

3,340,613 EXTRA-ORAL ORTHODONTIC APPLIANCE AND METHOD OF MAKING SAME

Irvin S. De Woskin, St. Louis, Mo., assignor to Orthoband Company, Inc., St. Louis, Mo., a corporation of Missouri
Filed May 5, 1965, Ser. No. 453,248
6 Claims. (Cl. 32—14)

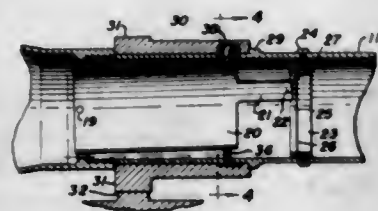
1. An extra-oral orthodontic traction appliance comprising a flexible U-shaped arch wire having a generally

arcuate center portion and legs diverging from its center portion, a flexible face bow having a generally arcuate center portion and legs diverging from each other and being spaced apart a distance greater than the spacing of the arch wire legs, the center portion of the arch wire and the center portion of the face bow being in close-fitting relation, a sleeve of heat-shrinkable plastic material surrounding the center portions of the arch wire and



face bow and shrunk thereon for holding them in assembled relation, and a sealant within said sleeve closing the ends of said sleeve to the entrance of tartar or other material from the mouth.

3,340,614
ADJUSTMENT MEANS FOR GUN SIGHTING SCOPE
James M. Leatherwood, Rte. 1, Box 120, Stephenville, Tex. 76401
Filed Oct. 19, 1964, Ser. No. 404,840
2 Claims. (Cl. 33—50)

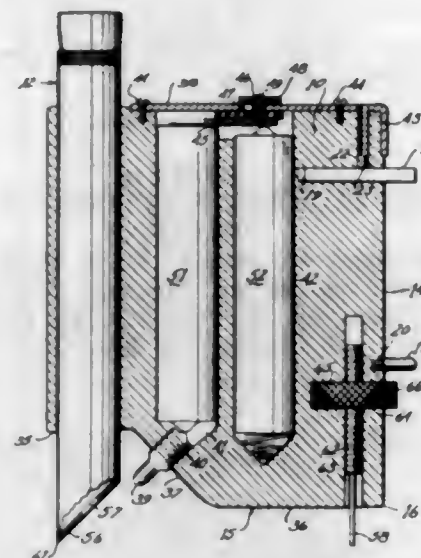


1. In a telescopic sight mounted for pivotal movement in a vertical plane only on the barrel of a gun, an external cam mounted for rotation about the axis of said sight, a stationary cam block supported on said gun barrel and contacting the rise of said cam, and reticle framing means in said sight synchronized with said cam, said reticle framing means being comprised of a stationary horizontal hair within said sight, a vertically movable hair parallel with the first said hair, a second cam connected to and rotatable with the first said cam, and means mechanically linking and vertically moving said movable hair with the action of said second cam.

3,340,615
METHOD OF AND DEVICE FOR MEASURING THE THICKNESS OF FILMS
William R. Tooke, Jr., Atlanta, Ga., assignor to The Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed Oct. 8, 1963, Ser. No. 314,678
9 Claims. (Cl. 33—125)

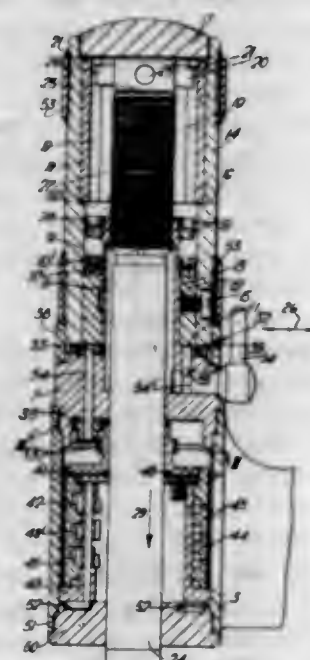
1. A method of obtaining data relating to the thickness of a hard flat film over a flat substratum including the steps of forming a groove through the film with one side sloped with respect to the surface of the film at a predetermined angle, and

measuring the distance of the apparent width of the film in the sloped side of the groove in a plane parallel



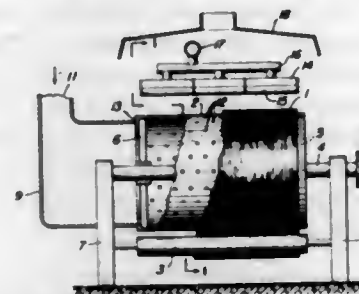
to the surface of the film and in a direction across the length of the groove.

3,340,616
MICROMETER
Antonio Mincuzzi, Milan, Italy, assignor to Soc. per Azioni Fratelli Borletti, Milan, Italy, an Italian company
Filed May 13, 1965, Ser. No. 455,428
Claims priority, application Italy, May 13, 1964, 10,444/64, Patent 47,148
7 Claims. (Cl. 33—166)



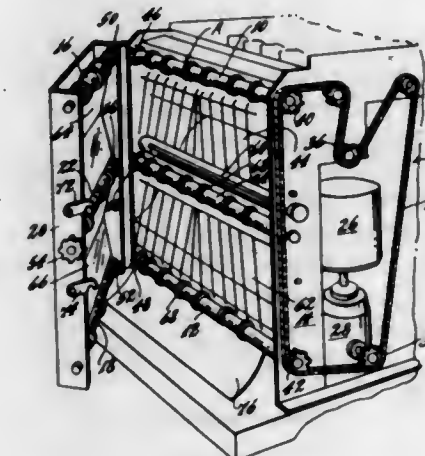
1. A counter micrometer comprising a hollow body, a calibrating rod, means mounting the calibrating rod for rotation and axial sliding movement in and relative to the hollow body, a control sleeve mounted for rotation on the hollow body, counting mechanism disposed in the hollow body and adapted to be actuated by rotation of said control sleeve, means defining on the inner side of said control sleeve an inwardly opening groove that extends longitudinally of the control sleeve, a member extending into said groove and slidable longitudinally of said groove, and means interconnecting said member and said calibrating rod for conjoint rotation and for swinging movement of said calibrating rod and said member relative to each other.

3,340,617
WEB DRYING
James B. R. Carroll, Jr., Philadelphia, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania
Filed Aug. 18, 1965, Ser. No. 480,668
6 Claims. (Cl. 34—18)



1. The method of drying a fibrous material which comprises providing a source of radiant heat at a temperature above that required to evaporate moisture in the material, moving the material directly through the path of the radiant heat emanating from said source at a distance from the source so that the heat is of an intensity normally to damage the material, and blowing air through the material toward the source of heat.

3,340,618
HINGED DRYER ASSEMBLY
Louis Bentzman, Levittown, Pa., assignor to Quik-Chek Electronics and Photo Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,077
4 Claims. (Cl. 34—162)

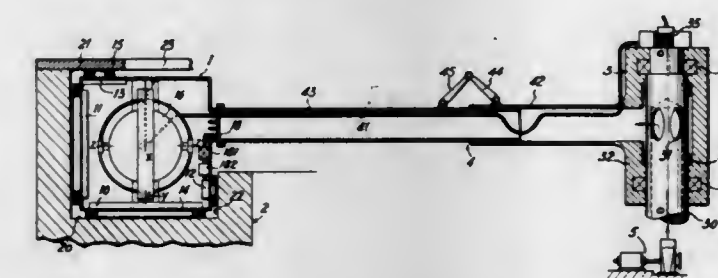


1. In an assembly for drying and affixing an image upon the copy sheet in an electrostatic copy machine, the combination of

- (A) a stationary section affixed to the said copy machine;
- (B) a plurality of roller carrying shafts rotatively supported in the said stationary section,
 - (1) at least one of said shafts being a driven shaft, and
 - (2) at least one of said shafts being a driving shaft,
 - (a) each of said driving shafts terminating outside of the said stationary section in an affixed driving gear;
- (C) a hinged section movable between an open position and a latched position,
 - (1) said section being hingedly connected to the said stationary section,
 - (2) said section forming a drying enclosure with said stationary section when in its said latched position;
- (D) a plurality of roller carrying shafts rotatively supported in the said hinged section,

- (1) at least one of said shafts being a driven shaft and at least one of said shafts being a driving shaft,
 - (a) each of said driving shafts terminating outside of the said hinged section in an affixed driving gear,
- (2) the stationary section shafts and hinged section shafts being so aligned that when the hinged section is in its latched position, the driving shafts of the stationary section rotate the driven shafts of the hinged section and the driving shafts of the hinged section rotate the driven shafts of the stationary section;
- (E) an endless driving chain operatively connected to a motor power supply,
 - (1) said chain being carried externally of the said stationary section and said hinged section,
 - (2) said chain engaging each said driving gear affixed to the stationary section driving shafts,
 - (3) said chain engaging each said driving gear affixed to the hinged section driving shafts only when the hinged section is in the said latched position,
 - (4) said chain turning the said driving shafts upon operation of the said motor;
- (F) a plurality of thin, hard, plastic rollers spaced upon each said shaft,
 - (1) said rollers having extremely thin peripheral edges,
 - (2) the radius of each said roller being slightly greater than one-half the center distance between the center lines of adjacent stationary section and hinged section shafts,
 - (3) said rollers impressing spaced curvatures upon the said copy sheet as it is carried through the assembly.

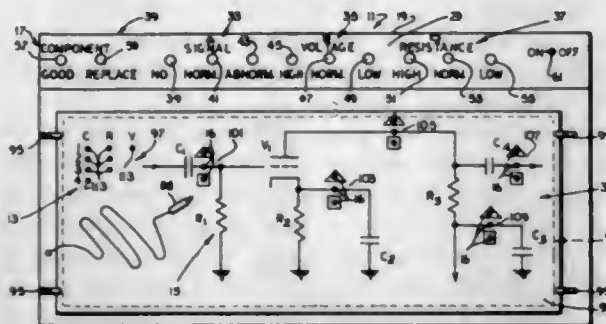
3,340,619
TEST APPARATUS FOR APPLYING ACCELERATIONS, MORE PARTICULARLY TO PILOTS
Jean Henri Bertin, Neuilly-sur-Seine, France, assignor to Bertin & Cie, Paris, France, a company of France
Filed Sept. 3, 1965, Ser. No. 484,993
Claims priority, application France, Sept. 8, 1964, 987,428
23 Claims. (Cl. 35—12)



1. A test apparatus for the centrifuge type producing predetermined accelerations and comprising: an endless trackway defining a closed curve path and having at least one guiding surface which faces inwardly of said path and extends generally breadthwise substantially perpendicularly to the radius vector of said closed curve path; a frame designed for orbiting along said closed curve path on the inside of said trackway and having an outwardly facing side positioned adjacent to but radially spaced from said inwardly facing guiding surface; wall means projecting from said frame side toward said guiding surface for laterally bounding at least one fluid cushion space therebetween; means supplying pressure fluid to said space to maintain a pressure fluid cushion therein; a shaft positioned inwardly of said path and at a distance therefrom;

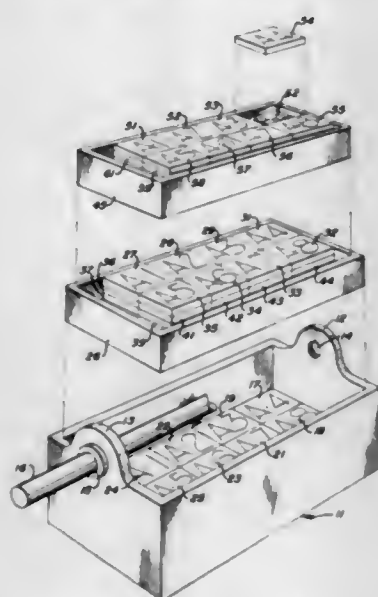
and, mechanical connecting means extending from said shaft to said frame and revolving about said shaft substantially perpendicularly to said guiding surface.

3,340,620
TRAINING APPARATUS
Russell L. Meade, 205 Terrydale Drive,
Marietta, Ga. 30060
Filed Sept. 20, 1965, Ser. No. 488,644
8 Claims. (Cl. 35-19)



1. A training apparatus particularly adapted to facilitate instructions in system, circuit or component failure analysis comprising a surface having illustrated thereupon a symbolic diagram of a system including a plurality of system components and with a plurality of test stations on said surface each of which is associated with a position along said system, a plurality of fixed contacts secured to said surface at each of said test stations, indicating means couplable to each of said fixed contacts, a probe selectively movable into contact with respective ones of said fixed contacts, and means operating when said movable contact is positioned upon a respective one of said fixed contacts for actuating said indicating means, said indicating means operating when so actuated to provide an indication of a particular system condition simulating the condition of the corresponding position in the system illustrated.

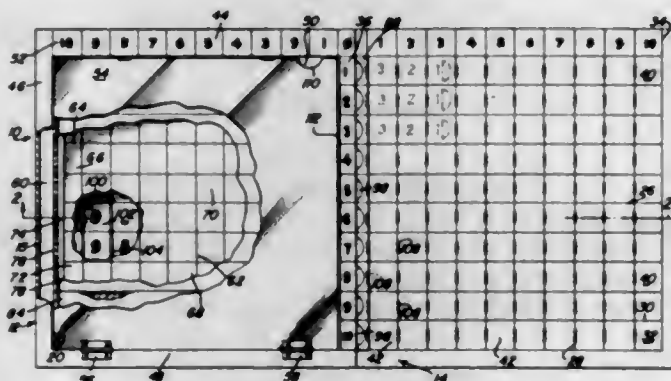
3,340,621
CONTAINER WITH MARKERS FOR BAND CONTROL
Gerald T. Snyder, 679 S. Richardson Ave.,
Columbus, Ohio 43204
Filed July 15, 1964, Ser. No. 382,776
3 Claims. (Cl. 35-29)



1. A device for providing instructions for band members comprising
a container;
a pan in said container;
a smaller pan in the first pan;

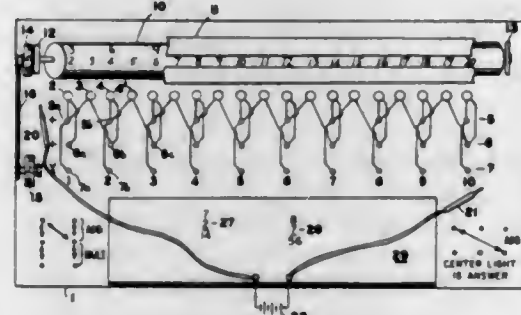
a set comprising a plurality of markers in the bottom of said container, all having the same color and each having a distinctive different marking indicating an individual band member;
a second set comprising an equal number of markers in the first pan, all having the same color which is, however, different from the color of the first set, and each having the same distinctive different markings indicating the same respective member of the band; and
a third set comprising an equal number of markers in the second pan, all having the same color which is, however, different from the colors of the markers of the first and second sets and each having the same distinctive different markings indicating the same respective member of the band.

3,340,622
TEACHING DEVICE
William J. Sherriff, 533 S. Chicot Ave.,
West Islip, N.Y. 11795
Filed May 18, 1965, Ser. No. 456,688
8 Claims. (Cl. 35-31)



1. An educational device comprising a support having two sections, housing means mounted on the first section of said support, a transparent top member on said housing means, background means mounted in said housing, slidable slide means for said housing positioned over said background means, and means for selectively moving said slide means out of said housing whereby said background board will be selectively visible through said top member, the second section of said support including means for producing stimulation of the sight, touch and hearing senses during movement of the slide means in relation to the housing.

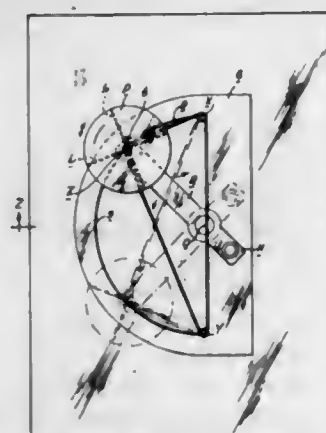
3,340,623
ARITHMETIC MEANS FOR CHILDREN
Vito A. Troffa, 15 Hazel St., Glen Cove, N.Y. 11542
Filed Feb. 12, 1965, Ser. No. 432,249
4 Claims. (Cl. 35-31)



1. A child's arithmetic device comprising:
a board member,
a first horizontal row of lights equally spaced on said board near the top thereof,
first, second and third rows of terminals mounted on said board and equally spaced under said lights to form vertical rows each light being connected to

terminals in said first and second horizontal rows said terminals in said vertical rows in said first and third horizontal rows being connected together,
a pair of conductive probes fastened to said board,
a battery connected in series with said probes,
a rotatable indicator mounted horizontally adjacent said lights, said indicator having a plurality of sides, said indicator having a plurality of numbers on each side arrangement according to predetermined multiplication tables, said probes being adapted to be connected to said terminals in predetermined manner to light a predetermined one of said lights to indicate the correct answer on said indicator.

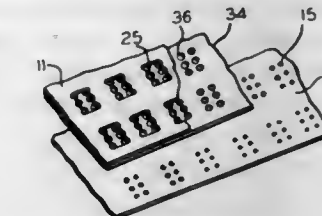
3,340,624
DEVICE AND METHOD FOR DEMONSTRATING AN ANGLE INSCRIBED IN A SEMI-CIRCLE
Cornelius Savin, Westbury, Alan G. Vorwald, Bethpage, and Christopher R. Vagts, Huntington, N.Y., assignors to Antran Corporation, a corporation of New York
Filed Oct. 22, 1965, Ser. No. 500,776
7 Claims. (Cl. 35-34)



1. An animated transparency device adapted to be used with an overhead projector for teaching geometry comprising:
a transparent member having a semi-circle arranged thereon,
a fixed pin-like projection arranged at each end of the diameter of said semi-circle,
a rotatable member having one end thereof pivotally attached to said member centrally of the diameter of said semi-circle,
a pin-like projection arranged on the opposite free end of said rotatable member directly opposite the semi-circle, and
a flexible member which is adapted to be positioned around both the fixed projections and the projection on said rotatable member so as to form a right triangle within said semi-circle at a number of locations upon movement of said rotatable member.

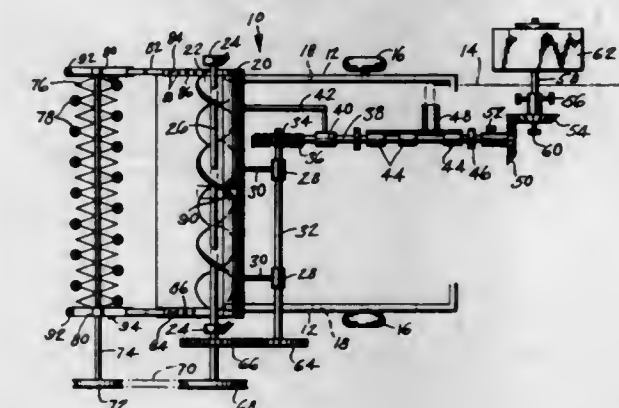
3,340,625
BRAILLE SLATE
Michael C. Supitilov, St. Charles, Ill., assignor to Dukane Corporation, St. Charles, Ill., a corporation of Illinois
Filed July 9, 1965, Ser. No. 470,856
2 Claims. (Cl. 35-38)

1. In a Braille slate of the type having a flat base plate and a superimposed flat guide plate, the base plate having embossed regions corresponding to dots of cells and the guide plate having at least one window, with such window registering with a group of embossings making up a cell with embossing being accomplished by means of a stylus, the improvement which consists in having rounded dome-shaped embossings in the base plate extend upwardly toward the superimposed guide plate, the guide plate



in the guide plate generally perpendicularly to the plane thereof and pressed against a cell dot embossing, said guide and web plates, in slate operating condition, having flat contacting faces in the regions about the cells and means for supporting them during slate use so that the base plate embossings remain below the web plate and do not project into web plate apertures to avoid accidental embossing of the paper when the slate is closed on the paper, the paper to be embossed being received only between the web plate and the base plate with the web plate insuring accurate embossing of the paper.

3,340,626
SNOW CRUSHER AND THROWER
George J. Konucki, Wildwood, Ill.
(Rte. 1, Box 35, West Point, Va. 23181)
Filed Mar. 4, 1964, Ser. No. 349,415
1 Claim. (Cl. 37-43)



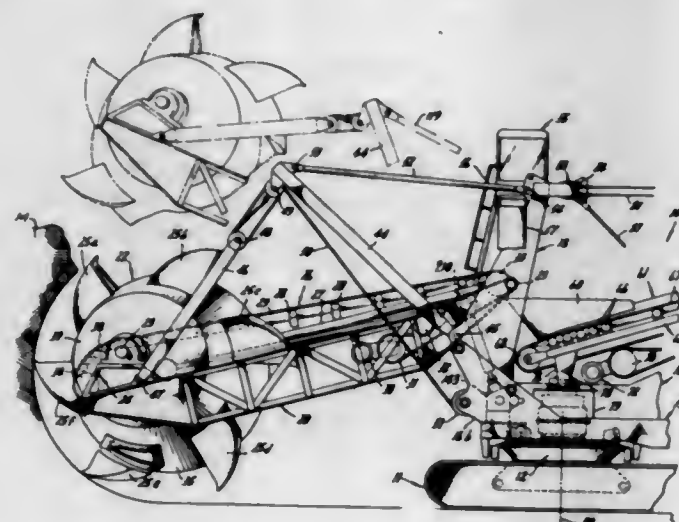
A snow crusher and thrower comprising, in combination, a pair of spaced-apart, horizontally disposed bars for securing said snow crusher and thrower to a conventional lawn mower which includes a power unit, said bars extending forwardly of the mower when attached thereto, a wheel rotatably secured on each of said bars, a snow hood secured adjacent its ends to the free ends of said bars in perpendicular relationship thereto, a bearing secured at each end of said hood, a shaft within said hood and rotatably secured in said bearings, an auger means mounted on said shaft within said hood, said auger means serving, when rotated to convey snow to a central portion of said hood, said auger means including an impeller means at a central portion thereof, a spur gear and a V-belt pulley mounted on a free end of said shaft exteriorly of said hood, a pair of spaced-apart brackets affixed to the exterior of said hood and extending rearwardly therefrom in parallel relationship to said bars, a bearing unit secured to the free end of each of said brackets, a second shaft rotatably received within said bearing units in parallel with said first mentioned shaft,

means operatively connecting said second shaft with said power unit for rotation of said second shaft, a spur gear mounted on a free end of said second shaft for engagement with said first mentioned spur gear, a pair of spaced-apart support rods extending forwardly from the ends of said hood in substantially parallel relationship to said bars, said support rods each including a bearing unit, a third shaft rotatably received within said last mentioned bearing units in parallel with said first mentioned shaft, a pulley mounted on a free end portion of said third shaft in alignment with said first mentioned pulley, an endless belt received on said pulleys, a plurality of uniformly disposed cutting blades secured to said third shaft for cutting and loosening snow, a plurality of crusher elements secured to the outermost portions of alternative cutting blades for crushing and pulverizing snow, and a discharge chute secured to the central portion of said hood to receive snow discharged by said impeller means.

3,340,627

WHEEL TYPE EXCAVATING APPARATUS
Fouad K. Mitry, Jr., Los Angeles, and Carl A. Wilms, La Habra, Calif., assignors to Mechanical Excavators, Inc., Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 177,422, Mar. 5, 1962. This application Oct. 19, 1964, Ser. No. 404,986

19 Claims. (Cl. 37-93)



1. In combination in a wheel excavator, a base assembly, a ladder assembly carried by the base assembly, said ladder assembly carrying a first conveyor, a second conveyor and means for supporting it relative to the base assembly, means for varying the angle between the two conveyors, said conveyors being so positioned that the first conveyor discharges into the second conveyor in all relative positions of said conveyors with respect to one another whereby material received at a loading point on the first conveyor may be discharged at a discharge point on the second conveyor, and an excavator wheel carried by the ladder assembly, said excavator wheel having a plurality of material receiving receptacles spaced about its periphery which traverses a closed path for digging material and moving said material through a portion of said closed path to a transfer area entirely circumscribed by said closed path, said excavator wheel and first conveyor being so disposed with respect to one another that material in the material receiving receptacles is placed directly on the first conveyor from the receptacles with substantially no impact in a position circumscribed by

the closed path of travel of receptacles which underlies said transfer area, and in a direction having a substantial component which is in axial alignment with said first conveyor.

3,340,628

SLUSHING SCRAPER

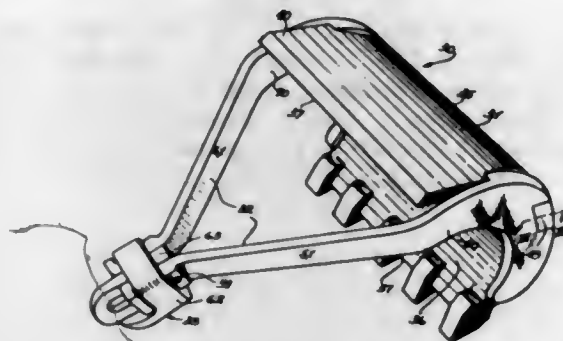
Norman A. Dobbie and John A. Wilson, Orillia, Ontario, Canada, assignors to Fahlroy Canada Limited, Orillia, Ontario, Canada

Filed Feb. 6, 1964, Ser. No. 342,883

Claims priority, application Canada, Jan. 28, 1964,

894,278

22 Claims. (Cl. 37-147)



1. A slushing scraper comprising
 - (a) a blade having
 - (i) a front transverse surface, and
 - (ii) a first interlocking section integrally formed at each end thereof,
 - (b) a pair of arms each having
 - (i) a forward end portion, and
 - (ii) a rear end portion,
 - (c) each said rear end portion having a second interlocking section formed integrally therewith,
 - (d) each of said first sections being engageable with one of said second sections to provide two pairs of interlocking sections for locking said blade and arms together in an interlocking position,
 - (e) means for clamping said blade between said rear end portions of said arms comprising
 - (i) a fulcrum surface defined by each of said interlocking sections and angularly disposed relative to said front surface,
 - (ii) said fulcrum surfaces of each said pair of sections being engageable with each other to define a clamping position of said arms and blade,
 - (iii) a lug on one of said sections of each pair thereof having a surface angularly disposed relative to said front surface,
 - (iv) a wall surface engageable with said lug surface on the other section of each pair thereof, and
 - (v) a clamping fixture for holding said front end portions together thereby to hold said fulcrum surfaces in engagement and said lug and wall surfaces in engagement,
 - (f) means for preventing movement of said blade in a first direction forwardly and rearwardly of said arms when the arms and blade are in the clamping position comprising
 - (i) a first pair of opposed shoulders on one of said sections of each pair thereof each having a surface lying in a plane intersected by any plane perpendicular to said front surface, and
 - (ii) a surface engageable with each said shoulder surface on the other of said sections of each pair thereof,
 - (g) and means for preventing movement of said blade with respect to said arms in a direction perpendicular to said first direction comprising

- (i) a second pair of opposed shoulders on one of said sections of each pair thereof each having a surface lying in a plane intersected by said first shoulder surface planes, and
- (ii) a surface engageable with each said second shoulder surface on the other of said sections of each pair thereof,
- (h) each said arm having free swinging movement in a direction towards and away from said blade on disengagement of said clamping fixture from said arms,
- (i) said blade and arms in said clamping position having said fulcrum surfaces in engagement, said lug and wall surfaces in engagement, and said shoulder surfaces and said shoulder engaging surfaces in engagement.

3,340,629

IRONING APPARATUS FOR INTERMITTENTLY FED WEB MATERIAL

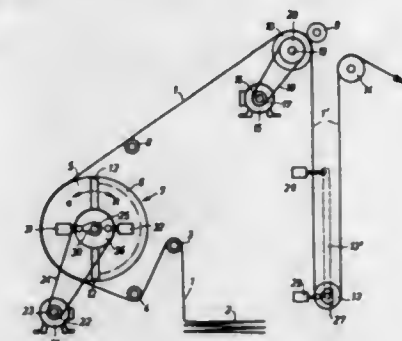
Hansgünter Oberrecht, Niedermendig, Rhineland, Pfalz, Germany, assignor to G. M. Pfaff, A.G., Kaiserslautern, Pfalz, Germany, a corporation of Germany

Filed Nov. 19, 1965, Ser. No. 508,712

Claims priority, application Germany, Nov. 24, 1964,

P 35,545

8 Claims. (Cl. 38-1)



1. In combination with a web of material folded zigzag-fashion into a stack and means to intermittently withdraw predetermined lengths of said web from said stack on its way to a processing station, ironing apparatus comprising in combination:

- (1) a rotatable ironing drum including means to heat a fractional circumferential section thereof to ironing temperature,
- (2) a first reversible electric motor to drive said drum,
- (3) a feed roller to withdraw said web from said stack,
- (4) a second electric motor to drive said roller,
- (5) first guide means to successively pass said web in contact with said drum and said roller,
- (6) further guide means for said web comprising a first displaceable guide roller operable between two limit positions and a second fixed guide roller, to form a loop of said web varying length by said first guide roller upon said web emerging from said feed roller on its way to the processing station,
- (7) means to normally urge said second guide roller to its limit position of maximum length of said web,
- (8) a pair of first electrical switching means actuable, respectively, by and in the limit positions of said first guide roller,
- (9) a pair of second electrical switching means actuable, respectively, by and in diametrically opposite positions of said drum, and
- (10) electrical circuit and control means operably interconnecting said first and second motor and said first and second pairs of switching means, whereby

withdrawal of predetermined lengths of said web by the processing station and resultant displacement of said first guide roller from its limit position of maximum length of said loop to its position on minimum length of said loop will result in the automatic sequential operations of rotating said drum by said first motor in a first direction from a normal position of disengagement of the heated section of the drum from said web to a position of engagement of said heated section with said web, stopping said first motor and rotating said second motor, to withdraw said web from said stack by said feed roller, to thereby restore said loop to its maximum length by said first guide roller, stopping said second motor and rotating said first motor in a direction opposite to said first direction, to return said drum to its position of engagement of its unheated section with said web upon said first guide roller assuming its position of maximum length of said loop.

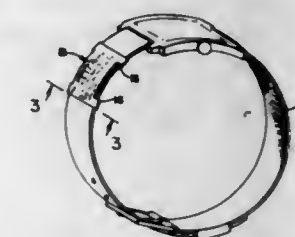
3,340,630

WRIST TAB

Raymond F. Becker, 127 W. Walnut St., Willows, Calif. 95988

Filed Dec. 6, 1965, Ser. No. 511,940

1 Claim. (Cl. 40-21)



In combination, a wristband adapted for wearing upon the wrist of a wearer and a tab member mounted on said wristband, said tab member having a main body mounted on the outer face of said wristband with the longitudinal edges of the main body being parallel with the longitudinal edges of said wristband, legs transversely extending outwardly from the ends of each of said longitudinal edges of said main body, and indicia printed directly onto the outside face of the main body whereby the tab member with indicia is composed of a single integral structure, said legs being folded over the rear side of said wristband to affix said main body thereto, said wristband having a curvature corresponding to the outer exterior curvature of the wrist of a wearer, said main body formed with a curvature corresponding to the curvature of said wristband and in which the main body is formed of material having sufficient malleability to allow the curvature to be changed with changing curvature requirements of said wristband.

3,340,631

DISPLAY DEVICES

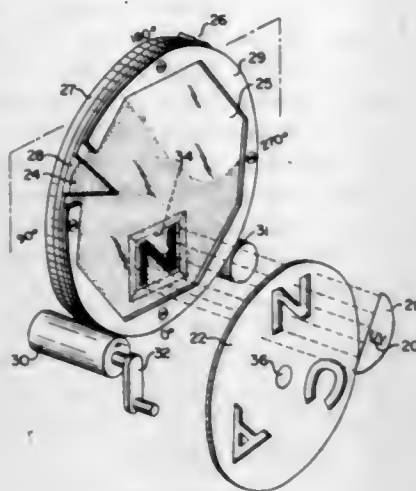
Marjorie Cormack Lyon and Henry S. Pesa, Dayton, and John M. Fauver, Brookville, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Mar. 16, 1964, Ser. No. 352,273

10 Claims. (Cl. 40-28)

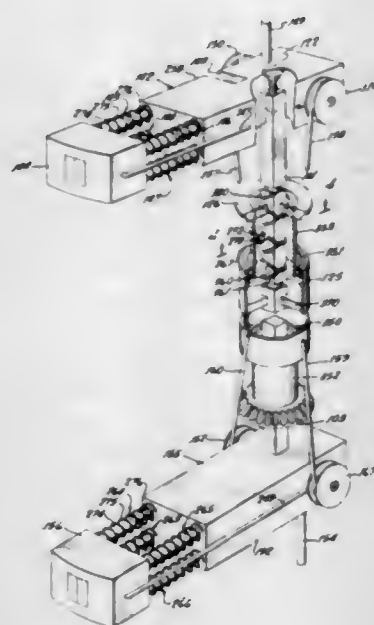
1. A display device including, in combination,
 - (a) a receptacle;
 - (b) a mass of minute ultraviolet-light-colorable solid particles comprising minute liquid-containing capsules retained in the receptacle, said particles in repose in response to the force of gravity providing a

surface of particles on which ultraviolet light may be projected to color the surface particles; and



(c) means within the receptacle to intersperse the particles as the receptacle is rotated, to move particles from the surface, whereby any particles that may be colored are lost from view if the receptacle is rotated.

3,340,632
COMBINATION SOUND AND SLIDE PROJECTOR
Martin E. Gerry, 13452 Winthrop St.,
Santa Ana, Calif. 92705
Filed Mar. 24, 1965, Ser. No. 442,346
17 Claims. (Cl. 40—28.1)



1. In an apparatus for optically projecting visual information and reproducing sound from a stationary slide containing said visual information and a spiral sound track, the combination of

a sound reproduction assembly, supported for rotation about a first axis perpendicular to said slide and for linear motion along a second axis, parallel to said slide, which is rotatable about and intersects said first axis, comprising

a pair of sound reproducing heads and means for mounting said heads a predetermined distance apart comprising a shaft having said heads respectively mounted at opposite ends thereof, said shaft having oppositely pitched helical threads thereon; and,

means for rotating said assembly about said first axis and means for translating said assembly along said second axis as said assembly is rotated,

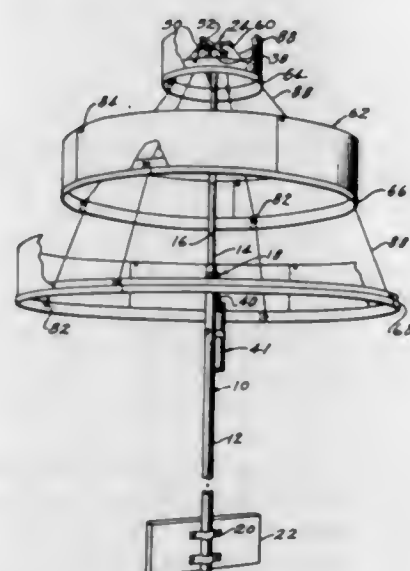
said means for rotating comprising a generally cylindrically shaped member rotatably driven about an axis perpendicular to its longitudinal cylindrical axis, said member including means for supporting said shaft for linear translation along said cylindrical axis and preventing rotation about said cylindrical axis,

said means for translating comprising a follower member in engagement with the helical threads of said shaft,

means carried by said cylindrically shaped member for supporting said follower member for rotation in a plane perpendicular to the said cylindrical axis, and

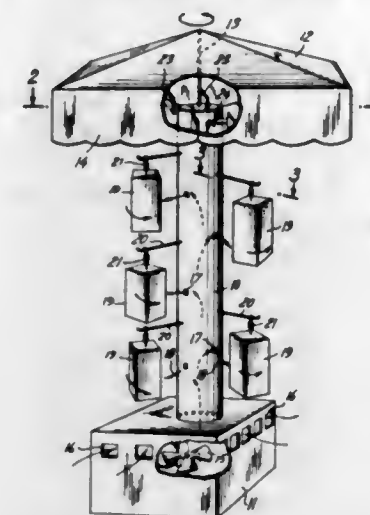
means, and thereby said follower member, for rotating said follower member support means about said longitudinal cylindrical axis according to the rotation of said cylindrical member so that sound reproducing heads trace respective spiral paths in the plane of said slide.

3,340,633
MOVING DISPLAY
Ira J. Silberman, Opelika, Ala., assignor to Southern Spring Bed Company, Atlanta, Ga., a corporation of Georgia
Filed Mar. 22, 1965, Ser. No. 441,799
10 Claims. (Cl. 40—33)



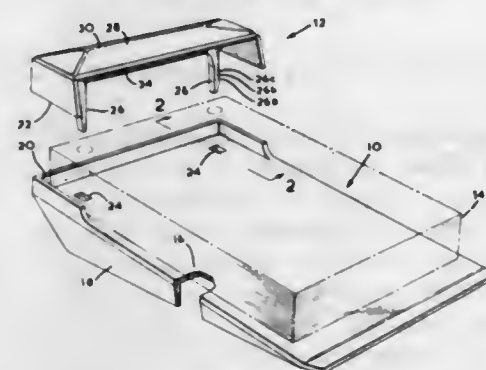
1. In a display arrangement,
 - (a) a center support means supported on the floor and having extensible means movable thereon, said extensible means being extensible on the center support by hand from the floor to a position of selected height,
 - (b) means for retaining said extensible means in raised position,
 - (c) electric motor means on said extensible means,
 - (d) electrical means on said display arrangement and having electrical connections to power said motor, there being electric power means,
 - (e) a plurality of displays on the extensible means raised to different display heights when said support is extended,
 - (f) each of said displays being a panoramic structure spaced from the support and the extensible means, and means whereby all of said displays are driven in rotation from said electric motor,
 - (g) each of said displays including advertising means carried on the display to present a panoramic display.

3,340,634
AERODYNAMIC DISPLAY UNIT
Mauricio S. Frois, New York, N.Y., assignor to Einson Freeman Division of Einson Freeman and De Troy Corporation, Fair Lawn, N.J., a corporation of New Jersey
Continuation of application Ser. No. 370,297, May 26, 1964. This application Sept. 2, 1966, Ser. No. 577,087
7 Claims. (Cl. 40—39)



1. In a display device, a hollow base, a hollow post mounted on said base, the interior of said post communicating with the interior of said base and constituting means for causing air to flow through said post, support means extending from said post, swivel means adapted to be carried by said support means, and at least one rotatable display item secured to said swivel means, said post being provided with at least one relatively small and inconspicuous hole permitting the air to emanate laterally from said hole in the form of an air blast, said display item being supported alongside said hole in the path of said air blast, the axis of said support means being arranged at an acute angle to a radius of said post drawn through said hole, whereby said air blast strikes said display item in an offset manner and thereby causes it to rotate, and a canopy supported at the upper end of said post for free rotation on the vertical axis of the post, vane means on the inner surface of said canopy, and means on said post for directing an air blast against said vanes to rotate the canopy.

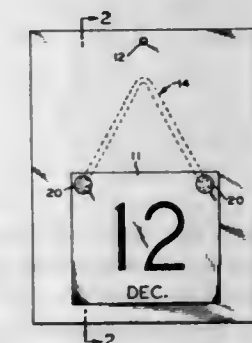
3,340,635
CALENDAR PAD STAND
Lawrie G. McIntosh, Islington, Ontario, Canada, assignor to The Brown Brothers, Limited, Toronto, Ontario, Canada
Filed Feb. 24, 1966, Ser. No. 529,717
Claims priority, application Canada, Sept. 18, 1965, 940,880
6 Claims. (Cl. 40—120)



1. A calendar pad stand molded of plastic, comprising a base member adapted to receive a pad of paper having a pair of perforations at one end thereof, said base member having a pair of apertures positioned as to be aligned

with said perforations in the pad with the pad having been installed on the base member, each of said base member apertures having one side thereof sharpened as to provide a ratchet-like tooth in the apertures; and a top piece including a pair of integrally molded prongs projecting downwardly for passage through said perforations in said pad and through said apertures in the base member, each of said prongs having at least one ratchet tooth on the side thereof which lies adjacent to the sharpened edge of its mating base member aperture, said top piece including a top wall which is generally roof-shaped but truncated at its ends and having a longitudinally extending groove which is split at either end of the top piece as to define four sections in said top wall with the prongs being connected to the underside of said top wall adjacent the points of division of said groove whereby pressure applied to said points of division from above will flex said top wall downwardly at these points as to cause the prongs to move outwardly to more tightly engage their ratchet teeth with the ratchet-like teeth of said apertures.

3,340,636
CALENDAR SUPPORT
Adolph J. Enk, Sidney, N.Y., assignor to Keith Clark, Inc., New York, N.Y., a corporation of New York
Filed Dec. 28, 1965, Ser. No. 517,027
2 Claims. (Cl. 40—121)



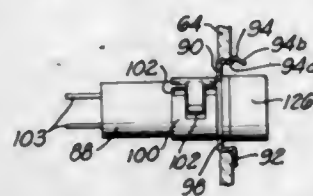
1. The combination with a flat backing support for a plurality of sheets, of an elongated bracket and comprising an upwardly extending, inverted generally V-shaped central section engaging the rear face of the backing support in a vertical position, said support having a pair of spaced openings therein, and a pair of prongs extending forwardly from the lower ends of the central section, through said openings, said sheets having along their upper edges a pair of aligned openings spaced apart a distance equal to the distance between the openings in the carrier sheet, and headed tubular members passing from the front of said sheets, through the aligned openings therein and received on said prongs, the prongs being received in said headed tubular members with a friction fit so as to prevent casual removal of the tubular members from the supporting prongs and being of such length as to engage the front face of the backing support.

3,340,637
STATUS DISPLAY ASSEMBLY
Floyd L. Campbell and Ralph W. Wight, Los Angeles, Calif., assignors to Technical Products Engineering Company, Hollywood, Calif., a corporation of California
Filed Aug. 3, 1964, Ser. No. 386,882
11 Claims. (Cl. 40—130)

1. In a status display board of the type having a rigid transparent frontal pane with intelligence associated therewith and viewable from the front side thereof and a plurality of display lamps located behind the transparent frontal pane, the improvement comprising:

a rigid open grid structure paralleling the transparent frontal pane and closely spaced therefrom, said grid

structure having a plurality of lamp holder receiving slots;
lamp holders removably held within the slots of the grid structure, said lamp holders having means per-

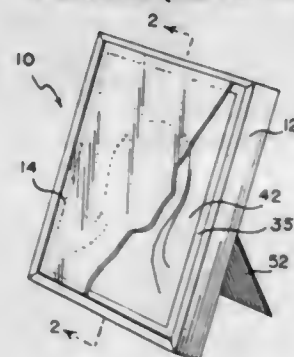


mitting movement of the lamps relative to the holders toward and away from said frontal pane; and lamps movably held within said lamp holders.

3,340,638

DISPLAY FRAME

George G. Bergh and Robert G. Bergh, North Attleboro, Mass., assignors to Bergh Bros., Co., Inc., Attleboro Falls, Mass., a corporation of Massachusetts
Filed Dec. 14, 1965, Ser. No. 513,763
9 Claims. (Cl. 40-152)



1. A display frame for sheet material comprising in combination: a transparent protective panel; a wall member extending around the periphery of said panel, said wall member having integral spaced parallel flanges extending inwardly therefrom on either side of said panel, wedge means cooperating with said flanges to fix said panel relative to said wall member, the wall member and panel when thus fixed defining a recess suitably dimensioned to receive the said sheet material therein in face-to-face contact with the inner surface of said panel; and, a back member adapted for insertion into said recess to an operative position abutting said sheet material, whereby said sheet material will be held securely within said frame assembly against said panel.

3,340,639

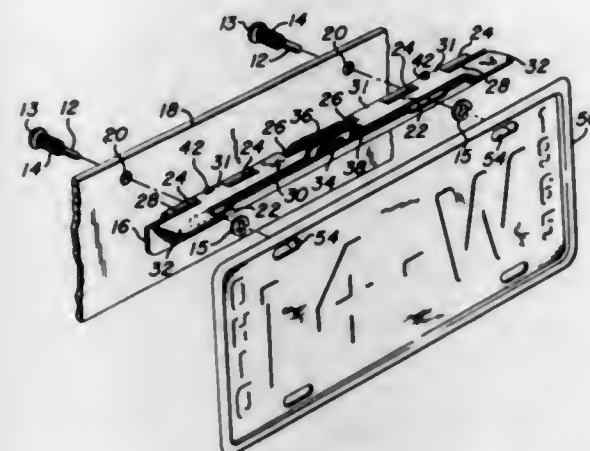
VEHICLE LICENSE PLATE HOLDER AND LOCKING MEANS

Everett A. Savage, R.R. 1, Spring Valley, Ohio 45370
Filed Apr. 27, 1965, Ser. No. 451,172
8 Claims. (Cl. 40-209)

1. A license plate holder for a license plate provided with apertures and adapted to be attached to a part of a vehicle comprising:

- a support member provided with spaced-apart apertures, the support member having an edge portion,
- a plurality of knuckles secured to the support member at the edge portion thereof,
- a rod extending through the knuckles and secured with respect thereto so that the rod is nonrotatable with respect to the knuckles,
- a clamping member, the clamping member having an edge portion provided with a plurality of knuckles, the knuckles of the clamping member encompassing a portion of the rod for rotative movement with respect thereto,
- stud means disposable within the apertures of the support member and disposable within the apertures of

a license plate aligned therewith when the license plate is positioned intermediate the support member and the clamping member, the clamping member thus retaining the license plate with respect to the support member and with respect to the stud means, the rod having a flat portion adjacent at least one of the knuckles of the clamping member, a locking member threadably carried by a knuckle of

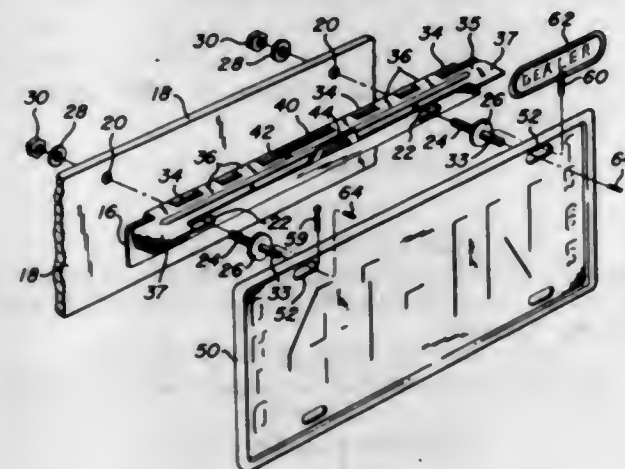


the clamping member and adjustably positionable to juxtaposition with the flat portion of the rod for locking the clamping member against rotation with respect to the rod, the locking member thus securing the license plate against movement from the stud means as the locking member secures the license plate intermediate the clamping member and the support member.

3,340,640

VEHICLE LICENSE PLATE HOLDER AND LOCKING MEANS

Everett A. Savage, R.R. 1, Spring Valley, Ohio 45370
Filed Oct. 11, 1965, Ser. No. 494,583
8 Claims. (Cl. 40-209)



1. License plate holder apparatus for a vehicle comprising:

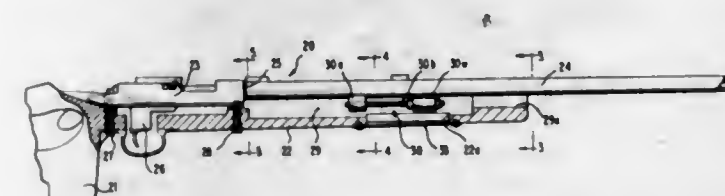
- an elongate support strip for attachment to a portion of a vehicle, the support strip being provided with a plurality of apertures therethrough,
- a plurality of stud members, there being one stud member for each of the apertures, each stud member having a body portion extending through its respective aperture, the stud member being attached to a portion of a vehicle, each stud member having a head intermediate the ends thereof and in engagement with the support strip for securing the support strip to said portion of a vehicle,
- each stud member having a stem extending from the head thereof in a direction opposite the body portion

thereof, the stem having a transverse passage therein, the stem having a threaded bore leading to the passage, a clamping strip pivotally attached to the support strip, a license plate positioned intermediate the clamping strip and the support strip, the stem of each of the studs extending through the license plate, the clamping strip having a portion positioned adjacent the stem of each of the studs when a license plate is positioned intermediate the clamping strip and the support strip, a plurality of pins, there being a pin extending into the passage of the stem of each of the studs, each pin having a portion adjacent said portion of the clamping strip and preventing movement of the clamping strip with respect to the support strip, a plurality of locking screws, there being a locking screw extending into the bore of the stem of each stud, the locking pin extending into the passage of the stem and engaging the pin therewithin so that the pin cannot be removed from the stem, the license plate thus being locked in its position intermediate the clamping strip and the support strip.

3,340,641

METHOD AND MEANS FOR IMPROVING THE ACCURACY OF FIREARMS BY REDUCING BARREL VIBRATIONS

Kenneth H. Recker, Melbourne, Fla., assignor to Hell-Plc, Inc., a corporation of Florida
Filed Dec. 15, 1964, Ser. No. 418,486
12 Claims. (Cl. 42-1)

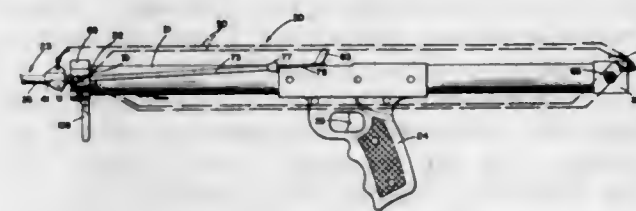


4. In a gun, a vibratory bar having one end portion rigidly attached to the barrel and otherwise free to vibrate, said bar being dimensioned and of a weight mass that will be vibrationally responsive to the vibrations of the barrel during firing of the gun, and means for tuning said bar to bring its amplitude of vibration into phase with the magnitude of vibrations of the barrel, whereby the vibrations of the barrel during firing are transferred and absorbed by the vibratory bar.

3,340,642

FISHING SPEAR GUN WITH DUAL SPEAR PROJECTING MEANS

Tomislav P. Vasiljevic, 2700 McRae Road, Anchorage, Alaska 99503
Filed Aug. 17, 1964, Ser. No. 390,051
10 Claims. (Cl. 43-6)



8. A fishing spear gun comprising a barrel, a slide in said barrel movable between a retracted position inwardly of said barrel and an outer position adjacent one end of said barrel, a spear having a shank,

said barrel having an opening in said one end adapted to receive said shank, said shank being engageable with said slide when said shank is so received,

whereby when said slide moves from said retracted position to said outer position said slide propels said spear, resilient means for moving said slide from said retracted position to said outer position to so propel said spear, said resilient means including compression means compressible upon movement of said slide from said outer position to said retracted position, and including extensible tension means for engaging said slide when said slide is in said retracted position,

said tension means being extensible independently of said compression of said compression means,

means connected to said shank and slidable relative thereto from the forward end of said shank to the rearward end of said shank, and filamentous means interconnecting said barrel and said means connected to said shank for providing a retrieval means for said spear, said spear including a point at one end of said shank, outwardly expansible barb means at said point, said barb means including at least two members pivotally connected to said spear upon an axis transverse to the longitudinal axis of said shank,

said members of said barb means extending rearwardly from said axis, each of said members being substantially complementary to the adjacent portion of said spear, whereby said members are capable of assuming a retracted position closely overlying the periphery of said spear, a collar on said spear movable longitudinally of said spear a limited distance, said collar having a recess in the forward surface thereof,

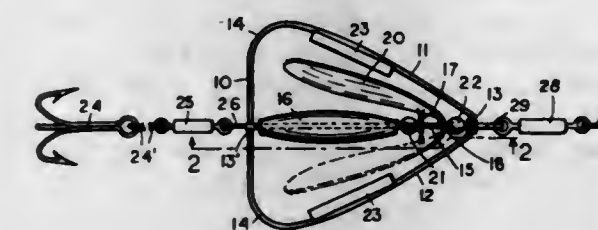
said recess normally receiving the distal ends of said members for holding said members in said retracted position,

and resilient means for biasing said members outwardly, whereby upon movement of said collar away from said barb means, said members can expand outwardly for retaining said point of said spear in the body of a fish.

3,340,643

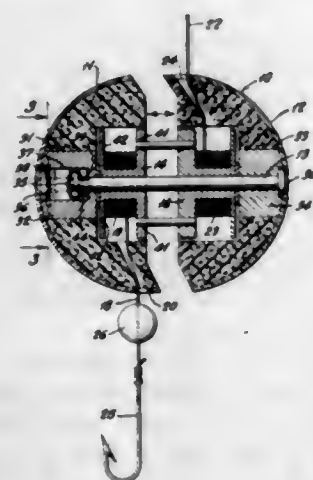
SPINNER TYPE MAGNETIC FISHING LURE

Emory L. Welmer, Orondo, Wash. 98843
Filed Apr. 12, 1965, Ser. No. 447,407
7 Claims. (Cl. 43-42.12)



1. In a fishing lure, a frame part; a water driven spinner supported for spinning movement by said frame part, said spinner being adapted to be rotatively moved past a portion of said frame part by relative movement of the lure and the water in which it is immersed; and permanent magnet means carried by the lure and positioned to provide magnetic attraction between said spinner and the frame part past which it moves, said magnetic attraction rendering erratic the movement of said spinner and said frame part as said spinner is moving past said frame part.

3,340,644
FISHING FLOAT
 Ervin E. Lintz, 1412 Martha NE.,
 Albuquerque, N. Mex. 87112
 Filed Sept. 27, 1965, Ser. No. 490,461
 7 Claims. (Cl. 43-43.11)

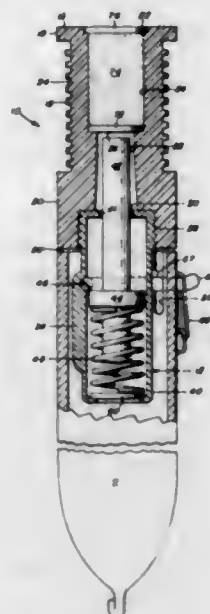


1. A fishing float to be used with a fishing line to automatically control the water depth to which the drop-line portion extends, said float comprising a buoyant member having a plurality of sections; a shaft carried by said buoyant member; a spool disposed in each section and rotatably mounted on said shaft, one section and associated spool being fixed with respect to one end of said shaft and another section and associated spool being slidable on said shaft from an inoperative position near the other end of said shaft to an operative position in which the respective spools and sections abut each other, one of said spools being adapted to receive said drop-line portion, means to limit the amount of drop-line portion which may be unwound from the drop-line receiving spool when the spools are in the operative position, said means also coupling said spools together, the slidable section having a recess in which the other end of said shaft extends; retaining means disposed on said other end of said shaft in said recess for retaining said slidable section and slidable spool in said inoperative position; and means in said buoyant member fixing said slidable section in said operative position.

3,340,645
TRAP GUN
 James L. Poteet, 2501 W. Washington,
 Midland, Tex. 79701
 Filed Mar. 8, 1965, Ser. No. 437,751
 6 Claims. (Cl. 43-84)

1. A predatory animal getter device comprising stake means to fix said getter device for operation at an animal trapping location, ejecting means operable to eject a stream of poisonous matter, and movable means flexibly connecting said ejecting means to said stake means, said ejecting means including a triggerable expelling mechanism having detachably secured thereto a receptacle means having the volume thereof substantially completely filled with said poisonous matter, whereby said poisonous matter is situated in position to be ejected from said receptacle upon the operation of said expelling mechanism, said expelling mechanism comprising a displaceable element operable to forcefully enter said receptacle means and rapidly traverse through an extended portion thereof, said element being of such length as to ultimately fill a major portion of said receptacle volume and thereby expel said poisonous matter contained therein by impact on said poisonous matter during said traversal thereof, a mechanical propellant means, adjustable to obtain a potential driving force in contact with said displaceable element, and

wherein said movable flexible connecting means includes a trigger component operative to retain said displaceable element against displacement to enter said receptacle by



the effect of said potential driving force of said propellant means on said displaceable element until activated by a movement of said movable flexible connecting means.

3,340,646
FLY TRAP
 William Jadick, 213 Turnon Place,
 East Peoria, Ill. 61611
 Filed Feb. 10, 1965, Ser. No. 431,552
 2 Claims. (Cl. 43-118)



1. A fly trap comprising an open-work frame structure characterized by a horizontal top frame embodying cooperating interconnecting coplanar frame members, a complementary horizontal bottom frame directly beneath and aligned with said top frame and likewise embodying cooperating interconnected frame members, vertical corner posts interposed between and connecting and assembling cooperative corner portions of said top and bottom frames respectively and cooperating therewith in defining vertical side frames, relatively short legs carried by and depending from the respective corner portions of said bottom frame and adapted to support said bottom frame in a plane relatively close to the ground or other foundation, a fine mesh screen panel tautly spanning said top frame and having marginal edge portions fastened atop respectively cooperative frame members of said top frame, a fine mesh screen wire panel distinct and different from said first named panel and tautly spanning each vertical side frame and having marginal portions covering and fastened to exterior surfaces of associated coopera-

ble posts and frame members, each screen wire panel having a bottom portion fashioned into a turned-in flange, said flange underlying and being fastened to an underneath side of the cooperating bottom frame member and further having a flap-like triangular extension, said extension being directed upwardly within the confines of said trap, the respective extensions having marginal portions joined together and cooperating in providing an upwardly tapering truncated fly funneling leader, the truncated apical portion of said leader terminating in a plane below but proximal to the plane of said first named screen panel and providing an entrance leading into said trap, the upper terminal edges of the respective triangular extensions being frayed and providing wire-ends, and said wire-ends being flared upwardly and outwardly and co-acting in providing an anti-escape guard, and said guard surrounding said truncated entrance.

3,340,647
ILLUMINATED TOY PIPE
 Richard A. Lathrop, 5444 S. East View Park,
 Chicago, Ill. 60615
 Filed Jan. 13, 1965, Ser. No. 425,322
 5 Claims. (Cl. 46-228)

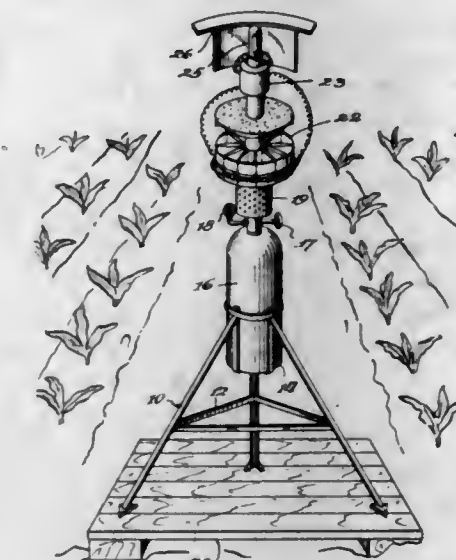


4. In a toy pipe with a body of approximately the size and shape of a conventional smoking pipe having a bowl and a hollow stem, an action feature comprising an upright cylindrical sleeve defining a chamber secured to the bottom of the bowl of said pipe, a coil spring located in the lowermost portion of said chamber, a dry cell battery located within said chamber and supported by said coil spring, a tube secured within said bowl substantially parallel to said sleeve forming a continuous passage with said hollow stem, a cap slidably associated with said tube, a flexible conductor electrically connecting said coil spring with the cap, a light bulb positioned with the center electrode in contact with the positive pole of said battery, a diaphragm adapted to securely receive said light bulb, a translucent cover detachably secured to said bowl positioning said diaphragm within the bowl, and an air powered sound means associated with said stem whereby when air is blown into the stem sound is emitted from the pipe and the cap is caused to rise striking the diaphragm thereby completing the electrical circuit and causing the light to illuminate.

3,340,648
CROP GROWTH IMPROVEMENT BY MEANS OF PROPANE ACTUATED THERMOPILE
 Karl H. Frantzen, Omaha, Nebr., assignor to Northern Gas Products Company, Omaha, Nebr., a corporation of Delaware
 Filed Aug. 19, 1963, Ser. No. 303,056
 5 Claims. (Cl. 47-58)

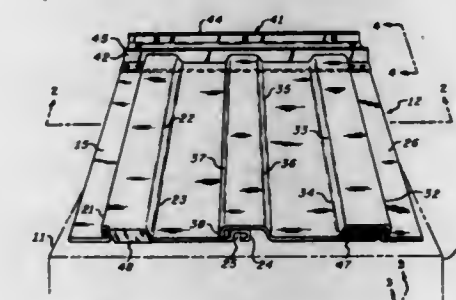
1. The method of increasing the growth of crops comprising the steps of:
 locating an intermittent light means and a self-contained source of fuel in the form of a hydrocarbon having chemical energy unit in a crop field;
 converting said chemical energy in said unit into electrical energy; and
 supplying said electrical energy to said light means

whereby intermittent beams of radiant energy are emitted, the totality of said radiant energy being



derived from said conversion of said chemical energy from said self-contained source of fuel.

3,340,649
LIGHTWEIGHT CELLAR DOORS
 Oscar Erlandsen, Garden City, N.Y., assignor to Thurston Erlandsen Corporation, Sanford, Maine
 Filed Aug. 23, 1965, Ser. No. 481,491
 8 Claims. (Cl. 49-367)



1. The combination for closing a cellar entryway having a frame construction surrounding said entryway, said frame construction providing a substantially rectangular opening into said entryway, the rectangular opening lying in a flat plane, comprising:

- a first flange member adapted to be attached to said frame along one side of said entryway, said first flange member having a longitudinally extending first lip portion along its inner edge, said first lip portion extending at an angle to the plane of said first flange member,
- a first longitudinal hinge portion extending along the edge of said first lip portion,
- a first door panel including a flat longitudinally extending central portion, an outer edge portion, and an inner edge portion, each of the edge portions of said first door panel being formed in the shape of an inverted U-channel section, said first door panel being composed of thin sheet metal and having a length somewhat greater than the length of the rectangular opening into said entryway,
- a second longitudinal hinge portion extending along the edge of the U-channel section forming the outer edge portion of said first door panel, said second longitudinal hinge portion mating with said first longitudinal hinge portion, said first and second hinge portions defining an axis about which said first door panel moves,
- a second flange member adapted to be attached to said frame along the opposite side of said entry-

way, said second flange member having a longitudinally extending second lip portion along its inner edge, said second lip portion extending at an angle to the plane of said second flange member,

(f) a third longitudinal hinge portion extending along the edge of said second lip portion,

(g) a second door panel including a flat longitudinally extending central portion, an outer edge portion, and an inner edge portion, each of the edge portions of said second door panel being formed in the shape of an inverted U-channel section, said second door panel being composed of thin sheet metal and having a length somewhat greater than the length of the rectangular opening, the U-channel section forming the inner edge portion of said second door panel overlapping the U-channel section forming the inner edge of said first door panel when said first and second door panels are closed,

(h) a fourth longitudinal hinge portion extending along the edge of the U-channel section forming the outer edge of said second door panel, said fourth longitudinal hinge portion mating with said third longitudinal hinge portion, said third and fourth hinge portions defining an axis about which said second door panel moves, and

(i) means attached to the U-channel sections of said first and second door panels along the bottom edges thereof for closing the openings in the ends of said U-channel sections for providing a closed, snug fit of the bottom edges of said first and second door panels along the bottom surface of said frame.

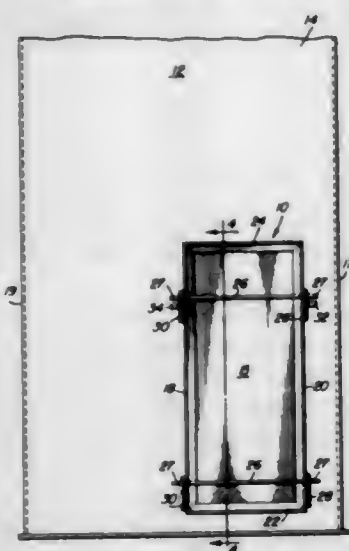
3,340,650

DOOR STRUCTURE

Walter J. Sackett, Sr., Baltimore, Md., assignor to A. J. Sackett & Sons Company, Baltimore, Md., a corporation of Maryland

Filed Aug. 17, 1965, Ser. No. 480,421

3 Claims. (Cl. 49—463)

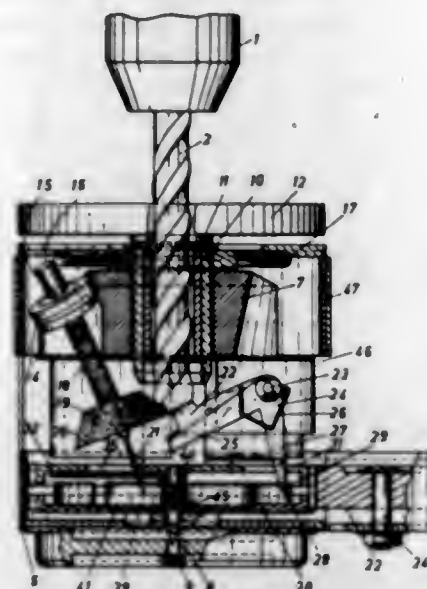


1. A removable closure arrangement for an opening in a structure, comprising, a door member including a sheet which is substantially the same size as said opening and fits therein for closing said opening, the upper edge of said opening having a bevel cut and the upper edge of said sheet having a complementary bevel cut to permit the sheet to move upwardly and outwardly with respect to said opening, and a peripheral frame mounted to said structure adjacent said opening and defining V-shaped spaces therebetween for urging said rod means towards said structure, whereby said door is urged inwardly and downwardly into seating engagement with said opening.

3,340,651
APPARATUS FOR GRINDING DRILLS

Allan Eugen Ahlström, Norra Vagen 11,
Halmstad, Sweden
Filed Dec. 7, 1964, Ser. No. 416,208
Claims priority, application Sweden, Dec. 6, 1963,
13,547/63

7 Claims. (Cl. 51—33)



1. A grinder for sharpening twist drills comprising an essentially stationary housing to receive an end portion of a drill therein, a body in the housing for surrounding said end portion and mounted for rotation about an axis; means for substantially holding in alignment the axes of the drill and body so that the body may rotate substantially about the drill, a distortable rotary grinder shaft mounted on the body for gyration about said axis and having an end portion axially fixed relative to the body, means on the housing for imparting rotation to the shaft at said end portion thereof when the latter gyrates, an abutment element carried on the body and movable with the body into and out of engagement position with the end of the drill at one chip channel thereof and for rotating the body when the drill rotates and the element is in engagement, a frusto-conical grinding wheel carried on the other end portion of the grinder shaft for engagement by the outer side surface thereof with the end of the drill in generally line contact, on the side of the drill opposite the abutment element, a cam member mounted for rotation about the axis of the body and having gearing with the latter for reducing the speed of the cam member relative to that of the body, and means on said other end portion of the grinder shaft for engaging the cam member for periodically swinging the grinding wheel away from the axis of the drill and changing the zone of contact on the drill for grinding clearance behind the cutting edge of the drill.

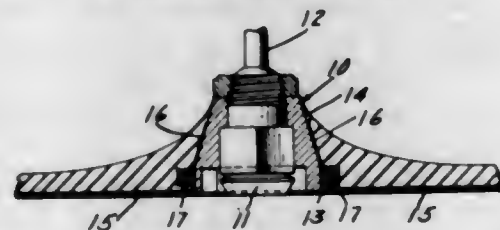
3,340,652

ABRASIVE DISC SUPPORT

Joseph W. Purcell, Jr., Los Angeles, Calif., assignor to Merit Products, Inc., Los Angeles, Calif., a corporation of California

Filed Feb. 1, 1965, Ser. No. 429,361

6 Claims. (Cl. 51—376)



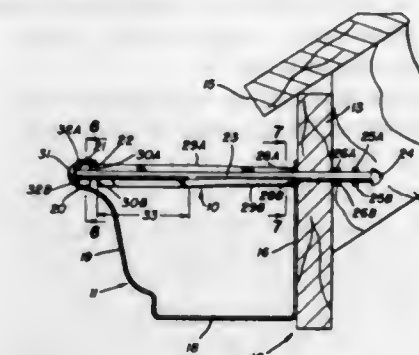
1. An abrasive disc support comprising a substantially rigid hub, said hub having an outer wall, a circular base having a plurality of segments adjacent its center, said hub

being disposed adjacent the center of said base, with said segments extending along the outer wall of said hub, a retainer ring disposed around said hub, said segments being held between said retainer ring and the outer wall of said hub, and elastomeric material bonded to said base, retainer ring and the outer wall of said hub.

3,340,653

GUTTER ASSEMBLY AND HANGING DEVICE THEREFOR

Paul S. Steeg, 835 Broad Blvd.,
Cuyahoga Falls, Ohio 44221
Filed May 3, 1965, Ser. No. 452,726
12 Claims. (Cl. 52—11)



1. In combination with a gutter having a backwall presenting an outer surface and an inner surface at least a portion of which is adapted to mount against a support means and a front rim having an outer surface and an inwardly facing portion, a gutter hanger, said gutter hanger having a shaft portion extending through the backwall and front rim, a sharpened tip on the forward end of said shaft portion penetrating into said support means, a head on the rearward end of said shaft portion engaging the outer surface of said rim, lock lug means extending outwardly of said shaft portion and engaging said support means in spaced relation forwardly of said gutter backwall, a first shoulder means spaced rearwardly of said lock lug means and engaging the outer surface of said backwall, a second shoulder means spaced forwardly of said head and engaging the inwardly facing portion of said rim.

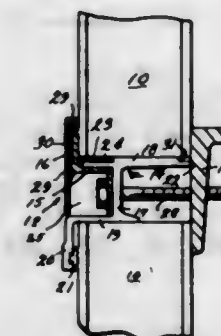
3,340,654

BATTEN STRIP ASSEMBLY AND METHOD FOR INSTALLATION

Adolph J. Maler, Jr., 128 W. Livingston Place,
Metairie, La. 70005

Filed Apr. 5, 1966, Ser. No. 540,279

7 Claims. (Cl. 52—97)



1. An improved batten strip assembly for spacing and sealing adjoining edges of building panels in vertical wall constructions for buildings, comprising:

a divider strip means having a lower horizontal face for resting on an upper horizontal edge of a vertically positioned first building panel, and an upper horizontal face for supporting the lower horizontal edge

of an adjoining building panel positioned above said first building panel, said upper and lower faces of said divider strip means being parallel to each other and spaced from one another for providing the requisite spacing between the adjoining panels,

means for attaching said divider strip means to a frame portion of the building from an exterior side of said wall construction and after said panels are in initial positions for attachment to the frame portion of the building,

means carried by said divider strip for engaging and holding said upper horizontal edge of said first building panel in a mounted position relative to said building frame, and

mounting clip means attachable to said divider strip means for engaging and holding said lower horizontal edge of the adjoining building panel in a mounted position relative to said building frame, said mounting clip means being attached to said divider strip means by said means for attaching said divider strip means to said building frame.

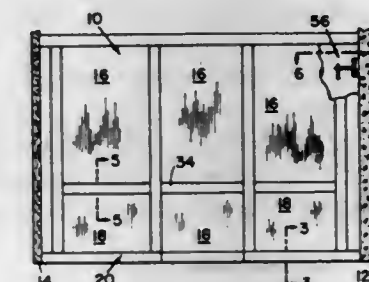
3,340,655

MOVABLE PARTITIONS WITH PRESSURE PLATE

James M. Darrah, Jr., 1704 Hermitage Ave. SE.,
Huntsville, Ala. 35801

Filed May 10, 1965, Ser. No. 454,334

2 Claims. (Cl. 52—122)



2. A removable partition assembly for installation between a pair of substantially parallel, fixed supports, comprising:

A. a plurality of adjacent panels disposed for assembly along horizontal and vertical planes to form a unitized partition, said partition disposed for mounting in normal relation to and in snug-fitting engagement with said fixed supports;

B. a plurality of rollers mounted along the bottom of said partition for ease of movement thereof to the position between said fixed supports;

C. locking means carried in said partition adjacent each of said fixed supports, said locking means disposed for exerting a tensile force between said partition and said fixed supports for retention of said partition between said fixed supports in said snug-fitting engagement.

D. second locking means engaging upper and lower said panels for assembly and vertical adjustment of said panels along the horizontal planes and comprising:

(1) a rod having a pair of oppositely threaded ends, one of said ends extending into one of said adjacent panels in threaded relation therewith,

(2) the other of said ends extending into a second panel in threaded relation therewith, and

(3) means carried by said rod intermediate said threaded ends to effect rotation of said rod in said panels for movement thereof and thus adjusts said panels for installation.

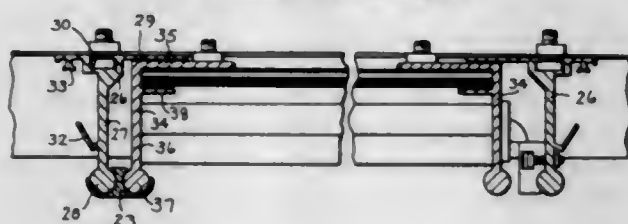
3,340,656 SUPPORT DEVICE FOR A CUPOLA OR OTHER PLASTIC SKYLIGHT

Marie Eugène Mathieu, 80 Ave. de la Liberté,
Luxembourg, Luxembourg
Filed June 9, 1965, Ser. No. 462,641
4 Claims. (Cl. 52-200)



1. In a device, the combination of a prefabricated annular closure element and a cupola which comprises, a one piece caisson ring having an outer surface and an inner surface and being formed of a material resistant to concrete cast against it, said caisson ring having a lower portion for anchoring said ring about an opening of a concrete roof structure and an upper annular portion for supporting a cupola, the outer surface of said ring having anchoring means to effect bonding of said ring to concrete cast against it, a flanged collar extending externally from said upper portion of the ring, said flanged collar having an upper surface serving as a wind and rain breaking gutter and as a support for said cupola, the flange of said collar having an under surface to which cupola connecting means may be coupled, a cupola covering said caisson ring having a laterally extending mounting flange for resting against the flange of the collar, a flexible annular sealing joint interposed between the flange of the collar and the flange of the cupola, and connecting means coupling the flanges to each other so as to hold the cupola in place.

3,340,657
DOOR CONSTRUCTION FOR GLASSHOUSES
Basil Arnold Thomas, Cambridge, England; Barclays Bank Limited, 54 Lombard St., London, E.C. 3, England, executor of said Basil A. Thomas, deceased
Filed June 18, 1962, Ser. No. 203,257
Claims priority, application Great Britain, June 19, 1961, 22,107/61
5 Claims. (Cl. 52-210)



1. A door construction comprising:
a pair of spaced-apart elongated vertical posts defining the sides of a door opening, said posts having substantially parallel first flanges which extend transversely inwardly in the same direction away from the general plane of said door opening;
a door mounted between said posts and having a pair of substantially L-shaped vertical side members disposed adjacent said posts; said side members having substantially parallel arms which extend transversely inwardly in the same direction away from the general plane of said door and which are substantially parallel with said first flanges, said side members having bases which extend toward each other in the general plane of said door, said door having a plurality of substantially horizontally extending vertically spaced-

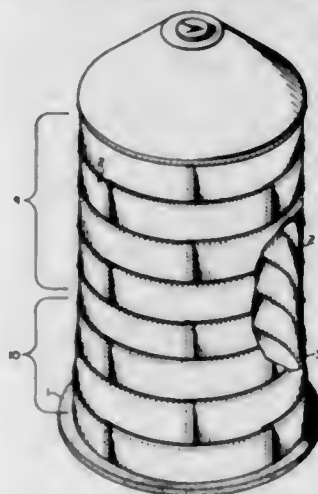
apart glazing bars extending between and secured to said side members, said glazing bars having bases whose ends are overlapped with and are secured to the bases of said side members, said glazing bars having horizontal webs extending transversely inwardly away from said glazing bar bases and retaining members extending from said glazing bar webs partway back toward said glazing bar bases, said retaining members terminating in substantially the same vertical plane;

closure panels extending between adjacent glazing bars and being disposed at their upper and lower edges between the ends of said retaining members and said glazing bar bases;

the flange on one of said door posts and the arm of the door side member adjacent thereto having enlarged partially cylindrical inner ends which are disposed in side-by-side relation; and

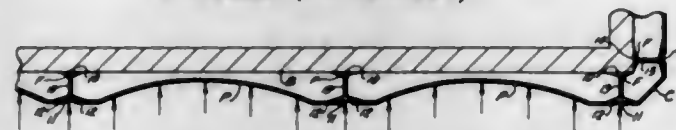
an elongated hinge member having two vertical grooves of partially cylindrical cross section formed therein, said grooves being positioned in side-by-side relation and opening the same direction, said enlarged inner ends being received into and retained within said grooves so that the door can pivot with respect to said one post.

3,340,658
STORAGE STRUCTURE
Erwin G. Dueringer, 1025 W. Dean Road,
River Hills, Wis. 53317
Filed Aug. 2, 1965, Ser. No. 476,345
5 Claims. (Cl. 52-246)



1. A storage structure, comprising a generally cylindrical upper section, and a lower section having tapering walls whereby the bottom internal diameter of said lower section exceeds the bottom internal diameter of said upper section by an amount in the range of two to 3.5 percent of the slant height of said lower section.

3,340,659
BLAST SHIELD FOR BUILDING STRUCTURES
Trygve W. Hoff, Cleveland Heights, Ohio, assignor to Hoff Research & Development Laboratories Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1963, Ser. No. 287,592
9 Claims. (Cl. 52-261)

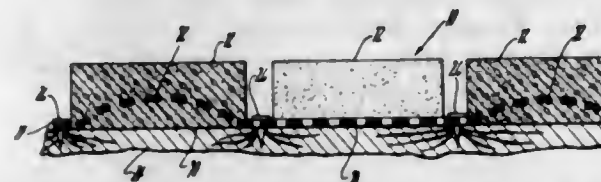


1. A blast shield for and in combination with a building structure having plane outside walls meeting together and terminating at corners, said blast shield comprising:
a plurality of longitudinal framing members laterally spaced at intervals along the outside of walls of the

building structure and structurally secured to the building structure, said plurality including at least a framing member adjacent each corner on each wall, each of said framing members having a spacing portion extending outwardly from the building structure and longitudinal portion spaced and supported by said spacing portion outwardly and away from the building structure,

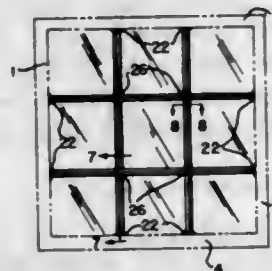
a plurality of panels of flexible, resilient sheet material arranged together to substantially cover the outside walls of the building structure, each of said panels having opposite marginal portions secured to longitudinal portions of a pair of laterally spaced framing members lying along the same outside wall so as to tend to maintain the panel substantially flat and spaced outwardly from the outside wall of the building structure and to permit said panel to belly toward the wall from which it is spaced and be stressed in tension between its secured marginal portions under high dynamic and externally applied loads.

3,340,660
**BRICK WALL PANEL AND METHOD OF
MAKING SAME**
Anthony D. Arcari, East Hartford, Conn., assignor, by
mesne assignments, to The Brix Corporation, a corporation of Connecticut
Filed Dec. 11, 1963, Ser. No. 329,761
5 Claims. (Cl. 52-388)



4. A brick wall panel comprising a sheet of wire mesh backing and a plurality of brick-like elements arranged on said backing with each of said elements being spaced from adjacent elements and having a generally flat rear surface disposed in a plane generally common to the rear surfaces of all of said elements, said wire mesh backing in the area covered by each of said elements having at least a portion thereof disposed forwardly from the rear surface of the element so as to be embedded in and entirely surrounded by the material of said element and said wire mesh backing in the area between said elements being disposed in a plane generally flush with said rear surfaces.

3,340,661
ORNAMENTAL GRILL
Robert L. Krieger, Louisville, Ky., assignor to Manns-ville Plastics, Inc., Louisville, Ky., a corporation of Kentucky
Filed May 5, 1965, Ser. No. 453,265
4 Claims. (Cl. 52-456)



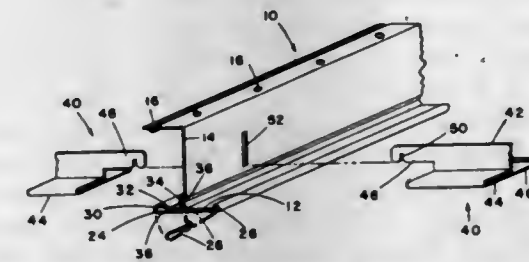
1. In combination with a window assembly comprising interconnecting sash frame elements and a pane of glass mounted therein,

(a) an easily detachable decorative grill comprising a series of interconnected elongated rod members for forming selectively variable patterns and mounted so as to lie in a plane parallel to the plane of said

pane of glass and having lateral flexibility in a plane perpendicular to the plane of said pane of glass, the improvement which comprises:

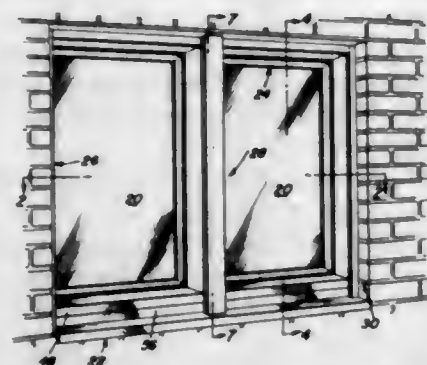
- (1) an intersecting joint structure comprising:
 - (a) a first rod member having at least one hole extending transversely through its body intermediate the ends thereof,
 - (b) two intersecting rod members each having a shaped end portion which registers with the outer surface of said first rod member and each having a centrally disposed aperture at the end having the shaped end portion,
 - (1) said aperture running coaxially with said member,
 - (2) said intersecting rod members being mounted on opposite sides of said first rod member in alignment with said hole;
 - (c) a short pin mounted internally in said hole and extending coaxially into the apertures in the confronting ends of the two intersecting rod members to reinforce and stiffen the joint without affecting the lateral flexibility of said grill;
 - (d) mounting means engageable with the free ends of the rod members contacting the sash frame element.

3,340,662
SUSPENDED CEILING WITH CUP TYPE CAP
David J. Deinhart and John P. Clark, Williamsville, and Patrick R. Lovullo, Buffalo, N.Y., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,122
8 Claims. (Cl. 52-476)



1. A ceiling panel suspension system comprising a plurality of main elongate, rigid Z-runners and a plurality of elongate, rigid Z-runner caps each adapted for snap-on attachment to one of said Z-runners, each said Z-runner having a generally vertically disposed central web, a top flange directed horizontally from one side of the top of said central web and a bottom flange directed horizontally from the opposite side of the bottom of said central web, each said Z-runner cap having a width substantially twice the width of said bottom flange and having means on one edge for supporting said one edge by the outer edge of said bottom flange, the opposite edge of said Z-runner cap having an upper section of the Z-runner cap affixed thereto by a reverse fold of the material of said Z-runner cap, said upper section having a horizontal section of a width substantially equal to the width of said bottom flange and a generally vertical section extending upwardly from the inner edge of said horizontal section, said vertical section of said Z-runner cap and said vertical central web of said Z-runner each having complementary raised locking means, whereby said Z-runner caps may be readily demountably affixed to said Z-runners by first engaging said edge engaging means on said bottom flange edge and then engaging said Z-runner cap raised locking means with said complementary central web raised locking means.

3,340,663
INTERLOCKING WINDOW FRAMING SYSTEM
 Earl W. Collard, 2714 Mountain Ave.,
 El Paso, Tex. 79930
 Filed June 17, 1965, Ser. No. 464,716
 12 Claims. (Cl. 52-498)

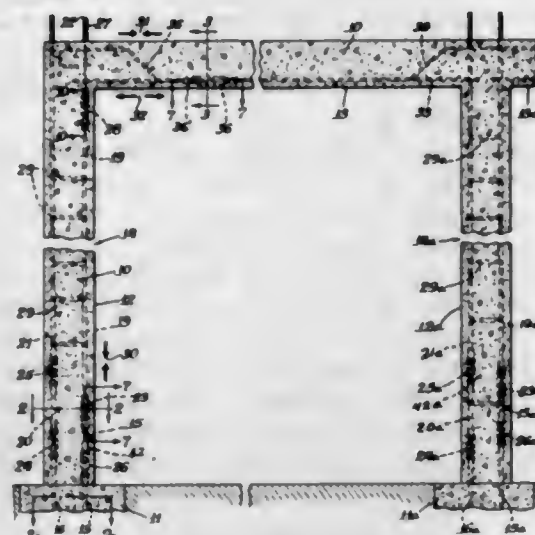


1. A window framing system utilized in the mounting of at least one preformed panel unit within a wall opening, said system including an elongated framing member, said member having a wide web, an abutment flange projecting perpendicularly from one longitudinal edge of said web, the second longitudinal edge of said web having a longitudinally extending recess therein opening outwardly of and in generally the same plane as the web, and an intermediate flange projecting perpendicularly from said web on the same side thereof as the abutment flange, said intermediate flange having the longitudinal outer portion thereof right angularly bent so as to generally parallel the web and project toward the second end of the web in a plane inward of the free end of the abutment flange and outward of that portion of the web defining the recess, said outer portion having the free edge thereof located rearward of the recess, and a locking means on said outer portion adjacent the free edge thereof, and a cover plate, said cover plate having a stabilizing flange projecting perpendicularly from one longitudinal edge thereof and receivable in the framing member recess, and a locking flange of greater width than said stabilizing flange projecting perpendicularly from the cover plate inward of and generally parallel to the stabilizing flange, said locking flange being positionable adjacent the outer portion of the framing member intermediate flange and including locking means engageable with the outer portion locking means.

3,340,664
CONCRETE STRUCTURE WITH BUTT SPLICED COMPRESSION AND TENSION REINFORCEMENT
 Frank D. Reiland, Chicago, Ill., assignor to Gateway Erectors, Inc., Chicago, Ill., a corporation of Delaware
 Filed Apr. 23, 1964, Ser. No. 362,066
 The portion of the term of the patent subsequent to Apr. 12, 1983, has been disclaimed
 7 Claims. (Cl. 52-648)

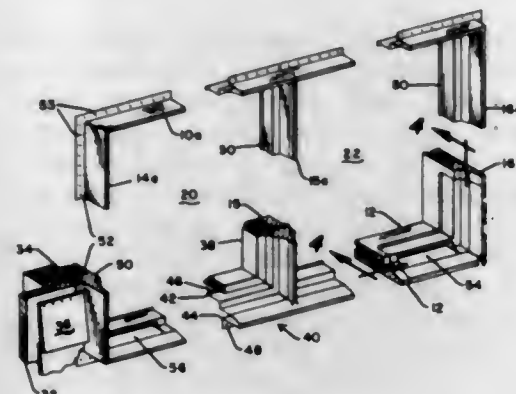
1. In a metal-reinforced concrete body having an elongated primary metal reinforcement bar extending therethrough, said primary reinforcement bar being of the kind having multiple projecting deformation ribs spaced apart lengthwise thereof and defining intervening channels, a combination clamp and cast joint structure joining two end-abutting segments of said primary reinforcement bar within said body, said joint structure comprising a plurality of individual elongated auxiliary metal reinforcement bars extending longitudinally of said primary reinforcement bar across the butt joint between said two segments, a constrictive clamp member comprising a relatively flexible contractible sheet metal sleeve tightly en-

compassing an enclosing said auxiliary reinforcement bars and clamping said bars tightly against both segments of said primary reinforcement bar, and a concrete mass



totally filling said sleeve and said channels and interlocking all of said metal members in an integral joint structure.

3,340,665
CONTINUOUS CHANNEL COVERING FOR WINDOW FRAMES AND THE LIKE
 John O. Kohl, Bayport, Minn., assignor to Andersen Corporation, Bayport, Minn., a corporation of Minnesota
 Filed Sept. 23, 1963, Ser. No. 310,706
 1 Claim. (Cl. 52-656)

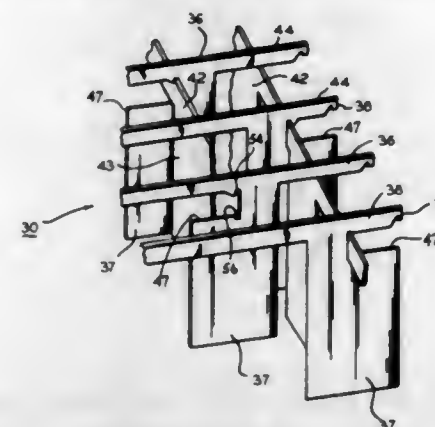


A protective covering for a window frame comprising: substantially rigid plastic channel forming a unitary seamless rectangular structure corresponding to the window frame with the respective side members of said rectangular structure having a cross-section wherein the inner surface of said channel conforms to at least a portion of the profile of a respectively corresponding member of said window frame, said cross-sections further being such that from the bottom of the channel to the top opening thereof the channel width does not decrease whereby the window frame may be inserted into snug seating engagement with the channels.

3,340,666
LIGHT REFLECTING AND SHIELDING STRUCTURE FOR SUSPENDED CEILINGS
 Richard N. White, Des Plaines, Ill., and Charles U. Deaton, Golden, Colo., assignors to Luminous Ceilings, Inc., Chicago, Ill., a corporation of Illinois
 Filed May 17, 1965, Ser. No. 456,418
 15 Claims. (Cl. 52-668)

1. A light reflecting and shielding module comprising main stem and leaf elements arranged in alternate end for

end reversed rows, cross stem and leaf elements arranged in alternate end for end reversed rows, each of said main stem and leaf elements including a slot extending substantially midway of the width of each leaf element, each of said cross stem and leaf elements having a stem connecting the cross leaf elements, the stem of said cross stem and leaf element being substantially the width of said slot so as to enter therein, said main stem and leaf elements being first oriented to positions to present a gate



extending laterally of said main stem and leaf elements when so oriented, said cross stem and leaf elements being adapted to be introduced into said gate as a pair thereof in reversed end for end relationship and being thereafter moved laterally of each other, the stem portion of said cross stem and leaf elements moving into said slots to the inner end thereof.

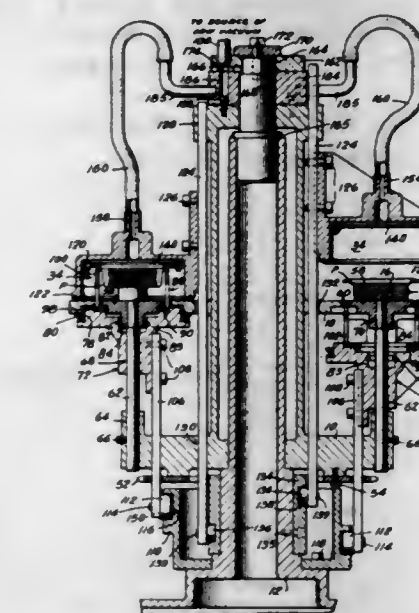
3,340,667
CONCRETE STRUCTURE WITH COMBINATION COMPRESSION AND TENSION REINFORCEMENT SPLICES
 Frank D. Reiland, Chicago, Ill., assignor to Gateway Erectors, Inc., Chicago, Ill., a corporation of Delaware
 Filed Jan. 13, 1964, Ser. No. 337,200
 The portion of the term of the patent subsequent to Apr. 12, 1983, has been disclaimed
 5 Claims. (Cl. 52-722)



1. In combination with a concrete body, a metal reinforcement embedded therein including two reinforcement bars each having plural projecting deformation ribs spaced apart lengthwise thereof and defining multiple intervening channels having radially extending side walls constituting abutment faces, and splice means connecting the bars together in end-to-end relation, said splice means comprising a contractible sleeve embracing and gripping the adjacent ends of both bars and having a

length sufficient to encompass a series of said ribs and intervening channels at the end of each bar, said sleeve having a plurality of side openings of dimensions generally comparable to said channels, said openings being distributed throughout the length and circumference of the sleeve and constituting passageways for admitting concrete grout into said channels during pouring of said concrete body to thereby afford a corresponding plurality of appendant concrete interlock segments extending from the main concrete body through the sleeve wall into the sleeve and interlocking the abutment faces on the bar deformation ribs with the internal surfaces of the sleeve apertures, said interlock segments serving to transmit both compression and tension forces from one bar to the other through the sleeve, said side openings being distributed longitudinally and circumferentially throughout said sleeve to assure complete peripheral interlocking of the sleeve with both bars.

3,340,668
APPARATUS FOR AND METHOD OF HERMETICALLY SEALING A PACKAGE
 Karl Bofinger, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
 Filed Sept. 28, 1964, Ser. No. 399,554
 20 Claims. (Cl. 53-22)

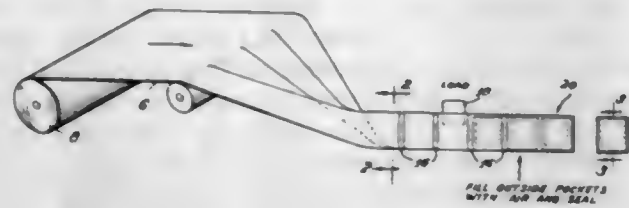


1. A method of sealing a package comprising the steps of:
 placing a first and second package element on a table in superimposed relation;
 forming an air-tight vacuum chamber for said package elements of two relatively movable sealing members located on opposite sides of said table;
 communicating a vacuum source to said chamber;
 forcing said container package elements into sealing engagement by one of said relatively movable sealing members while said vacuum chamber is in communication with said vacuum source; and
 removing said package from said vacuum chamber after discontinuing said vacuum.

3,340,669
AIR CUSHIONED PACKETS
 James Kenneth Farquharson, Weston, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 Filed Jan. 7, 1963, Ser. No. 249,745
 2 Claims. (Cl. 53-29)

1. A method of making a shock resistant packet blank formed of heat sealable flexible material and having an

inner pocket and outer pockets on each side of said inner pocket, said outer pockets being inflatable with a pressurized medium to provide shock resistance to said inner pocket, comprising the steps of folding a singular sheet of heat sealable flexible material into an M-shaped cross-sectional configuration, and heat sealing said flexible material transversely across said M-shaped configuration to



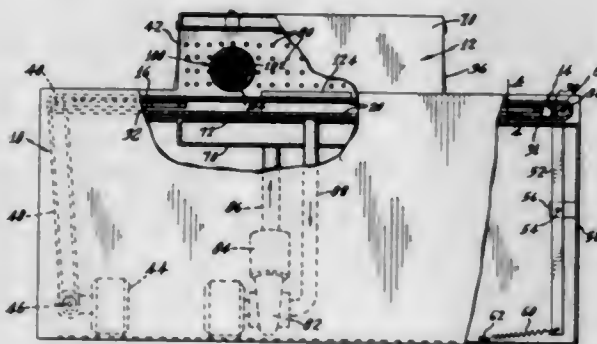
form three juxtaposed pockets having alternate open ends, inflating the two outer pockets with a pressurized medium and sealing the open ends of said outer pockets to form said shock resistant packet blank.

3,340,670

SHRINK PACKAGING APPARATUS

Kelvin G. Anderson, Westfield, and Alfred C. Monaghan, Warren Township, Plainfield, N.J., assignors to Weldotron Corporation, Newark, N.J., a corporation of New Jersey

Filed Feb. 15, 1965, Ser. No. 432,732
6 Claims. (Cl. 53—30)



6. A method of heat-shrinking heat-shrinkable film wrappers on individual packages comprising: initially heating the entire film wrapped about a package to shrink the film substantially to conform to the package; subsequently engaging and applying heat and pressure progressively and substantially uniformly to a surface of the film, said pressure being applied substantially solely perpendicularly to such surface of the film by a roller which is driven at a common surface speed by the package.

3,340,671

METHOD OF FILLING CONTAINERS UNDER ASEPTIC CONDITIONS

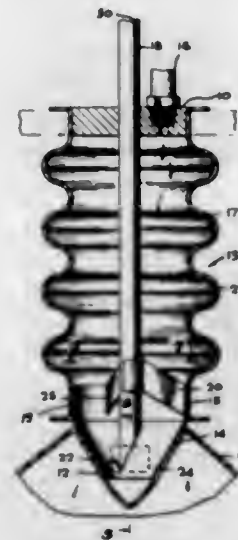
Ching C. Loo, Los Angeles, Calif., assignor to Carnation Company, Los Angeles, Calif., a corporation of Delaware

Filed Aug. 10, 1964, Ser. No. 388,400
5 Claims. (Cl. 53—37)

1. A method of filling a flexible container under aseptic conditions which comprises:

- (A) Forming a depending pocket in the container;
- (B) Sterilizing the pocket and continuously purging the pocket with a sterile purge gas;

(C) Puncturing the pocket with a filling means, and filling the container through the opening in the pocket;



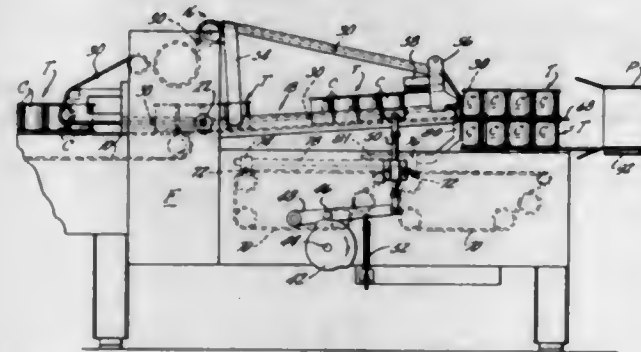
- (D) Unfolding the pocket while continuing to purge the area surrounding the opening in the pocket;
- (E) Sealing the container.

3,340,672

CASE PACKING MACHINE FOR TIERED ARTICLES

Henry S. Kayser, Middletown, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Jan. 28, 1965, Ser. No. 428,641
4 Claims. (Cl. 53—153)



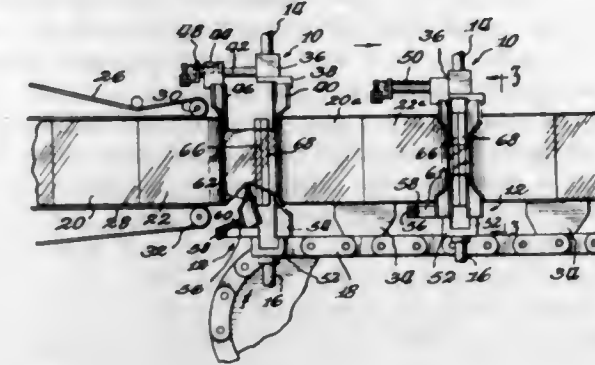
1. In a case packing machine of a type having an infeed conveyor for advancing segregated multi-row tier-forming groups of articles and also having a packing funnel provided with a slotted bottom for supporting the articles before they are thrust into a case, the improvement comprising a chute disposed between the conveyor and funnel and pivotally supported at its end adjacent the conveyor, continuous drive means for alternately raising and lowering the other end of the chute adjacent the funnel, an overhead flight bar conveyor supported in part over the downstream end portion of the infeed conveyor and supported in part over the chute for movement therewith, the said flight bar conveyor being operated by said drive means in timed relationship with the raising and lowering of said chute to sweep a first tier of articles onto the funnel bottom when the chute is lowered and then to sweep a second tier of articles onto the top of the first tier when the chute is raised, and a mechanism for moving the stacked tiers out of the funnel, said mechanism including a plurality of pushers extensible through the slots in the bottom of the funnel to engage the rearmost articles in the rows of the stacked tiers, and support means for said pushers operated by said drive means to elevate the pushers into engagement with the stacked tiers and to thrust the tiers out of the funnel and to then lower the pushers while said chute is being lowered and prior to movement of a subsequent tier into the funnel.

3,340,673

ARTICLE WRAPPING MACHINE

Henry R. Cloots, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed June 17, 1963, Ser. No. 288,292
8 Claims. (Cl. 53—180)



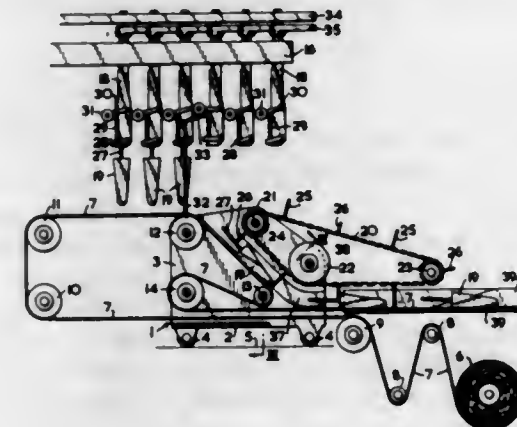
1. In a device of the character described, means for conveying wrapper enclosed and entubed articles in a downstream direction, and means for forming gussets in said wrapping material adjacent the ends of said articles, said last mentioned means comprising a pair of spaced gusset formers driven downstream at the speed of said entubed articles, one of said spaced gusset formers being slidably mounted in respect to the other in the direction of downstream movement and maintained biased in an upstream direction.

3,340,674

APPARATUS FOR WRAPPING ICE CREAM BRICKS AND SIMILAR MOULDED BODIES

Oluf Gudmund Høyer, 8 Finlandsgade, Aarhus, Denmark

Filed June 15, 1964, Ser. No. 375,199
Claims priority, application Denmark, June 17, 1963, 2,860/63
11 Claims. (Cl. 53—209)



1. Apparatus for wrapping ice cream bricks and similar bodies which are conveyed in suspended position and in rows to a wrapping station at which station said bodies are wrapped one by one, comprising a carriage which is arranged for performing a reciprocating movement beneath and substantially parallel to a holder having means for holding a row of moulded bodies, said carriage comprising means for advancing a web of wrapping material through the carriage with a forwardly and downwardly inclined section and a subsequent section which extends substantially horizontally in the direction of movement of the carriage towards a wrapping unit for wrapping the moulded bodies, and means for successively releasing the holding means responsive to the movement of the carriage in one direction, said releasing means being disposed and shaped so that subsequent to the associated

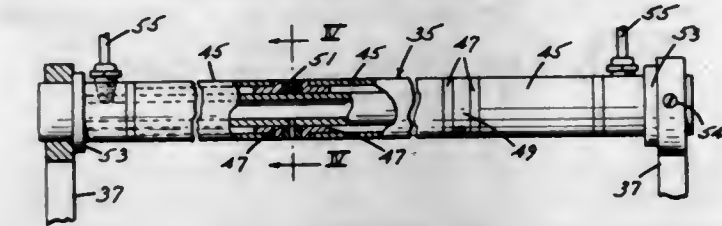
holding means having been released, a moulded body will fall down onto the downwardly inclined section of the web of wrapping material.

3,340,675

ARTICLE WRAPPING MACHINE

Frank Minalga, Haddon Heights, N.J., assignor to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Sept. 25, 1964, Ser. No. 399,256
1 Claim. (Cl. 53—228)



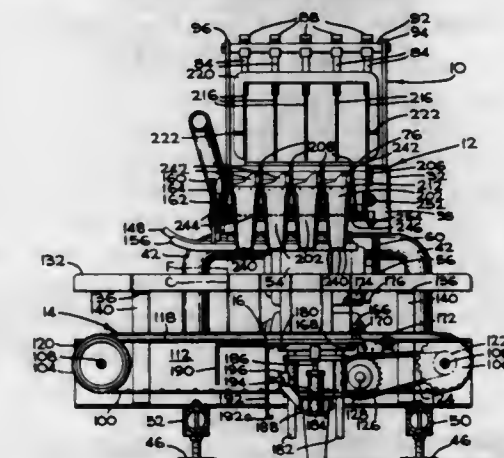
In an article wrapping machine having a carrier, means for moving said carrier between spaced article in-feeding and wrapping stations, means for delivering a continuous wrapping material, means at the in-feeding station for advancing an article against the wrapping material and onto said carrier and means for severing the continuous wrapping material after the carrier and the article thereon have been moved into the wrapping station, the improvement comprising a hollow whip bar for engaging with the continuous wrapping material, means for moving the whip bar toward the article in-feeding station to draw out a length of wrapping material before such wrapping material is severed, and means for delivering a compressed gas into said whip bar, said whip bar having therein an air tube into which said compressed gas is delivered, said whip bar including a plurality of rollers mounted for free rotation on said air tube, air jet rings interposed between the ends of said rollers and holes in said air jet rings and opening into said air tube for discharging the compressed gas against the leading end of the continuous wrapping material after it has been severed for urging the same away therefrom and toward the in-feeding station.

3,340,676

CARTON LOADING APPARATUS

Boyd J. Arnett, 22100 Summit Road, Los Gatos, Calif. 95030; Lillian J. Arnett, administratrix of the estate of Boyd J. Arnett, deceased

Filed Feb. 12, 1964, Ser. No. 344,338
1 Claim. (Cl. 53—247)



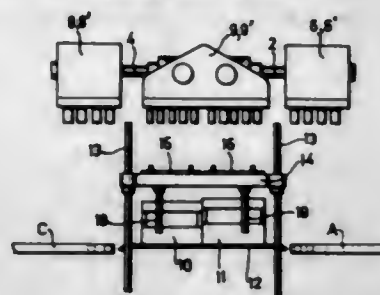
Carton loading apparatus which comprises means for conveying a plurality of articles in multi-file relationship to a transfer position, a transfer guide at the transfer position having a plurality of guide channels therein for directing articles into a carton to be loaded and arranged to receive articles from said conveying means at positions intermediate said guide channels, and a transfer member

arranged for movement laterally relative to said transfer guide to displace the articles received by said guide into positions aligned with said guide channels, said transfer guide including arcuate article separating members curving downwardly in the direction of article displacement by said transfer member.

3,340,677

DEVICE FOR PACKAGING BOTTLES IN CASES
Paulus Josephus Maria van Luxemborg, Loon op Zand, Netherlands, assignor to Machinefabriek van Luxemborg N.V., Dongen, Netherlands, a limited-liability company

Filed Mar. 24, 1965, Ser. No. 442,463
4 Claims. (Cl. 53-247)



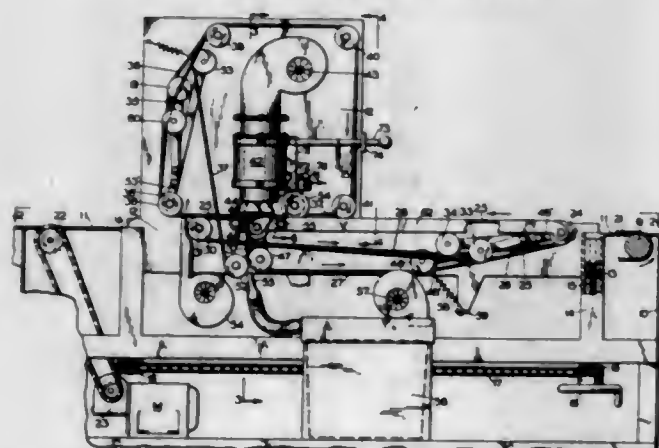
1. A device for packaging bottles in cases, the device being provided with operating heads equipped with bottle gripping elements, the said heads being arranged around a central column and mounted on pairs of protruding brackets for stepwise rotation about a vertical axis, the said device comprising further a member for lifting one or more cases, which are positioned under the bottles hanging in the gripping elements, and a guiding frame, which is movable in a vertical direction, the said frame being horizontally disposed between the cases on the lifting member and an operating head with bottles hanging thereon, said frame comprising means for centering the cases under the said operating head and means for guiding the bottles when same are lowered into the cases, the guiding frame being subdivided into a number of auxiliary frames, which are guided in vertical direction in such a way that they are movable independently of one another, the number of the said auxiliary frames corresponding with the number of cases which simultaneously should be loaded with bottles.

3,340,678

HEAT-SEALING DEVICE FOR BAGS IN MOTION

Herbert C. Rhodes, 10106 SE. Stark St.,
Portland, Oreg. 97216

Filed Nov. 9, 1964, Ser. No. 409,742
7 Claims. (Cl. 53-372)



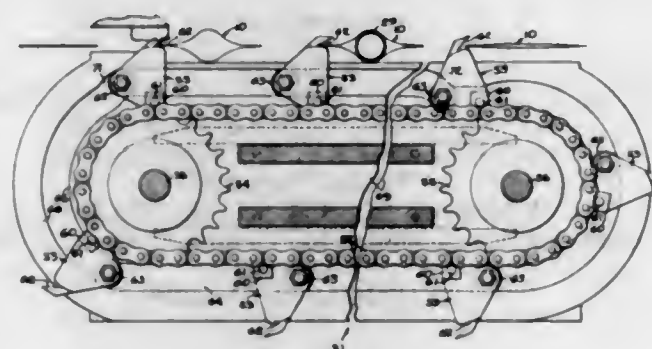
1. In a device for heat-sealing bags of thermoplastic material, a moving endless conveyor for supporting the main body portion of each bag, two pairs of lower and upper belts moving in unison with said conveyor, the belts of each pair located in the same plane, said pairs of

belts engaging the unsealed end portion of each bag between their opposed faces, said pairs of belts spaced a slight distance apart, a jet-discharging nozzle, means for delivering hot gas under pressure to said nozzle, said nozzle so arranged as to deliver a narrow, elongated jet down through the spacing in between said pairs of belts and onto the end portion of each bag as the end portion is moved along beneath said nozzle and thereby produce a sealing line across such end portion, the pair of belts spaced the furthest from said conveyor so mounted and guided as to turn downwardly together for a short distance away from the other pair of belts upon passing said nozzle, whereby the tip end portion of each bag held between said downwardly turning pair of belts will be severed from the remaining portion of the bag end simultaneously with the forming of the heat seal line by the nozzle jet, said downwardly turning pair of belts so mounted and guided as to separate and move in opposite directions after turning downwardly for a short distance, and means for collecting the severed tips of the bags from said last mentioned pair of belts.

3,340,679

APPARATUS FOR OPENING POUCHES
Kenneth R. Johnson, Rockford, Ill., assignor to Bartel Engineering Company, Inc., Rockford, Ill., a corporation of Delaware

Filed Feb. 1, 1965, Ser. No. 429,249
8 Claims. (Cl. 53-385)



8. In an apparatus for opening pouches having flexible side panels, the combination of, a first carrier movable along a predetermined path and having clamps thereon for gripping the leading edge portions of a succession of spaced pouches and carrying the pouches edgewise along said path, a second carrier disposed on one side of said path and movable alongside the latter at the same speed as said first carrier, a plurality of fingers spaced along said second carrier and projecting outwardly therefrom across said path between adjacent pouches on said first carrier, and means for bringing the outer end portions of successive fingers into engagement with the trailing edges of successive pouches in said clamps and then moving each outer end portion forward relative to the preceding clamp, said outer end portions being shaped to catch said trailing edges and squeeze the pouches edgewise thereby to open the pouches.

3,340,680

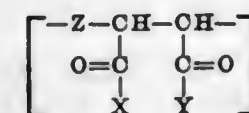
AIR PURIFICATION PROCESS

Joseph E. Fields, Ballwin, and John H. Johnson, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 1, 1966, Ser. No. 523,972
9 Claims. (Cl. 55-22)

1. A process for purifying air which comprises
(1) contacting air containing viruses, bacteria and other microorganisms with an absorbent hydrophilic

polyelectrolyte having a molecular weight of at least 1000 in the basic polymer structure and of the formula



wherein

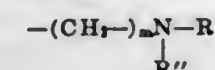
Z is a bivalent hydrocarbon of from 2 to 12 carbon atoms,

X and Y are selected from the group consisting of —OH, —ONH₂, —ONHR₃, —ONH₂R₂, —ONH₃R, —ONR₄, —NH₂, —NHR, —NR₂ and alkali metals,

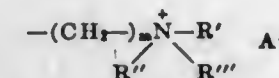
R is selected from the group consisting of alkyl of from 1 to 18 carbon atoms, alkyl containing a tertiary nitrogen atom, alkyl containing a quaternary nitrogen atom, and

X and Y taken together can be selected from the group consisting of >NH, >NT and >NR, and

T is selected from the group consisting of



and



R' and R'' are alkyl from 1 to 5 carbon atoms, R''' is an hydrocarbon of from 1 to 18 carbon atoms,

m is an integer from 1 to 5,

n is an integer having a magnitude of at least 8, and

A is a halide cation; and

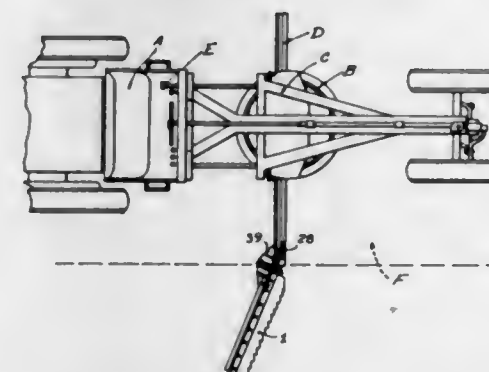
(2) recovering the air substantially free of viruses, bacteria and other microorganisms.

3,340,681

CUTTING ATTACHMENT FOR MOTORIZED ROAD MACHINES

Lloyd Bryas Strawbridge, Aberdeen, Miss., assignor to BSW Manufacturing Company, Inc., a corporation of Mississippi

Filed Nov. 24, 1964, Ser. No. 413,417
2 Claims. (Cl. 56-229)



1. A growth cutter attachment for motorized road machines having a road scraper blade moveably attached thereto comprising a flat elongated cutter blade having a leading edge, and means for adjustably connecting an end of said cutter blade to an end of the road scraper blade with said cutter blade extending on a rearward slant relative to the longitudinal length of and laterally of the height of said road scraper blade, said cutter blade leading edge having a series of teeth therealong with each tooth having an edge slanting inwardly from said leading edge towards said cutter blade end, an opposite edge

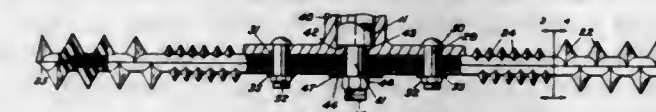
slanting slightly from the normal to said leading edge, a flat point with all points extending in a straight line with said leading edge and a slanting top face.

3,340,682

YIELDABLE MOWER BLADE

Lewis C. Ely, Atlanta, Ga., assignor, by mesne assignments, to Dayco Corporation, Dayton, Ohio, a corporation of Delaware

Filed June 16, 1966, Ser. No. 558,040
6 Claims. (Cl. 56-295)

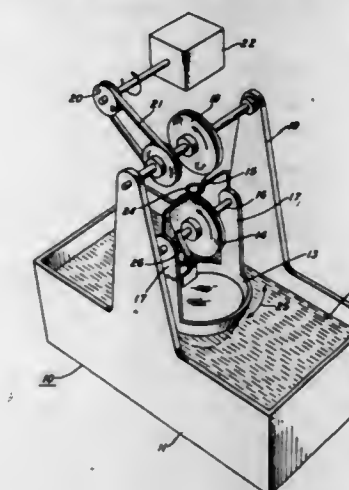


1. A rotary mower blade having at least one arm, said blade comprised of an elastomer and a relatively non-elastic member, said nonelastic member being embedded in said elastomer and extending substantially throughout its length for resisting elongation of said blade when the same is subjected to centrifugal force, said blade having a plurality of integrally formed auxiliary cutters extending from the upper and lower surfaces of each arm and composed entirely of said elastomer.

3,340,683

SPOOLING BOBBIN FOR UNTWISTING WIRE
Miles C. Huffstutler, Jr., and James W. Wilson, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed Oct. 20, 1966, Ser. No. 588,169
5 Claims. (Cl. 57-1)



1. Wire spooling apparatus comprising a rotatable bobbin containing a wire having wound-in twist, a low viscosity liquid, means for floating said bobbin upon the surface of said liquid, and means for unwinding said wire from said bobbin, the latter rotating upon the surface of said liquid in response to release of torsional strain present in said wire, whereby the wound-in twist is removed.

3. Apparatus in accordance with claim 1, wherein said floating means comprises a deep dish with ballasting in the center thereof, and means for rotatably mounting said bobbin centrally on said dish.

3,340,684

YARN TEXTURING APPARATUS AND FLUID DIFFUSER THEREFOR

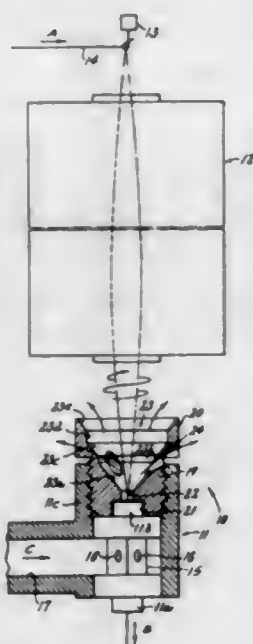
Daniel Shichman, Cedar Grove, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey

Filed Dec. 7, 1965, Ser. No. 512,088
18 Claims. (Cl. 57-34)

1. An apparatus for texturizing thermoplastic filamentary strand material, comprising means defining a heat-

ing zone, means for guiding a thermoplastic filamentary strand through said heating zone, fluid twister means positioned adjacent one end of said heating zone for through passage of said strand and operable upon creation of a vortical flow of high pressure fluid therethrough to impart a false twist to each given increment of length of said strand concomitantly with the passage thereof through said heating zone, said fluid twister means being provided with a strand-passing fluid exit nozzle the outlet of which is directed toward said heating zone, and means operatively interposed between said fluid exit nozzle and said one end of said heating zone for diffusing the fluid issuing from said nozzle laterally away from the path of movement of said strand intermediate said heating zone and said fluid twister means, thereby to reduce materially the amount of such fluid entering said heating zone.

14. A fluid diffuser member adapted to be interposed between an exit nozzle of a fluid twister and an adjacent zone which is to be kept substantially free of said fluid, said diffuser member comprising a body defining a generally conically flaring passageway adapted to be aligned with said nozzle, said body being provided intermediate



the ends of said passageway with a plurality of lateral openings, whereby any fluid issuing from said nozzle and entering said passageway at the narrower end thereof is diverted both through said openings and over the wide end rim of said body essentially laterally of said body, thereby enabling a material reduction in the amount of such fluid able to enter said zone to be achieved.

3,340,685

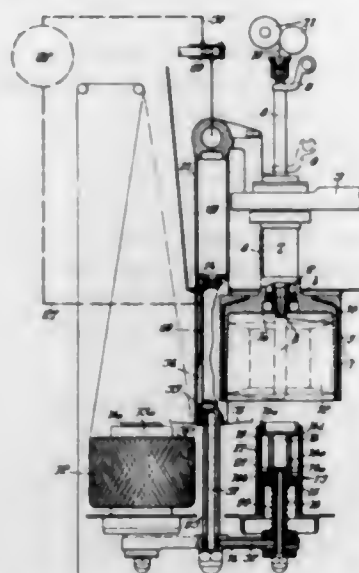
CENTRIFUGAL YARN SPINNING MECHANISM
Louis Vignon, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a society of Switzerland

Filed Dec. 22, 1965, Ser. No. 515,698
Claims priority, application Switzerland, Dec. 24, 1964, 47,664/64

10 Claims. (Cl. 57-34)

1. A yarn spinning mechanism which comprises, in combination:
a frame,
a spinning pot journaled in said frame about a spinning axis,
means for feeding yarn along said axis,
a yarn guide adapted to receive yarn from said feeding means and extending through said spinning pot, for guiding said yarn thereinto, said yarn guide being reciprocable along said spinning axis,

means for rotating said pot to spin, by centrifugal force, the yarn into a hollow yarn package, support means operatively connected with said frame to slide with respect thereto in a direction parallel to said axis, and an expansible yarn package spool pivotally mounted on said support means about a pivot axis parallel to said spinning axis, said spool being adapted to be

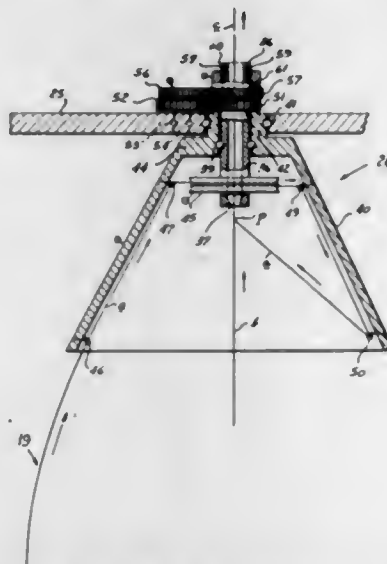


introduced into said spinning pot for removing the yarn package therefrom, said support means being such that said pivot axis can be aligned with said spinning axis at least at the end of the expansible spool travel into the spinning pot, said spinning pot and expansible spool being provided with respective clutch surfaces adapted to cooperate together at the end of the spool travel into the spinning pot.

3,340,686

STRAND HANDLING METHOD AND APPARATUS

Alfred W. Vibber, 560 Riverside Drive,
New York, N.Y. 10027
Filed Dec. 14, 1966, Ser. No. 601,711
16 Claims. (Cl. 57-58.36)



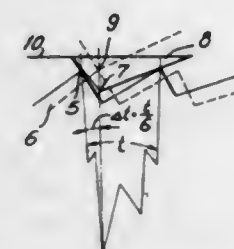
11. Apparatus for feeding at a controlled speed a strand travelling through a loop rotating at a predetermined speed about its axis, which comprises a capstan roll disposed coaxial of the loop, means mounting the capstan roll for rotation about its axis, means including a first guide disposed radially outwardly of the axis of the loop for extending the strand from one end of the main portion of the loop in a first run extending through said first guide and thence to the capstan roll, the capstan roll be-

ing adapted to receive the strand wrapped thereabout in substantially non-slipping engagement therewith, means including a second guide disposed radially outwardly of the axis of the loop for extending a further portion of the strand from and beyond the capstan roll in a second run passing through said second guide, means for rotating the two guides together in the same direction and at the same speed as the rotating loop in such direction relative to the direction of winding of the strand on the capstan roll that if the capstan roll were held from rotation a desired one of the runs of the strand would be wrapped upon and the other run of the strand would be unwrapped from the capstan roll whereby the strand would then be fed in the desired direction, and means for rotating the capstan roll at a speed which is different in a predetermined amount from the speed of rotation of the loop and the guides, whereby the capstan roll feeds the strand therepast at a controlled predetermined speed which is proportional to the resultant of the strand feeding effect of the joint rotation of the loop and the guides and the strand feeding effect of the rotation of the capstan roll.

3,340,687

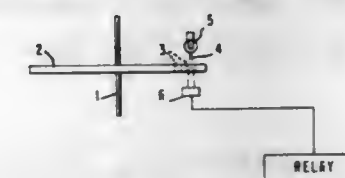
DEVICE FOR INTERMITTENT MOTION OF SECOND HAND

Mikhail Fedorovich Novikov, Ul. Pristanskaja 26; Alexander Petrovich Ananiev, Ul. Engelsa 115, Kv. 16; and Robert Zuberovich Kulikov, Ul. Lva Tolstogo 135, Kv. 2, all of Chistopol, U.S.S.R.
Filed Aug. 13, 1965, Ser. No. 479,489
5 Claims. (Cl. 58-59)



1. A device for controlling intermittent motion in a watch, comprising a second hand, a movably mounted lock adapted to move and to retain the second hand in sixty consecutive positions during one revolution; a pinion connected to the second hand, a sixty-tooth wheel attached to the pinion of said second hand and interacting with said lock, the lock having working faces which are inclined at different angles with respect to a straight line connecting the center of said sixty-tooth wheel with the apex of said lock, the tips of the teeth of said sixty-tooth wheel being pointed in order that they may interact with said working faces of said lock so as to provide stable and unstable positions to enable the second hand to be moved rapidly through a tooth pitch angle and to be retained at rest for nearly a complete second, a wheel for driving said pinion, a toothed wheel pair coupling the latter said wheel and the pinion, rapid movement of said second hand being enabled by backlash provided in the toothed wheel pair connecting the second hand pinion with the wheel from which said second hand pinion receives motion, the backlash being of such an extent that, after the unstable position has been reached, movement to said stable position is controlled by action of the lock against said sixty-tooth wheel, the lock and teeth being cooperating elements each of which have angularly related faces connecting at a peak, the teeth on said sixty-tooth wheel having each a six degree extent and one of the faces of each tooth having an extent of no more than about one degree through which the tooth must be displaced to reach the unstable position.

3,340,688
SECONDS IMPULSE SENDING EFFECTED BY A CLOCKWORK
Egon Zoller, Lehensteig 11, Zurich, Switzerland
Filed May 18, 1965, Ser. No. 457,256
1 Claim. (Cl. 58-152)



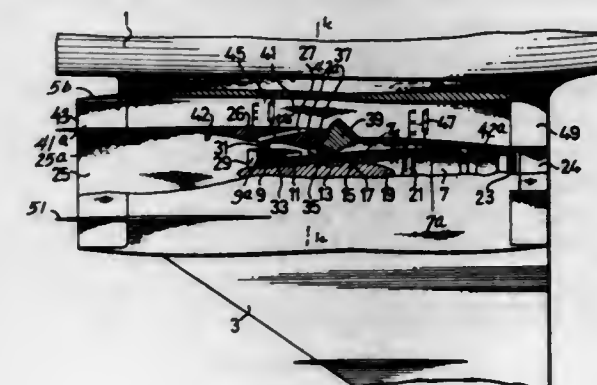
In a clockwork, time period indicating means comprising a seconds-wheel axle turning in discrete short steps, a disc secured to said axle to turn therewith, circumferentially arranged and uniformly spaced apertures in said disc, a source of light located on one side of said disc at the region of said apertures, light sensitive electric cell means located on the other side of the disc in alignment with the light source, each discrete step being much shorter than the circumferential dimension of each aperture so that a plurality of steps is necessary to completely move an aperture past the light source, thereby exposing the cell means to the light beam in discrete intensities to cause the cell to generate a voltage which varies from a minimum to a maximum and then back to the minimum in steps, and relay means responsive to the generated voltage.

3,340,689

TURBOJET BYPASS ENGINE

Paul Robert Kueng, 67 Brunnadernstrasse,
3000 Bern, Switzerland

Filed Feb. 10, 1966, Ser. No. 526,465
Claims priority, application Switzerland, Sept. 16, 1961, 10,827/61
17 Claims. (Cl. 60-226)

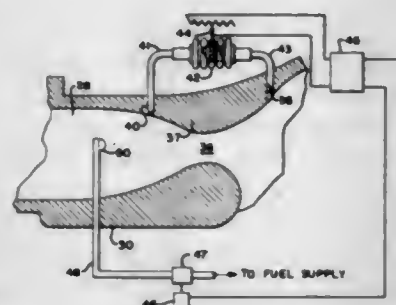


1. Turbojet bypass engine for an aircraft, comprising in combination, a duct system including air duct means having a first front inlet and a first rear outlet, ramjet bypass duct means having a second front inlet and a second rear outlet, combustion duct means connecting said air duct means with said ramjet bypass duct means, and overflow duct means connecting said air duct means with said ramjet bypass duct means forwardly of said combustion duct means; turbojet means located in said air duct means for producing a thrust at said first rear outlet; and fuel burner means in said combustion duct means for producing a flow of combustion gases out of the same, into said ramjet bypass duct means, and out of said second rear outlet so that air is drawn by the injector effect of said flow of combustion gases through said second front inlet into said ramjet bypass duct means while the aircraft is at a standstill or moves at low speed.

3,340,690 BOUNDARY LAYER CONTROL FOR DETONATION RAMJETS

Leslie W. Norman, Scottsdale, and Skillman C. Hunter, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 95,086, Mar. 13, 1961. This application Oct. 4, 1963, Ser. No. 314,838

6 Claims. (Cl. 60-243)



1. A method of controlling the boundary layers and preventing interference with the shock wave patterns in the aerothermodynamic duct of a detonation combustion engine having a detonation combustion zone between the inlet and exhaust of said duct, which method comprises:

- passing an airstream at supersonic velocity into said duct;
- diverting a major portion of the boundary layers of said airstream at a plurality of points throughout the length of said duct;
- merging such diverted air into a larger stream of lower velocity;
- feeding such larger stream back into the mainstream behind the detonation combustion zone;
- comparing the fluid pressures in such larger stream of lower velocity and in the mainstream behind the detonation combustion zone; and
- adding fuel to said larger stream for combustion therein in advance of the return to said mainstream in accordance with predetermined differences in the fluid pressures being compared.

3,340,691

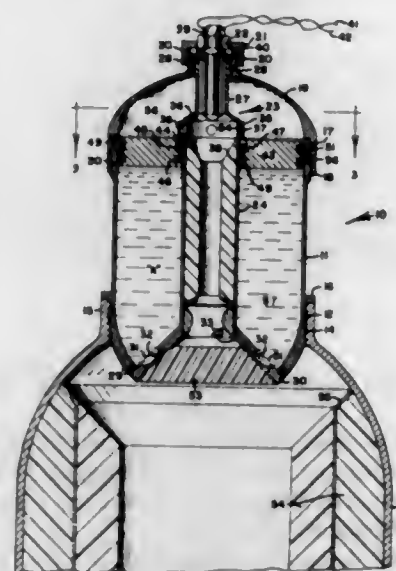
COMMAND CONTROLLABLE SELF-PRESSURIZING LIQUID INJECTION SYSTEM

Grafton F. Mangum, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,792
2 Claims. (Cl. 60-250)

1. A command controllable self-pressurizing liquid injection system for a solid propellant rocket motor, layers of solid propellant in said rocket motor, an inhibitive barrier positioned between and separating said layers of solid propellant, a pressure vessel connected to said rocket motor and having communication with the interior of said rocket motor, a nozzle on said pressure vessel, a floating piston having a cavity therein mounted in said pressure vessel and dividing said pressure vessel into first and second separate chambers, an exhaust port for said first chamber, exhaust ports in said nozzle, passageways in communication with the exhaust port in said first cham-

ber and the exhaust ports in said nozzle, a solid propellant in the cavity in said piston, means for igniting said last said solid propellant so that upon ignition thereof combustion gases created by the burning of said last said solid propellant communicate with said second chamber whereby said combustion gases will force said piston to exert pressure on the liquid in said first chamber and thereby direct said liquid through the exhaust port for said first chamber, said passageways and the exhaust ports in said nozzle to eject the liquid into said rocket motor



by means of the combustion gases that are exhausted through the nozzle for said pressure vessel for the decomposition of the inhibitive barrier for controlling the impulse of said rocket motor and wherein a ring-shaped member having a plurality of outlets therein and an annular screen covering said outlets is mounted in the exhaust port of said first chamber.

3,340,692

METHOD OF ERECTING SUPPORTS AND ROOFS OVER WATER FOR LIQUIFIED GAS STORAGE

John C. St. Clair, Box 333, Rte. 2, London, Ohio 43140

No Drawing. Filed Oct. 28, 1965, Ser. No. 505,575
4 Claims. (Cl. 61-5)

1. A method of erecting a support for a roof for a storage zone, in which liquified natural gas is later stored and supported by earth containing frozen water which comprises: putting water in the storage zone, erecting a flexible structure of poles and wires in the storage zone by the help of a man in a boat on the water, resting a roof on top of the flexible structure and removing water from the storage zone after the flexible structure is erected.

3,340,693

METHOD AND APPARATUS FOR INDUCING HARDENING OR CEMENTING IN A MASS OF BACK-FILL IN A MINE OPENING

William S. Row, 168 Forest Hill Road, Toronto 7, Ontario, Canada

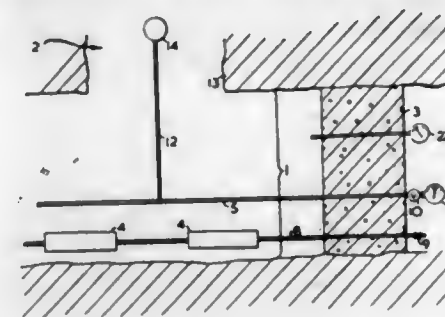
Filed Apr. 1, 1965, Ser. No. 444,531
Claims priority, application Canada, Feb. 15, 1965, 923,323

16 Claims. (Cl. 61-36)

1. A method of forming a substantially rigid mass in a mine opening which comprises:

- charging said opening with a fill material such as rock or gravel and which contains a reactive substance; and

- passing a reactive fluid upwardly through said material which is capable of reacting with the substance



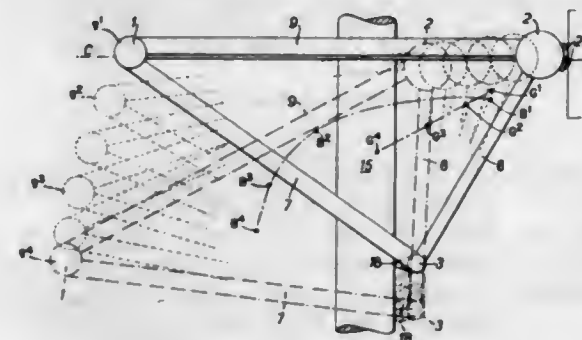
in said material in a volume sufficient to induce hardening and cementing of the material.

3,340,694

BUOYANT FENDERS

Richard Pavry and Henry W. Stephenson, London, England, assignors to John Albert Posford, John Francis Causton Swansbourne, Peter Weston Rowley and said Pavry

Filed Apr. 22, 1965, Ser. No. 450,103
5 Claims. (Cl. 61-46)



1. A buoyant fender comprising fore and aft buoyant tubes, a triangulated framework fixedly connecting said tubes together so that, in end elevation, the buoyant tubes and the members of the framework comprise one side of the triangle normally arranged horizontally and normally close to normal, i.e. static, water level, piling for locating the buoyant fender, the junction of the other sides of the triangulated structure carrying close thereto means comprising the axis of articulation of the buoyant fender and abutable against and slidable along the piling, said latter mentioned two sides of the triangulated framework and said means comprising the axis of articulation adapted to extend below water level, the center of gravity and center of buoyancy of the fender being normally substantially in a common vertical plane, and being displaceable relative to each other away from said plane when the fender is displaced about said axis of articulation to absorb the shock of impact of a ship.

3,340,695

METHOD OF SEPARATING CARBON MONOXIDE FROM OXYGENIZED CONVERTER GAS

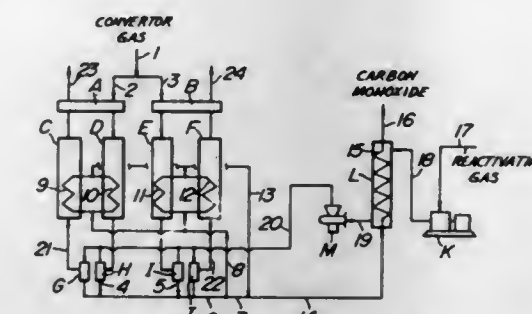
Kiyoshi Ichihara, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan

Filed Sept. 16, 1964, Ser. No. 396,863
Claims priority, application Japan, Sept. 17, 1963, 38/49,241

4 Claims. (Cl. 62-12)

1. A method of separating carbon monoxide from converter gas including removing carbon dioxide gas from the converter gas so as to obtain carbon monoxide of high purity, said method comprising passing the converter gas through at least one regenerator, said regenerator being previously cooled to about -170°C . by the passage

of a reactivating gas therethrough whereby the moisture and carbon dioxide in said converter gas freeze out in said regenerator, passing the converter gas substantially free from carbon dioxide and moisture through a heat exchange means so as to warm the same to approximately room temperature by heat exchange with a reactivating gas which is simultaneously supplied thereto from an air separating apparatus, said reactivating gas being thereby



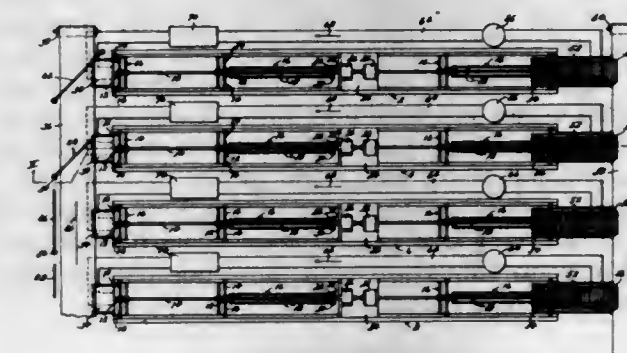
precooled and then, after passing through said heat exchange means, being adiabatically expanded so as to cool said reactivating gas to a temperature of about -175°C . from where it is passed through a second regenerator in order to sublimate the frozen moisture and carbon dioxide contained therein from the preceding cycle, and then removing the substantially pure carbon monoxide from said heat exchange means.

3,340,696

METHOD FOR CHILLING POULTRY

Ralph S. Zebarth, Kansas City, Mo., and Drexel T. Carlson, Leawood, Kans., assignors to Ralph Zebarth, Inc., Kansas City, Mo., a corporation of Missouri

Filed May 3, 1966, Ser. No. 547,356
2 Claims. (Cl. 62-63)



1. In a continuous poultry processing system a method of chilling poultry carcasses comprising:

- adding poultry carcasses from a continuous supply of said carcasses selectively into any one of a plurality of liquid chilling baths whereby said baths are successively charged to capacity with said carcasses,
- removing all of said carcasses from each of said baths in succession, in the same order in which they were previously charged,
- maintaining the liquid of each of said baths in relatively severe agitation as carcasses are added thereto or removed therefrom, whereby to assist in moving said carcasses into and through said bath, and
- maintaining the liquid of each bath in relatively mild agitation during the time periods in which carcasses are neither being added to or removed therefrom.

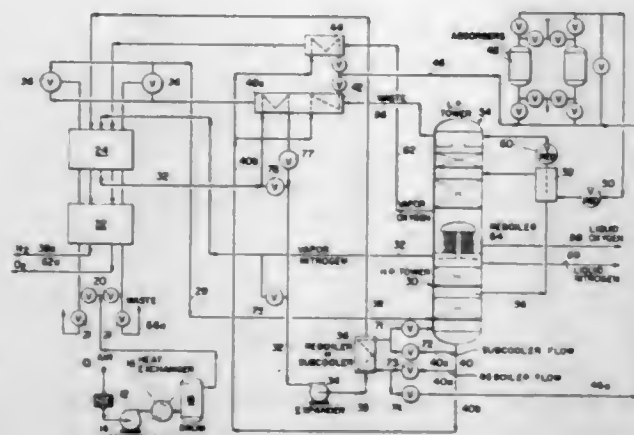
3,340,697

HEAT EXCHANGE OF CRUDE OXYGEN AND EXPANDED HIGH PRESSURE NITROGEN

Emil Cimler, Port Washington, Raymond Hippeli, Brooklyn, and Edward H. Van Baush, Pearl River, N.Y., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed May 6, 1964, Ser. No. 365,279

5 Claims. (Cl. 62-13)



1. The method of separating air to produce vaporous nitrogen and vaporous oxygen which comprises passing said air under a superatmospheric pressure of at least five atmospheres through a heat exchange zone in heat exchange with cold waste gas to lower the temperature of the air to substantially its dew point, introducing said pressurized low temperature air into a high pressure fractionation zone in the presence of reflux to establish a nitrogen vapor overhead, a condensed liquid nitrogen and a crude oxygen liquid bottoms, expanding a first portion of said nitrogen vapor in a turboexpander with work necessary to supply refrigeration for said heat exchange zone, expanding said crude oxygen liquid bottoms into the low pressure fractionation zone, expanding a second liquid portion of said nitrogen into the low pressure fractionation zone to provide reflux and separate a high purity oxygen vapor from a cold waste gas, withdrawing a portion of said crude oxygen liquid bottoms and passing said portion of crude oxygen liquid bottoms in heat exchange with the effluent of the expansion of the first portion of the nitrogen vapor to heat said portion of liquid bottoms, and returning said heat exchanged portion of liquid bottoms back in admixture with the crude oxygen liquid bottoms in said high pressure fractionation zone.

3,340,698

METHOD OF AND APPARATUS FOR CRYOGENIC SEPARATION OF COKE-OVEN GAS

Kiyoshi Ichihara, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

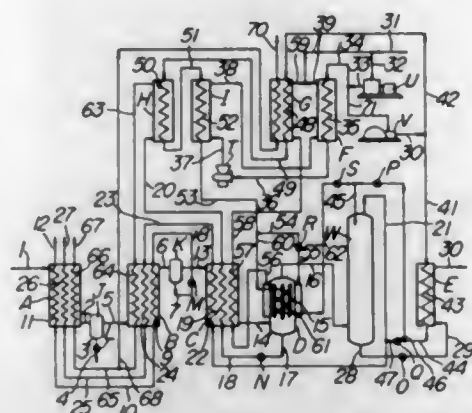
Filed July 2, 1964, Ser. No. 379,908

Claims priority, application Japan, July 5, 1963, 38/34,474

2 Claims. (Cl. 62-23)

1. A method of cryogenically separating coke-oven gas into its components comprising the steps of separating a liquid fraction, chiefly of methane, by fractional condensation of the gas with the use of a turbine-type expander employing nitrogen gas as a refrigerating medium, expanding the liquid fraction to about atmospheric pressure and evaporating low-boiling components of the liquid fraction by heat exchange between said fraction and the feed gas to obtain a gaseous fraction at a definite temperature, causing heat exchange between the gaseous fraction and a source of nitrogen gas compressed to a pressure of about 27 to 40 kg./cm.² gauge, and transferring cold produced

with the turbine-type expander to the compressed nitrogen gas after its heat exchange with the gaseous fraction thereby minimizing the fluctuation in the rate of cold production derived from variations in composition of the feed gas and from temperature variations in the system, the said



nitrogen refrigerating medium being first pressurized to a low pressure, a portion of which is expanded in the said turbine-type expander and a remaining portion being further compressed in a second stage compressor to provide the said nitrogen gas of a pressure from about 27 to 40 kg./cm.² gauge.

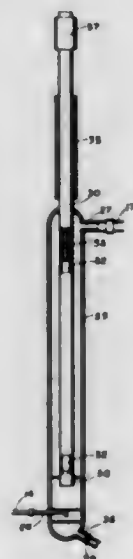
3,340,699

CRYOGENIC CONDENSER WITH LIQUID LEVEL SENSING AND CONTROL

Arthur H. Post, Jr., Belmont, and Walter H. Hogan, Wayland, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed June 11, 1965, Ser. No. 463,174

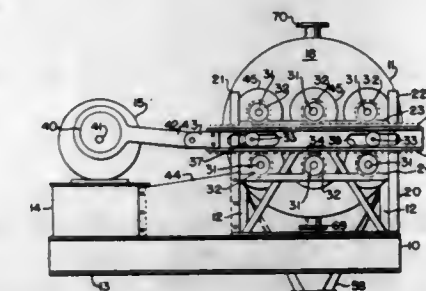
8 Claims. (Cl. 62-37)



1. A condenser adapted to separate a cryogenic liquid mixed with a gas under pressure and to discharge said liquid while maintaining said gas under pressure, comprising in combination

- (a) an elongated pressure vessel having fluid inlet means, gas discharge means and liquid discharge means;
- (b) valve means associated with said liquid discharge means;
- (c) pressure tubing within said pressure vessel and extending externally of said vessel through the top of said vessel;

- (d) a float operable within said pressure tubing and being buoyantly responsive to the level of said cryogenic liquid in said pressure vessel;
- (e) a detectable body associated with said float and adapted to move vertically within said pressure tubing;
- (f) spring means attached to the upper end of said pressure tubing and affixed to said float whereby said spring means bears the weight of said float and its associated elements when said float is out of contact with said liquid;
- (g) detecting means external of said pressure tubing adapted to detect the position of said body therein; and
- (h) means responsive to said detecting means adapted to actuate said valve means, whereby said valve is opened when said body occupies a position corresponding to a preset upper level of said cryogenic liquid and is closed when said body occupies a position corresponding to a preset lower level of said cryogenic liquid.

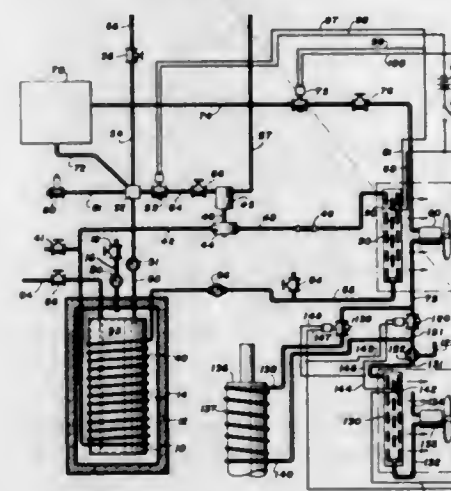
**LIQUID GAS REFRIGERATION SYSTEM**

Harold L. Boese, 1423 S. Main,

Duncanville, Tex. 75116

Filed Jan. 12, 1966, Ser. No. 520,253

14 Claims. (Cl. 62-52)



1. A refrigeration system comprising:
- (a) a container for containing a liquid gas,
 - (b) a continuous fluid circuit for containing a vaporizable refrigerant having a condenser section disposed in heat conduction relationship with said container and a vaporizer section,
 - (c) a gas driven pump means disposed within said fluid circuit for circulating said refrigerant through said fluid circuit for causing said refrigerant to be liquified by passage through said condenser section,
 - (d) a conduit communicating with the interior of said container and connected to said pump means for exhausting vapor from said liquid gas to drive said pump means, and
 - (e) ventilating means for forcing a flow of air across said vaporizer section for causing said refrigerant to be vaporized therein to cool said air.

3,340,701

CRYSTALLIZATION

Robert H. Hedrick and Hans Svanoe, Warren, Pa., assignors to Struthers Scientific and International Corporation, New York, N.Y., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,168

4 Claims. (Cl. 62-58)

1. In the process of freeze concentrating comestibles from the group consisting of orange juice, apple juice, and

coffee extract in a solvent, the step of passing a solution through a horizontal freeze crystallizer tube to freeze solvent, while rotatably oscillating agitating blades through an arc less than 360° within the crystallizer tube close to the inner surface of the crystallizer tube but out

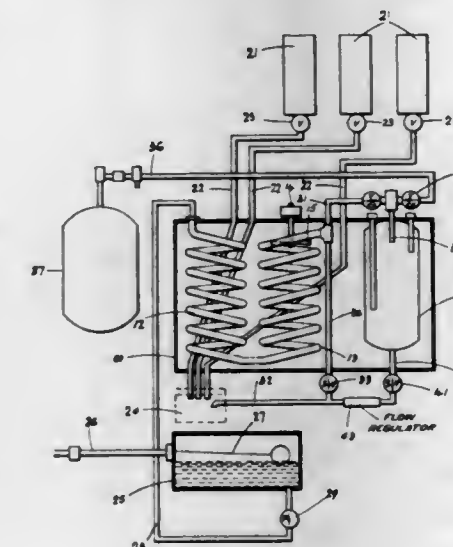
of contact therewith, to avoid crystallization on the inner surface of said tubes, the blades moving at an average speed of at least 350 inches per minute and the temperature difference across the surface of the crystallization tube being less than 15° F.

LIQUID COOLING APPARATUS

Geoffrey N. Ditchburn, Upper Colwyn Bay, North Wales, and Frederick H. T. Foy, St. Annes, England, assignors to Ditchburn Vending Machines Limited, Lytham, England, a corporation of Great Britain

Continuation of application Ser. No. 388,373, Aug. 10, 1964. This application June 7, 1966, Ser. No. 555,924

5 Claims. (Cl. 62-139)



1. Apparatus for dispensing small quantities of cooled liquids comprising a tank adapted to contain water, a refrigerating system having a coolant coil submerged in the water in one part of said tank, means forming a part of said refrigerating system for circulating a coolant through said coil to reduce the water temperature in said one part of said tank, coil means comprising first and second serially connected coils respectively having inlet and outlet ends and being immersed in the water in another part of said tank in spaced relation to said coolant coil, a source of liquid supply connected to said inlet end, dispensing conduit means connected to said outlet end and providing a discharge outlet outside said tank, said second coil being coiled about an upstanding axis to delimit a cylindrical space respectively opening at opposite ends adjacent to said outlet end and to the other end of said second coil that is connected to said first coil, said outlet end being disposed at the upper end of said second coil and above said other end, an impeller received in said cylindrical space for directing water axially downwardly

through said space towards said other end of said second coil, means for driving said impeller to circulate the cooler tank water from said one part of said tank and downwardly through said space effectively in countercurrent flow to the liquid supply transmitted through said second coil, and sensing means disposed in said tank and being responsive to the temperature in said one part of said tank for controlling operation of said refrigerating system to maintain the water around said coolant coil substantially at the freezing point.

3,340,703

FLEXIBLE TRANSMISSION MEANS

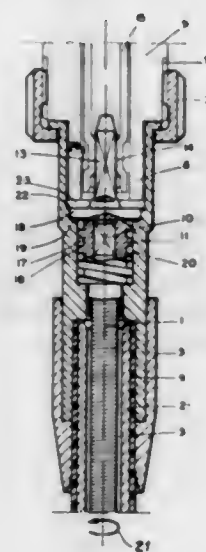
Antonio Mincuzzi, Milan, Italy, assignor to Soc. per Azioni Fratelli Borletti, Milan, Italy, an Italian company

Filed Sept. 13, 1965, Ser. No. 486,795

Claims priority, application Italy, Sept. 12, 1964,

19,601/64, Patent 737,027

7 Claims. (Cl. 64—4)



1. Attachment means for a flexible transmission member, of the type in which the said member is composed of a braid of wires wound into a helix of hand such that during normal forward rotation in one direction the helix tends to close, wherein the flexible transmission member, which is square ended, is coupled to a corresponding driven shaft via an intermediate member the outer cylindrical surface of which has at least one helical groove of opposite hand to that of the helix of the flexible transmission member.

3,340,704

FLEXIBLE COUPLING

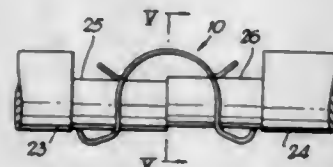
Clifford Alexander Seckerson, Iver Heath, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,967

Claims priority, application Great Britain, Oct. 26, 1964,

43,563/64

3 Claims. (Cl. 64—15)



1. A resilient clip for coupling two shafts together so as to enable the transmission of rotation from one shaft to the other through the clip and limited universal movement between the shafts, each shaft having a flat adja-

cent one end thereof and the clip being generally of U-shape and having a web portion and two limbs each of which has a tongue sheared therefrom so as to form an aperture in the limb for the reception of one of the shafts and beyond the aperture a free end portion and the tongue in each limb being outwardly and reversely bent with respect to the limb from which it is sheared so as to provide a bearing surface adapted to engage the flat on a shaft and clamp the shaft against the end portion of the limb.

3,340,705

PICK UP STATION MECHANISM FOR A KNITTING MACHINE

Walter E. Spencer, Philadelphia, Pa., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania

Filed May 3, 1965, Ser. No. 452,743

2 Claims. (Cl. 66—14)



1. In an independent needle knitting machine, superimposed, aligned cylinders, needles carried by and movable in slots of said cylinders, needle jacks in each cylinder to control the vertical movement of the needles, cam means for actuating the needle jacks to cause their respective needles to assume a pick-up station position and subsequently to resume vertical movement, needle retaining means which includes a needle hold-in plate for containing the needles vertically during upward movement, said hold-in plate comprising an inwardly directed camming surface for straightening those needles urged outwardly from said cylinders, and a needle supporting surface extending concentrically with said cylinders, a bracket with retaining means for supporting said hold-in plate for horizontal movement toward and away from said cylinders, and an adjustment means for positioning said hold-in plate in any desired location within the limits of said retaining means.

3,340,706

METHODS AND MACHINES FOR STOCKING PRODUCTION

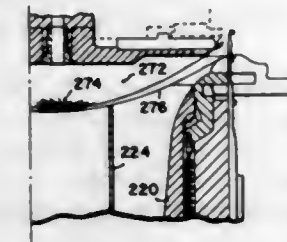
John A. Currier, Gilford, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts

Filed Aug. 19, 1963, Ser. No. 302,868

32 Claims. (Cl. 66—26)

1. The method of knitting a product on a circular knitting machine having a circle of needles, a circle of elements associated with the needles, and members cooperating therewith, which method comprises producing an initial circular portion of fabric, holding said initial por-

tion on said elements while continuing knitting by the needles to form successively first and second tubular plies including a junction therebetween, prior to completion of said second ply imparting a relative twist between said



elements and said needles through a substantial angle about the axis of said machine, and in the completion of said second ply transferring to said needles said held initial portion.

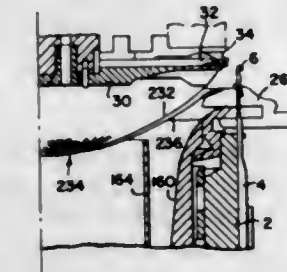
3,340,707

METHODS AND MACHINES FOR STOCKING PRODUCTION

John A. Currier, Gilford, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts

Filed Mar. 26, 1964, Ser. No. 354,858

17 Claims. (Cl. 66—26)



4. The method of knitting a product on a circular knitting machine having needles, a circle of elements associated with the needles, and members cooperating therewith, which method comprises producing an initial circular portion of fabric, holding said initial portion on said elements while continuing knitting by the needles to form successively first and second tubular plies including a junction therebetween, prior to completion of said second ply imparting a relative twist between said elements and said needles through a substantial angle about the axis of said machine, at the completion of said second ply transferring to said needles said held initial portion and then continuing the knitting of a tubular portion of fabric containing both forwardly and reversely concatenated loops.

3,340,708

KNITTING MACHINE WITH ELECTROMAGNETIC NEEDLE SELECTION MECHANISM

Erich Krause, Bopfingen, Wurttemberg, Germany, assignor to Universal Maschinenfabrik Dr. Rudolf Schleber GmbH, Westhausen, Wurttemberg, Germany

Filed Feb. 11, 1964, Ser. No. 344,081

Claims priority, application Germany, Feb. 15, 1963,

U 9,583

2 Claims. (Cl. 66—75)

1. In a knitting machine:

(a) a flat needle support;

(b) a plurality of juxtaposed needle means elongated in a common direction and mounted on said support, each needle means being longitudinally movable on said support between a plurality of positions, each needle means including a lifting butt;

(c) pattern butt means associated with each needle means and mounted on said support for abutting engagement with said needle means when said pattern butt means moves in a direction of longitudinal needle movement;

(d) a cam support arranged for movement relative to said needle support transversely of the direction of elongation of said needle means;

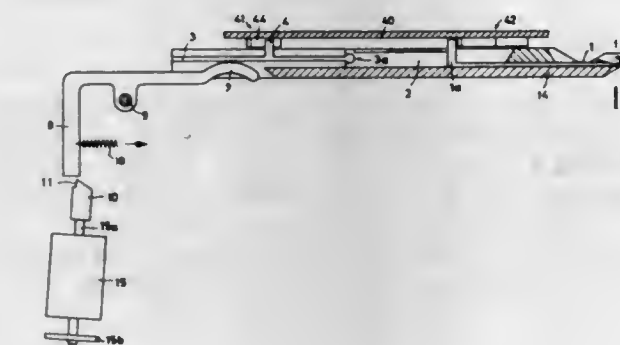
(e) pattern cam means and knitting cam means mounted on said cam support and spaced in said direction, said pattern cam means being engageable with said pattern butt means for shifting said lifting butt in said longitudinal direction into a position of engagement with said knitting cam means;

(1) said pattern cam means including first and second hump means,

(2) said first hump means being effective, during said relative movement of said cam support and said needle support, to guide said pattern butt means from an operative position to an inoperative position and thence to the operative position, and

(3) yieldably resilient means permanently urging said pattern butt means into guiding engagement with said first hump means,

(4) said pattern butt means when in said operative position being engageable with said second



hump means for shifting said lifting butt into said position of engagement thereof,

(5) said pattern butt means when in said inoperative position being out of engagement with said second hump means;

(f) a plurality of electromagnetic means respectively associated with said pattern butt means, each electromagnetic means including a coil member and an armature member, one member of the electromagnetic means being arranged in fixed relationship to said needle support for movement of the other member thereof when the coil member is energized and deenergized; and

(g) motion transmitting means interposed between said other member of each electromagnetic means and the associated pattern butt means for controlling engagement of said pattern butt means with said pattern cam means in response to the movement of said other member;

(1) said motion transmitting means including latch means for retaining said pattern butt means in said inoperative position thereof.

3,340,709

AUXILIARY DOOR LOCK

Hiram A. Callahan, 69 David Ave.,

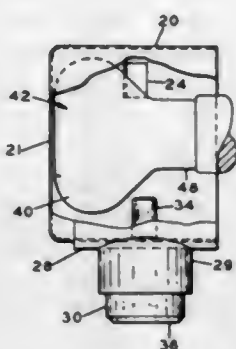
Jackson, Ohio 45640

Filed Mar. 29, 1966, Ser. No. 538,361

7 Claims. (Cl. 70—209)

1. An auxiliary door lock adapted to prevent access to a door knob of the type having an enlarged head portion relative to a narrower neck portion comprising, in combination, a housing provided with sidewalls, an end wall, and an end opening adapted to receive the head portion of a door knob; flange means mounted in said housing near but spaced from said end opening; and latch means mount-

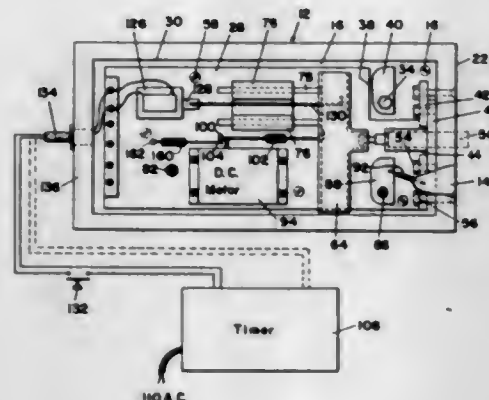
ed on said housing and movable between an extended position within said housing for engagement of said head portion between said flange means and said latch means and a retracted position providing clearance between said



flange means and said head portion, said latch means and said flange means being spaced at unequal distances from said end opening, and locking means to prohibit movement of said latch means in said extended position.

3,340,710

TIME OPERATED AND/OR REMOTE CONTROL-OPERATED ELECTRO-MECHANICAL LOCK
Eugene O'Brien, Philadelphia, Pa., assignor to Command-Lock, Inc., a corporation of Pennsylvania
Filed Feb. 14, 1966, Ser. No. 527,312
The portion of the term of the patent subsequent to Feb. 14, 1983, has been disclaimed
10 Claims. (Cl. 70-271)



1. An electromechanical lock mechanism for interlocking a bolt element and keeper element of a closure, said mechanism comprising:

a movable one of said interlocking elements, including resilient means for biasing said movable element in a direction to interlock with the other of said elements;

means for guiding the extending and retracting movements of said movable interlocking element into and out of interlocking relation with said other element; an electric motor device, including means for controlling the supply of electric power to said device;

and means for coupling said motor device to said movable interlocking element for initiating said out-of-locking movements, said coupling means including resilient means for storing energy supplied by said motor device and in an amount sufficient to effectuate said out-of-locking movement and for transmitting said energy to said movable element in a direction to effectuate said out-of-locking movement, and means between said motor device and said resilient coupling means for maintaining said resilient coupling means in an energy-storing condition when said motor de-

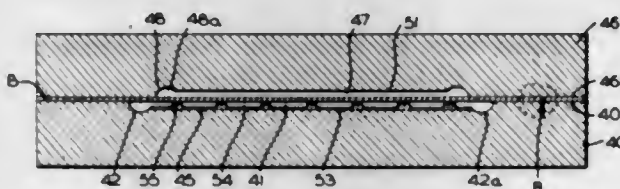
vice is de-energized and after having been placed in an energy-storing condition by said motor device, so that upon operation of said motor device for said out-of-locking movement said resilient means receives and retains the energy therefor when said movable interlocking element is restrained from out-of-locking movement;

said power controlling means including switch means for energizing said electric motor device to supply sufficient energy to said resilient means to move said movable element out of said interlocking relation and for thereafter terminating the energization of said device.

3,340,711

HOLLOW PANEL SYSTEM
Ernest Wilbur Agin, Chesterfield County, Va., assignor to Reynolds Metals Co., Richmond, Va., a corporation of Delaware

Filed Mar. 11, 1965, Ser. No. 438,874
8 Claims. (Cl. 72-61)

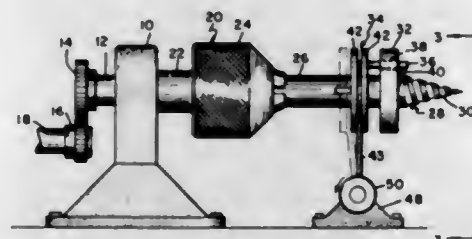


1. A method of producing a partially hollow sheet metal panel having an embossed panel face from a panel blank defined by a pair of metal sheets bonded face to face comprising, providing a die component having a recess and a substantially flat die face surrounding said recess, providing a pattern template in said recess, positioning a panel blank against said die face and in covering relationship with said recess, maintaining the area of said blank surrounding said recess under pressure against said die face, and introducing fluid between the sheets of said blank under pressure sufficient to separate said sheets in the area of said recess and displace the material of the one of said sheets adjacent said recess into engagement with said pattern template for said one sheet to be embossed substantially in conformity with the configuration of said pattern template.

3,340,712

METAL WIRE FABRICATION
Kelth O. Jameson, Waldoboro, Maine, assignor to Sylvania Electric Products, Inc., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 435,882
4 Claims. (Cl. 72-66)

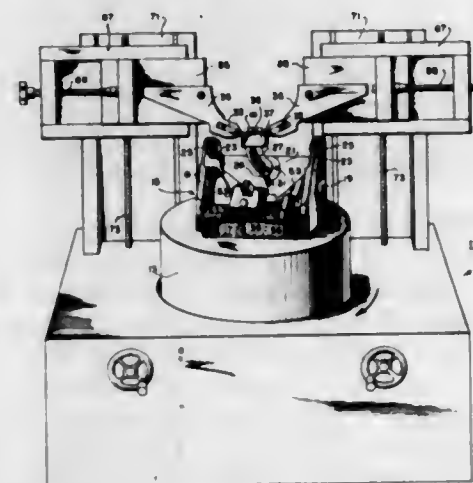


1. Apparatus for fabrication of refractory metal wire basket forms comprising: an adjustable holding chuck supported for rotational movement; a mandrel shaft having a formed tip at one end and being supported for rotation by said chuck; a spool disposed on said shaft;

a stop collar fixedly secured to said shaft between said spool and said formed tip; a pin projecting from said spool and normally extending through said stop collar whereby a leg of a segment of wire is retained on said formed tip; means for retracting said spool on said shaft; whereby said stop pin is retracted within the stop collar a distance sufficient to release the leg of a segment of wire retained on said formed tip.

3,340,713

SPIN FORMING TUBULAR ELBOWS
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Donald C. Fish, Arlington, Tex.
Filed Feb. 11, 1965, Ser. No. 432,028
4 Claims. (Cl. 72-83)



1. An apparatus for spin forging tubular elbows, comprising:

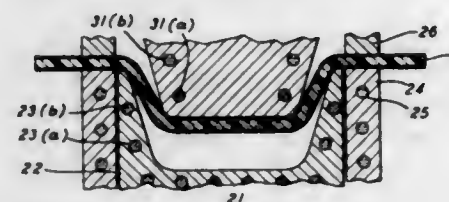
- a table rotatable around a vertical axis;
- spaced vertical supports mounted on said table;
- a swing plate pivotally mounted between said vertical supports;
- a mandrel having a curved bend secured at one end to said swing plate;
- roller means for cold forging a metal blank adapted to be positioned on the distal end of said mandrel;
- said roller means and mandrel being positioned so a plane passing through the metal blank contact point for said roller means and the center of curvature for the curved bend of said mandrel will perpendicularly intersect the vertical rotational axis of said table along the mandrels' longitudinal axis; and
- drive means for pivoting said swing plate in a controlled manner.

3,340,714

METHOD FOR DEFORMING METAL-PLASTIC LAMINATES

Karl-Heinz Pohl, Matawan, and Arthur T. Spencer, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Original application Nov. 19, 1963, Ser. No. 324,700.
Divided and this application May 26, 1966, Ser. No. 553,127

3 Claims. (Cl. 72-342)



1. The method of forming a laminate which comprises the steps of inserting the edges of a laminate, having a

pair of metal body members spaced from one another by a thin sheet of a thermoplastic material, between a holder and a holder seat, maintaining said holder and said holder seat at a temperature below the softening point of said thermoplastic material, applying a male die to one of said metal layers, said die being heated to a temperature above the softening point of said thermoplastic material, thereby plasticizing said thermoplastic material in all areas but those between said holder and said holder seat, forming said laminate by deforming it between said male die and a female die heated to a temperature above the softening point of said thermoplastic material, cooling said dies to a temperature below the softening point of said material, and removing the resultant formed laminate from between said dies by retracting said male die from said female die and said holder from said holder seat.

3,340,715

PROCESS FOR THE MANUFACTURE OF SEMI-FINISHED PRODUCTS OF ZINC

Hans Bothmann, Aachen, and Ernst Dorn and Werner Krauss, Duisburg-Hamborn, Germany, assignors to Aktiengesellschaft für Zinkindustrie vorm. Wilh. Grillo, Duisburg-Hamborn, Germany
No Drawing. Filed Mar. 26, 1963, Ser. No. 267,956
Claims priority, application Germany, Mar. 30, 1962, A 39,848

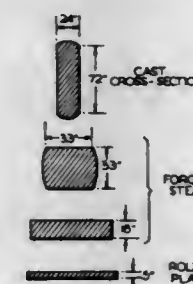
19 Claims. (Cl. 72-364)

1. A process for the manufacture of semi-finished products of zinc having improved deep-drawing properties with the use of conventional working methods, which comprises using as the starting material fine zinc admixed with alloying additions which increase the recrystallization temperatures of the fine zinc without impairing the workability and effecting the working into a semiproduct suitable for further processing by first subjecting the material to conventional hot working involving rolling, drawing or compressing and then carrying out the last processing step by cold working to a reduction of less than 10%.

3,340,716

METHOD OF PRODUCING WROUGHT STRUCTURE

Donald J. Funk, Ravenswood, W. Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Nov. 10, 1964, Ser. No. 410,212
5 Claims. (Cl. 72-364)



1. The method of producing wrought aluminum alloy plate having a thickness of at least about 3 inches, comprising the steps of providing an aluminum alloy ingot having a width greater than its thickness, homogenizing the ingot by a heat treatment, hot forging the ingot to effect a reduction of at least 25% in its width dimension and form a billet already worked substantially in the short transverse direction, and rolling said billet into a plate, the combination of said forging and rolling steps producing a wrought structure extending substantially throughout the resultant plate.

3,340,717

METHOD OF MAKING CATERPILLAR TRACK CONNECTORS

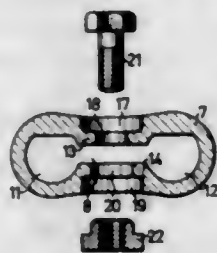
Otto Körner, Remscheid, and Ulrich Wacker, Wermelskirchen, Germany, assignors to Diehl K.G., Remscheid, Germany

Filed July 1, 1965, Ser. No. 468,829

Claims priority, application Germany, July 11, 1964, D 44,919

9 Claims. (Cl. 72—367)

1. A method of making a caterpillar track connector having two bearing eyes spaced from each other in longitudinal direction of said connector and communicating with each other by a slot extending over the entire width of said connector, the steps of: flat rolling a seamless steel pipe to the approximately outer contour of the connector to be made, finish shaping the thus rolled steel pipe to a rated shape, cutting off from the thus shaped steel pipe a section corresponding in width to the desired width of the connector to be made, and pro-



viding the thus formed work piece with aligned bores respectively arranged in the top and bottom of said work piece with the axes of said bores substantially perpendicular to the plane of said slot for receiving a clamping screw for pulling the central sections of said top and bottom together to reduce the height of said slot to a desired extent.

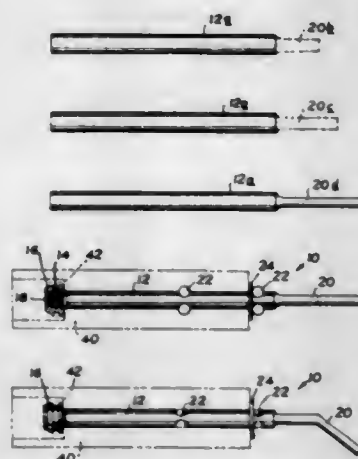
3,340,718

ONE-PIECE ELECTRODE

Raymond A. Helsler, Dakota Trail, Franklin Lakes, N.J. 07417

Filed Mar. 4, 1965, Ser. No. 437,178

3 Claims. (Cl. 72—377)



1. The method of forming an electrode of one-piece construction for use in an igniter system such as is used in oil-burners and the like, the steps including:

- (1) cutting a bar of metal alloy of preselected diameter to a predetermined length;
- (2) forming an electrical conductor attaching means on one end of the bar;
- (3) reducing and extending the end and adjacent portion of the other end of the bar by cold hammering this end portion to reduce this diameter of the bar and to cause the displaced metal to flow forwardly;
- (4) cold working the surface of the reduced diameter to harden this surface of the tip to resist erosion by electrical discharge; and

- (5) forming shouldered lip portions on the shank to provide retaining means for mounting of the electrode in an electrode holder.

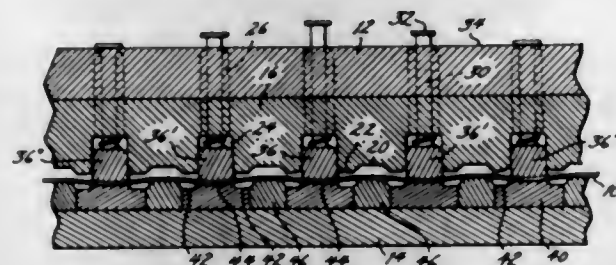
3,340,719

APPARATUS AND METHOD OF PRODUCING MULTIPLE CORRUGATIONS SIMULTANEOUSLY

Louis A. Kandle and Eugene Hindin, Philadelphia, and Peter J. D'Orazio, Southampton, Pa., assignors to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania

Filed Oct. 28, 1964, Ser. No. 407,029

5 Claims. (Cl. 72—385)



1. A method of forming a plurality of corrugations simultaneously in a metallic sheet, comprising laying the sheet over a member containing a plurality of female dies having cavities of desired configurations, applying a pre-gathering force upon the sheet sufficient only to produce a wave form therein whose troughs extend into the die cavities without exceeding the elastic limit of the sheet, and then applying a plurality of male dies corresponding to the female dies simultaneously to the sheet with a force sufficient to mold the same in the female die cavities to thereby minimize overall shrinkage of the corrugated sheet.

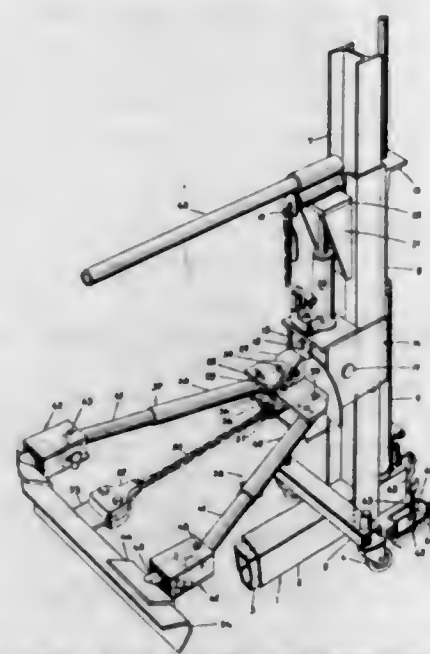
3,340,720

AUTOMOBILE REPAIR TOOL

Guy Norman Chartier, West Hill, Ontario, Canada, assignor to Guy-Chart Tools Limited, Scarborough, Ontario, Canada

Filed Nov. 30, 1964, Ser. No. 414,744

13 Claims. (Cl. 72—389)



1. In a machine tool for the straightening and repair of metal structures, the combination of, a base; a column vertically mounted on said base; carriage means movably mounted and selectively positionable on said column; power means mounted on said carriage; power transmitting means to said machine tool to maintain an applied and operatively connectable to the metal structure; first locking means for detachably securing said power transmitting means to said power means and second

locking means for releasably locking said power transmitting means to said machine tool to maintain an applied force when the power transmitting means is temporarily disconnected from said power means; adjustable brace means mounted on the tool adapted to stabilize and anchor the structure against bodily movement in the direction of the forces applied by the power means through the power transmitting means whereby the damaged structure is restored substantially to its original shape.

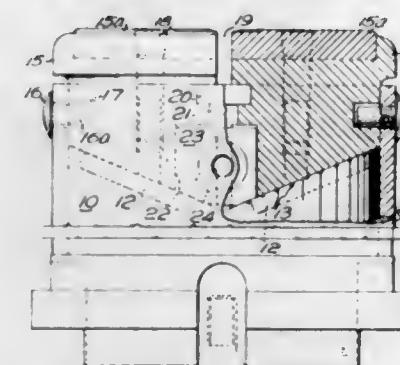
3,340,721

PRESS TOOLS

Douglas F. Salt, 46 Stanwell Road, Swinton, Manchester, England

Filed Nov. 6, 1964, Ser. No. 409,525

4 Claims. (Cl. 72—395)



1. In an upsetting tool comprising at least one pair of work engaging jaws having working faces, each of said jaws adapted to engage the same side of the work, said faces lying in a common plane and movable relative to each other in said plane, said jaws mounted in a holder, complementary compacting inclined surfaces on said jaws and on said holder whereby pressure normal to said faces effects relative movement of said jaws toward one another thereby upsetting metal between areas gripped by said faces, the improvement which comprises a first wedge between said jaws, said first wedge being loaded axially, wherein said first wedge is located nearer to said compacting inclined surfaces than to said faces.

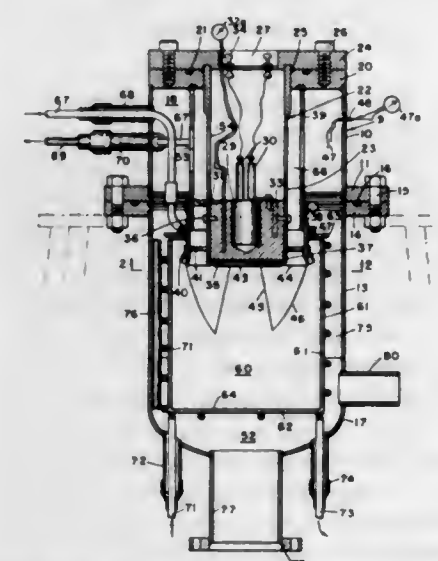
3,340,722

APPARATUS AND METHOD FOR MEASURING TOTAL HEMISPHERICAL EMITTANCE OF A SAMPLE BODY

Frank Gabron, Carlisle, and Raymond W. Moore, Jr., Brookline, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Sept. 23, 1964, Ser. No. 398,552

7 Claims. (Cl. 73—15)



1. An apparatus for measuring total hemispherical emittance of a sample body, comprising in combination

- (a) sample holding means comprising a hollow cylindrical support tube having apertures in the wall thereof and having therein a mounting block adapted for adhering said sample thereto;
- (b) heating means associated with said sample holding means and adapted to maintain said sample at an essentially constant temperature;
- (c) a black receiver disc;
- (d) receiver disc supporting means adapted to hold said disc below said sample and spaced therefrom;
- (e) enclosure means defining a black cavity surrounding said receiver disc and said sample;
- (f) means for cooling said enclosure means defining said black cavity with a cryogenic fluid;
- (g) a vacuum-tight housing enclosing the elements recited in (a) through (f); and
- (h) means for measuring the temperature of said sample and of said black receiver disc.

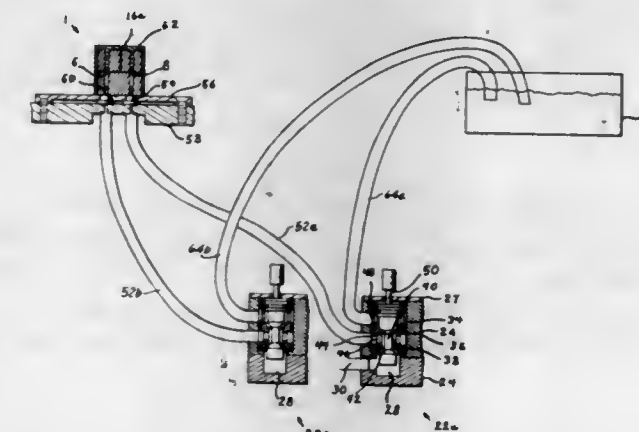
3,340,723

TESTING FOR LEAKAGE IN ELECTRICAL CONNECTORS

James William Harris, Mechanicsburg, and Clarence Leonard Paulus, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Oct. 11, 1965, Ser. No. 494,665

5 Claims. (Cl. 73—40)



4. Apparatus for testing the pressure-tight integrity of an electrical connector having a plurality of cavities extending therethrough, said apparatus comprising, a source of compressed fluid, first coupling means for selectively coupling said source of compressed fluid to each of said cavities individually, means for preventing unrestricted escape of compressed fluid from the one cavity coupled by said first coupling means to said source of compressed fluid whereby, said one cavity is pressurized, fluid flow detecting means, and second coupling means for coupling the remaining ones of said cavities to said fluid flow detecting means whereby, a leakage between the pressurized one of said cavities and the remaining cavities is detected by said fluid flow detecting means.

3,340,724

HYDROSTATIC TESTING DEVICE

Peter E. Casey, 4 Dale Ave., Auburn, Mass. 01501

Filed Jan. 15, 1965, Ser. No. 425,778

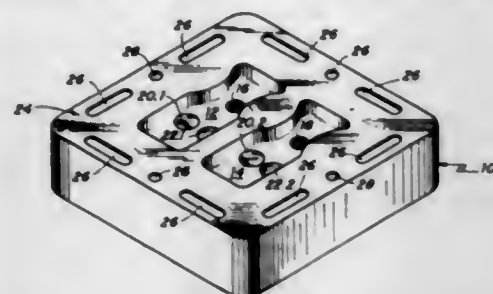
4 Claims. (Cl. 73—49.2)

1. A universal hydrostatic test fixture for detecting the presence of cracks in fluid jacketed devices having a plurality of ports with random spacing therein, comprising: an equal plurality of plug means; bed means;

a portion of the plug means resting on the bed means and independently positionable on said bed means to correspond to the ports in the bottom surface of the fluid jacketed device being tested;

others of said plug means resting on the top surface of said device and independently positionable on the said top surface over the individual ports in said top surface;

means for applying force to the top of the plug means on top of said device to simultaneously force said plug means against said top surface and to force



said device against the plug means on said bed means to close the ports and to form a fluid-tight union between the plugs and the respective ports of the device;

at least one of the plug means being hollow to allow the passage of fluid therethrough;

means applying pressurized fluid into the hollow plug means;

whereby the presence of fluid outside the fluid jacket of the device indicates the presence of a crack in the fluid jacket.

3,340,725

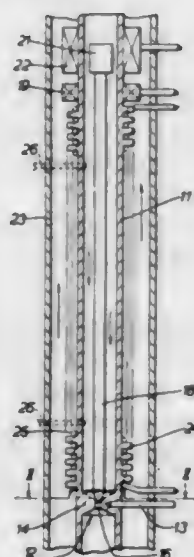
LIQUID METAL MONITOR METHOD

Keith Wilkinson, Thurso, Caithness, Scotland, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 3, 1964, Ser. No. 415,583

Claims priority, application Great Britain, Dec. 10, 1963, 48,832/63

2 Claims. (Cl. 73—61)



1. In a method of operating a liquid metal monitor continuously to determine the purity of a liquid metal, the monitor comprising a duct for flow of the liquid metal, a restrictor in the duct adapted to be partially plugged by the deposit of precipitated impurity, and a temperature conditioner associated with a section of the duct immediately upstream of the restrictor, the conditioner comprising forced cooling means and variable electrical heating means, the steps comprising passing a continuous stream of liquid metal through said duct and said restrictor, and continuously operating said forced cooling means while simultaneously maintaining but selectively varying the output of said electrical heating

means so as to controllably vary the cooling effect of the cooling means by variation of the heating means, whereby a deposit of impurity precipitated by cooling of the liquid metal is maintained substantially without addition or subtraction and where the temperature of the liquid metal under these conditions is related to the impurity concentration of the liquid metal.

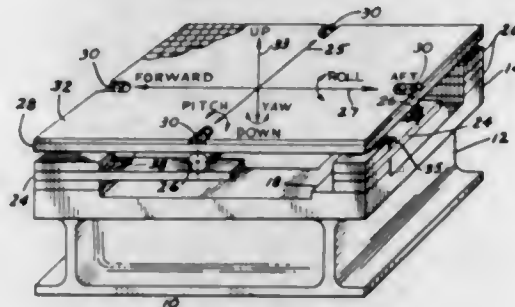
3,340,726

DYNAMIC FORCE MEASUREMENT INSTRUMENT

Raymond N. Armstrong, Detroit, Chester T. Kedzior and Richard A. Lee, Warren, and Fred Pradko, East Detroit, Mich., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 29, 1965, Ser. No. 429,177

4 Claims. (Cl. 73—67)



1. Test apparatus for use with a four-degree-of-freedom type testing machine vibrator to measure pitch, roll and vertical movement about a rectangular Cartesian coordinate axis system, and comprising:

- a base member adapted to be supported on the testing machine,
- a horizontal plate member mounted on said base member for movement with respect thereto,
- two pair of flexible cantilever beams having their fixed ends secured to said base member for movement toward and away from said base member,
- support members rigidly attached to said beams and said plate member providing line-contact fulcrums between said plate and said beams,
- each pair of said beams being parallel respectively to one of the horizontal axes of the coordinate system, said beams arranged in a common horizontal plane while being symmetrically arranged about the origin of the coordinate system whereby the fixed ends of each of said beams are equidistant from the origin, and transducer means secured to each of said beams for measuring the pitch, roll and vertical movement of said plate member.

3,340,727

ABLATION PROBE

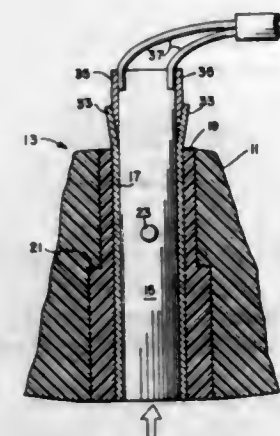
Emedio M. Bracalente, Denbigh, and Ferdinand C. Woolson, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Mar. 30, 1962, Ser. No. 183,982

6 Claims. (Cl. 73—86)

1. An ablation sensing probe adapted to be mounted in a body of ablative material, comprising:
- a rod of ablative material;
 - a sheet of ablative material wrapped around said rod at least twice in such a manner that an end thereof is coterminous with one end of said rod;
 - a thin film of conductive material mounted on one face of said sheet so as to cover all of said face of said sheet except for one continuous portion thereof disposed axially along said rod and defining two areas of conductive material;

a generally tubular sensor head, formed of ablative material, surrounding said sheet and rod and carried thereby;



means securing said rod, sheet, and head in assembled relationship; and

electrical leads connecting said areas of conductive material to a utilization circuit.

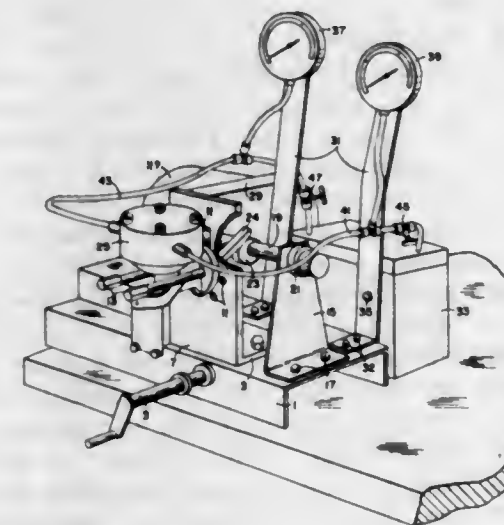
3,340,728

FUEL PUMP TESTER

Edward L. Taylor, deceased, late of Burnet, Tex., by Winnie M. Taylor, administratrix, % Joe Taylor, Rte. 2, Box 103-A, Burnet, Tex. 78611, and Manuel M. Chacon, Sr., 915 S. Espina, Las Cruces, N. Mex. 88001

Filed Nov. 2, 1964, Ser. No. 409,052

1 Claim. (Cl. 73—118)



A test unit comprising: a support frame; a carriage adjustably mounted by rotary handle operating means on said support frame, said carriage adapted to have a fuel pump mounted thereon; a cam shaft rotatably mounted on said support frame and having a cam thereon, said cam shaft being mounted relative to said carriage so that said cam is adapted to cooperate with a fuel pump arm when a fuel pump is mounted on said carriage; a variable speed electric motor, said motor being mounted on said support frame and drivingly connected to said cam shaft; fuel means adapted to be connected to said fuel pump so as to supply fuel to said fuel pump and to discharge fuel from said fuel pump; and test gauge means including a vacuum gauge in communication with the fuel supply to the fuel pump and a pressure gauge in communication with the discharge fuel from said fuel pump.

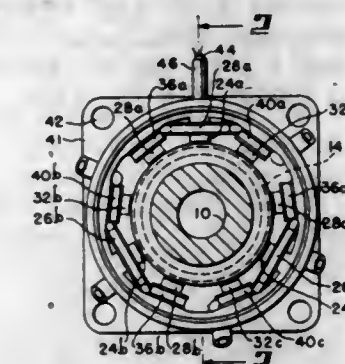
3,340,729

ELECTROMAGNETIC TORQUEMETER

Francis E. Scoppe, Monroe, Conn., assignor to Avco Corporation, Stratford, Conn., a corporation of Delaware

Filed Jan. 27, 1965, Ser. No. 428,323

7 Claims. (Cl. 73—136)



1. Means for measuring the torque applied to a rotating shaft, the combination comprising:

- a magnetic sleeve on said shaft, at least the ends of said sleeve being affixed thereto, the permeability of said sleeve changing as a function of torsional strain due to the torque being measured, a predetermined static torque being applied to said shaft and said sleeve, the residual strain in said sleeve due to said static torque altering the permeability characteristic of said sleeve;
- a primary winding positioned adjacent said sleeve;
- a second winding positioned adjacent said sleeve, but physically spaced from said primary winding at an angle of 45° with respect to the axis of said shaft, said primary and secondary windings being stationary with respect to said rotating shaft;
- a source of alternating currents energizing said primary winding for generating flux through said sleeve; and
- current measuring means connected across said secondary winding, said current being a function of the permeability of said sleeve.

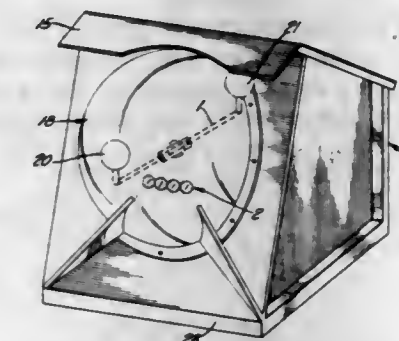
3,340,730

INSTRUMENT FOR MEASURING SOLAR RADIATION

Hugh W. Brodie, Honolulu, Hawaii, assignor to Hawaiian Development Company, Ltd., Honolulu, Hawaii, a corporation of Hawaii

Filed Nov. 16, 1964, Ser. No. 411,428

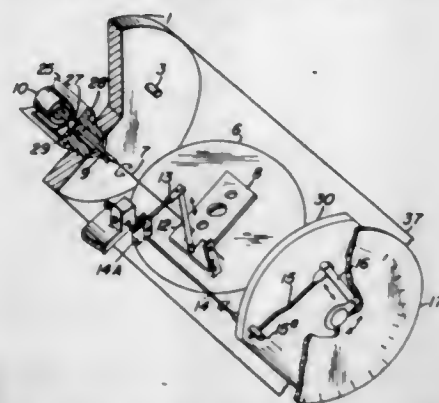
1 Claim. (Cl. 73—170)



An instrument for measuring solar radiation comprising a pair of bulbs, a tube connecting said bulbs and containing a volatile liquid, means for pivotally mounting the tube on a moving spindle with the axis inclined to the vertical, a housing fixed relative to the mounting means for alternately shielding each bulb, a mechanical counter, said mechanical counter alternately activated by said pivotally mounted tube, an adjustable screw on said mounting means, and a position retaining means comprising a magnet carried on said moving spindle and adjacent to the adjustable screw to adjust the hold on the bulbs in a vertical plane until said volatile liquid has been

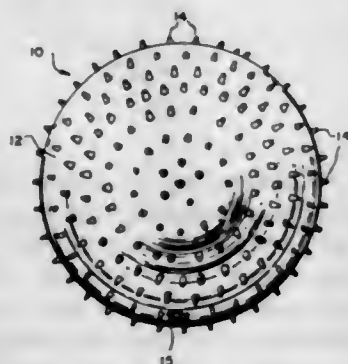
sufficiently volatilized to overcome the position retaining means and thus cause said pivotally mounted tube to swing in a decisive manner.

3,340,731
INSTRUMENT FOR AIR VEHICLES
Cecil M. Hunter, Box 7055, Tulsa, Okla. 74105
Filed July 1, 1965, Ser. No. 468,800
13 Claims. (Cl. 73-182)



1. An instrument of the type described for an air vehicle comprising in combination a fixed indicated air speed dial, a needle mounted for movement relative to the indicated air speed dial over the face thereof, a first diaphragm mounted for movement responsive to dynamic pressure on the moving vehicle, an operative connection between said first diaphragm and the needle for movement of the needle responsive to movement of the diaphragm to adjust for indicated air speed, a second indicator means mounted for movement relative to the fixed indicator means and needle with calibrations thereon for true air speed, a bellows mounted for movement responsive to static pressure, a temperature responsive coil exposed to outside air temperature, a rod mounted for rotational movement, means connecting the rod with the coil for rotational movement of the rod responsive to temperature change, separate means connecting the rod with the bellows for translatable motion of at least a portion of the rod responsive to changes in static pressure, and means coupled between said portion of said rod and said second indicator means for movement of said second indicator means responsive to said rotational movement of the rod and to translatable motion of said portion of the rod, whereby said needle indicates true air speed on said second indicator means.

3,340,732
METEOROLOGICAL BALLOON
James R. Scoggins, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 7, 1965, Ser. No. 424,156
5 Claims. (Cl. 73-189)



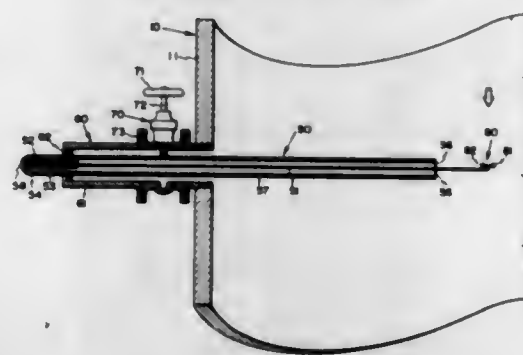
1. A meteorological balloon for use in the measurement of the magnitude and direction of a wind field above a geographical location, comprising:

- (a) a hollow, spherical envelope fabricated from a thin laminate comprising a plastic film and a metallic film,

said envelope having a diameter in the range of one to two meters;

- (b) said envelope having many small, integral, hollow, exterior protuberances molded into the surface of the envelope, each protuberance having a height to base ratio slightly greater than one and being spaced apart from its adjacent protuberances at a distance of about two to three base widths so as to cause a uniform and stable separation of the boundary layer of air which flows around said envelope during the measurement of the wind field.

3,340,733
DESIGN FOR A STRAIN GAUGE TARGET FLOW METER
Richard James Lasher, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,746
3 Claims. (Cl. 73-228)

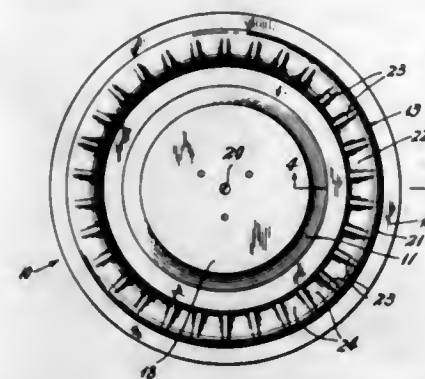


1. In a device for measuring the flow rate of gases moving at low velocities the combination comprising a semi-rigid cantilever arm partially enclosed within a shielding concentric member, said arm having a free end with a target mounted thereon extending outside the shielding member and upon which target moving gases can impinge, said shielding member acting as a stop for the cantilevered arm to protect the device against any purges of gas, said free end occupying no more than about 0.5 to about 3.0 percent of the cross-sectional area of the conduit, and a fixed end contiguous to and mounted between a pair of semi-conductor gauges within which mechanical stresses of tension and compression, respectively, are produced upon movement of the free end of the cantilever arm by impinging gases, said gauges each possessing an electrical resistivity at room temperature ranging from about 10^{-2} to about 10^{-9} ohm-cm., and which gauges are in contact with an electrical circuit for converting the stresses produced into an electrical signal of intensity proportional to the strains to accurately measure gas velocities on an order ranging as low as about 0.1 ft./sec. to about 4.0 ft./sec., and changes in velocity as low as about 0.05 ft./sec.

3,340,734
GAS IMPERVIOUS DIAPHRAGMS
Theodore A. St. Clair, Fairfield, and Ernest L. Greenhill, Millford, Conn., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 26, 1965, Ser. No. 428,184
6 Claims. (Cl. 73-279)

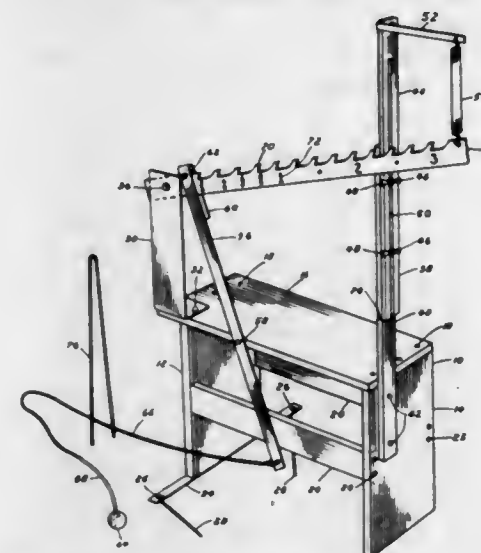
1. A stroke-through-center diaphragm for gas meters which is movable from full outstroke position through midstroke position to full instroke position, said diaphragm comprising a substantially rigid center plate, an outer retaining flange concentric with and substantially parallel to said center plate, and a flexible impervious trough-shaped annular member connected to and extending between said center plate and flange, said annular member in the full outstroke position of said diaphragm having a

substantially smooth outer peripheral surface concentric with the axis of said annular member and having an inner peripheral surface shaped to provide a plurality of spaced radial ribs in said inner peripheral surface defining radial creases therebetween, said creases and ribs extending at least to said outer peripheral surface, said outer peripheral surface decreasing in width and said inner peripheral sur-



face increasing in width as said diaphragm is moved from full outstroke position through midstroke position to full instroke position, said shaped ribs pleating said increased inner peripheral surface to extend said creases thereacross, whereby said creases circumferentially contract for providing circumferential stress relief and to facilitate the diaphragm stroke.

3,340,735
GAME DEVICE
Nicholas Kastrans, 23075 Valley View, Southfield, Mich. 48075
Filed Apr. 23, 1965, Ser. No. 450,423
5 Claims. (Cl. 73-380)

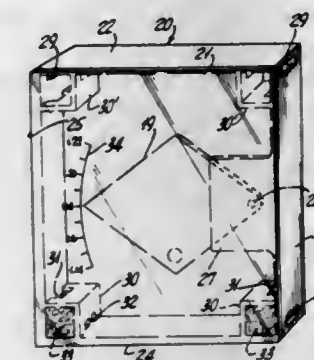


1. A game device comprising:
- (a) a support structure,
 - (b) an actuated arm having an end pivotally carried on said support structure,
 - (c) spring means attached to the other end of said actuated arm for biasing said actuated arm to an initial position,
 - (d) an actuator arm pivotally carried on said support structure and having one end engaging said actuated arm for displacing said actuated arm away from said initial position a distance related to a force pivoting said actuator arm in one direction,
 - (e) a projectile connected to said actuator arm on the other end thereof and operable when propelled to exert said force pivoting said actuator arm in said one direction,
 - (f) said one end of said actuator arm being slidably engageable intermediate the ends of said actuated arm and operable upon pivoting of said actuator arm to slide along said actuated arm and depress the

same against the force of said spring biasing means to a position indicative of the force pivoting said actuator arm, and

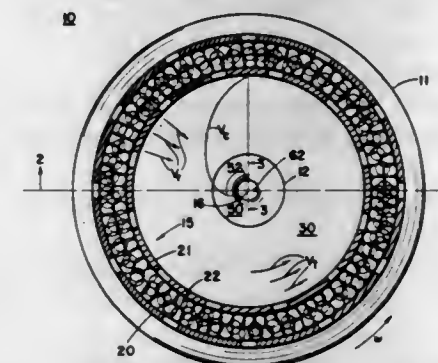
(g) indicia on said actuated arm to indicate the amount of force causing the end of said actuator arm to slide along said actuated arm.

3,340,736
DEVICE FOR INDICATING SPECIFIC GRAVITY OF LIQUIDS
Kensho Suematsu, Kyoto, Japan, assignor to Nihon Denchi Kabushiki Kaisha, Kyoto, Japan, a company of Japan
Filed Sept. 15, 1964, Ser. No. 396,565
1 Claim. (Cl. 73-454)



A device for indicating specific gravity of a liquid in a container comprising a complete enclosure having at least one transparent surface for viewing the interior thereof, a floating body within said enclosure, means carried by said enclosure for pivotally supporting said floating body and means carried by said frame and associated with said floating body to indicate specific gravity of the liquid in which said device is immersed, said container having relatively small top and bottom openings for the circulation of liquid therethrough, said floating body being formed of one material having a specific gravity less than that of the liquid and pivoted at one end to said container with the center of gravity of said one material being disposed between the ends thereof, said body being movable from a position inclined downwardly from a horizontal line through said pivot to a position inclined upwardly from said line, and a piece of another material carried by said body with the center of gravity thereof being below and vertically aligned with the center of gravity of the first said material with the body being disposed in a horizontal position, said other material having a specific gravity greater than the maximum specific gravity of the liquid being tested.

3,340,737
FLUID VORTEX APPARATUS
Richard J. Reilly, St. Paul, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 4, 1961, Ser. No. 156,613
13 Claims. (Cl. 73-505)



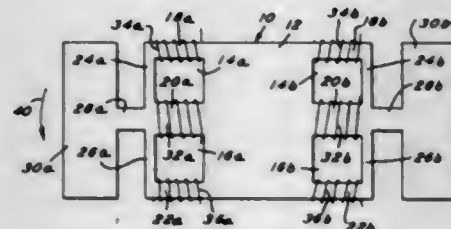
1. In an apparatus of the class described: a member having a passage therein, said apparatus being adapted

to be connected to a fluid source whereby a fluid flows from said fluid source through said passage substantially along the axis of said passage; means for introducing helical fluid flow through said passage; a blade element, said blade element being positioned within said passage substantially parallel to the axis of said passage; and a plurality of pressure ports within said member in communication with said passage, at least one of said pressure ports being positioned on either side of said blade element, a difference in pressure between a pressure port on one side of said blade element and a pressure port on the opposite side of said blade element being indicative of helical fluid flow through said passage.

3,340,738

MAGNETOSTRICTIVE TRANSDUCER

Jacob Chass, Philadelphia, Pa., assignor, by mesne assignments, to Robinson-Halpern Company, West Conshohocken, Pa., a corporation of Pennsylvania
Original application Mar. 25, 1963, Ser. No. 267,423, now Patent No. 3,168,830, dated Feb. 9, 1965. Divided and this application July 17, 1964, Ser. No. 383,295
7 Claims. (Cl. 73-517)



1. A transducer for measuring acceleration comprising a substantially rectangular plate of a magnet material the permeability of which varies when the material is stressed, said plate having a pair of spaced openings therethrough adjacent one side edge of the plate, said openings forming three spaced parallel arms which are perpendicular to the one side edge of the plate and a pair of aligned legs extending along said one side edge of the plate and connecting the center arm to the outer arms, a moment arm projecting from said one side edge of the plate in alignment with the center arm, a weight secured to the end of the moment arm, a separate secondary winding wound around each of the outer arms, and means for creating a pair of magnetic flux paths each of which extends through a separate one of said secondary windings to induce a voltage thereacross.

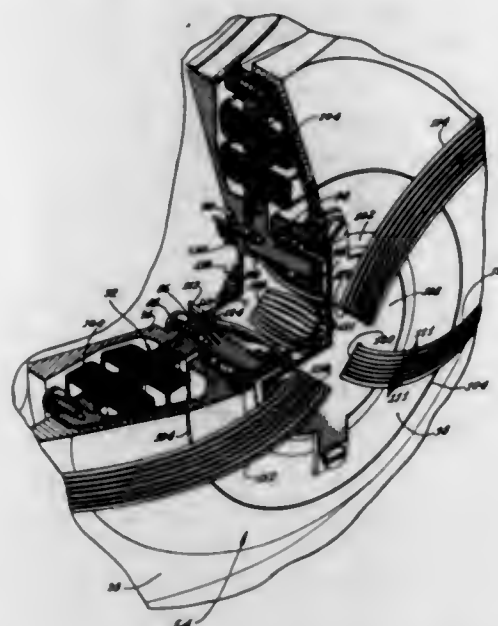
3,340,739

SEGMENTED GIMBALS

Alfred H. Colton, Jr., Encino, Los Angeles, and Howard G. Thrasher, Tarzana, Los Angeles, Calif., assignors to Litton Systems, Inc., Beverly Hills, Calif.
Filed Dec. 11, 1964, Ser. No. 417,544
16 Claims. (Cl. 74-5.5)

1. In combination:
an inner partial gimbal and an outer partial gimbal having a common axis for rotation between said gimbals;
a hub member, attached to said inner gimbal for rotation therewith;
a first electromagnetic member, attached to the outer periphery of said hub, substantially concentrically with said axis;
a support for an electromagnetic member;
bearing means between said hub and said support allowing freedom of rotation therebetween about said axis;

a second electromagnetic member, attached to said support means, positioned in proximity to said first member to interact magnetically with said first member, and concentric with said axis; and

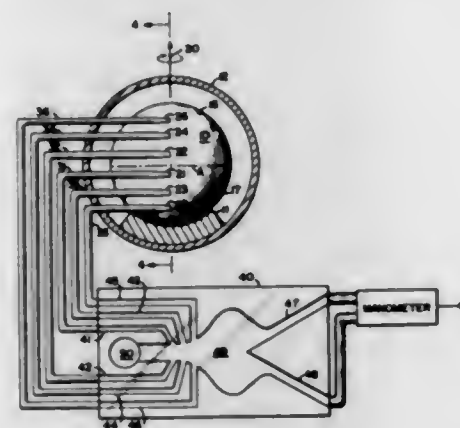


an elastic member between said outer gimbal and said support means, to compensate for thermal expansion and to damp vibration transmission.

3,340,740

CONTROL APPARATUS

Raymond V. Hall, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 14, 1965, Ser. No. 425,399
4 Claims. (Cl. 74-5.6)

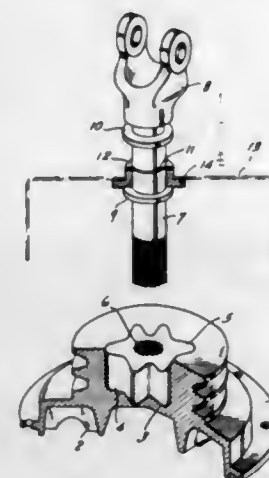


1. Apparatus for detection of relative angular displacement of a spherical member and its support in a fluid environment, said apparatus comprising:

a base;
a spherical member universally supported on said base and adapted for rotation about a spin axis, said axis having a preferred angular relation to said housing;
a pair of pressure pickoffs mounted on said base adjacent said member for sensing pressure adjacent two separated points on said member, said two points being radially equi-distant from said spin axis when the spin axis of said member is in its preferred angular relation to said housing; and
means for detecting the difference in the pressure at said pair of pickoffs, said difference being indicative of the relative orientation between said base and the spin axis of said member.

3,340,741

POWER TAKE-OFF CONNECTION TO BE MOUNTED ON THE DRIVING SHAFT OF INTERNAL COMBUSTION ENGINES
Fontanella Pietro, Corso Vittorio Emanuele 74, Michelangelo BOVI, Turin, Italy
Filed June 29, 1965, Ser. No. 467,981
Claims priority, application Italy, May 18, 1965, 11,390/65
9 Claims. (Cl. 74-15.63)

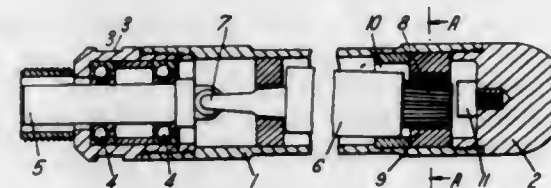


1. A power take-off connection comprising, in combination, pulley means adapted to be connected at one end thereof to a drive shaft, said pulley means being formed with a central cavity extending from the other end thereof in axial direction in said pulley means; an annular insert of flexible material located in said cavity and connected to said pulley means for rotation therewith, said insert being formed at the inner peripheral surface thereof with circumferentially spaced, axially extending and radially inwardly projecting ridges; driven shaft means axially aligned with said pulley means and having an end portion formed with ridges corresponding to those on said insert; and mounting means mounting said driven shaft means movable in axial direction between an engaged position in which said ridges on said end portion thereof engage the ridges of said insert and a disengaged position.

3,340,742

VIBRATORS

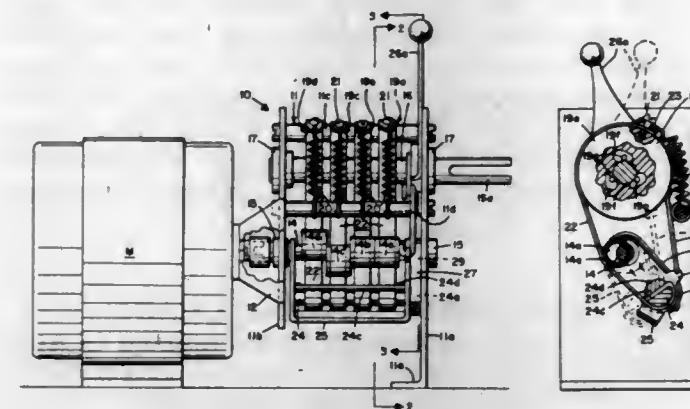
Leslie Vivian Chandler, Surbiton, England, assignor to Fyne Machinery and Engineering Limited, London, England
Filed Mar. 10, 1965, Ser. No. 438,572
Claims priority, application Great Britain, Mar. 25, 1964, 12,603/64
11 Claims. (Cl. 74-87)



1. A vibrator comprising a casing, an eccentric rotor housed in, and transversely movable relative to said casing, means for transmitting a drive to said rotor, and means providing a positive, non-disengageable gear-like coupling between said rotor and said casing, introducing a step-up ratio between the rotational frequency at which the rotor is driven, and the resulting vibrational frequency generated by the casing.

3,340,743

VARIABLE SPEED POWER TRANSMISSION WITH FLEXIBLE BAND AND DRIVE LINK
Sterling O. Stageberg, 18210 Sunset Blvd., Redington Shores, Fla. 33708
Filed Dec. 28, 1964, Ser. No. 421,195
12 Claims. (Cl. 74-116)

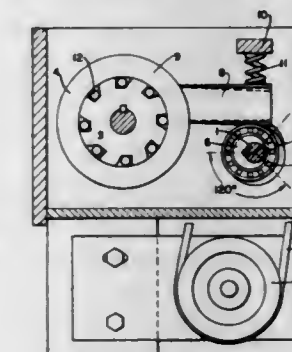


1. A variable speed transmission comprising:
(a) a frame,
(b) an input shaft journaled in said frame,
(c) an output shaft journaled in said frame,
(d) an oscillatable clutch member supported on said output shaft, and operative to drive said shaft in one direction of its oscillational movements,
(e) a spring urging said clutch member in the direction opposite said one direction,
(f) a non-elastic flexible link connected at one end to said clutch member for moving said member in said one direction by tensile force applied thereto,
(g) an eccentric on said input shaft having a bearing surface for engaging said link,
(h) means to support the other end of said link for moving the intermediate portion of said link laterally into engagement with said eccentric and to variably position said link toward or away from the axis of rotation of said eccentric so that more or less of said intermediate portion thereof is engaged with said eccentric, and
(i) means to modify the tension of said spring proportional to the length of said intermediate portion of said link engaged by said eccentric.

3,340,744

DRIVING DEVICE

Erwin Reichl, Regensburg, Germany, assignor to Sachsenwerk Licht- und Kraft-Aktiengesellschaft, Munich, Germany
Filed May 10, 1965, Ser. No. 454,427
Claims priority, application Germany, Dec. 19, 1964, S 94,723
8 Claims. (Cl. 74-125)



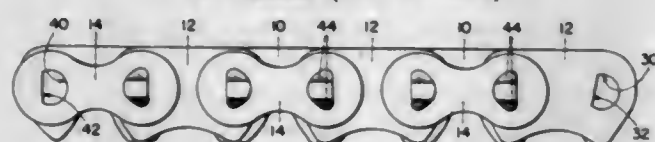
1. A driving device for tensioning the tension storage springs of electrical power switches, said device comprising:
a cocking lever shaft for tensioning such springs;
a plurality of one-way clutch means on said shaft, each

including a driving lever means for applying a driving torque to the cocking lever shaft through the respective one-way clutch; and means forming a plurality of commonly driven rotary eccentrics, one for actuating each of said lever means to apply a driving torque to the cocking lever shaft, said eccentrics being relatively angularly displaced such that their respective one-way clutches apply driving torques to the cocking lever shaft in sequence when the eccentrics are rotated by a common rotary drive means, each of said eccentrics being in surface contact with the corresponding driving lever means, and means for maintaining the surface contact between said eccentrics and said driving lever means.

3,340,745

VIBRATIONLESS TIMING CHAIN

John F. McCann, Longmeadow, Mass., assignor to Acme Chain Corporation, Holyoke, Mass., a corporation
Filed Nov. 15, 1965, Ser. No. 507,903
4 Claims. (Cl. 74-253)

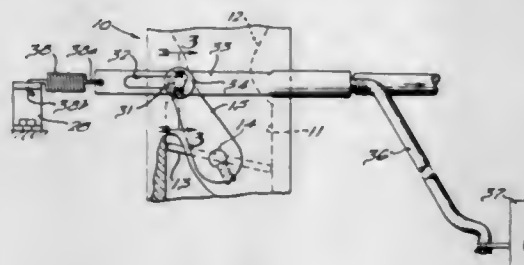


1. In a silent chain, the combination including a plurality of overlapping sets of symmetrical inside links shaped to engage sprocket teeth with each link having a pair of transverse apertures substantially circular in form, articulating pintles disposed in the aligned apertures of the overlapping sets of inside links, each pintle being substantially circular in form except for flat portions at its opposite ends, and guide links each having a pair of transverse apertures substantially circular in form except for flattened walls facing opposite ends of the guide link, the flat portions of the pintles being disposed in the apertures in the guide links with a slight clearance between the flat portions of the pintle and the flattened walls of the apertures in the guide links permitting limited movement of the guide links upon the pintles.

3,340,746

THROTTLE SAFETY RETURN FOR TRANSMISSION FAILURE

Francis W. Hamilton, Southfield, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 438,554
7 Claims. (Cl. 74-472)



3. In an automotive vehicle, a fuel system for said vehicle including a fuel-air induction conduit and throttle means, said throttle means including a valve pivotal within said conduit to open and close the same, a crank arm keyed to said valve to pivot coaxially therewith, throttle actuating means operably coupled with said crank arm to pivot said valve to open and closed positions, resilient means yieldingly urging return of said valve to said closed position, an automatic transmission for said vehicle having throttle actuated modulating means shiftable between first and second positions for modulating the automatic operation of said transmission, driving means on said

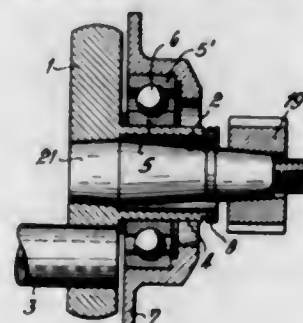
crank arm and modulating means engageable to shift said modulating means from said first position toward said second position upon swinging of said crank arm in the direction to open said valve and releasable to enable swinging of said crank arm independently of said modulating means in the direction to close said valve, said driving means comprising a stub shaft extending from the swinging end of said crank arm in parallelism with the latter's pivot axis, a lost motion slot in said modulating means, said stub shaft extending into said slot and engaging said modulating means at one end of said slot to shift said modulating means from said first position toward said second position upon swinging of said crank arm in the direction to open said valve and being slidable freely in said slot upon swinging of said crank arm in the opposite direction to close said valve.

3,340,747

CRANKSHAFT ASSEMBLY

Claus Waker and Helbring Schütz, Schweinfurt am Main, and Fritz Fend, Regensburg, Germany, assignors to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany
Filed Mar. 24, 1965, Ser. No. 442,415
Claims priority, application Germany, Mar. 25, 1964, F 42,427

10 Claims. (Cl. 74-598)



1. A crankshaft assembly comprising, in combination:
 - (a) a crank cheek formed with a recess having an axis;
 - (b) a tubular projection coaxially fixed on said cheek, said projection defining an inner cavity about said axis and having an outer face;
 - (c) bearing means fixedly and coaxially fastened on said outer face for rotatably securing said cheek to a crankcase;
 - (d) a driven shaft member having an axially terminal portion partly received in said cavity and partly received in said recess, cross section of said terminal portion being not greater than the cross section of said cavity, and the remainder of said shaft member extending outward of said cavity in a direction away from said crank cheek;
 - (1) the part of said shaft member received in said recess being fastened to said cheek in locking engagement with the same; and
 - (2) the part of said shaft member received in said cavity being dimensioned for free sliding movement in the cavity; and
 - (e) a crank pin on said cheek, said pin having an axis radially offset from the axis of said opening.

3,340,748

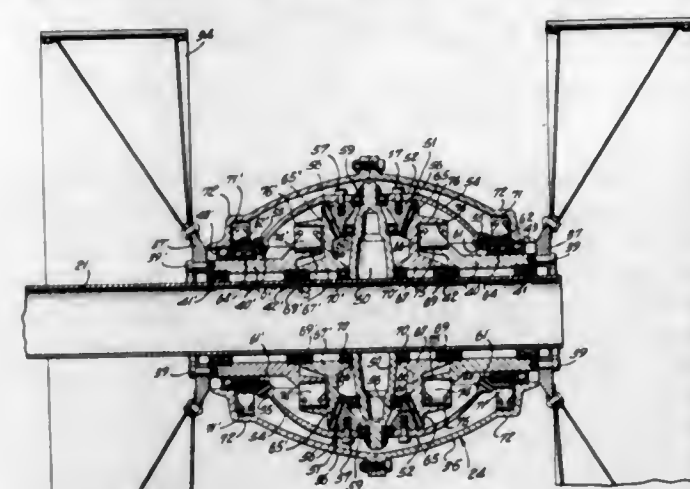
MULTI-ENGINE DRIVE MECHANISM

Richard E. Young, Rocky Hill, N.J., assignor to Unitwin Corporation, Rocky Hill, N.J., a corporation of New Jersey
Filed Jan. 28, 1965, Ser. No. 428,778

25 Claims. (Cl. 74-661)

1. A vehicle having a vehicle-propelling means, a first shaft connected to drive the propelling means, two prime movers for driving the first shaft, and gearing mechanism

interposed between said two prime movers and the first shaft for selectively driving the first shaft by both said two prime movers at a first speed ratio with respect thereto and for driving the first shaft by only one of said two prime movers at a second speed ratio with respect thereto, said gearing mechanism comprising two opposed aligned sun gears, at least one planet gear meshing with the sun gears and rotatable as a whole about the common axis of the sun gears, means mounting the planet gear for rotation about its axis, said mounting means being drivingly connected to the first shaft so as to rotate in synchronism therewith, two second shafts drivingly con-



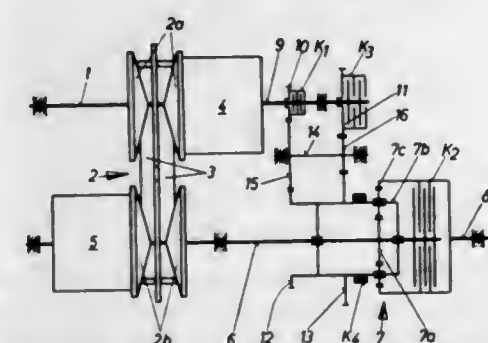
nected to the respective prime movers, means drivingly connecting the second shafts to the respective sun gears, the last named means being so constructed and arranged that the planet gear rotates about its axis at a first, predetermined speed in a predetermined direction when both prime movers are operating at predetermined speeds, and means drivingly connected to the planet gear, and selectively operated when one of said second shafts is driven at said predetermined speed and the other is undriven, to drive the planet gear about its axis in the same predetermined direction but at a second speed, which is different from and bears a predetermined relation to said first predetermined speed thereof.

3,340,749

CONTINUOUSLY VARIABLE TRANSMISSION HAVING EXTENDED DRIVE RATIO RANGE

Alfred Magg, Heinz Haessle, and Friedrich Schreiner, Friedrichshafen, Roland Liebel, Friedrichshafen-Seemoos, Klaus Bredschneider, Kaiserslautern, Hans Buettner and Erich Peterson, Bad Homburg, and Rudolph Schrodt, Kronberg, Taunus, Germany, assignors to Zahnradfabrik Friedrichshafen AG, Friedrichshafen, Germany
Filed Apr. 30, 1965, Ser. No. 452,113
Claims priority, application Germany, May 2, 1964, Z 10,815

16 Claims. (Cl. 74-689)



1. A plural speed transmission comprising, an input member, an output member, infinitely variable drive means connected to said input member having a limited drive ratio range, a planetary gear unit having a plurality of drivingly engaged elements including a drive element

3,340,750
CAR DOOR OPENING DEVICE
Ray D. Noorlun, 865 Deaton Ave.,
St. Paul, Minn. 55102
Filed Mar. 8, 1966, Ser. No. 541,424
12 Claims. (Cl. 81-3)



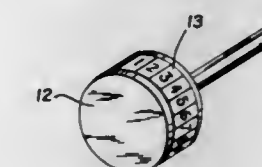
12. A door opening device for use in combination with car doors having a reciprocable locking button projecting from the door, the device comprising a pair of longitudinal strips having adjacent free ends normally biased apart, latch means for holding said free ends together and releasable upon engagement with the reciprocable button, and means provided on one of said free ends for gripping said button and moving said button into an unlocking position upon release of said latch means.

3,340,751

BREAKER POINT GAP SETTING MEANS

Haugan W. Figgis, Kalamazoo, Mich., assignor to Pace Laboratories, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 14, 1966, Ser. No. 520,590

2 Claims. (Cl. 81-71)



1. A tool for accurately turning a hex-socketed or slotted screw or the like through a measured fraction of a whole turn, or through any whole-number multiple of said fraction, said fraction being the inverse of a given whole number, said tool comprising a radially central member for driving interengagement with the screw, and an annular indicia-bearing portion of enlarged radius and coaxial with said central member and carrying indicia including series of regularly repeating symbols making up an array of regularly spaced symbols extending once around the annular extent of the indicia-bearing portion, the number of said series of regularly repeating symbols equalling said given whole number.

3,340,752

PHASING TOOL

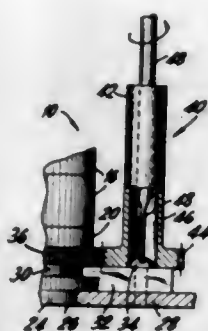
William V. Carney, Brooklyn, and Paul V. De Luca, Port Washington, N.Y., assignors to Markite Corporation, New York, N.Y.
Filed Dec. 28, 1965, Ser. No. 516,983

2 Claims. (Cl. 81-90)

1. The combination, with a servo mounted instrument having a housing releasably secured to a panel by means

of clamps and screws and a shaft disposed in the housing to define a longitudinal axis, of:

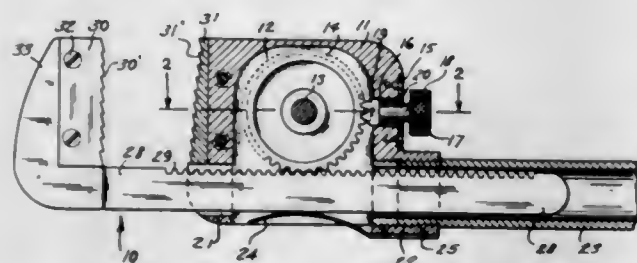
- (a) a driven surface formed on the outside of the instrument housing;
- (b) an elongated, rotatable tool having a longitudinal axis, said tool, in operation, being rotatable about an axis parallel to the housing axis;



- (c) a coaxial driving surface formed integrally at one end of said tool; and
- (d) coaxial piloting means formed integrally with said driving surface, wherein said piloting means is an opening in the end of said tool proximate said driving surface, said opening being at least as large as the diameter of the head of one of said screws, said driving and driven surfaces being in meshing engagement when the opening of said tool is disposed about the screw head.

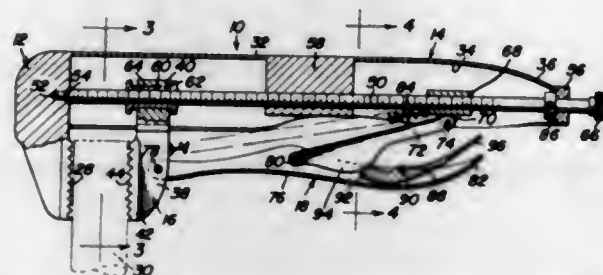
3,340,753 SLIDING JAW WRENCH HAVING A PINION RACK LOCK

Raymond George Schrader, Mentor, Kans.
(Rte. 1, Box 112, Assaria, Kans. 67416)
Filed July 20, 1966, Ser. No. 566,519
1 Claim. (Cl. 81-133)



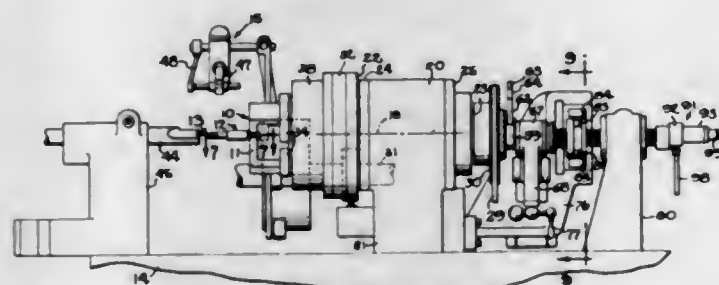
A quick adjusting pipe wrench comprising in combination, a fixed jaw integral with one end of an elongated handle, and a moveable jaw, moveable along said handle, said moveable jaw comprising a housing having a central cavity, a cog wheel located within said cavity and mounted upon a transverse shaft supported at opposite ends in said housing, a toothed rack along a side of said handle, said cog wheel engaging said toothed rack, a leaf spring secured to said handle normally urging said cog wheel and said toothed rack into engagement, and a latch, said latch comprising a rectangular block slideable in a rectangular opening in said housing, said block having teeth on one side thereof for engaging said cog wheel, said block having a threaded shank integral therewith from an opposite side thereof, said shank engaging a threaded opening in a rotatable knob extending outwardly of said housing, said knob being held rotatably free within said housing by an extending flange on said knob being held captive in a circular groove of said housing, said knob providing means for selective engagement and disengagement of said block with said cog wheel so as to lock said jaws in fixed relationship.

3,340,754
VICE WRENCH
Clarence G. Burchett, Arlington, Va.
(108 Chase St., Kingsport, Tenn. 37663)
Substituted for abandoned application Ser. No. 112,320, May 24, 1961. This application Sept. 21, 1966, Ser. No. 587,361
3 Claims. (Cl. 81-356)



1. A wrench comprising a stationary jaw, an elongated handle member extending rigidly from the stationary jaw with the stationary jaw including a work engaging surface generally in perpendicular relation to the stationary handle, a movable jaw having a work engaging surface generally parallel to the work engaging surface of the stationary jaw, means mounting the movable jaw on the stationary handle for sliding movement towards and away from the stationary jaw, screw threaded means mounted on the stationary handle and engaged with the movable jaw for causing movement of the movable jaw, connection means between the movable jaw and the threaded means for enabling limited free movement of the movable jaw in relation to the threaded means, and over-center handle means interconnecting the movable jaw and the stationary handle for moving the movable jaw after it has been set in adjusted position thereby applying pressure to the movable jaw for urging it toward the stationary jaw, said threaded means including an elongated threaded rod journaled on the stationary handle, a spindle threadedly engaged with the threaded rod and forming the connection between the threaded rod and the movable jaw, said spindle having flanges on the ends thereof, said movable jaw having a body portion of lesser length than the distance between the flanges and being disposed on the spindle between the flanges in non-rotative relation thereto whereby rotation of the threaded member will cause longitudinal movement of the spindle and movable jaw.

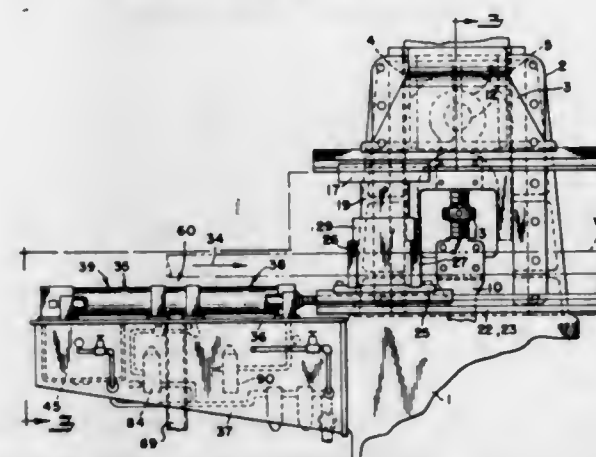
3,340,755
TURNING MACHINE
Edwin V. Oman, Rockford, Ill., assignor to Rockford Screw Products Co., Rockford, Ill., a corporation of Illinois
Filed Apr. 12, 1965, Ser. No. 447,310
3 Claims. (Cl. 82-2.5)



1. In a turning machine, the combination of, a base, a hollow chuck having jaws at its outer end for gripping a workpiece between the ends of the latter with the opposite end portions of the workpiece projecting both inwardly and outwardly beyond said jaws, a hollow spindle connected to the inner end of said chuck and coaxial therewith, means journaling said spindle on said base for rotation about an axis coinciding with the axis of the

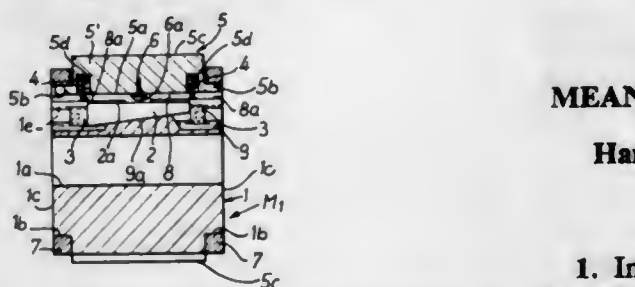
chuck, an elongated tool bar disposed within said spindle with one end of the bar projecting through the inner end of the chuck into the interior of the latter, means on said tool bar for supporting a cutting tool adjacent said inner end portion, and mechanism for moving said tool bar to feed the tool thereon both longitudinally and radially of the workpiece in said chuck thereby to machine said inner end portion while the workpiece is gripped for a machining operation on said outer end portion.

3,340,756
DIE ACCELERATOR
William E. Mize, Parma Heights, Ohio, assignor to The Yoder Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 8, 1965, Ser. No. 424,413
21 Claims. (Cl. 83-320)



1. A cut-off for elongated travelling work comprising a cut-off die mounted for movement with such work, an accelerator for moving such die to the speed of the work for the operation of the die, said accelerator comprising an air blast cylinder having a piston rod in driving engagement with such die, the stroke of said rod being shorter than the stroke of such die, and an air blast valve at the rod end of said air blast cylinder operative rapidly to exhaust the same whereby said rod will drive such die to the speed of the work.

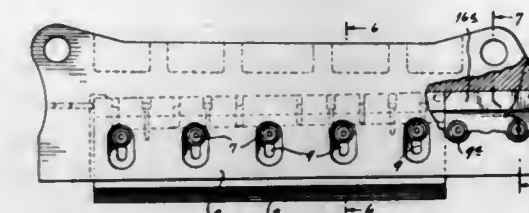
3,340,757
CUTTER FOR ADHESIVE-COATED TAPE AND THE LIKE
Willy Rudszinat, Hamburg-Lohbrügge, Germany, assignor to Hauni Werke Korber & Co. K.G., Hamburg, Germany
Continuation of application Ser. No. 305,390, Aug. 29, 1963. This application Apr. 20, 1966, Ser. No. 544,036
Claims priority, application Germany, Aug. 21, 1957, H 30,945
25 Claims. (Cl. 83-348)



12. A cutter comprising a countersurface; a rotary carrier member having an external surface; a cutting member having an elongated cutting edge located externally of said surface and arranged to cut against said countersurface; fulcrum means supported by one of said members and arranged to provide a pivot for said cutting member so that the cutting edge may be tilted with reference to the axis of said carrier member; and adjusting means

for changing the distance of said fulcrum means either relative to said countersurface or relative to the axis of said carrier member.

3,340,758
BOOK TRIMMER OR THE LIKE
Rehn C. Peterson, Westfield, N.J., and Victoriano F. Rana, Bethlehem, Pa., assignors to T. W. & C. B. Sheridan Co., New York, N.Y., a corporation of New York, a wholly owned subsidiary of Harris-Intertype Corp., Cleveland, Ohio, a corporation of Delaware
Filed Dec. 9, 1965, Ser. No. 512,626
1 Claim. (Cl. 83-697)



A book trimmer or the like kind of machine including a knife, a generally horizontal knife bar having means for releasably clamping said knife thereto so that the knife may be removed for servicing, and means for slidably interconnecting said knife and said knife bar so that when said clamping means is released the knife can be slid longitudinally from the knife bar while supported thereby from falling; wherein the improvement comprises said knife bar having at one end a bearing extension surface member located between said knife and the end of this knife bar towards which the knife slides from the knife bar, means for releasably clamping said member to said knife bar, and means for slidably interconnecting said member and said knife bar so that when this member's clamping means is released this member can be slid longitudinally from the knife bar while supported thereby from falling.

3,340,759
REED FOR WOODWIND INSTRUMENTS AND METHOD OF MANUFACTURE
Franklin J. Petzke, 710 N. 1st St., Phoenix, Ariz. 85004
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,362
4 Claims. (Cl. 84-383)

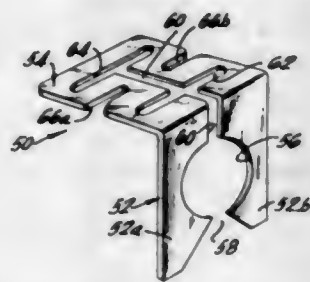
1. A new article of manufacture comprising a normally porous natural cane woodwind reed having exposed surfaces of natural cane and having a cured vinyl plastisol disposed within and substantially filling the pores adjacent the surfaces thereof thereby substantially sealing said pores and reducing moisture absorption to provide a reed of materially increased playing life.

3,340,760
MEANS FOR PREVENTING AXIAL MOVEMENT OF A SHAFT OR STUD
Hans H. Wormser, New Milford, N.J., assignor to Markite Corporation, New York, N.Y.
Filed May 5, 1965, Ser. No. 453,347
2 Claims. (Cl. 85-8.8)

1. Improved means to prevent relative axial movement between a shaft having a transverse peripheral groove and a member to be axially restrained with respect to the shaft, said means comprising:

- (a) a first leg having a shaft-gripping aperture therein and a first slot extending from the aperture and terminating at the end of said first leg;
- (b) a second leg integral with and formed in a plane other than that of said first leg, said second leg having at least two parallel apertures therein;

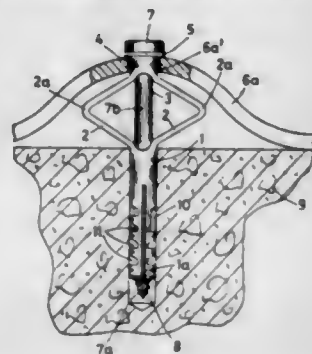
- (c) said first leg having a second slot extending from the shaft-gripping aperture into said second leg, the second slot being positioned such that it bisects one of the apertures in said second leg and terminates in the other aperture in said second leg;



- (d) said second leg including at least one pair of opposed slots extending inwardly from the side edges thereof, the opposed slots being substantially parallel to, and intermediate the apertures in said second leg, the opposed slots being substantially perpendicular to the slot in said first and second legs;
- (e) said first leg defining a pair of resilient, opposed shaft-gripping jaws whereby said second leg is adapted to be stressed as a beam when the jaws of said first leg are separated.

3,340,761 EXPANSION ANCHOR

Artur Fischer, Tümlingen, Kreis Freudenstadt, Germany
Filed June 14, 1965, Ser. No. 463,492
Claims priority, application Germany, June 18, 1964,
F 43,195
7 Claims. (Cl. 85-71)



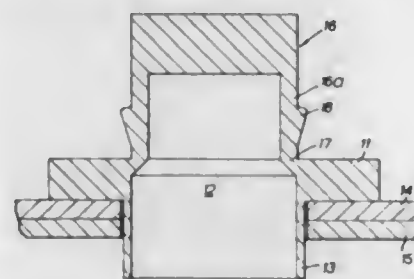
1. In an expansion anchor, an elongated sleeve having a peripherally continuous annular end portion at one end of said sleeve, a slotted second end portion at the other end of said sleeve defining a plurality of tongues and being expandable in response to internal expanding stresses, a peripherally continuous intermediate portion located adjacent to said second end portion but spaced from said first end portion, and a longitudinally extending weakened portion located between said first end portion and said intermediate portion, said weakened portion being adapted to buckle outwardly in response to axial compressive stresses whereby, when such stresses are exerted on said sleeve, said weakened portion will buckle outwardly and the overall length of said sleeve will thereby be reduced.

3,340,762 ONE-PIECE BLIND RIVET

Alan James Bennett, Pontypridd, Glamorgan, South Wales, assignor to Tinnerman Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 30, 1964, Ser. No. 414,546
2 Claims. (Cl. 85-72)

1. A unitary, one-piece blind rivet fastening device made from polymeric material adapted for insertion through an opening in a support member, said device comprising a hollow head having a generally cylindrical internal wall section, a radially expandable tubular skirt

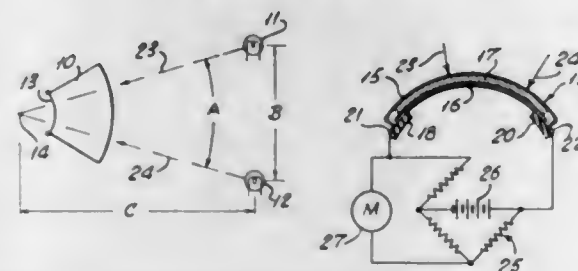
portion depending downwardly from one side of said head and being adapted to be received through the opening in a support member, the skirt portion having an internal cylindrical wall which forms a continuation of the internal boundary wall of said head, an upstanding hollow, cylindrical pin extending upwardly from said head on the side opposite said skirt portion, said pin having a closed top and having an outer wall and an inner opening, said outer wall having a cylindrical upper external portion disposed in axial alignment with the internal wall of said skirt portion, the said wall of said pin having a greater cross-sectional thickness as compared to the wall thickness of said skirt portion, and being sufficiently resilient to permit radially inward movement and at least partial radially outward return movement of a portion of the pin wall, the external diameter of said upper wall portion of the pin being substantially equal to the internal diameter of said skirt portion, and said pin having an integral annular projection adjacent said



head, said projection being tapered and having an external dimension which reduces in a direction towards said head from a value greater than, to a value at least substantially equal to, the internal diameter of said skirt portion, a frangible fillet joining said pin to said head, whereby upon axially directed external pressure against the head of said pin, said pin moves downwardly and axially inwardly of the head and skirt portion causing shearing of the fillet and radially inward movement of the pin wall caused by the interaction of said projection and said boundary wall of the head aperture as the end of said pin adjacent said projection moves through said head and, whereafter, the resiliency of the pin wall causes radial outward movement of the pin wall adjacent the projection as the projection engages the internal wall of the skirt portion so as to cause radial expanding of said skirt portion outwardly into locking engagement with a support member adjacent the opening therein.

3,340,763 ANGULAR MEASURING DEVICE FOR LIGHT BEAMS

Roy B. Power, Madison, N.J., assignor to Wagner Electric Corporation, a corporation of Delaware
Filed Aug. 9, 1962, Ser. No. 215,867
1 Claim. (Cl. 88-1)



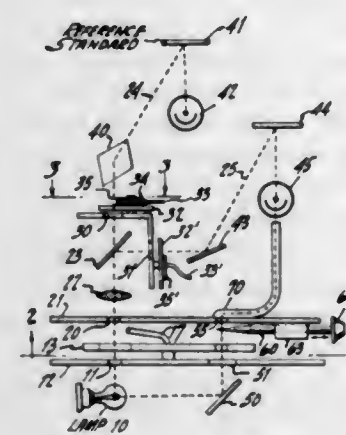
A distance measuring device for determining the approximate distance between two movable vehicles comprising: two lamps mounted on a first vehicle for forming two light beams directed convergently toward a second vehicle; an angular measuring device mounted on the

second vehicle for determining the angle subtended between the two beams; said angular measuring device including a plurality of hollow tubes disposed in a divergent angular array for conveying light through each tube to an exit end area common to all said tubes, a non-reflective coating on the entire inner surface of each tube for passing light rays to the exit end thereof only when the rays are directed through the tube in a direction parallel to the tube axis; a light sensing device which includes a first electrode comprising a resistance wire, a second electrode comprising a conductive base, and a layer of photoconductive material positioned between said electrodes; said resistance wire being narrowest in width and said photoconductive material being intermediate in width and said conductive base being greatest in width, said sensing device being positioned at the common exit end area of said angular array in such manner that said resistance wire, photoconductive material and conductive base all extend completely across the ends of said hollow tubes at said common exit end area and at least a portion of the width of each of said resistance wire, photoconductive material and conductive base is exposed to direct impingement of light passing through any one of said tubes, whereby passage of light through any portion or all of the exit end cross-section of any one of said tubes is detected by a correlated short circuit path between said resistance wire and said conductive base without light having to pass through said resistance wire; and a measuring circuit including a source of electric power and a distance indicating means, said measuring circuit connected in series with said resistance wire.

3,340,764 COLOR MEASURING SYSTEM USING A LIGHT BIASED PHOTOCELL

Gustav Bergson, Jenkintown, Pa. (% Manufacturers Engineering & Equipment Corp., 250 Titus Ave., Warrington, Pa. 18976)

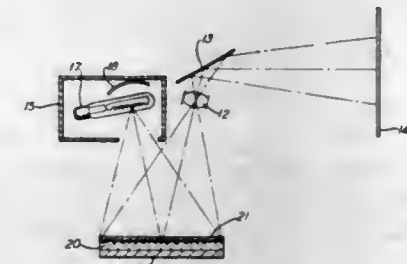
Filed June 24, 1963, Ser. No. 289,900
8 Claims. (Cl. 88-14)



1. The combination with reflectance or transmittance measuring apparatus of the type having a source of radiant energy, means for directing radiant energy from said source along a pair of separate paths to a reference standard material and to a sample, an adjustable aperture in one of said paths, first radiant energy responsive means positioned to receive radiant energy from said reference standard, and second radiant energy responsive means positioned to receive radiant energy from said sample; of means for directing an auxiliary adjustable and, in comparison with the radiant energy along the path to said sample, small amount of radiant energy from said source to that one of said radiant energy responsive means receiving radiant energy from said sample to provide a light bias therefor.

3,340,765 PROJECTION SYSTEM

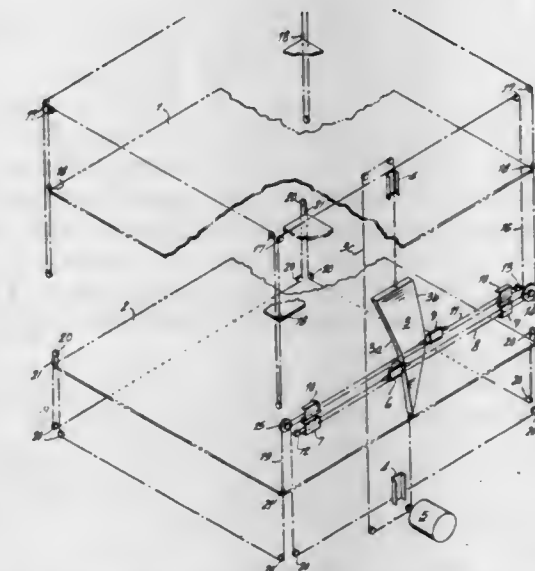
Donald R. Herriott, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 27, 1964, Ser. No. 385,136
2 Claims. (Cl. 88-24)



1. Optical apparatus for forming an optical image of a transparent surface comprising, in combination; a transparent member for providing an easily accessible writing surface, means for illuminating said transparent member, Fresnel lens means in contact with said transparent member and oppositely disposed from the illuminated side of said transparent member for collimating the incident light rays transmitted by said transparent member, reflection means in contact with said lens means for reflecting said collimated light rays, said lens means focusing said reflected collimated light rays in a direction different from that of said incident light rays, and projection means displaced from said illuminating means for intercepting reflected collimated light rays focused by said lens means.

3,340,766 AUTOMATIC FOCUSING OPTICAL SYSTEM

Murray Friedel, North Miami Beach, Fla., assignor to Visual Graphics Corp., New York, N.Y., a corporation of New York
Filed Feb. 2, 1965, Ser. No. 429,767
3 Claims. (Cl. 88-24)



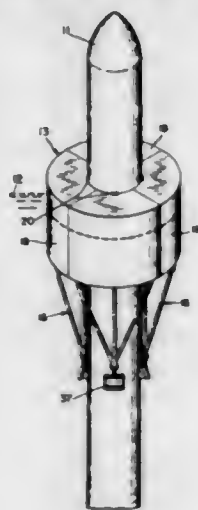
1. An automatically-focusing optical apparatus comprising in combination at least three relatively movable elements including an object plane, a lens and an image plane, a cam element having a first camming surface and a second camming surface, means for varying the position of said cam element, a first follower in contact with said first camming surface, a first mechanical amplifier, linkage means connecting said first follower with said first mechanical amplifier, linkage means connecting said first

mechanical amplifier with a first of said three relatively movable elements, a second follower in contact with said second camming surface, a second mechanical amplifier, linkage means connecting said second follower with said second mechanical amplifier, and linkage means connecting said second mechanical amplifier with a second of said three relatively movable elements, whereby a change in the position of said cam element effects a change in the positions of said first and second relatively movable elements with respect to each other and with respect to said third relatively movable element.

3,340,767

MISSILE FLOTATION EJECTION MEANS
Salvatore J. Penza, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 29, 1965, Ser. No. 510,471
7 Claims. (Cl. 89—1.809)



1. A device for releasing material suspending a missile in water when the weight of the missile is removed from the material comprising:

- suspension means releasably attached to said missile, said suspension means being formed into at least two sections oppositely positioned about the missile; said suspension means retained at its upper extremity against said missile during pre-suspension phases of missile handling;
- receiving means on said missile for releasably receiving the lower extremity of said suspension means during suspension phases of missile handling;
- said receiving means adapted to slidably direct the downward movement of the lower extremity of said suspension means for a predetermined distance when the weight of the missile is removed therefrom;
- said receiving means adapted to induce rotary movement of said suspension means by causing upward movement of the lower extremity thereof at the termination of the downward movement directed by said receiving means;
- the upper portion of the sections of said suspension means comprising buoyant material and the lower portion of said sections comprising means engaging the buoyant material with the receiving means at a point spaced from the lower extremity of the buoyant material;
- said engaging means being adjustable for securely positioning the buoyant material about the missile while the buoyant material is retained at its upper extremity against the missile;
- whereby said suspension means is jettisoned away from the vicinity of said missile when the weight of the latter is removed from the suspension means; and wherein said engaging means includes at its lower extremity a member in the form of a crossbar disposed transverse to the longitudinal axis of the missile;

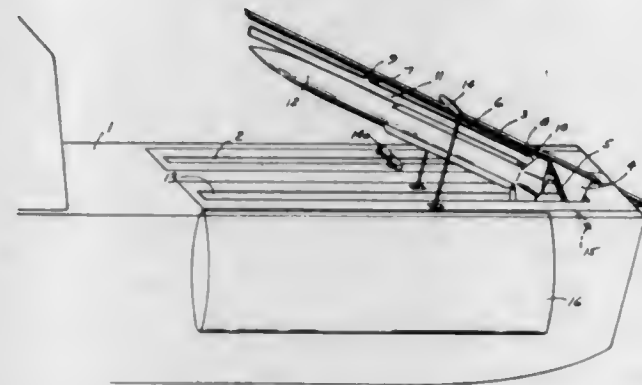
said member precluding rotation of said buoyant material about axes substantially parallel to the longitudinal axis of the missile.

3,340,768

LAUNCHING DEVICE

Henry Wilhelm Aldrin, Bofors, and Erik Birger Kindrot, Karlskoga, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a Swedish corporation

Filed May 3, 1965, Ser. No. 452,821
Claims priority, application Sweden, May 6, 1964, 5,619/64
2 Claims. (Cl. 89—1.815)



1. A launching device for launch missiles, said device comprising in combination;

- a generally horizontal launching platform including an opening and constituting the top wall of an enclosed loading space;
- an elongated launching stand having a peripheral outline substantially fitting said opening;
- a launching rail for releasably securing a missile thereto;
- mounting means supporting one end of said stand pivotally about an axis transverse of the lengthwise axis of the stand and located at substantially the level of the platform for pivoting the stand between a loading position substantially flush with said platform and covering the opening therein and a launching position upwardly slanted in reference to said platform; and
- fastening means on said launching stand on the side thereof facing the platform for attaching said launching rail to the stand in the loading position thereof from underneath the missile, said fastening means including lengthwise spaced fastening members on the launching stand and corresponding lengthwise spaced fastening members on the launching rail, the fastening members on the stand including a pair of parallel lengthwise spaced guide tracks extending crosswise of the stand and the fastening members on the launching rail including a pair of parallel lengthwise spaced bars extending crosswise of the launching rail and being engageable with said tracks whereby the fastening members are engageable with each other in the direction transverse to the lengthwise axis of the launching stand and the launching rail.

3,340,769

GUN BLAST AND MUZZLE FLASH ELIMINATOR

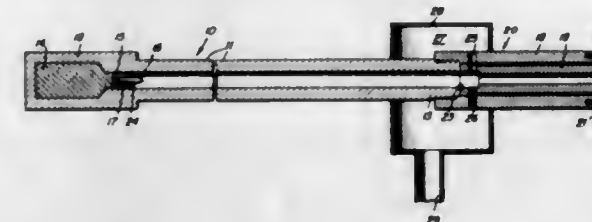
Robert H. Waser, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 24, 1965, Ser. No. 490,145
3 Claims. (Cl. 89—14)

1. A ballistic missile launching device for launching a missile into an observation zone while minimizing the air turbulence within said zone and preventing the en-

trance of contaminate particles from the launching device into the observation zone comprising,

- a gun barrel having an axial bore extending therethrough and having a breech chamber formed at one end thereof and a muzzle opening at the other end thereof,
- a sabot received within said gun barrel and having a diameter substantially equal to the diameter of the bore in said barrel,
- said sabot having a cup-shaped recess formed in one surface thereof to receive a projectile having a diameter substantially smaller than a diameter of said bore in said barrel,
- a sabot capturing assembly removably coupled to the muzzle opening of said barrel and having an axial bore extending therethrough in alignment with said barrel,
- said sabot capturing assembly includes a first cylindrical member threadedly mounted upon a muzzle end of said barrel in axial alignment therewith,
- a second cylindrical member concentrically positioned



within said first cylindrical member and radially spaced therefrom,

clamping means secured to said first cylindrical member and engaging said second cylindrical member to mount said second cylindrical member in axial alignment with the gun barrel,

said first and second cylindrical member having transverse through apertures formed therein in the vicinity of the muzzle opening of said barrel, and

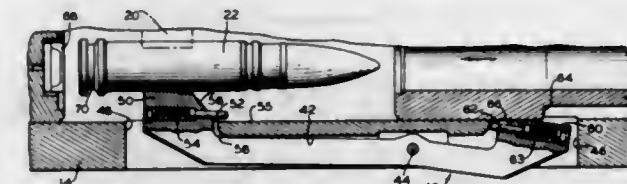
the inner diameter of the bore in said sabot capturing assembly being greater than the diameter of said projectile and smaller than the diameter of said sabot, whereby the detonation of an explosive charge in said breech chamber accelerates the sabot and missile simultaneously along said barrel until the sabot engages said sabot capturing assembly at which time the projectile passes through the sabot capturing assembly into the observation zone while the sabot is entrapped within said assembly to obstruct the axial bore therethrough and thereby vent the propellant explosive propellant gases via said through apertures.

3,340,770

ROUND STOP DEVICE FOR A MACHINE GUN FEEDING MECHANISM

Edward A. Santos, Thompsonville, Conn., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 2, 1966, Ser. No. 533,129
3 Claims. (Cl. 89—33)



1. In a machine gun having a receiver with an ejection port in the underside thereof, a barrel mounted in the receiver for reciprocation between a forward loading

position and a rearward firing position, a pawl for feeding a cartridge radially to a feeding position in the receiver over the ejection port and in coaxial alignment with said barrel for engulfment thereby during travel to the firing position, a pair of round stops pivotally mounted on the receiver for radial displacement relative to said barrel between open positions clear of the ejection port and stopping positions extending into the receiver for cooperation with said pawl to hold the cartridge in the feeding position, a pair of channels formed in the receiver from the outside thereof for receiving said round stops, pin means for pivotally mounting said round stops between the front and rear ends thereof, a tongue extending from the rear end of each of said round stops through a rear orifice communicating with the inside of the receiver to provide contact of said tongue with the cartridge when in the feeding position, a flange extending from the front end of each of said round stops through a front orifice communicating with the inside of the receiver to provide contact of said flange with said barrel when in the loading position for blocking displacement of said round stops from their stopping positions, a first latching means for releasably holding said round stops in the stopping positions, and a second latching means for releasably holding said round stops in the open positions.

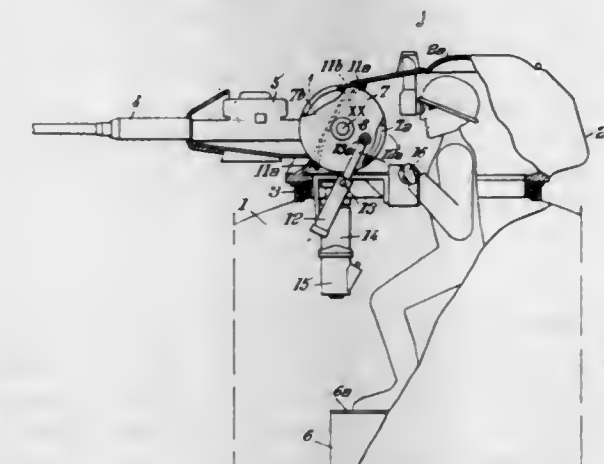
3,340,771

ARMORED VEHICLES HAVING TURRETS MOUNTING GUNS IN CYLINDRICAL DRUM HOUSINGS

René de Meiss, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a Swiss society

Filed Nov. 9, 1965, Ser. No. 507,076
Claims priority, application Luxembourg, Nov. 24, 1964, 47,432

1 Claim. (Cl. 89—36)



A vehicle which comprises, in combination,

a body,

a turret rotatably carried by said body about a first axis fixed with respect thereto and vertical in the normal position of said body,

said body and said turret limiting together a closed space in which a gunner is located,

the wall of said turret being provided with an aperture of rectangular general shape having its top and bottom edges perpendicular to said first axis,

a hollow cylindrical drum journaled in said turret about a second axis parallel to said top and bottom edges of said aperture, said drum fitting slidably in said aperture,

an automatic gun rigid with said drum and having a breech mechanism housed in said drum,

the wall of said drum being provided with two hatches, the first of said hatches being located, for a given

angular position of said gun about said second axis, wholly on the inside of said turret, the second of said hatches being located, for a given position of said gun about said second axis, wholly on the outside of said turret,

an arcuate hatch closure pivoted on said drum to control said first hatch, the position of said hatch closure on said drum and its dimensions being adapted to permit, for at least said first mentioned angular position of said gun about said second axis, said closure to open wholly inside said turret and to enable the gunner in said turret to remove and to replace parts of said breech mechanism, and

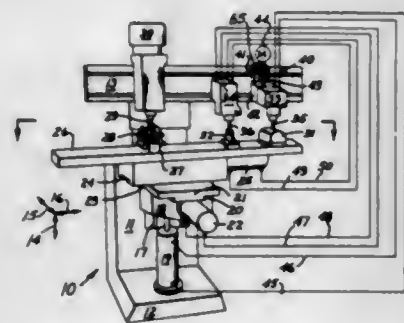
a second arcuate hatch closure pivoted to said drum to control said second hatch, the position of said second closure on said drum and its dimensions being adapted to permit, for at least said second mentioned angular position of said gun about said second axis, said second closure to open wholly on the outside of said turret and to enable anyone standing on the outside of said turret to remove and to replace parts of said gun located inside said drum, both of said hatch closures having the same radius of curvature as said drum.

3,340,772

TRACER-CONTROLLED MACHINE TOOL WITH PLURALITY OF TRACERS

Paul J. Weaver, Pasadena, Calif., assignor to True-Trace Corporation, El Monte, Calif., a corporation of Connecticut

Filed Apr. 4, 1966, Ser. No. 539,776
8 Claims. (Cl. 90—13)



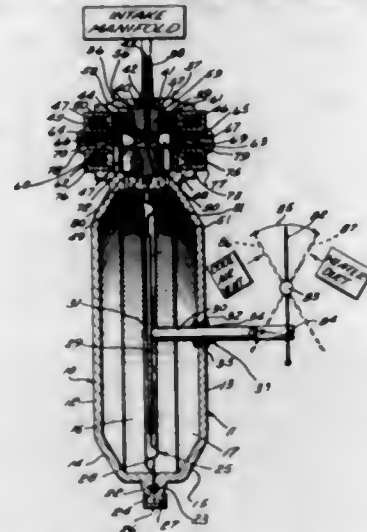
1. A machine tool comprising: a frame having first, second and third axes which are mutually, obliquely oriented; first, second and third sets of slides and slide-ways supported by the frame so that each slide is reciprocable along a respective axis relative to the frame, at least one of said sets being mounted to another one of said sets whereby to be movable along two of said axes; first, second and third motive means adapted to move the first, second and third slides along their respective axes; one of said slides supporting another slide, a worktable supported by said last-mentioned slide adapted to hold a workpiece and a first and a second template; a cutter spindle and a first and a second tracer valve, the first axis, the cutter spindle, and the axis of control of the first tracer valve being parallel to each other, the second tracer valve controlling motion along the second and third axes, the cutter spindle and the tracer valves being mounted to the machine tool so that three-dimensional motion is possible between them and the worktable, the first tracer valve reacting with the first template, and the second tracer valve reacting with the second template; and drive means for moving said first tracer valve parallel to said first axis; whereby the tool may cut a single three-dimensional workpiece as a function of the shape of a pair of templates.

3,340,773

BI-VALVE

Rudolph J. Franz, Arlington Heights, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed July 28, 1965, Ser. No. 475,358
5 Claims. (Cl. 91—465)



3. A tri-position vacuum valve actuator comprising: a valve actuator having a valve section and an actuator section,

said valve section having first and second valve chambers formed therein and having an air-flow passageway interconnecting said first and second valve chambers and having first and second valve seats formed at the junction of said air-flow passageway with said first and second valve chambers, respectively,

said valve section having an inlet communicating from outside said valve section to said air-flow passageway,

said actuator section having first and second actuator chambers formed therein and a power diaphragm providing a common wall intermediate said first and second actuator chambers,

said first and second valve chambers being communicable with said first and second actuator chambers, respectively,

first and second valve means operably disposed in said first and second valve chambers, respectively, for opening and closing the communication of said air-flow passageway to said associated valve chambers,

resilient means disposed within said air-flow passageway and interconnecting said first and second valve means and urging the same into closed positions at said first and second valve seats, respectively, means for selectively venting said valve chambers to the atmosphere,

means for energizing said first and second valve means independently into opened positions, and means for applying a fluid having a pressure differential relative to atmosphere to said inlet, whereby the selective opening of said air-flow passageway to one of said valve chambers develops a pressure differential across said power diaphragm for moving the same within said actuator section.

3,340,774

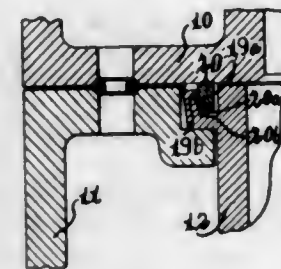
COMBINATION CYLINDER SLEEVE OR LINER AND COMBUSTION CHAMBER SEAL

Arthur M. Brenneke, 923 Maplewood Drive,
New Castle, Ind. 47362

Filed July 13, 1965, Ser. No. 471,582
6 Claims. (Cl. 92—171)

1. In an engine having a block, at least one tubular cylinder liner seated in said block, a combustion chamber head adapted to be torqued down onto the top of

said block over the end of said cylinder liner, the top portion of said cylinder liner having an outwardly extending horizontal offset portion with an axially directed wall extending from said offset portion and spaced radially outwardly from the inner wall of said liner, said axially directed wall tapered at a slight angle outwardly toward the upper end of said liner, sealing ring means having a generally trapezoidal cross sectional shape and being positioned between said cylinder liner and said combustion chamber head, the top wall and the inside wall of said sealing ring means forming at their intersection a continuous edge, the outer wall of said sealing ring means being tapered downwardly and inwardly at an angle slightly less than said angle of said axially directed wall of said liner, the tapered outer wall and the bottom



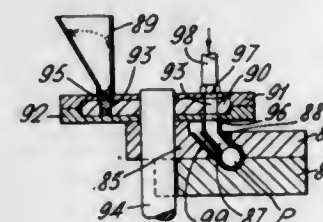
wall of said sealing means forming at their intersection an outer edge engaging said wall of the liner at an intermediate point thereof, so that as said head is torqued down onto said block, said sealing ring means is engaged in line contact by said head along said continuous edge thereof and said sealing ring means is compressed by the inward pressure created along a continuous line of contact between the tapered wall of the liner and the outer edge of the tapered wall of said sealing ring means, and said sealing ring means has its bottom wall spaced axially from the horizontal offset portion of the liner so that pressure that is built up in the cylinder will act upwardly and outwardly on said sealing ring means to further assist in sealing said ring means to said head and to said liner.

3,340,775

APPARATUS FOR MAKING COMPOSITE FILTER PLUGS FOR CIGARETTES

John Charles Raymond and Peter Edward Wisdom,
Deptford, London, England, assignors to The Molins Organisation Limited, London, England, a corporation of Great Britain

Filed Oct. 1, 1964, Ser. No. 400,861
Claims priority, application Great Britain, Oct. 8, 1963,
39,657/63
6 Claims. (Cl. 93—1)



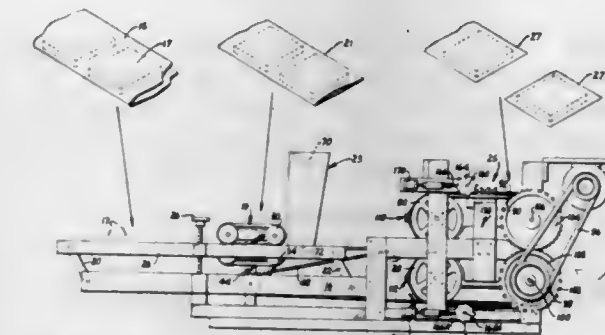
1. Apparatus for producing composite filter rod containing powdered filter material comprising conveyor means for feeding a continuous wrapper having filter plugs thereon with gaps therebetween at regularly spaced intervals through a loading zone, a rotatable transfer member having at least one perforation extending between opposite radial surfaces thereof and spaced from its axis whereby the upper and lower ends of said perforation define circular paths during rotation, said rotatable transfer member being located such that the circular path of said lower end of said perforation passes over said load-

ing zone, a powder hopper having a discharge opening positioned above said circular path of the upper end of said perforation, and means for driving said conveyor means and rotatable member in synchronism such that the lower end of said perforation passes over said loading zone as each gap between adjacent plugs passes through said loading zone, whereby during each complete rotation of said rotatable transfer member said perforation is filled with powdered material from said hopper and thereafter said powdered material is discharged into said gap.

3,340,776

PACKAGING MACHINE

Lyle F. Shabram, Seaside, Calif., assignor to S & V Development Company, a partnership
Filed May 12, 1965, Ser. No. 455,141
8 Claims. (Cl. 93—8)



1. A bag-making machine or the like wherein a web of a thermoplastic material is sealed to a matching surface and severed therefrom comprising, in combination: (a) at least one upper sealing bar and at least one lower sealing bar, (b) means for propelling said upper and lower sealing bars on either side of a web of thermoplastic material, (c) means on said sealing bars whereby the sealing bars grip the web and propel it along said path, (d) means whereby a heated sealing element passes down through one of said sealing bars while the sealing bars are in gripping arrangement with the web, (e) means whereby said heating element is removed from the proximity of the web while the sealing bars are still in gripping arrangement with the severed ends of the web, and means whereby the sealing bars are released from the severed portions of the web.

3,340,777

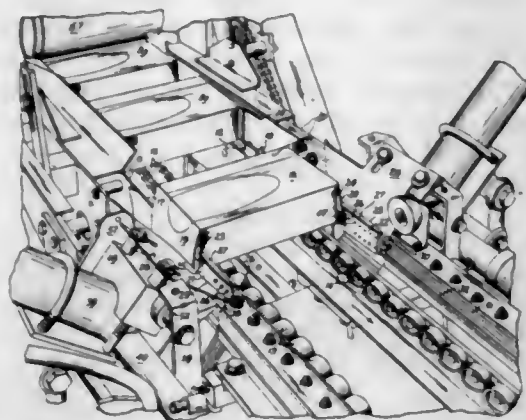
MACHINES FOR BONDING, BY HEAT AND PRESSURE, PANELS OF PAPERBOARD HAVING A THERMOPLASTIC COATING THEREON

William H. Hittenberger, Santa Clara, and Thomas R. Baker, Los Altos, Calif., assignors to Kliklok Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 25, 1965, Ser. No. 435,370
8 Claims. (Cl. 93—36)

1. A device for bonding two panels of paperboard of a folding box having a thermoplastic coating on both of the surfaces to be bonded, one panel being hingedly foldable with respect to the other about a hinge axis lying substantially in the plane of the other panel, the device comprising, a conveyor for moving the box in the direction of the plane of the panels; means for folding one panel relatively to the other into a V position upstream of the discharge head hereinafter recited; a discharge head along the path of the conveyor in a position

in which the head is straddled by the V formed by the panels, said head having discharge apertures for discharging jets of air in a direction substantially normal to the surface of the panels moving past the head, said head having a certain length as measured along the con-

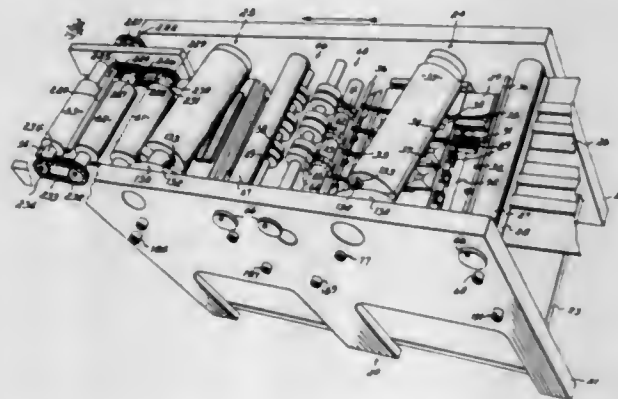


veyor path; folding means downstream with respect to said head so arranged as to fold any portion of said panels into contact with the respective other panel at a distance from the said head less than said length; and means for supplying heated air to said head.

3,340,778

APPARATUS FOR CUTTING, CREASING, SCORING, AND THE LIKE

Frank L. Boone and Kurt W. Maurer, Cincinnati, Ohio, assignors to Harry L. Baker, Cincinnati, Ohio
Filed July 2, 1965, Ser. No. 469,114
9 Claims. (Cl. 93-58)



1. Apparatus for forming blanks from a web comprising, a base, a pair of endless chains movably mounted on said base, means for driving said chains, a plurality of dies mounted on said chains, a generally cylindrical anvil mounted on said base adjacent said chains for engagement by said dies, said anvil being constituted by at least two segments having cylindrical surfaces and being slidably mounted on a shaft whose axis is at an acute angle to the path of movement of said chains, and means for axially reciprocating said segments on their shaft as said dies move into and out of engagement with them.

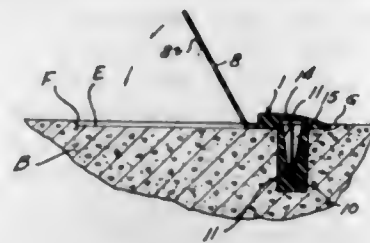
3,340,779

HIGHWAY SAFETY GUIDE

William F. Mahoney, Carlisle, Pa., assignor to Carlisle Tire and Rubber Division of Carlisle Corporation, a corporation of Delaware
Filed Sept. 22, 1965, Ser. No. 489,274
12 Claims. (Cl. 94-1.5)

1. A road marker comprising a base having a bottom with an elongated extension extending normal of said

bottom and a bore extending through said base into said elongated extension, a flap resiliently attached to said base, said base, extension and flap being of one piece of



resilient material and a pin detachably positioned in said bore.

3,340,780

CONSTRUCTION OF ASPHALT OVERLAYS ON RIGID CONCRETE PAVEMENTS

Joseph C. Roediger, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,819
8 Claims. (Cl. 94-9)

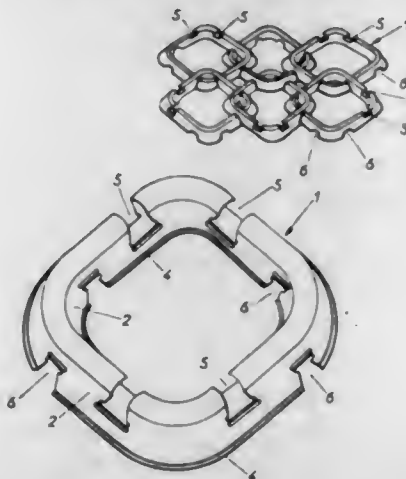


4. Improved roadway which comprises lower sections of pre-existing cement roadway, an asphalt overlay on said cement sections and a pre-formed plastic integrally bonded to said asphalt overlay and intermediate said asphalt overlay and said cement sections along the line of abutment of said sections, said pre-formed plastic being characterized by having a tongue element extending downwardly between said sections.

3,340,781

CHAIN GRIDS FOR RUNWAYS AND MUTUAL LOCKING ELEMENTS FOR FORMING THE SAME

Jacques Leon Alexandre See, 54 Rue la Bruyere, Paris 9, France
Filed Aug. 2, 1965, Ser. No. 476,332
Claims priority, application France, Aug. 5, 1964, 984,292, Patent 1,447,952
7 Claims. (Cl. 94-13)



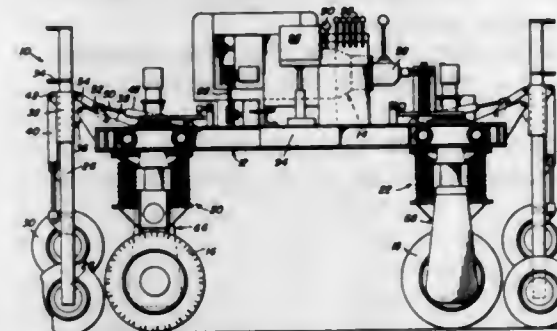
1. A grid for runways comprising a plurality of resilient ring elements, each of identical form, and said elements being in interlocked relationship, each of said ring elements having spaced pairs of recesses in the upper surface alternating with spaced pairs of recesses in the lower surface,

a bead along the base of each recess and a notch in each side of the respective recesses, said rings being interfitted with the lower recesses inter-fitting with upper recesses and the notches receiving the beads in snap fit relation.

3,340,782

COMPACTOR

Charles J. Novak, Lubbock, Tex.
(P.O. Box 1586, Tehran, Iran)
Filed June 14, 1965, Ser. No. 463,509
10 Claims. (Cl. 94-50)



1. Apparatus for compacting backfill below ground level about a pipe within an excavated ditch comprising, a platform, at least two pairs of traction wheels, wheel mounting means supporting the platform on the traction wheels above ground level, said traction wheels adapted to straddle the pipe within the ditch, a plurality of compacting devices, support means movably mounting each of said compacting devices on the platform adjacent to each pair of said traction wheels, positioning means mounted on the platform and operatively connected to said support means for displacing the compacting devices to operative positions between each pair of said traction wheels, power operated means mounted on the support means and connected to said compacting devices for lowering the compacting devices to transfer load from the traction wheels to the compacting devices, propelling means mounted on the platform and drivably connected to said traction wheels for movement of the platform thereby compacting backfill laterally spaced from either side of the pipe by rolling, and selective control means operatively connected to the positioning means and the power operated means for bringing the compacting devices into lowered operative positions progressively compacting said backfill between said pairs of traction wheels during movement of the platform by the propelling means.

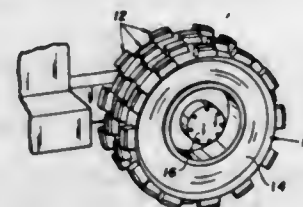
3,340,783

COMPACTOR LUG HAVING REPLACEABLE CAP

Lester R. Edminster, Portland, Oreg., assignor to West Coast Alloys Co., Troutdale, Oreg., a corporation of Oregon

Filed July 12, 1965, Ser. No. 471,292

8 Claims. (Cl. 94-50)



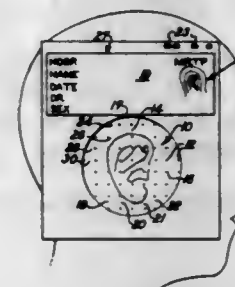
1. A compactor roller comprising: an annular drum having a plurality of spaced lugs extending radially outward from the outer surface of said drum; a plurality of separate lug caps; and mechanical connection means including a dovetail joint for removably attaching said lug caps to said lugs to

enable replacement of said lug caps when they become worn or damaged said dovetail joint extending in the direction of rotation of said drum and being tapered in said direction.

3,340,784

PHOTOGRAPHIC MEASURING DEVICE

Manuel Zimberoff, 2308 Lincoln Ave., Chicago, Ill. 60614
Filed Apr. 22, 1963, Ser. No. 275,793
2 Claims. (Cl. 95-1.1)



1. The combination of a photographically-sensitive sheet and a measuring device comprising a transparent plastic film, said film having regularly spaced indicia evenly distributed in a pattern throughout the surface thereof in straight parallel rows both vertically and horizontally as a linear measuring device for characteristics of the ear, said combined photographic sheet and film being sized substantially only to expose and print an individual human ear on said photographic paper in conjunction with said plastic film, whereby the individual characteristics of said photographed ear are linearly identifiable in conjunction with the linear markings printed from said film.

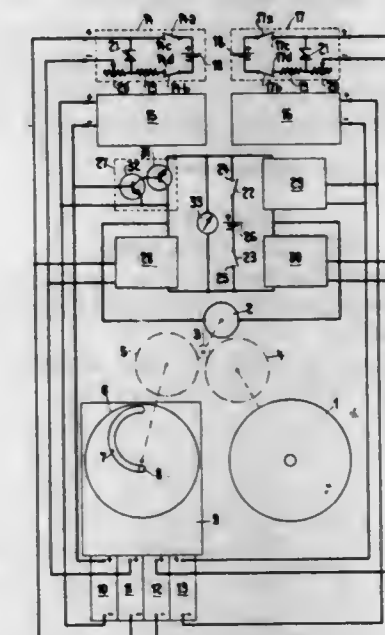
3,340,785

AUTOMATIC DIAPHRAGM-SETTING DEVICE

Karl Adler, Grenchen, and Georges Ducommun, Feldbrunnen, Switzerland, assignors to Bivator S.A., Geneva, Switzerland

Filed Oct. 28, 1964, Ser. No. 407,151

Claims priority, application Switzerland, Nov. 2, 1963, 13,478/63
9 Claims. (Cl. 95-10)



1. An automatic diaphragm-setting device in a camera, comprising a reversible motor for setting the diaphragm, a bridge, circuit having input terminals and output terminals, said motor being connected to the output terminals

of said bridge circuit, each branch of the bridge circuit including a transistor, a control circuit associated with each of said transistors, comprising each a light sensitive measuring element producing a direct voltage when illuminated, and a reference source producing a direct reference voltage, said measuring element and reference source of each control circuit being interconnected for control of the associated transistor by the difference of the voltage of the measuring element and of the voltage of the reference source.

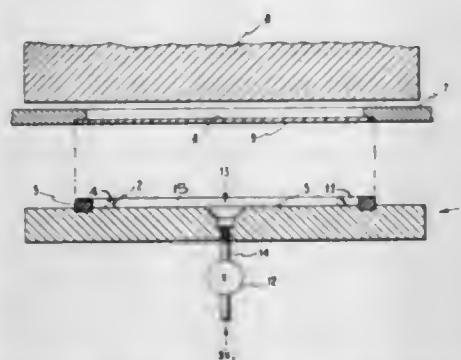
3,340,786

HIGH PRESSURE AMMONIA DEVELOPMENT DEVICE

Elwood H. Storm, 35 Pasatiempo Drive,
Santa Cruz, Calif. 95060

Original application Feb. 3, 1965, Ser. No. 430,094.
Divided and this application Apr. 5, 1965, Ser. No. 454,237

2 Claims. (Cl. 95—89)



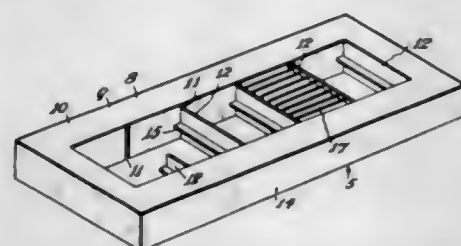
1. In a developer device for applying a gas to a discrete film area, the combination comprising:
a film developing platen with a film seal,
said seal being shaped to enclose said film area,
a closure platen operative to hold said film against said seal,
a development chamber formed by said developing platen, said discrete film area and said seal,
and air entrapment cavity,
first porting means for introducing gas into said development chamber, and
second porting means passing through said seal interconnecting said development chamber and said air entrapment cavity,
said second porting means positioned relative to said first porting means such that when said seal is in contact with said film area and pressurized gas is introduced into said development chamber, a portion of the entrapped air is forced through said second porting means into said air entrapment cavity.

3,340,787

GRILLE FRAMES

Leonard R. Phillips, Hartford, Conn., assignor to Phillips Air Devices, Incorporated, Hartford, Conn., a corporation of Connecticut

Filed Jan. 5, 1965, Ser. No. 423,537
9 Claims. (Cl. 98—114)



1. A grille frame constructed of sheet material and having a top wall, outer side walls depending from said top wall, an opening in said top wall, inner side walls for

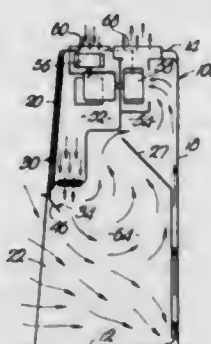
said opening depending from said top wall, said inner side walls having slots therein, supporting bars within said slots and supporting said top wall, supporting flanges bent inwardly from the bottom edges of said outer side walls and supporting said supporting bars and a grille supported by said supporting bars within said opening.

3,340,788

FUME HOOD INCLUDING AIR DEFLECTING BAFFLE

Richard E. Landingham, Lake Tapawingo, Mo., and Robert J. South, Prairie Village, Kans., assignors to Laboratory Construction Company, Kansas City, Mo., a corporation of Missouri

Filed Feb. 28, 1966, Ser. No. 530,424
4 Claims. (Cl. 98—115)



1. In combination with a fume hood having an air outlet, a front access opening, a vertically shiftable panel within the opening, permitting entrance of varying amounts of air into the front opening as the panel is shifted, and an air inlet above the opening, said panel having a horizontal lower edge spanning the opening, structure for controlling air turbulence within the hood comprising:

an elongated baffle spanning the distance across the opening,
said baffle having its longitudinal axis horizontally disposed,
means attaching the baffle to the panel at said lower edge thereof within the path of air flowing into the hood through the air inlet and through the opening for vertical movement therewith, rendering the baffle effective in all vertical positions of the panel, said air inlet being located above the baffle when said baffle is in its uppermost position,
the transverse axis of the baffle sloping at an angle downwardly from the panel and inwardly into the hood, presenting a lower, inclined, outwardly and downwardly facing airfoil surface for streamline flow of air into the hood through the opening, and an upper, inclined, inwardly and upwardly facing airfoil surface for streamline flow of air into the hood through said inlet.

3,340,789

DISPENSING MACHINE

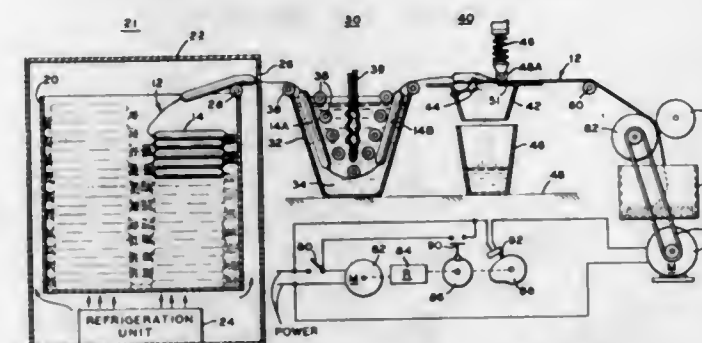
Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut

Filed June 9, 1965, Ser. No. 462,612
6 Claims. (Cl. 99—352)

1. A dispensing machine for use with a flexible band having a series of sealed, spaced apart flexible compartments, each compartment filled with a substance which is to be dispensed, said machine including:

a storage means including refrigeration means for storing the compartments and having an aperture through which the compartments can be withdrawn from said storage means;

a trough shaped conditioning container adapted to contain a liquid disposed for receiving therein said compartments from said storage means for conditioning the substance in said compartments;
guide means associated with said conditioning container for guiding the received compartments through said container whereby the respective compartments travel in a path following generally the trough shape of the container, causing the substance to become conditioned by the liquid contacting the respective compartments;
a substance removing station disposed for receiving the compartments from said conditioning container, and including a knife for engaging the filled compartments and cutting the compartment open as a respective compartment is moved relative to said knife, whereby to release the substance from said compartment;
support means cooperating with said substance removing station for holding a container adapted to receive



the substance released from an opened compartment;
a platform and a roller pressing thereagainst adapted to receive therebetween an opened compartment disposed at said removing station for squeezing the flexible side walls of the compartment so as to further remove substance remaining in the opened compartment;
further means including a roller driven by a motor disposed for receiving the band with opened compartments from said substance removing station whereby in response to rotation of said roller a respective compartment is advanced sequentially along a path from said storage means to said trough-shaped container and from said container to said substance removing station, and
control means, cyclically operable, coupled to said motor for causing operation of said roller to cause rotation thereof for a predetermined time interval whereby to cause respective compartments to advance along said path.

3,340,790

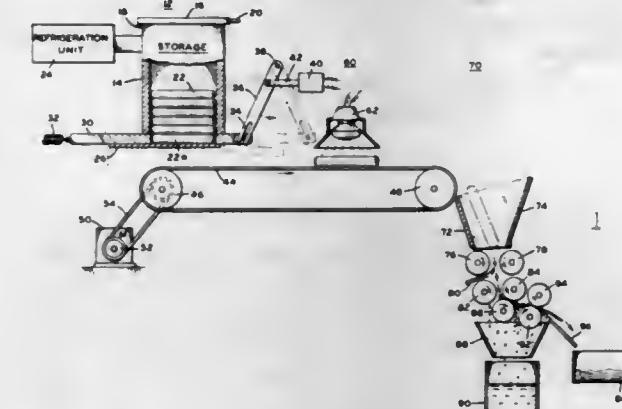
DISPENSING APPARATUS

Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut

Filed Nov. 22, 1965, Ser. No. 508,898
3 Claims. (Cl. 99—352)

1. A dispensing machine for use with flexible casings, each containing a substance which is to be conditioned while confined in such casing and subsequently removed therefrom by opening the casing comprising:
a storage station including a receptacle provided with refrigeration means for storing and preserving a plurality of such casings;
dispensing means associated with said receptacle for releasing, when actuated, a casing;
a transport means which includes a movable belt disposed for receiving a released casing and, respon-

sive to control means associated therewith, transporting such casing past a conditioning station to a substance removing station;
said conditioning station including a heating means for heating the substance confined in the casing;
said substance removing station including a set of rollers for receiving therebetween a casing, and a slitting knife for engaging a casing as such casing is fed between said rollers and opening the respective casing whereby to release the conditioned substance confined in such casing;



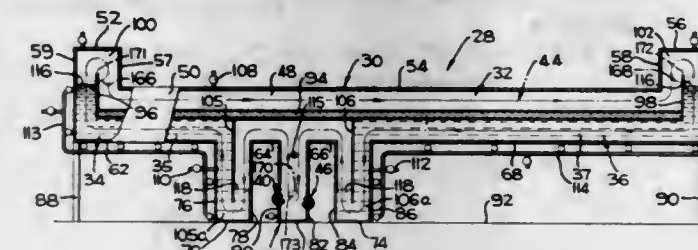
said rollers providing a curved path for the casing for separating the empty casing from the released substance and including a set of squeeze rollers for squeezing the walls of the opened casing in order to remove any remaining substance;
a receptacle disposed adjacent said set of rollers for collecting emptied casings, and
control means coupled to said dispensing means, said heating means disposed at said conditioning station, said set of rollers and to said transport means for causing correlated operation thereof.

3,340,791

HYDROSTATIC COOKER WITH HORIZONTAL PROCESSING CHAMBER

Samuel A. Mencacci, Antwerp, and John G. Hagerborg, St. Nikolaas-Waas, Belgium, assignors to International Machinery Corporation S.A., St. Nikolaas-Waas, Belgium, a Belgian corporation

Filed Feb. 25, 1966, Ser. No. 530,191
26 Claims. (Cl. 99—362)



1. A heat treatment apparatus comprising means defining a sterilizing pressure chamber, means defining a U-shaped inlet hydrostatic housing with one end of said housing communicating with one end of said pressure chamber, means defining a U-shaped outlet hydrostatic housing with one end of said outlet housing communicating with the other end of said pressure chamber, means for directing a high pressure heating medium into said pressure chamber, means for directing a liquid preheating medium into said U-shaped inlet housing, means for directing a liquid cooling medium into said U-shaped outlet housing, means defining an air chamber for applying an overriding air pressure to the other ends of said housings, said air pressure being sufficient to maintain the level of liquid in each of said U-shaped housings at different elevations and to cooperate with the forces exerted by

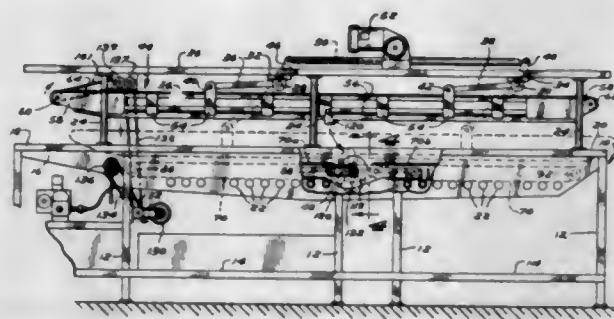
the so defined unbalanced portions of liquid to balance the pressure within said pressure chamber, and conveying means including carriers for supporting and moving articles into and through said U-shaped inlet housings, through said sterilizing pressure chamber, and through and out of said U-shaped outlet housing without disturbing the pressure balance within said housings.

3,340,792

APPARATUS FOR FRYING DOUGHNUTS AND LIKE PRODUCTS

Joseph E. Matzke, Minneapolis, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed July 1, 1966, Ser. No. 562,163
8 Claims. (Cl. 99-405)



1. In an apparatus for frying doughnuts and other like farinaceous food products having a vessel adapted to contain a cooking liquid, the combination of:

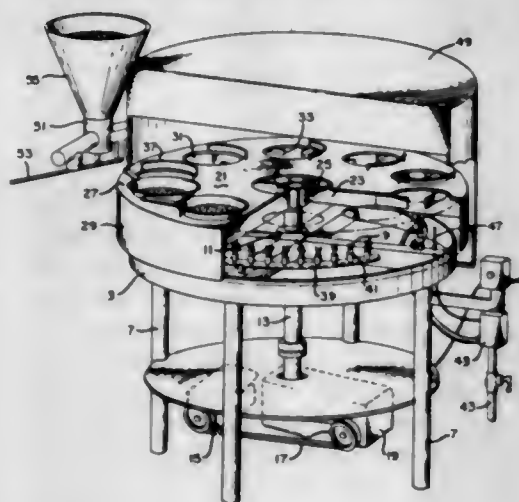
- (a) an upper conveyor mounted above the vessel and adapted to move between an upper inoperative and a lower operative position,
- (b) a lower conveyor within the tank,
- (c) a retractable turner assembly mounted for movement between first and second positions for inverting the doughnuts when partially cooked in said first position and movable to said second position spaced from said upper conveyor when the upper conveyor is moved to an operative position for transferring the doughnuts through said vessel.

3,340,793

CREPE SUZETTE MAKER

Arthur A. Nilsen, San Francisco, Calif., assignor to O'Brien, Spotorno, Mitchell, Inc., a corporation of California

Filed Sept. 22, 1966, Ser. No. 581,204
1 Claim. (Cl. 99-423)



A cooking device for crepe suzettes or the like comprising in combination:

- (a) a circular planar table,
- (b) means for rotating said table at a slow, constant speed,

- (c) a plurality of equally spaced circular holes on the periphery of said table, each of said holes having supporting bars thereunder carried by said table,
- (d) heating means extending in a circle under said table, said heating means lying directly under said holes,
- (e) a mating skillet having a handle for each of said holes supported by said bars, and
- (f) each of said circular holes having an adjacent concentrically curved guard means fastened to the table and extending upwardly from the plane thereof, the handles of said skillets, in operative position, directly contacting said guard means and locating said skillets directly over said holes and preventing the skillets from tilting.

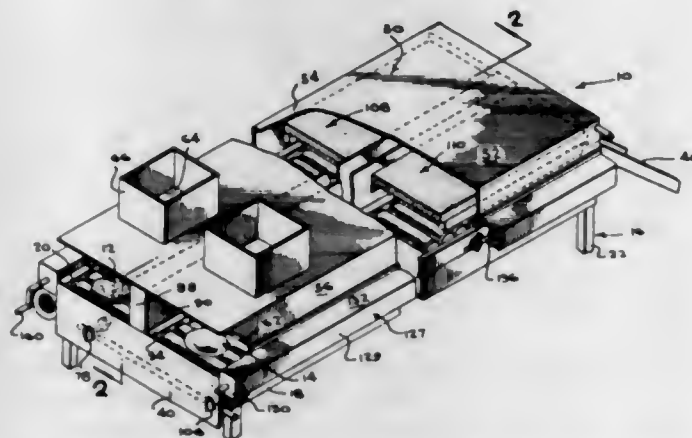
3,340,794

COOKING DEVICE

Anthony Philip Giullano, 21 Jule Drive,

Delray Beach, Fla. 33444

Filed Mar. 18, 1966, Ser. No. 535,528
6 Claims. (Cl. 99-443)



1. A cooking device for foods or the like, the device comprising:

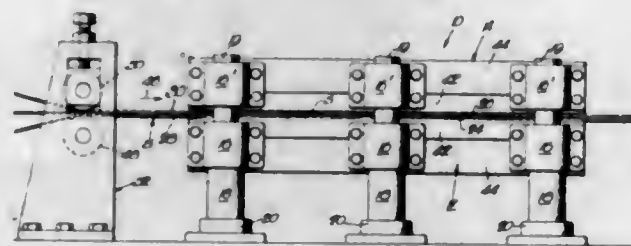
- a frame having a top structure, a bottom structure, sides, and forward and rear ends;
- a conveyor mounted between the sides comprising a plurality of foraminous rollers, rotatable about fixed axes, and all of said rollers turning in the same direction of rotation;
- heat applying means mounted in the bottom structure of the frame adjacent the forward end to impart heat to the material to be cooked as it is conveyed thereover; and
- second heat applying means mounted in the top structure adjacent the rear end of the frame.

3,340,795

CONTINUOUS LAMINATING PRESS WITH AIR FILM LUBRICATION

James C. Hartley, Bridgeport, Conn., assignor of fifty percent to Gustaf R. Young, Branford, Conn.

Filed Feb. 3, 1964, Ser. No. 341,934
4 Claims. (Cl. 100-154)



1. A press for laminating laminar sheet stock in motion, comprising fixed companion platens with plane and parallel opposing faces adapted to exert lamination pressure against adjacent faces of interposed stock, of which each

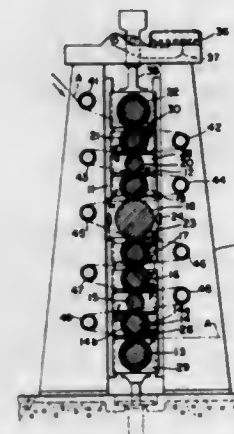
platen has an internal chamber with an air inlet and orifices in and distributed over said face thereof and leading to said chamber, with said orifices being sufficiently narrow and large in number to pass compressed air from said chambers and maintain between the adjacent faces of the platens and interposed stock stock-floating air films of adequate integrals of pressure to impart the lamination pressures to the stock; and means for feeding stock between said platens for its lamination while in motion.

3,340,796

PAPER SUPERCALENDER STACK

Peter J. Link, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 25, 1964, Ser. No. 413,717
1 Claim. (Cl. 100-162)



A calender for a web of sheet material comprising a calender frame, a vertical stack of calender rolls held by said frame, said rolls including a driven central relatively large diameter steel roll which is axially fixed with respect to said frame and additional smaller diameter non-driven idler rolls disposed above and below said central roll and movably held by said frame to be movable toward the central roll, alternate ones of the rolls in said stack being steel and being yieldable composition surfaced except for a pair of yieldable composition surfaced rolls disposed in said stack which have a nip between them and one of which has a nip with said central roll, motor means for driving said central roll, and additional motor means for urging the end rolls of said stack toward said central roll for increasing the nip pressures between said rolls.

3,340,797

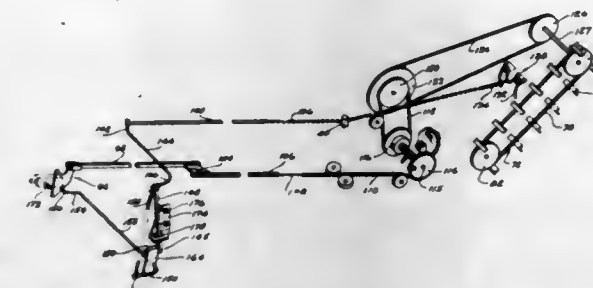
TRIP MECHANISM

Robert L. Poland, Keweenaw, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Jan. 17, 1966, Ser. No. 521,113
12 Claims. (Cl. 100-188)

1. A trip device for a hay baler of the type having a reciprocating plunger and a bale throwing mechanism, said device being positioned to be actuated by said bale throwing mechanism and including lever means on said baler connected to said bale throwing mechanism, trip means pivotally connected to said lever means and extending along the side of said baler, guide means on said baler, said guide means positioned for guiding said trip means in a defined path, latch means on said baler in position to be connected to said reciprocating plunger for intermittently driving said bale thrower, rocker means connected to said latch means, said rocker means positioned below said lever means,

resilient means connected to said trip means and to said rocker means for urging said trip means and said rocker means toward each other, and cam means connected to said rocker means and engageable with said trip means whereby emergence of a



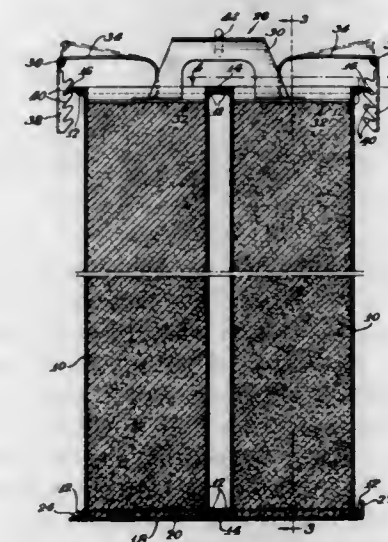
bale from the baler rotates said lever means and said rocker means and moves said trip means along said cam means, and at a predetermined position connects said reciprocating plunger with said bale launching mechanism.

3,340,798

MOLD FOR FOOD PRODUCTS

Walter Winger, Ottumwa, Iowa, assignor to The Cincinnati Butchers' Supply Company, Cincinnati, Ohio, a corporation of Ohio

Filed Jan. 28, 1965, Ser. No. 429,210
5 Claims. (Cl. 100-219)

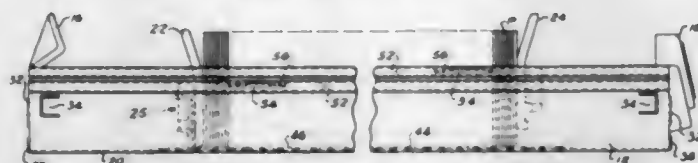


1. A dual meat mold comprising a pair of identical tubular, metal bodies of rectangular cross-section positioned in close side by side aligned relation, each body being open at both ends and having a smooth uninterrupted, internal surface and uniform opening from end to end, each end of each body being provided with a metal rod of rectangular cross section welded to and surrounding the exterior surface of the body and positioned flush with the end of the body, the adjacent portions of said rods of the two bodies, at their respective ends being rigidly interconnected so that the end surfaces of said rods and bodies, at each end, are positioned in a common plane, and an elongated bottom closure plate having a pair of opposite marginal edge portions bent to provide guideways for telescoping over corresponding aligned, opposite side portions of said rods on the lower ends of the two bodies for securing the closure plate in firm contact with the bottom ends of said two bodies.

3,340,799 FILING DRAWER FOR ADDRESS PRINTING PLATES

Ronald F. Obergefell, Cleveland, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Jan. 18, 1965, Ser. No. 426,281
7 Claims. (Cl. 101-47)



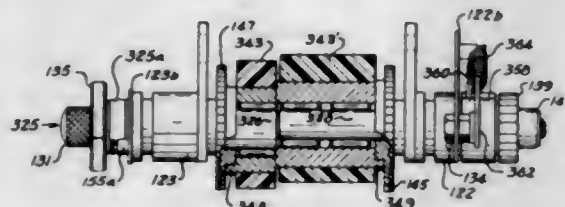
1. A drawer of generally rectangular configuration comprising: a pair of side walls each having two longitudinal inwardly facing channels formed therein; a bottom secured to the side walls; a front section and a rear wall both secured to the bottom and the side walls; a pair of followers adapted for movement within the drawer, each follower including a body and a pair of runners, the latter guided in a respective pair of opposed channels different from the channels engaged by the runners of the other followers.

3,340,800 DUAL ROLLER PLATENS IN ADDRESS PRINTING MACHINES

John H. Gruver, Cleveland, Lyle W. Selfried, Mentor, and Dean W. Johnson, Euclid, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Continuation of application Ser. No. 275,608, Apr. 25, 1963. This application Mar. 21, 1966, Ser. No. 547,114

12 Claims. (Cl. 101-56)



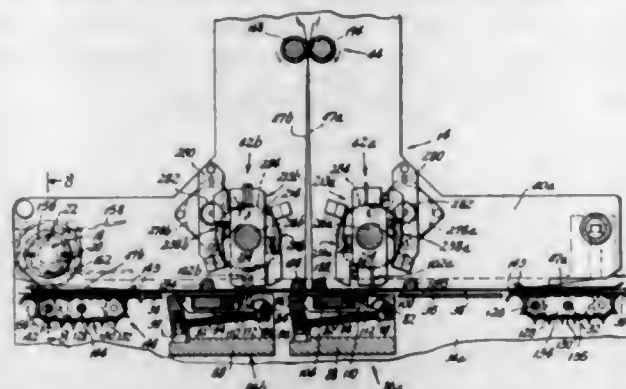
1. A printing machine of the character described comprising means for holding a printing device in printing position in a plane; a platen carriage reciprocable adjacent said printing position in a path substantially parallel to the plane of the printing device; a platen supporting means on the carriage; two roller platens rotationally supported by said platen supporting means and arranged to sweep past adjacent non-overlapping portions of the printing device, with their axes extending transversely of the direction of carriage motion and each movable between an extended position relative to said platen supporting means in which its axis is shifted towards the plane of the printing device and a retracted position relative to said platen supporting means in which its axis is more remote from the plane of the printing device than said extended position; and means for shifting either platen selectively to one or the other of said extended and retracted positions and shifting the other of said platens to the opposite position.

3,340,801
MULTIPLE ITEM PRINTING APPARATUS
Robert W. Shoup, Wyckoff, N.J., assignor to Autographic Business Forms, Inc., South Hackensack, N.J., a corporation of New Jersey

Filed May 26, 1965, Ser. No. 458,891
31 Claims. (Cl. 101-90)

1. Apparatus for printing a plurality of groups of items, each having indicia common to all the groups, with in-

dividual indicia of a different kind for each group and in predetermined quantities for each group, said items being joined to form a continuous strip, said apparatus comprising means for feeding a strip past a printing station, a chase carrier disposed at said printing station, a plurality of stationary peripherally disposed chases on said chase carrier for removably holding interchangeable printing elements, means for rotatably supporting and holding said chase carrier to transfer said chases alternately between a printing position in which said printing elements are immovably held for printing and a non-printing position in which a chase is accessible to an operator for

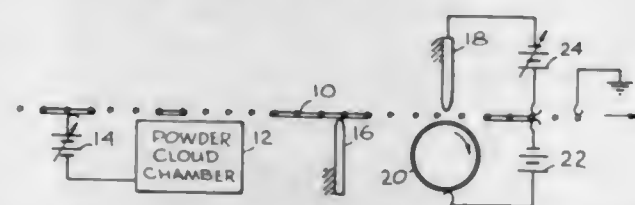


manual removal of the printing elements therefrom, reciprocal impression means at said printing station for causing momentary printing contact between said strip and said stationary printing elements disposed at said printing position to cause successive printing on a predetermined number of items of one group with indicia individual to said one group, and means for synchronizing the speed of operation of said impression means with said feeding means to cause the printing of said indicia individual to said one group to be in predetermined relation with said common indicia as said items are successively fed past said printing station by said feeding means.

3,340,802 ELECTROSTATIC PRINTING WHEREIN SCREEN CARRIES POWDER BETWEEN LOADING AND PRINTING POINTS

Charles E. Pilon, Berkeley, Calif., assignor to Electrostatic Printing Corporation of America, San Francisco, Calif., a corporation of California

Filed May 19, 1966, Ser. No. 551,365
6 Claims. (Cl. 101-114)

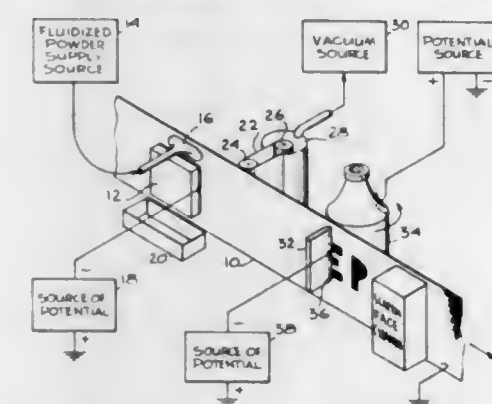


1. In an electrostatic printing system, a conductive apertured screen having a printing side and a back side which is opposite said printing surface, a masking material blocking a portion of the screen apertures to leave the remaining unblocked apertures arranged in the form of a desired image, said masking material extending beyond said printing side of said screen, means establishing a screen loading location, means establishing a screen unloading location displaced from said screen loading location, means for relatively moving said screen between said screen loading location and said screen unloading location, said means establishing a screen loading location including a source of electroscopic powder particles, each of said powder particles being smaller than the apertures of said screen, means for transferring powder from said source onto said printing side of said screen, cleaning wiper blade means positioned between said screen loading and unloading position for removing powder particles

deposited over said screen masking material at said screen loading location, said means establishing said screen unloading location including means for establishing an electric field between said screen and an image receiving object positioned adjacent said printing side of said screen, and printing wiper means in contact with the back side of said screen, said printing wiper means mechanically agitating and wiping the back side of said screen for mechanically dislodging the powder particles on said screen into the electric field between said screen and an image receiving object to be moved toward said image receiving object under the influence of said electric field.

3,340,803
ELECTROSTATIC PRINTING WITH POWDER
APPLIED TO SCREEN ON PRINTING SIDE
Clyde O. Childress, Palo Alto, and John Day, Richmond, Calif., assignors to Electrostatic Printing Corporation of America, San Francisco, Calif., a corporation of California

Filed May 19, 1966, Ser. No. 551,405
7 Claims. (Cl. 101-114)

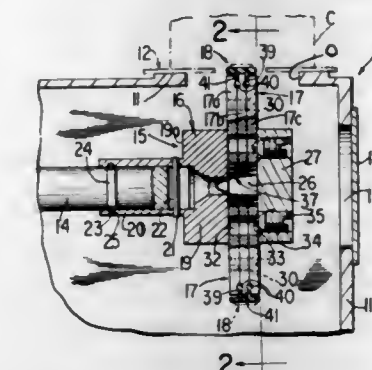


1. In an electrostatic system a conductive screen having apertures therethrough arranged in the form of a desired image, a screen loading location, a screen unloading location displaced from said screen loading location, means for relatively moving said screen between said screen loading location and said screen unloading location, said screen having a back side to which powder particles are applied and an opposite side, said screen loading location including a source of electroscopic powder particles, each of said powder particles being smaller than the apertures of said screen, means for transferring powder from said source onto the back side of said screen, means positioned between the screen loading and unloading locations for removing any powder from the opposite side of said screen, said screen unloading location including means for establishing an electric field between said screen and an image receiving object positioned adjacent one surface of said screen, and wiper means in contact with the surface of the back side of said screen opposite the position of said object, said wiper means wiping the surface of said screen for pushing the powder particles on said screen through the apertures of said screen into the electric field between said screen and object to be moved toward said image receiving object under the influence of said electric field.

3,340,804
MARKING HEAD ASSEMBLY FOR CODE
MARKING MACHINES
Lewis C. Price, Jr., Yonkers, N.Y., assignor to Control Print Corporation, North Arlington, N.J., a corporation of New Jersey

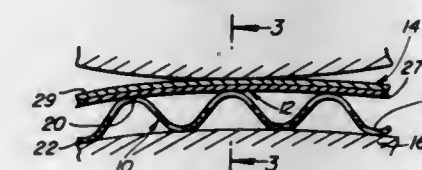
Filed Jan. 24, 1966, Ser. No. 522,427
6 Claims. (Cl. 101-375)

1. A rotatable marking head assembly for container-marking machinery comprising a hub member having an end provided with a diametrical recess, marking heads



said cover member of smaller dimensions than said respective detent openings that snap into the latter for removably retaining each of said marking heads in said diametrical recess while permitting their radial movement in the latter.

3,340,805
METAL MAKE-READY BLANKET
Henry B. Balsley, 7233 Woodlawn Ave.,
Hammond, Ind. 46324
Filed May 18, 1965, Ser. No. 456,869
6 Claims. (Cl. 101-407)



1. A make-ready blanket comprising a first resilient packing sheet, a second stiff but flexible packing sheet disposed in overlying relationship to said first packing sheet, a tympan sheet disposed in overlying relationship to said second packing sheet and adapted to hold said first and second packing sheets against a printing cylinder or bed whereby a flexible impression surface may be formed thereon for automatic adjustment during printing operations, said first packing sheet comprising a corrugated sheet of stiff but bendable and resilient material having parallel alternate rises and valleys evenly spaced thereover defined by smooth alternate reversing bends formed in said corrugated sheet and further including evenly laterally spaced apart transverse kerfs formed through and spaced longitudinally along each of said rises terminating downwardly above the lower portions of said valleys and extending at generally right angles relative to the corrugations of said corrugated sheet whereby said first sheet is rendered substantially resilient, said rises contacting the second packing sheet and the said valleys being adapted to engage and be supported by a printing cylinder.

3,340,806
PREMORDANTED IMBIBITION DYE
PRINTING BLANK
Walter John Weyerts, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 27, 1966, Ser. No. 568,142
25 Claims. (Cl. 101-450)

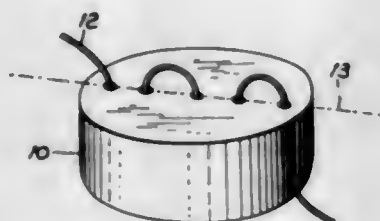
10. In a relief imbibition printing process wherein a soluble acid dyestuff is transferred from a colloid relief

image to a blank having a colloid coating thereon containing basic mordant which tends to diffuse through said colloid, the process of fixing said dyestuff in the colloid of said blank, and preventing diffusion of mordant from said blank to said colloid relief image, which comprises contacting said colloid relief image with said colloid blank, said colloid blank having on the surface thereof a compound selected from the group consisting of the sulfated and the sulfonated derivatives of monomeric esters and carboxylic acid amides, said compound containing an alkyl or alkenyl radical having from 5 to 30 carbon atoms to prevent diffusion of said compound through the hydrophilic colloid, and said compound containing at least one free, unesterified acid group, said compound being present in a quantity effective to prevent diffusion of the mordant out of said colloid blank.

3,340,807

EXPLODING WIRE TECHNIQUES

Gerald Burr, Clifton, N.J., Mark B. Leeds, Forest Hills, N.Y., and Stanford B. Silverschotz, Livingston, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Oct. 4, 1965, Ser. No. 492,593
6 Claims. (Cl. 102-23)

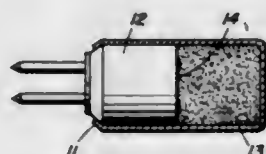


1. A method of fracturing a solid of material comprising the steps of:
 - forming a plurality of holes in the material;
 - threading a wire through said holes;
 - applying a small electrical current to said wire to cause the walls defining said holes to soften and fuse to said wire to form an intimate contact therewith; and
 - pulsing said wire with a high energy electrical current pulse so that said wire vaporizes, generating a shock wave which fractures the material.

3,340,808

ONE COMPONENT DETONATOR REQUIRING LOW FIRING ENERGY

Howard S. Leopold, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 18, 1963, Ser. No. 317,388
2 Claims. (Cl. 102-28)



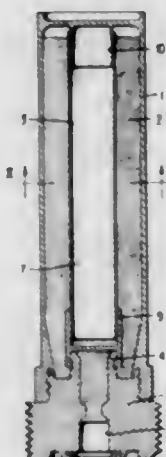
1. In an explosive detonator including a container for housing an explosive charge, the improvement comprising,
 - a single charge within said container consisting of a binary mixture of primary and secondary explosives wherein said primary explosive is selected from the group consisting of lead azide and silver azide and

said secondary explosive is selected from the group consisting of PETN and RDX, and
hot bridge wire means within said container and in intimate contact with said binary mixture under pressures in excess of 10,000 pounds per square inch whereby relatively low energy applied to said hot bridge wire means will detonate said mixture.

3,340,809

CARTRIDGE

Hans Stadler, Nurnberg, and Heinz Gawlick, Furth, Bavaria, Germany, assignors to Dynamit-Nobel Aktiengesellschaft, Troisdorf, Germany
Continuation of application Ser. No. 370,820, May 28, 1964. This application June 10, 1966, Ser. No. 556,781
Claims priority, application Germany, June 1, 1963, D 41,704
21 Claims. (Cl. 102-39)



1. A cartridge, comprising: a substantially tubular cartridge case; a base portion closing the rear end of said cartridge case, a relatively small igniting charge in said base portion; a substantially tubular propellant charge within said cartridge case and defining a continuous substantially axial firing channel extending substantially the entire length of said cartridge case within said propellant charge; said firing channel consisting essentially of gases and being substantially free of any explosive material; said igniting charge and said firing channel being substantially axially aligned; means, including said firing channel, being operable to conduct the combustion gases produced by the firing of said igniting charge freely over the entire length of said firing channel to substantially instantaneously ignite said propellant charge along substantially the entire internal surface; said cartridge case having a homogeneously integral forward front wall closing the entire front end of said cartridge case; said front wall having a homogeneously integral central ring means extending axially inwardly and telescopically engaged with tubular propellant charge for preventing transverse movement of the forward portion of said propellant charge; a readily destructible tubular wall engaging said tubular propellant charge along substantially its entire inside surface; said tubular wall being telescopically engaged with said ring means.

3,340,810

COMBUSTIBLE MEANS FOR REMOTELY ARMING GRENADES

Vincent J. Di Paola, Elkton, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 14, 1965, Ser. No. 472,065
6 Claims. (Cl. 102-64)

2. In combination with a grenade including a container having a main charge therein, a plug secured in said container, a booster charge in said plug, a firing mechanism

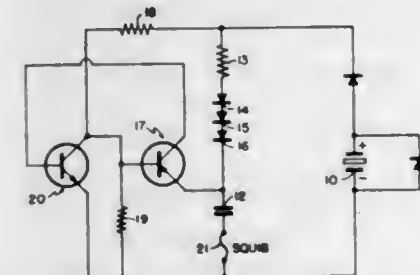
associated with said plug for firing said booster charge and a spring biased arming handle pivoted on said plug and normally rendering said firing mechanism inoperative; a means for remotely releasing said arming handle to permit functioning of said firing mechanism com-



prising a length of pyrotechnic wire having one of its ends inserted through said plug and said arming handle, said pyrotechnic wire, when ignited, adapted to burn throughout its entire length to release said arming handle to initiate operation of said firing mechanism.

3,340,811

PIEZOELECTRIC DELAYED SQUIB INITIATOR
Godfrey R. Gauld, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,713
5 Claims. (Cl. 102-70.2)



4. The combination of a transistorized electronic switching means adapted to be forward biased into conductivity and reverse biased into nonconductivity; a piezoelectric generator adapted to be charged to provide a voltage of predetermined polarity; a first biasing circuit for intercoupling the piezoelectric generator and the switching means in such a manner that, when the generator is charged, the switching means is reverse biased into nonconductivity; a second biasing circuit comprising a chain of diodes and a storage capacitor for intercoupling the generator and the switching means in such a way that, as the generator discharges the capacitor is charged by the generator to forward bias the switching means in a conductive direction; the switching means becoming conductive when the charge on the generator drops so low that the forward bias exceeds the reverse bias; the storage capacitor being connected in a discharge path with the switching means whereby it discharges as the switching means becomes conductive.

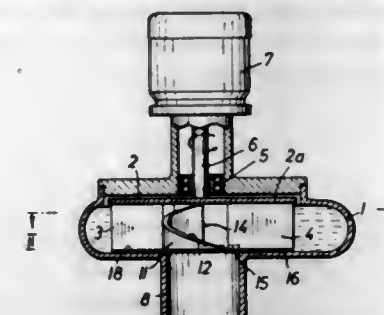
3,340,812

CENTRIFUGAL PUMP

Klaus Schlesiger, Murlenbach, Eifel, Germany, assignor to Schlesiger & Co. K.G., Cologne, Sulz, Germany
Filed June 29, 1965, Ser. No. 468,024
Claims priority, application Germany, July 1, 1964, F 43,318
11 Claims. (Cl. 103-103)

1. A centrifugal pump comprising a housing, said housing including an inlet and an outlet, a rotor journaled for

rotation in said housing, at least one vane carried by said rotor, said inlet including a generally tubular hollow cylindrical extension projecting into said housing toward said rotor, said at least one vane being rotatable about

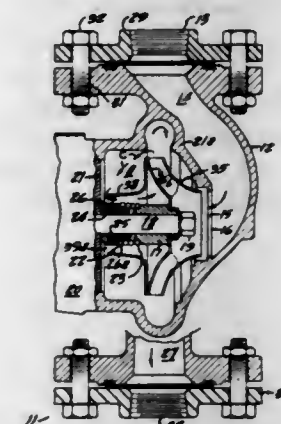


said extension, said extension terminating at an innermost circumferentially inclined cutting edge, and a portion of said extension adjacent said outlet being relieved to provide substantially unrestricted flow of a liquid from said inlet to said outlet.

3,340,813

CENTRIFUGAL PUMPS

Jack Keyes, Glencoe, Ill., assignor to International Telephone and Telegraph Corporation
Filed June 11, 1965, Ser. No. 463,259
8 Claims. (Cl. 103-111)



1. In a centrifugal pump, said pump including a casing having a liquid inlet leading to a suction passage and a pressure chamber leading to a liquid outlet, said casing having wall structure bordering and defining a seal cavity communicating with said pressure chamber, with said wall structure having a central shaft opening, a rotatable shaft projecting through said opening and seal cavity and carrying an impeller for rotation in said casing to draw liquid through said suction passage and discharge it into said pressure chamber, a seal assembly in said seal cavity including rotatable seal ring means encircling said shaft to provide a seal across said central shaft opening of said wall structure, and said impeller comprising rear shroud means for forming a passageway through which said liquid in said seal cavity is forcibly circulated contiguous to said seal ring means, said passageway extending over said seal assembly to the pressure chamber.

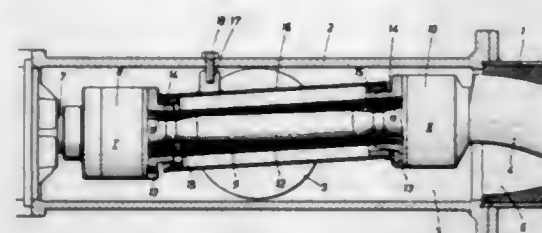
3,340,814

PROTECTION DEVICES FOR THE DRIVE CONNECTION OF AN ECCENTRIC WORM PUMP

Max Strelcher, Wangen, Germany, assignor of fifty percent to Oskar Seidl, Munich, Germany
Filed Jan. 3, 1967, Ser. No. 606,869
Claims priority, application Germany, Nov. 4, 1966, St 26,078
22 Claims. (Cl. 103-117)

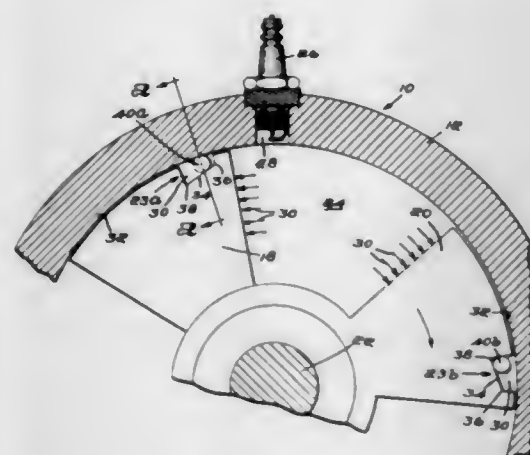
1. A protection device for a driving connection in the suction housing of an eccentric worm pump, comprising a housing, a stator of an eccentric worm pump connected with said housing,

a rotor operatively connected with said stator, said housing defining at least one cylindrical suction chamber, a drive shaft disposed in said housing, a first coupling permitting an angular motion, a link shaft operatively connected at one of its ends with said first coupling,



a second coupling permitting an angular motion and operatively connected with the other of the ends of said link shaft, a protection tube disposed in said housing, means for supporting said protection tube in said housing, thereby preventing rotation of said protection tube, and said protection tube covering at least said link shaft.

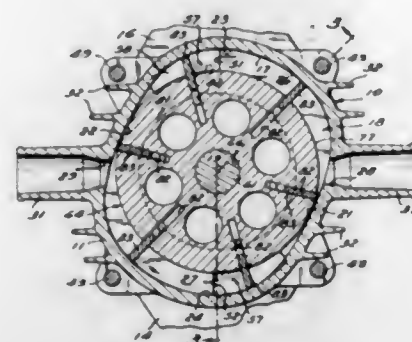
3,340,815
CLUTCH DEVICE
Edmond L. Sinnott, 2103 Ocean St.,
Marshfield, Mass. 02050
Filed Oct. 13, 1966, Ser. No. 586,447
2 Claims. (Cl. 103-129)



1. For use with a rotary engine having a plurality of pistons mounted for rotation about a common axis within an annular chamber, said chamber having at least one circular wall surrounding said axis, means carried by each piston for preventing rotation thereof in one direction without impeding rotation of said piston in the opposite direction, said means comprising: a groove in the surface of said piston opening towards said circular wall, said groove extending in a direction parallel to said common axis across the full width of said piston, the bottom of said groove sloping downwardly in said one direction from a shallow end to an opposite end of increased depth, and locking means extending the entire length of said groove and movably positioned therein, said locking means being adapted for wedged engagement between the bottom of said groove and said circular wall when said piston exhibits a tendency to rotate in said one direction, the said wedged engagement being sufficient to prevent piston rotation in said one direction while at the same time providing an effective seal between the bottom of said groove and said circular wall.

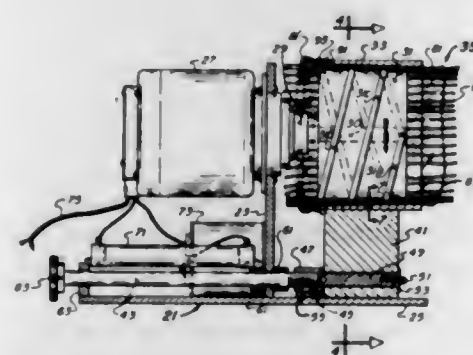
3,340,816
VANE PUMP OR MOTOR
Hiralal V. Patel, Cleveland, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 11, 1965, Ser. No. 494,602
11 Claims. (Cl. 103-136)



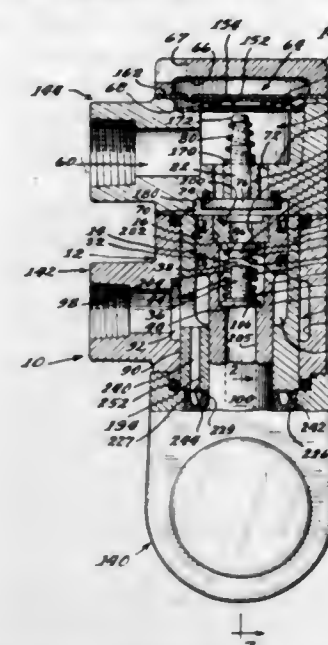
1. A vane pump comprising a stator having a peripheral wall and opposed end walls defining a rotor chamber, a rotor journaled in said stator for rotation about an axis, a cylindrical recess in each end wall co-axial with said axis each having a radius less than the minimum spacing between said peripheral wall and said axis, said rotor being formed with end projections closely fitting said recesses with clearance sufficiently small to prevent substantial fluid flow therebetween, a plurality of axial slots having inner walls spaced from said axis a distance less than the radius of said recesses, said slots projecting beyond said end walls, a vane in each slot closely fitting said end walls and said peripheral wall and extending inwardly past the walls of said recesses in all rotor positions, and an inlet and outlet open to said chamber.

3,340,817
PUMP
Gustave W. Kemnitz, 2744 NE. 16th Ave.,
Portland, Oreg. 97212
Filed Oct. 18, 1965, Ser. No. 497,316
11 Claims. (Cl. 103-149)



1. A pump comprising: a rotor having a helix, a housing surrounding said rotor, a tube manifold of sleeve form disposed between the housing and rotor, said tube manifold including plural flexible wall tubes extending at least generally in the same direction as that of the axis of said rotor and adapted to receive fluid to be handled, said helix being disposed in compressed relationship with respect to said tubes so that upon rotation of said rotor, said tubes are progressively collapsed by said helix in an axial direction to cause fluid therein to flow therethrough.

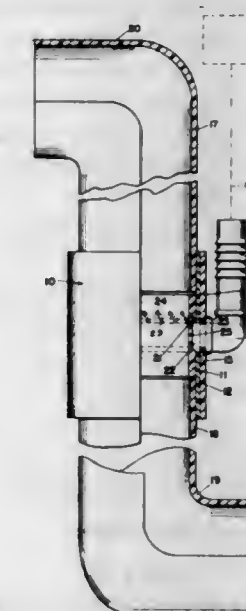
3,340,818
RECIPROCATING PLUNGER TYPE PUMP
Ernest H. Schanzlin, Olympia Fields, Ill., assignor to Tuthill Pump Company, a corporation of Illinois
Filed June 28, 1965, Ser. No. 467,636
3 Claims. (Cl. 103-178)



1. A reciprocating plunger pump comprising: a housing defining a cylinder, a piston reciprocally mounted in said cylinder and defining a head end at one end thereof and a crank end at the other end thereof, drive means coupled with said piston crank end for reciprocating same, said piston being formed to define a valve chamber, said piston head end being ported to define an inlet to said valve chamber, check valve means cooperating with said piston head inlet to preclude liquid flow from said valve chamber on movement of said piston in the direction of its said crank end, said check valve means comprising: a valve seat formed in said piston in circumambient relation about said piston head inlet and lying in a plane extending transversely of the path of reciprocating movement of said piston, a check valve member received in said valve chamber and positioned in alignment with said valve seat, and means for resiliently biasing said valve member into engagement with said valve seat, said piston being formed to define outlet port means in communication with said valve chamber, said housing being formed to define inlet and outlet conduit means in communication with said piston inlet port and said piston outlet port means, respectively, said housing inlet conduit means including check valve means for precluding fluid flow therethrough upstream thereof on movement of said piston in the direction of its head, and stop means carried by said piston and cooperating with said piston valve member to limit unseating movement of said piston valve member in opposition to said biasing means thereof, said housing check valve means comprising: a planar valve seat and a planar valve member cooperating in check valve relation with same and being disposed in planes that extend transversely of said path of said piston, means for resiliently biasing said housing check valve means valve member against its said seat, said housing check valve means valve member being positioned to be disposed in juxtaposition to said piston head end at the change of direction position

of said piston when at the head end of said cylinder, whereby a minimum clearance volume is provided at said piston head when said piston is in said change of direction position thereby providing minimum fluid to be acted on when the pump is to be started, said housing comprising: a center section including said cylinder, said center section defining said outlet conduit means, a head end section removably secured to the head end of said center section, said head end section defining said inlet conduit means and carrying said housing check valve means and separating from said center section at the head end of said cylinder, and a crank end section secured to the crank end of said center section, said crank end section carrying said drive means and separating from said center section at the crank end of said cylinder, said head end and said center sections of said housing being formed to provide multiple position assembly of same with respect to each other and said crank end section about the central axis of said piston, in full pump operating relation.

3,340,819
COUPLING AND PUMP COMBINATION
Robert D. Allen, 379 Niles-Cortland Road SE.,
Warren, Ohio 44484
Filed Mar. 28, 1966, Ser. No. 537,890
2 Claims. (Cl. 103-232)



1. A coupling for hollow tubing comprising, a hollow tubular body having a first end and a second end, means on each end of said body for attaching a pipe, an annular closed channel in said body extending around said body, connecting means for connecting a source of compressed air to said channel, and spaced bores in said body spaced around the inner periphery of said body connecting said channel with the hollow in said body, said bores extending from said channel toward said first end and inclined in circumferential direction whereby said air may be directed from said channel into said coupling in a spiral path, said coupling being constructed of a hollow cylindrical outside member, two cylindrical spaced spacers are eutectically joined and disposed in said outside member spaced from

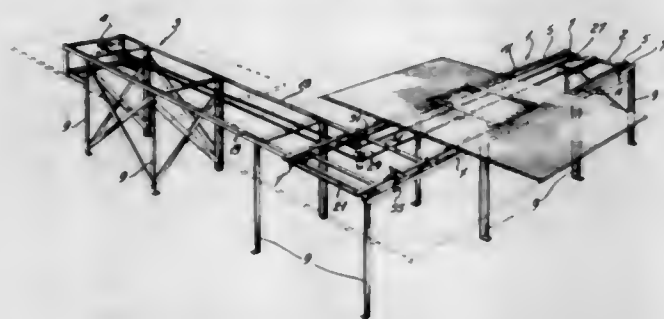
each other and sealingly engaging the inside surface of said outside member, and a hollow cylindrical central member is disposed inside said spacers, the outside peripheral surface of said central member being sealed to the inside periphery of said spacers, said central member, said spacers, and said outside member defining said annular closed channel.

3,340,820

CONVEYOR SYSTEM

Joseph O. Polsson, Victoriaville, Quebec, Canada, assignor to Victoriaville Furniture Limited, Victoriaville, Quebec, Canada

Filed May 13, 1965, Ser. No. 455,482
11 Claims. (Cl. 104-48)



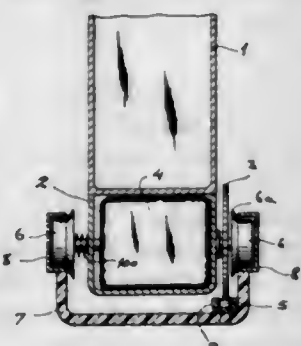
1. A conveyor system comprising:
 - (a) first and second trackways meeting at an angle;
 - (b) a first carrier mounted for movement on and axially of said first trackway;
 - (c) a second carrier mounted for movement on and axially of said second trackway;
 - (d) guide means on said second carrier for guiding said first carrier when the latter leaves said first trackway and said second carrier is at the junction of said trackways whereby said first carrier is then carried by said second carrier;
 - (e) a travelling belt beneath said first and second trackways;
 - (f) a guiding wheel around which said belt is trained as it changes from one trackway to the other;
 - (g) means connecting said belt to said first carrier to cause displacement thereof;
 - (h) said wheel so located as to cause winding of said connecting means only after said first carrier has completely left said first trackway.

3,340,821

TRANSPORTATION SYSTEM

Erich Wesener, Gotthardstrasse 150, Munich-Laim, Germany

Filed Mar. 29, 1965, Ser. No. 443,714
Claims priority, application France, Mar. 28, 1964, 969,134, Patent 1,389,245
19 Claims. (Cl. 104-88)



1. In a transportation system, in combination: a rail-forming track comprising a pair of longitudinally extending parallel conductors;

at least one carriage displaceable along said track, said carriage including a motor and contact means engageable with said conductors for energizing said motor; branching means on said track including a movable track section having a normal position and an off-normal position, said track further including a first fixed section leading to said movable section, a second fixed section continuing beyond said movable section and aligned therewith in said normal position thereof, and a third fixed section aligned with said movable section in said off-normal position thereof;

mechanism for displacing said movable section between said normal and said off-normal position; control means for selectively actuating said mechanism during presence of said carriage on said movable section;

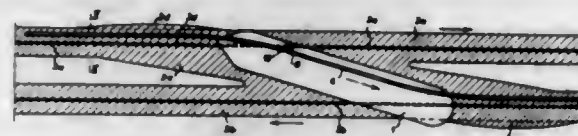
and switch means responsive to said control means for de-energizing said movable section in its normal position immediately prior to operation of said mechanism and for re-energizing said movable section upon arrival thereof in its off-normal position whereby said carriage is actuated to move onto said third fixed section.

3,340,822

TRACK SWITCHING DEVICE FOR AIR CUSHION VEHICLES

Louis Marie Francis Delasalle, Paris, France, assignor, by mesne assignments, to Societe d'Etudes de l'Aerotrain Plaisir, Seine et Oise, France, a corporation of France

Filed June 1, 1965, Ser. No. 460,411
Claims priority, application France, June 4, 1964, 977,109
20 Claims. (Cl. 104-130)



1. In a track system for a ground effect machine, having at least two distinct sections for guiding said machine therealong, a device for switching said machine from one such section to the other, comprising an interconnecting track portion extending between and merging with said sections, said track portion comprising a bearing surface for said machine, and a groove formed on said bearing surface and designed for accommodating a guide member carried by said machine and engaging said groove during a marshalling operation.

3,340,823

CARRIER FOR A LAUNDRY SYSTEM

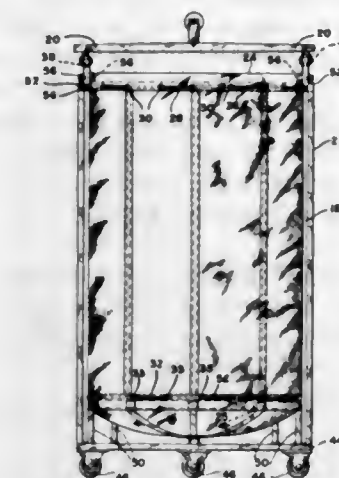
Lee R. Kemberling, Brookfield, Wis., assignor to Ludell Mfg. Co., Milwaukee, Wis.

Filed June 2, 1965, Ser. No. 460,805
5 Claims. (Cl. 105-148)

1. A carrier for a laundry system comprising a pair of endless rings, a bag-like portion of flexible material suspended from one of said rings, said bag being open at both ends with the upper opening being held open by said one of said rings, the other of said rings being secured to the lower end of said bag-like portion a spaced distance from the lower end of said bag-like portion, belt means for closing the end of the bag-like portion extending below said other of said rings, and a number of elastic members interconnecting said rings,

said elastic members having a contracted length less than the length of the bag-like portion between the

defining a discharge aperture at the bottom thereof, said means communicating with said opening, cream inlet openings in said hollow member and arranged lateral thereto, a first compressed air inlet at the top thereof and a second compressed air inlet which opens near said discharge aperture and valve means controlling said first and said second compressed air inlets, said discharge aperture and said cream inlet openings.



two rings and an expanded length greater than the length of the bag-like portion between the rings.

3,340,824

SANDWICHING MACHINES

Richard C. Talbot, Skokie, Ill., assignor to Peters Machinery Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 23, 1965, Ser. No. 481,611
6 Claims. (Cl. 107-1)



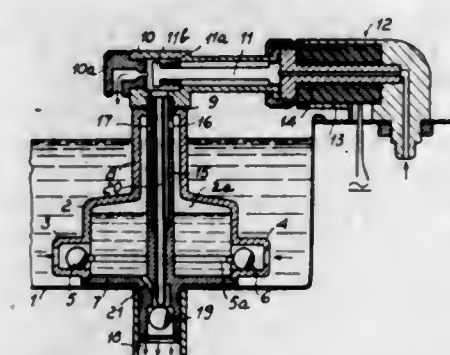
1. In an improvement for sandwiching machines, the combination with a creme delivery tube and a stencil tube rotatable thereon and having a pair of stencils receiving creme from said creme delivery tube; of valve means for said stencils comprising a valve insert in said creme delivery tube for each stencil and each having a discharge port for alignment with a port in the delivery tube during creme depositing operations, and means for directing creme entering one end of said creme delivery tube to a space substantially midway between said discharge ports and then toward said discharge ports.

3,340,825

MIXING-METERING DEVICE FOR ICE-CREAMS

Adriano Bombardieri, Vicola San Benedetto 2, Azzano, Italy

Filed Dec. 22, 1965, Ser. No. 515,645
Claims priority, application Italy, Dec. 28, 1964, 27,569/64
7 Claims. (Cl. 107-31)



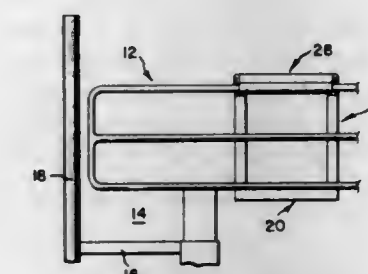
1. A mixing-metering device for introducing air into creams to be frozen for obtaining soft ice-creams, comprising a basin to be filled with cream, an opening in said basin, a hollow member in said basin and defining a metering chamber, said hollow member having means

3,340,826

BED TRAY

Sigvald T. Jenssen, Jr., 2933 Maple Drive, Fairfax, Va. 22030

Filed June 30, 1966, Ser. No. 561,897
2 Claims. (Cl. 108-49)



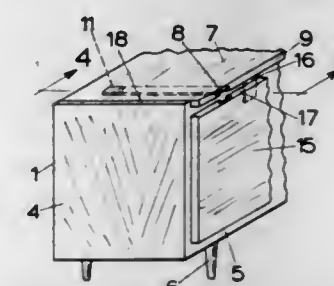
1. A tray for a hospital bed of the type having a side rail which may tilt in the vertical plane of the rail to assume different elevation angles, said tray comprising a unitary frame having depending side members and having a hook extending transversely along the top and turned downwardly to embrace a corresponding transverse member of the rail at one side thereof in order to suspend the tray therefrom with said side members of the frame engaging the other side of the rail, said frame having means for clamping the frame to the rail to prevent sliding of the frame along the rail when the rail is tilted, a shelf, means for pivotally supporting the shelf upon the frame for tilting movement in the said vertical plane relative to said frame in order to maintain the shelf horizontal as the rail and frame are tilted, and means for releasably fixing the angular position of the shelf relative to the frame.

3,340,827

COMBINATION CREDENZA AND TABLE

Antonina Sims, 31 49th Ave., Lachine, Quebec, Canada

Filed Apr. 4, 1966, Ser. No. 548,341
2 Claims. (Cl. 108-77)



1. An article of furniture comprising an elongated body having front and back faces, a first top panel co-extensive with said body and supported by the latter at the level of a conventional table top, the underside of said first top panel having spaced parallel dovetailed grooves running perpendicular to the long axis of said body, a bar secured to said body longitudinally thereof extending just underneath said first top panel, dovetailed guiding blocks secured on top of said bar and slidably engaging said grooves respectively for guiding said top panel for movement in its own plane transversely of the longitudinal axis

of said body between a retracted position in which said top panel registers with said body and an advanced position in which said top panel protrudes from the front face of said body, said guiding blocks also retaining said panel on said body, said grooves terminating short of the front edge of said first top panel and extending towards the rear edge of said first top panel, abutting members secured to said first top panel near the rear edge of the latter and extending within said grooves, said guiding blocks abutting against the ends of said grooves in the retracted position of said first top panel to determine said retracted position and abutting against said abutment members in the advanced position of said first top panel to determine said advanced position, and a second panel hinged along an edge thereof to the rear edge of said first top panel for pivotal movement in a vertical plane between a horizontal position and a vertical position, said second panel in its horizontal position forming an extension of said first top panel and supported by said body when said first top panel is in advanced position, said second panel allowed to take its vertical position along the back face of said body in the retracted position of said first top panel.

3,340,828

PORTABLE SEAT

Roy J. Smith, 324 Inwood Drive, Fairmount, N.Y. 13219, and James E. Togni, 210 Huron St., Solvay, N.Y. 13209

Filed Mar. 1, 1966, Ser. No. 530,986
2 Claims. (Cl. 108—135)



1. A seat adapted for support from a tree or the like, comprising a back frame having upper and lower spaced transverse rigid bars and vertical side frame members, said lower bar being adapted to bear against a tree trunk at approximately seat height, and said upper bar being of substantially uniform section and having a pair of rings freely slidable along the length thereof, and a strap including a buckle having its ends secured to said rings, said strap being adapted to extend around an upstanding support object such as a tree, a seat frame having side members pivotally attached to the lower ends of said side frame members, flexible links connecting the upper ends of said side frame members with the seat side members, and a foldable seat cover slung from said seat frame.

3,340,829

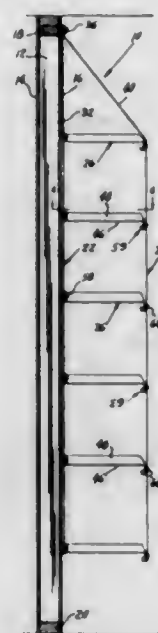
SUSPENDED SHELVE

Donald G. Palmer, 6649 Steiner Drive, Sacramento, Calif. 95823

Filed May 31, 1966, Ser. No. 554,042
3 Claims. (Cl. 108—149)

1. A shelving unit for suspending attachment to a wall comprising:
at least a pair of horizontally spaced vertical back hangers for juxtaposition to a wall and having a plurality of vertically spaced female connecting means;
a vertical upwardly projecting extension integral with the upper end of each of the back hangers for attachment to the wall;

at least a pair of front hangers, substantially the same length as the back hangers, spaced from and aligned with the back hangers;
a diagonal strut, integral with the upper end of each of the front hangers and juxtaposed to the extension, for securement to the wall with the back hanger;
means for securing the strut and the extension of each pair of aligned front and back hangers together for securement to the wall, the securing means constituting the sole connection between the shelving unit and the wall;
a plurality of vertically spaced horizontal shelves including male connecting means registering with the female connecting means securing the shelves to the back hangers; and wherein
the back hangers include a straight member having



transverse slots each communicating with a tongue receiving recess;
the shelves include

a load supporting bottom wall;
an upstanding rear face abutting the back hangers;
a top face, extending from the top of the rear face toward the back hangers, having a pair of spaced slots receiving the sides of the back hanger; and
a tongue, constituting the male connecting means, extending downwardly from the top face between the slots into register with the tongue receiving recess; and
means securing each shelf to the front hanger.

3,340,830

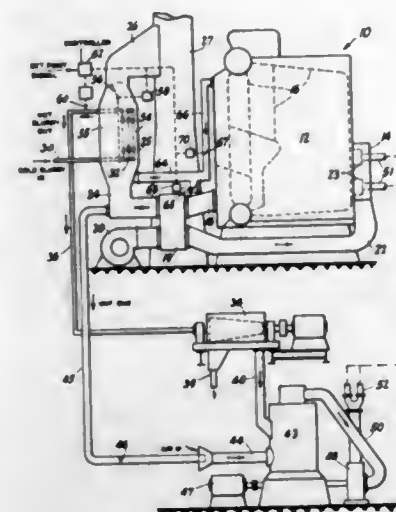
DRYING AND BURNING PIPELINE COAL IN A HEAT EXCHANGE SYSTEM

Donald J. Frey, Hazardville, James Jonakin, Simsbury, and Virgilus Z. Caracristi, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed May 4, 1966, Ser. No. 547,474
9 Claims. (Cl. 110—7)

1. In combination a steam generator having a furnace, and an adjoining offtake passage forming combustion gas path; a centrifuge receiving a coal slurry for dewatering said slurry; means for delivering the dewatered coal to said furnace for burning therein and for the generation of hot combustion gases flowing through said passage along said gas path; first and second heat exchange means located in said gas path for absorbing heat from said gases and for cooling said gases; means located in one portion of said gas path for heating said coal slurry; means for

conducting the relatively cold coal slurry through said slurry heating means for heating and for further cooling said gases; means for flowing said heated slurry from said



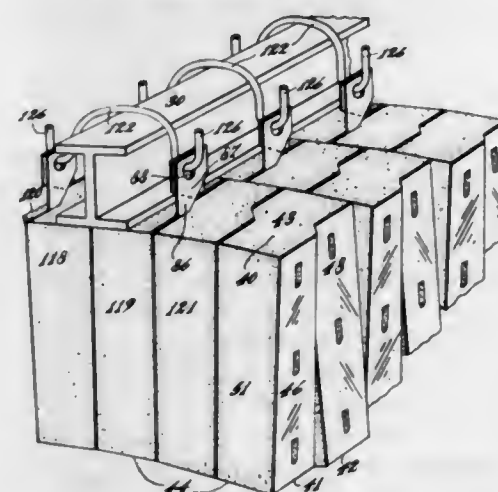
heating means to said centrifuge for dewatering and for delivery of the dewatered coal to said furnace as aforesaid.

3,340,831

SUSPENDED REFRACTORY CONSTRUCTION

Joseph L. Stein, Cherry Hill, N.J., and Milton H. Koene-man, Paoli, Pa., assignors to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 9, 1965, Ser. No. 462,643
6 Claims. (Cl. 110—99)



1. In a refractory arch: spaced skewbacks; refractory brick extending between said skewbacks in transverse rows in arch form and supported at least partially on the skewbacks; an overhead supporting structure; beams supported from said overhead supporting structure and extending above said arch form rows in a longitudinal direction which is transverse to the rows of bricks; said beams being suspended in parallel relationship and spaced radially from one another adjacent to and in contact with the cold face of the brick arch; said transverse rows including interlocking refractory brick, each of said interlocking refractory brick having integral half-sections displaced with respect to each other longitudinally of the arch; said half-sections including a first half-section having two opposed radial faces slightly converging toward one another in a first direction, and a second half-section having two opposed radial faces slightly converging toward one another in a second direction displaced from said first direction, the half-sections forming a generally X-shape wherein the first half-section forms one arm of the X and the second half-section forms the other arm of the X; some of said interlocking brick adjacent said beam having first hangers extending from the brick; and hanger means extending from the beams and in engagement with the first hanger means on the brick; wherein

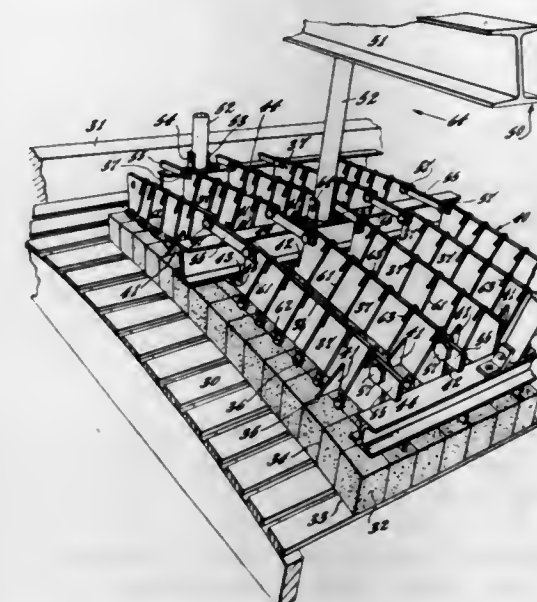
said interlocking refractory brick in said transverse rows includes first brick in fixed hold-down and hold-up relationship with said beams, and second brick interlocked with said first brick and held in a hold-down and hold-up relationship in the arch from the first brick.

3,340,832

REFRACTORY ROOF AND METHOD

Chester E. Grigsby, Penn Wynne, Pa., assignor to General Refractories Company, a corporation of Pennsylvania

Filed Apr. 22, 1966, Ser. No. 544,618
23 Claims. (Cl. 110—99)



1. A refractory furnace roof having a plurality of basic refractory brick arranged side by side, each having a hot end and a cold end and including brick having hanger attachments at the cold ends, ferrous metal corset plates in sets extending transversely of the roof, each set including corset plates in prolongation of one another, in contact with and terminating at the cold ends of the brick and extending above the cold ends of the brick generally at right angles thereto, the corset plates having a height at right angles to the cold ends at least six times their thickness, ferrous metal supporting structure including longitudinal hold-down beams above the cold ends of the brick, fastenings from the ends of the corset plates to the beams to support the corset plates, and hangers from the corset plates to the hanger attachments, in which the corset plates at their opposed ends and remote from the cold ends of the brick have recesses, and the beams extend through the recesses engaging the bottoms thereof and are thereby spaced from the cold ends of the brick.

3,340,833

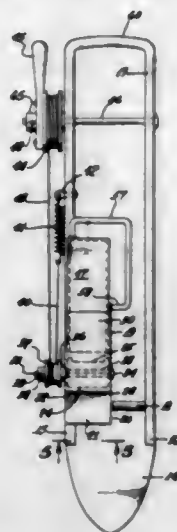
FERTILIZER DISPENSER FOR A DIGGER

Clancy B. Ford, 16901 Schoolcraft St., Van Nuys, Calif. 91406

Filed Aug. 26, 1964, Ser. No. 392,104
4 Claims. (Cl. 111—95)

1. Fertilizer and like dispensing digger device comprising an elongated frame, a shovel-like blade secured widthwise to the end-section of the frame and protruding lengthwise therefrom, a foot rest connected to said blade having access thereto above the blade, a receptacle for a container having an opening for receiving the latter and being secured above an upper edge of said blade and having a funnel-like section extending downwardly beyond said edge, said section having a funnel-like opening widthwise parallel and substantially adjacent to a section of the blade side, a cylinder having braced end-sides and being rotatably held within the receptacle above its fun-

nel-like section and being parallel to said blade upper edge and of length and diameter adapted for forming a substantially closed bottom above said receptacle section, an open and substantially wide slot lengthwise through the cylinder wall fully above the cylinder axis, means for turning the cylinder to a first position where its slot faces upwardly within the receptacle, means for turning the cylinder to a second position where its slot faces downwardly towards said funnel-like section and opening, a container being removably inserted into the

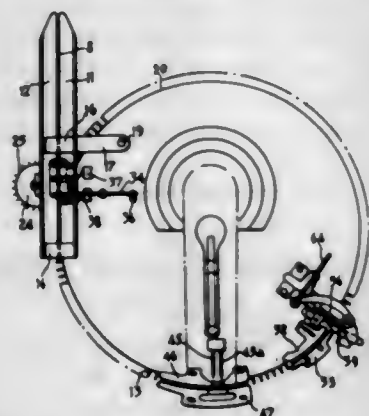


receptacle, stop means for keeping the bottom wall of the container from coming in contact with the cylinder, a substantially wide opening in the bottom wall of said container facing the cylinder when said container is inserted into the receptacle, a door-like means in the container for closing said opening, a handle means for pulling the container from the receptacle and for handling the container pitcher-like when removed from receptacle for reloading fertilizer or the like from a separate bag, box, pile and like.

3,340,834 METHOD OF AND APPARATUS FOR KNITTING AND LINKING ARTICLES OF WEAR

Giuseppe Rosso, Turin, and Mario Protasoni, Gallarate, Varese, Italy, assignors to said Giuseppe Rosso, Turin, Italy, and Calzificio Fratelli Protasoni Società di Fatto di Mario e Trento Protasoni, Gallarate, Varese, Italy

Filed Mar. 30, 1964, Ser. No. 355,557
Claims priority, application Italy, Apr. 9, 1963,
7,160/63; May 31, 1963, 11,569/63
11 Claims. (Cl. 112-25)



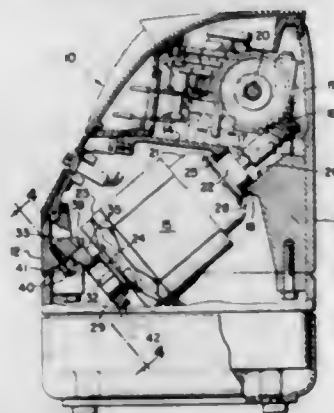
1. Method of manufacturing stockings, comprising the following steps:

- knitting a stocking on a circular or straight bar knitting machine having at least a foot portion and knitting at the toe region of said foot portion a linking course followed by at least one additional course of stitches;
- knitting at least one course of wales following said additional course of stitches to provide the stocking with an upstanding circular rib on the fabric surface;

- flattening the toe region of the stocking in order to superpose the half portions of said circular rib on each other;
- guiding said flattened toe region of the stocking by means of said rib tangentially of the periphery of a rotary linking dial carrying the points on a linking machine, while maintaining said rib at a level such that the stitches in the linking course are flush with the points on the linking dial and impaling said stitches in the linking course on said points; and
- closing the toe of the stocking suspended from the points on the linking dial by employing the devices for seaming the stocking with which the linking machine is equipped.

3,340,835 SEWING MACHINE MOTOR MOUNTS

Albert N. Cook, Madison, and Ronald R. Thompson, Pluckemin, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 1, 1965, Ser. No. 492,253
4 Claims. (Cl. 112-220)



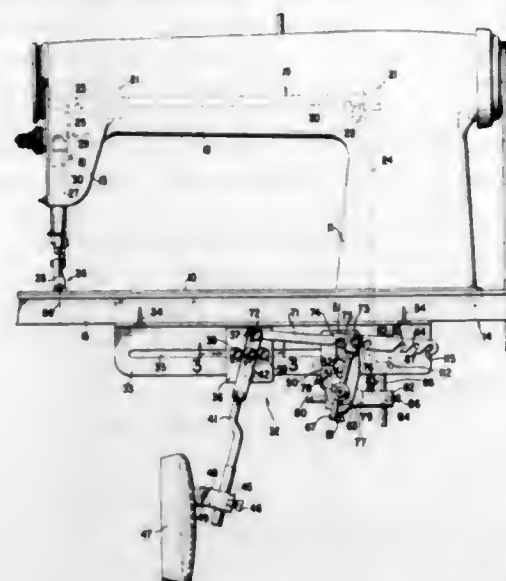
1. Apparatus for removably supporting an electric motor within the frame casting of a sewing machine having a vertical front wall, a vertical rear wall and a horizontal platform therebetween comprising a rearwardly and downwardly inclined portion of said horizontal platform joining said rear wall and having a cylindrical aperture formed therein, a rearwardly and upwardly inclined portion of said front wall extending normally toward said downwardly inclined portion and having an open semi-cylindrical seat formed therein coaxially with said cylindrical aperture, a first flanged resilient bushing received in said cylindrical aperture, a bracket having an inner cylindrical aperture and an outer peripheral portion formed coaxially with said inner cylindrical aperture, said outer peripheral portion being received on said open semi-cylindrical seat, means removably securing said bracket on said seat, and a second flanged resilient bushing received in said inner cylindrical aperture, said first and second resilient bushings adapted to seat cylindrical end hubs of a motor shaft.

3,340,836 KNEE SHIFT MECHANISMS FOR SEWING MACHINES

Gregory Goebel, Morris Plains, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 15, 1965, Ser. No. 496,387
10 Claims. (Cl. 112-237)

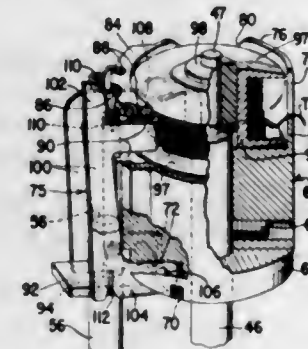
1. A knee shift mechanism for a sewing machine having an intermittently operated mechanism, a knee shift lever, a knee pad connected to the knee shift lever, and pivot means for the knee shift lever, said knee shift mechanism comprising means for mounting the pivot means, means for changing the location of the pivot means vertically, means for changing the location of the pivot means horizontally, and means for connecting the knee shift lever

to the intermittently operated mechanism so that the arc through which the knee pad must be swung to operate the



3,340,837 NEEDLE THREAD SUPPLY FOR SEWING MACHINES

Ralph E. Johnson, Boonton, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 19, 1966, Ser. No. 587,905
4 Claims. (Cl. 112-254)



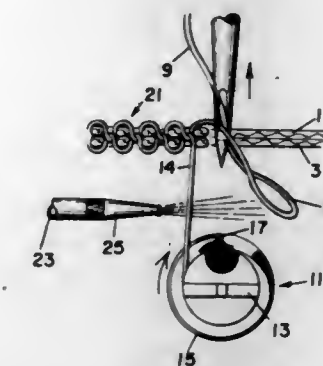
1. In a sewing machine having a frame including a bed, a standard rising from the bed, a hollow bracket arm overhanging said bed and secured to said standard, a head formed at the end of said bracket arm and stitch forming mechanism including a needle-bar and a needle carried by said needle-bar, said needle-bar being mounted in said head for endwise reciprocation, means for rotatably mounting a thread wound bobbin on said needle-bar, said means including a bobbin receiving cup having a bobbin-receiving end, said bobbin receiving cup being removably mounted upon the upper portion of said needle-bar, and a spring biased thread tension unit, means pivotally mounting said thread tension unit on said bobbin receiving cup, whereby said bobbin receiving cup provides a support for the thread wound bobbin and said thread tension device and said bobbin receiving cup and thread tension device reciprocate with said needle-bar.

3,340,838 STITCH PREVENTING METHOD AND ATTACH- MENT FOR A SEWING MACHINE

Jullus W. Morris, 202 Fort St., Nashville, N.C. 27856
Filed Sept. 10, 1965, Ser. No. 486,353
9 Claims. (Cl. 112-262)

9. A method for use with a sewing machine for displacing the entire loop of needle carried thread from the

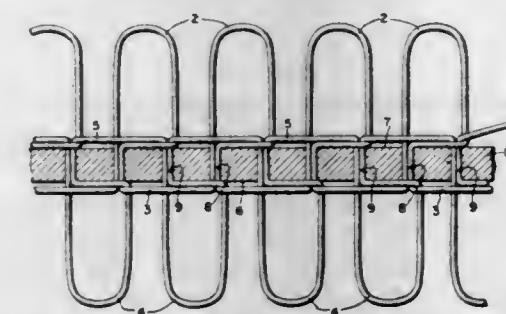
path of movement of a movable loop snaring means adapted to snare the loop and cause the underthread to thread through the loop to form a stitch, comprising the steps of operating a vacuum pump to create a suction, connecting said vacuum to a nozzle directed toward the



loop to create a displacing suction in the area of the loop, causing the creation of the suction at the nozzle to displace said entire loop from the path of said loop snaring means at the period when it is desired that the sewing machine operate without forming a stitch.

3,340,839 TUFTED FABRICS SIMULATING TERRY CLOTH

Stanley J. Ketterer, Morris Plains, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 6, 1965, Ser. No. 453,642
4 Claims. (Cl. 112-410)



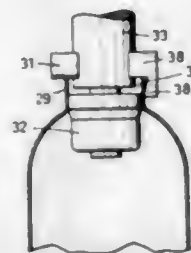
1. A tufted fabric simulating terry cloth comprising a backing fabric and pile loops extending from both faces of the backing fabric, said pile loops comprising a longitudinally arranged series of loops formed by a first yarn disposed on one face of the backing fabric and a second yarn disposed on the opposite face of the backing fabric, each of said yarns having loops projecting through said backing fabric at spaced intervals and extending freely in loose pile-like disposition from the opposite face of said backing fabric to form pile loops and each of the loops of each of said yarns extending through a loop of the other yarn before projecting through the backing fabric.

3,340,840 METHOD OF PRODUCING SEAMLESS METAL BOTTLES AND AN APPARATUS FOR CARRY- ING OUT THE METHOD

Rudolf F. Lechner, Singen, Hohentwiel, Germany, assignor to Ladoco Aktiengesellschaft, Zug, Switzerland, a corporation of Switzerland
Filed July 20, 1965, Ser. No. 473,335
2 Claims. (Cl. 113-120)

1. A method of shaping and finishing seamless metal bottles comprising the steps of:
(a) forming a cup-shaped hollow body into bottle shape having a main body portion and a neck portion; and

- (b) simultaneously moving a pair of milling cutter blades disposed at right angles to each other in a rectilinear direction for cutting the bottle neck portion

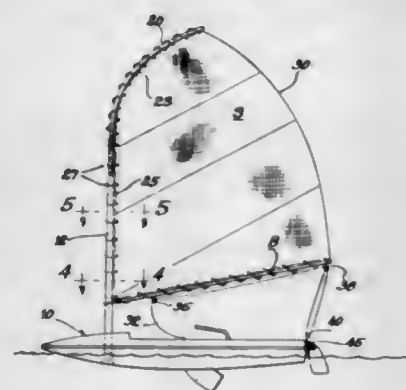


length to a predetermined size with one of said blades and for simultaneously reducing the wall thickness of the neck portion with the other of said blades.

3,340,841 SAIL RIG

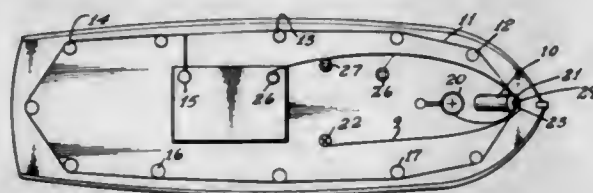
Jack H. Brazier, Fort Myers, Fla., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York

Filed Dec. 17, 1965, Ser. No. 514,497
3 Claims. (Cl. 114-39)



- In combination with a nautical craft,
 - a mast having coaxial bearing means adjacent its upper end, and
 - a gaff boom swiveled in said bearing means for rotation on the generally vertical axis of said mast, said boom extending upwardly and outwardly of said mast and supported solely on the mast,
 - said mast having a tubular portion in its upper end, and
 - said boom having a straight portion rotatably seated in said tubular portion.

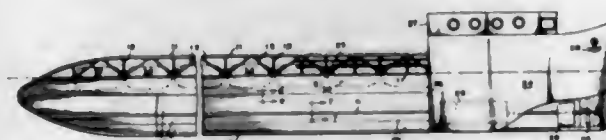
3,340,842
MARINE SAFETY SYSTEMS
Charles A. Winslow, Tiburon, Calif.
(3009 Golden Rain Road, Walnut Creek, Calif. 94529)
Filed Apr. 6, 1966, Ser. No. 540,611
10 Claims. (Cl. 114-68)



- A safety system for vessels, aircraft etc., comprising a primary high pressure gas storage tank containing pressurized fire extinguishing gas, a shut off valve on the outlet of said storage tank, the outlet of said valve connected by pipe lines to the inlet of a pressure reducing valve, the outlet of said pressure reducing valve connected by pipe line to a pipe line manifold located within

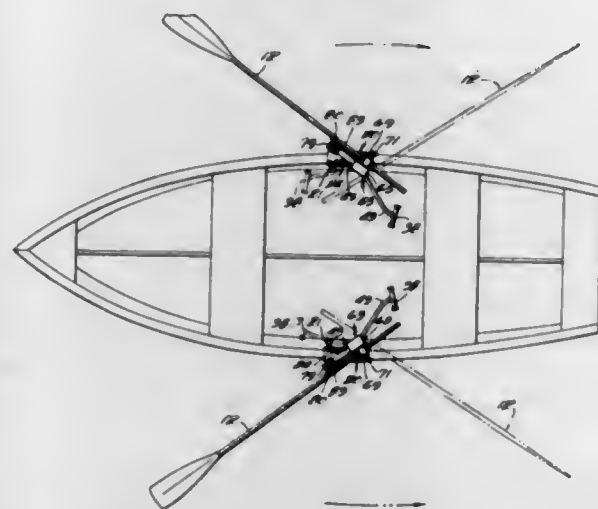
the hull or structure of said vessel or aircraft, said pipe line manifold being provided with a multiplicity of spring pressed outlet check valves, said check valve outlets being provided with normally compressed expandable plastic balloons, a manual and automatically operated means being provided to cause said shut off valve on the outlet of said primary high pressure gas storage tank to open and provide, through the pressure reducing valve a low pressure gas to safely inflate said flexible expandable balloons.

3,340,843
MEANS FOR SWEEPING PRESSURE MINES
Louis Franklin Jones, Rte. 3, Box 4350,
Panama City, Fla. 32401
Filed June 28, 1966, Ser. No. 561,141
7 Claims. (Cl. 114-68)



- A pressure mine sweeper comprising an open truss structure of interconnected tubular members, buoyant means for floating the structure in a body of water, panel sections covering and surrounding the truss structure where it extends below the water surface, said panel sections being resiliently openable, and means for moving the structure through the body of water, said covering sections collectively simulating the physical shape of a target vessel, said truss structure having recessed sides and the panel sections extending across said recesses.

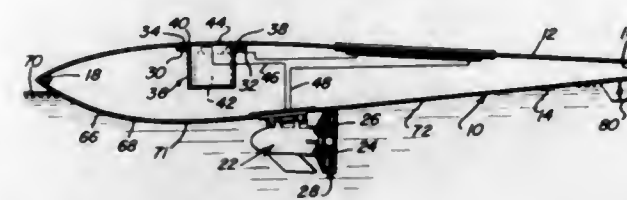
3,340,844
DEVICES FOR PROVIDING HANDY LOCOMOTION OF BOATS
Herman Fieldman, Northampton Township, Summit County, Ohio (600 Chart Road, Cuyahoga Falls, Ohio 44223)
Filed Feb. 2, 1966, Ser. No. 524,607
7 Claims. (Cl. 115-25)



- A device that facilitates the handy locomotion of a boat, by using a standard boat oar, and comprising, in combination, a rollable oar-holding means, a protrusion on said rollable oar-holding means acting substantially at right angles to the axis of said rollable oar-holding means, a mount for said rollable oar-holding means rollably attached to said rollable oar-holding means, a secondary support pivotally attached to said mount, a primary support for said secondary support being attachable to the gunwale of a boat and having means to pivotally receive said secondary support, an actuating lever having foot-rest means at one extremity and con-

necting means at the opposite extremity, said actuating lever being pivotally mounted between said extremity, said connecting means extremity of said actuating lever being operatably connected to said protrusion of said rollable oar-holding means, and means for biasing said actuating lever to return position.

3,340,845
MOTORIZED WATER BOARD
Donald P. Tyrack, 5840 Avenida la Barranca NW.,
Albuquerque, N. Mex. 87114
Filed Mar. 21, 1966, Ser. No. 535,966
2 Claims. (Cl. 115-70)



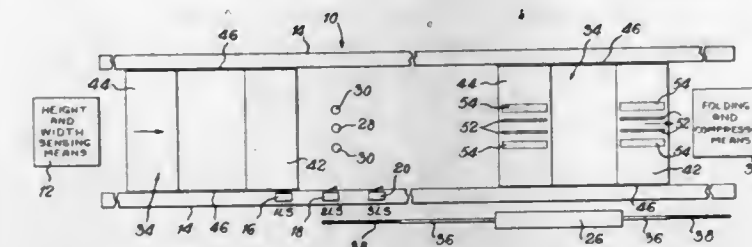
- A water board comprising an elongated body member including a longitudinally extending bottom planing surface, said planing surface being substantially transversely straight throughout substantially its entire length, said body member including a normal water line when loaded, said bottom planing surface including a forward section inclined downwardly and rearwardly from a forward end portion thereof disposed above said water line and smoothly curving rearwardly to a point at which said surface is generally horizontally disposed and then smoothly curving upwardly into a substantially straight section slightly upwardly inclined and rearwardly extending after section disposed at an angle relative to the horizontal considerably less than the inclination of a plane bisecting said forward section at said water line and said point, the rear end of said aft section terminating adjacent said water line and said body member including depending opposite side fixed rudder means adjacent said rear end of said aft section, and water propulsion means fixed to and depending from said bottom surface and disposed rearwardly of a vertical plane extending transversely of said body member and in which said point is disposed.

3,340,846
SOUND MAKING DEVICE
Joseph S. Maglera, 466 S. Falcon St.,
South Bend, Ind. 46619
Filed May 31, 1966, Ser. No. 553,919
6 Claims. (Cl. 116-67)



- A sound making device adapted to be mounted in the instep of a shoe having a sole and heel, comprising a bulbous body of flexible, resilient material with an air chamber therein, a neck extending horizontally therefrom in upwardly offset relation to the center thereof to permit said neck to lie in close proximity to the sole of the shoe, said neck having a passage therethrough communicating with said chamber, a sound making element in said passage, and a means projecting outwardly from the neck for penetrating the heel portion of the shoe adjacent the instep thereof for securing said device in the shoe instep.

3,340,847
CONTROL SYSTEMS FOR MACHINES FOR GLUE-SEALING PRODUCT-CONTAINING CASES
Joseph A. Miller, Englewood, and Frank A. Kruglinski,
North Bergen, N.J., assignors to General Corrugated Machinery Co., Inc., Palisades Park, N.J., a corporation of New Jersey
Filed Mar. 24, 1966, Ser. No. 537,241
10 Claims. (Cl. 118-2)



- A control system for a machine for glue-sealing product-containing cases wherein the cases are moved longitudinally through the machine and wherein the cases comprise a top leading flap, a top trailing flap and at least one top side flap which is in contact with the top leading flap and the top trailing flap when the case is closed and said machine includes a frame, first means for applying thermoplastic resin adhesive, second means for applying wet glue to the top leading flap and the top trailing flap and third means for controlling the actuation of the first means and the second means, comprising:

a first switch, a second switch, and a third switch placed longitudinally along the machine so as to be contacted serially by the passing cases and spaced such that all three switches may be in contact with a case at a specific time;

the first switch being normally closed and being opened when contacted by the case;

the second switch being normally open and being closed when contacted by the case;

the third switch being normally closed and being opened when contacted by the case;

electric circuit means connected to the first switch, the second switch and the third switch and to the means for controlling the actuation of the first means for applying thermoplastic resin adhesive and the second means for applying wet glue whereby:

thermoplastic resin adhesive and wet glue from the applicators selected by the third means are applied to the top leading flap when the case is simultaneously in contact with only the first switch and the second switch;

the flows of thermoplastic adhesive resin and wet glue are stopped when the case is simultaneously in contact with the first switch, the second switch and the third switch;

thermoplastic resin adhesive and wet glue from the applicators selected by the third means are applied to the top trailing flap when the case is simultaneously in contact with only the second switch and the third switch;

the flows of thermoplastic resin adhesive and wet glue are stopped when the case is in contact with only the third switch;

side rails mounted on said frame;

means for sensing the width and height of each case; means responsive to said means for sensing the width and height of each case for moving the side rails away from and toward each other;

the first switch, the second switch and the third switch being mounted on at least one of the rails and including means operatively associated with said one side rail whereby in response to movement of said one rail, relative movement is imparted to said switches so that the longitudinal spacings between the

first switch and the second switch and between the second switch and the third switch are varied in proportion with the spacing between the side rails.

3,340,848

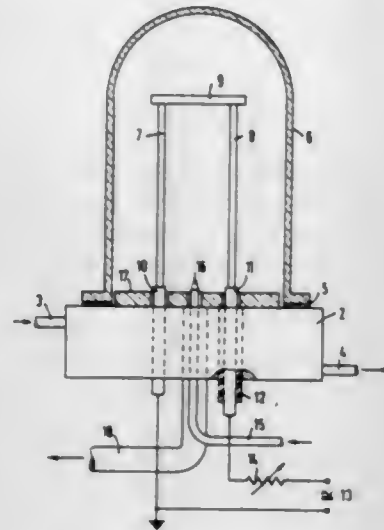
APPARATUS FOR PRODUCING PURE SEMI-CONDUCTOR MATERIAL

Arno Kersting, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed July 21, 1965, Ser. No. 473,789

Claims priority, application Germany, July 21, 1964, S 92,162

1 Claim. (Cl. 118—49.5)



In apparatus for producing pure semiconductor material by thermal dissociation and precipitation of the material, from a gaseous substance that contains the material as a component, onto precipitation carrier structure electrically heated by being traversed by electric current, and comprising a processing vessel having a base of metal with a ground planar top surface and a bell-shaped receptacle gas tightly sealed on the top surface to provide an enclosed processing chamber, the base having duct means for supply and discharge of processing gas to and from the chamber, electrically conductive holder means mounted on the base in the chamber for holding and electrically energizing the precipitation carrier structure, the receptacle consisting of material different from that of the base, and an auxiliary plate removably seated on the top surface of the base in face-to-face contact therewith and extending substantially over the entire inner cross-section of the receptacle adjacent to the top surface, the auxiliary plate having substantially the same thermal properties as the receptacle and formed with openings through which the holder means protrude and openings for the duct means, the improvement which comprises providing the auxiliary plate with a polished surface at the side thereof abutting the base plate and a rough surface at the side thereof facing the processing chamber and providing the base plate with a polished surface abutting said polished surface of the auxiliary plate.

3,340,849

BOX TAB GLUER

David Adams, 6658 N. 91st St., Milwaukee, Wis. 53224, and John Q. Adams, Stephenson, Mich. 49887

Filed Feb. 25, 1965, Ser. No. 441,951

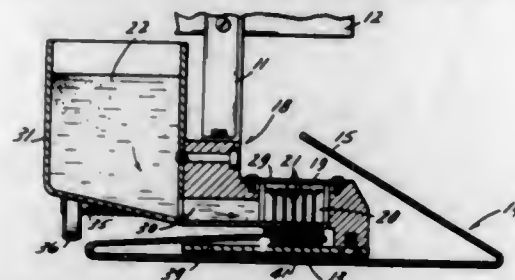
12 Claims. (Cl. 118—246)

1. A box tab gluer for a box blank having inside and outside tabs folded in said blank in overlapping relation, said gluer comprising:

a glue applying roller having a peripheral surface, a glue reservoir to which the roller is exposed to pick up glue therefrom,

said reservoir comprising means to spread and support said tabs in spaced apart relation as glue is applied to one of said tabs, guide means for guiding one of said box tabs against said peripheral surface of said roller, said reservoir having:

a doctor blade substantially closing the space between said reservoir and the peripheral surface along a first line at one side of the roller, and a wall portion spaced from the peripheral surface along a second line at another side of the roller to leave a gap between the wall por-



tion and the peripheral surface of the roller along said second line, said first and second lines being spaced arcuately around the periphery of said roller, means to fill said reservoir with glue and including a source of hydrostatic pressure for the glue in the reservoir to tend to cause said glue to flow through said gap, and power means to rotate the periphery of said roller toward said gap to develop sufficient back pressure in the glue in said gap to counteract said hydrostatic pressure and preclude glue flow through said gap.

3,340,850

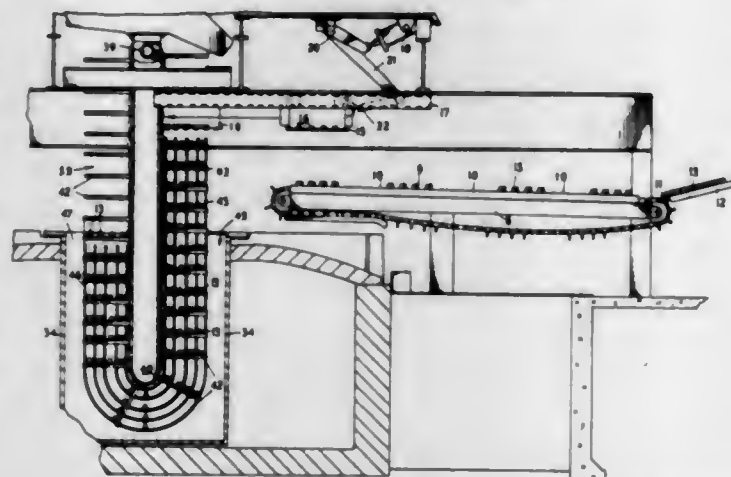
APPARATUS FOR CONTINUOUSLY CONVEYING TUBES THROUGH A HOT GALVANISING BATH

Leonard Tom Elliott, Dudley, New South Wales, Australia, assignor to Stewarts and Lloyds (Australia) Pty. Limited, Mayfield, New South Wales, Australia, a company of Victoria

Filed Jan. 7, 1965, Ser. No. 424,076

Claims priority, application Australia, Jan. 14, 1964, 39,736/64

10 Claims. (Cl. 118—423)



1. Apparatus for continuously conveying tubes through a hot galvanising bath housed in a support structure and provided with heating means for the bath, said apparatus comprising a pick-up conveyor located substantially horizontally externally of the bath and at right angles to the bath, said pick-up conveyor having fixed thereon equally spaced groups of equally spaced tube pick-up fingers arranged to pick up gangs of tubes from a delivery device and convey said tubes to an immersion conveyor arranged to travel vertically through the bath, said immersion conveyor having equally spaced arms projecting therefrom

to receive said gangs of tubes, at least two groups of J guides juxtaposed the arms of the immersion conveyor and arranged to form speed tube guideways through the bath, means mounted on a frame adjacent the immersion conveyor to lift and transfer in separate gangs in sequence tubes from the pick-up conveyor to the immersion conveyor at the inlet side of the bath, means mounted on a support structure and located in juxtaposition to the outlet side of the bath to remove the gangs of tubes from the immersion conveyor and means to operate the several conveyors, the lifting and transfer means and the tube removing means in a timed sequence.

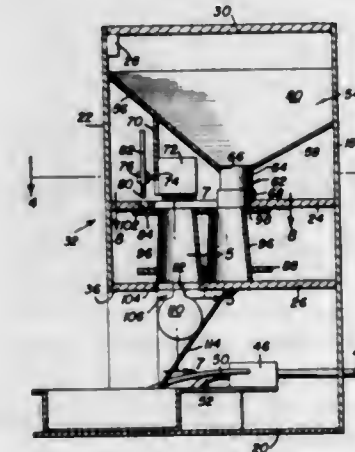
3,340,851

AUTOMATIC PET FEEDER

Hugo Frank, Rancho Cordova, Calif. (5417 Carmen Way, Sacramento, Calif. 95822), and Rocco J. Logozzo, Rancho Cordova, Calif. 95670

Filed Jan. 21, 1966, Ser. No. 534,561

1 Claim. (Cl. 119—51.13)



An automatic food storage and dispensing device for animals comprising a cabinet, a feeding station disposed at one side of said cabinet, a food hopper disposed in the upper portion of said cabinet, a pair of parallel spaced apart walls horizontally disposed in said cabinet below said hopper, outlet means disposed between said hopper and the upper of said walls for conveying food from said hopper, means rotatably mounted on the lower of said walls for receiving food from said outlet means, and conveying means in said lower wall for selectively conveying food through said lower wall to said feeding station, said receiving means comprising a plurality of upstanding hollow members mounted on a table, said table being rotatably mounted on said lower wall, means in said cabinet for rotating said table whereby successive ones of said hollow members will register with said outlet means and thus be filled with food from said hopper, the conveying means in said lower wall comprising, an aperture in said lower wall, gate means pivotally mounted in said aperture for selectively opening said aperture in response to movement of said hollow members by said means for rotating said table whereby food will be dispensed through said aperture from successive ones of said hollow members to said feeding station.

3,340,852

SELF-MAINTAINING POULTRY WATERER SYSTEM

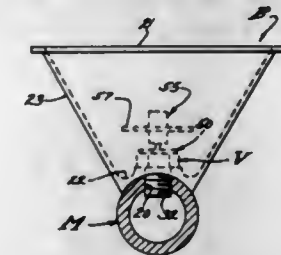
Norman P. Nilsen, P.O. Box 33, Phelan, Calif. 92371

Filed Jan. 12, 1966, Ser. No. 520,205

9 Claims. (Cl. 119—75)

1. A self-maintaining poultry waterer for dispensing water from a constant pressure supply thereof and comprising, an upwardly open vessel having a side wall of substantial vertical extent for the containment of a water level therein and having a bottom ported for the recep-

tion of water, and valve means for controlling the admission of water into the vessel through said ported bottom and including, a valve body at said bottom extending upwardly into said vessel and spaced from said side wall and having a downwardly faced valve seat therein above said bottom of the vessel surrounding a discharge port into said vessel, said valve seat terminating substantially adjacent a top portion of the valve body, a valve pin extended into the body loosely through said port, there



being an annular valve seal carried on the lower end of the valve pin and biased by said constant pressure supply into engagement with the valve seat to close the port, and the upper end of the valve pin being exposed and adapted to be displaced laterally by the poultry thereby to misalign the valve pin and pivoting one peripheral side of the valve seal on the valve seat and lifting the other peripheral side of the valve seal so as to admit water to the vessel through said port.

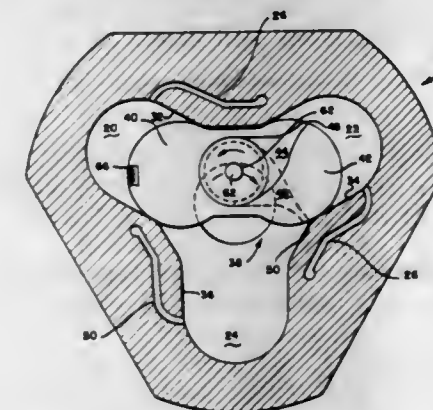
3,340,853

ROTARY PISTON ENGINE

Edwin A. Link, 317 S. Greenfield Ave., Waukesha, Wis. 53186

Filed Apr. 1, 1965, Ser. No. 444,559

12 Claims. (Cl. 123—8)



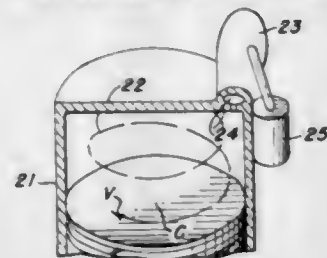
1. A rotary piston device comprising a housing member having a number of identically shaped chambers, each of said chambers having sidewalls and parallel planar endwalls located a predetermined distance apart, a rotor having a number of lobes equal to one less than the number of chambers, each of said lobes having planar endwalls, at least one of said lobes having inlet and exhaust passages, said inlet passage extending through said rotor from a port substantially at the central axis of one of said endwalls of said housing to a port on one sidewall of said lobe, said exhaust passage extending through said rotor from a port substantially at the central axis of the opposite endwall of said housing to a port on the sidewall of said lobe substantially opposite said inlet port, a shaft journaled in the central axis of said housing, said rotor being drivingly connected to said shaft whereby said rotor moves a planetary type motion with respect to said housing and shaft,

said planar endwalls and said sidewalls of each of said lobes sealingly engaging the corresponding walls of said chambers as each moves into and out of the chambers.

3,340,854

TWO-CYCLE ENGINE

Berry W. Foster, Santa Monica, Calif.
(2415 Thomas Ave., Redondo Beach, Calif. 90278)
Filed Sept. 30, 1965, Ser. No. 491,527
24 Claims. (Cl. 123—32)

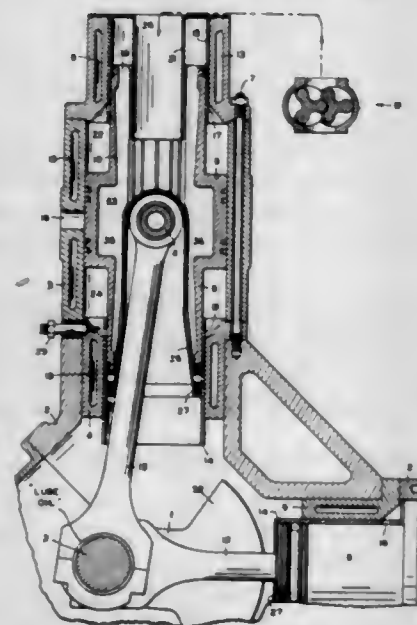


1. In a two-cycle engine having a cylinder with a head end and with sleeve exhaust ports spaced from said head end, and a piston reciprocable in said cylinder between a head-end position and a crank-end position, and fresh air-intake means, the improvement comprising a pre-combustion chamber adjacent to said head end of said cylinder with firing means and in communication with said cylinder through a nozzle located near the outer periphery of said cylinder head and directed to expel heated gases from said nozzle into said cylinder from said pre-combustion chamber in a circumferential direction, so that the heated gases create a vortex moving helically along the cylinder toward said sleeve exhaust ports while burning the cylinder gases and sending them along the helical vortex path, and flow means for enabling air to flow from said air-intake means into the center of said vortex and distant from said head.

3,340,855

DOUBLE ACTING TWO STROKE CYCLE INTERNAL COMBUSTION ENGINE

Arthur E. Brown, 117 E. 5th St.,
Corning, N.Y. 14830
Filed Aug. 16, 1965, Ser. No. 479,775
8 Claims. (Cl. 123—61)



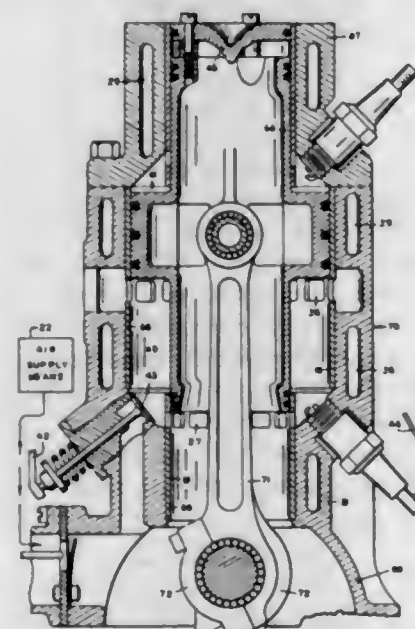
1. In a double acting two stroke cycle internal combustion engine, the combination of a crankcase, a crankshaft rotatably mounted in said crankcase, a working cylinder fastened to said crankcase, a front cylinder head and a back cylinder head fastened to said working cylinder, each cylinder head having a reduced diameter bore there-

in, a double acting working piston reciprocable in said working cylinder, a reduced diameter front valve piston and a reduced diameter back valve piston, said two valve pistons being attached to said working piston so as to form a reciprocating piston assembly, each valve piston being reciprocable in the bore of its respective cylinder head, said working cylinder having exhaust ports located in its wall, said working piston being adapted to uncover said exhaust ports near the end of each reciprocative stroke, means for supplying scavenge air, means for conducting said scavenge air through the interior of said back cylinder head, said piston assembly having a hollow interior, said piston assembly being adapted to conduct a portion of said scavenge air through its hollow interior, said working cylinder having within it an annular front working chamber and an annular back working chamber, said valve pistons being adapted to control the flow of scavenge air into said annular working chambers so as to scavenge the working chambers, each working chamber having a uniflow type scavenging operation exhausting through said exhaust ports, a connecting rod interconnecting said portion assembly and said crankshaft, said connecting rod being fastened to said piston assembly by means of an articulative joint (such as a wrist pin), said articulative joint being located within said working piston, one end of said connecting rod being located within said working piston, a reciprocating partition member located inside said piston assembly and surrounding one end of said connecting rod, said partition member being fastened to and reciprocable with said piston assembly, a seal structure reciprocable within the bore in said front cylinder head, said seal structure being fastened to said partition member, means for lubricating said crankshaft with lube oil, and said partition member and said seal structure serving as a barrier to inhibit the intermixing of said scavenge air and said lube oil.

3,340,856

DOUBLE ACTING TWO STROKE CYCLE INTERNAL COMBUSTION ENGINES

Arthur E. Brown, 117 E. 5th St.,
Corning, N.Y. 14830
Filed Oct. 18, 1965, Ser. No. 497,230
11 Claims. (Cl. 123—61)



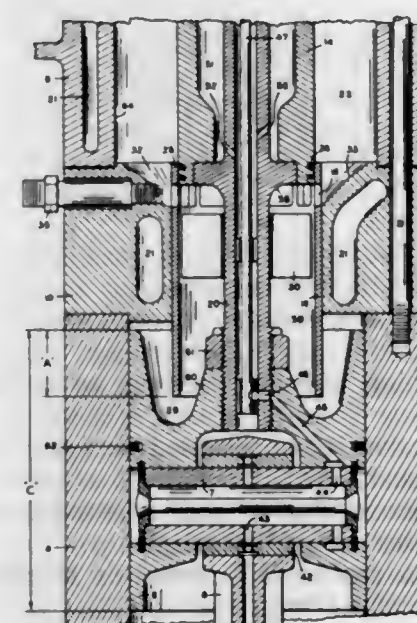
4. In a double acting two stroke cycle internal combustion engine, the combination of a crankcase, a crankshaft rotatably mounted in said crankcase, a working cylinder fastened to said crankcase, a front valve cylinder and a back valve cylinder fastened to said working cylinder, said valve cylinders being smaller in diameter than said working cylinder, a double acting working piston reciprocable in said working cylinder, a front valve piston

reciprocable in said front valve cylinder, a back valve piston reciprocable in said back valve cylinder, said valve pistons being fastened to said working piston so as to form a reciprocating piston assembly, a connecting rod interconnecting said crankshaft and said piston assembly, said working cylinder having a front working chamber and a back working chamber inside it, said working cylinder having exhaust ports located in its wall, said working piston being adapted to control said exhaust ports, means for supplying scavenge air to said engine while running double acting, each valve piston being adapted to admit scavenge air to its respective working chamber, each working chamber having a uniflow type scavenging operation exhausting through said exhaust ports, said engine being adapted to operate single acting during starting and low power operation, one of said working chambers being hereby designated chamber A and the other said working chamber being hereby designated chamber B, chamber A serving initially as a scavenge pump for supplying scavenge air to chamber B during starting and low power operation of the engine, a first valve in communication with chamber A, said first valve being closed during double acting operation of the engine, means for holding said first valve open during starting and low power operation of the engine, passage means for conducting scavenge air from said first valve to chamber B, a second valve adapted to admit air to the interior of chamber A during a stroke of said piston assembly, and said second valve serving to prevent the escape of scavenge air (to the atmosphere) during a reverse stroke of said piston assembly.

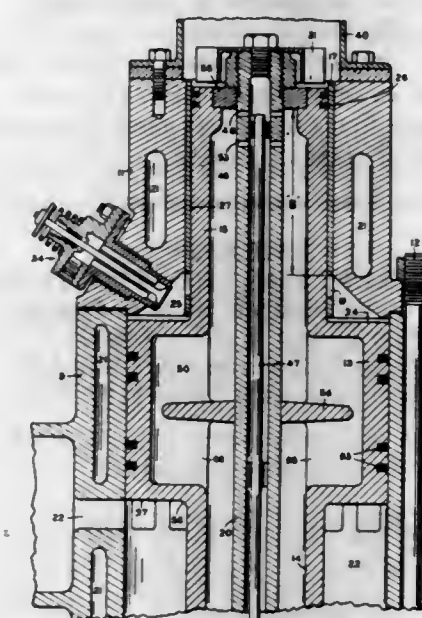
3,340,857

TWO STROKE CYCLE INTERNAL COMBUSTION ENGINE

Arthur E. Brown, 117 E. 5th St., Corning, N.Y. 14830
Filed Oct. 19, 1965, Ser. No. 497,722
9 Claims. (Cl. 123—61)



6. Reciprocating parts for use in a double acting two stroke cycle internal combustion engine comprising a working piston, a first valve piston and a second valve piston, said valve pistons being smaller in diameter than said working piston, said valve pistons being fastened one on each end of said working piston so as to form a reciprocating piston assembly, said valve pistons and said working piston being integrally cast together, said piston assembly having a hollow interior, said two valve pistons having open ends so as to provide support for a core when doing the casting job, a piston rod passing through said hollow interior, said piston rod and its appurtenances serving to close said open ends of the valve pistons, said piston rod serving to clamp said piston assembly in com-

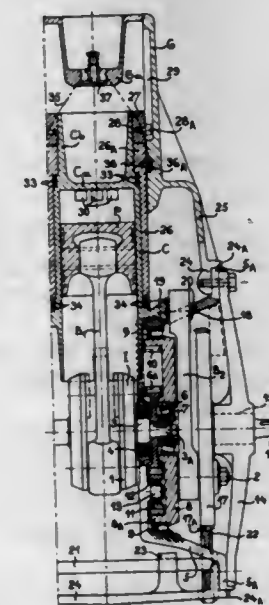


liquid coolant into the hollow interior of said piston assembly, and aperture means for conducting the liquid coolant back out of the piston assembly, said aperture means being in communication with ambient air whereby said hollow interior of the piston assembly is allowed to fill partly with liquid coolant and partly with air so as to obtain a shaking action of the liquid coolant inside the piston assembly, and said shaking action serving to provide good distribution of the liquid coolant inside the piston assembly.

3,340,858

THERMAL ENGINE

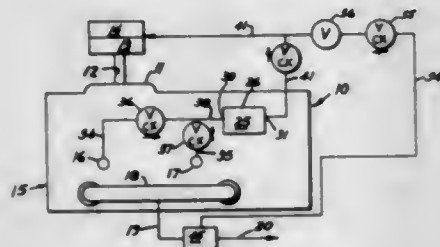
Jacques Jean-Marie Jules Gerin, 86 Ave. Victor Hugo,
Dijon, France
Filed Oct. 21, 1965, Ser. No. 500,081
Claims priority, application France, Nov. 13, 1964,
994,918
5 Claims. (Cl. 123—78)



1. A thermal engine comprising a stationary guide,

a movable cylinder closed at one end slidably mounted in said stationary guide,
 a piston slidably mounted in said movable cylinder, first and second crankshaft means having mechanically linked means to connect them to each other,
 a connecting rod connecting said piston to said first crankshaft means,
 at least one side connecting rod connecting said movable cylinder to said second crankshaft means,
 said at least one side connecting rod connected to said movable cylinder having a stroke longer than said connecting rod connected to said piston,
 said mechanically linked means connected to said first and second crankshaft means to rotate said crankshaft means in opposite directions to each other and to rotate said first crankshaft means twice as fast as said second crankshaft means.

3,340,859
ENGINE EXHAUST GAS TREATMENT SYSTEM
 Victor L. Williamson, 4834 S. Oak St.,
 Pico Rivera, Calif. 90660
 Filed June 2, 1965, Ser. No. 460,637
 6 Claims. (Cl. 123-119)



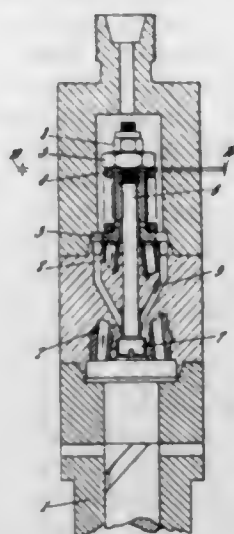
1. A combination with an internal combustion engine having an intake manifold with a manifold inlet, and an exhaust manifold, means for scrubbing gases from the exhaust manifold and returning the scrubbed gases at least in part to the intake manifold, comprising: an exhaust gas scrubber tank having a tank inlet connected to the exhaust manifold, a tank outlet discharging to atmosphere, and a bypass outlet connected to the manifold inlet, said exhaust gas scrubber tank comprising a bottom, sides and top which form a fluid tight enclosure, a plurality of baffles extending across the inside of the exhaust gas scrubber tank connecting opposite sides of the wall but spaced from the bottom to form a surge baffle, the tank inlet being on one side of the baffle, and the two outlets being on the other side thereof, the exhaust gas scrubber tank being adapted to contain liquid to a level above the bottom of the baffle, at least one of said baffles including a check valve across it which will permit liquid to flow past the baffle toward the tank inlet.

3,340,860
FUEL INJECTION PUMP VALVES
 Ernest R. Groschel and Harry Watson, Lincoln, England, assignors to Ruston & Hornsby Limited, Lincoln, England, a company of Great Britain
 Filed Apr. 19, 1965, Ser. No. 449,138
 Claims priority, application Great Britain, Apr. 25, 1964, 17,228/64
 6 Claims. (Cl. 123-139)

1. A fuel injection control valve assembly for connection between the pump and the injector of a compression ignition internal combustion engine comprising in combination:

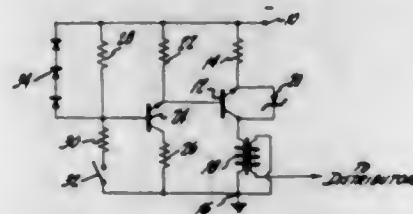
a unitary valve body including at least two fluid passageways therethrough, said passageways terminating in a pair of axially spaced oppositely facing co-axial valve seats;

a first fluid pressure actuated valve member for controlling the admission of fuel from the pump to the injector, said valve member being normally biased to sealing engagement with one of said seats;



a second fluid pressure actuated valve member for controlling the flow of fuel back from the injector to a spill space, said second valve member being normally biased into sealing engagement with the other of said seats;
 said second valve member including an elongated stem portion and said first valve member being slidably mounted on said stem.

3,340,861
TRANSISTORIZED IGNITION CIRCUIT
 Peter Schiff, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
 Filed Sept. 16, 1964, Ser. No. 396,834
 12 Claims. (Cl. 123-148)



1. A transistor circuit comprising
 (a) a pair of terminals for connection to a source of potential,
 (b) a switching transistor having an emitter and a collector,
 (c) an inductive load connected between one of said terminals and said collector,
 (d) an emitter resistor connected between said emitter and the other of said terminals,
 (e) means to render said transistor alternately non-conductive and conductive, and
 (f) means including said emitter resistor to cause said transistor to conduct in a saturated manner during the early part of current build up through the transistor and to limit the maximum current flow there-through to a predetermined operating value.

3,340,862
BOWSTRING NOCKING POINT AND METHOD OF APPLYING SAME TO BOWSTRING
 Charles A. Saunders, Box 102, Columbus, Nebr. 68601
 Filed Feb. 4, 1965, Ser. No. 430,300
 3 Claims. (Cl. 124-30)

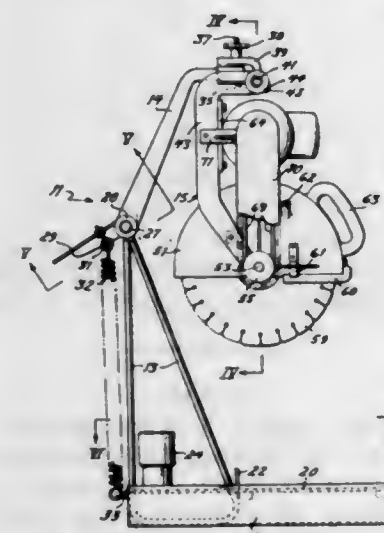
2. In an archer's bow having a bowstring the combination with said bowstring of a pair of spaced substan-

tially identical nocking points clamped annularly on said bowstring at spaced positions along the length thereof to define an arrow nock receiving area between said points, each said nocking points comprising a split annular ring consisting essentially of a compressible inner



sleeve, a metallic band extending therearound, and means bonding contacting surfaces of said inner sleeve and said metallic band to one another to provide a unitary composite structure.

3,340,863
MASONRY SAW
 Edward A. Zuzelo, 652 Broad Acres Road,
 Narberth, Pa. 19072
 Filed Sept. 8, 1964, Ser. No. 394,672
 6 Claims. (Cl. 125-14)

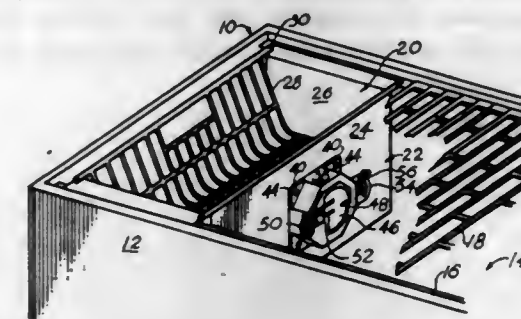


1. A portable saw for masonry or the like, comprising a base, a support upstanding therefrom, an arm pivotally mounted on the support for movement in a vertical plane and having carriage-suspending means at one end, means biasing said arm to an upper position, a generally C-shaped saw carriage freely pivotally suspended on the suspending means and depending therefrom, a rotary saw blade mounted at the lower end of the saw carriage and having a rest position directly under the locus of suspension, and blade-rotating motive means carried in the concave position of the saw carriage intermediate the locus of suspension and the saw blade so that a straight line drawn between the locus of suspension and the center of the saw blade intersects the approximate center of said motive means in all positions of said carriage.

3,340,864
SMOKE COOKING DEVICE
 William Harold Torian, P.O. Box 8041,
 Dallas, Tex. 75205
 Continuation of application Ser. No. 124,492, July 17, 1961. This application Apr. 12, 1965, Ser. No. 449,372
 8 Claims. (Cl. 126-25)

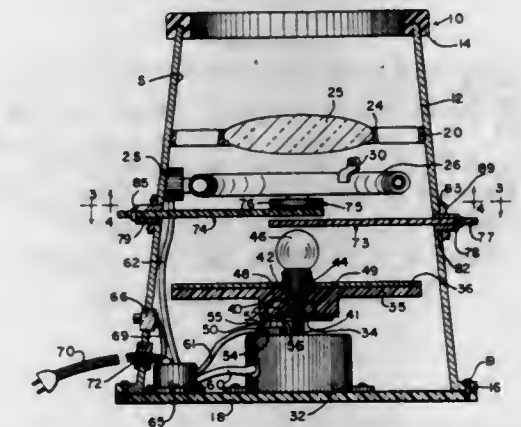
1. In combination with a closed cooker, a smoker accessory mountable inside of the cooker for smoke cook-

ing including a fire box for generating hot smoke to the interior of the closed cooker and having a large opening communicating with the cooker interior, and an auto-



matic device for controlling draft through the opening and the recirculation of hot smoke from the interior of the closed cooker to the interior of the fire box.

3,340,865
DEVICE FOR DETECTING HALO AND COLOR AURAL RADIATIONS
 Talbot H. Southwick, 79 Horatio St.,
 New York, N.Y. 10014
 Filed Dec. 7, 1964, Ser. No. 416,249
 11 Claims. (Cl. 128-1)

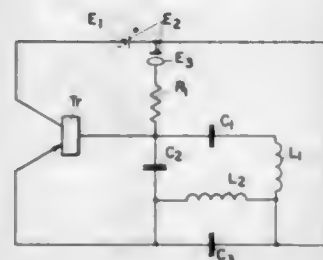


1. An optical display device for visually conditioning its operator, comprising a housing, a first lamp supported in the housing for emitting a sustained bright light, said housing having an opening at one end through which said light is visible, a second lamp in the housing for emitting ultraviolet light in a narrow band width peaking at about 3650 angstrom units, a rotatable disk in the housing, said disk having a surface exposed to the second lamp, said surface having fluorescent spots of different sizes, shapes and colors, said spots being rendered luminous when the second lamp is energized to project the ultraviolet light upon the spots, a motor rotatably supporting said disk, and circuit means connected to the first and second lamp for lighting the first lamp in one part of a timed cycle, then extinguishing the first lamp and after a predetermined time simultaneously lighting the second lamp and energizing the motor to turn said disk, said motor rotating the disk at a speed not greater than about twelve revolutions per second.

3,340,866
INGESTIBLE pH RESPONSIVE RADIO TRANSMITTER
 Hans Günter Nöller, Fasanenweg 4,
 Heidelberg, Germany
 Filed July 1, 1964, Ser. No. 379,683
 Claims priority, application Germany, Dec. 31, 1958, N 16,066
 8 Claims. (Cl. 128-2)

8. An internal radio probe for measuring hydrogen ion in the digestive tract comprising, in combination:
 (a) a transistor oscillator;

- (b) battery means for energizing said oscillator when immersed in the fluids of said digestive tract;
 (c) pH sensing means in circuit with said oscillator for varying the frequency of oscillation of said oscillator responsive to a sensed pH, said battery means and said pH sensing means each including two spaced



electrodes, one of said electrodes being common to said battery means and to said pH sensing means; and
 (d) covering means for protecting a transistor of said oscillator against said fluids, said electrodes having respective portions outside of said covering means for contact with said fluids.

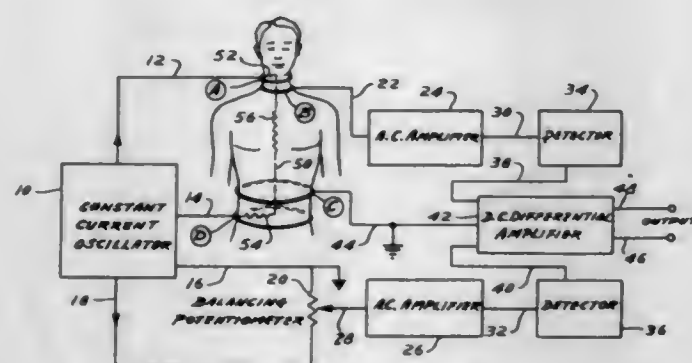
3,340,867

IMPEDANCE PLETHYSMOGRAPH

William G. Kubicek, Rosemount, Minn., Edwin Kinnen, Pittsford, N.Y., Robert P. Patterson, Minneapolis, Minn., and David A. Wiltsoe, Rochester, N.Y., assignors to the Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota

Filed Aug. 19, 1964, Ser. No. 390,555

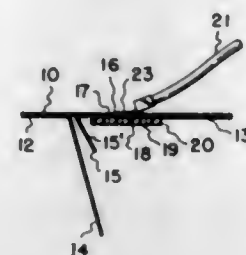
13 Claims. (Cl. 128-2.05)



1. A plethysmograph for measuring cardiac output comprising in combination excitation electrode means adapted to be connected to a mammalian subject at the superior and inferior ends of the thorax, a current generator means comprising an electronic oscillator conductively connected to the electrode means for supplying a fluctuating excitation current thereto, sensor means adapted to be conductively connected to said thorax for carrying a sensed electrical signal which varies as the impedance changes in the thorax between said electrode means, a control means conductively connected to the oscillator for balancing the current from the oscillator with the sensed signal, a first amplifier conductively connected to said sensor means whereby signals of approximately equal strength are fed to said first and second amplifiers from said control and said sensor means respectively and a voltage subtracting means conductively connected to each of the amplifiers for comparing the output of each said amplifier.

3,340,868
BODY SIGNAL PICKUP ELECTRODE
 Phillip H. Darling, Bayside, Wis., assignor to General Electric Company, a corporation of New York
 Filed Mar. 5, 1965, Ser. No. 437,477
 2 Claims. (Cl. 128-2.06)

1. An electrode for self-adhering attachment to a body comprising:



- (a) a flexible tape means having a pressure sensitive adhesive on one surface thereof and having a hole through it,
 (b) a thin metal disk adhered to the adhesive surface to cover the hole,
 (c) an electric terminal fastened to the disk through the hole,
 (d) a pliable insulating member having a plurality of holes lying within the boundary of the disk,
 (e) the insulating member being in face-to-face contact with the metal disk and being of larger size than the disk to extend beyond it and adhere at its boundary to the adhesive surface,
 (f) the said holes being adapted to receive electrolyte exclusively and thereby create a plurality of parallel conductive paths solely by way of the electrolyte between metal disk and the body surface when the electrode is adhesively attached to the body.

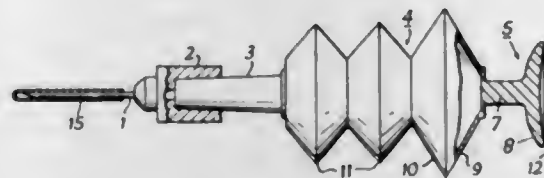
3,340,869

COLLAPSIBLE AMPOULES

Arthur Bane, 25 Thurloe Court, Fulham Road, London S.W. 3, England

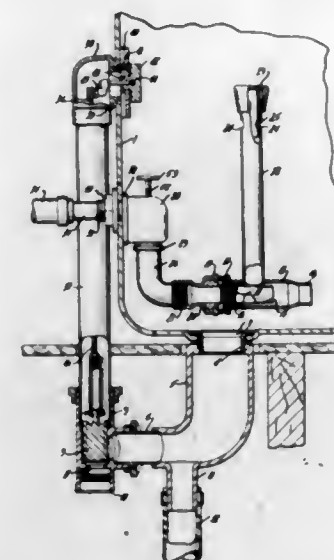
Filed July 20, 1964, Ser. No. 383,777

Claims priority, application Great Britain, Aug. 8, 1963, 31,426/63; Dec. 16, 1963, 49,677/63
 7 Claims. (Cl. 128-2)



6. An ampoule in the form of a translucent collapsible concertina-type bellows provided at one end with a mounting for a hypodermic needle, said mounting being formed with an interior duct for connecting the interior of said bellows to the interior of said needle, and at the other end with an operating stud, said bellows including a container portion located adjacent said ducted mounting and adapted to contain a predetermined quantity of a liquid medicament and a suction-producing portion located between said container portion and said operating stud and said suction-producing portion being collapsible under an axial compression force which is less than that required to collapse said container portion and having an inherent resilient bias yieldingly opposing expansion thereof after being collapsed and collapse thereof after being expanded.

3,340,870
HYDROTHERAPEUTIC BATHTUB APPARATUS WITH INLET BELOW THE OVERFLOW OPENING
 Douglas C. Steltz, 13385 Kenmar Court, Brookfield, Wis. 53005, and Richard C. Schneider, 221 W. Alta Loma Circle, Thiensville, Wis. 53092
 Filed Sept. 22, 1964, Ser. No. 398,452
 9 Claims. (Cl. 128-66)



5. A hydrotherapeutic unit, comprising a bathtub having a drain opening in the bottom surface thereof and having a waste valve control opening in the end wall of the tub, said tub having a second opening in the end wall located at a level beneath the said waste control opening, supply conduit means extending within the second opening in said tub for supplying liquid from a pump to the tub, a nozzle assembly located within the tub and connected to said supply conduit means, return conduit means communicating with the drain opening in the tub for returning water from the tub to the inlet side of the pump, drain means communicating with one of said conduit means, valve means disposed in said drain means for selectively opening and closing said drain means, a control member connected to said valve means and extending upwardly along the outer surface of the end wall of the tub and disposed in a generally vertical plane offset from a vertical plane extending through said second opening and an actuating member extending through said waste valve control opening and connected to said control member.

3,340,871

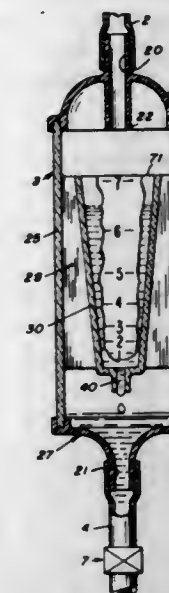
PARENTERAL LIQUID ADMINISTRATION APPARATUS

David A. Jellies, Glendale, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
 Filed Oct. 22, 1965, Ser. No. 501,739
 5 Claims. (Cl. 128-214)

1. A parenteral administration system comprising in series a parenteral-liquid container, conduit means, venous needle means, and liquid-regulator means intermediately of said conduit means, the improvement in said liquid-regulator means comprising:

an enlarged chamber having an inlet and outlet respectively connected to said conduit means, said chamber including therein a cuplike, variable head reservoir extending longitudinally between said inlet and outlet and having an enlarged open upper end and a reduced-area lower opening, means supporting said reservoir in said chamber and permitting communication between the

lower and upper ends of said reservoir to permit air cushions to be formed thereat; and

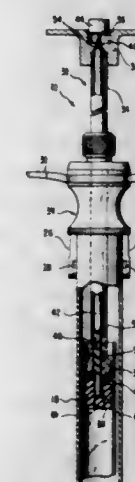


means connected to said conduit means for controlling liquid flow to said venous needle means.

3,340,872

HYPODERMIC SYRINGE WITH DISTENDABLE PISTON

Thomas S. Cox, 103 Hotel Ave., Knoxville, Tenn. 37918
 Filed Nov. 24, 1964, Ser. No. 413,552
 3 Claims. (Cl. 128-218)

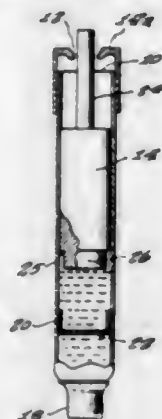


1. A hypodermic syringe comprising a tubular body member, a head portion having an opening therein and disposed proximate one end of the tubular body, means disposed proximate the other end of said body to communicate a hollow injecting needle therewith, a resilient piston plug slidably mounted within the tubular body, said plug having a distendable central portion and a generally non-distendable support therefor, a compound actuator for said piston plug extending through the opening in said head portion, said compound actuator including a first slidable stem, a finger-engaging head at one end of the stem and a plug-engaging head at the other end of said first stem, a second slidable stem mounted for limited axial movement independently of said first stem, a finger-engaging head at one end of said second stem, and said other end of the second stem adapted to engage and distend the distendable portion of the piston plug when said finger-engaging portion of the second stem is depressed.

3,340,873 COMPARTMENTED MEDICAL CONTAINER HAVING A RUPTURABLE DIAPHRAGM BETWEEN COMPARTMENTS

Ida Soloway, P.O. Box 34, Fresh Meadows Station, Flushing, N.Y. 11365

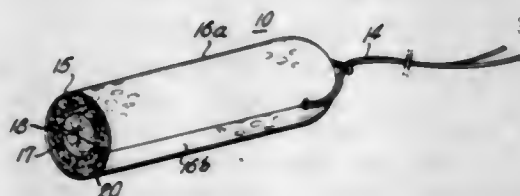
Filed May 13, 1966, Ser. No. 549,913
1 Claim. (Cl. 128—272)



A medical mixing container having upper and lower chambers sealingly separated by a thin rupturable diaphragm transversely mounted sealingly and longitudinally movable within the container, said diaphragm being in the form of an expandable cylinder having a circumferential barrel and a transverse bottom, said barrel having a portion normally spaced from the container and having an upper shoulder, in combination with a plunger longitudinally movable within one of said chambers and being contoured to fit snugly within the said chambers, including ingredients which are mixed when the diaphragm is ruptured, said plunger having surfaces adapted to sealingly engage the barrel, bottom and shoulder of the diaphragm, whereby axial movement of the plunger will first cause the barrel to expand towards the container, whereby complete engagement with the wall being then effected when the plunger has entered the cylinder to contact the barrel and snap the said portion against the container, whereby the diaphragm bottom is ruptured during the axial movement of the plunger, further movement of the plunger causing the plunger surfaces to sealingly engage the diaphragm thereby moving the diaphragm axially, including means mounted on the end of the container opposite the plunger adapted to receive a hypodermic needle and wherein the plunger extends through an open end of the container having a perforated closure wherein said closure functions as a stop to prevent complete removal of the plunger from the container.

3,340,874 TAMPON HAVING CONCENTRIC LAYERS WITH DIFFERENT PROPERTIES

Alfred A. Burgenl, Short Hills, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Sept. 8, 1964, Ser. No. 394,909
7 Claims. (Cl. 128—285)

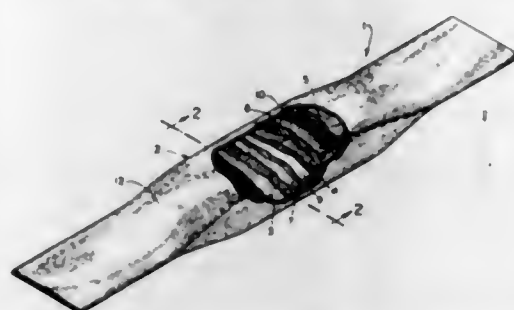


1. An absorbent tampon for absorbing body fluids, said tampon comprising an elongated cylindrical body of compressed absorbent fibrous material, said absorbent fibrous material being arranged in a plurality of sections extending lengthwise of said tampon, said sections including a substantially centrally disposed core section and at least one peripherally disposed annular section substantially surrounding said core section, said peripherally disposed

annular section consisting of fibers ranging from about 8 to about 20 denier and said centrally disposed core section consisting of fibers ranging from about 1.5 to about 8 denier.

3,340,875 DEODORIZED SANITARY NAPKIN

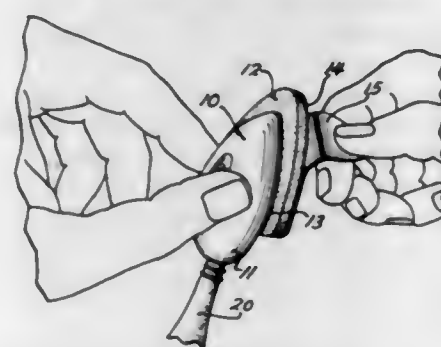
Elizabeth Dudley, Wallingford, Pa., and Lloyd I. Osipow, New York, N.Y., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1964, Ser. No. 344,268
8 Claims. (Cl. 128—290)



1. A sanitary napkin comprising an absorbent pad, a liquid-permeable wrapper therefor, and a mixture of a polycarboxylic-type ion-exchange resin and a neutral adsorbent material selected from the group consisting of activated carbon, activated alumina, activated silica, diatomaceous earth, infusorial clay and attapulgite clay in particulate form disposed upon and carried by said absorbent pad as a medium of odor control.

3,340,876 PEDIATRIC URINE COLLECTOR WITH ADHESIVE COATED ATTACHING PAD

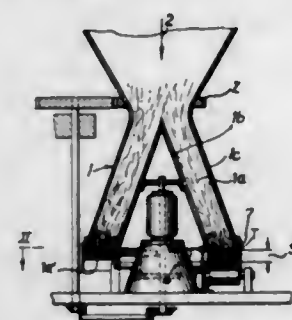
Edward J. Hill, Bloomfield Hills, Mich., assignor to Edward Weck & Company, Inc., Long Island City, N.Y., a corporation of Delaware
Filed Mar. 27, 1964, Ser. No. 355,343
8 Claims. (Cl. 128—295)



5. A pediatric urine collector comprising a self-sustaining hollow bubble element formed as a unitary molded soft plastic receptacle having sufficient stiffness to maintain its shape during intended use and adapted to receive a urine sample therein and apertured at the top thereof to accommodate the penis or vulva of an infant or small child, a resilient pliable pad fixed to the top of said bubble element having an aperture therein disposed in alignment with and for the same purpose as said aperture in said bubble element, adhesive means on said pad for removably securing the said pad to the body of the infant, and a protective element over said adhesive means stripable prior to the use of said urine collector, said resilient pad being of such thickness and flexibility as to accommodate it to the contour of the body of the infant and permit substantial movement of the infant without causing release of the urine collector from the body of the infant.

3,340,877 METHOD FOR PRODUCING A TOBACCO ROD

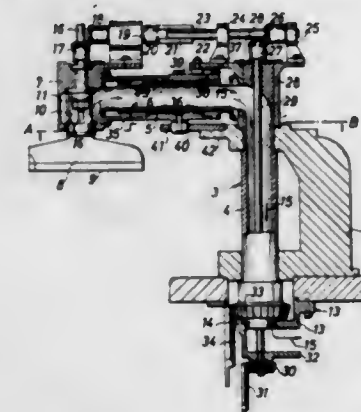
Horst Kochalski, Hamburg-Lohbrügge, Germany, assignor to Hauni-Werke, Koerber & Co. K.G., Hamburg-Bergedorf, Germany
Original application Aug. 30, 1963, Ser. No. 306,655, now Patent No. 3,298,376, dated Jan. 17, 1967. Divided and this application Oct. 23, 1965, Ser. No. 503,154
Claims priority, application Germany, July 11, 1958, H 33,783
6 Claims. (Cl. 131—84)



1. A method of forming a tobacco rod comprising the steps of forming an annular body of tobacco between a pair of smooth-surfaced revolving walls rotating about a common axis, severing a continuous rod of tobacco from said body in a plane which is substantially parallel with said common axis, and adding tobacco to the remainder of the revolving body substantially at the same rate at which the tobacco which forms the rod is removed therefrom.

3,340,878 DEVICE FOR CONVEYING THE WRAPPER IN CIGAR MANUFACTURE

Walter Pallach, Hamburg-Bergedorf, and Willi Thiele, Geesthacht-Tesperhude, Germany, assignors to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Filed May 29, 1961, Ser. No. 113,313
Claims priority, application Germany, May 28, 1960, H 39,556
19 Claims. (Cl. 131—105)



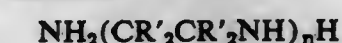
12. In a device for conveying the wrapper in cigar manufacture from a predetermined position at the point of production to another remote predetermined position where it is rolled about a cigar filler, in combination, extensible support means, a wrapper gripping head rotatably mounted on said support means for gripping a wrapper while being transferred from said point of production to the remote location where the wrapper is rolled about said filler, means for moving said extensible support means between said first named positions, rotary means including a gearing for orienting said head to different angular positions during its movement between said first named positions and means for adjusting said gearing, whereby said wrapper gripping head can be properly adjusted at the point of wrapper production to be in requisite position to receive a wrapper, in which said adjusting means com-

prises an adjustable gear member which meshes with said gearing and in which said rotary means comprises an extensible rotary drive shaft which is parallel with said extensible support means.

3,340,879 CIGARETTE FILTERS

Henry George Hornewell, Totton, and Graham Harry Rayner, Portsmouth, England, assignors to Brown & Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
No Drawing. Filed Jan. 16, 1967, Ser. No. 609,343
10 Claims. (Cl. 131—267)

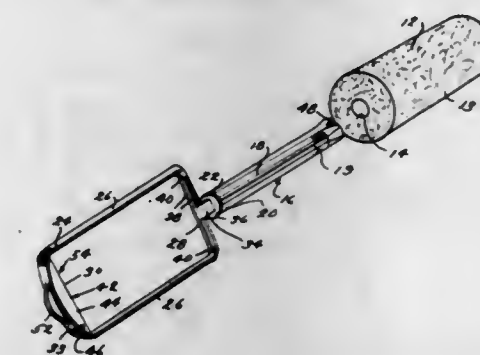
1. A tobacco smoke filter comprising fibrous tobacco smoke filter material treated with a poly(alkyleneimine) of the average formula:



where each R' is independently selected from the class consisting of hydrogen, lower alkyl radicals free of aliphatic unsaturation having from 1 to 6 carbon atoms and n is at least 13.

3,340,880 HAIR CURLER WITH NOVEL BAIL MEMBER

Claude D. Gresham and Ernest Hoffmann, Omaha, Nebr., assignors to Tip-Top Products Company, Omaha, Nebr., a corporation of Nebraska
Filed Dec. 21, 1964, Ser. No. 419,680
15 Claims. (Cl. 132—41)



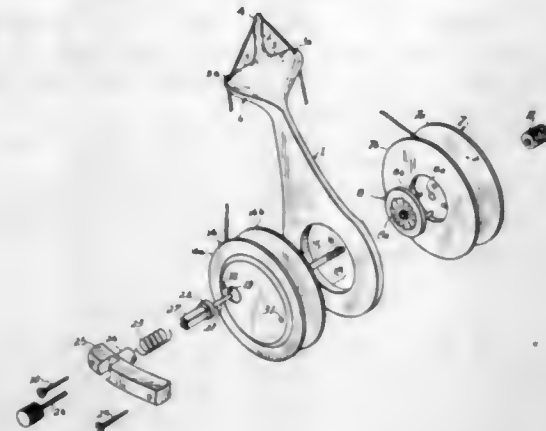
1. A non-metallic hair curler comprising: means for supporting a lock of hair; a bail operatively associated with the hair supporting means for holding the lock of hair on the hair supporting means, the bail having a first and second end; hinge means operatively connecting opposite sides of the first end of the bail to the hair supporting means and allowing the hair supporting means to be moved between an opened position disposed from the bail and a closed position within the bail, the hinge means comprising at least two substantially parallel strands disposed from each other with their ends connected to the opposite sides of the bail so that as the bail is moved between an opened and closed position the strands can be twisted with respect to each other; and locking means associated with the second end of the bail and cooperating with the hair supporting means for locking the second end of the bail to the hair supporting means after the hair is wound thereon.

3,340,881 DENTAL FLOSS HOLDER

Laverne M. Cowan, 641 Locust Circle, Covington, Ga. 30209
Filed Sept. 2, 1964, Ser. No. 393,913
6 Claims. (Cl. 132—92)

1. A dental floss holder comprising:
(A) A body having a head portion thereon,
(1) Said head portion having shoulders and a tape guide, each defining a hole therethrough,

- (a) The holes of said shoulders and tape guide being triangularly disposed in relation to each other,
 (b) Said tape guide being disposed on an angle from said head portion,
 (B) Said body supporting a reel on each side thereof,



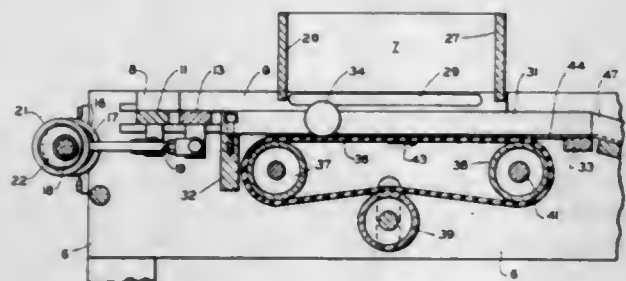
- (1) Said reels being rotatively connected to each other,
 (C) And ratchet means connected to one reel and pawl means connected to the other reel, said pawl means being spring biased to engage the ratchet whereby said reels can be rotated in unison or independently of each other.

3,340,882

COIN PACKAGING MACHINE

George B. Holmes, Oakland, and George H. Warfel, Menlo Park, Calif., assignors to Bank of America National Trust and Savings Association, San Francisco, Calif., an association of California

Filed Sept. 26, 1963, Ser. No. 311,835
 4 Claims. (Cl. 133-1)



4. A coin packaging machine comprising a frame, a plurality of orienting bars mounted on said frame for reciprocation, said bars being arranged in at least two groups and being disposed parallel to each other with spaces between adjacent bars slightly greater than the thickness of coins to be packaged, means on said frame extending beneath said spaces for supporting coins disposed above said orienting bars and having sides and ends substantially contacting said orienting bars, and means on said frame for reciprocating said groups of orienting bars in different phase relationship to each other.

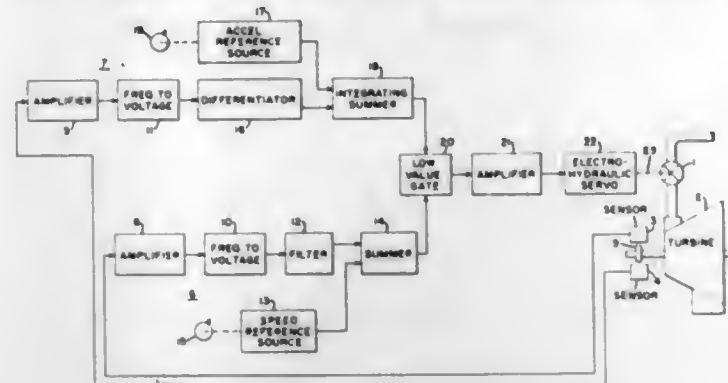
3,340,883

ACCELERATION, SPEED AND LOAD CONTROL SYSTEM WITH REDUNDANT CONTROL MEANS
 Jacob R. Peternel, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
 Filed Apr. 12, 1966, Ser. No. 542,157
 14 Claims. (Cl. 137-26)

1. In a control system for a prime mover of the type having servo means controlling the release of energy to

the prime mover in response to an electrical signal, the combination of:

- first means supplying a first electrical signal responsive to an operating condition of the prime mover and representing a deviation from a desired value of the condition,
 second means supplying a second electrical signal responsive to the time rate of change of said operating



- condition and representing a deviation from a desired rate of change of the condition,
 gating means connected to both said first and second means and arranged to continuously supply only the one of said signals to said servo means which results in the lowest release of energy to the prime mover.

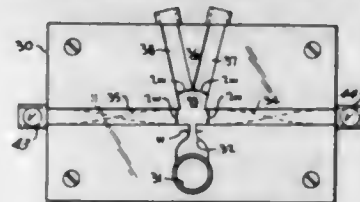
3,340,884

MULTI-CHANNEL FLUID ELEMENTS

Raymond W. Warren, McLean, Va., and Ronald E. Bowles, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Army

Original application Aug. 7, 1963, Ser. No. 300,709, now Patent No. 3,238,958. Divided and this application Oct. 29, 1965, Ser. No. 516,814

3 Claims. (Cl. 137-81.5)



1. In an organ pipe oscillator:
 (a) a fluid power nozzle having a width W,
 (b) a power fluid source connected to said power nozzle,
 (c) an interaction chamber,
 (d) said power nozzle positioned to direct power fluid into said interaction chamber,
 (e) a pair of oppositely disposed axially aligned control tubes, each of said control tubes having two ends and being of a constant cross-sectional width 2W,
 (f) one end of each of said control tubes opening into said interaction chamber, and
 (g) a pair of receiving conduits, each of width 2W, communicating with said interaction chamber.

3,340,885

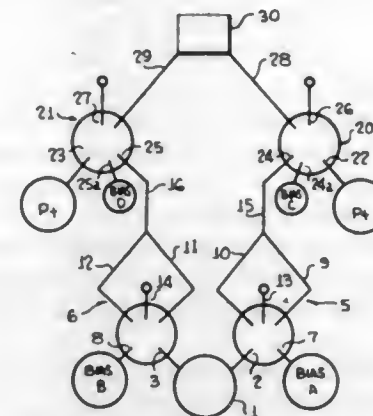
PRESSURE BAND DETECTOR

Peter Bauer, Bethesda, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed May 26, 1964, Ser. No. 370,160
 11 Claims. (Cl. 137-81.5)

8. A fluid system for detecting fluid pressure variations of an input signal comprising fluid bias means for producing a first reference pressure signal, fluid comparator

means for producing a first control signal which varies in proportion to the absolute magnitude of the pressure difference between said input and first reference signals, and



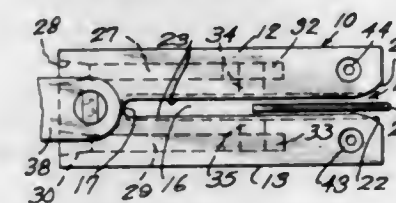
output means for producing a first output signal only and whenever said first control signal is of substantially zero pressure.

3,340,886

SANDWICH TYPE ADJUSTABLE SENSING NOZZLE

Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin

Filed Nov. 24, 1964, Ser. No. 413,428
 6 Claims. (Cl. 137-83)



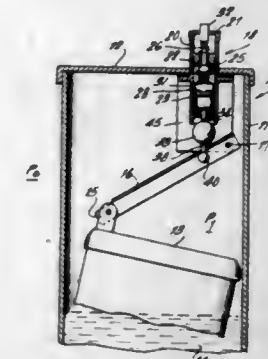
1. A web-edge sensing nozzle comprising:
 a U-shaped body member having elongated legs extending toward the open end thereof, a bight portion formed between said legs at the closed end of said body member,
 a cavity formed in each of said legs, said cavities communicating with the outer surface of said U-shaped body member through threaded passages,
 a U-shaped member having elongated legs extending toward the open end thereof and further having substantially the same size as said body member for covering said cavities in said legs of said body member, spacer means corresponding in shape to said body member and said cap member and placed between said body member and said cap member,
 at least one flute in said spacer means in one of the elongated leg portions thereof and directed inward toward the space between said elongated legs, and
 a corresponding number of flutes in said spacer means in the other elongated leg portion thereof directed inward and toward the space between said elongated legs,
 said flutes in one elongated leg of said spacer means being opposite said flutes in the other elongated leg of said spacer means.

3,340,887

AIR RELEASE VALVE ASSEMBLY
 Melville F. Peters, 29 N. Ridge Road, Livingston, N.J. 07039
 Filed Dec. 6, 1965, Ser. No. 511,782
 10 Claims. (Cl. 137-202)

1. An air release valve assembly for releasing air from a liquid system comprising, a release chamber connected to the liquid system, a float within said chamber having

an average density less than the density of the liquid, a primary valve removably secured to the valve assembly, said valve including a housing removably connected to said chamber having a first valve seat and a first movable valve member biased against said valve seat, a safety valve coupled to the float for preventing the escape of the liquid when the primary valve fails or is removed from the assembly, said safety valve including a second valve seat secured to the valve assembly between the

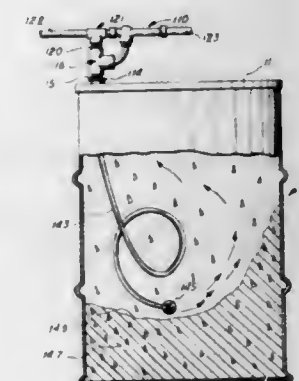


first valve seat and the chamber and a second movable valve member coupled to the float and adapted to make contact with the second valve seat after the float has been moved a predetermined distance by the liquid, lost motion connection means between the first and second valve members arranged so that after a predetermined opening of said second valve member said first valve member is opened, and means for separating the first and second valve members for permitting removal of the primary valve.

3,340,888

CHEMICAL FEEDER

Robert E. Farison, Cincinnati, Ohio, assignor, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of New York
 Original application Aug. 1, 1962, Ser. No. 214,055, now Patent No. 3,200,835, dated Aug. 17, 1965. Divided and this application July 21, 1965, Ser. No. 482,975
 4 Claims. (Cl. 137-268)



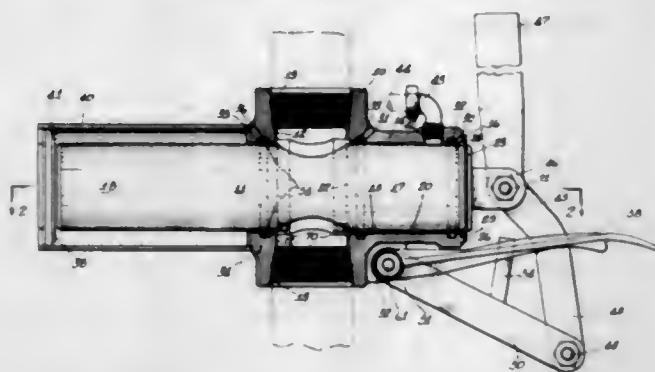
1. Apparatus for feeding a soluble chemical, said apparatus comprising a shipping container having a body and a lid, said lid having an opening formed therein, a feeding head mounted within the opening of said lid, a fluid inlet conduit connected to said feeding head, a flexible tube in communication with said inlet conduit, a weighted nozzle member mounted upon the end of said flexible tube and depending into said container, said head including a discharge port of substantially greater cross sectional area than said flexible tube, and conduit means interconnected to said discharge port.

3,340,889

PIPE-CLEANER VALVE

Armin P. Petzold, Edmonton, Alberta, Canada, assignor to Barber Machinery Co. Limited, South Edmonton, Alberta, Canada

Filed Feb. 1, 1967, Ser. No. 613,296
14 Claims. (Cl. 137-268)



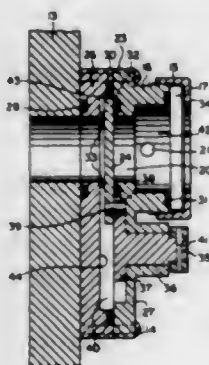
1. A pipe-cleaner valve for insertion in a pipeline, said valve comprising: a housing, said housing having a through bore for alignment with the pipeline; a tubular extension to said housing, the extension having an open outer end, and including a transverse bore extending transverse to and intercepting said through bore; a plunger movable axially in said transverse bore, the plunger including a first end portion of a dimension to provide a small annular clearance in said transverse bore, a second end portion extending through a wall of said housing opposite said transverse bore; and a bore extending through said plunger, between said end portions, and alignable with said through bore; seal means in said housing on either side of said through bore and in sealing engagement with said plunger; further seal means positioned in said tubular extension adjacent the open end thereof and sealingly engaging said plunger, means for axially displacing said plunger between a first position with said first end portion in said tubular extension, the plunger bore aligned with said through bore and said second end portion supported on the remote side of said through bore from said first end portion, and a second position with said first end portion and the plunger bore displaced out of the open end of said first tubular extension and the second end portion extending across said through bore; and pressure bleed means on said tubular extension connected to said annular clearance in the transverse bore.

3,340,890

VIEWING PORT WITH REMOVABLE WINDOW

Nicholas M. Raskhodoff, Cheverly, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 29, 1962, Ser. No. 241,081
1 Claim. (Cl. 137-315)



In combination, a valve and a removable transparent window for reviewing the inside of a vacuum or pressure chamber through a port in a side wall thereof wherein

the window may be removed and replaced while maintaining the pressure conditions within said chamber, which comprises:

- a valve body means secured to said chamber, said valve body means including upper and lower body portions with said lower body portion secured juxtaposed said chamber wall relative to said port therein,
- a passage through said upper and lower body portions in optical alignment with said port in said side wall of said chamber,
- a transparent window means,
- said transparent window means adapted to be removably mounted in said upper body portion to close an outer end of said passage in said upper body portion,
- a cut-out hollow portion within said lower portion in the surface adjacent said upper portion,
- said cut-out hollow portion extending normal to said passage through said upper and lower portions of said valve body,
- a seal means in the face of said upper portion juxtaposed said lower portion,
- said seal means surrounding said passage through said upper portion,
- passage closure means disposed within said cut-out hollow portion,
- said passage closure means mounted for movement normal to said passage through said upper and lower portion to close and to open said passage,
- means associated with said passage closure means and the surface of said lower portion juxtaposed said upper portion for forcing said closure means into a tight seal relative to the seal means in the face of said upper portion when said closure means is in a closed position relative to the passage through said upper and lower portions,
- means for moving said closure means into a closed or open position relative to said passage and said seal means whereby said transparent viewing means may be removed and replaced when said closure means is in the closed position without affecting prevailing conditions within said chamber, and
- means connected with the space confined by the passage within said upper portion for pressurizing or evacuating the space in said passage confined between said transparent window and said closure means when said closure means is in a closed position in order to remove and replace the window and subsequently opening the closure means to enable viewing of the chamber through said transparent window.

3,340,891

KEY-OPERATED NON-DRIP VALVE

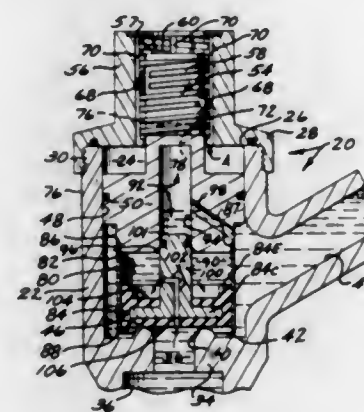
Jesus de la Garza, 1116 N. Dittman Ave.,

Los Angeles, Calif. 90063

Filed May 12, 1966, Ser. No. 549,563
12 Claims. (Cl. 137-384.2)

1. A plug-lock-cylinder-operated non-drip valve, comprising: a hollow valve housing means having inlet means and outlet means connected thereto and having a substantially cylindrical interior chamber therein provided with and controllably rotatably and axially movably receiving a controllably movable valve-actuating member having a substantially exteriorly cylindrical portion closely fitting the inside of a corresponding side wall portion of said substantially cylindrical interior chamber, said valve-actuating member being effectively provided with a rotatable plug lock cylinder and non-rotatable plug lock cylinder housing effectively fixed to and comprising an effectively unitary part of said valve housing means, with the exterior of said plug lock cylinder being provided with threads and with the interior of said plug lock cylinder housing being provided with mating threads threadedly cooperable for inwardly and outwardly advancing and re-

tracting said plug lock cylinder and said movable valve-actuating member in response to relative rotation of said plug lock cylinder within said plug lock cylinder housing in a corresponding advancement rotational direction or retraction rotational direction, said plug lock cylinder being provided with normally outwardly extended lock tumbler means, and said plug lock cylinder housing being interiorly provided with correspondingly positioned lock-tumbler-receiving locking slot means normally adapted to receive said tumbler means when normally outwardly extended from said plug lock cylinder in a manner locking said plug lock cylinder against rotation, said plug lock cylinder being effectively provided with means for use in causing the effective retraction of said lock tumbler means from said extended relationship thereof whereby to rotatively free said plug lock cylinder; effectively apertured valve seat means positioned in spaced opposition to said



valve-actuating member and defining therebetween a valve recess, said valve seat means including an inflow portion in effective communication with said inlet means, an outflow portion for communication with said outlet means, and intervening sealing means between said inflow and outflow portions; and self-compensating valve means mounted in said valve recess effectively between said valve-actuating member and said valve seat means and having a first portion effectively operable by said valve-actuating member and a second self-compensating self-adjusting sealing portion positionable adjacent to said valve seat means and being forcibly sealingly abutable with said sealing means in response to advancement movement of said valve-actuating member toward said valve seat means beyond a predetermined point and being sealingly disengageable from said sealing means in response to retraction movement of said valve-actuating member away from said valve seat means beyond a predetermined point.

3,340,892

ELECTRONIC DETECTION AND CONTROL SYSTEM

James C. Holland, 1403 N. Franklin St.,
Marshall, Tex. 75670

Filed Dec. 16, 1963, Ser. No. 330,780
7 Claims. (Cl. 137-392)

1. Apparatus for providing signals indicative of the physical extent of a flowable electrically-conductive material such as a liquid, powder, granular agglomerate or the like, comprising:

- first electrically-conductive means, and second electrically-conductive means spaced from said first electrically-conductive means;
- means for changing the accumulation of said flowable electrically-conductive material adjacent said first and second means so that said material at times bridges said first and second means and at other times fails to bridge said first and second means;
- a vacuum tube having an anode, a cathode and a control grid and capable of being controlledly changed

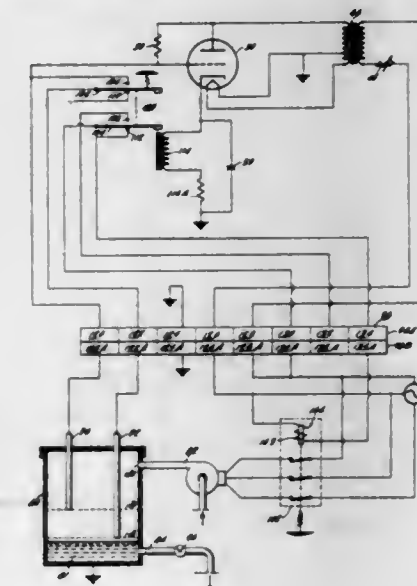
progressively and continuously between a high-conduction state and a low-conduction state by corresponding progressive and continuous variation of the grid-to-cathode voltage thereof;

relay means comprising a control coil and at least a pair of contacts having an open and a closed condition, said relay means being responsive to increases in current through said coil to a predetermined first relatively-higher value to operate said pair of contacts to one of said conditions and responsive to decreases in said current to a predetermined relatively-lower second value to operate said pair of contacts to the other of said conditions;

a source of reference potential;

direct-current conductive circuit means connecting said control coil between said cathode and said source of reference potential;

means conductively connecting one of said first and second means to said source of reference potential and the other of said first and second means to said grid, whereby the potential of said grid is held sub-



stantially at said reference potential when said electrically-conductive material bridges said first and second means;

said direct-current conductive circuit and said coil having a resistance sufficient to produce a cathode self-bias which reduces said current through said coil to said second relatively-lower value, for which said contacts are operated to the other of said conditions thereof, when said material bridges said first and second means and causes said grid to be held substantially at said reference potential;

resistive means for applying alternating voltage from said source to said grid in a magnitude large enough to increase said current through said coil to said predetermined first relatively-higher value, despite the self-biasing effect of said coil resistance, so long as said conductive material fails to bridge said first and second means; and

means connected to said contacts of said relay means for producing different electrical signals when said contacts are in said open condition than when they are in said closed conditions.

3,340,893

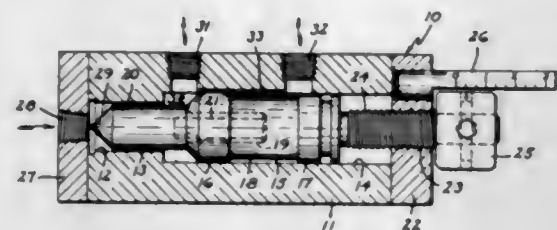
THROTTLE

George H. Lockwood, Fort Lauderdale, Fla., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Nov. 20, 1964, Ser. No. 412,608
6 Claims. (Cl. 137-468)

1. A throttle, comprising
(a) a main body having a passage,

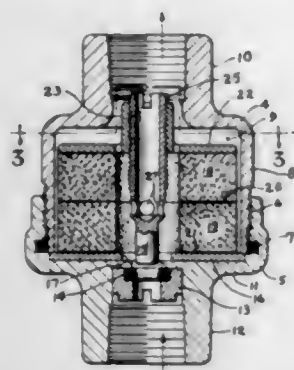
- (b) a regulating member in the passage defining a flow space between the surface of the passage and the surface of the regulating member, the main body and the regulating member being formed of materials having substantially different co-efficients of thermal expansion, such that the change in cross-sectional area of the said space with a given change of temperature of the fluid is sufficient to compensate for the



change in viscosity of the fluid due to the said change in temperature, which viscosity change would otherwise result in change in flow of the fluid, the main body being provided with a vestibule at the discharge end of the flow space, a relatively large exit port opening into the vestibule for the removal of the fluid and a relatively small passage opening into the vestibule for the bleeding of air.

3,340,894 PRESSURE REGULATOR

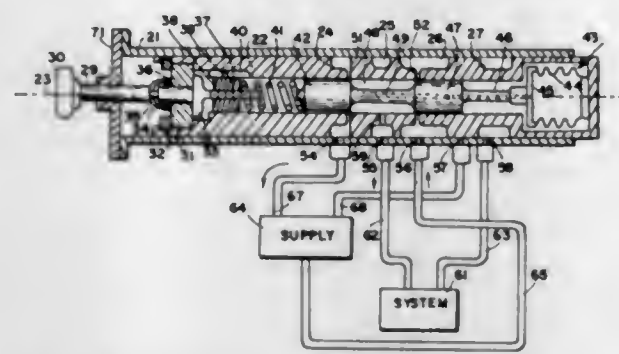
Selden T. Williams, Middlebury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed May 7, 1965, Ser. No. 454,043
1 Claim. (Cl. 137-505.25)



A pressure regulator comprising a hollow cylindrical body providing a low pressure chamber, an outlet connection at one end of said body, a cap secured to the other end of said body, a valve seat housed in said cap and communicating with said chamber, an inlet connection on said cap leading to said valve seat, a support plate clamped between said body and cap, a pressure responsive element of foam material in said chamber having its bottom surface adhesively attached to said support plate, a valve carrier member adhesively attached to the top surface of said pressure responsive element, a valve stem adjustably mounted on said carrier member extending through said element and said plate, a valve on the end of said stem movable toward said valve seat upon increase of the pressure acting in said pressure responsive element, and passage means for conducting fluid from said valve seat through said low pressure chamber to said outlet connection when the valve is open.

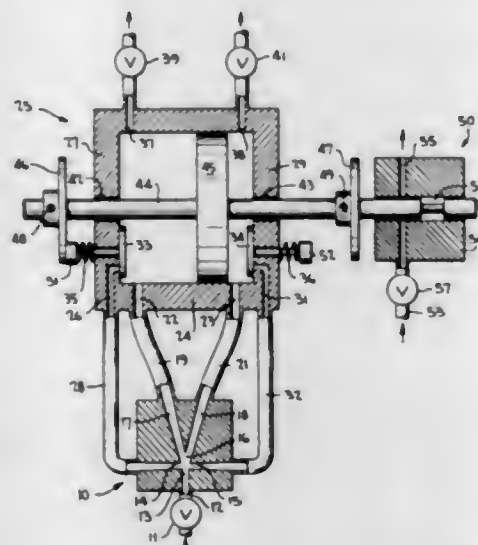
3,340,895 MODULAR PRESSURE REGULATING AND TRANSFER VALVE

Winthrop B. Osgood, Jr., Nashua, and Rudolph S. Petersen, Brookline, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,213
12 Claims. (Cl. 137-596)



1. A fluid pressure and flow control device comprising a source of pressurized fluid and a utilizing system, means for conducting said fluid to said utilizing system, means operatively associated with said conducting means for varying the pressure of said fluid in a portion of said conducting means, means operatively associated with said conducting means for directing the flow of said fluid to and from said utilizing system, first means operatively associated with said directing means for controlling said directing means and second means carried by said first means of controlling said means for varying pressure.

3,340,896
FLUID AMPLIFIER-DRIVEN OSCILLATOR
George Mon, Washington, D.C., and James W. Joyce, Jr., Rockville, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed June 7, 1965, Ser. No. 462,151
6 Claims. (Cl. 137-624.13)

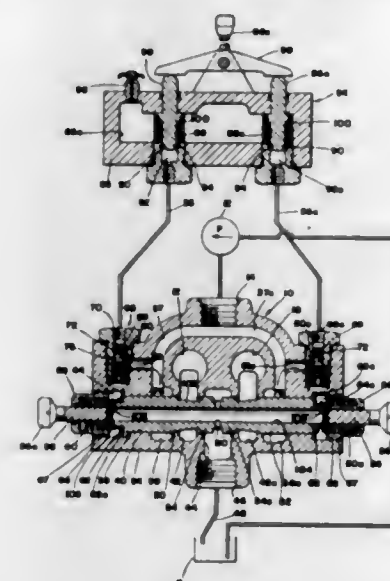


1. In a fluid amplifier driven oscillator having a piston enclosed within a cylinder and a rod attached to said piston and extending external of said cylinder and being acted upon by the pressure of the stream of fluid supplied to an input port in said cylinder from an output channel of a pure fluid bistable amplifier to produce reciprocating movement of said piston, and including a feedback path for conducting a fluid pressure signal from a feedback port in said cylinder to a control nozzle of said amplifier to switch the power stream of said amplifier into the other output channel when said piston has moved a predetermined distance, the improvement comprising:

- (a) closure means separate from said piston and housed by said cylinder for selectively opening and closing said feedback port,

- (b) said closure means being biased in a closed condition to prevent spurious fluid signals from reaching said control nozzle, and
(c) actuating means carried by said piston rod co-operating with said closure means to open said feedback port when said piston has moved said predetermined distance.

3,340,897
FLUID CONTROL MECHANISM
Anthony Nevulis, Wickliffe, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed May 7, 1965, Ser. No. 454,110
21 Claims. (Cl. 137-625.6)

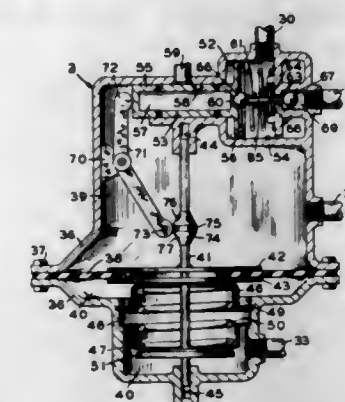


12. A control valve for use in a fluid pressure system of the type to be remotely controlled by a relatively low pressure signal comprising, a body having an inlet port adapted for connection to a source of fluid working pressure and a pair of distributing ports, spool valve means movable in said body for controlling the flow of fluid working pressure from said inlet port to a selective one of said distributing ports, poppet-like metering valve means operably connected to said body, passage-way means communicating said inlet port with said poppet-like metering valve means, and fluid actuating chamber means communicating said poppet-like metering valve means with said spool valve means for actuating said spool valve means by said fluid working pressure in response to a relatively low pressure signal generated remote from said control valve.

3,340,898
PRESSURE DIFFERENTIAL RESPONSIVE VALVE MEANS
Theodor Strauss, Berenbostel, Hannover, and Wilhelm Bachmann, Godshorn, Hannover, Germany, assignors to Westinghouse-Bremesen-Gesellschaft, m.b.H., Hannover, Germany
Original application July 27, 1962, Ser. No. 212,995, now Patent No. 3,165,121, dated Jan. 12, 1965. Divided and this application Oct. 26, 1964, Ser. No. 406,345
Claims priority, application Germany, Nov. 3, 1961, W 31,009
4 Claims. (Cl. 137-627.5)

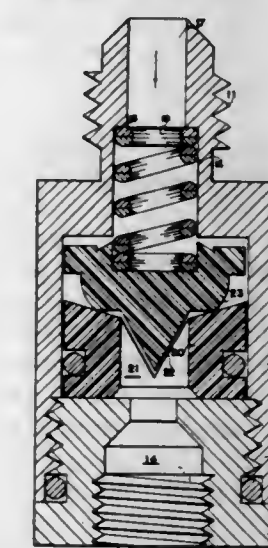
1. Pressure differential operated valve apparatus comprising:
(a) a valve body having a fluid pressure supply port, a fluid pressure delivery port and a fluid pressure vent port,
(b) diaphragm means secured in said valve body and subject to fluid under pressure from one source on one side and subject to fluid under pressure from a second source on the other side, said diaphragm

means being operably responsive to equal fluid pressures on said one side and said other side to assume one position operably responsive to a greater fluid pressure on said one side than on said other side to assume a second position, and operably responsive to a greater pressure on said other side than on said one side to assume a third position,
(c) valve means operable to one position to establish communication via which fluid under pressure is supplied from said supply port to said delivery port and operable to a second position to establish communication via which fluid under pressure flows from said delivery port to said vent port,



- (d) rod means coaxially connected to and extending through said diaphragm means in a manner that movement of said diaphragm means is transmitted to said rod means, and
(e) position transmitting means operable responsively to movement of said rod means and effective when said diaphragm means is in said one position to cause positioning of said valve means in its said one position and effective when said diaphragm means is in said second or third position to cause positioning of said valve means in its said second position.

3,340,899
TEMPERATURE COMPENSATED FLOW CONTROL VALVE
Frank Welty and Raymond D. Welty, Youngstown, Ohio, assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Aug. 9, 1962, Ser. No. 215,872
5 Claims. (Cl. 138-43)



1. A temperature compensated liquid flow control valve comprising a body member having a passage for liquid therethrough, an orificed barrier in said passage, a resilient deformable member seated on the upstream side of said barrier and forming with the orifice opening in said barrier means to control the flow of liquid through said passage, means to exert a yielding pressure on said

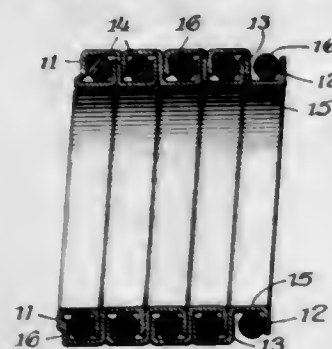
deformable member in a direction tending to seat the deformable member on said barrier, the arrangement being such that upon an increased fluid pressure acting on the upstream side of said deformable member said orifice opening is decreased in effective cross-sectional area, and said means to exert a yielding pressure being temperature responsive whereby the pressure is reduced upon a decrease in temperature of the liquid impinging on the upstream side of said deformable member.

3,340,900

FLEXIBLE GALVANIZED METAL HOSE

Jerry G. Spurlock, Melrose Park, Ill., assignor to Coleman Cable & Wire Company, River Grove, Ill., a corporation of Delaware

Filed Oct. 13, 1964, Ser. No. 403,485
1 Claim. (Cl. 138—136)



A flexible metal hose comprising a plurality of helical convolutions of galvanized metal having the longitudinal edges of adjacent convolutions interlocked with a cord made of a thermoplastic polymer prepared from a mono-ethylenically unsaturated monomer, said cord having a uniform diameter throughout its length and confined in sealing engagement between the leading edge of one convolution and the trailing edge of the preceding convolution, said cord having an exterior surface sufficiently smooth to prevent irregular reduction of the cord diameter during fabrication of the hose as a result of frictional engagement with the metal convolutions, whereby the sealing action of the cord and the bending action of the hose are uniform.

3,340,901

SPIRAL SEAMED CORRUGATED LAMINATED PIPE WITH UNCORRUGATED INTERIOR

Jack P. Lombardi, Duguid Road, Manlius, N.Y. 13104

Filed Apr. 6, 1965, Ser. No. 445,966
3 Claims. (Cl. 138—173)



1. A laminated pipe comprising a helically wound web formed throughout of a plurality of layers of formable sheet material, including an inner layer extending continuously in a plurality of helical turns to form the interior surface of the pipe, the inner layer having smooth, uncorrugated inner and outer surfaces between its side edges; and a corrugated outer layer extending in a plurality of helical turns around the inner layer to form the exterior surface of the pipe, the outer layer having alternating hills and valleys extending helically of the pipe; each turn of the inner and outer layers being secured together along their edges in a single helically extending seam, said seam securing one edge of each turn of web to the opposite edge of the adjacent turn of web, the junction of successive turns of the inner layer in the seam extending along a valley of the outer layer, a plurality of valleys of the outer layer supporting the inner layer around the pipe between successive turns of the seam,

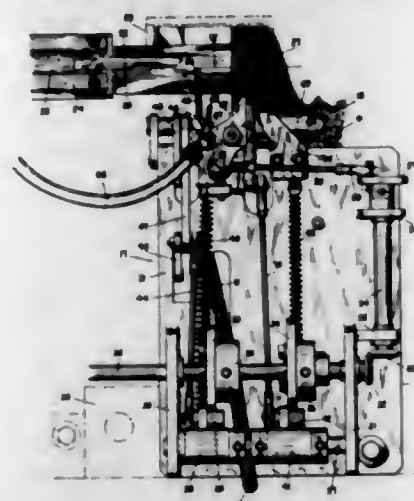
whereby the joined smooth inner layer turns extend continuously circularly and longitudinally of the pipe and are supported and strengthened by the outer layer turns.

3,340,902

METHOD AND APPARATUS FOR FORMING TUCKED-IN SELVAGE

Ronald Berry, Hopedale, Mass., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar as trustees, known as "The Carolina Patent Development Trust"

Filed Mar. 17, 1966, Ser. No. 535,108
14 Claims. (Cl. 139—122)



1. In a loom of the type whereby cut lengths of filling yarn are introduced into warp sheds from an outside source by yarn carrying members and are beat up into a fabric by a loom reed, a selvage forming apparatus comprising

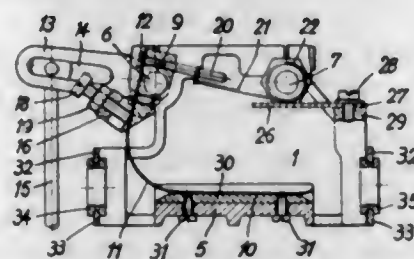
- (a) a filling end receiving member for holding each end of filling yarn as it is released by one of said carrying members, and
- (b) a yarn end inserting means for removing the end of filling from said receiving member and inserting it positively into a re-opened warp shed in position for being beat up with a subsequent length of yarn.

3,340,903

TENSIONING AND REGULATING DEVICE FOR THE PASSAGE OF WEFT THREADS OF DIFFERENT THICKNESS

Ramon Balaguer Golobart, Calle Caspe 86, Barcelona, Spain

Filed Sept. 24, 1965, Ser. No. 489,947
Claims priority, application Spain, Oct. 10, 1964, 305,090
4 Claims. (Cl. 139—194)



1. Tensioning and regulating device for the passage of weft threads of different thickness, adapted to be mounted on a shuttleless loom having at least one weft inserting member, comprising two parallel supports mounted on a base provided with a number of even, rectified, replaceable plates of hard material at a ratio of one per passage of weft thread; two parallel fixed shafts carried by the upper part of the said supports; a number of blocks freely accommodated on one of the said shafts and against which rest a corresponding number of thin flexible sheets

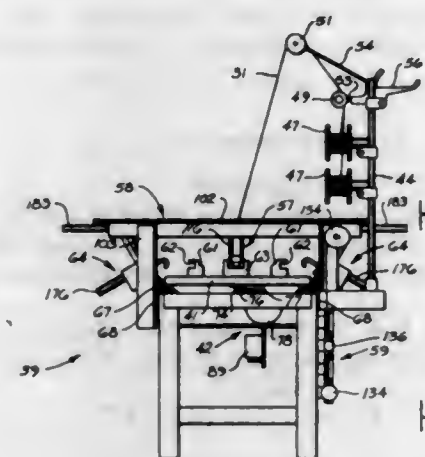
bent at an approximately right angle, the bent portions of which fulfill the function of a spring in order to exert the adequate tension on the weft threads by contact with the said rectified even plates of the base in co-operation with a corresponding number of adjustable helical springs; an oscillatory lead arranged in front of the said blocks and provided with a series of adjustable screws at a ratio of one per block, adapted to individually adjust the position of the said flexible sheets with respect to said even plates in accordance with the thickness and quality of each weft thread passing therebetween; and a lever connected to one extreme end of the said oscillatory lead and adapted to impart to this lead an oscillatory movement in timed relationship to the speed of the weft inserting member of the loom.

3,340,904

APPARATUS FOR FORMING HARNESS TYPE CABLES

Leon S. Gage, Granville, and Richard J. Greylock, Columbus, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 23, 1964, Ser. No. 362,015
15 Claims. (Cl. 140—71)



1. Apparatus for forming cable harnesses including plurality of individual strands of wire drawn from a supply, which comprises:

- a support frame,
- a platform mounted for movement on the frame,
- a plurality of wire wrapping supports mounted on the platform,
- a wire guide supported for movement on the frame for receiving the strands of wire from a supply,
- means for moving the wire guide from a central position to a forward position and a position located along the path of travel of the wire guide,
- means for selectively operating the wire guide moving means so that the guide is moved in predetermined directions from the central position, and
- means for relatively and selectively controlling the movement of the platform and for controlling the operating means for the wire guide moving means so that the platform and the wire guide are moved selectively relatively whereby the strands of wire are wrapped about the selected wire wrapping supports in a pattern selected from a plurality of possible patterns.

3,340,905

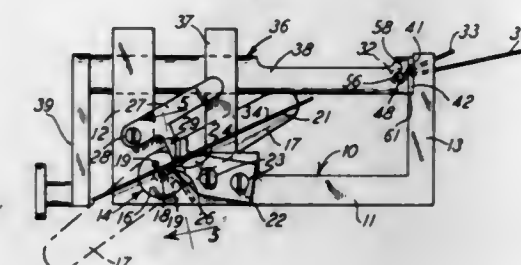
WIRE TIER AND CUTTER

Joseph J. Yust, 1509 Chatham St., Racine, Wis. 53402
Filed June 21, 1965, Ser. No. 465,364

5 Claims. (Cl. 140—104)

1. A wire tier and cutter for attaching fish lures or the like, comprising a mounting piece, a wire former rotatably disposed on said mounting piece and including a center

post about which a wire can be formed and including a finger orbital about said center post for engaging said wire and forming it into a loop and two legs, a handle on said former for rotating the latter to form said loop, a wire twister rotatably disposed on said mounting piece and having an opening for receiving said wire and said loop, means included in said twister for engaging said loop to rotate said wire with the rotation of said twister, a handle on said twister for rotating the latter, said mount-

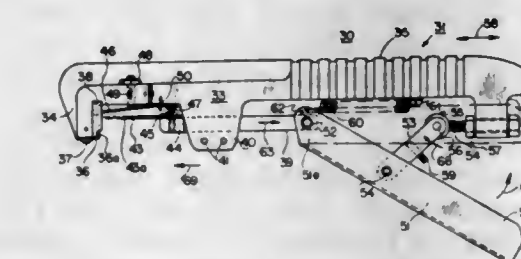


ing piece being provided with restraining walls adjacent said twister and aligned with said opening for receiving said legs of said wire between said walls to hold said legs while said twister is being rotated to have said legs entwine with each other, and a cutting edge on said mounting piece at the ends of said walls opposite said opening and disposed to engage one of said legs upon rotation of said twister for severing said leg after said legs are entwined.

3,340,906

TOOL FOR AFFIXING FENCE LATTICE

Francis Vecchiarelli, River Edge, N.J., assignor, by mesne assignments, to Alcan Aluminum Corporation, New York, N.Y., a corporation of New York
Filed Mar. 24, 1964, Ser. No. 354,234
8 Claims. (Cl. 140—117)



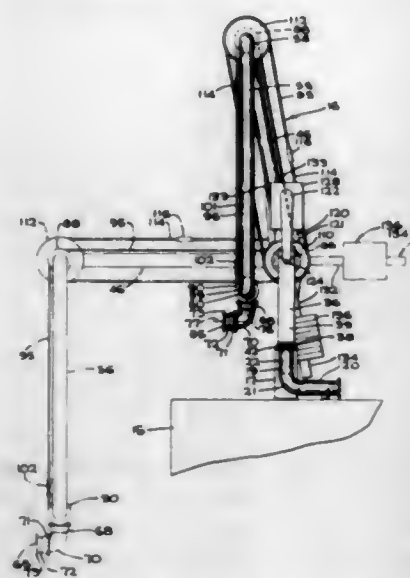
1. Hand operated means for securing elongated slats to chain link fences and the like wherein said slats are inserted into the troughs of said fence and bent to form flaps at the ends thereof, said means comprising an elongated member having a first arm at one end thereof; resilient cushion means positioned adjacent said first arm; reciprocal blade means slidably mounted in said elongated member; the cutting edge of said blade means being positioned to make contact with said cushion means; said hand-operated means being positioned with said slat resting against said cushion means and said flap facing said blade means to perform the securing operation; toggle means having a first end pivotally linked to said blade means and a second end pivotally linked to a second arm at the other end of said elongated member; said toggle means including a handle linkage movable toward said elongated member to extend said toggle means causing said blade means to move toward said cushion; said blade means forming a portion of said flap around the wire of said fence and cutting the remainder of said flap in one operation; said cushion means preventing said blade means for cutting the portion of the slat behind the flap.

3,340,907

FLUID TRANSFERRING ARM

Peter J. Billy, Sunset Beach, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Jan. 20, 1964, Ser. No. 338,682
7 Claims. (Cl. 141—387)



1. In a fluid transferring arm, a tubular fluid conducting riser having a lower upright portion and a substantially horizontal portion, an inner sheave encircling and stationary with respect to said horizontal portion of the riser, a rigid tubular inner boom having an inner horizontal portion swivelly connected in fluid-tight relation to the horizontal portion of the riser and an outer horizontal portion, a rigid tubular outer boom having an inner horizontal portion swivelly connected in fluid-tight relation to the outer horizontal portion of the inner boom thereby providing an intermediate axis of rotation, the outer boom also having an outer horizontal portion, an intermediate sheave encircling said intermediate axis and mounted on one of said booms, a coupling having an inner horizontal portion swivelly connected in fluid-tight relation to the outer horizontal portion of the outer boom thereby defining an outer axis of rotation, said coupling having a tubular connecting portion which is in acute angular relation with the horizontal, irrespective of the positions of the booms, when the coupling is unsupported and is allowed to pivot freely about said outer axis, an outer sheave encircling and stationary with respect to said inner portion of the coupling, and a cable trained over said intermediate sheave and having inner and outer ends respectively trained over and connected to the inner and outer sheaves so that the connecting portion of the coupling is held in a generally horizontal attitude irrespective of the positions of the booms.

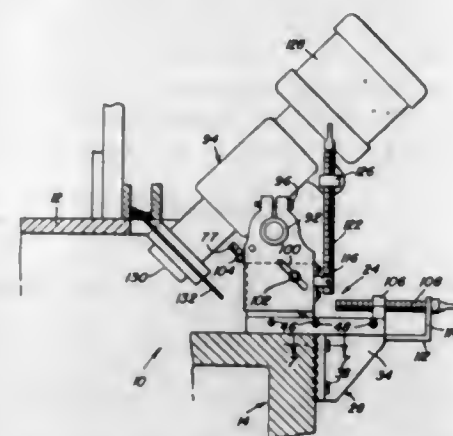
3,340,908

BOTTOM HEAD YOKE TILTABLE ROTARY SAW

Roy W. Crozier, Albuquerque, N. Mex., assignor to Forest Products Company, a corporation of Nevada
Filed Mar. 1, 1965, Ser. No. 435,934
4 Claims. (Cl. 143—36)

1. In combination with a multi-head molder of the type including a generally horizontal longitudinally extending bed along which strips of lumber are adapted to be longitudinally fed and a plurality of molder heads for successively shaping the various sides of a strip of lumber fed longitudinally along said bed, a tilttable rotary saw mounting bracket, said bracket being supported from said molder in lieu of one of the conventional molder heads supported therefrom, a rotary saw assembly including a driven shaft on which a thin circular saw blade is mounted for rotation therewith, said bracket including means mounting said rotary saw assembly therefrom with the

axis of rotation extending at generally right angles relative to said bed, said means mounting said saw assembly on said bracket including means for angularly adjusting the axis of rotation of said shaft relative to said bed in a vertical plane, and means for adjustably positioning said saw assembly and angularly adjusting means laterally of the axis of rotation of said shaft and said bed along a



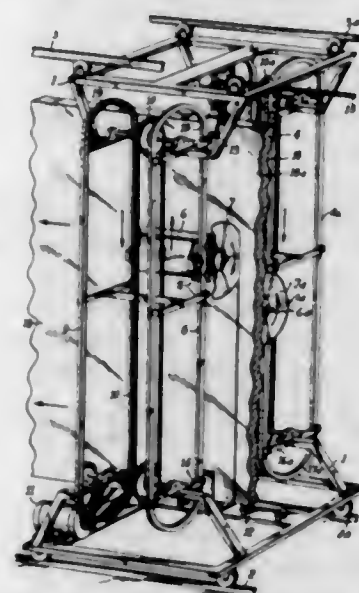
line inclined generally 45° relative to the horizontal and generally paralleling said vertical plane, said means mounting said saw assembly on said bracket also including means for adjustably positioning said saw assembly relative to said bed in a generally horizontally disposed plane and along a line generally paralleling said vertical plane.

3,340,909

SAWING MACHINE AND METHOD

Paul I. Vidal, Villepinte, France, assignor to Rocma Anstalt, Vaduz, Liechtenstein, a corporation of Liechtenstein

Filed Feb. 9, 1965, Ser. No. 431,275
Claims priority, application France, Feb. 13, 1964,
963,634
4 Claims. (Cl. 143—47)



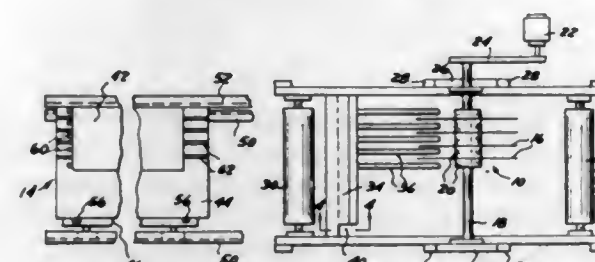
1. Apparatus for cutting off lengths of board, which comprises means supporting the board, sawing means, means defining a first path for said sawing means across one side of the board, means defining a second path for said sawing means across the opposite side of the board, said paths lying in a common plane transverse to the board, means for traversing the sawing unit over said first path and for operating the sawing means to cut partly into the board from said first side thereof, and means for traversing the sawing means over said second path in a manner delayed with respect to said first traverse and for operating the sawing means during said second traverse so as to cut the remaining distance through the board; and a carriage movable on tracks in a direction longitudinal with respect to the board, said sawing means be-

ing supported from the carriage, means for feeding the board in said longitudinal direction, and means for blocking the movement of said carriage with that of said board during a sawing operation.

3,340,910

SAWMILL

Melvin L. Summerland, Johannesburg, Mich. 49751
Filed Oct. 23, 1965, Ser. No. 503,010
4 Claims. (Cl. 143—33)



1. A sawmill comprising:
a supporting frame including a pair of parallel horizontal guide tracks running from a first to a second end of said frame;
a carriage having a plurality of wheels rotatably mounted thereon, said wheels so disposed as to ride on said guide tracks;
feed means for causing said carriage to travel between said first and second ends of said frame;
a table disposed directly above and resiliently supported on said carriage;
a horizontal arbor having a plurality of disc saws fixed at spaced intervals thereto, said arbor being mounted on said frame above said table and transverse to said guide tracks;
drive means for rotatably driving said arbor;
first and second horizontal rollers parallel to said arbor and spaced on opposite sides thereof;
said first and second rollers being secured to said frame and equally spaced above said table a distance only slightly less than the height of said arbor above said table;
a guide bar parallel to said arbor and fixed to said frame intermediate said arbor and said first roller, said guide bar having a plurality of spaced horizontal pressure fingers mounted thereon, said pressure fingers being parallel to said guide tracks and extending into the spaces between said disc saws, the lower edge of said guide bar and said fingers being slightly below the level of the lower most edge of said first and second rollers;
the height of said guide bar and pressure fingers above the normal height of said table, being set to a dimension less than the height of a workpiece to be processed by the sawmill;
whereby as a workpiece placed on said table is fed towards said disc saws by said feed means, it is cammed downwardly by said first roller, said guide bar, said pressure plate, and said second roller, thereby to securely clamp the workpiece to said table as it passes through said saws.

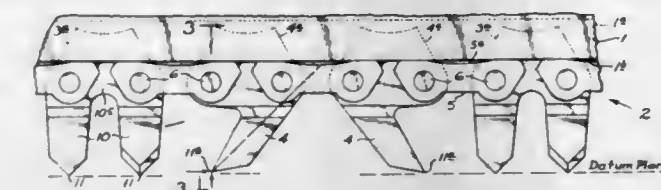
3,340,911

CHAIN SAW

Jerome L. Wolf, 1310 Harney St.,
Vancouver, Wash. 98660
Continuation of application Ser. No. 564,483, June 24, 1966. This application Dec. 23, 1966, Ser. No. 611,519
12 Claims. (Cl. 143—135)

1. An elongated saw chain adapted to traverse a saw bar, comprising

- (a) a plurality of successive related groups of pivotally joined links carrying alternate cutter teeth and raker teeth spaced longitudinally from each other in said chain, being spaced apart by links devoid of cutting teeth,
- (b) the raker teeth having cutting edges approximating one third of the width of the kerf to be formed by the saw chain, each of said edges having its inner end spaced from the midline of the kerf, at the floor thereof,



- (c) successive raker teeth having cutting edges lying at opposite sides of the longitudinal center line of the saw chain,
- (d) at least one link carrying a cutter tooth defining a margin of the kerf to be formed, said link being interposed between links carrying a raker tooth,
- (e) at least the non-tooth-carrying links joining the raker tooth-carrying links having saw bar engaging portions extending longitudinally beyond the pivotal connection with the raker tooth links.

3,340,912

TIMBER HARVESTING AND TRANSPORTING METHOD, SYSTEM AND APPARATUS

Charles E. Williams, Savannah, Ga., and Frederick L. Dillingham, Munford, Ala., assignors to Continental Can Company, Inc., New York, N.Y.
Filed Nov. 6, 1963, Ser. No. 321,836
25 Claims. (Cl. 144—3)



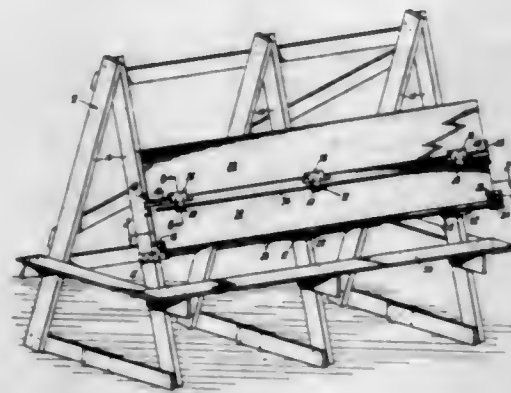
1. A method of harvesting and transporting timber, said method comprising the steps of providing a unitary directional tree felling, delimbing, topping and log moving apparatus, utilizing said apparatus to cut a tree adjacent the ground while simultaneously exerting a pushing force on said tree at a point spaced above the cutting point, said force being exerted in a direction to fell said tree in a desired location, utilizing said apparatus to remove the limbs on the upper side of said felled tree and sever the top and to thereafter remove the remainder of the limbs to provide a log, utilizing said apparatus to grasp said log adjacent the butt end to move the same to a location adjacent a supporting cradle and deposit said log on said cradle, directionally felling and delimbing additional trees and depositing additional logs on said cradle to form a bunch of logs of the desired size with the butt ends substantially in alignment, providing a self-loading and unloading pre-haul vehicle, loading said bunch of logs as a unit by skidding the same longitudinally from said cradle onto said vehicle from the rear toward the front to position the butt ends of said logs adjacent the front of said vehicle and with the top ends of said logs projecting from the rear of said vehicle, providing a final haul road ve-

hicle having a bucking saw apparatus mounted thereon for longitudinal movement, moving said pre-haul vehicle to a position at one end of said road vehicle with the top ends of said logs overhanging a portion of said road vehicle, ejecting said logs as a unit longitudinally from said pre-haul vehicle onto said road vehicle with the butt ends of said logs disposed at said one end of said road vehicle, utilizing said saw apparatus to cut said logs into predetermined lengths on said road vehicle, utilizing said pre-haul vehicle to load a second bunch of logs on said road vehicle from the opposite end with the butt ends of said second bunch of logs disposed at said opposite end of said road vehicle, utilizing said saw apparatus to cut said second bunch of logs into predetermined lengths on said road vehicle, utilizing said pre-haul vehicle to load a third bunch of logs on said road vehicle from said one end with the butt ends of said third bunch of logs disposed at said one end of said road vehicle and utilizing said saw apparatus to cut said third bunch of logs into predetermined lengths on said road vehicle to complete loading thereof.

3,340,913

ASSEMBLY JIGS FOR BIFOLDING DOORS
Norman F. Gustafson, West Hartford, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Aug. 25, 1965, Ser. No. 482,578
16 Claims. (Cl. 144-288)



3. A jig for assembling a pair of door panels for use in a bifolding door installation wherein the top edge of one panel is provided with a guide member and the top and bottom edges of the other panel are each provided with a pivot member, the jig comprising a frame, positioning means on the frame for holding the panels with their longitudinal axes extending generally horizontally, a pair of vertical plates attached to the frame in spaced opposed relation adjacent opposite lateral sides of the frame for embracing top and bottom edges of the panels when the same are positioned in face-to-face relation, one of the plates being rigidly fixed to the frame and the other plate being releasably secured to the frame for adjustment laterally thereof to compensate for variations in the height of different sets of door panels, and the plates each having guide openings therein for drilling sockets in the top and bottom edges of the panels adjacent preselected corners thereof to receive pivot and guide members and thereby adapt the panels for use in a bifolding door installation.

3,340,914

RATCHET GRIP

James B. Ricks, 2436 Marcy Ave.,
Evanston, Ill. 60201

Filed May 10, 1965, Ser. No. 454,610
1 Claim. (Cl. 145-61)

A hand tool such as a screwdriver and the like provided with a generally elongated cylindrical handle having a lower straight portion of reduced diameter at one

end; a tool shaft extending from said one end of said handle; a generally elongated cylindrical jacket open at one end and closely and loosely fitting over the other end of said handle defining a ratchet drive, said jacket being formed of elastic material having a high coefficient of friction with the material of said handle, said jacket



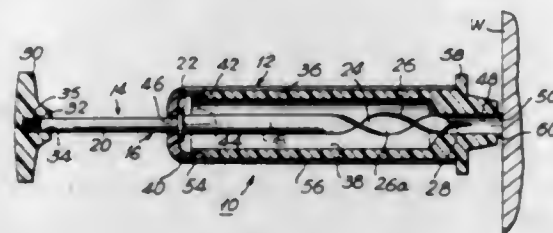
including an inwardly extending portion of reduced diameter along its open end around said reduced diameter portion of said handle; and sealing means interposed between said reduced diameter portions for excluding foreign matter from entering between the engaging surfaces of said jacket and said handle.

3,340,915

HOLE CUTTER AND DEBRIS RECEIVER

La Roy B. Passer, 107 Randall Ave.,
Port Jefferson, N.Y. 11777

Filed Mar. 30, 1966, Ser. No. 538,731
10 Claims. (Cl. 145-116)



1. A portable manually operable auger assembly for boring a hole into a wall and receiving and temporarily containing debris from the formation of said hole, said assembly including

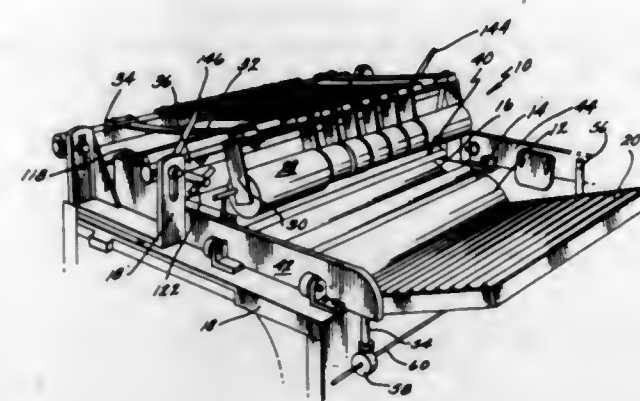
- (A) an auger comprising
 - (i) an elongated shank.
 - (ii) a handle fixed to the rear end of the shank to facilitate manual rotation of the auger and
 - (iii) a spirally fluted auger bit at the other end of the shank, and
- (B) a container arranged to be gripped by one hand and comprising
 - (i) a closed shell
 - (ii) having an interior hollow cavity between the front and back of the shell,
 - (iii) said shell having a bearing aperture adjacent the back thereof through which the shank passes and is rotatably journaled with the handle located exteriorly of the shell and
 - (iv) a linear bearing passageway at the front of the shell in axial alignment with the aperture,
 - (v) said passageway having a leading mouth,
 - (vi) the passageway running from the exterior front end of the shell into the cavity and engaging the auger bit as a bearing for both axial shifting and rotative journaled movement,
- (C) whereby when the container is held by one hand of the user stationary with respect to the wall with its mouth pressed against a vertical wall surface and the auger is rotated and advanced into a wall by the other hand of the user, the auger bit will bore a hole therein and the spiral flutes of the bit will convey debris from the formation of the hole along the passageway in which it is journaled and into the container cavity.

3,340,916

SKINNING MACHINE BLADE MOUNT

Paul F. Burch, Rockford, Mich., assignor to Wolverine Shoe & Tanning Corporation, Rockford, Mich., a corporation of Michigan

Filed Aug. 24, 1964, Ser. No. 391,512
11 Claims. (Cl. 146-130)



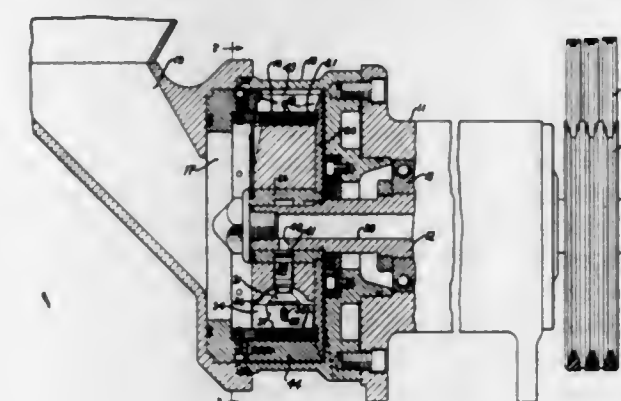
1. A blade assembly for a skinning machine comprising: a slotted blade holder and support means therefor; a sharp edge insert in said slotted holder with the sharp edge protruding therefrom; blade insert positioning and aligning stop means adjacent the sharp edge of said insert; to exactly align said sharp edge with respect to said blade holder and support means; and cooperative camming means along the back side of said insert for shifting said insert against said stop means, including a plurality of spaced elements at intervals along the back edge of said insert.

3,340,917

COMMUNUTING MACHINE

Andrew H. Vedvik, Madison, Wis., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 9, 1965, Ser. No. 478,065
10 Claims. (Cl. 146-182)



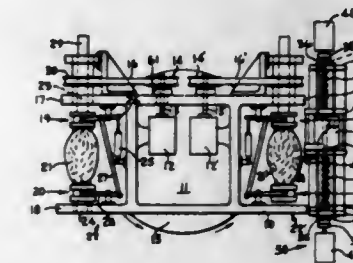
1. A machine for high speed comminuting of meat or similar products comprising a housing having mounted therein a cylindrical perforated cutting plate which separates a product receiving chamber and a product discharge chamber, a hollow rotating shaft mounted in concentric relation within the cylindrical cutting plate, hollow knife carrying radial arms mounted on the shaft, blade supporting pistons slidably mounted in said hollow arms and cutting knives engaged by said pistons with blade forming edges bearing against the inner face of the cutting plate, means forming communicating fluid passageways between the hollow shaft and the hollow knife supporting arms and fluid means for applying pressure to said pistons to hold the blade edges against the cutting plate.

3,340,918

COCONUT SHELLING METHOD

Gerald Kleiman, 62 Barchester Way,
Westfield, N.J. 07090

Filed Sept. 22, 1965, Ser. No. 489,209
4 Claims. (Cl. 146-242)



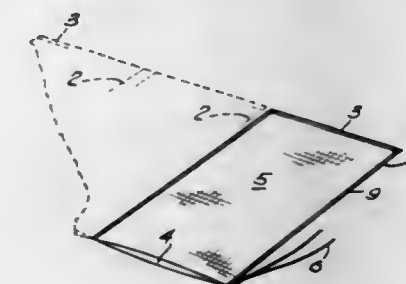
1. A method for shelling a coconut, comprising, gripping said nut rigidly at its ends with grippers and penetrating into the shell coating during the gripping operation, locking said grippers into an axially fixed position, rotating said shell by rotation of said grippers, cutting into and through said shell layer by a rotatable cutter while said nut is rotating, making a spiral cut around the central portion of said nut, making a continuous circular cut at each end of said nut near each gripped portion, and removing said nut from said grippers.

3,340,919

BAG

Thomas Render Holbrook, Cornelia, Ga., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Dec. 15, 1965, Ser. No. 514,054
5 Claims. (Cl. 150-1)



1. A bag of two woven face fabrics commonly joined by a single ply selvage extending along two sides and one end of said bag, each of said face fabrics being constructed of two sets of interwoven synthetic yarn, one set consisting of ribbon monofilament yarn and the other set consisting of texturized yarn, a narrow band of tightly woven fabric in each face fabric extending along said selvage to provide reinforcement and the outer edge of said selvage being heat sealed to prevent raveling, said bag exhibiting such improved strength and resistance to rupture as to pass the "drop test."

3,340,920

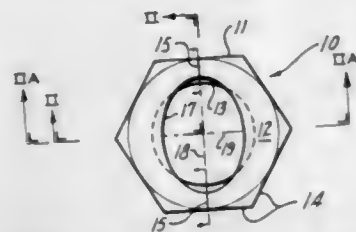
PREVAILING TORQUE LOCKNUT

Kenneth L. Johnson, 951 Garden City Drive,
Monroeville, Pa. 15146

Filed Nov. 6, 1964, Ser. No. 409,391
9 Claims. (Cl. 151-21)

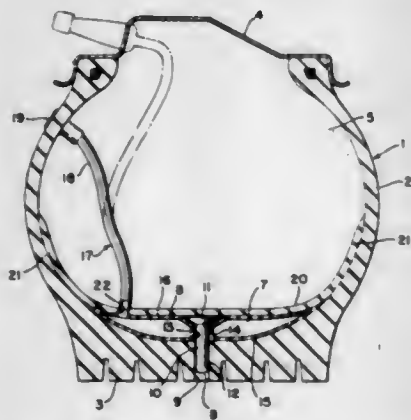
1. In a prevailing torque fastener comprising a body having six side faces that define a substantially hexagonal periphery, a central threaded bore, and a uniformly-upwardly-facing top face that intersects the side faces and terminates radially inwardly thereof adjacent the

threaded bore, the top face, side faces, and threaded bore defining, in the body, a side wall extending substantially the entire axial length of the threaded bore and having a peripherally varying effective wall thickness including peripherally spaced zones of minimum wall thickness; a resilient locking construction comprising: at least an axial portion of the threaded bore adjacent one end thereof being substantially elliptical in peripheral configuration and defining major and minor axes, said



major axis being substantially aligned with a pair of the zones of minimum wall thickness, said minor axis being aligned with two opposed corner areas of the hexagonal periphery, said two opposed corner areas having opposed force application surfaces adjacent said one end extending radially-inwardly of the top face, and the radial wall thickness of the fastener body at said two opposed corner areas being greater than that of each of the remaining corner areas of the fastener, with the external dimensions of the fastener being of standard size.

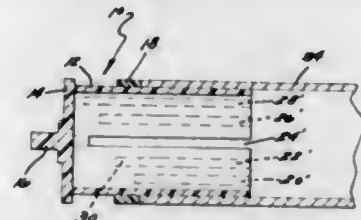
3,340,921
PNEUMATIC ANTI-SKID VEHICLE TIRES
Marvin Garfinkle, 20606 Lorain Road,
Fairview Park, Ohio 44126
Filed Oct. 14, 1965, Ser. No. 496,024
5 Claims. (Cl. 152-208)



1. A pneumatic anti-skid vehicle tire comprising
 - (a) a tire casing defining a primary chamber adapted for inflation when mounted upon a wheel rim, said tire casing including a peripheral tread portion having a plurality of circumferentially spaced radially extending tread apertures;
 - (b) inflatable means defining a secondary chamber within said tire casing, said means being controllably deflatable independently of said tire casing and comprising a substantially annular bladder member disposed within said tire casing adjacent said tread portion, said bladder member provided with a plurality of bladder apertures in radial alignment with said tread apertures; and
 - (c) a plurality of studs slidably received in said tread apertures, said studs adapted for movement between extended road surface engaging positions and retracted non-road surface engaging positions, said studs adapted to assume said extended positions when said means is deflated to less than a predetermined volume, said studs adapted to assume said retracted positions when said means is inflated to greater than

a predetermined volume, each of said studs being disposed within an aligned pair of tread and bladder apertures and having a flanged head portion radially inward of said bladder member.

3,340,922
TERMINAL PROVIDING LENGTH ADJUSTMENT FOR SHADE ROLLERS
James A. Anderson, Muskegon, Mich., assignor to Brene-man, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 24, 1966, Ser. No. 537,240
10 Claims. (Cl. 160-326)



1. A terminal structure for shade rollers providing length adjustment thereof, said terminal comprising: a generally cylindrical body element telescopically engageable with a shade roller; said body having abutment means located at spaced intervals along the length thereof; and a stop structure independent of said body element and said roller and mountable upon said body to be arrestable lengthwise thereof by positioning contact with predetermined ones of said abutment means; said stop structure being adjustable along the length of said body by such contact with different ones of said abutment means; and said stop structure arranged to contact portions of such a shade roller upon the telescoping engagement therewith of said body to limit such engagement and thereby determine the effective length of the roller as a function of the particular abutment means in contact with the stop structure.

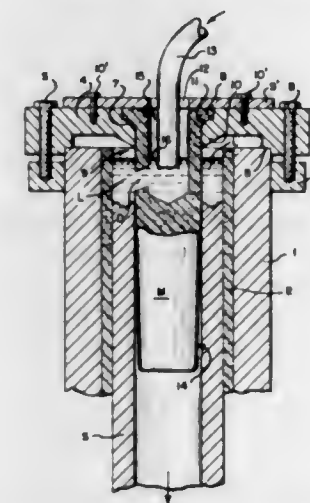
3,340,923
SPRUE PIN AND RESERVOIR COMBINATION
James W. Benfield, Hartsdale, N.Y.
(115 E. 61st St., New York, N.Y. 10021)
Filed May 20, 1964, Ser. No. 368,897
9 Claims. (Cl. 164-244)



1. In an investment mold containing investment material for the production of castings by the lost wax process, an integral, thermoplastic sprue pin and reservoir, one end of said sprue pin supporting a wax pattern and the other end supported by a supporting base, the wax pattern and the portion of the sprue pin and reservoir above the supporting base being embedded in the investment material; the thermoplastic composition of the sprue pin and reservoir combination being of such nature that it has a

volatilizing point above that of wax; it volatilizes completely below the temperature to which the mold is heated in the making of the casting; and, the sprue pin and reservoir made therefrom is reasonably rigid; the integral thermoplastic sprue pin and reservoir comprising a hollow sprue pin having intermediate its ends, an integral bulbous reservoir member of a larger cross-sectional area than that of the sprue pin, the reservoir being located along the length of the sprue pin with respect to the end of the sprue pin to which the wax pattern is to be attached, in such a manner, that when used in the lost wax process, metal flows through the sprue into the mold cavity at a sufficient rate to prevent porosity developing in a casting formed in the mold cavity, and wherein the metal sprue may be readily cut from the casting.

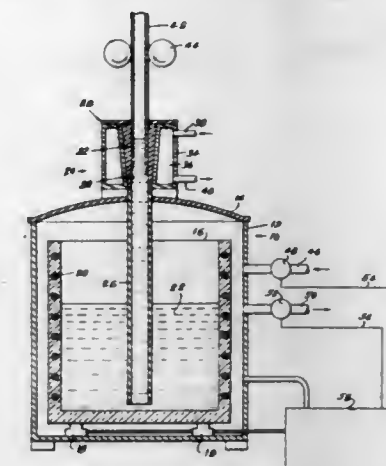
3,340,924
APPARATUS FOR CONTINUOUS CASTING OF HOLLOW BILLETS
William H. Ludwig, Baltimore, Md., assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Sept. 24, 1964, Ser. No. 398,844
1 Claim. (Cl. 164-281)



In apparatus for the continuous casting of hollow metal billets which includes an upright stationary outer annular graphite mold with an open ended bottom mounted snugly within an annular mold support, an inner upright graphite mandrel extending into the annular mold from above to provide an interior annular space between the mandrel and the mold, the mandrel having in its upper end an upright cup for receiving and flowing therefrom a body of molten metal, the cup being open at its top and closed at its bottom and having a plurality of peripherally spaced ducts extending through the wall of its lower portion and communicating with the upper portion of the annular space between the mandrel and the annular mold, and a siphon feed tube for molten metal extending into the cup so that molten metal may flow continuously through the tube downwardly into the cup and thence through the peripherally spaced ducts into the annular space between the mandrel and the annular mold where molten metal freezes to form a continuous progressively advancing hollow billet, the improvement in combination therewith which comprises:

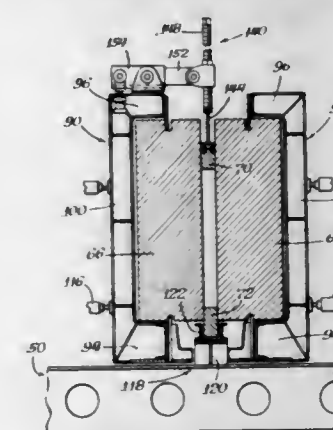
- (a) the end of the feed tube is disposed in said cup at about the level of the entrances to the peripherally spaced ducts and the level of the liquid metal in the cup is maintained above the end of the feed tube and consequently above the entrances to the peripherally spaced ducts which extend through the wall of the annular mandrel;
- (b) the total cross-sectional area of the three peripherally spaced ducts is at least equal to the cross-sectional area of the cup in the upper end of said mandrel.

3,340,925
AUTOMATIC LEVEL CONTROL FOR METAL CASTING
James Woodburn, Jr., Wheaton, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Original application Dec. 3, 1963, Ser. No. 327,642, now Patent No. 3,287,773, dated Nov. 29, 1966. Divided and this application Apr. 6, 1966, Ser. No. 540,659
1 Claim. (Cl. 164-281)



Apparatus for continuous casting of metal comprising a sealed tank, a ladle in the tank adapted to contain molten metal, a mold having a bottom opening mounted on said tank, a pouring tube communicating between the ladle and the mold, the arrangement being operative in response to development of air pressure in the tank for forcing molten metal from the ladle through the pouring tube into the mold, means for developing air pressure in said tank, means for withdrawing the cast article from the mold while the molten metal is forced into the mold, and means responsive to the weight of the ladle and the molten metal therein for controlling the development of air pressure in the tank in response to depletion of the molten metal in the mold pursuant to removal of the cast article.

3,340,926
CASTING APPARATUS
Edmund Q. Sylvester, Shaker Heights, Ohio (c/o Sylvester Enterprises, 850 Hanna Bldg., Cleveland, Ohio 44115)
Filed July 14, 1964, Ser. No. 382,533
21 Claims. (Cl. 164-323)

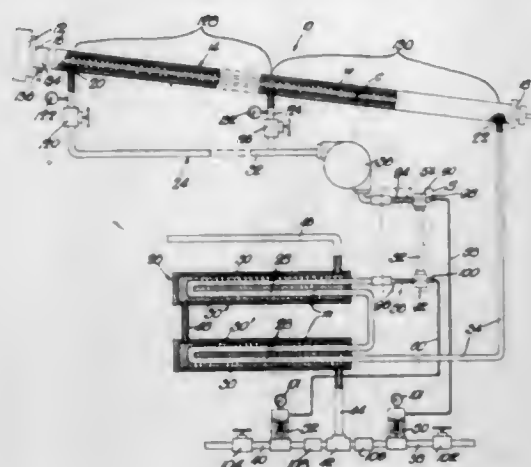


1. Mold apparatus of the character disclosed comprising opposed side blocks, means for moving the side blocks toward and away from each other, a plurality of removable inner blocks including top, end and bottom blocks, said removable inner blocks positioned between the side blocks and engageable therewith to define a cavity when said side blocks are moved toward each other, and an ingate detachably mounted to the assembly of said blocks, said ingate including a passage between the exterior and a remaining open portion of said cavity to permit the flow of molten metal into the cavity.

3,340,927

COOL-DOWN APPARATUS FOR CONTINUOUSLY EXTRUDED POLYOLEFIN

Donald A. Swindells, Mystic, Conn., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

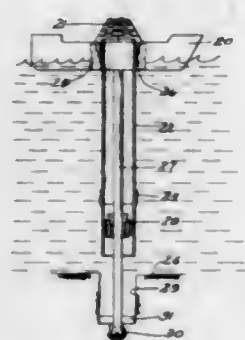
Filed Jan. 18, 1966, Ser. No. 521,326
8 Claims. (Cl. 165—39)

1. Cool-down apparatus for continuously extruded polyolefin stock, comprising a longitudinal tube closed except for the longitudinal passage in sealed fashion of stock therethrough; means for moving stock through said longitudinal passage; a circuitous path for cooling water wherein said path includes the interior of the tube at least over part of its longitudinal extent; means for recirculating water in said path in a direction counter to that of the passing stock in said tube; a conductance-type heat-exchanger in said path in which the cooling water is subjected to temperature modification by a temperature modifying medium; and means including a control responsive to temperature fluctuations of the cooling water at a local station of said circuitous path for varying the temperature of said medium.

3,340,928

SUBMARINE DRILLING METHOD

Cicero C. Brown, 8490 Katy Road, Houston, Tex. 77024

Filed June 1, 1965, Ser. No. 460,402
9 Claims. (Cl. 166—5)

1. The method of drilling a well in water from a floating platform comprising, lowering casing to a position wherein its lower end is immediately above the underwater floor, lowering drill on drill pipe through said casing to the floor, drilling a well bore to receive said casing, securing the drill pipe to the casing, and lowering the casing into the well bore with the drill pipe guiding the casing into the well bore.

3,340,929

METHOD FOR CEMENTING WELLSKnox A. Slagle, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed July 27, 1965, Ser. No. 475,260
15 Claims. (Cl. 166—29)

9. The method of cementing pipe in a well traversing a producing zone having at least some shale composition which comprises placing into the annular space between the pipe and the well bore a pumpable Portland cement slurry containing from about 5% by weight of the water in the slurry up to the amount necessary to saturate the water of a metal salt of sulfuric acid and thereafter permitting the slurry to cure within the annular space to provide improved bonding of the cement to the pipe and to the shale formation.

3,340,930

OIL RECOVERY PROCESS USING AQUEOUS MICROBIOLOGICAL DRIVE FLUIDSDonald O. Hitzman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,109
15 Claims. (Cl. 166—9)

1. A process for producing oil from an oil-bearing stratum comprising the steps of:

- (1) injecting into said stratum thru a well therein an aqueous slug of a by-product of an oil fermentation process containing oil, water, salts, and live cells of yeast, bacteria or mixtures thereof, said cells having the capacity to assimilate hydrocarbons during metabolic action;
- (2) thereafter, injecting aqueous driving fluid thru said well into said stratum so as to drive the slug of step (1) and fermentation products thereof thru said stratum to a production well therein, displacing hydrocarbons from said stratum into said production well; and
- (3) recovering produced hydrocarbons from said production well.

3,340,931

TURNING PROCESS AND APPARATUS

Herbert L. Hagler, P.O. Box 4456, Midland, Tex. 79701

Filed June 24, 1965, Ser. No. 466,799
4 Claims. (Cl. 166—46)

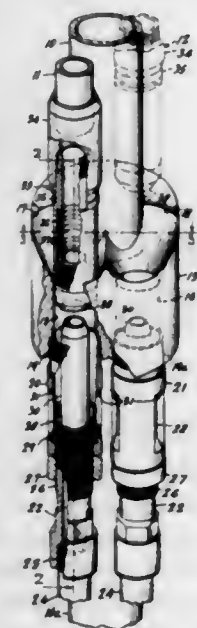
1. A turning device comprising:
- (A) an elongated body having first and second ends;
 - (B) first and second shafts mounted transversely in said body, said shafts having first portions pivoted in said body and second portions controllably movable in said body;

- (C) wheels mounted on each said first and second shaft, said wheels having at least portions thereof extending from said body;
- (D) a spring having at least one end thereof fixed to said body;
- (E) detent means mounted in said body, a portion of said detent means extending over a portion of said spring, holding said spring compressed against said body, said detent means being operable to release said spring.

3,340,932

SUB-SURFACE CONNECTOR FOR PLURAL TUBING ELEMENTS

Peter S. Bloudoff, Whittier, Calif., assignor to Armet Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Apr. 21, 1965, Ser. No. 449,824
6 Claims. (Cl. 166—243)

3. In a sub-surface connector having a plurality of tubing elements extending downwardly therefrom when located in a well cavity, the improvement comprising a landing collar having separate means operatively connected to each of said tubing elements, said means including a landing stem having a packing pin extending into said landing collar, said landing collar having a downwardly tapering recess overlying and surrounding said packing pin and adapted to guide a subsequently lowered tubing string into a predetermined position, and packing members carried internally of said subsequently lowered tubing string cooperating with the exterior of said packing pin to form a fluid tight connection therewith.

3,340,933

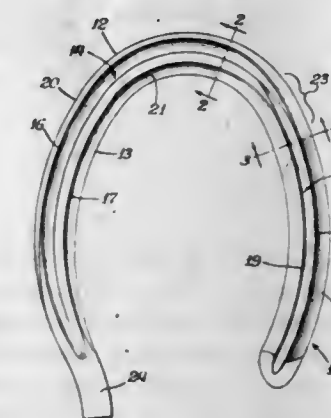
DIFFERENTIAL TRACTION HORSESHOE

Leo F. McGraw and Clarence McGraw, Manteno, Ill., assignors to McGraw Bros., Inc., Manteno, Ill., a corporation of Illinois

Filed Feb. 3, 1966, Ser. No. 524,678
8 Claims. (Cl. 168—24)

1. A horseshoe having a hoof-engaging face and an oppositely disposed ground-engaging face, said ground-engaging face formed with a channel in at least a portion of its perimetrical length and extending perimetricaly of such portion between the side edges of the shoe beginning in said surface at one side of said shoe and continuing through the toe portion into at least a portion of the other side of said shoe, said channel having the configuration of a V-shaped valley in that section of said portion extending along said one side of said shoe and along at least a portion of the toe and thereafter having a U-shaped

configuration for the remainder of said channel extending into at least a portion of said other side, the section of the ground-engaging face containing the V-shaped valley formed therein having an inverted V-shaped ridge extending along each side of said valley and substantially coextensive therewith, the perpendicular measurement from the apex of the V-shaped ridge at the outer edge of the ground-engaging face to the hoof-engaging face being greater than the perpendicular measurement from the apex of the V-shaped ridge at the inner edge of the ground-engaging face to the hoof-engaging face,

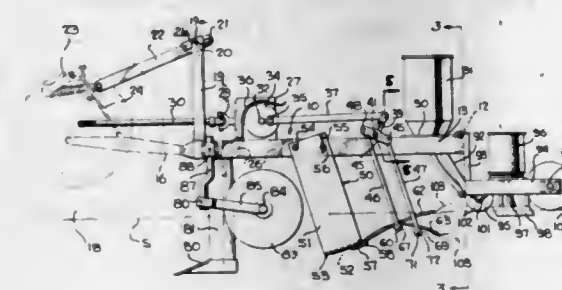


the outer surface of the ground-engaging face that is substantially coextensive with the U-shaped portion of the channel and said other side of said shoe being convexly curved transversely of the shoe perimeter from the outer ridge of said U-shaped portion of said channel to the outer side edge of said shoe, the inner surface of the ground-engaging face that is substantially coextensive with the U-shaped portion of the channel and said toe other side portions of the shoe from the inner ridge of said channel portion to the inner side edge of said shoe being substantially a continuation of the corresponding flat surface of the section containing said V-shaped valley.

3,340,934

AGRICULTURAL IMPLEMENT

Hugh B. Wycoff, Topeka, Ill. 61567

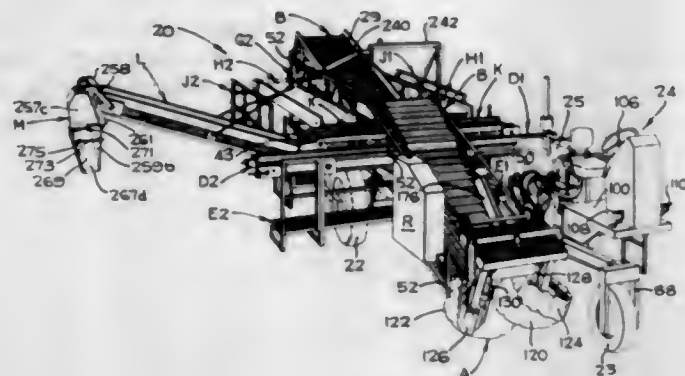
Filed May 5, 1964, Ser. No. 365,210
23 Claims. (Cl. 171—5)

1. A soil tilling implement comprising, in combination, a frame, a substantially U-shaped blade depending from said frame, a plurality of rearwardly extending soil tilling tines pivotally secured for vertical movement adjacent the rear edge of said blade, means carried by said frame for oscillating said tines in a vertical plane, said oscillating means including a pair of generally parallel rods, means articulately securing alternate ones of said tines to one of said rods, means further articulately securing alternate ones of said tines to the other of said rods, and means for imparting oscillating movement to said rods whereby said tines are similarly oscillated.

3,340,935

VINE CROP HARVESTING MACHINE

Sandor Csizma, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed July 30, 1964, Ser. No. 386,271
9 Claims. (Cl. 171-14)

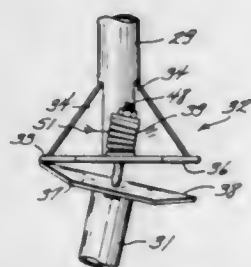


1. A vine crop harvesting machine comprising means for gathering vines and fruit along with entrained dirt and fallen fruit, a shaker conveyor arranged to receive and convey the fruit, dirt and vines along a predetermined path, a front sorting conveyor arranged to receive loose dirt and fruit from said shaker conveyor and to convey the fruit and dirt along a path transversely related to said predetermined path, a work platform adjacent said front sorting conveyor, an undershaker conveyor located downstream of said front sorting conveyor and arranged to receive the loose fruit from said shaker conveyor and convey the fruit in a direction toward the discharge end of said shaker conveyor, a discharge conveyor arranged to receive and convey sorted fruit along a path beside the conveying flight of said front sorting conveyor, a side sorting conveyor mounted at one side of said shaker conveyor for conveying the fruit in a direction counter to the direction of movement of the conveying flight of said shaker conveyor, and means for transferring fruit from said undershaker conveyor onto said side sorting conveyor, the downstream end of the conveying flight of said side sorting conveyor being arranged to discharge the sorted fruit onto said discharge conveyor.

3,340,936

HARROW ATTACHMENT BREAK-AWAY CONNECTION

Byron L. Godbersen, Ida Grove, Iowa 51445
Filed Apr. 20, 1965, Ser. No. 449,543
3 Claims. (Cl. 172-202)



1. An attachment for connecting a harrow in towing relation to a plow frame, the frame having a plow beam extended rearward to one side of and at an angle to the direction of movement of the plow frame, the attachment comprising:

- a first member secured to the plow frame;
- a second member secured to the harrow and movable in a horizontal plane relative to said first member; and

resilient, hinged means connecting said members together to form a shaft unit, said hinged means at a location intermediate the ends of said shaft unit, and biasing said members to maintain said members against relative movement, and permitting said second member to swing in a horizontal plane relative to said first member,

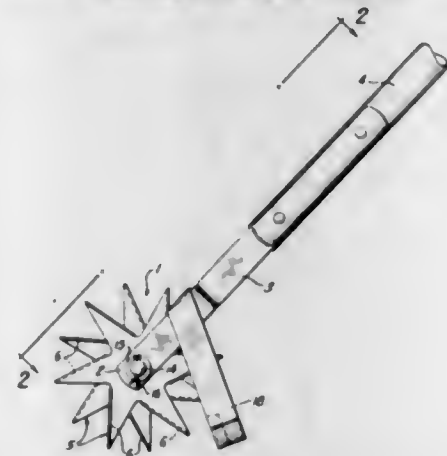
said connecting means normally maintaining said second member at an angle relative to the direction of movement of the plow frame.

3,340,937

ROTARY CULTIVATOR

Frederick B. Vanderveer, Grand Rapids, Mich., assignor to Bissell Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Nov. 4, 1964, Ser. No. 408,861
5 Claims. (Cl. 172-350)



1. A manually operable rotary cultivator comprising a rotor made up of a plurality of axially spaced sets of blades mounted to rotate together on a common axle, means journaling said axle in the spaced end portions of a frame, and a handle rigidly constituting an extension of said frame upwardly and rearwardly of said rotor for grasping by a standing operator and reciprocal manipulation of the rotor over the ground to be tilled by a forward and backward push-pull movement, each said set of blades comprising a plate metal disk having a plurality of radially extending arms with a substantially triangularly shaped blade bent laterally therefrom at the outer end portion thereof upon a fold line that disposes the blades in the bottom half of the rotor and which generally engage the ground at or below the surface at any given time in corresponding individual planes intersecting the horizontal plane of the axle forwardly of said axle whereby forward pushing of the cultivator by the operator effects easy penetration of the unbroken ground by successive blades in advance of the rotor as the rotor rolls over the ground and whereby the blades emerging from the ground to the rear of the rotor tend to lift the soil and aerate the same.

3,340,938

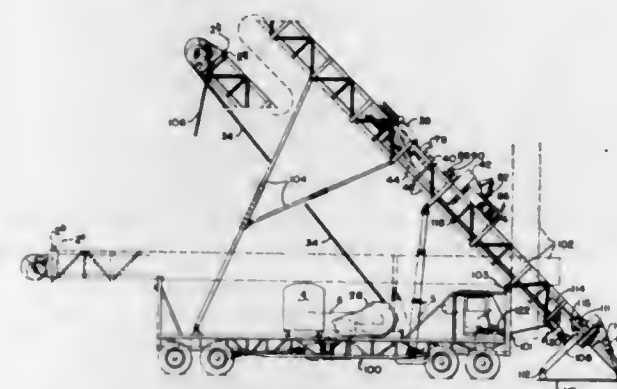
SEMI-AUTOMATED DRILLING RIG

John Hart Wilson, % Wilson Manufacturing Co.,
P.O. Box 1031, Wichita Falls, Tex. 76307
Filed Dec. 22, 1964, Ser. No. 420,293
11 Claims. (Cl. 173-28)

1. A drilling rig, including a prime mover, for drilling holes in the earth formation, which drilling rig is mounted on a supporting frame, which drilling rig comprises:

- (a) a hoisting drum for winding cable thereon, which hoisting drum is mounted on said supporting frame and is connected in power driven relation with the prime mover,
- (b) an elongated mast pivotally mounted on said supporting frame, which mast has the front only thereof open,

- (1) said elongated mast being rectangular in cross-section and having a leg on each corner thereof,
- (2) a crown block having sheaves thereon on the upper end of said mast,
- (c) an elongated frame mounted within said mast for longitudinal movement therein, which frame is in guided relation therein,
 - (1) a traveling block having sheaves mounted therein,
 - (2) a swivel for passing fluid from a non-rotatable conduit into a rotatable conduit,
 - (3) a power driven pipe rotating device,
 - (4) a pipe handling device for picking up pipe which is arranged substantially horizontally and moving said pipe through an angle to an upright position,
 - (5) said traveling block, said swivel, said pipe rotating device, and said pipe handling device being associated with said elongated frame for integral movement therewith within said elongated mast,



- (6) said elongated frame adapted to be raised within said elongated mast, by a cable, which cable is wound on said hoisting drum and passes over the sheaves of the crown block and around the sheaves of the traveling block, so as to enable the elongated frame to be raised by winding said cable onto the drum of the drilling rig, and to enable the elongated frame to be moved downward by gravity, within said elongated mast, upon unwinding said cable from said housing drum, and
- (d) arms secured to said mast near the upper end thereof and extending laterally outward therefrom,
 - (1) anchor means on each arm to anchor guy cables a spaced lateral distance from each side of said mast, and
 - (2) guy cables secured to an anchor member on each arm and extending therefrom in diverse directions, with said guy cables each secured to an anchor to stabilize said mast in elevated position.

ERRATUM

For Class 175-7 see:
Patent No. 3,341,398

3,340,939

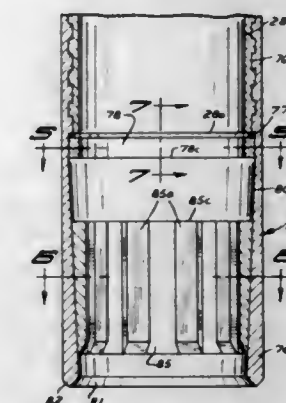
CORE LIFTER APPARATUS

Leonard A. Lindelof, Minneapolis, Minn., assignor to E. J. Longyear Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,102
9 Claims. (Cl. 175-246)

3. In core barrel apparatus having a drill stem with a core bit at its inner end and a core barrel inner tube assembly adapted to be moved through the drill stem to a

latched position adjacent the bit, said core barrel inner tube assembly including a core receiving tube and a core lifter having an outer tapered surface, the improvement comprising a stop ring and a core lifter case connected to the one end of the core receiving tube to extend axially away from said core receiving tube and to mount said core lifter for limited axial movement therein, said core lifter case having means for receivingly seating said stop ring adjacent the connection of said case to the core receiving tube and a transverse inner tapered surface of

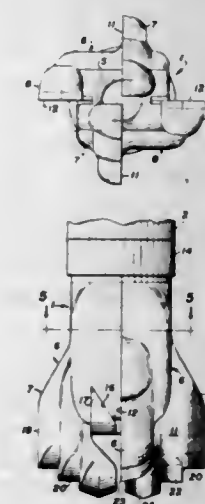


increasing transverse dimensions toward said seating means and axially opposite said seating means from said core receiving tube, said tapered surfaces being oppositely tapered and said stop ring having an inner transverse dimension less than the corresponding dimension of the tapered surface of the core lifter case that is most closely adjacent thereto and less than the corresponding maximum transverse outer dimension of the core lifter whereby said core lifter is axially slidable relative to the case to a position abutting against said stop ring.

3,340,940

WELL DRILLING BIT

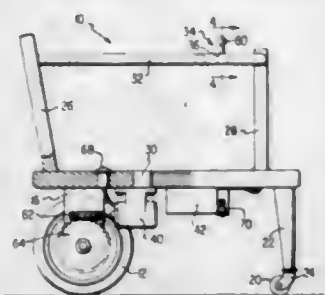
Marvin E. White, Fort Worth, Tex., assignor of forty-nine percent to John G. Elstrand, Fort Worth, Tex.
Filed Aug. 16, 1965, Ser. No. 480,079
5 Claims. (Cl. 175-412)



1. In a well drilling bit having replaceable blade units, the combination of a tubular blade holder having an externally threaded shank portion for engagement with a drill pipe, said blade holder being square in transverse section for a major portion of its length beginning at the end thereof opposite said shank portion, a pair of channel shaped blade units each embracing substantially one-half of said square end portion of said blade holder and together substantially enclosing it, each of said blade units having a pair of integral blades extending radially outwardly from two adjacent sides thereof, in circumferentially spaced relation to each other, and means removably clamping said blade units to said blade holder.

3,340,941

ELECTRIC BABY WALKER
Wallace I. Neu, 308 E. Ave. E, Alpine, Tex. 79830
Filed May 3, 1965, Ser. No. 452,481
1 Claim. (Cl. 180-6.5)



In combination with a baby walker having a frame including a seat portion adapted to support an infant in a seated position and having at least two drive wheels attached thereto for rotation about the wheel axes, reversible electric motor means mounted on said frame for relatively driving said wheels, electrical power supply means mounted on said frame, and electrical circuit means connecting said motor means to said electrical power supply means, said circuit means including a control switch including an elongated flexible control bar having one of its ends connected to first switch means for controlling the rotation of one of said wheels and having its other end connected to second switch means for controlling the rotation of the other of said wheels, each of said first and second switch means including means for selectively connecting said motor means to said power supply means to drive said motor means in either a forward or reverse direction.

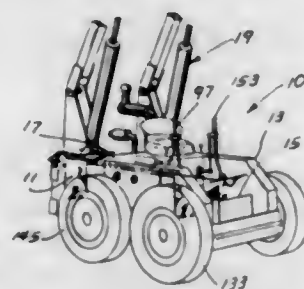
3,340,942

SELF-PROPELLED LOADER

James L. Juhl and Lyle H. Tufty, Hudson, Iowa, assignors to Universal Manufacturing Company, Hudson, Iowa, a corporation of Iowa
Filed Aug. 20, 1965, Ser. No. 481,217
9 Claims. (Cl. 180-6.66)

1. In a loader having opposite sides, a power means on said loader, first and second clutch means on one side of said loader and being operatively connected to a first pair of wheels on said one side, third and fourth clutch means on the other side of said loader and being operatively connected to a second pair of wheels on said other side, said first and third clutch means being operatively connected to said power means and adapted to cause rotation of said first and second pair of wheels respectively in one direction at times, said second and fourth clutch means being operatively connected to said power means and adapted to cause rotation of said first and second pair of wheels respectively in a second direction at times, a first control means operatively connected to said first and second clutch means to selectively cause rotation of said first pair of wheels in said one direction at times and to cause rotation of said first pair of wheels in said second direction at times, a second control means operatively connected to said third and fourth clutch means to selectively cause rotation of said second pair of wheels in said one direction at times and to cause rotation of said second pair of wheels in said second direction at times, each of said first, second, third and fourth clutches including, a rotatable hub having inner and outer ends; said hub having at least one external axial groove formed therein and having a first drive transmitting means rigidly mounted thereon adjacent the inner end, a drive cup rotatably mounted on said

hub outwardly of said first drive transmitting means and having a flange portion having at least one slot formed therein, a second drive transmitting means rigidly mounted on said drive cup, a plurality of friction discs rotatably mounted on said hub outwardly of said drive cup, each of said friction discs having at least one tab member extending therefrom in engagement with said slot, a separator disc between each adjacent friction disc, each of said separator discs being splined into said groove in said hub for rotation therewith, said friction discs having a larger inside diameter than said separator discs, a plurality of release springs operatively mounted on said hub maintaining said separator discs out of frictional engagement with said friction discs, a pressure plate splined into said groove in said hub outwardly of said friction discs and said separator discs, said pressure plate being axially movable on said hub, a first cam bearing rotatably mounted on said hub outwardly of said pressure plate and being axially movable thereon to axially move said pressure plate inwardly on said hub, a first cam member rotatably mounted on said first cam bearing, a second cam bearing rotatably mounted on said hub outwardly of said first cam bearing, a second cam member rotatably mounted on said second cam bearing, said first and second cam members having cam surfaces formed therein forming pairs of complementary and oppositely facing cam surfaces, a ball between and in engagement with each pair of oppositely facing cam surfaces whereby rotation of said first and second



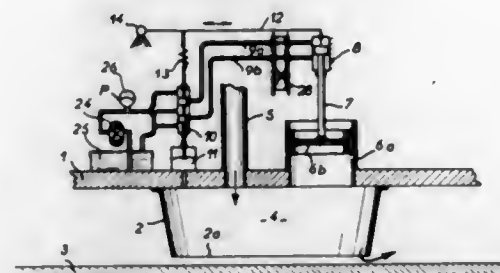
cam members in one direction with respect to each other causes the balls to ride along their respective surfaces and separate said first and second cam members and causes inward axial movement of said first cam member with respect to said hub, said inward axial movement of said first cam member causing said first cam bearing to move said pressure plate axially inwardly on said hub thereby overcoming the resistance of said release springs and causing said friction discs to frictionally engage said separator discs, said frictional engagement of said friction discs with said separator discs causing said first drive transmitting means to be rotated when rotational power is being supplied to said second drive transmitting means and causing said second drive transmitting means to be rotated when rotational power is supplied to said first drive transmitting means, said first control means being operatively connected to said first and second cam members in each of said first and second clutches to effect rotation thereof at times and including first and second tabs secured to said first and second cam members respectively in said first clutch, third and fourth tabs secured to said first and second cam members respectively in said second clutch, a first linkage means interconnecting said first tab and said fourth tab, a second linkage means interconnecting said second tab and said third tab, a third linkage means interconnecting said first and second linkage means to a first control lever.

3,340,943

AIR CUSHION STABILITY CONTROL DEVICE WITH ADJUSTABLE PLENUM CHAMBER VOLUME

René Raphaël Hirsch, Boulogne-Billancourt, France, assignor to Bertin & Cie, Paris, France, a company of France

Filed May 4, 1966, Ser. No. 547,629
Claims priority, application France, May 7, 1965, 16,280
8 Claims. (Cl. 180-7)



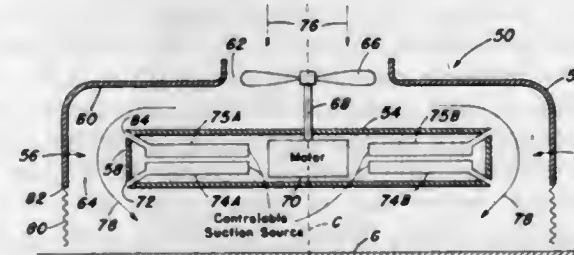
1. A ground effect machine designed to move along a bearing surface and having a plenum chamber and closure spaced from said surface, and wall means projecting in fluidtight relation from said end closure toward said surface to partially bound therewith a plenum chamber in which a pressure fluid cushion may be formed, said wall means ending in a free end adjacent to said surface but spaced therefrom by an average distance which varies during operation of the machine, said end closure defining an end wall of said plenum chamber opposite to said bearing surface, whereas said projecting wall means defines a lateral wall of said plenum chamber, means for introducing into said chamber a fluid under pressure, wherein the improvement comprises a movable wall member separate and distinct from said wall means but cooperating therewith and with said end closure in defining the volume of said plenum chamber whereby displacement of said movable wall member causes corresponding variation in the plenum chamber volume, and means associated with and movably supporting said wall member in substantially fluidtight plenum chamber bounding relation throughout the effective range of displacement of said wall member to vary said plenum chamber volume whereby said movable wall member remains in fluidtight, plenum chamber volume defining condition throughout said effective range of displacement thereof.

3,340,944

CONTROL OF A JET EXPULSED FROM AN ANNULAR ORIFICE

Douglas F. White, Bedminster, and Gunnar Heskestad, East Brunswick, N.J., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,496
9 Claims. (Cl. 180-7)



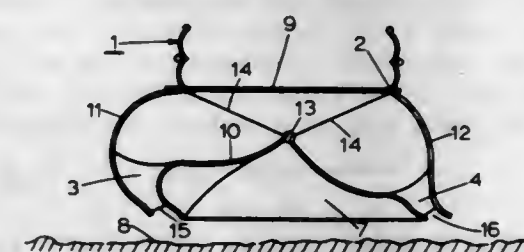
2. In a ground effect machine comprising two fixed housings one embraced within the other so that the bottoms of both housings are substantially coplanar and the space between both housings providing a conduit through which a jet of fluid is directed toward the ground,

the peripheral edge where the bottom and a side wall of the inner housing meet being provided with a peripheral slot positioned at a predetermined angle with respect to the side wall, the method of directing the jet of fluid radially inward, which consists in applying suction to the peripheral slot.

3,340,945

GROUND EFFECT VEHICLES

Alfred R. Pearson, Chesterfield, and Derek J. Hardy, Cowes, Isle of Wight, England, assignors to Westland Aircraft Limited, Yeovil, Somerset, England
Filed Aug. 26, 1965, Ser. No. 482,678
Claims priority, application Great Britain, Sept. 3, 1964, 36,054/64
2 Claims. (Cl. 180-7)

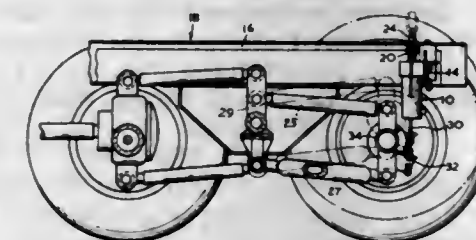


1. A sensing and regulating device for regulating the supply of air to a main air cushion according to variations in the distance between said device and an adjacent surface, comprising a horizontally disposed diaphragm member having a port formed therein for the passage of pressurized air, first and second flexible wall members connected to opposite edges of said diaphragm member and depending downwardly therefrom toward an adjacent surface, the lower edges of said flexible wall members being inclined in the same general direction whereby one lower edge is inclined inwardly toward the center of the device and the other lower edge is inclined outwardly relative to the center of the device, a flexible membrane suspended between, and having portions of its outer extremities secured to, said two flexible wall members to form with said inwardly inclined lower edge an air nozzle directed inwardly toward the center of the device to supply air to the space under said flexible membrane and to form with said outwardly inclined lower edge an air nozzle directed outwardly relative to the center of the device toward an area intended to be maintained as a main air cushion, means flexibly supporting the central portion of said flexible membrane from another part of said device so as to have said flexible membrane form with said adjacent surface a cavity, whereby pressure variations in said cavity act against and move said flexible membrane to regulate said outwardly directed air nozzle.

3,340,946

VEHICLE LOAD-TRANSFER SUSPENSIONS

Robert Frederick Whitehead, 56 Boundary Road, Chester Hill, near Sydney, New South Wales, Australia
Filed Aug. 6, 1965, Ser. No. 477,980
Claims priority, application Australia, Aug. 7, 1964, 47,892/64
2 Claims. (Cl. 180-22)



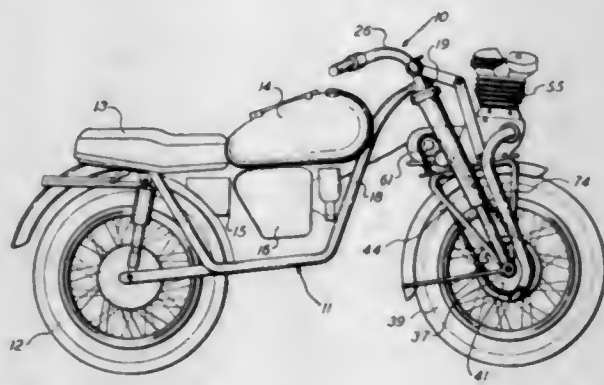
1. A vehicle construction comprising, a frame having a fixed cross frame member, a four wheeled bogie suspended from said frame including a central fixed member,

a wheeled driving rear axle linked to said fixed member and a wheeled trailing axle linked to said central fixed member, said trailing axle having a lug extending outwardly from each end thereof, a fluid cylinder affixed centrally to said fixed cross frame member and supported in a substantially vertical position, a fluid piston slidable in said cylinder having a piston rod portion extending upwardly from said cylinder, a cable guide defining a curved cable confining groove supported adjacent the upper end of said piston rod portion, a cable engaged in said guide and having respective ends extending downwardly from said guide and into engagement with a respective lug at each end of said trailing axle, and means for admitting fluid under pressure to said fluid cylinder to force said piston with said piston rod portion upwardly to cause said cable to move upwardly with said trailing axle to unload said trailing axle from a load bearing position, said lugs each having a slot therein opening at the outer end of said lug, and a link chain connected to each end of said cable and having a link passed through said slot to anchor said chain with said cable to the respective lug.

3,340,947

FRONT WHEEL DRIVE MOTORCYCLE

Clive Hollinshead and Patrick M. Hollinshead, both of 11407 E. Fredson St., Santa Fe Springs, Calif. 90670
Filed Aug. 16, 1965, Ser. No. 479,848
3 Claims. (Cl. 180—31)



1. A motor vehicle comprising a frame, a frame-supporting idler wheel at one end of the frame, a steering journal on the frame, a steering yoke, handlebars connected to the steering yoke, fork members depending downwardly from the steering yoke, a dead axle supported by the fork members, a driven wheel journaled on the axle, a motor, means between the fork members and bearing on the dead axle for supporting the motor in fixed spatial relationship to said axle, drive means connecting the motor and the driven wheel, means connecting the steering yoke to the steering journal, torque arresting bars connecting between the handlebars and the motor support means, and shock-absorbing means intervening between the vehicle frame and the dead axle.

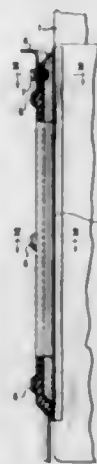
3,340,948

RADIATOR MOUNT

Franz Deckert, Sindelfingen, and Kurt Kiehnle, Esslingen (Neckar), Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 16, 1964, Ser. No. 411,541
Claims priority, application Germany, Nov. 14, 1963, D 42,940
19 Claims. (Cl. 180—68)

12. An elastic mounting arrangement for mounting a radiator in motor vehicles having a relatively fixed vehicle part, comprising:
radiator means having lateral surfaces,
elastic rail means for guidingly receiving therein said lateral surfaces,

and means operatively connecting said lateral surfaces of said radiator means with said fixed vehicle part

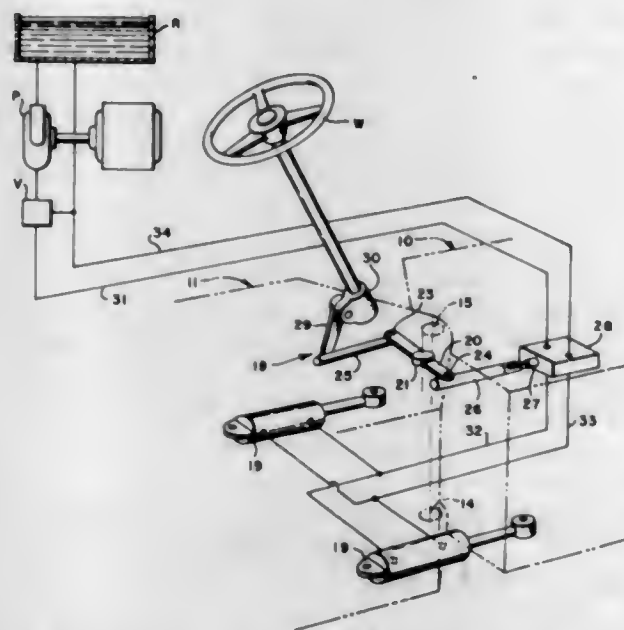


exclusively by said elastic rail means to thereby support the weight of said radiator means.

3,340,949

VARIABLE RATE STEERING FOR ARTICULATED VEHICLE

Lloyd A. Molby, Elba, N.Y., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 23, 1966, Ser. No. 559,884
16 Claims. (Cl. 180—79.2)

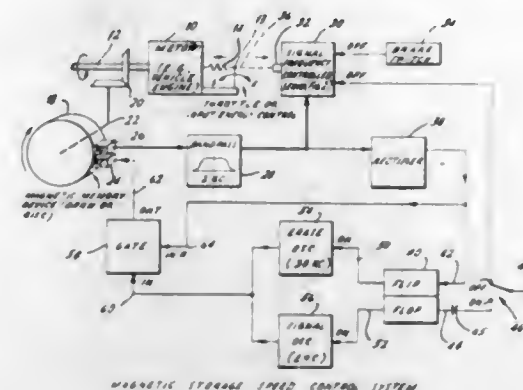


1. In a vehicle of the class described, forward and rear portions pivoted to one another for steering movement about a vertical axis, power steering apparatus for pivoting said forward and rear portions relatively to one another in said vertical axis, a control for said power steering apparatus comprising a mounting device secured for rotation with one of said vehicle portions in said steering axis, a control member for said power steering apparatus, means movably mounting said control member at a point on said mounting device that is spaced from said vertical axis, a steering wheel, means connecting said control member to said steering wheel and to one of said portions of the vehicle so as to move said control member on said mounting device incidental to movements between said wheel and said one vehicle portion, and said control member being moved as a resultant of the movement of said mounting device as that device rotates with its corresponding vehicle portion in the steering axis.

3,340,950

MOTOR AND MOTOR VEHICLE SPEED MAINTAINING SYSTEM USING RECORDED SIGNAL SERVO CONTROL

Albert Hopengarten, Lafayette Hills, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Apr. 8, 1965, Ser. No. 446,629
17 Claims. (Cl. 180—105)



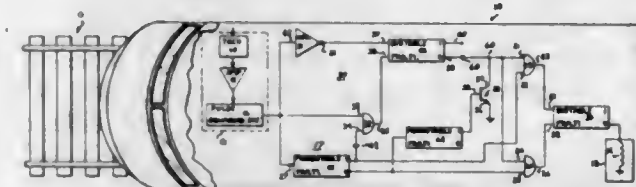
1. A motor vehicle speed maintaining system, comprising, in combination:

- a motor vehicle including a rotational motor having an output shaft arranged to propel said motor vehicle, said motor having an input energy control means,
- first means for receiving an electrical signal and adjusting said energy control means in accordance with the frequency of said signal,
- an endless magnetic memory track connected to the drive train of said motor vehicle such that said track is moved past a fixed point at a speed proportional to the speed of said motor vehicle,
- means for recording an electrical signal of a given frequency on said track such that the wavelength of the signal recorded is inversely proportional to the speed of said track and hence said motor vehicle during recording, and
- means for reproducing the signal recorded on said track in electrical form and supplying said signal to said first means, the frequency of the signal reproduced being proportional to the speed of said track during reproduction, whereby the speed of said motor vehicle will be maintained substantially the same as its speed during said recording.

3,340,951

SPEED CONTROL SYSTEM

Hillert Vitt, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Apr. 24, 1964, Ser. No. 362,312
15 Claims. (Cl. 180—106)



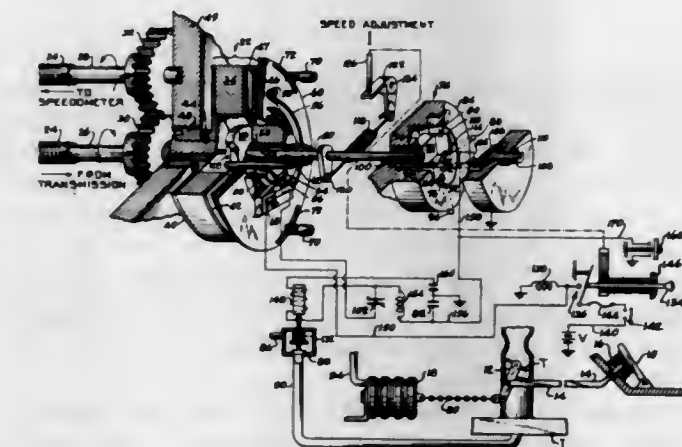
1. In a system for controlling the speed of an element, the combination comprising: means for varying the speed of said element; means for developing electrical speed indicating pulses having a width inversely related to the actual speed of said element; means responsive to the application of a speed indicating pulse for producing a speed reference pulse starting coincident with said speed indicating pulse and having a fixed width representing a desired

speed; means for comparing the widths of said speed indicating and speed reference pulse including first means to provide a first error pulse indicative of an actual speed greater than said desired speed and second means to provide a second error pulse indicative of an actual speed less than said desired speed; means responsive to said error pulses for producing a control signal; and means applying said control signal to said means for varying the speed of said element.

3,340,952

VEHICLE SPEED CONTROL SYSTEM

John B. Day, Columbus, Ohio, assignor, by mesne assignments, to Curtiss-Wright Corporation, Wood-Ridge, N.J., a corporation of Delaware
Filed Nov. 16, 1965, Ser. No. 508,051
13 Claims. (Cl. 180—108)



1. A speed control system for an automotive vehicle comprising means for changing vehicle speed; motor means operatively connected to the speed changing means; a control element for the motor means, connected thereto and including an input-signal member having a small operating range, said input-signal member being operable in one direction to cause the motor means to adjust the speed changing means so as to increase vehicle speed and being operable in the other direction to cause the motor means to adjust the speed changing means so as to decrease vehicle speed; a coupling having an input member rotatable according to vehicle speed and an output member operably connected with the input-signal member for exerting a torque thereon varying according to vehicle speed and tending to move the input-signal member in a direction to cause the speed changing means to decrease vehicle speed; a speed setting spring connected with the input-signal member to exert a torque tending to move the input-signal member in a direction to cause the speed changing means to increase vehicle speed; and speed selecting means operably connected with the speed setting spring for adjusting the spring to vary the speed required to balance the torque exerted by the spring in an intermediate position of the input-signal member within said operating range.

3,340,953

ACOUSTIC LOGGING OF CASED BOREHOLES AT A FREQUENCY DETERMINED BY CASING THICKNESS

Joseph Zemanek, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Feb. 18, 1966, Ser. No. 528,536
6 Claims. (Cl. 181—5)

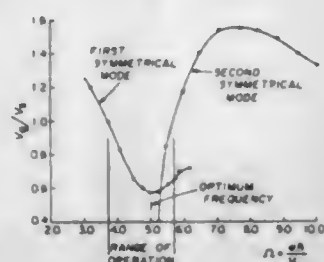
1. A method of logging acoustically determinable properties of subterranean formations traversed by a borehole containing a casing, comprising the steps of:

- (a) applying, at a point of application at measured depth, to the casing, and thence to the subterranean formations, time-spaced pulses of acoustic energy having a predominant frequency f in excess of 100 kilocycles and selected for the casing in accordance with the expression:

$$f = \frac{\Omega V_s}{2\pi h}$$

where,

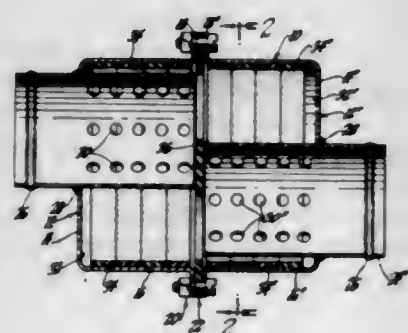
Ω =a dimensionless frequency having a value within the range of from 3.7 to 5.7,
 V_s =shear velocity of said acoustic energy in the casing in units of length per unit time, and
 h =thickness of the casing in consistent units of length;



- (b) receiving said time-spaced pulses of acoustic energy refracted through and from the formations at at least one point in spaced relationship with said point of application;
 (c) generating a function related to said received pulses and representative of information concerning acoustically determinable characteristics of the formations; and
 (d) recording said function with respect to depth in the borehole.

3,340,954 MUFFLER WITH ELASTOMERIC SOUND ABSORBING LININGS AND BY-PASS VALVE

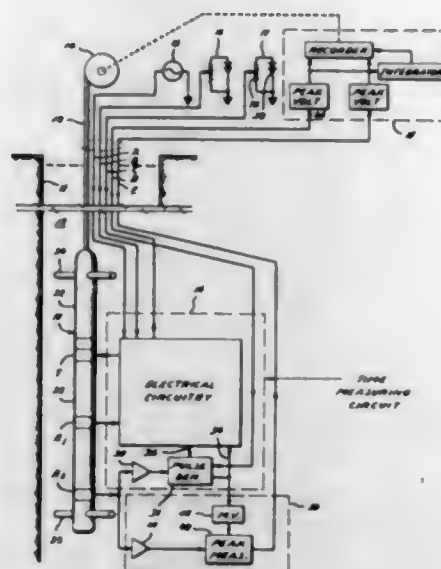
Lysle I. Benjamin, 951 N. Adams,
 Birmingham, Mich. 48008
 Filed June 10, 1965, Ser. No. 462,874
 17 Claims. (Cl. 181-45)



1. A muffler comprising:
 a housing having resonating chambers;
 an inlet conduit extending into said housing;
 an outlet conduit extending into said housing;
 acoustical coupling means between said inlet conduit and a resonating chamber;
 acoustical coupling means between said outlet conduit and another resonating chamber;
 sound absorbing means in said resonating chambers having varying sound absorption capacities therealong;
 and back pressure relief means in said housing.

3,340,955 LOGGING APPARATUS WITH PEAK AMPLITUDE MEASUREMENT OF A SELECTED HALF-CYCLE

Lee H. Gollwitzer, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
 Filed Aug. 3, 1959, Ser. No. 831,328
 21 Claims. (Cl. 181-5)



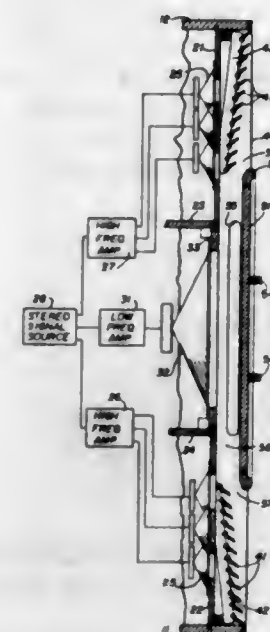
1. In an acoustic logging system for use in a borehole: means for developing an electrical signal in response to acoustic energy in the borehole, said electrical signal having a series of alternations; first circuit means selectively operable for producing a flow of output current in response to said electrical signal; gating means coupled to receive said electrical signal and responsive to a given characteristic thereof for selectively operating said first circuit means during a preselected half-cycle only of said electrical signal; and second circuit means responsive to the output current of said first circuit means for providing a signal which is representative of the peak amplitude of said preselected half-cycle of said electrical signal.

3,340,956 SOUND REPRODUCTION APPARATUS

George Edwin Owen, Jr., Melrose Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
 Continuation of application Ser. No. 374,922, June 15, 1964. This application Nov. 1, 1965, Ser. No. 513,625
 2 Claims. (Cl. 181-31)

1. A speaker system for increasing the low frequency response and improving stereophonic sound reproduction, including in combination, a cabinet having a baffle panel at the front thereof, said baffle panel having a speaker opening therein, a low frequency speaker disposed adjacent said baffle panel to emit sound through said opening thereof, a high frequency speaker disposed at each side of said low frequency speaker for reproducing stereophonic sound, said cabinet having an apertured back panel to permit free operation of said low frequency speaker, a solid compression panel having top, bottom and side edges and disposed in spaced relation from said baffle panel and in alignment with said low frequency speaker, means extending along the entire top edge of said panel to secure the same with respect to said baffle means, further means extending along the bottom edge of said compression panel to secure the same with respect to said baffle means, a portion of said cabinet extending in spaced relation along the side edges of said compression panel and spaced therefrom a distance less than the spacing between said compression panel and said baffle panel to define sound passages, the spacing between said baffle panel and said

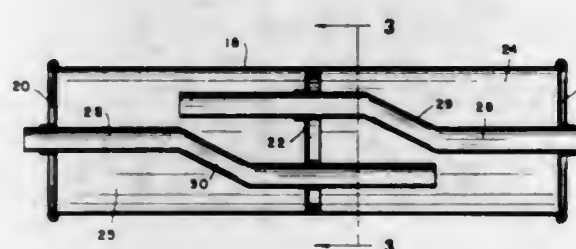
compression panel enclosing a volume of air to define a compression chamber, the compression chamber and the sound passages providing an effective loading of said low frequency speaker to increase the low frequency response



thereof and decrease the high frequency response thereof so that said low frequency speaker emits reduced sound in the range of the high frequency speakers to improve stereophonic sound reproduction from said speaker system.

3,340,957 DUAL-INLET MUFFLER WITH TWO RESONANCE CHAMBERS

Robert L. Vautaw and Raymond L. Placek, Columbus, Ind., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
 Filed July 13, 1966, Ser. No. 564,914
 9 Claims. (Cl. 181-56)



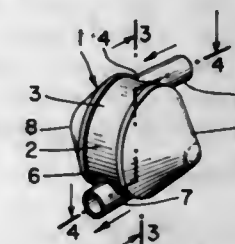
1. A resonator assembly, comprising a shell, a baffle plate extending across said shell to define first and second chambers therein, and first and second open ended tubes extending into said shell from the opposite ends thereof and mounted in said baffle plate, said first tube extending through said first chamber and terminating in said second chamber and said second tube extending through said second chamber and terminating in said first chamber to dispose said first and second tubes only in open communication with said second and first chambers, respectively.

3,340,958 MUFFLER FOR INTERNAL-COMBUSTION ENGINE

Patrick J. Conlin, Vancouver, British Columbia, Canada, assignor to Cone Muffler Development Co., Ltd., Vancouver, British Columbia, Canada, a corporation of Canada
 Filed Mar. 22, 1966, Ser. No. 536,322
 5 Claims. (Cl. 181-58)

1. In a muffler for internal-combustion engines, a hollow body comprising a generally cylindrical center portion having opposed, outwardly pointed conical ends,

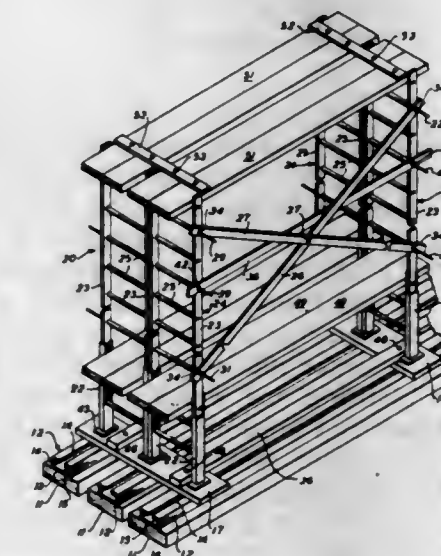
a partition within said body dividing said body into two compartments comprising an inlet compartment disposed at one side of said partition, a portion of the cylindrical body and one of said ends, and an outlet compartment disposed at the other side of said partition, the remainder of said cylindrical body and the other of said ends, an inlet nipple extending through said cylindrical center portion of said body and disposed generally tangentially with respect to the outer diameter of said cylindrical center portion of said body at a point between the ends of said center portion and communicating with the interior of



said inlet compartment at a point therein adjacent to a plane containing the axial line of said body and disposed normal to the axial line of said inlet nipple, an outlet nipple extending through said cylindrical portion in the same tangential direction as said inlet nipple at a point spaced from said inlet circumferentially of said body and affording communication between said outlet compartment and atmosphere with said outlet compartment, and a conduit means open at both ends thereof extending through said partition in the axial line of said body affording communication between said compartments.

3,340,959 SCAFFOLD

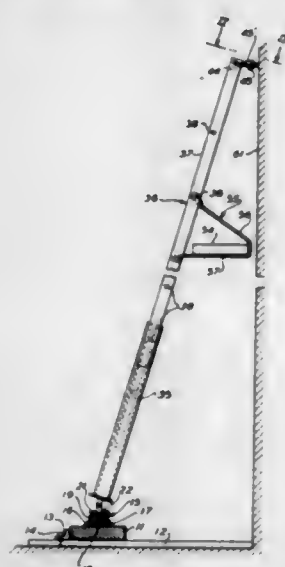
Louis F. Wilson, 312 High St., Orange, N.J. 07050
 Filed Dec. 13, 1965, Ser. No. 513,175
 2 Claims. (Cl. 182-36)



prevent overturning of the scaffold or other undesired upward displacement of the wheels, normally horizontal axles on which the wheels turn, means connecting said platforms, sleeves upstanding from said platforms with the lower end portions of said side rails received therein, each sleeve being hollow with end and side walls and having its lower end rigidly connected to its platform, the end walls of each sleeve extending the full length thereof, one of its side walls terminating short of said end walls and only the other side wall being bifurcated for passage of rung means between the bifurcations thereof, means to hold each pair of ladders in coplanar relationship, means to brace the pairs with respect to one another so that they stand upright, planks laterally free from one another extending between selected rung means of one pair and selected rung means of the other pair, positioned to provide a working surface and produce a scaffold.

3,340,960 LADDER

Louis F. Wilson, 312 High St.,
Orange, N.J. 07050
Filed Dec. 13, 1965, Ser. No. 513,174
4 Claims. (Cl. 182—39)



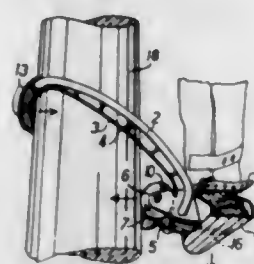
1. In combination, a track, side rails connected by rungs and forming a ladder, a truck with a body and normally horizontal axles on which wheels are turnable at the lower end of said ladder and adapted to travel on said track along a line parallel to the plane of said side rails, flanges upstand from said truck body, a platform overlying said flanges, and extending to cover said body and its wheels, a sleeve the lower end of which is connected to said platform and which opens upwardly and receives the lower end portion of a rail of said ladder, flanges depending from said platform and interleaved with respect to said upstanding flanges, and a single rod passing through all of said interleaved flanges to pivot the lower end of said ladder to said truck body.

3,340,961 POLE CLIMBER

Bohumil Provazník, Kostelec nad Orlicí, Czechoslovakia,
assignor to Československé energetické závody, Prague,
Czechoslovakia
Filed Apr. 25, 1966, Ser. No. 545,020
Claims priority, application Czechoslovakia,
Apr. 26, 1965, 2,723/65
8 Claims. (Cl. 182—134)

1. A pole climber comprising, in combination:
(a) a supporting member defining a laterally open recess adapted to receive the pole to be climbed and having two terminal portions facing each other in a direction across said recess;

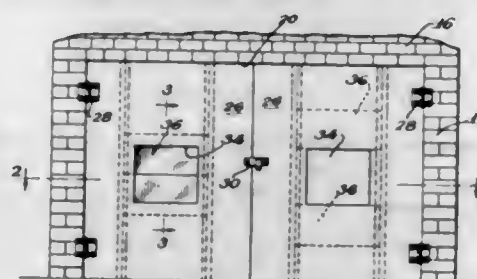
- (b) securing means on one of said terminal portions outside said recess for securing said one terminal portion to the foot of a wearer;
(c) a friction roller having an axis of rotation and an axially extending face of arcuate cross section about a geometrical axis, said geometrical axis of said face being radially spaced from said axis of rotation; and
(d) mounting means securing said friction roller to said one end portion, said mounting means including means for preventing axial movement of said friction roller while permitting rotation thereof about said axis of rotation,



- (1) said friction roller projecting from said one end portion inward of said recess in said direction,
(2) said axis of the roller being transverse of said direction, and
(3) said face of the roller being directed toward the other terminal portion of said supporting member.

3,340,962 ACCESS ARRANGEMENT FOR VERTICAL SHAFTS

Matthew L. Link, Chicago, Ill., assignor to Unarco Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 30, 1964, Ser. No. 363,821
3 Claims. (Cl. 187—3)

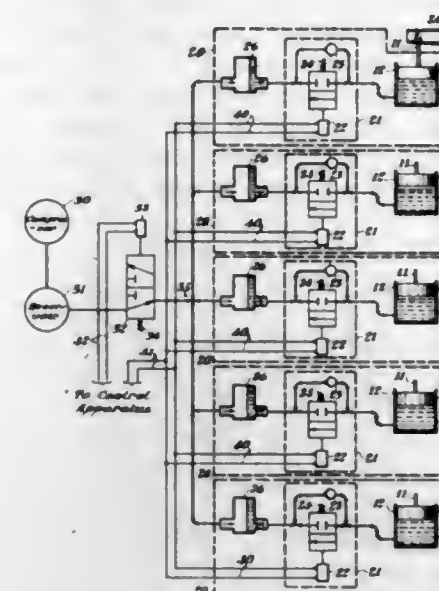


1. In combination with a vertical shaft adapted to extend through several floors of a building and having a relatively large access opening through a wall thereof on each of the floors, and vertically movable conveyor mechanism in the shaft, an access arrangement comprising an access door hinged to the shaft on a vertical axis adjacent to said large access opening for movement from a position closing the opening to an open position providing access to the shaft interior, said access door being substantially coextensive in width with the shaft, the door being formed with a relatively small service opening therethrough, and a movable closure for the service opening carried by the door.

3,340,963
RAILWAY CAR RETARDER CONTROL SYSTEMS
Edward O. Garrett, Jr., Penn Hills Township, Allegheny County, and Peter M. Noble, Valencia, Pa., assignors to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed June 24, 1966, Ser. No. 560,178
15 Claims. (Cl. 188—62)

1. A system for controlling the position of a car retarder comprising: hydraulic actuating means cooperatively associated with the car retarder, hydraulic circuit means

fluidly coupled to said hydraulic actuating means, and pneumatic circuit means interconnected to said hydraulic circuit means and having a source of pressure for causing the car retarder to assume a first position when



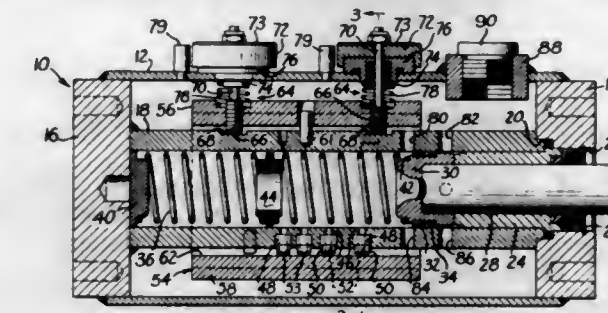
fluid is permitted to flow through said hydraulic circuit means in one direction and for enabling the car retarder to assume a second position when fluid is permitted to flow through said hydraulic circuit means in the other direction.

3,340,964
DESCENT CONTROL MECHANISM
Sheldon W. Glover, Whittier, Calif., assignor to Pacific Western Materials, Inc., Pico Rivera, Calif., a corporation of Delaware
Filed Nov. 3, 1965, Ser. No. 506,242
8 Claims. (Cl. 188—65.4)



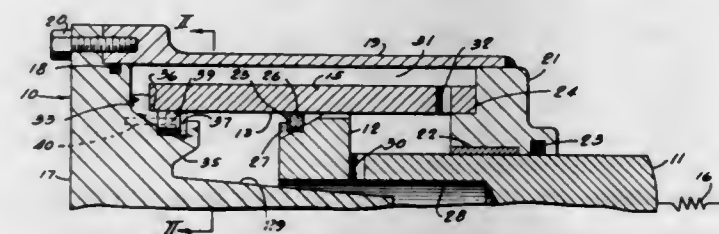
1. In a brake construction for braking the descent of a load supported by a depending flexible web, the combination comprising a turntable brake housing, friction roll and fulcrum means about which said housing is turnable, a first side of said friction roll and fulcrum means defining an unconfined area of entry into the brake housing for receiving a suspension vertically-disposed flexible web, load-engaging means anchored to said housing from which a load may depend, said load-engaging means being disposed laterally of said first side of said friction roll and fulcrum means and laterally of a vertical line defined by such vertically-disposed flexible web; guide means disposed laterally to the opposite side of said friction roll and fulcrum means and laterally of such vertical line; said guide means being adapted to guide, at least, a layer of said vertically-disposed flexible web about peripheral portions of said friction roll and fulcrum means; and means for turning said brake housing about said friction roll and fulcrum means for varying the relationship between said guide means and said friction roll and fulcrum means to increase the overlying extent of said vertically-disposed flexible web portion about said friction roll and fulcrum means in one direction of turning and to decrease such overlying extent of said web portion in the counter-direction of turning.

3,340,965
ADJUSTABLE SHOCK ABSORBER
John T. Ellis, Jr., Chicago, Ill., assignor to Ellis Fluid Dynamics Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 13, 1965, Ser. No. 486,971
4 Claims. (Cl. 188—97)



1. For use in a shock absorber comprising a pressure tube having a plurality of axially aligned and longitudinally spaced bores in the wall thereof with exterior annular seats thereabout, a piston axially movable within the pressure tube, and a piston rod connected to the piston and extending outwardly of the pressure tube for receiving impact forces, the combination of a saddle assembly surrounding the pressure tube and having a planar surface adjacent the seats whereby annular orifices are defined therebetween, and means for independently moving the opposite ends of said saddle assembly radially of the pressure tube for adjusting the distance between said planar surface and the seats so as to permit the size of the orifices to be regulated.

3,340,966
COMBINATION CHECK VALVE AND SEAL
Rollin Douglas Rumsey and Gordon W. Kamman, Buffalo, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,572
8 Claims. (Cl. 188—97)



1. In a check valve and seal forming a peripheral seal and check valve between two members, a first of which members has a cylindrical interior wall and a second of which members has an external cylindrical wall spaced radially inwardly of said interior cylindrical wall and cooperating therewith to form a compression chamber, said second member having an annular groove therein opening toward said interior cylindrical wall and having flow passageways leading through said groove from one side of said second member to the other, and means seated in said groove accommodating the flow of fluid through said passageways in one direction and blocking the flow of fluid through said passageways in an opposite direction comprising:

a split metallic sealing ring of lesser width than the width of said groove, slidably mounted in said groove for sealing engagement with said interior cylindrical wall and for axial movement in a direction to admit fluid through said passageways upon the creation of a vacuum within said internal cylindrical wall and for axial movement in an opposite direction to block the flow of fluid through said passageways upon the creation of pressure on said sealing ring,

the space between the adjacent ends of said split metallic sealing ring forming an air bleed passageway, and a dowel mounted on said second member and extending axially of said cylindrical walls and having loose engagement with said sealing ring, to insure the position of the gap between the adjacent ends of said ring in the top of said compression chamber to insure bleeding of air from said compression chamber.

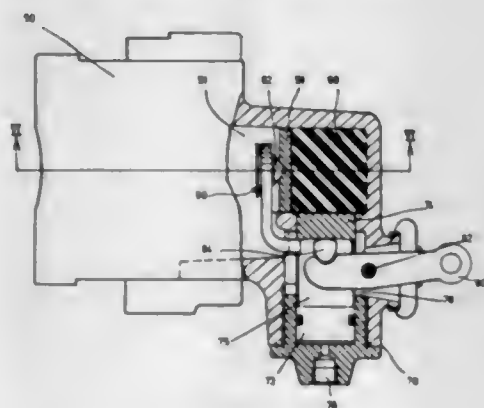
3,340,967 ACTUATING MEANS FOR SPOT-TYPE DISC BRAKE

Glyn P. R. Farr, Kenilworth, and Hugh G. Margetts, Leamington Spa, England, assignors to Girling Limited, Birmingham, England, a British company

Filed Mar. 28, 1966, Ser. No. 537,842

Claims priority, application Great Britain, Mar. 30, 1965, 13,343/65

9 Claims. (Cl. 188—106)



1. A disc brake comprising, in combination with a rotatable disc,
 - a housing straddling the edge of the disc and adapted for pivotal mounting about an axis parallel to the plane of the disc,
 - at least one pair of brake pads of friction material located in the housing and positioned one on each side of the disc,
 - a resiliently deformable body constituting a force multiplying element disposed at the rear of one of the brake pads, said one brake pad being movable into engagement with the disc in response to a compressive force on the element,
 - a movable actuator member located in abutting relation with said element, and mechanical means for moving the actuator to compress said element.

3,340,968

AUTOMOTIVE VEHICLE BRAKE SYSTEM

Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, a corporation of France

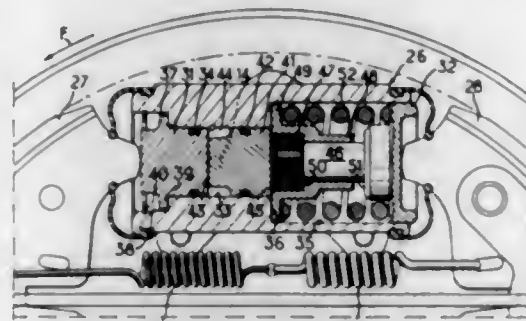
Filed Jan. 25, 1965, Ser. No. 427,673

Claims priority, application France, Feb. 10, 1964, 963,165

1 Claim. (Cl. 188—152)

An automotive vehicle brake system, comprising two front brakes and two rear brakes, means for supplying fluid under pressure to all said brakes, each of said rear brakes comprising a rotatable drum rigid in rotation with a vehicle wheel, interconnected first and second brake shoes floatingly disposed within said drum and adapted to be frictionally applied thereto, elastic restoring means for disengaging the shoes from the drum, a stationary hydraulic cylinder, a first piston and a second piston slidably disposed in the cylinder, said first piston bearing against the first shoe, a distance piece between said second piston and the second shoe, said distance piece having rod portion and a collar portion, a ring slidably disposed

on said rod portion and adapted to abut against said cylinder and against said second piston, and prestressed compression spring means extending between said collar portion and said ring, abutment means on the cylinder for limiting the travel of said first piston, said supply means including means for applying between the two pistons increasing pressures varying successively through a range of low pressures, a value of transition, and a range of high pressures, said pistons and shoes being movable relative to said drum under the range of low pressures in a direction such that the head portion of each shoe is more firmly engaged with the drum than is the tail portion of each



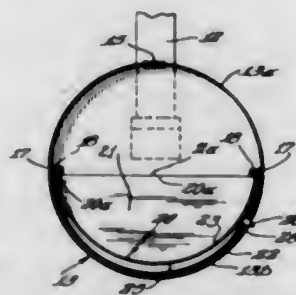
shoe with respect to the direction of rotation of the drum, said shoes, pistons and distance piece being movable when said increasing pressure reaches said value of transition, in the direction of rotation of the drum until said first piston reaches said abutment means, said second piston being movable during the range of high pressures so that the tail portion of each shoe becomes more firmly engaged with the drum than is the head portion of each shoe with respect to the direction of rotation of the drum, said first and second pistons having substantially equal cross-sectional areas so that no substantial decrease in the volume between the pistons occurs during brake application thus avoiding noise and shocks.

3,340,969 CONVERTIBLE FLEXIBLE WALLED CARRYING CONTAINERS

Howard S. Rothberg, 1700 N. Park, Chicago, Ill. 60614

Filed Apr. 6, 1966, Ser. No. 540,687

10 Claims. (Cl. 190—1)



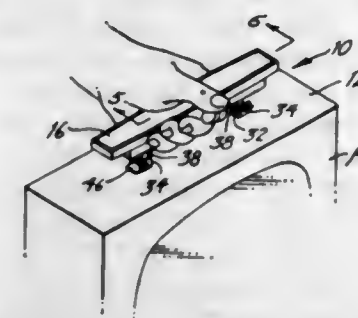
1. A carrying container comprising:
 - flexible outer walls enclosing a carrying compartment for carrying items, said walls being formed to have two symmetrical portions,
 - a closable opening in said outer wall in one of said two portions for providing access to the carrying compartment,
 - a flexible airtight material lining for said other of said two portions of conforming shape to said portion and affixed to said outer walls at least about the major part of the periphery of said lining, said lining defining a selectively inflatable and deflatable compartment which is inflatable so as to occupy and displace the entire carrying compartment and to effectively convert said carrying container for a second use.

3,340,970 COLLAPSIBLE SELF-RETURNING HANDLE WITH HIDEAWAY LINKAGE

Marton Szabo, Broomall, Pa., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey

Filed Apr. 18, 1966, Ser. No. 544,669

8 Claims. (Cl. 190—58)



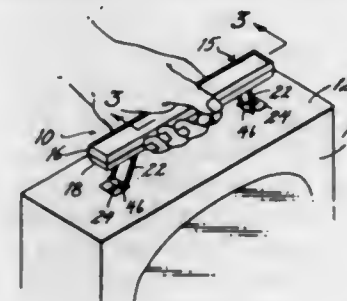
1. In combination with a carrying case having a wall member, a collapsible self-returning handle comprising an elongated handgrip member having a lower surface including a flat portion, a pair of spaced longitudinal recesses in said handgrip member opening through said flat portion, a pair of links having end portions, means securing one end portion of each link to one of said members for pivotal movement about a transverse axis, and means slidably mounting the other end portion of each link on the other member, each link extending in a generally vertical position when said handgrip member is raised above said wall member to its carrying position and each link being so dimensioned and positioned as to be movable into said recess and assume a generally longitudinal position within the confines of said recess when said handgrip member is in its non-carrying position with said flat portion bearing on said wall member said recess also receiving and confining said means mounting said one and said other end portions of said link when said handgrip member is in said non-carrying position.

3,340,971 MOLDED PLASTIC HANDLE WITH HIDEAWAY LINKAGE

Marton Szabo, Broomall, Pa., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey

Filed Sept. 14, 1966, Ser. No. 579,275

9 Claims. (Cl. 190—58)



1. A collapsible self-returning handle comprising upper and lower elongated plastic members having inner and outer faces and sealed at their inner faces to form a handgrip, means interengageable at said inner faces of said members to retain them in a predetermined position relative to each other when sealed, openings through the outer face of said lower plastic member adjacent its ends, elongated guide members, means securing said guide members between said inner faces of said upper and lower plastic member longitudinally across said openings, and link members extending through said openings, each having

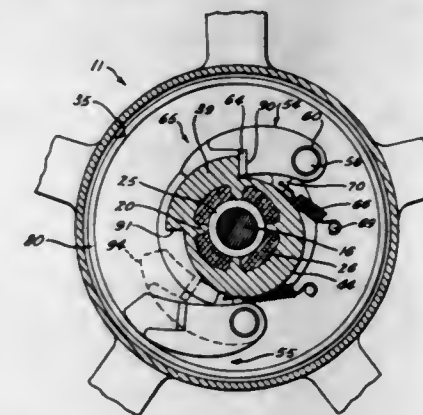
one end portion slidable in said guide members and another end portion adapted to be hingedly attached to a carrying case, each guide member being a substantially U-shaped trough which is narrower than said openings through the outer face of said lower plastic member, each link member having one end portion slidable in said trough and side portions straddling said trough.

3,340,972 ONE-WAY ENGAGING REVERSIBLE PIVOTED PAWL OVERRUNNING CLUTCH

Charles W. Burkland and John C. Mellinger, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware

Continuation of application Ser. No. 417,102, Dec. 9, 1964. This application Oct. 24, 1966, Ser. No. 589,130

6 Claims. (Cl. 192—43.1)



1. In an overrunning clutch device, the combination comprising: a driving clutch member rotatable about an axis; drive means for rotating said driving clutch member at a primary speed; a driven clutch member juxtaposed to said driving clutch member and positioned coaxially thereto; means associated with said driving and driven clutch members to effect driving engagement therebetween and including at least one movably mounted element; means for biasing said movably mounted element to a drivingly engaged position at which the biasing force tending to maintain the movably mounted element engaged exceeds the centrifugal force acting on said movably mounted element at said primary speed, said movably mounted element having a mass centroid located at a first radius of rotation about said axis when said movably mounted element is biased to said drivingly engaged position; and means for moving said movably mounted element outwardly from said axis to a first drivingly disengaged position for positioning said mass centroid at a second greater radius of rotation responsive to overrunning operation by said driven clutch member at which position the centrifugal force exceeds the biasing force acting on said movably mounted element at substantially said primary speed whereby said movably mounted element is moved to a second fully disengaged position at substantially said primary speed.

3,340,973 VEHICLE CLUTCH WITH DISC SPRING OPERATOR

Paul Maucher, Stuttgart-Gablenberg, Germany, assignor to Luk Lamellen und Kupplungsbau G.m.b.H., Esslingen-Mettingen, Germany

Filed Feb. 17, 1965, Ser. No. 433,521

Claims priority, application Germany, Feb. 18, 1964, L 47,072

7 Claims. (Cl. 192—68)

1. A clutch structure, especially for motor vehicles, which includes: a flywheel, said flywheel having an outer annular portion, and a hub and radial arm means interconnecting said hub and said annular portion, said annular

portion having annular surface means with the plane thereof substantially perpendicular to the axis of rotation of said flywheel, friction disc means adapted to be rotatably connected to a driven shaft and operable selectively to frictionally engage and disengage said annular surface means to thereby selectively establish and interrupt frictional driving connection between said flywheel and said friction disc means, driving shaft means connected to said hub, pressing plate means interposed between a portion of said radial arm means and said friction disc means and



operable selectively to press said friction disc means against said annular surface means and to permit said friction disc means to frictionally disengage said annular surface means, said pressing plate means being provided with extension means extending between and beyond said radial arm means, said dish spring means normally engaging said extension means so as to cause said plate means to press said friction disc means against said annular surface means, said dish spring means also being operable selectively to disengage said extension means to thereby relieve pressure on said plate means and said friction disc means.

3,340,974

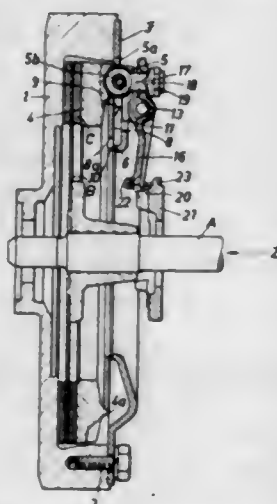
FRICION CLUTCH, ESPECIALLY FOR MOTOR VEHICLES

Paul Maucher, Stuttgart-Gablenberg, Germany, assignor to Luk Lamellen und Kupplungsbau Gesellschaft mit beschränkter Haftung, Buhl, Baden, Germany

Filed Oct. 24, 1965, Ser. No. 504,348

Claims priority, application Germany, Oct. 26, 1964, L 49,114

8 Claims. (Cl. 192-68)



1. A friction clutch for motor vehicles, which includes: an output shaft, a flywheel adapted to be connected to a driving shaft of an engine and provided with a peripheral annular flange, annular cover plate means connected to the free end face of said flange, follower disc means arranged within said flange and connected to said output

shaft for rotation therewith, pressure disc means axially displaceably arranged within said flange and operable selectively to be moved into and out of frictional driving connection with said follower disc means, annular dish spring means supported by said pressure disc means and having its inner marginal portion provided with circumferentially spaced recesses so as to form substantially radially inwardly extending and circumferentially spaced tongues, the inner end portions only of said tongues being engaged by the inner edge portion of said cover plate means so that between the inner edge portion of said cover plate means and the inner edge portions of said recesses there will be formed air passage means for cooling said dish-spring means, the radial extension of said recesses amounting to from 20% to 40% of the total radial extension of said dish spring means, a plurality of two-arm lever means pivotally supported by said cover plate means, each of said two-arm lever means having a first arm and a second arm respectively extending radially outwardly and radially inwardly from the pivotal connection of the lever arm means with said cover plate means, arm lever means with said pressure disc means, and a pressure member movable relative to and in axial direction of said output shaft and operatively connected to the second arms of said two-arm lever means and operable selectively to actuate said pressure disc means through said two-arm lever means for disengaging the clutch.

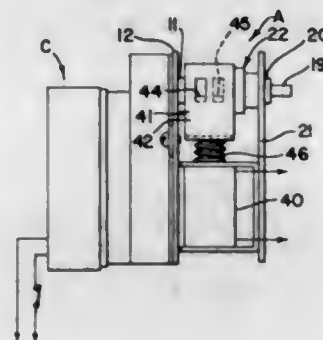
3,340,975

SOLENOID OPERATED CLUTCH MECHANISM

Frederick Edwin Erickson, Port Byron, Ill., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Nov. 9, 1965, Ser. No. 506,940

9 Claims. (Cl. 192-81)



3. In a spring clutch having a driven shaft and a driving shaft and having a common axis of rotation, a coiled spring coaxially wrapped about at least adjacent portions of said shafts, said spring having an internal diameter sufficiently small relative to the outer diameters of said shafts that said spring is normally in resilient gripping relationship with both of said shafts, the improvement comprising: said spring having opposing free ends; and, clutch release means for concurrently engaging and displacing said free ends in opposing directions about said common axis so as to unwind and increase the internal diameter of said spring whereby it is released from its gripping relationship with said shafts.

3,340,976

SPEED RESPONSIVE COUPLING DEVICES

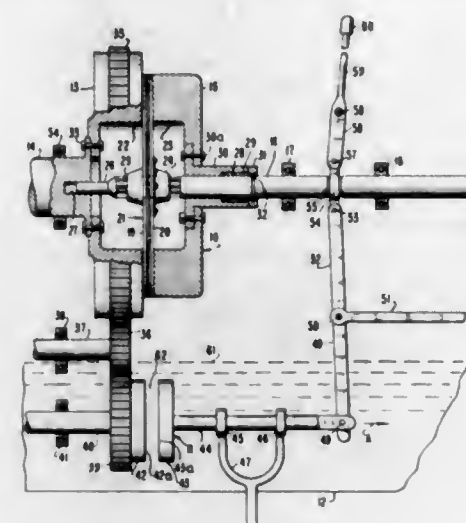
David B. Cox, Sewell, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed Dec. 6, 1965, Ser. No. 511,746

10 Claims. (Cl. 192-103)

1. In a power transmission device comprising a driving member, a driven member axially movable toward and from the driving member, and means intermediate said

members for providing a driving connection therebetween, the improvement comprising a rotatable plate adjacent said driving member, a non-rotatable plate spaced from said rotatable plate by a narrow gap, said non-rotatable plate being axially movable toward and from the rotatable plate, a viscoelastic liquid in said gap in contact with adjacent surfaces of said plates, said liquid being characterized, when subjected to a rotary stress, of undergoing rotary shear and exerting a pressure normal to said surface of the non-rotatable plate, means for



enabling the driving member to rotate the rotatable plate, said rotatable plate, by rotation thereof, applying a rotary stress to said liquid to cause the latter to undergo rotary shear and to produce said pressure, said pressure being effective against said non-rotatable plate to move the same axially away from said rotatable plate, and means for transmitting said last-mentioned axial movement to said driven member to move the same towards said driving member, thereby bringing said members into driving engagement.

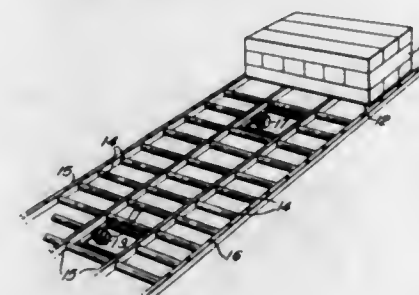
3,340,977

ROTARY SUPPORTS

Henry Cowan, Lillington, Leamington Spa, England, assignor to The Iso-Speedic Company Limited, Warwick, England, a British company

Filed June 10, 1966, Ser. No. 556,649

6 Claims. (Cl. 193-37)



1. In a mechanical goods handling system of the kind comprising an inclined track, a goods carrier adapted to move under gravity down said track, and means supporting said goods carrier during said movement; the improved support means which comprises a rotary member rotatably carried by one and peripherally engaging the other of said carrier and said track, said rotary member comprising a hollow portion which turns therewith, means defining with said hollow portion a chamber, first and second meshing gear wheels within said chamber which form with said chamber a gear pump, said first gear

wheel being carried on a fixed axis and said second gear wheel being carried by said rotary member and mounted to rotate when said rotary member rotates whereby said pump is driven, means defining a closed circuit connecting the output side of said pump to the input side of said pump, a throttle valve within said circuit and adapted to be automatically actuated by increase in pressure on the outlet side of said pump, and a mass of hydraulic fluid substantially filling said pump chamber and circuit for continuous circulation through said circuit by said pump whereby the resistance of said fluid to the action of said pump provides a braking effect and as the speed of rotation of said rotary member increases said closed circuit is automatically restricted by actuation of said throttle valve to provide a greater resistance.

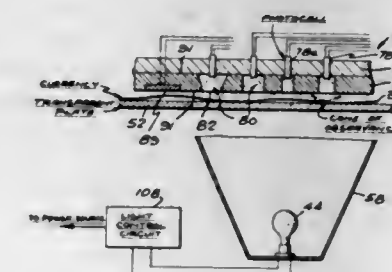
3,340,978

BILL ACCEPTANCE AND DETECTION SYSTEM

George D. Haville, Santa Barbara, Calif., assignor to Advance Data Systems Corporation, Beverly Hills, Calif.

Filed Apr. 30, 1965, Ser. No. 452,065

16 Claims. (Cl. 194-4)



1. In a device for receiving and evaluating paper currency of a selected denomination:

- a housing;
- a bill detector within said housing;
- means permitting hand insertion of a bill within said detector;
- means for denying access to the bill during test;
- means for transmitting light through a bill under test;
- a plurality of cavities;
- irregularly shaped apertures overlying at least some of said cavities; and
- a light sensitive cell located in each of said cavities and spaced sufficiently from a bill under test so as to respond to all of the light transmitted through irregularly shaped areas of the bill overlying said irregularly shaped apertures.

3,340,979

VENDING MACHINE AND ELECTRICAL CONTROL CIRCUIT THEREFOR

James E. Howard, Jr., Feeding Hills, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

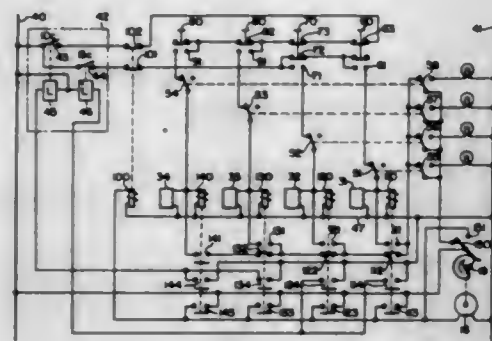
Filed July 20, 1966, Ser. No. 566,639

4 Claims. (Cl. 194-10)

- 1. A vending machine comprising a plurality of dispensing mechanisms;
- a common operating mechanism for said dispensing mechanisms adapted to be operated during each vend cycle;
- a respective solenoid for each dispensing mechanism, a driving connection adapted to connect said common operating mechanism to a selected dispensing mechanism in response to the energization of each said solenoid during a vend cycle;
- a first power supply conductor, a second power supply conductor;

a plurality of selector switches including a first group of switches adapted to control the selection of articles to be vended at a low price and a second group of switches adapted to control the selection of articles to be vended at a high price and each selector switch adapted to control a respective one each of said solenoids;

a coin acceptor switch having a first set of contacts to be closed upon receipt of coins in the amount of the low price and second set of contacts to be closed upon receipt of coins in the amount of the high price; means providing a first circuit extending through the first and second group of selector switches in series and through the first set of acceptor switch contacts when closed upon receipt of coins in the amount of the low price to said first power supply conductor, means providing a second circuit extending through the second group of selector switches in series and through the second set of acceptor switch contacts when closed upon receipt of coins in the amount of the high price to said first power supply conductor; each selector switch in the first group of selector switches being operable, when manually actuated, to connect a solenoid controlled thereby from said second power supply conductor to said first power supply conductor through said first circuit and said acceptor switch low price contacts, and to open the first circuit to the selector switches later in the series of the first group of selector switches and, when in non-actuated condition, to open the first circuit to the solenoid controlled thereby, and to continue the first circuit to the selector switches later in the series of the first group of selector switches,



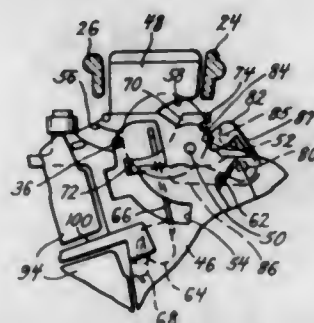
1. In a coin-selecting apparatus including structure defining a coin-receiving path and a pair of coin-transfer paths:

- a cradle pivotally mounted and disposed substantially at the zone of juncture of the paths,
- the cradle including catch means engaging and receiving a coin from the coin-receiving path, the cradle tilting under the weight of the coin when held by the catch means and releasing the coin to one of the coin-transfer paths when tilted to a predetermined angle, and
- the catch means including a yieldable support that passes certain non-selected coins other than a pre-selected coin by the cradle to the other coin-transfer path.

3,340,981

MONEY-HANDLING DEVICES

Anton Okolschan, St. Louis, Mo., assignor to National Rejectors Inc., St. Louis, Mo., a corporation of Missouri
Filed Dec. 5, 1966, Ser. No. 611,500
18 Claims. (Cl. 194—102)



15. In a coin-testing device which has a coin-receiving passageway therein and a cradle that is movably mounted adjacent said passageway and that has spaced-apart coin-receiving surfaces thereon which normally extend into said passageway to intercept authentic coins of a desired denomination, the improvement which comprises:

- a pivot that is mounted on and movable with said cradle,

each selector switch in the second group of selector switches being operable, when manually actuated, to connect a solenoid controlled thereby from said second power supply conductor to said first power supply conductor through said second circuit and said acceptor switch high price contacts, and to open both said first and second circuits to the selector switches later in the series of both said first and second groups of switches and, when in non-actuated condition, to open the second circuit to the solenoid controlled thereby, and to continue the second circuit to the selector switches later in the series of the second group of selector switches and to continue the first circuit to the selector switches later in the series of said first and second groups of selector switches;

a vend cycle switch having normally closed vend cycle contacts connected to said first power supply conductor and adapted to be open near the end of each vending cycle;

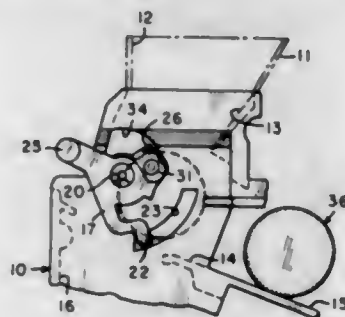
and a plurality of holding circuit relays each connected in parallel with a respective one of said solenoids to be energized upon energization of the respective solenoid and having contacts connected in a series holding circuit adapted to be connected through the normally closed contacts of said vend cycle contacts to said first power conductor, each

holding relay when energized adapted to extend the series holding circuit to maintain the respective solenoid energized during the vend cycle and to open the holding circuit extending through the holding relays later in the holding circuit series, the holding circuit for the respective solenoid being broken upon the opening of the vend cycle switch contacts near the end of each vending cycle.

3,340,980

COIN-SELECTING AND -SEPARATING APPARATUS

Bart G. Martin, St. Louis, Mo., assignor to Coin-Acceptors, Inc., a corporation of Missouri
Filed June 16, 1966, Ser. No. 558,114
10 Claims. (Cl. 194—102)



1. In a coin-selecting apparatus including structure defining a coin-receiving path and a pair of coin-transfer paths:

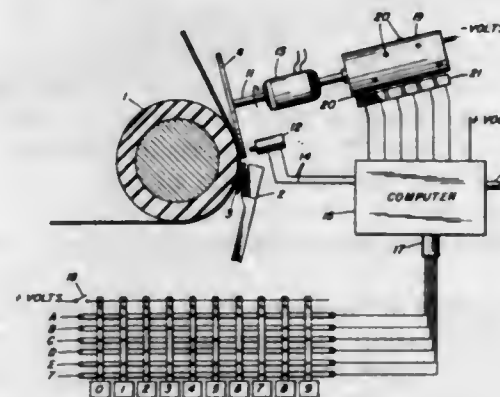
- a cradle pivotally mounted and disposed substantially at the zone of juncture of the paths,
- the cradle including catch means engaging and receiving a coin from the coin-receiving path, the cradle tilting under the weight of the coin when held by the catch means and releasing the coin to one of the coin-transfer paths when tilted to a predetermined angle, and
- the catch means including a yieldable support that passes certain non-selected coins other than a pre-selected coin by the cradle to the other coin-transfer path.

- a latch that is mounted on and rotatable about said pivot and is thus rotatable relative to said cradle,
- a stop that is adjacent said latch,
- a surface on said latch that can coast with said stop to block appreciable movement of said cradle,
- said surface on said latch being disposable out of register with said stop to permit appreciable movement of said cradle,
- a second surface on said latch that is disposed within said passageway and that can be engaged and moved by authentic coins of said desired denomination within said passageway,
- said second surface on said latch normally being spaced from one of said coin-receiving surfaces on said cradle a distance less than the diameter of an authentic coin of said desired denomination,
- whereby an authentic coin of said desired denomination within said passageway can engage said second surface on said latch and said one coin-receiving surface on said cradle and can rotate said latch far enough about said pivot to move the first said surface on said latch out of register with said stop and thereby enable the weight of said coin to move said cradle toward coin-releasing position,
- said second surface on said latch being smooth and gently rounded,
- said smooth, gently rounded second surface on said latch facilitating coin-induced rotation of said latch.

3,340,982

INFORMATION STORAGE AND PROCESSING USING CODED INKS

Robert E. Torley, Wilton, and Donald J. Berets, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Feb. 9, 1966, Ser. No. 526,114
4 Claims. (Cl. 197—1)



- A machine for typing and coding message comprising a typewriting mechanism and in addition,
 - a moving sector element above the point of typing impact, said element being provided with separate areas each carrying a different coded ink, each ink having a different coding component,
 - means for moving the element at predetermined rate,
 - a single coding hammer registering with the moving element above a typed symbol, means for actuating the hammer one or more times for each typed symbol in accordance with the number of components of coded ink required for a particular symbol, said means being in synchronism with the moving element so that for a particular component the hammer strikes only when the corresponding sector is between it and the paper, and
 - means actuated by the typing of each symbol to program the sequence and number of hammer movements for the particular symbol.

3,340,983

PRINTING DEVICE USING CODED INKS

Frederick Halverson, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Feb. 9, 1966, Ser. No. 526,178
9 Claims. (Cl. 197—1)

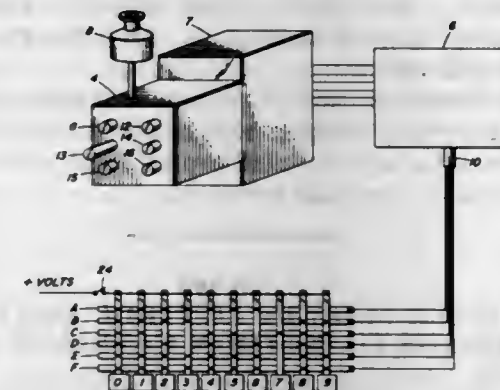


- In a typewriter having keyboard, carriage, carriage advancing means, and a typing point, the improvement which comprises in combination,
 - a plurality of printing hammers adjacent to the printing point and spaced horizontally therefrom in the direction of carriage travel, said hammers being provided with means for inking each hammer with a separate ink, the ink for each hammer being different in composition from the ink for any other hammer, means for preventing mixing of any one of the different inks with any of the others, and
 - means controlled by key action for causing pre-selected coded hammers to strike paper on the carriage over a typed symbol, said actuation occurring subsequent to typing of a symbol for a particular key.

3,340,984

INFORMATION STORAGE USING PLURAL CODED INKS

Raymond John Dunsford Smith, Bethel, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Feb. 9, 1966, Ser. No. 526,302
9 Claims. (Cl. 197—1)

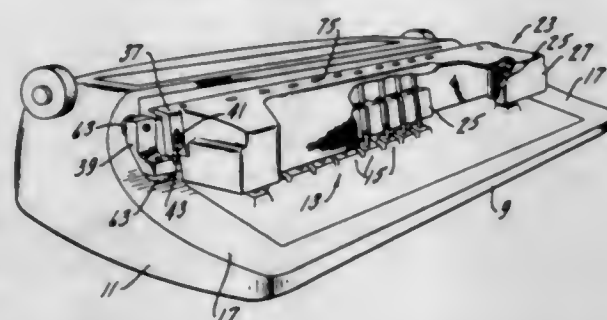


- Printing means for printing in different coded inks, said coded inks comprising an ink composition including only a single coding component, comprising in combination,
 - a printing head provided with a plurality of closely spaced but separated porous printing rods,
 - each rod having a large number of interconnecting pores and a printing end surface, the pores interconnecting to the printing end surface,

- (c) each rod containing an ink of different composition and including only a single component of the code, the single component being different in each ink, and
- (d) means for causing at least one printing rod to move into printing position in accordance with the code for any particular symbol and means for returning printing rods to their rest position after printing.

3,340,985
SOLENOID-OPERATED TYPEWRITER
AUTOMATIC DRIVE AND MOUNTING
THEREFOR

Alexander Sinila, Barrington, Ill., assignor to Nuclear Data, Inc., Palatine, Ill., a corporation of Illinois
Filed Feb. 2, 1966, Ser. No. 524,576
4 Claims. (Cl. 197-19)



1. In a device having at least one solenoid positioned to remotely actuate at least one key on a typewriter keyboard, improved means for attaching said device to a typewriter housing comprising:

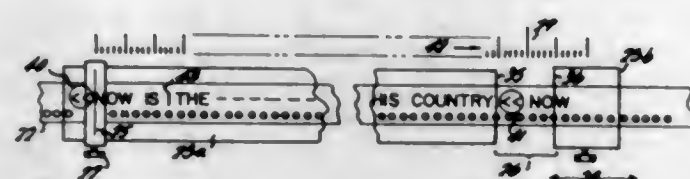
- an elongated beam having a U-shaped bracket and an L-shaped bracket adjacent each end of said beam, said L-shaped brackets having a first vertically extending leg and a second leg extending generally horizontally in a direction towards said keyboard, said U-shaped brackets extending generally horizontally in a direction opposed to said second legs and adapted to hook onto said typewriter housing so that movement of said beam is restricted vertically and horizontally in a direction towards said keyboard,
- an adjustable threaded member extending from each leg of said L-shaped brackets and adapted to engage said typewriter housing and urge said support beam and U-shaped hooks generally upwardly and horizontally towards said keyboard, thereby rigidly mounting said beam to said typewriter housing,
- a housing adapted to receive and support each said solenoid, and
- means formed in said beam and said solenoid housing to removably support said solenoid housing on said beam in a position cantilevered from said beam and extending over said keyboard.

3,340,986
TYPEWRITER MARGIN CONTROL DEVICE HAVING MEANS TO POSITION CARRIAGE RETURN CODES

Paul R. Adams, Upper Montclair, N.J., and James W. Whitesel, Western Springs, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 18, 1966, Ser. No. 528,904
22 Claims. (Cl. 197-20)

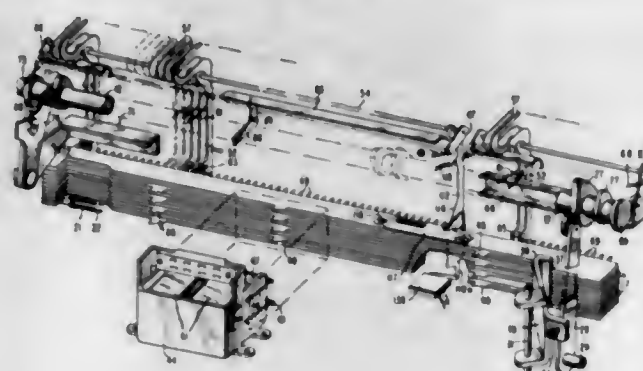
1. A device for controlling the right-hand margin on a print out copy of a typewritten sheet of paper comprising a prestored data information medium having thereon both clear copy of the typewritten text material and typewriter command signals for causing said print out copy to be made, at least one of said signals being a right-hand

margin control command signal which appears at the end of each line of typing, tape transport means having a measured length thereon effectively equivalent to the distance along said medium which is required to store the command signals which will cause said typewriter to type control signals to desired locations on said sheet of paper,



thereby adjusting the lines of said print out copy to have a line having a desired length on said sheet of paper, means for comparing the measured length with the distance between the margin control command signals appearing on said medium, and means for adjusting the spacing commanded during print out to bring said margin said desired length.

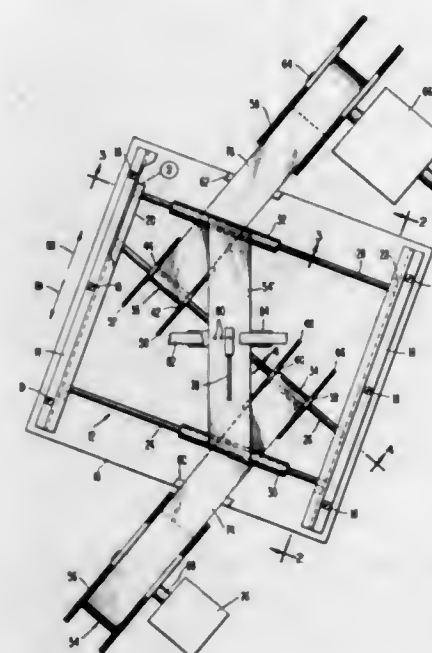
3,340,987
REPEAT-CHARACTER-DELAY CODE
TRANSLATOR
Donald G. Bastian, Rochester, N.Y., assignor to Friden, Inc., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 582,134
14 Claims. (Cl. 197-20)



1. A repeat-character-delay code translator comprising,
- a code translator structure having plural reciprocal code permutation members and including operating means for successively and selectively positioning said members individually in one of two operative positions thereof according to corresponding individual ones of the code elements in each of successive multiple-code-element permutation codes supplied for control of said operating means and having plural seeker members selected individually according to each individually different permutational positioning of said permutation members in said two operative positions thereof,
 - seeker operating means for moving each said selected seeker to a seeker output-actuation position,
 - a repeat character delay test member reciprocally moved toward and from a test position under control of said permutation-member operating means after each said permutational positioning of said permutation members,
 - means carried by each said permutation member and cooperating with said test member for controlling the motion of said test member to either of two test positions according to the repeat-character identity or lack of identity of the successive permutational positioning of said permutation members in accordance with successive supplied permutation codes,

and means controlled by said test member in the one of said two positions thereof corresponding to said repeat-character identity to delay for a preselected time interval said movement of the selected one of said seeker members to said seeker output-actuation position.

3,340,988
CARRIAGE MECHANISM PROVIDING LETTER
SPACING WITHOUT MOVING ENDS OF WEB
Paul R. Hoffman, Farmington, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 4, 1966, Ser. No. 592,036
8 Claims. (Cl. 197-133)



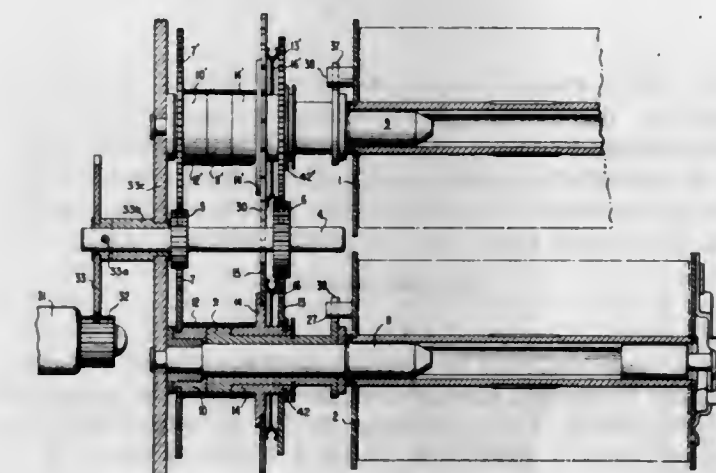
1. A carriage mechanism for moving an elongate record medium along a printing line comprising a frame movable in a printing operation along a rectilinear path, a first pair of spaced rollers mounted on said frame with their axes at an angle to said rectilinear path for supporting and guiding the printing zone portion of said record medium and adapted to be moved axially by movement of said frame and said record medium, a second pair of rollers mounted on said frame with their axes at a different angle to said rectilinear path than said first pair of guide rollers for respectively supporting and guiding said record medium beyond each end of said printing zone portion, guiding means for causing said second pair of rollers to move axially in the same general direction as said first pair of rollers when said frame is moved, and means for holding the end portions of the record medium stationary when said frame is moved to cause said printing zone portion to move so that a point thereon will move along a line parallel to said printing line.

3,340,989
RIBBON REVERSE MECHANISM
Richard E. Busch, La Puente, Calif., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 11, 1964, Ser. No. 388,898
3 Claims. (Cl. 197-165)

1. A ribbon reversing mechanism comprising:
- (a) first and second shafts fixed in spaced apart relationship with each other;
 - (b) first and second ribbon spools mounted for rotation on said first and second shafts and to which the opposite ends of said ribbon are attached respectively;

(c) first and second spool actuating means rotatably mounted on said first and second shafts, respectively, for rotating said spools, each of said actuating means comprising:

- (1) a sleeve around the shaft and extending longitudinally along its length;
 - (2) a hub on one end of said sleeve; and
 - (3) a spool drive means at the other end of said sleeve;
- (d) rotatable drive means comprising:
- (1) a first hub rotatably carried on each of said shafts on one side of the hub end of said actuating means and being of the same outer diameter as said hub end;
 - (2) a second hub rotatably carried on each sleeve on the other side of said hub end of said actuator and being of the same outer diameter as the hub end;
 - (3) first hub driving means for rotating each of said first hubs at one speed; and
 - (4) second hub driving means for rotating each of said second hubs at a faster speed;



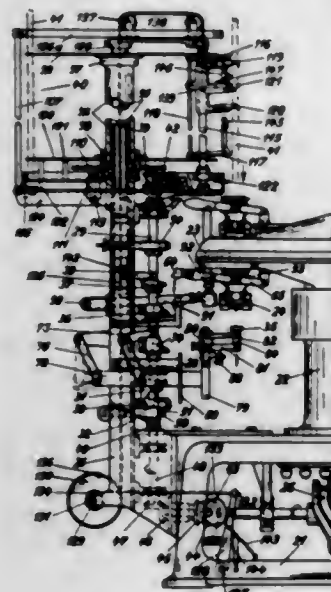
(e) first and second clutch means mounted on said first and second shafts, respectively, and each comprising:

- (1) a coil spring tightly wound around all three of said hubs;
- (f) projection means on each end of said ribbon; and
- (g) blocking means responsive to said projection means for alternately counteracting each of said second hubs driving means;
- (h) each of said clutch means in response to said blocking means being alternately ineffective to drive its associated actuating means when said second hub is rotating at the higher speed whereby its associated spool is in an idle condition, and effective to drive said associated actuating means when said blocking means is effective thereby to rotate the associated spool to wind ribbon thereupon from the idle spool.

3,340,990
GLASS TUBE FEEDING DEVICES
Jakob Dichter, Sachsendamm 93, Berlin-Schoenberg 62, Berlin, Germany
Filed Feb. 11, 1966, Ser. No. 526,841
Claims priority, application Germany, Feb. 12, 1965, D 46,686
28 Claims. (Cl. 198-20)

1. Glass tube feeding device for feeding glass tubes to the working chucks of glass working machines comprising at least one storage magazine including means for storing work pieces therein, means including several work stations to which the work pieces are advanced successively, transfer means for transferring a work piece from

said magazine to a chuck, a control shaft including cam means and driver means mounted thereon, follower means coacting with said cam means, means for selectively actuating said magazine with said follower means for successive feeding of each work piece to an empty chuck,



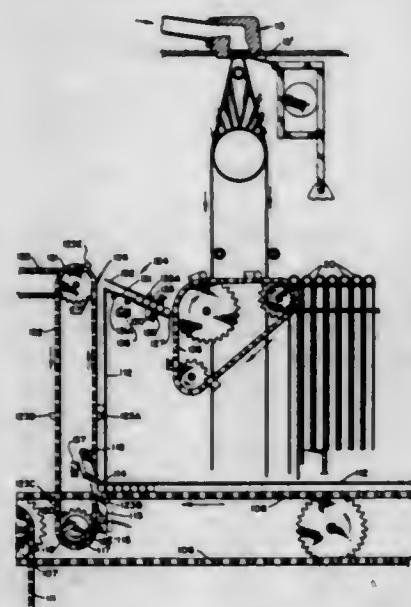
drive shaft means having a driving means thereon, a coupling mechanism interconnecting said drive shaft means to said control shaft, lever and brake means selectively operated by said control shaft means to effect the control operation of said transfer means when an empty chuck becomes ready for filling with a glass tube.

3,340,991

SPAGHETTI DRIER APPARATUS

Ignatius Bontempi, Douglaston, and Ignatius De Francisci, Glen Head, N.Y., assignors to De Francisci Machine Corporation, Brooklyn, N.Y., a corporation of New York

Original application Jan. 31, 1964, Ser. No. 341,647, now Patent No. 3,258,103, dated June 28, 1966. Divided and this application Apr. 13, 1966, Ser. No. 542,260
9 Claims. (Cl. 198—21)



1. A rack rod for conveying spaghetti comprising a central longitudinal bar over which said spaghetti may be draped, and a pair of supports at opposite ends of said bar for supporting said bar between the tracks of a dual tracked conveyor, said supports being positioned relative to said bar such that the axis of support contact of said supports on said tracks is above the combined moment of inertia of said bar and supports when said rod is positioned on said conveyor for conveying spaghetti, and

wherein said supports are larger in outside dimensions than said bar whereby such supports may abut against the same such supports of adjacent rack rods and maintain separation of the spaghetti draped on the bars of such adjacent rack rods.

3,340,992

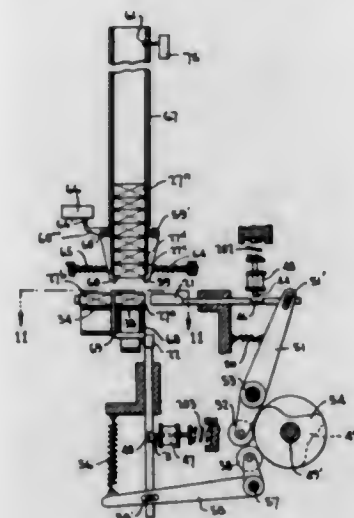
ARTICLE TRANSFER APPARATUS HAVING AUTOMATIC STORAGE MAGAZINE

Ariosto Seragnoli, Via Pomponia 10, Bologna, Italy
Filed Sept. 20, 1965, Ser. No. 488,710

Claims priority, application Italy, Sept. 22, 1964,

20,331/64

17 Claims. (Cl. 198—24)



1. Transfer mechanism for articles traveling from a delivery machine to a reception machine and having a high capacity for automatic storage of articles comprising the combination of a conveying belt for moving the articles from said delivery machine, a subsequent transfer belt arranged in a side-by-side manner at the same level with said conveying belt to thereby form a transfer station, a vertical storage magazine having a width sufficient to contain sets of articles charged together, releasable means on said magazine to selectively release said sets of articles, said storage magazine being arranged above said conveying belt at said transfer station, a pusher member positioned at said transfer station, drive means to reciprocate said pusher member transversely of said belts to transfer a set of articles from said conveying belt underlying said storage magazine to said transfer belt, an elevator positioned at said transfer station and aligned with said storage magazine, power means to reciprocate said elevator with a vertical reciprocating motion to move a set of articles from said conveying belt into said storage magazine, whereby a set of articles may be selectively supplied to and withdrawn from said transfer station by said releasable means and said elevator, respectively, to maintain the flow of articles from said delivery machine to said reception machine substantially constant.

3,340,993

WORKPIECE HANDLING APPARATUS

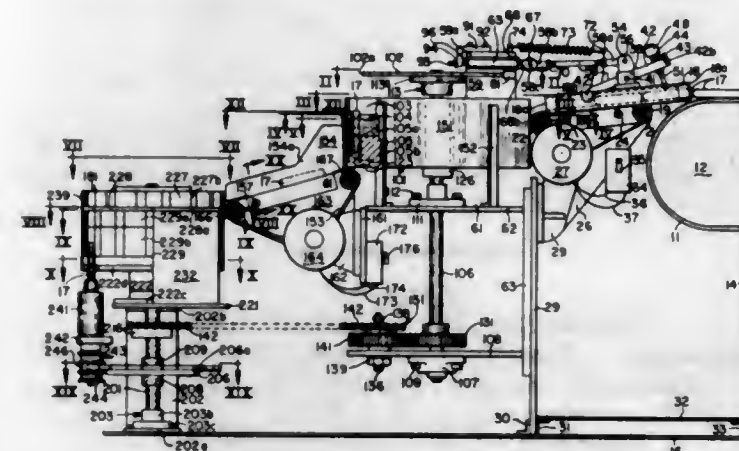
Henry M. Skowron, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Nov. 2, 1966, Ser. No. 591,465

5 Claims. (Cl. 198—33)

1. In conjunction with a plurality of tubings each having one rounded or similarly tapered end, apparatus for individually receiving said tubings and issuing each such tubing from the apparatus in a tapered-end-first orientation regardless of the end-first orientation of the respective tubing when received by the apparatus, such apparatus comprising,

- (A) a vertical open-sided tubing receiving channel having a U-shaped horizontal cross-sectional configuration,
(B) means for individually and vertically supplying said tubings to said channel,
(C) a tubing-end detection device projecting into said channel from the innermost wall of the channel toward the open side thereof, such device being substantially narrower in width than the width of the channel and having an outer face sloping upwardly toward said innermost wall and an inner face sloping upwardly toward said open side of said channel, such



faces thereby converging at a line of juncture to provide an apex which is positioned, toward said innermost wall, off-center of the circular part of said channel, whereby the lower ends of tubings, delivered to said channel tapered end first, slide over the outer face of the detection device to issue from the lower end of the channel tapered end first, and the rims of the lower ends of tubings, delivered to said channel open end first, slide over the inner face of the detection device and are hung up on such device to cause the upper tapered ends of the tubings to tumble out of the upper end of said channel and to thereby issue therefrom tapered end first.

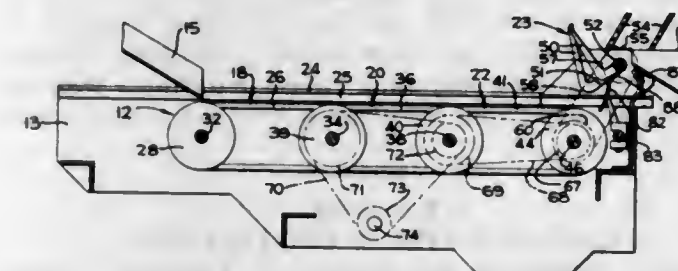
3,340,994

SINGLE ARTICLE FEEDER

Gerald R. Anderson, Campbell, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

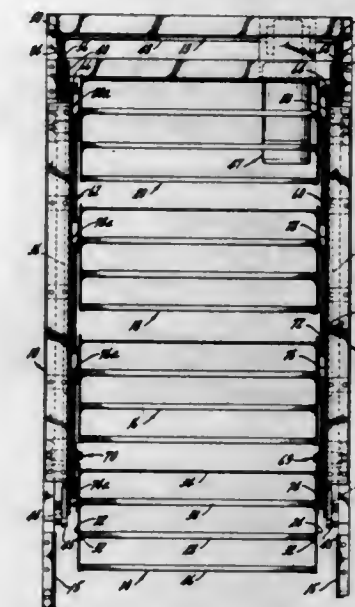
Filed Oct. 20, 1965, Ser. No. 498,748

13 Claims. (Cl. 198—34)



1. A single article feeding mechanism comprising conveying means for separating a random supply of articles into a single row of spaced articles, said conveying means including a series of overlapping conveyor belts at least two of which operate at different speeds, means responsive to the movement of an article on said conveyors into a transfer station for stopping said conveyor belts, a single article transfer mechanism including three spaced hook shaped fingers rotatably mounted in timed relationship with a receiving device, and means on said transfer mechanism for restarting said conveyors after said article has been moved out of said transfer station.

3,340,995
CONTINUOUS STABILIZATION SYSTEM
Elmer E. Olson, Nashotah, Wis., assignor to G. B. Lewis Company, Watertown, Wis., a corporation of Wisconsin
Filed Sept. 13, 1966, Ser. No. 586,908
17 Claims. (Cl. 198—158)



1. In an endless conveyor having a set of upper and lower conveyor sprockets, a pair of spaced sprocket chains rotatively driven around said upper and lower conveyor sprockets, a plurality of carriers pivotally held between said spaced sprocket chains, a stabilization system which includes at least one endless stabilization chain, a set of upper and lower rotatable stabilization sprockets for each stabilization chain, the stabilization sprockets being of smaller diameter than the conveyor sprockets, a carrier sprocket non-rotatively fixed to each carrier, the carrier sprocket meshing with the stabilization chain, and said carrier sprocket and carrier being together rotated a predetermined amount during arcuate transit around the conveyor sprockets, whereby the carriers are maintained substantially level throughout their passage on the endless conveyor.

3,340,996

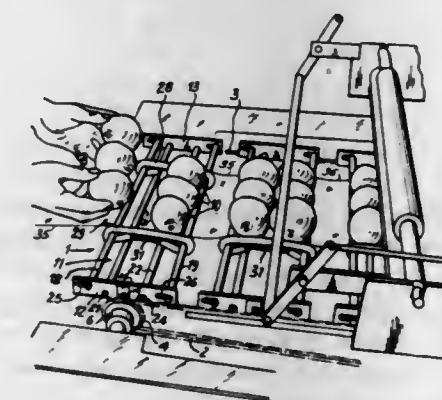
CONVEYOR MACHINE FOR PACKAGING FRUIT AND THE LIKE ARTICLES IN CASINGS OF PLASTIC MATERIAL

Lucien Cerf, Ablon, France, assignor to Alain Cerf, Montabon, Sarthe, France

Filed June 26, 1964, Ser. No. 378,390

Claims priority, application France, June 29, 1963, 939,880

6 Claims. (Cl. 198—189)



1. In a conveyor said conveyor being movable in an operative direction; means operatively connected to said conveyor for driving said conveyor in said operative direction;

said conveyor having a plurality of carrier means distributed along itself; said carrier means being comprised of at least one pair of parallel rods extending across said conveyor transversely of said operative direction of said conveyor;

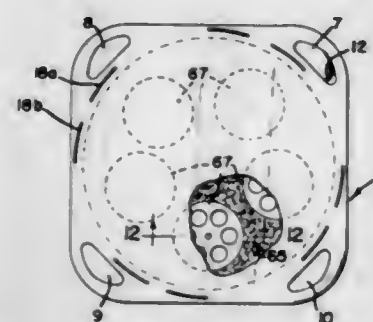
support means for supporting said rods the improvement comprising:

means for adjusting the spacing between said rods of said pair of rods, parallel to said operative direction, whereby said carrier means is enabled to hold different articles of varying dimensions.

3,340,997

CARRYING CASE

Lawrence McCreery, Woodside, and Larry H. Marks, Jr., Novato, Calif., assignors to Probe and Develop. Inc., San Francisco, Calif., a corporation of California
Filed Oct. 1, 1965, Ser. No. 491,922
12 Claims. (Cl. 206—1)

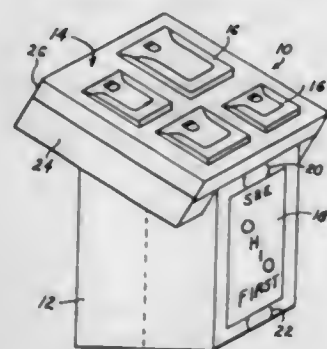


9. In a storage case for a relatively large diameter generally cylindrical article such as a reel of film, means on said case defining a generally cylindrical space for receiving such a cylindrical article therein, a generally cylindrical removable filler member received in said space and formed to provide a plurality of cavities for receiving a plurality of such similar articles therein.

3,340,998

BROCHURE DISPLAY APPARATUS

George E. Wilson, 2544 Chamberlain Road, Akron, Ohio 44313
Filed Oct. 22, 1965, Ser. No. 500,998
10 Claims. (Cl. 206—44)



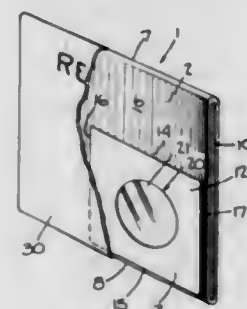
1. In a display rack or the like, the combination of a collapsible base defining a display support plane at an angle of between about 30° to about 60° to the horizontal with a flange portion of the base extending above the lower end of the support plane to act as a limiting stop, said base being made from one piece of cardboard connected at the ends to make an endless piece, said piece being foldable defining a four-sided open ended box of substantially rectangular shape in cross section having additional folds in opposite sides to allow an accordion type collapse of the front side towards the back side, bottom flap

means integral with the bottom of each side foldable inwardly to support the piece in its four sided rectangular shape, a front flap on the top end of the front side foldable into the inside of the base to define the flange portion thereof, and a first flap on the top edge of each side foldable inwardly into the box to allow it to be collapsed, a portion of said first flap having an angular fold line thereacross which extends downwardly on its respective side and intersects with said additional fold on the side, each of said fold lines defining a second top supporting flap foldable inwardly towards the inside of the base at about a 45° angle to said first flap on the top edge of each side to prevent the sides from folding, to form the support plane, and to interlock with the front flap on the top edge of the front side, said second top supporting flaps only being folded inwardly to form the angled support plane of the base after said flaps first on the top edge of each side have been folded upwardly and into alignment with their respective sides.

3,340,999

PHONOGRAPH RECORD ALBUM

Rudolph A. Froehlig, Little Neck, N.Y., assignor to Modern Album and Finishing, Inc., College Point, N.Y., a corporation of New York
Filed Feb. 15, 1966, Ser. No. 527,605
1 Claim. (Cl. 206—47)



A phonograph record album comprising a larger jacket having a front opening for receiving a phonograph record therein, side panels, opposed edge walls and a rear edge wall, a smaller jacket superimposed on said larger jacket comprising a front opening for receiving a phonograph record therein, at least one side wall, opposed side edge walls and a rear edge wall, a window in the side wall of said smaller jacket, the front opening of said two jackets facing in the same direction, a side edge wall and the front opening of the larger jacket being in close proximity to a side edge wall and the front opening of said smaller jacket, an outer covering wrapped around both of said jackets, said outer covering having a window therein coincident with the window in said smaller jacket.

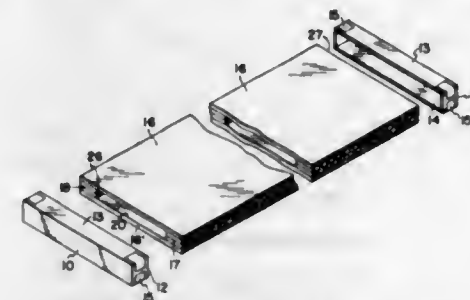
3,341,000

END CAP FOR A CLOTH REEL

James L. McKittrick and Herbert H. Provence, Greenville, S.C., assignors to Acme Cloth Reel Company, Greenville, S.C., a corporation of South Carolina
Filed Mar. 16, 1966, Ser. No. 534,824
4 Claims. (Cl. 206—50)

1. In a cloth reel having a longitudinal dimension and a transverse dimension, an end cap extending about each transverse end of the reel and comprising a front wall and a pair of articulated end walls integral therewith and interconnected thereto along the transverse edges of the front wall, a pair of side walls integral with the front wall and articulated thereto along the longitudinal edges of the front wall, said end walls extending in parallel relation to each other, the longitudinal end edges on each end wall of said end cap extending along opposed inner

surfaces of the side walls in perpendicular relation thereto, providing the sole supporting member between said side walls, a first laminar means securing the end walls in supporting relation between the side walls, and a

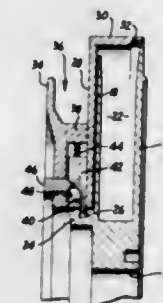


second laminar means surrounding at least the end portions and adjacent side portions of the end cap, said second laminar means being secured to the end caps and to the reel body.

3,341,001

COMBINED REEL AND CANISTER

Rodney Barclay, Cambell, and Raymond C. von Felten, Saratoga, Calif., assignors to Memorex Corporation, a corporation of California
Filed Oct. 23, 1965, Ser. No. 503,086
4 Claims. (Cl. 206—52)



1. A combined reel and canister comprising:
 - (a) a reel having a central hub adapted to be mounted on a reel support for rotation about an axis of rotation with said reel having first and second flanges extending radially from said hub and defining between them a winding space for tape and the like,
 - (b) a cover detachably mounted on said reel adjacent to said hub on the side of said first flange opposite to said second flange with said cover having a radial portion extending radially outwardly along said first flange and having an axially extending flange on said radial portion extending across the outer edge of said first flange and across said winding space and engaging said second flange, and
 - (c) a radially extending flange on said cover on the opposite side of said radial portion from said first flange of said reel, and a groove between said radial flange and said radial portion to permit gripping of said cover and removal of said cover from said reel when said reel is mounted on a reel support.

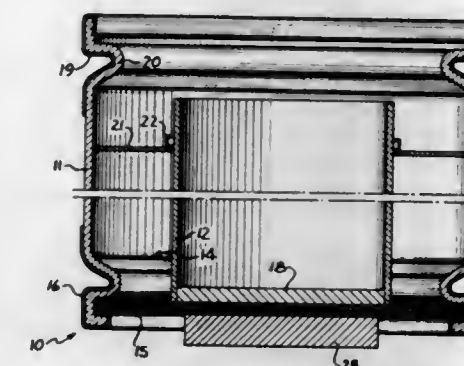
3,341,002

PACKAGING CONTAINER

Laurens Heinrich Fronczek, Antheuil-sur-Eure, France, assignor, by mesne assignments, to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed May 22, 1963, Ser. No. 282,367
15 Claims. (Cl. 206—52)

1. A container for packaging coiled products comprising, in combination, an outer shell member, an inner core member substantially coaxial with said shell member and defining an annular storage space therebetween,

a container bottom rigidly secured to both of said members adjacent their lower edges and closing at least said annular storage space at its lower end, an annular closure disk positioned within said storage space and slidably mounted about said core member for axial sliding movement relative to said members, said disk adapted to abut the uppermost turns of the coiled con-



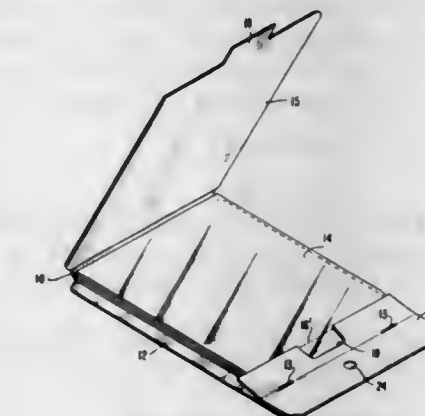
tents of said container, and stop means associated with said closure disk and at least one of said members, said stop means defining an axially adjustable fixed stop for limiting axial movement of said disk in a direction away from said container bottom so as to maintain said disk in abutment with the coiled contents in said container so that the turns thereof are maintained in their proper wound relationship on said core member.

3,341,003

DISPENSER PACK

John R. Marsh, Newark, N.Y., assignor, by mesne assignments, to Mobil Oil Corporation, a corporation of New York

Filed Dec. 17, 1964, Ser. No. 419,162
2 Claims. (Cl. 206—57)



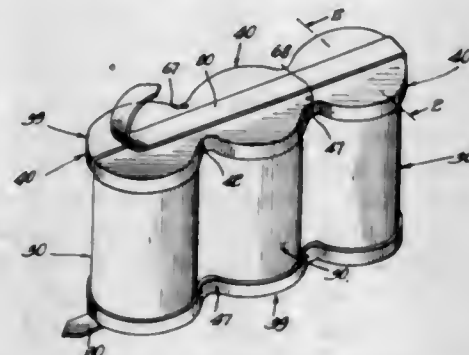
1. A package of thin plastic bags comprising a superposed stack of bags, each of said bags having a transverse line of perforations extending across the top portion thereof; a continuous protective cover enclosing said stack of bags said cover comprising a backing sheet upon which the bag stack is supported; a backing sheet lip folded over the top portion of said bag stack and fastened thereto; said backing sheet lip being further characterized by having a centrally located recess along the leading edge thereof whereby a central portion of said perforate line is exposed when said package is in an open condition; said backing sheet having a cover sheet hinged transversely across the bottom thereof; a centrally located lip extension along the leading edge of said cover sheet adapted for locking engagement with said recessed backing sheet lip whereby said cover sheet may be folded about its hinge upwardly around the bottom of said bag stack and over the uppermost bag in said bag stack for locking engagement of said cover sheet lip extension with said centrally recessed backing sheet lip.

3,341,004
INTERLINED TAPES IN ROLL FORM
 Karl Cedric Hoeglund, Franklin, Ky., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
 Filed Dec. 16, 1965, Ser. No. 514,278
 12 Claims. (Cl. 206—59)



1. A roll of pressure-sensitive adhesive tape in which adjacent convolutions of said tape are separated from each other by an interliner, said tape having a backside and on the side opposite thereto a pressure-sensitive adhesive front surface, said interliner having a back surface in contact with and separably adhered to the adhesive surface of said tape, the opposite surface of said interliner having adhesive thereon adhesively engaging the backside of said tape to restrain the tape convolutions from lateral movement with respect to each other and thereby prevent telescoping collapse of the roll and accidental unwinding of the tape therefrom, the adherence between said adhesive on the interliner and the backside of the tape being less than the adherence of the adhesive surface of the tape to the backside of the tape of an adjacent convolution if wound in roll form without said interliner.

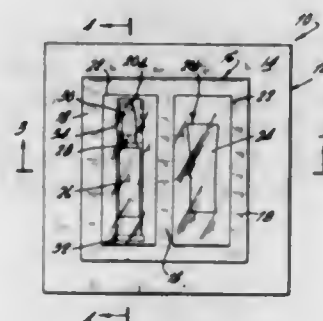
3,341,005
CONTAINER CARRIER AND PACKAGE
 Ougljesa Jules Poupitch, Itasca, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
 Original application July 17, 1959, Ser. No. 827,747.
 Divided and this application Jan. 23, 1967, Ser. No. 611,045
 6 Claims. (Cl. 206—65)



1. A packaging device for retaining a plurality of containers each of which containers includes an axially and radially extending circumferential bead having top, bottom, and side portions located at one end thereof, said bead defining a closed figure having a major dimension, comprising carrier means including a plurality of separate and inter-connected bead engaging means respectively

adapted to embrace at least a portion of said top and bottom portions of each circumferential bead so as to include said major dimension within the confines of the bead engaging means to prevent unauthorized separation of individual containers, said carrier means comprising a complementary pair of opposed substantially symmetrical sections each of which includes a portion of said bead engaging means, each of said generally symmetrical sections including edge portions disposed in opposing substantial abutting relationship, and tape means overlying and securing said edge portions of said sections and retaining said sections together.

3,341,006
COSMETIC PRODUCT PACKAGE
 Leonard Bindler, Spring Valley, N.Y., assignor to Cosmetically Yours, Inc., Yonkers, N.Y., a corporation of New York
 Filed Dec. 10, 1965, Ser. No. 512,976
 1 Claim. (Cl. 206—78)



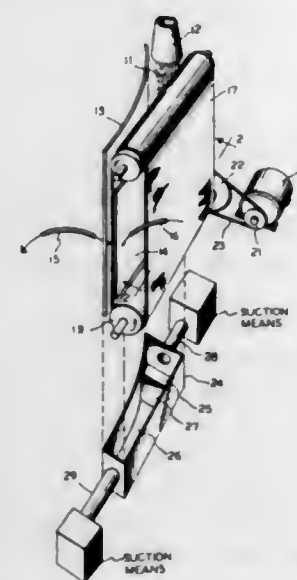
In a blister packaged lipstick wherein a comparatively soft cosmetic mass is mounted for movement between an exposed and a concealed position with respect to a tubular applicator and is provided with said exposed position therefrom while being confined against a surface of a card by a relatively flexible, transparent outer plastic covering, the combination with said exposed cosmetic mass of a disposable open-ended tube fabricated of a transparent, comparatively rigid plastic having an operative position between said cosmetic mass and said outer plastic covering, said open-ended tube in said operative position thereof being free of any attachment to said card and slidably disposed about said tubular applicator and of a sufficient length to extend therefrom in a concentric position about said exposed cosmetic mass to thereby occupy an interposed position between said exposed cosmetic mass and said outer plastic covering to protect said exposed cosmetic mass from crushing pressure applied externally against said outer plastic covering while maintaining said exposed cosmetic mass in clear view beneath said transparent plastic covering.

3,341,007
FIBER FRACTIONATING APPARATUS AND PROCESS
 Mayer Mayer, Jr., New Orleans, and Heber W. Weller, Jr., and Joseph J. Lafranca, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
 Filed June 12, 1964, Ser. No. 374,863
 8 Claims. (Cl. 209—2)

1. Apparatus for fractionating loose masses of disoriented textile fibers into different length groups comprising:

- (a) endless conveying means having a surface for conveying a mass of fibers from a point of deposit to a point of removal;
- (b) means for activating said conveying means connected thereto;

- (c) an electrode member mounted on each side of the endless conveying means substantially coextensive therewith and together defining a fiber fractionating zone having an input end and an output end, said zone containing said conveying means, respective opposed edges of said electrodes being parallel to each other in the direction of travel of the conveying means, a first pair of said opposed edges of said electrodes being closer to each other than the second pair of opposed edges whereby the electrodes diverge transversely to the direction of travel of the conveying means, the distance between the conveying surface and the adjacent edge of the first pair of opposed edges of the electrodes being not smaller than the average length of the longest fibers of the mass to be separated;
- (d) means connected to the electrodes for applying an electrostatic charge thereto, thereby to produce between said electrodes a nonuniform electrostatic field



having a zone of minimum field intensity and potential gradient at the more widely separated edges of the electrodes and which increases transversely to the direction of travel of the conveying means to a zone of maximum intensity where said electrodes are closer together, the intensity of said electrostatic field being constant in the longitudinal direction;

- (e) fiber introducing means adjacent the conveying means at the input end of the fiber fractionating zone so located as to introduce a loose mass of disoriented fibers into the zone of minimum field intensity;
- (f) compartmented fiber receiving means mounted transversely and in contiguous relation to the conveying means at the output end of the fiber fractionating zone; and
- (g) means for removing fibers of different lengths from adjacent transverse portions of the conveying means and for depositing said fibers in separate compartments of said fiber receiving means.

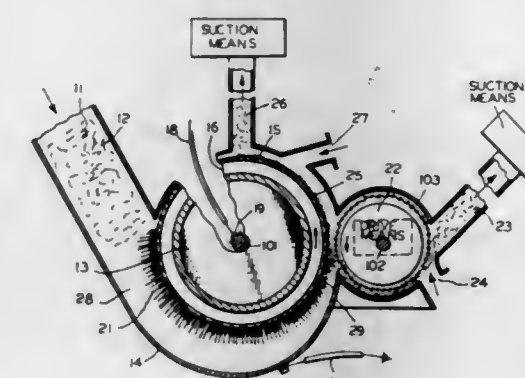
3,341,008
FIBER FRACTIONATING APPARATUS
 Mayer Mayer, Jr., New Orleans, and Heber W. Weller, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
 Filed June 12, 1964, Ser. No. 374,864
 9 Claims. (Cl. 209—2)

1. Apparatus for fractionating a mass of disoriented textile fibers into different length groups comprising:

- (a) a rotatable first electrode;
- (b) a stationary second electrode insulated from and surrounding the rotatable electrode constituting a housing therefor and a fiber separating chamber, said

stationary electrode having a outer wall incurvate in the direction of rotation of said rotatable electrode, said incurvate wall and rotatable electrode together defining a fiber separation zone of decreasing width in the direction of rotation;

- (c) means for rotating said rotatable electrode connected thereto;
- (d) inlet means connected to the stationary electrode at the point of maximum distance between the incurvate outer wall thereof and the rotatable electrode for introducing a mass of disoriented textile fibers into the chamber formed by the stationary electrode;
- (e) first outlet means connected to the stationary electrode at the point of minimum distance between the incurvate outer wall thereof and the rotatable electrode;
- (f) second outlet means connected to the stationary electrode at a point intermediate said inlet and first outlet means;



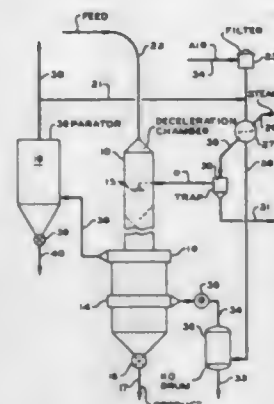
- (g) fiber doffing means mounted inside said second outlet means at a distance from the rotatable electrode predetermined to remove fibers of maximum average length from the disoriented mass;
- (h) means connected to said stationary and rotatable electrode for applying an electric charge thereto, thereby to produce an electrostatic field of increasing potential gradient in the fiber fractionating zone defined by the incurvate wall of the stationary electrode and the rotatable electrode, said potential gradient increasing in the direction of rotation of the rotatable electrode, whereby fibers introduced through the inlet means are caused to be aligned perpendicularly to the rotatable electrode;
- (i) first means connected to the fiber doffing means for removing long fibers from said doffing means; and
- (j) second means connected to the first outlet means for separately removing remaining shorter fibers through said first outlet means.

3,341,009
METHOD AND APPARATUS FOR SEPARATING FINES ADHERING TO PELLETS
 Richard J. Bennett and Cloral O. Rains, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
 Filed Sept. 11, 1964, Ser. No. 395,881
 8 Claims. (Cl. 209—3)

1. Apparatus for separating commingled fines and pellets comprising in combination:

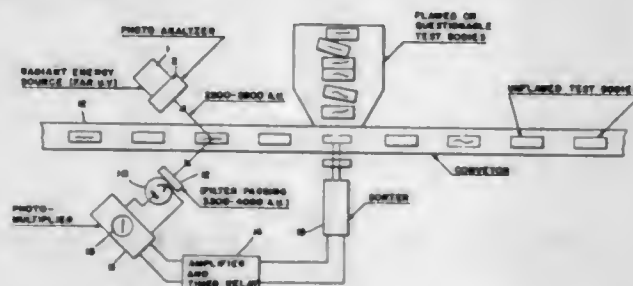
- (a) an elongated deceleration chamber having a closed end and an open end;
- (b) feed conduit means for introducing a high velocity gaseous stream containing commingled fines and pellets into said closed end of said deceleration chamber and directing same towards said open end of said deceleration chamber;

- (c) a series of fixed screen means, longitudinally spaced within and mounted to the inner walls of said deceleration chamber, for separating said fines from said pellets as said high velocity stream containing said commingled fines and pellets impinges thereon, said screen means being sized and positioned so that substantially only fines pass therethrough and said pellets pass to the next adjacent screen means;
- (d) vapor inlet means, disposed within said deceleration chamber downstream of said feed conduit and upstream of said screen means, for introducing and dispersing a vapor capable of conducting an electro-



- static charge throughout the cross-section of said deceleration chamber so as to contact said high velocity stream of commingled fines and pellets;
- (e) a separation chamber connected to said open end of said deceleration chamber;
- (f) means for introducing a low velocity gaseous stream into said separation chamber so that the flow of said low velocity gaseous stream is directed towards said closed end of said deceleration chamber;
- (g) means for withdrawing a gaseous stream containing fine particles from said separation chamber; and
- (h) means for withdrawing pellets from said separation chamber.

3,341,010
NON-VISIBLE PENETRANT METHODS OF FLAW DETECTION AND APPARATUS THEREFOR
 Joseph L. Switzer, Gates Mills, Ohio, assignor to Switzer Brothers, Inc., Cleveland, Ohio, a corporation of Ohio
 Filed Oct. 12, 1961, Ser. No. 144,673
 9 Claims. (Cl. 209-111.5)



1. The liquid penetrant method of non-destructive testing test bodies for sub-surface flaws having surface openings comprising the steps of entrapping a liquid penetrant in at least the surface openings of the flaws while removing the penetrant from unflawed surface areas, developing a flaw indication on the test body by means of a scintillating agent emitting radiant energy of a wave length less than visible light, subjecting said test body to a source of activating radiant energy of higher energy level than said emitted energy and detecting said flaws by means responsive to said emitted energy.

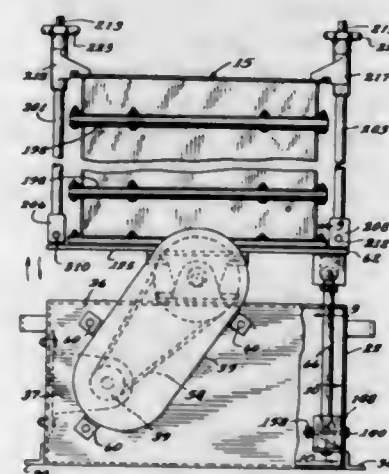
3,341,011
SEPARATION OF SOLIDS IN A GASEOUS CURRENT

Donald R. Prescott, West Newton, Mass., assignor to Segredyne Corporation, Cambridge, Mass., a corporation of Massachusetts
 Filed Mar. 4, 1965, Ser. No. 437,202
 11 Claims. (Cl. 209-144)



1. The method of separating elongated particles with a longest first dimension from other particles all dimensions of which are less than said first dimension which comprises moving all said particles in contact with a gaseous medium, providing a differential velocity between said particles and said medium sufficient to align said elongated particles with their longest dimension generally perpendicular to the direction of their flow, thereafter guiding said particles onto an inner surface circular in cross-section, and moving said particles circularly and downwardly over holes large enough to accept all dimensions of said elongated particles except said first dimension.

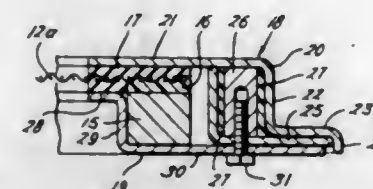
3,341,012
SIEVE AGITATOR
 Ronald E. Thacher, Addison, Ill., assignor to Soiltest, Inc., Evanston, Ill., a corporation of Illinois
 Filed Feb. 1, 1965, Ser. No. 429,359
 4 Claims. (Cl. 209-315)



3. In a screening device including a base, a screen unit comprising a plurality of superimposed screens having foramina progressively reduced in size downwardly, means for pivotally supporting said screen unit on said base for agitation of said screen unit to effect grading of particulate material delivered to said screening device, and drive means for agitating said screen unit, the improvement wherein said means for pivotally supporting said screen unit comprises the combination with a duo eccentric ended horizontally extending rotatable shaft for simultaneously gyrating opposed lateral ends of said

screen unit supported thereon in opposite directions, of a single vertically extending pivotally mounted anchor post positioned asymmetrically with respect to ends of said shaft and extending between said screen unit and said base and connected thereto at opposed ends of said post, said post comprising means precluding substantial vertical movement of said unit at only the point of attachment to said post while permitting oscillating movement of said screen unit in generally horizontal planes.

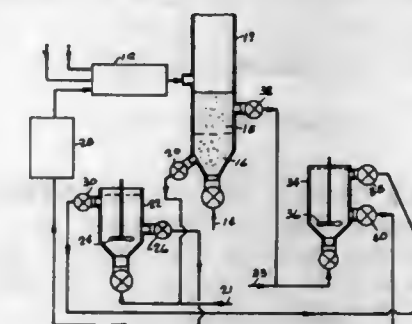
3,341,013
SCREEN STRUCTURE
 Arthur K. Moulton, P.O. Box 33187, Houston, Tex. 77033
 Filed May 7, 1964, Ser. No. 365,639
 7 Claims. (Cl. 209-403)



5. As a subcombination in a vibrating classifier having supporting means thereon, a screen assembly comprising, a foraminous screen, a mounting ring, means for bonding said screen to said mounting ring under a preselected tension and to coact with said mounting ring to maintain said tension in said screen, said mounting ring and said bonding means being the sole means for maintaining tension in said screen, and a pair of corrosion-resistant annular frame members adapted to be secured together and to be engaged by said supporting means of said classifier, said frame members defining an annular recess in which said mounting ring is positioned when said frame members are secured together in said supporting means to position said screen across the interior of said classifier, said mounting ring being of a material relatively non-resistant to corrosion in relation to the corrosion-resistant material of said frame members, said frame members when secured together, engaging said screen in sealing engagement to isolate said mounting ring from the interior of said classifier.

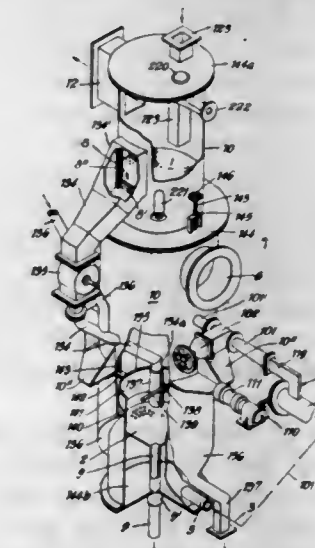
3,341,014
PROCESS OF PARTICULATE MATTER SEPARATION
 Maurice Arthur Claridge, Waltham, Grimsby, and Peter M. Jones and Raymond James Wigginton, Grimsby, England, assignors to Laporte Titanium Limited, London, England, a British company
 Filed Jan. 25, 1965, Ser. No. 427,688
 Claims priority, application Great Britain, Jan. 29, 1964, 3,909/64
 8 Claims. (Cl. 209-422)

1. A process for the treatment of a hot chlorine-containing gaseous suspension of pigmentary titanium dioxide and an inert particulate refractory material having a larger particle size than the pigmentary titanium dioxide to separate the solids from the gases and separate the pigmentary titanium dioxide from the inert particulate refractory material which comprises, introducing said suspension into a vessel towards the top thereof wherein the velocity of the gaseous suspension is too low to entrain the pigmentary titanium dioxide and the said inert particulate material whereby the solids separate from the gases and fall into a lower portion of the vessel to form a bed of particulate material, passing an inert gas upwardly through said bed of particulate material within the vessel, the rate



of flow of said inert gas and the internal shape and dimensions of the vessel being such that the bed adjusts into two superimposed layers including a lower layer consisting principally of the said inert particulate refractory material, of which at least the upper part is non-fluidized, and an

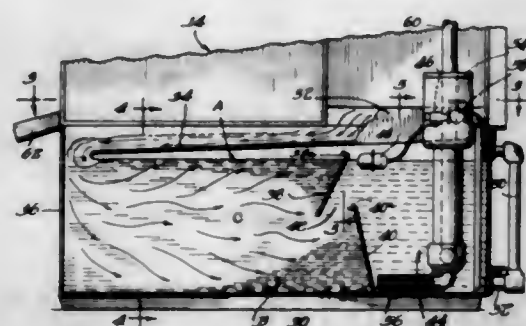
3,341,015
APPARATUS FOR THE SEPARATION OF PARTICULATE MATERIALS CONTAINING COMPONENTS OF DIFFERENT SPECIFIC GRAVITIES
 Geoffrey Frank Eveson and George Thomas Richards, Sheffield, England, assignors to Head, Wrightson & Company Limited, Thornby-on-Tees, England
 Filed Nov. 18, 1963, Ser. No. 324,411
 8 Claims. (Cl. 209-474)



2. Fluidised bed apparatus for the separation of small fine coal, or other particulate material containing components of different specific gravities, comprising a vertical shell having an inlet at its upper part for entry of material to be separated into the shell, an outlet at its lower part through which components of relatively high specific gravity emanating from the separation are discharged from the shell and a further outlet through which components of relatively low specific gravity emanating from the separation are discharged from the shell, a first perforate support mounted within said shell and disposed to receive the material fed through said inlet and enabling said material to be formed into a fluidised bed, a second perforate support mounted within said shell at a situation below said first perforate support for carrying a fluidised bed of discrete solid particles, transfer means operative to receive material over-flowing from said first perforate support and deliver it to said second perforate support, gas supply means for supplying gaseous fluidising medium under pressure to the underside of said second perforate support whereby to form and maintain the fluidising beds

on said first and second perforate supports, a by-pass line extending from said gas supply means to the shell at a point above said second perforate support for admitting gaseous medium immediately below said first perforate support and control means in said by-pass line to constrain the gaseous medium to enter the shell in a controlled cyclic manner, thereby establishing pulsations in the flow of gaseous medium to beneath said second perforate support.

3,341,016
SPRAY BOOTH (SELF-CLEANING)
Jens A. Paasche, Wilmette, Ill.
(1909 Diversey Parkway, Chicago, Ill. 60614)
Filed Aug. 23, 1965, Ser. No. 481,765
9 Claims. (Cl. 210-73)



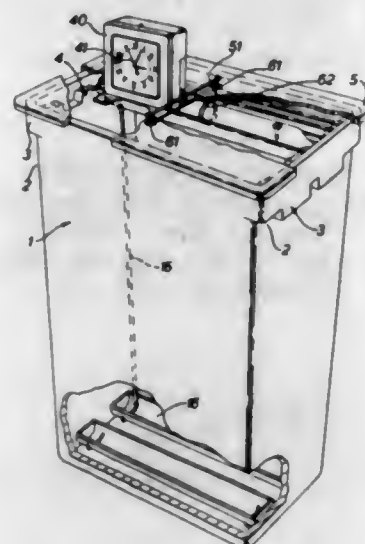
1. A spray booth comprising housing means providing a chamber for receiving spray material such as paint and the like, means for directing liquid into said chamber for receiving excess spray material, liquid receiving means disposed at the lower portion of said housing means, generally horizontally disposed runway means for receiving and directing the flow of contaminated liquid from said liquid receiving means, reservoir means for receiving contaminated liquid delivered to said runway means, means for retarding the horizontal flow of contaminated liquid in the upper portion of said reservoir means, second means for retarding the horizontal flow of contaminated liquid in the lower portion of said reservoir means, discharge means disposed intermediate the upper and lower portions of said reservoir means for directing the flow of intermediate, relatively uncontaminated liquid, and means for returning said relatively uncontaminated liquid to said chamber.

7. The method of separating spray material such as paint particles and the like from liquid such as water which includes the steps of directing water contaminated with such spray materials along a generally horizontal path, directing said contaminated liquid downwardly from said path into a reservoir, retarding the horizontal flow of the upper portion of the contaminated liquid in said reservoir to permit the accumulation of floatable spray material, retarding the horizontal flow of contaminated liquid in the lower portion of said reservoir to permit the precipitation of non-floatable spray material, and directing the relatively uncontaminated liquid position between the upper and lower levels of the liquid in said reservoir to an area from which said liquid may be used to again receive spray material.

3,341,017
CHROMATOGRAPHIC APPARATUS
Robert Henry Powell, Kenley, Surrey, England, assignor to Shandon Scientific Company Limited, London, England, a British company
Filed Feb. 23, 1965, Ser. No. 434,477
19 Claims. (Cl. 210-94)

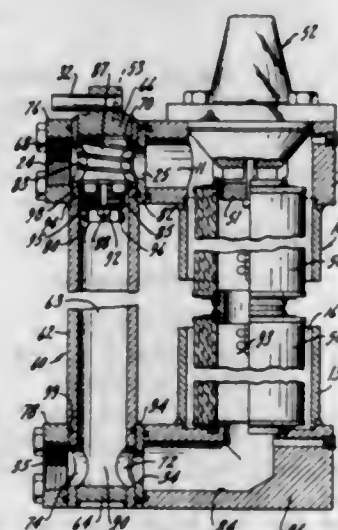
1. Chromatographic apparatus comprising a tank, a lid for closing said tank, a solvent trough mounted in said tank, support means in the upper portion of said tank, an element carried by said support means, a spotted

sheet of bibulous material held in said tank by said element and having a portion dipping into the solvent trough, a solvent cistern carried by said support means above the trough and holding solvent during equilibration, a timing mechanism mounted outside said tank, a mem-



ber moved by said timing mechanism after a predetermined time lapse for equilibration, and means operatively connecting the member to discharge held solvent gradually from the cistern into the trough to commence a chromatographic run.

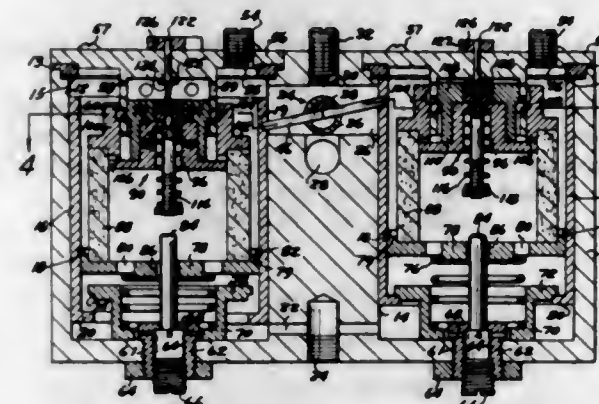
3,341,018
FILTER AND FILTER BY-PASS ASSEMBLY
Walter J. Kudlaty, Elmhurst, Ill., assignor to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,137
8 Claims. (Cl. 210-130)



1. A filter and filter by-pass assembly including: a filter housing having a chamber adapted to contain at least one filter element, an inlet fitting and an outlet fitting connected to said chamber, an inlet passage and an outlet passage for said chamber formed, respectively, in said inlet and said outlet fittings, an intake fitting adapted to connect to said chamber inlet fitting, said intake fitting having an inlet, an outlet, and a by-pass tube mounting passage with said outlet communicating with said chamber inlet passage, a by-pass discharge fitting connected to said chamber outlet fitting,

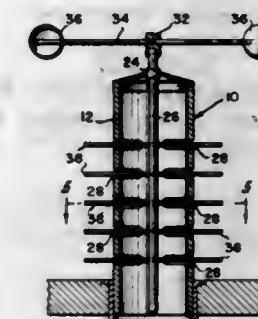
said by-pass discharge fitting having an inlet, an outlet, and a by-pass tube mounting passage with said inlet communicating with said chamber housing outlet passage, a by-pass tube valve connecting said by-pass tube mounting passages of said intake fitting and said by-pass discharge fitting, with said by-pass tube valve having two positions, the first position connecting said inlet and outlet of said intake fitting and said inlet and outlet of said discharge fitting and the second position connecting said inlet of said intake fitting with said outlet of said by-pass discharge fitting, and a by-pass check valve assembly removably insertable in said by-pass tube valve to prevent flow into said intake fitting from said by-pass discharge fitting and to allow flow from said intake fitting to said by-pass discharge fitting.

3,341,019
DUAL, ALTERNATELY OPERATING, INTER-LOCKED LIQUID FILTERS
John Anthony Florkowski, 8207 Schaefer Road, Detroit, Mich. 48228
Filed Apr. 11, 1966, Ser. No. 541,640
4 Claims. (Cl. 210-132)



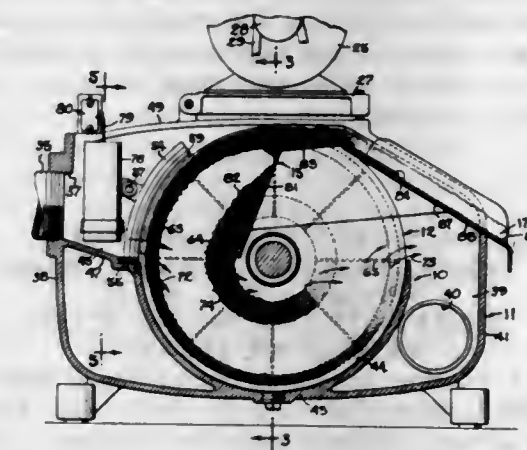
1. A liquid filter comprising a housing having therein two cylinders and an intake port and a discharge port communicating with each cylinder, a sleeve piston in each of the cylinders having an advanced and a retracted position, such sleeve pistons preventing communication with the discharge port when in an advanced position and permitting such communication when in a retracted position, means interlocking the two sleeve pistons so that when one is in an advanced position the other is in a retracted position, a filter cartridge in each sleeve piston having therein a raised and a lowered position, such filter cartridge further having an inner and outer face thereon and a top and a bottom opening, a small cylinder adjacent the upper end of each sleeve piston, a cap over the top opening in the filter cartridge having a sleeve slidable on the small cylinder, locking members slidably carried by the small cylinder, a piston in the small cylinder for moving the locking members into holding engagement with the sleeve, means providing communication between the outer face of the filter cartridge and the upper surface on the small piston when the filter cartridge is in a lowered position, an axial rod fixed in the piston and projecting downward through the cap, an adjustable resilient member on the axial rod urging the piston downward so as yieldably to hold the locking members in engagement with the sleeves when the filter cartridge is in the lowered position, a closure disc over the bottom opening in the filter cartridge slidable in the sleeve piston, and having therein a plurality of openings, a spring in each cylinder yieldably urging the filter cartridge and the members thereon to a raised position, and means in the sleeve pistons for operatively engaging the upper side of the closure disc.

3,341,020
ANTI-CLOGGING DEVICE FOR DOWNSPOUTS AND SIMILAR DRAINS
John Sivadon, Meridian, Tex. 76665
Filed May 16, 1966, Ser. No. 550,419
8 Claims. (Cl. 210-163)



1. An anti-clogging device for down-spouts and similar drains, comprising a housing which is adapted to be connected to the drain, said housing having a perimetral wall which is provided with a plurality of circumferentially elongated passages through which water may pass to the drain; a shaft rotatably mounted in said housing, and provided with means extending into said passages for movement therein to clear them of leaves and similar debris which may become lodged therein; rotatably yieldable means connected to said clearing means and tending to normally maintain such means in a predetermined position in the passages; and wind operable means connected to said shaft and arranged to intermittently impart movement thereto, whereby to move the clearing means from said predetermined position in the water passages against the action of said yieldable means, which latter means returns the clearing means to said position when the wind operated means ceases to function.

3,341,021
MAGNETIC SEPARATOR
Kenneth H. Casson, Winnebago, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed May 5, 1964, Ser. No. 365,009
19 Claims. (Cl. 210-222)



1. A magnetic separator having, in combination, a tank, two upright disks rotatably supported in said tank in spaced side-by-side relation and having opposed end walls the lower portions of which define a channel in said tank for the flow of liquid containing magnetic particles transaxially of said disks, a series of angularly spaced U-shaped magnets carried by each of said disks with the poles of each magnet disposed adjacent the plane of the disk wall and each substantially aligned with an opposite pole of a magnet on the other disk, the spacing of each pair of aligned poles being less than the distance between the poles of each magnet whereby each pair of aligned poles causes

a concentration of flux lines to span said channel and attract magnetic particles to said disk walls, and means for delivering liquid containing magnetic particles to one end of said channel and withdrawing liquid from said tank adjacent the other end of the channel thereby to induce a flow of liquid through the channel of said disks.

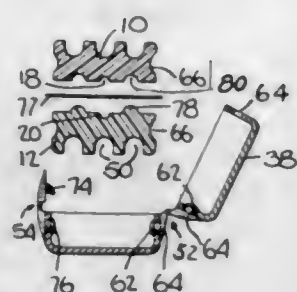
3,341,022

DIALYZER ASSEMBLING MEANS

Jack Isreeli, Tuckahoe, N.Y., assignor to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York

Filed Nov. 16, 1964, Ser. No. 411,223

2 Claims. (Cl. 210—232)



1. A dialyzer comprising: two companion plate members, each having a surface with a groove therein; means for mounting said members with said surfaces in confronting face-to-face relation, with said grooves in mutual register to form a chamber, including two confronting shell members intercoupled by aligning and interlocking means; each of said plate members having two integral tube fittings projecting therefrom, and two passageways, each passageway providing a fluid flow communication between a respective tube fitting and a respective end of said chamber forming groove; each of said shell members having two apertures therein, each for passing a respective tube fitting therethrough; each of said plate members having a plurality of cavities therein for providing said respective plate member with resiliency, whereby said respective plate member may be resiliently distorted when being assembled into said respective shell member; a membrane disposed between said plate members; means for engaging said membrane around said chamber and tautening the included portion of said membrane while said plate members are being mounted in confrontation.

3,341,023

VACUUM FILTER ASSEMBLY

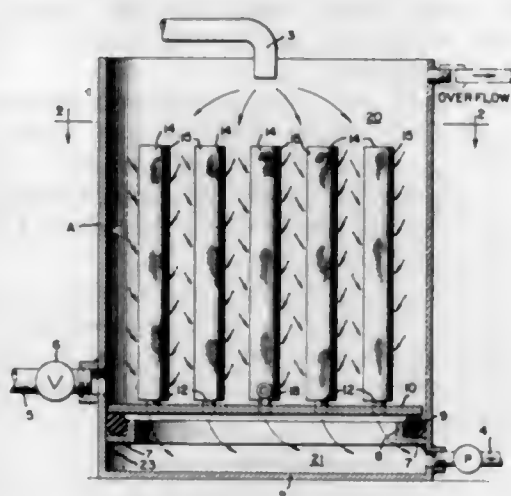
Peter K. Seter, 8017 N. Whitney Road, Milwaukee, Wis. 53217

Filed Feb. 15, 1966, Ser. No. 527,573

4 Claims. (Cl. 210—237)

1. In a filtering apparatus comprising a tank defined by upright walls and a bottom closure, said tank being open at its top, an angle member positioned about the inner wall of said tank, said angle member including a horizontal leg having its end portion welded to the inner wall of the tank and an upright leg spaced from the wall of said tank to define a gasket seat, a gasket positioned in said seat of O-ring form in cross-section, said gasket having a diameter greater than the depth of the seat whereby it projects substantially above said vertical leg, a plate seated on said gasket defining an upper chamber and a lower chamber, said plate being formed with a plurality of openings for receiving a plurality of elongated septums, each septum comprising a tubular perforated body and a nipple extension at its bottom, said nipple extensions each being removably secured in an opening in said plate, a synthetic permeable tubular casing snugly fitting

about each septum, a coating of filter aid on the outer surfaces of said tubular casings, an inlet for fluid to be filtered opening into said tank above said septums, a



suction pipe connected to the lower chamber for discharging filtered fluid, a clean-out connection at the lower portion of said tank above said plate, and a valve for said clean-out connection.

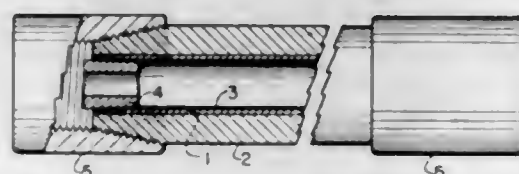
3,341,024

APPARATUS FOR MOLECULAR FILTRATION AND METHODS FOR ITS FABRICATION

Edison Lowe, El Cerrito, and Everett L. Durkee, El Sobrante, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Oct. 4, 1965, Ser. No. 492,950

7 Claims. (Cl. 210—490)



1. A method for fabricating apparatus for filtration which comprises forming porous sheet material into a tube, winding about said tube a plurality of superimposed layers of glass fibers, coating each of said layers with a liquid resin composition, subjecting the resulting laminated assembly to vacuum to develop porosity through the glass fiber-resin structure, setting the resin, drawing a sealing material into the ends of the assembly to render these end portions imperforate, installing a tubular membrane within the tube and sealing the ends of the membrane against the inner walls of the imperforate ends of the tube.

6. A tubular laminated structure for use in conducting filtration comprising, in combination, a tube of porous cushioning material, a surrounding porous support composed of a plurality of plies of glass fiber each impregnated with a resin, said structure having imperforate ends impervious to liquids, a seamless tubular membrane within the cushioning tube, and expanded sleeves sealing the ends of the membrane to the inner wall of the imperforate ends of said structure.

3,341,025

LOCKING CLOTHES HANGER

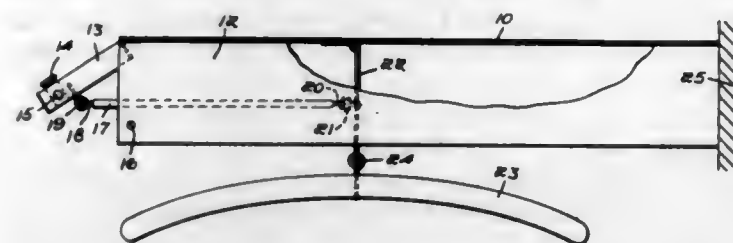
Arnold Gorman, 1911 Beacon St., Brookline, Mass. 02146

Filed Dec. 28, 1965, Ser. No. 516,890

3 Claims. (Cl. 211—4)

1. A locking garment hanger comprising an inverted channel-shaped enclosure having a narrow top wall and downwardly extending side walls, a lever swingably con-

nected to one of said enclosure walls, a clothes hanger suspended from said enclosure and movable between a raised position in which said hanger is disposed within said enclosure adjacent said top wall and a lowered position in which said hanger is below said enclosure, a link-



age connecting said hanger to said lever and operable by swinging said lever to move said hanger between said positions and lock means on said lever to hold the hanger in said raised position.

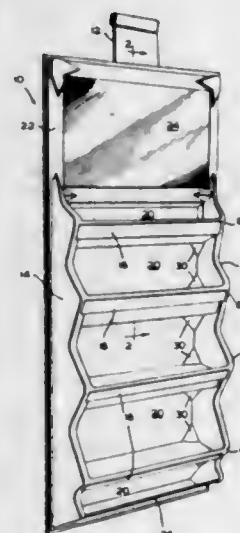
3,341,026

DOOR TRAY

Glenn M. Spittler, 2508 Columbia Pike, Arlington, Va. 22204

Filed Oct. 22, 1965, Ser. No. 500,660

3 Claims. (Cl. 211—88)



1. A molded unitary plastic door tray comprising a sheet of plastic deformed to provide a pair of side panels and a plurality of vertically superposed shelves, each of said shelves including a bottom wall, a back wall and a front wall, smoothly contoured from said plastic sheet, each of said front walls being recurved in transverse section and a front wall stiffening member maintained in the fold of each of said recurved portions.

3,341,027

COMPOSITE DEMOUNTABLE METAL AND WOOD SHELVING

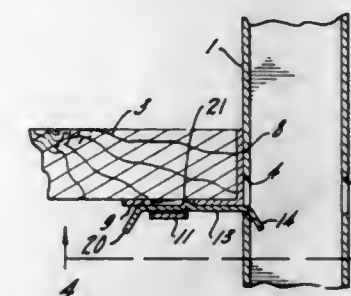
Henry Mackin, Jr., James F. Mackin, and Robert Mackin, Momence, Ill., assignors to Mackin Venetian Blind Co., Momence, Ill., a corporation of Illinois

Filed Sept. 30, 1965, Ser. No. 491,615

7 Claims. (Cl. 211—148)

1. A demountable shelving structure including opposed pairs of connected front and rear vertically disposed parallel apertured channel shaped metal columns, shelves supported between each pair of front and rear columns, metal angle pieces bounding the opposite ends of each shelf, including a plate extending horizontally beneath and in contact with the lower side of the shelf, a clip interlocking with and slidably movable on the plate having a

downwardly extending flange or lug of such size as to penetrate the aperture in the column and interlock with it.



the apertures in the columns being located on both flanges of the channel column.

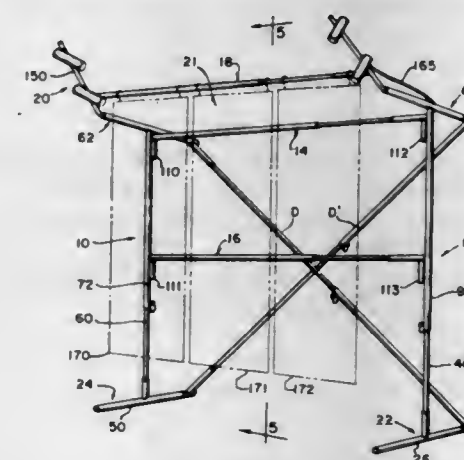
3,341,028

DISPLAY STAND

Samuel C. Nichols, Oregon City, Oreg., assignor to Jantzen Inc., Portland, Oreg., a corporation of Nevada

Filed Nov. 30, 1965, Ser. No. 510,518

5 Claims. (Cl. 211—178)



1. An expandable display stand for garments and the like, comprising: a horizontal base member disposed on each side of said stand; a horizontal upper member disposed above each of said horizontal base members and parallel thereto; a telescoping vertical member joining each of said horizontal base and upper members; telescoping diagonal members disposed in a plane behind the plane of said vertical members, the lower ends of said diagonal members being pivotally attached to said horizontal base members, the upper ends of said diagonal members being pivotally attached to said horizontal upper members; at least one telescoping horizontal crosspiece removably attached to said vertical members and lying in their plane; and means to retain each of said telescoping vertical and diagonal members in an expanded condition.

3,341,029

EXTENSIBLE BOOM CONSTRUCTION

Byron F. Barkley and William H. Kibble, both of 717 S. 4th West St., Salt Lake City, Utah 84104

Filed Oct. 6, 1965, Ser. No. 493,449

16 Claims. (Cl. 212—55)

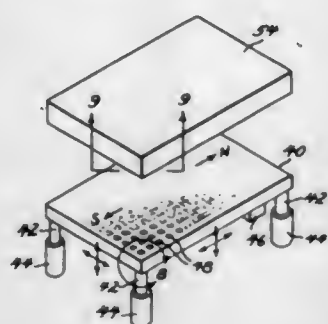
1. An extensible boom for a crane or the like, comprising in combination: a plurality of elongate boom sections interfitted for longitudinal extension and retraction to lengthen and shorten the boom; rollers normally mounting the several sections for anti-friction movement relative to one another;

slide plates arranged between said sections to permit sliding movement of the several sections relative to one another under conditions of extreme loading of the boom; and



supporting means normally maintaining said rollers in boom section supporting positions but collapsible under conditions of extreme loading of the boom to permit the boom sections to engage and slide on said slide plates for load distribution.

3,341,030
METHOD AND APPARATUS FOR POSITIONING AND ORIENTATING ARTICLES
Eugene L. Engels, 8333 Williams Ave., Philadelphia, Pa. 19150
Filed Mar. 29, 1965, Ser. No. 443,464
13 Claims. (Cl. 214-1)

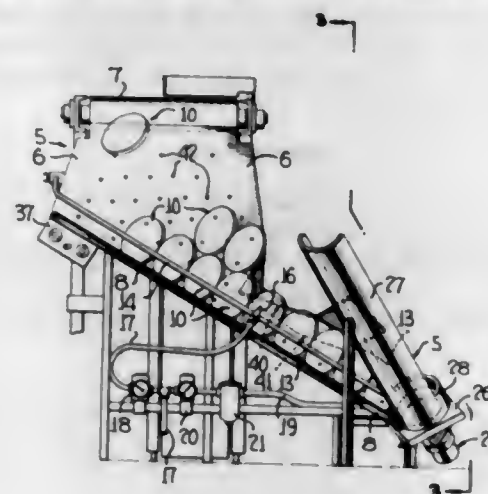


1. A method of positioning a non-magnetic article comprising the steps of coating a passive surface of said article with a film of magnetic substance and magnetizing said coating in a predetermined magnetic field vector orientation relative to said article, placing said coated articles on a supporting means including at least one magnet at a predetermined position, and vibrating said supporting means to cause said coated article to move into magnetic alignment with the magnetic field of said magnet.

3,341,031
OVERCAP STACKING APPARATUS
Travis W. Myers, Houston, Tex., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 21, 1964, Ser. No. 397,995
19 Claims. (Cl. 214-6)

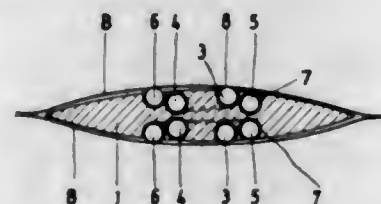
1. In apparatus for receiving and stacking cap-like articles having top portions and peripheral skirts defining therewithin a hollow, a stacker column, a chute on which to receive the articles from a delivery source and deliver them one after another to a receiving end of the column, reciprocating plunger means operable to engage each article presented at said receiving end of the column and place it in stacked relationship in the stacker column, said chute including a downwardly inclined floor along

which the articles roll toward a lower entrance end portion of the stacker column from which the column projects upwardly and a laterally and upwardly inclined wall directed into said entrance end, the reciprocal plunger being disposed to provide a floor in said column when the plunger is retracted, the column including a stack retaining shoulder, said plunger serving when projected to lift each article received thereon in its retracted position into a position above said shoulder to be retained thereby together with the superposed stack of articles within the column, the laterally and upwardly inclined chute wall is equipped with an article rejection clearance placed at such a height above the chute floor that upper portions of articles rolling along over said floor project above said clearance, and there is included an air jet nozzle disposed opposite said clearance and in such position that the air



jet directed therefrom when entering the hollow portion of an article rolling along the floor will bring about an ejection of that article whereas articles rolling along the floor with their top portions disposed for engagement by said air jet will be so engaged but with consequent glancing off of the air without ejection of such top portion presented articles, said chute also including wall portions engaged by the articles on their way to the stacker column and which are provided with apertures over which said articles will engage and which are effective to assure that a vacuum is not created in the hollow portion of any said article due to cooling of air therein and which would tend to cause such an article moving toward said column to cling to a chute wall portion and interfere with free movement of articles toward the stacker column receiving end.

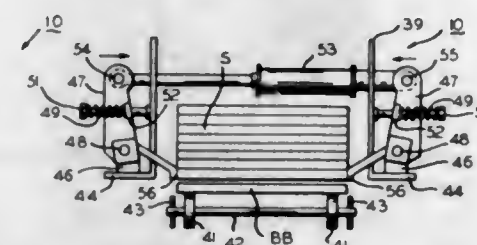
3,341,032
TOOL FOR LIFTING OR SUBDIVIDING STACKS OF SHEET MATERIAL
Adolf Schwebel, Offenbach am Main, Germany, assignor to Mabeg Maschinenbau G.m.b.H. Nachf. Hense & Pleines G.m.b.H. & Co., Offenbach am Main, Germany, a firm of Germany
Filed June 3, 1965, Ser. No. 460,963
Claims priority, application Germany, July 15, 1964, M 61,736
6 Claims. (Cl. 214-8.5)



1. A self-contained manual tool for lifting or subdividing stacks of sheet material, said tool comprising an elongated generally wedge-shaped member having in one

of its sides an endless guide track, and a plurality of rollable antifriction elements fitted in said track substantially filling the same and freely movable along the same, said track including a track portion extending substantially lengthwise of said member, said track portion guiding the antifriction elements partly protruding from the general plane of said one side of the member and the remaining portion of the track guiding the antifriction elements below the general plane of said side.

3,341,033
BOARD STACK LIFTER AND FEEDING DEVICE FOR A BOTTOM BOARD OF SUCH STACK
William A. Hunter, Morton Grove, Ill., assignor to Heatherwill Company, Morton Grove, Ill., a partnership
Original application Nov. 16, 1964, Ser. No. 411,538.
Divided and this application June 15, 1966, Ser. No. 557,763
7 Claims. (Cl. 214-8.5)

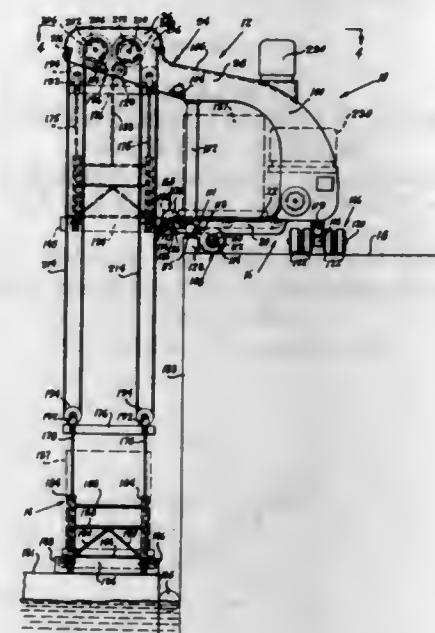


1. In a device for lifting the boards of a stack but one lying at the bottom of said stack, means for supporting said stack, finger means mounted to each side of said stack adapted to engage frictionally the edge of a board situate just above the bottom board of said stack, fluid motor means acting between said finger means to cause said finger means to move into frictional engagement with the sides of the aforesaid board, said fluid motor means being subject to additional fluid pressure to strain and thus flex said finger means to increase the frictional engagement of said finger means with the edges of said board and to cause the frictionally engaged board with the boards superimposed thereon to lift the boards of said stack but one and to free the bottom board from said stack.

3,341,034
CARGO HANDLING MACHINE
Richard M. Blasen, Lake Oswego, Oreg.
(P.O. Box 3288, Honolulu, Hawaii 96801)
Filed July 2, 1965, Ser. No. 469,273
12 Claims. (Cl. 214-14)

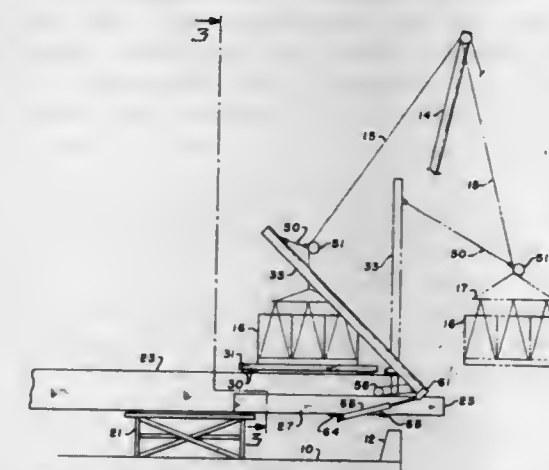
1. A cargo handling device for loading and unloading rigid lower wall articles from a vessel moored adjacent a dock, which comprises:
a frame, which includes
a cargo support frame portion,
an elevator support frame portion which includes an elevator support extension disposed above and extending beyond the edge of the cargo support frame portion, and
an upright support assembly for supporting the elevator support frame portion above the cargo support portion to form a generally centrally located cargo receiving area, an entry and exit opening for permitting a lift truck to deposit cargo articles in said receiving area beneath said elevator support frame portion, and a second entry and exit opening intermediate the cargo support frame portion and the elevator support extension to permit said cargo articles to be removed from the cargo receiving area or received thereinto from beneath said elevator support frame;

means mounting the frame for mobility on said dock; an elevator including means suspending a cargo supporting portion from the elevator support extension for moving said cargo supporting portion from a position adjacent the cargo receiving area to a position substantially below the dock in the hold of the vessel to permit loading and unloading of the vessel from said cargo supporting portion;



a conveyor in said cargo receiving area on said cargo support frame portion; and
a conveyor on said elevator cargo supporting portion, said conveyors being disposed and arranged to cooperatively move cargo articles from said cargo receiving area to said cargo supporting portion and from said elevator to said cargo receiving portion.

3,341,035
CARGO CENTERING DEVICE
Richard W. Black, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed July 29, 1965, Ser. No. 475,904
6 Claims. (Cl. 214-15)



1. In combination with a ship's hatchway, ship's hoisting gear including a boom and a power operated fall suspended from the boom for raising cargo units from the ship's hold through the hatchway, and a ship's cargo wing including a track structure extending from the ship's hatchway outboard of the ship and a dolly movable back and forth along said track structure for transporting cargo from the hatchway to a station outboard of the ship, means for centering cargo units on said dolly comprising a spar structure straddling said track structure near the

inner end of said wing, means fixed relative to said wing supporting said spar structure at its lower end for swinging movements about an axis perpendicular to the longitudinal center line of said wing, means carried by said spar structure at the upper end thereof engaging said fall, and power operated means connected to said spar structure for swinging the spar structure to move a cargo unit suspended from said fall at an elevation above said dolly to a position above said dolly and centered relative thereto.

3,341,036

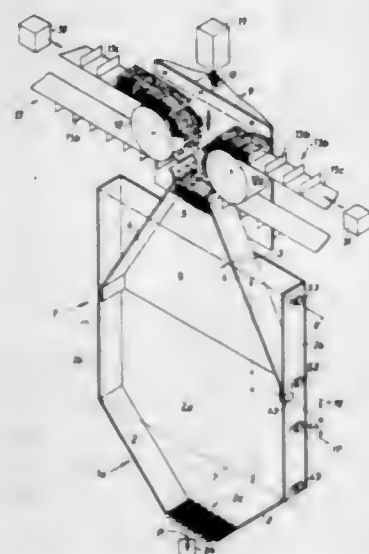
APPARATUS FOR MANIPULATING ROD SHAPED ARTICLES

Dietrich Bardenhagen, Hamburg-Lohbrügge, Germany, assignor to Hauni-Werke Korber & Co. KG., Hamburg-Bergedorf, Germany

Filed Oct. 26, 1964, Ser. No. 406,334

Claims priority, application Great Britain, Oct. 25, 1963, 42,185/63

15 Claims. (Cl. 214-17)



1. An apparatus for manipulating rod-shaped articles, particularly for manipulating cigarettes and the like, comprising conveyor means for advancing a supply of articles; a processing machine for receiving such articles; and an assembly for transferring the articles from said conveyor means to said processing machine, said assembly comprising a magazine having a fixed portion and a second portion movable with reference to said fixed portion, said portions defining between themselves an article receiving chamber whose volume varies in response and in direct proportion to movement of said second portion, one of said portions having an inlet through which articles advanced by said conveyor means are admitted into said chamber and the other of said portions having an outlet through which the articles are discharged to said processing machine, and control means for moving said second portion in response to a sum of a plurality of different factors including the rates at which said magazine respectively receives and discharges the articles.

3,341,037

VEHICLE POSITIONING APPARATUS

Nicholas R. Guilbert, Jr., Glenside, Pa., assignor to Guilbert, Inc., Philadelphia, Pa., a corporation of Pennsylvania

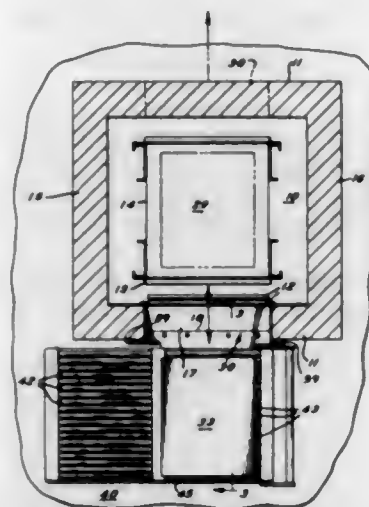
Filed Sept. 17, 1965, Ser. No. 488,188

8 Claims. (Cl. 214-38)

1. In combination with a shaftway having a car vertically movable therein to a shaftway access opening the combination of

a first horizontally elongated positioning member fixedly mounted in front of said access opening at a predetermined level,

a vehicle movable with respect to said opening, a second horizontally elongated positioning member fixedly carried by said vehicle at a predetermined level corresponding to the level of the first positioning member and horizontally slidably engageable with said first positioning member for locating



said vehicle at a predetermined distance in front of said opening, each of said members having a stop portion for engagement with a stop portion on the other to determine the positioning of said vehicle longitudinally along the front of said opening.

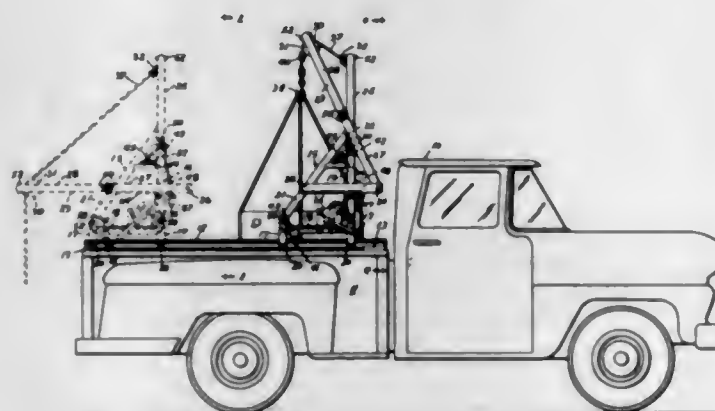
3,341,038

TRUCK HOIST

Harold T. Wicklund, 1520 S. 6th West, Missoula, Mont. 59801

Filed July 6, 1965, Ser. No. 469,636

10 Claims. (Cl. 214-75)



1. In combination with a truck having a longitudinal load supporting bed; a hoist assembly comprising: a rigid arched boom support mounted on said bed in a constant upright orientation relative to said bed for selective movement in a longitudinal direction relative to said bed, said boom support being transversely oriented and extending upwardly and inwardly from both sides thereof over the bed; an arched boom pivotally mounted on said boom support about a transverse axis; a load supporting cable guided on said boom support and by a pulley at the center of said boom; means on said cable selectively engageable with said boom to selectively pivot said boom about its axis on said boom support responsive to motion of said cable; and cable winding means on said boom support connected to said cable to selectively wind or unwind said cable.

3,341,039

BALED HAY PICKUP AND UNLOAD TRUCK

Everett M. Cranage, Rte. 1, Box 150, Deming, N. Mex. 88030

Filed Aug. 24, 1965, Ser. No. 482,077

2 Claims. (Cl. 214-83.26)



1. In a bale pickup and unloading truck, in combination, a flat-bed truck having a driving motor at one end thereof and an operator's position and associated controls at the other end thereof, a bale skidway extending longitudinally of and on the truck bed, said operator's position being displaced laterally at the skidway, a bale elevator pivotally mounted on said truck adjacent to the operator's position, a chain elevator and a driving means therefor for receiving bales, a reversible hydraulic motor operably connected to drive said driving means, said driving motor having a built-in hydraulic supply pump, a conduit extending from the pump to the hydraulic motor and a control member positioned within the reach of an operator for controlling operation of the hydraulic motor, said bale skidway having side and bottom members over which a bale may slide, said skidway being formed to extend through the truck bed to points above and below the floor of the truck.

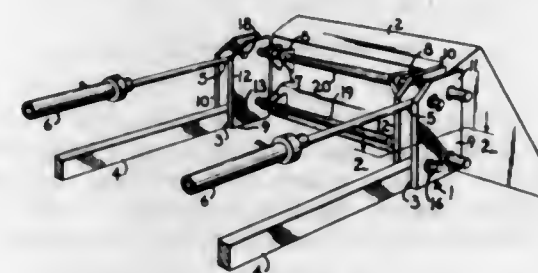
3,341,040

LOADER ARM MOUNTING BRACKET

Calvin B. Blair, Box 76, Barnard, Kans. 67418

Filed Jan. 3, 1966, Ser. No. 518,323

8 Claims. (Cl. 214-140)



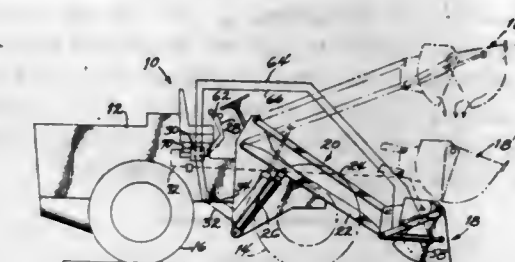
1. A universal bracket for pivotally mounting an implement to the free ends of a pair of lift arms and to the free end of at least one tilt arm, said lift arm free ends being horizontally spaced apart a first distance, said tilt arm free end being at least vertically displaced from said lift arm free ends, said implement having lift arm mounting members secured thereto in positions horizontally spaced apart a second distance, said implement having at least one tilt arm mounting member secured thereto in a position at least vertically displaced from said lift arm mounting members, said bracket comprising:

- lower and upper horizontal normally vertically spaced apart rigid rods adapted for engagement respectively with said implement lift arm and tilt arm mounting members, said lift arm rod having a length at least equal to said first distance,
- a pair of securing members engaging said rods and movable therealong to produce a distance between said securing members equal to said first distance, said securing members being respectively adapted for pivotal engagement with said respective lift arm free ends, and
- means for pivotally engaging said tilt arm free end to one of said rods whereby said implement is mounted on said arm ends for operation.

842 O.G.-21

3,341,041

MATERIAL HANDLING ATTACHMENT
Karl Salma, Mundelein, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,476
4 Claims. (Cl. 214-145)



1. A variable volume material-handling attachment for use with a tractor loader vehicle having a boom, the attachment including the combination of: a bucket having a back section mounted on the boom and a front section mounted on the upper margin of the back section for pivotal movement about a transverse axis between digging, carrying and dumping positions; the back section having a rear wall for scooping and carrying the material; the front section having a bottom wall adapted to pivot under the rear wall whereby the volume of the bucket is selectively varied between the digging and carrying positions, the front section further being adapted to pivot forward of the rear wall whereby the material is dumped from the bucket; and, means to selectively pivot the front section between said positions including an extensible hydraulic ram connected between the front section and the rear section, a source of fluid under pressure, control means to selectively direct the fluid to the ram for extension and retraction thereof, and means to terminate operation of the control means responsive to movement of the front section to the carrying position.

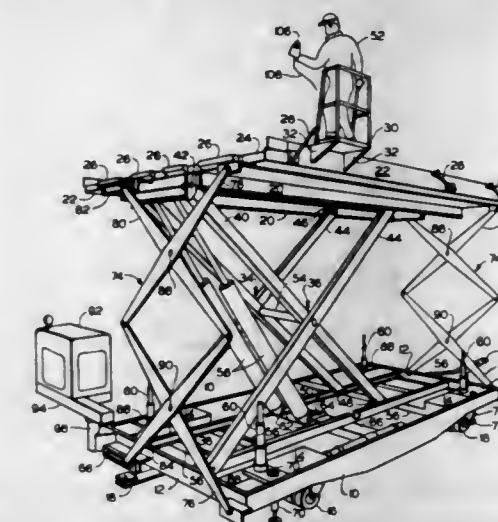
3,341,042

ELEVATOR CONTROL SYSTEM

Victor H. Carder, Pacific Grove, Calif., assignor to American Sugar Company, Salinas, Calif., a corporation of New Jersey

Continuation of application Ser. No. 357,524, Apr. 6, 1964. This application Dec. 16, 1966, Ser. No. 607,125

4 Claims. (Cl. 214-512)



1. An elevator for loading cargo into aircraft comprising: a lower frame adapted to be supported on the ground adjacent to an aircraft; an upper frame having conveyor means thereon for conveying cargo in a horizontal direction across said upper frame; scissors lift arms extending parallel to a vertical plane parallel to said horizontal direction and interconnecting said frames

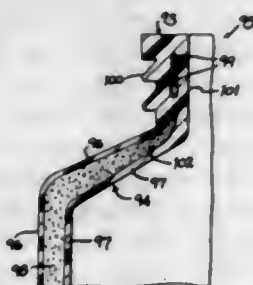
for supporting said upper frame on said lower frame generally parallel to said lower frame while permitting said upper frame to move between a high lift position above said lower frame and a lowered position below said high lift position; and, auxiliary scissors lift arms extending parallel to a vertical plane perpendicular to said horizontal direction; lift means for moving said upper frame between said positions; a pair of extendable feet mounted on said lower frame on each side of a median line through said lower frame parallel to said horizontal direction; and a single operating means for extending the feet of each pair to tilt said elevator horizontally when said upper frame is in said high lift position.

3,341,043

FOAMED PLASTIC ARTICLES

Thomas R. Santelli, Sylvania, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Continuation of application Ser. No. 440,778, Mar. 18, 1965, which is a division of application Ser. No. 389,511, July 22, 1964. This application Dec. 19, 1966, Ser. No. 603,049

7 Claims. (Cl. 215-1)



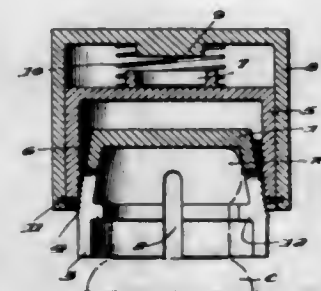
6. A plastic article comprising a body portion and a finish portion integral with said body portion, said body portion being essentially cellular between interior and exterior surface layers which are non-cellular, and said finish portion being substantially more dense than said body portion, said finish portion having dense, glazed interior and exterior surfaces confining therebetween any cellular material occurring in said finish portion.

3,341,044

SAFETY BOTTLE CAPS

Donald B. Valk, Madison, N.J., assignor to Wel-Kids, Inc., Madison, N.J., a corporation of New Jersey
Filed Aug. 18, 1966, Ser. No. 573,311

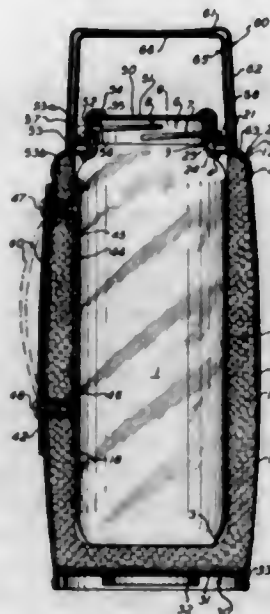
8 Claims. (Cl. 215-9)



1. A safety bottle cap comprising a connector member having means for interlocking connection with a container, a locking member sleeved over the connector member and having means for causing interlocking of the connector member with the container, a cover member sleeved over the locking member and movable axially and rotatably relative thereto, and clutch means for interconnecting the cover member with the locking member upon said axial movement for thereafter causing turning movement of the locking member in clutch engagement.

3,341,045
HEAT INSULATED BOTTLE
Jack Sandler, Florham Park, N.J., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 13, 1963, Ser. No. 301,750

17 Claims. (Cl. 215-13)



1. In combination, a rigid expanded plastic receptacle member, a flexible plastic skin by which the receptacle member is tightly surrounded, a rigid glass bottle fitting within the receptacle member and having at its top a restricted neck protruding from the top extremity of that member and below said neck a shoulder, and a flexible plastic inverted saucer centrally apertured for and tightly engaging said neck and peripherally secured to said skin, wherein said flexible plastic inverted saucer bears against said shoulder and forms a means retaining the bottle within the receptacle member.

3,341,046

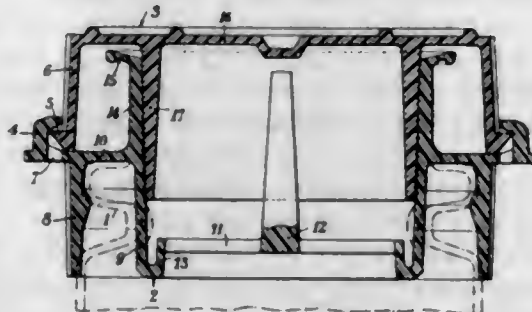
FLUID-TIGHT BOTTLE CAP

André Bereziat, Lyon, and Guy Janssen, Chatou, France, assignors to Societe Astra de Bouchage, Surbouchage & Conditionnement, Societe Anonyme, Lyon, France, and Georges Lesieur & ses Fils, Societe Anonyme, Paris, France

Filed Mar. 29, 1966, Ser. No. 538,373

Claims priority, application France, Apr. 23, 1965, 14,383, Patent 1,453,863

2 Claims. (Cl. 215-41)



1. In a fluid tight cap for closing the neck portion of a container, said cap comprising a base element of flexible plastic material which is adapted to fit on the neck of the container, and a cap element which is adapted to close the top of said base element, wherein said base element comprises on the one hand two coaxial internal and external skirts fitting respectively to the inside and to the outside of the neck of said container, and on the other hand a substantially cylindrical sleeve projecting to the outside, the internal skirt defining an orifice, said cap

element comprising a skirt fitting into said cylindrical sleeve of said base element, the improvement consisting in a spider formed with radial arms, said spider being situated in said orifice at the lower end of said internal skirt, the arms of said spider assisting in reinforcing the pressure exerted by said skirt on said inner neck surface.

3,341,047

CONTAINER AND BAIL CONSTRUCTION

Howard J. Nauta, Waukegan, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed May 10, 1966, Ser. No. 549,027

9 Claims. (Cl. 215-100)



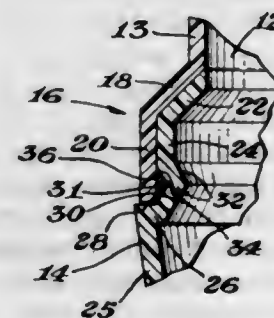
5. A bailed container comprising in combination a container having a top, a sidewall defining the outer contour of the container and a base; two diametrically opposed dimples impressed into the sidewall proximate the base; a set back portion of the base set back from the outer contour extending around about one-half the container from one dimple to the other, a portion of the sidewall proximate the set back portion of the base sloping inwardly to join the set back portion of the base and define therewith a pocket; a bail adapted to fit within said pocket comprising a planar member having two inwardly hooked ends mounted in the dimples and at least three apexes; curved end sections proximate each end of the member, each end section being a segment of the same ellipse; a plural series of curved intermediate sections joining one another at an apex and the first and last member of the series connected to the end sections; the intermediate sections having a curvature reverse to the curvature of the end sections and at least in part having a cross-section with a major and a minor dimension, said major dimension lying in the plane of the member and said minor dimension in another plane.

3,341,048

JOINT FOR THERMOPLASTIC ARTICLES

Anthony J. Carbone, 3834 Todd, Midland, Mich. 48640
Filed Oct. 16, 1964, Ser. No. 404,461

3 Claims. (Cl. 220-4)



1. An article comprising at least two mating components formed of thermoplastic material, each of said components having a circular cross-section, a peripheral end of one of said components having a flange defining an external diameter no greater than the internal diameter defined by a peripheral end of the other of said components, said flange having an inwardly directed portion

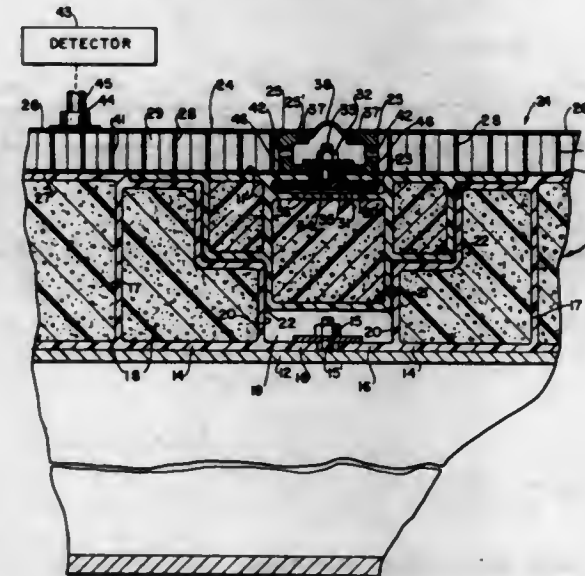
spaced a substantial distance from the inner peripheral surface of said other component, the remainder of said flange spin welded with the peripheral end of said other component, excess flash being contained in the channel formed by said spaced portion.

3,341,049

CRYOGENIC INSULATION SYSTEM

Charles D. Forman, Elizabeth, and Augustus B. Small, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,397

8 Claims. (Cl. 220-9)



1. An insulated container structure for materials maintained at cryogenic temperatures and atmospheric pressures comprising:

- (a) a rigid outer supporting structure,
- (b) a plurality of effectively dimensionally stable insulating panels arrayed in a general end-to-end and side-by-side relation,
- (c) means maintaining said panels in said array and against said outer rigid structure, stepped edge plug means interposed between said panels,
- (d) adhesive sealing means joining said stepped edge plug means to adjacent ones of said insulating panels in a manner whereby said panels cooperatively define a continuous liquid-tight secondary barrier,
- (e) a plurality of triplex primary barrier panels having peripheral frame members supporting spaced layers of cargo-resistant sheet material sandwiching honeycomb structures therebetween,
- (f) said frame members having inner and outer flanges,
- (g) flexible bellows-like elements interconnecting the inner flanges of adjacent triplex panels,
- (h) mounting means slidably engaging said plug means to hold said triplex panels against said insulating panels while accommodating relative movement therebetween,
- (i) whereby said triplex panels define a continuous primary barrier which is freely movable relative to and independently of said secondary barrier.

3,341,050

CRYOGENIC INSULATION SYSTEM

Charles D. Forman, Elizabeth, Paul T. Gorman, Chatham, and Augustus B. Small, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

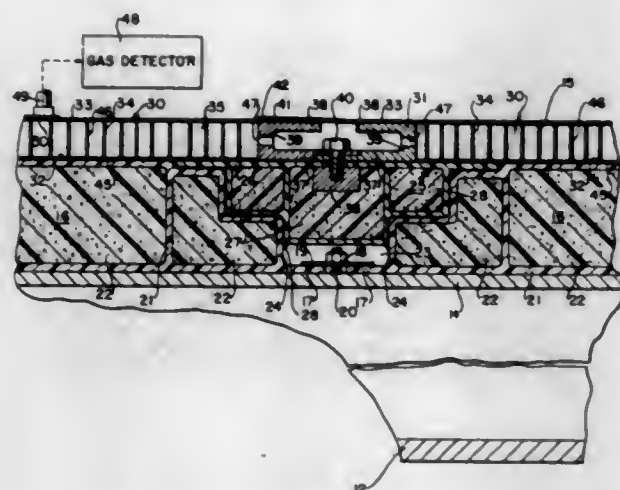
Filed Nov. 16, 1964, Ser. No. 411,527

8 Claims. (Cl. 220-9)

1. An insulating container for liquefied natural gas including

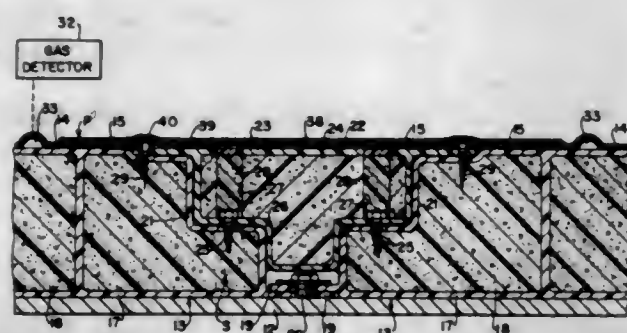
- (a) a rigid support structure,

- (b) a plurality of effectively dimensionally stable thermal insulating panels arrayed in a general end-to-end, side-by-side relation,
- (c) means securing said insulating panels to said support in a manner whereby said panels define a continuous, liquid-tight secondary barrier,
- (d) a plurality of triplex gas-resistant panels,
- (e) each of said triplex panels including a peripheral frame member and inner and outer sheet members sandwiching a honeycomb core therebetween,
- (f) said triplex panels being effectively dimensionally stable when subjected to cryogenic temperatures,



- (g) said inner sheet members including flap portions extending beyond the peripheries of said frame members and overlapping portions of the inner sheet members of adjacent triplex panels,
- (h) dimensionally stable anchoring means securing said frame members of said triplex panels to said secondary barrier,
- (i) adhesive means at the interfaces of said insulating and triplex panels and defining a continuous, liquid-tight intermediate barrier therebetween,
- (j) bonding means uniting said flap portions to adjacent ones of said inner sheet members whereby said members define a continuous substantially planar, liquid-tight primary barrier.

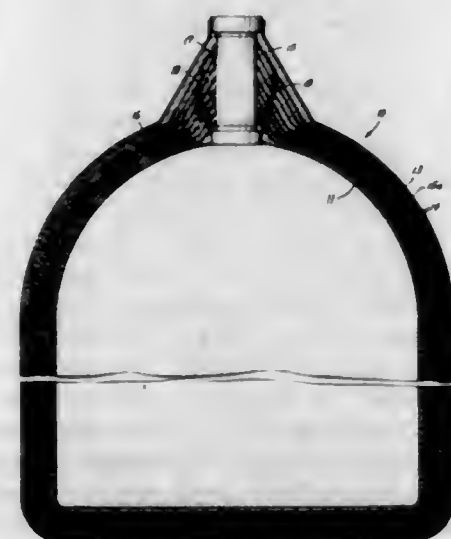
3,341,051
CRYOGENIC INSULATION SYSTEM
 Charles D. Forman, Elizabeth, and Augustus B. Small, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
 Filed Dec. 24, 1964, Ser. No. 420,979
 2 Claims. (Cl. 220-9)



1. A container for the storage and/or transportation of cryogenic cargoes at atmospheric pressure comprising
 - (a) a closed supporting structure,
 - (b) a plurality of dimensionally stable, stepped insulating panels,

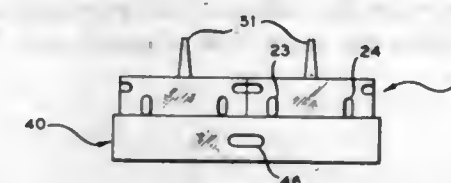
- (c) said panels being contiguously arrayed and sealed to define a continuous, liquid and gas impermeable secondary barrier,
- (d) a plurality of effectively dimensionally stable primary barrier panels of laminated construction including a metal foil and fiberglass reinforced polyester sheet,
- (e) said primary barrier panels being preformed to define concavities at the outer surfaces thereof,
- (f) mechanical fastening means securing said primary barrier panels to said secondary barrier panels at predetermined spaced points,
- (g) dimensionally stable means sealing the joints between adjacent primary barrier panels,
- (h) said concavities in cooperation with the inner faces of said secondary barrier panels forming channels in communication with the interface between said primary and secondary barriers, and
- (i) gas detection means in communication with said channels and adapted to sense the presence of gas therein.

3,341,052
DOUBLE-WALLED CONTAINER
 Alfred Barthel, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
 Filed Sept. 12, 1963, Ser. No. 308,541
 5 Claims. (Cl. 220-14)



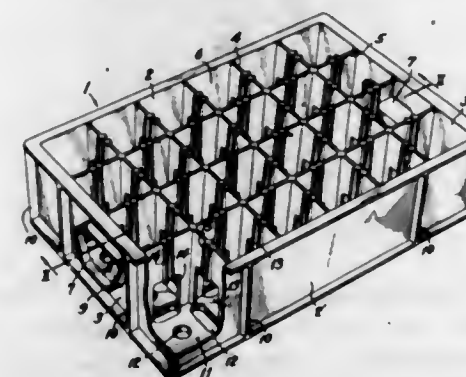
1. A double-walled liquefied gas container comprising an inner storage vessel and an outer shell being arranged and constructed with a vacuum space therebetween; an evaporation gas conduit between said inner vessel and said outer shell for transporting such gas from the container and having a temperature gradient across said vacuum space; a composite multi-layered insulation disposed within such space comprising multiple layers of precompacted paper ribbon and aluminum foil ribbon being orbital wrapped crisscrossly in overlaying relation around said inner vessel; multiple frusto-conical sections formed of aluminum sheeting of 0.02 to 0.04 inch thickness being concentrically aligned around said evaporation conduit within said vacuum space, positioned with their small ends frictionally bearing against the outer surface of the conduit for thermal contact therebetween and longitudinally spaced along the conduit outer surface, at least some of the orbital wrapped aluminum ribbons overlapping and contiguously thermally contacting the large ends of respective frusto-conical sections as heat conductive shields, the shields and frusto-conical section large ends as well as the section small ends and conduit outer surface being aligned with respect to the vacuum space width and thermally contacted so that the shield and frusto-conical sections are at temperatures lower than the temperatures they would assume absent the contacts.

3,341,053
BOTTLE CONTAINER
 William A. Keene, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Nov. 2, 1964, Ser. No. 408,103
 2 Claims. (Cl. 220-21)



1. A plurality of article containers arranged in rectilinear configuration, each individual container having a pair of end walls and a pair of side walls, each of said walls being provided with a pair of projecting lugs and a pair of depressions corresponding in configuration with said lugs, said lugs and said depressions being arranged so that one lug is above one depression and spaced therefrom, said containers being arranged so that at least some of said projections of each of said containers is received by corresponding depressions of the adjacent container whereby said containers are interlocked to prevent relative movement therebetween, said containers being retained in said interlocking relationship by structurally stable securing means having end walls and side walls provided with an overturned lip cooperating with at least one of said lugs on the side and end walls of containers defining the periphery of said plurality of containers thereby securing said plurality of containers in said interlocked relationship.

3,341,054
BOX FOR CARRYING BOTTLES
 Kashichi Hirota, 691, Sanda-Higashi-cho, Hachioji-shi, Tokyo, Japan
 Filed Dec. 27, 1965, Ser. No. 516,466
 Claims priority, application Japan, Sept. 22, 1965, 40/77,459
 6 Claims. (Cl. 220-21)

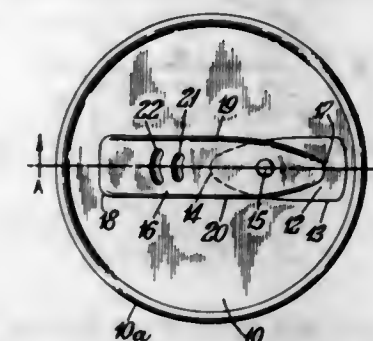


1. In a plastic box for carrying bottles having four side walls and a bottom, comprising partitions for dividing the box into a plurality of cavities for containing said bottles, rigid pairs of projections on said partitions disposed opposite the center axis of said cavities, said projections extending over half-way into the respective cavity, said projections being spaced to provide separate points of support for each bottle when the box is positioned with its open side in a non-horizontal position.

3,341,055
CONTAINER OPENING DEVICE
 James Radford, New York, N.Y., assignor to Jafford, Inc., Suffern, N.Y., a corporation of New York
 Filed Oct. 22, 1965, Ser. No. 501,135
 1 Claim. (Cl. 220-48)

1. In a metallic cover for a container, said cover having on its surface a continuous score line defining an inwardly extending tab, the innermost end of said tab hav-

ing a substantially angular configuration, the improvement consisting of a rigid elongated member having a first and a second end, said first end having the same configuration as the innermost end of said tab; said rigid elongated member being pivotally mounted on said tab intermediate said ends for pivotal rotation about an axis



perpendicular to said metallic cover from a first position wherein said elongated member lies in the area defined by the metallic cover to a second position wherein the first end of said member is in juxtaposition with the innermost end of said tab and the second end of said member extends beyond the area defined by said metallic cover.

3,341,056
CONTAINERS
 Sollace B. Coolidge, Jr., Chagrin Falls, Ohio, assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio
 Filed Aug. 25, 1965, Ser. No. 482,565
 17 Claims. (Cl. 220-53)

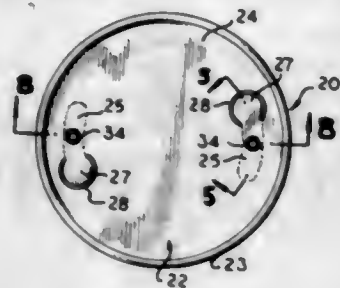


1. A container comprising
 - (a) a body portion having
 - (1) A tubular side wall, and
 - (2) an open end,
 - (b) said side wall having a radially outwardly projecting curl at said open end,
 - (c) a cover mounted on said open end,
 - (d) said cover having a flange
 - (1) disposed outwardly of said curl and
 - (2) extending downwardly therealong,
 - (e) said flange having
 - (1) an upper edge portion,
 - (2) a lower edge portion, and
 - (3) a slot extending more than half way around said cover between said upper and lower edge portions,
 - (f) said lower edge portion being secured to said curl for holding said cover on said open end, and
 - (g) a tape
 - (1) removably mounted on the outer surface of said flange, and
 - (2) extending around said cover in sealing relation to said slot.

3,341,057
EASY OPENING CONTAINER END
 Henry E. Frankenberg, Berwyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
 Filed Dec. 1, 1964, Ser. No. 414,954
 17 Claims. (Cl. 220-54)

1. A container end of the easy opening type comprising an end panel having means for defining a dispensing opening, a liner underlying said dispensing opening defining

means and being sealable to the underside of said end panel along an area thereof surrounding said dispensing opening defining means, and a projection on said liner extending through said end panel for facilitating the rupture of said liner in alignment with said dispensing opening.

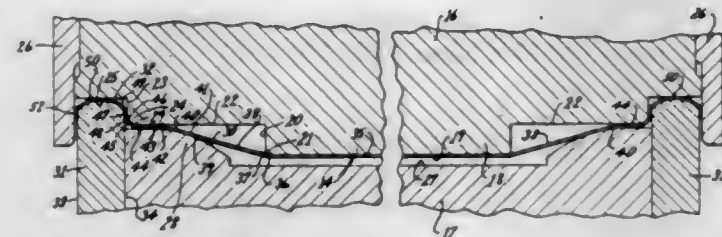


ing defining means, said liners being formed of a resilient plastic material and said projection being integral with said liner, and said liner being weakened generally in alignment with said dispensing opening defining means to facilitate the rupturing of said liner.

3,341,058

CONTAINER AND END CLOSURE THEREFOR
Roy M. Martin, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed June 26, 1964, Ser. No. 378,396
8 Claims. (Cl. 220-66)



1. A container closure or the like having an outer peripheral bead forming portion, a substantially vertical band-like wall portion integrally joined at its top edge to said bead forming portion and having its bottom edge adapted to be disposed against the interior side wall means of a container, a substantially flat horizontal band-like wall portion integrally joined at its outer edge to the bottom edge of said vertical wall portion, an arcuately cross-sectioned band-like wall portion integrally joined at its outer edge to the inner edge of said flat band-like wall portion, said arcuate band-like wall portion having its concave side adapted to face into the interior of said container and having its outer edge defining the highest point of said arcuate band-like wall portion, a slanting substantially straight-line cross-sectioned band-like wall portion integrally joined at its outer edge to the inner edge of said arcuate band-like wall portion with its outer edge being the highest point of said slanting band-like wall portion, and a substantially flat horizontal center wall portion integrally joined at its outer edge to the inner edge of said slanting band-like wall portion and defining the lowest point of said closure.

3,341,059

THERMOPLASTIC CONTAINER BODY
Charles William Schild, Cary, and Roland Norbert Wendricks, Barrington, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

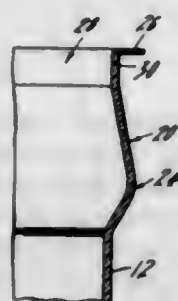
Filed Feb. 18, 1966, Ser. No. 528,452
1 Claim. (Cl. 220-67)

A container having a body and one end closure integral therewith, both formed from thermoplastic material, the end of said body opposite said closure being open;

said body having a substantially uniform wall thickness throughout its area rendering the body self-supporting and able to withstand abuse during its normal life;

a peripheral flange integral with said body and surrounding said open end;

said flange extending substantially perpendicularly outwardly from the body wall adjacent said flange and



being adapted to be interfolded with the periphery of a metal end in a doubleseam to close said open end;

said flange being of a thickness substantially two-thirds that of the side wall of said body thereby facilitating interfolding of the flange with the periphery of said metal end whereby said doubleseam is liquid-tight and abuse-resistant.

3,341,060

MILK CRATE

Houston Rehrig, Pasadena, Calif., assignor to Rehrig Pacific Company, Los Angeles, Calif., a corporation of California

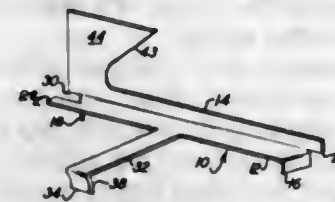
Filed Dec. 11, 1964, Ser. No. 417,715
6 Claims. (Cl. 220-73)



1. A milk crate comprising a rectangular bottom panel, molded plastic side panels extending upwardly from said bottom panel integrally joined at the corners of the crate, the outer surface of said corners being rounded with the rounded corners having a relatively short radius, a pair of vertically spaced flanges integrally formed around the outer periphery of said crate adjacent the top of said side panels, said flanges cooperating to define an outwardly directed channel adjacent the top of said crate, an endless generally rectangularly shaped reinforcing rod member extending around the outer periphery of said crate between said flanges, the inner periphery of said generally rectangularly shaped rod member being substantially equal to the outer periphery of said crate between said flanges, the corners of said generally rectangular reinforcing rod member being rounded with the radius of curvature of the rounded corners on said reinforcing rod being greater than the radius of curvature of the corners of said panels, said reinforcing rod engaging and applying an inwardly directed force to each of the corners of said crate when said rod is positioned between said flanges to cause the said side panels to deflect outwardly against said reinforcing rod member.

3,341,061

BRUSH HOLDER AND SCRAPER
Anthony Cortina, 56 Huntington St.,
New London, Conn. 06320
Filed Oct. 24, 1965, Ser. No. 504,694
12 Claims. (Cl. 220-90)

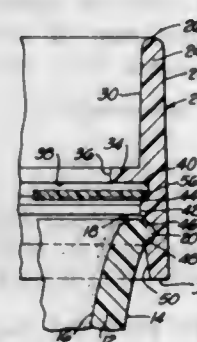


1. A brush scraping and support element comprising an angle iron adapted for open angle mounting as a chord across the grooved edge of an open cylindrical container with the vertical flange of said angle iron presenting a brush scraping edge in mounted position, said brush scraping edge continuing into an arcuately curved portion lying in the plane of said vertical flange and disposed near one side, said arcuate portion being adapted for a scraping element at an end of the brush whereby both a side and end of the brush may be simultaneously scraped, and the horizontal flange, integral with said vertical flange, being adapted to lie in the open top plane of said container, said angle iron having its ends dimensioned and shaped and having a bracing arm extending substantially centrally from the scraper blade, to firmly grip the arcuate edge of said container for firm support.

3,341,062

NON-SPILL DRINKING CUP

Robert E. Phillips, P.O. Box 1102,
Studio City, Calif. 91604
Filed Feb. 1, 1965, Ser. No. 429,467
6 Claims. (Cl. 220-90.4)



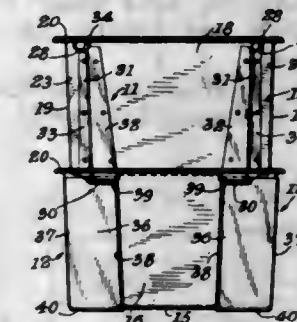
1. A non-spill drinking cup:
said non-spill drinking cup comprising a liquid reservoir, a body and a valve plate;
said liquid reservoir comprising a vessel having sides and a closed bottom and an open top adapted to retain liquid therein when in an upright position;
said body having an upper end and a lower end, said lower end being contiguous with said open end of said vessel, said upper end having a drinking lip thereon, a downwardly facing inwardly extending continuous sealing surface on said body below its upper end, a guide surface on said body, said guide surface being positioned outwardly from said inwardly extending continuous sealing surface, said sealing surface being substantially planar and extending from an interior diameter outwardly to said guide surface; said valve plate being positioned below said sealing surface, said valve plate having a continuous upper valving surface of sufficient size to be adapted to lie against said sealing surface to sealingly engage said sealing surface, said valve plate having portions of

larger radius and portions of lesser radius, said portions of lesser radius being of larger radius than interior diameter and said portions of larger radius being in sliding engagement with said guide surface to guide said valve plate toward and away from said sealing surface, so that when said valve plate is in engagement with said sealing surface said vessel is closed to the exterior.

3,341,063

REINFORCED PLASTIC TOTE BOX

Anson W. Voorhees, Jr., 3729 Blackledge Drive,
Tucson, Ariz. 85716
Filed Aug. 3, 1964, Ser. No. 386,989
6 Claims. (Cl. 220-97)

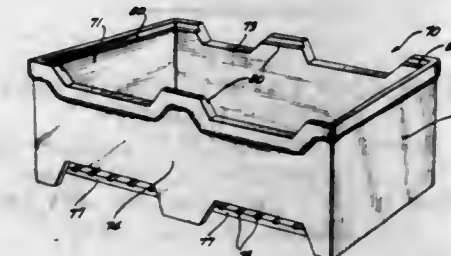


1. In a nest-stack type of container comprising a polygonal plastic body having a bottom, upwardly flaring side walls and inset corners in the wall corners, and a top flange around the upper portion of the walls having socketed seats at each inset corner, and with the inset corners and seats being arranged as complementary-oriented pairs to permit nesting of one box into another when the boxes are oriented in a common manner, and to permit stacking of the boxes when they are rotated to a position opposite the aforesaid common orientation, whereby when stacked, corner-bottom portions at the inset corners of an upper box rest upon the complementary-opposing seats, the improvement comprising: a stiffening means at each inset corner having an upper shelf at the underside of the said stacking seat thereof and a lower shelf underneath the said corner bottom-portion thereof and an upright flat member between the shelves adapted to resist a compressive load upon the stacking seat.

3,341,064

CONTAINER

Fausto M. Ricci, 1090 Carolyn Way,
Beverly Hills, Calif. 90210
Filed Nov. 9, 1964, Ser. No. 409,744
6 Claims. (Cl. 220-97)



1. In a container of the class described including a base having a substantially rectangular shape and having a plurality of parallel equally spaced transverse grooves and a plurality of vertical openings spaced in each groove at a predetermined distance from each other; end panels rigidly affixed to the base and extending below said base for a predetermined distance and having a depression positioned at the top edge thereof; side panels rigidly affixed between said end panels and to said base having

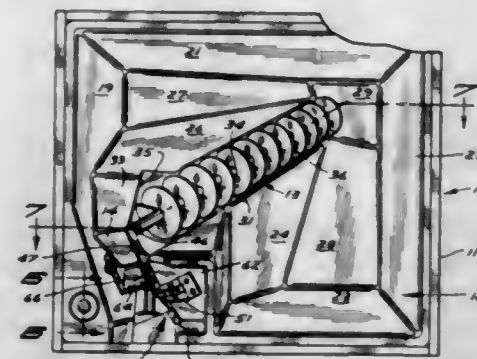
a depression along the top edge thereof contiguous to and in horizontal alignment with the depression disposed in said end panels, said side panels extending below said base a predetermined distance and having a plurality of U-shaped cutouts along the top edge and a plurality of inverse U-shaped cutouts along the bottom edge extending a predetermined distance above the base and forming lateral openings above said base, and a cover removably disposed in said depression and forming a plurality of longitudinal openings between said cover and the U-shaped cutouts on the top edge of the side panels.

3,341,065

APPARATUS AND METHOD FOR DISPENSING MATERIAL

Donald A. Schuldt and James H. Casey, St. Paul, Minn., and John N. Ewald, Jr., 4338 Shady Oak Road, Hopkins, Minn. 55343; said Schuldt and said Casey assignors to said Ewald

Filed Feb. 11, 1966, Ser. No. 526,825
14 Claims. (Cl. 222-1)

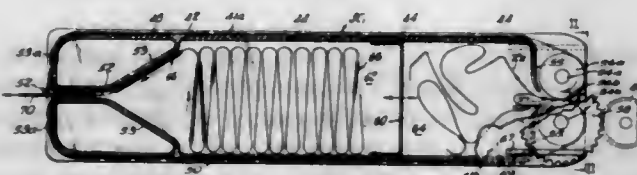


1. An apparatus for dispensing material comprising a hopper for storing material, said hopper having a stationary exit chute means for guiding material into a container, conveyor means located in said hopper operable to move material into said exit chute means, movable gate means positioned in said exit chute means for movement to a first closed position and to a second closed position relative to the chute means to hold an amount of solid material in said chute means and to an open position allowing said material to move in the chute means and control means for moving said gate means from said second closed position to the open position whereby the material in the chute means is discharged from the chute means, said control means including a position actuated means connected to said gate means, said position actuated means operable when the gate means is in the first position to actuate the conveyor means to move material into the chute means and to stop the conveyor means when the gate means is in the second closed position after said amount of material is in the chute means.

3,341,066

APPARATUS AND PACKAGE FOR DISPENSING STERILE OBJECTS

Donald R. Bowes, Fanwood, N.J., assignor to Ethicon, Inc., a corporation of New Jersey
Filed July 13, 1965, Ser. No. 471,700
15 Claims. (Cl. 221-25)



7. Apparatus for dispensing a selected sterile object from a first group of sterile objects and a second group of sterile objects, said first group of sterile objects being

sealed between a first pair of sterile flexible strip surfaces of a first continuous envelope and each first strip surface having a first free end portion, said second group of sterile objects being sealed between a second pair of sterile flexible strip surfaces of a second continuous envelope and each second strip surface having a second free end portion, said apparatus comprising:

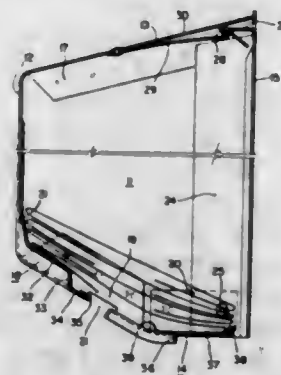
- (a) a frame provided with a first container cavity and a second container cavity,
- (b) a first container and a second container disposed in said first container cavity and said second container cavity respectively and adapted to contain said first envelope and said second envelope respectively,
 - (1) said first container being provided with a first discharge means on one portion thereof for said first free end portions and said first envelope,
 - (2) said first free end portions being separable after emergence from said first discharge means,
 - (3) said second container being provided with a second discharge means on a first portion thereof for said second free end portions and said second envelope,
 - (4) said second free end portions being separable after emergence from said second discharge means.
- (c) a first drive means on another portion of said first container and operable to engage said first free end portions,
- (d) a second drive means on another portion of said second container and operable to engage said second free end portions, and
- (e) control means on said frame operatively associated with said first and second drive means for actuating a selected one of the first and second drive means as desired to deliver said selected sterile object,
 - (1) said selected one of said first and second drive means being operable to advance the said selected one of the first and second envelopes through the selected one of the said first and second discharge means to expose said selected sterile object and the selected sterile surfaces of said selected one of said first and second envelopes adjacent said selected sterile object.

3,341,067

PAPER TOWEL DISPENSING CABINET FOR DIFFERENT SIZED TOWELS

Lehman J. Bastian, Media, Pa., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 15, 1965, Ser. No. 507,894
3 Claims. (Cl. 221-44)



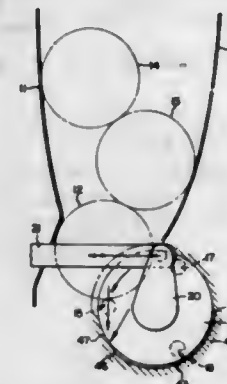
1. A paper towel cabinet comprising a backing plate and a one-piece housing forming front, side, top and bottom walls, said housing being removably attachable to said backing plate so as to allow insertion of a stack of folded paper towels, the bottom wall of said housing comprising a front towel stack support ledge integrally formed therein and a rear towel stack support ledge spaced

rearwardly of said front stack support ledge but connected thereto by integral upstanding side tabs which are secured to said side walls of said housing, said spaced front and rear towel stack support ledges defining a dispensing opening in said bottom wall whereby paper towels of both the C-fold and the multifold type can be reliably dispensed, said front towel stack support ledge comprising an inwardly depressed section at the lower end of said front wall and at the front end of said bottom wall, said section having a downwardly and inwardly sloping wall portion, a downwardly and more inwardly sloping shelf portion and a downwardly and outwardly depending riser portion terminating in an inwardly depending lip portion extending to the front edge of said dispensing opening in a plane substantially parallel to but spaced from the plane of said shelf portion.

3,341,068

VENDING MACHINE GATE MECHANISM

Meigs W. Newberry, East Longmeadow, Springfield, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1966, Ser. No. 552,459
1 Claim. (Cl. 221-67)



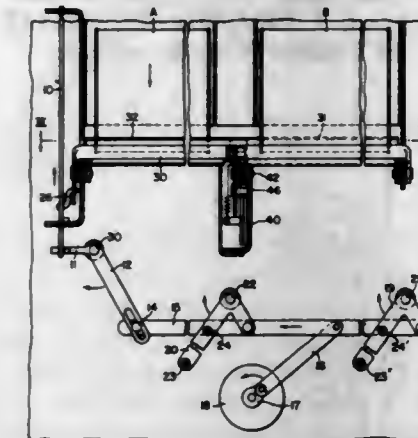
In a vending machine having a vertical article storage column and a vending gate rotatably movable about a generally horizontal axis beneath the column to release a stored article, the compensating brake arrangement to resist the movement of the gate with a braking force proportional to the weight of stored articles supported on the gate comprising, a machine support structure, a pivot bearing for each end of said gate carried by said support structure, one of said pivot bearings being comprised of a first arcuate bearing surface on said gate and a second arcuate bearing surface on said support structure, one of said bearing surfaces being relieved along a lower arcuate portion thereon on both side of a vertical centerline therethrough so that the weight of stored articles carried by the gate produces a bearing pressure braking force proportional thereto between portions of adjoining bearing surfaces, the included angle of said relieved portion extending for less than 90° on the side of the vertical centerline through the bearing that is against the direction of rotation of said gate and extending to approximately 90° on the side of a vertical centerline through the bearing that is in the direction of rotation of said gate.

3,341,069

DOUBLE ROW CAN VENDOR

Meigs W. Newberry, East Longmeadow, Springfield, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 8, 1966, Ser. No. 563,767
4 Claims. (Cl. 221-116)

1. In a dispensing mechanism for selectively releasing an article from the lower ends of a column of two tandem arranged vertical stacks of articles, the combination of a

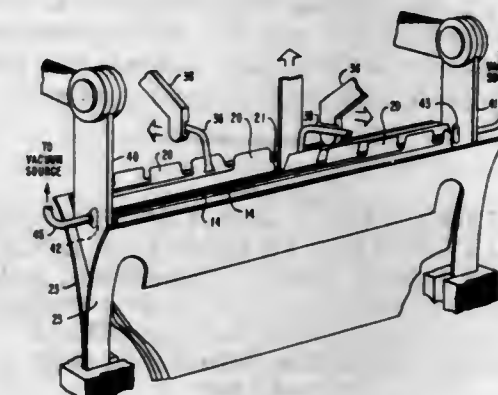


neath said stacks of articles upon alternate successive vending movements of said gate members to alternately prevent and permit the release of an article from alternate ones of said two stacks, lowering means pivotally mounted beneath the gate members under respective stacks of articles and interconnected with said gate members to be movable from a normal article releasing lowered position to a raised article supporting position as said gate members are moved transversely from beneath the column of articles, and means for simultaneously moving said alternator coupling means and said gate member supporting means to thereby move said gate members towards and away from each other together with alternate ones of said shield members in alternate successive dispensing operations.

3,341,070

RECORD MEMBER GUIDE DEVICE

Friedrich R. Hertrich, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 17, 1964, Ser. No. 419,070
5 Claims. (Cl. 221-119)



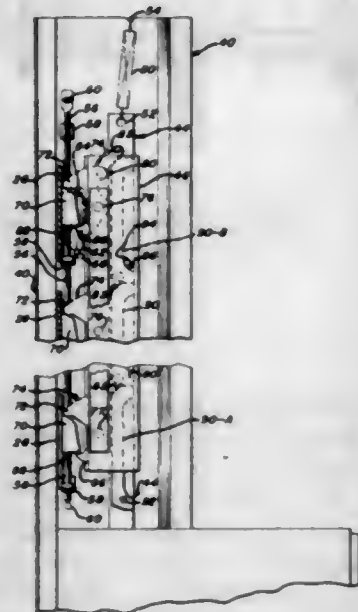
1. In a random access memory system having a plurality of cards to be withdrawn from separate subcells, each card being one of a plurality in a subcell, the cards being subject to displacement in a normal direction relative to a given plane, and to oscillatory displacement when withdrawn, the combination of: means for separating the

cards on each side from a selected card, air jet means directing air streams on both sides of a selected card to facilitate withdrawal, means engaging a selected card for withdrawing the same from its subcell, and means disposed adjacent each longitudinal edge of the card in a subcell for stabilizing the position of the plane of the card, comprising means each defining at least one orifice adjacent each longitudinal edge of the card, and means establishing a lowered pressure through said orifice.

3,341,071

ARTICLE RELEASING MECHANISM FOR VENDING MACHINE

Byron L. Poston, Florissant, Mo., assignor to Ideal Dispenser Co., Columbus, Ohio, a corporation of Ohio
Filed Oct. 7, 1964, Ser. No. 402,142
12 Claims. (Cl. 221-125)



1. A vending machine comprising, in combination, frame means; a plurality of article releasing gates moveably mounted on said frame means; a common bar slideably mounted on said frame means adjacent said gates and including a plurality of open ended slots, one for each of said gates, said common bar being moveable from a standby position first to a ready to vend position and next to a lock-out position; a plurality of gate releasing levers pivoted on said frame means, each of said levers being actuated by a respective one of said gates and including a lever portion obstructed by said common bar in said standby position and moveable into a respective one of said slots in said ready to vend position, said slots in said common bar including edges forming cam surfaces engageable by said levers for shifting said common bar from said ready to vend position to said lock-out position; and coin actuated means for shifting said common bar from said standby position to said ready to vend position.

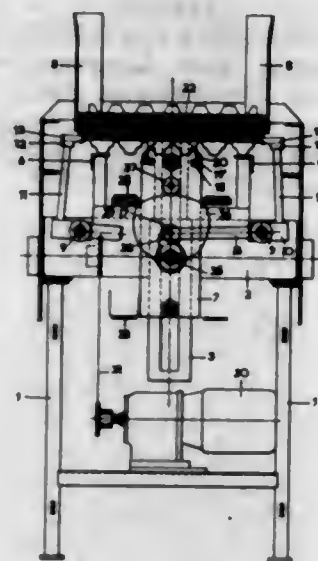
3,341,072

IMPALING DISCHARGE ASSISTANT FOR DENESTING CARRYING FRAMES FOR EGGS

Jelle Van der Schoot, Aalten, Netherlands, assignor to Van Katwijk's Industrieel N.V., Aalten, Netherlands
Filed Aug. 30, 1965, Ser. No. 483,428
Claims priority, application Netherlands, Sept. 3, 1964, 64-10,262
2 Claims. (Cl. 221-213)

1. An apparatus for denesting each time one carrying frame for eggs from a nested stack of such frames of papier-mache and delivering same to a packaging machine, wherein each carrying frame substantially consists of a flat body portion with hollow protrusions extending upwardly and downwardly relative to said body

portion, comprising a frame, a pair of supporting members on said frame for stack moving vertically up and down relative to said frame, a plurality of wedge-shaped separating members mounted on said frame, means for moving said separating members between the edges of the lowest frame of the stack and the lowest frame but one when said supporting members are in uppermost position and releasing said separating members from said stack just before said supporting members again return to upper position, gripper means mounted on said supporting members, means for moving said gripper means toward each other in the uppermost position of said supporting members and away from each other in a lower position of said supporting members, a conveyor movable in a horizontal plane between the uppermost and the lowermost position of said supporting members, means for moving said gripper means synchronously with the



movement of said supporting members to grip approximately the bottom central portion of the lowest frame, means for synchronously operating said various elements, two mutually parallel shafts connected to said supporting members on which said gripper means are mounted, operating levers having two arms fixed at one end of said shafts, a tension spring interconnecting said levers, and said frame having inclined guiding surfaces along which the lower arms of said two arms of said operating levers go upwards during the downward movement of said supporting members in order to move the upper arms of said two arms, and thus said gripper means, away from each other against the action of said tension spring, a member provided with recesses having shoulders which are adapted to catch pins mounted on the upper arm of each operating lever, in order to retain the upper arms of said levers, and thus said gripper means, in the spread condition against the action of said tension spring.

ERRATUM

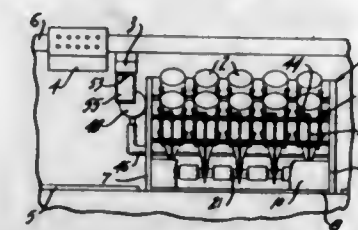
For Class 222-1 see:
Patent No. 3,341,065

3,341,073

METERING AND DISPENSING APPARATUS
Milton J. Arps, P.O. Box 76, Appleton, Wis. 54911, and Edward J. Rippl, 215 Broad St., Menasha, Wis. 54952
Filed Apr. 14, 1965, Ser. No. 447,998
17 Claims. (Cl. 222-36)

1. In an apparatus for metering and dispensing a liquid, a container having an opening and adapted to contain a liquid, gas supply means connected through the opening for supplying a gas under pressure to the interior of the container, liquid discharge means connected

through said opening for discharging liquid from the container, a dispensing unit located remotely with respect to the container, conduit means connecting the liquid discharge means and the dispensing unit, valve means disposed in said conduit means for controlling the flow of liquid through said conduit means to the dispensing unit, a reservoir in said conduit means and located between the liquid discharge means and said valve means, liquid sensing means disposed in the reservoir and responsive to the

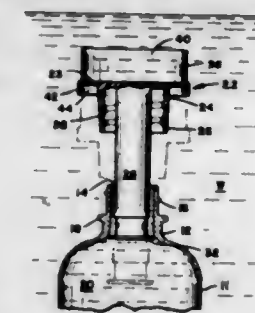


presence of liquid in said reservoir, said liquid sensing means being operably connected to the valve means for preventing the opening of said valve means when the liquid falls beneath said liquid sensing means, a gas vent conduit communicating with the upper portion of the reservoir, and second valve means connected in the gas vent conduit and located outside of the reservoir for venting the gas from said reservoir when a container is installed with the liquid discharge means.

3,341,074

SOLUTION DISPENSER

Antone D. Pannutti, 1524 Santa Maria Ave., San Jose, Calif. 95125
Filed Oct. 21, 1965, Ser. No. 499,506
8 Claims. (Cl. 222-57)



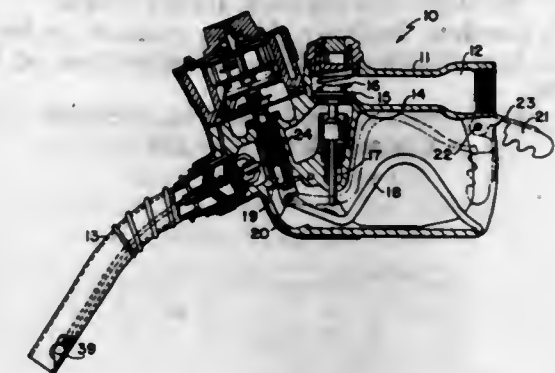
1. A solution dispenser comprising a container filled with solution and having a neck portion defining a top opening, a float cap adapted to cover the top opening and defining a chamber open in a downward direction, a displacement rod depending from the float cap and loosely extending through the top opening and, a seal fixed to the displacement rod at the end opposite the float cap within the container, said seal being adapted to engage the neck portion of said container whereupon the container is sealed from within when said float cap is in a fully elevated position and upon lowering the float cap, solution is displaced from the container.

3,341,075

AUTOMATIC DISPENSING NOZZLES
William Donald Boudot and Robert W. Guertin, Cincinnati, Ohio, assignors to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,373
17 Claims. (Cl. 222-70)

1. An automatic shutoff dispensing nozzle having an inlet and an outlet interconnected together by a valve seat, a valve member for opening and closing said valve seat, a pivotally mounted lever when in one position opening said valve member and when in another position

closing said valve member, a movable plunger pivotally mounting said lever to said nozzle, latch means for holding said plunger in one position thereof, a latch member for holding said lever in said one position thereof, a timer means, a flexible diaphragm interconnected to said latch means, and mechanical means operatively interconnected to said timer means and to said diaphragm whereby said timer means moves said diaphragm in one direction to

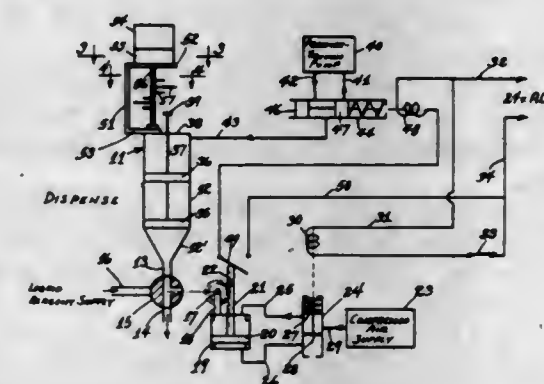


unlatch said plunger after a period of time has lapsed so that said plunger can move to another position thereof and release said lever from said latch member to move to said other position thereof and close said valve member, a cup-shaped retainer being carried by said diaphragm and said mechanical means including a pivotally mounted lever means having one end engaging said retainer.

3,341,076

FLUID PRESSURE-OPERATED BURETTE SYSTEM

Joseph C. Wasilewski and Horton E. Dorman, Silver Spring, Md., assignors to American Instrument Co., Inc., Silver Spring, Md.
Filed Dec. 3, 1965, Ser. No. 511,465
9 Claims. (Cl. 222-76)



1. A burette device comprising a syringe cylinder, outlet conduit means, a fluid inlet, a three-way valve connected between said cylinder and said outlet conduit means and fluid inlet, said three-way valve connecting said fluid inlet to said cylinder in a first position and connecting said cylinder to said outlet conduit means in a second position, plunger means in said cylinder, a pressure-vacuum source having respective pressure and vacuum connections, a working fluid line connected to the cylinder above said plunger means, a fluid pressure-operated actuator operatively connected to said three-way valve, means to communicatively connect said vacuum connection to said working fluid line responsive to the operation of said three-way valve to said first position, whereby to elevate the plunger means in the cylinder and draw fluid into the cylinder, and means to communicatively connect said pressure connection to said working fluid line responsive to the operation of said three-way valve to said second position, whereby to depress the plunger means in the cylinder and discharge fluid from the cylinder through said outlet conduit means,

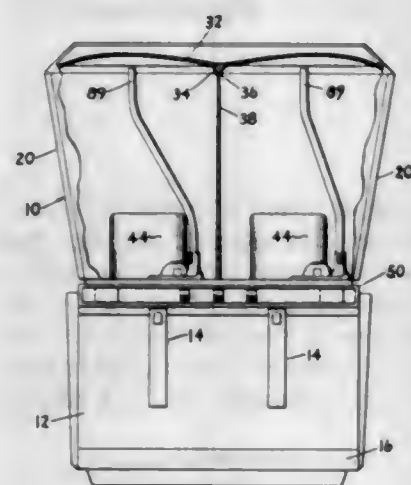
and wherein the means to connect the vacuum connection and the pressure connection to the working fluid line comprises an electromagnetically operated selector valve and means to alternately energize and deenergize said selector valve responsive to the operation of said fluid pressure-operated actuator.

3,341,077

MULTI-BEVERAGE DISPENSER

Julian D. Gordon, Peabody, Mass., assignor to Jet Spray Cooler, Inc., Waltham, Mass., a corporation of Massachusetts

Filed Nov. 1, 1965, Ser. No. 505,816
8 Claims. (Cl. 222-129.1)



1. In a beverage dispenser a stand, a bowl seated on the stand and having a pair of non-communicating compartments separated by a single common wall, each compartment designed to hold a beverage, discharge valves provided in the bowl, one for each compartment dispensing the beverages, a refrigeration system mounted in the stand including evaporator surfaces in communication with each of the compartments for cooling the contained beverages, and a circulating pump disposed in each compartment for circulating the beverage contained in each in contact with the evaporator surface to abstract heat from each beverage, each of said pumps having an outlet which causes the beverage to move against the surface of the common wall causing the transfer of heat from the warmer to the cooler beverage through the common wall.

3,341,078

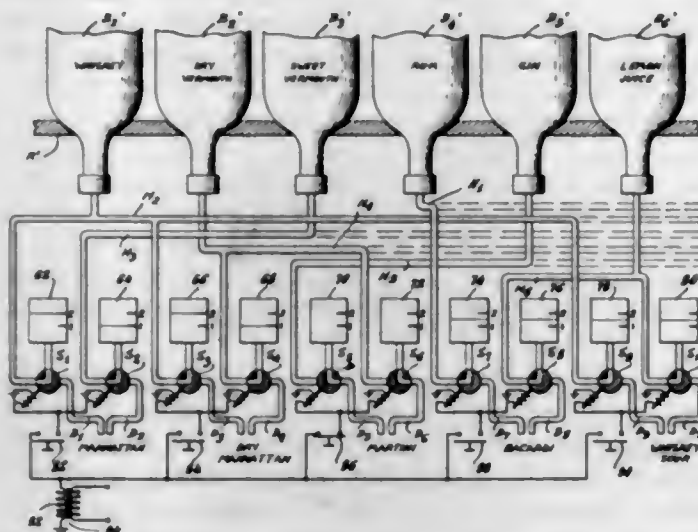
DISPENSING APPARATUS

Albert J. Cardillo, 104 West St., Danbury, Conn. 06810

Filed Jan. 11, 1966, Ser. No. 519,899
8 Claims. (Cl. 222-129.4)

1. A mixed drink dispenser which comprises: rack means for supporting therein a plurality of beverage-containing bottles in an inverted position; closure means in the mouth of each bottle; vent tube means extending through each closure means to supply atmospheric air to the interior of the associated bottle; a measuring chamber associated with each of said bottles and having a selectively variable volume; a plurality of first conduit means, each extending through one of said closure means and in fluid flow relationship with different ones of said measuring chambers whereby each of said chambers is normally filled from an associated bottle; a plurality of second conduit means, each connected to discharge a separate one of said chambers; a plurality of selector valve means,

one associated with each of said chambers and having a first position normally connecting said chamber to its associated first conduit means and actuatable to a second position connecting said chamber to its associated second

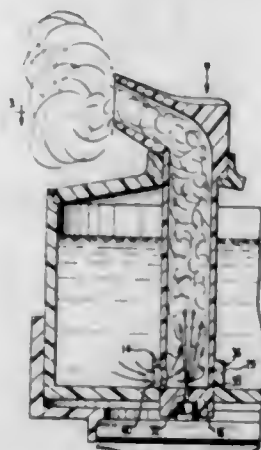


conduit means; and single means for substantially simultaneously actuating any selected two of said selector valve means from their first to their second positions to simultaneously discharge the contents of the associated chambers.

3,341,079

HEATING AND MIXING DEVICE FOR AEROSOL DISPENSING

Leonard L. Marraffino, 1824 NW. 36th Court,
Fort Lauderdale, Fla. 33309
Filed Dec. 17, 1965, Ser. No. 514,448
9 Claims. (Cl. 222-136)



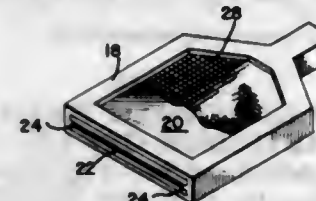
1. A mixing head for mixing foam discharged from the nozzle of a pressurized aerosol container with a fluid such as hot water or the like, comprising: an elongated mixing tube having an adapter at its upstream end connected to the nozzle of the container, aperture means, and a spout at its downstream end; jet means for producing a high velocity stream of foam through said mixing tube; tank means for said fluid in fluid communication with said aperture means of said mixing tube for enabling the entrainment of said fluid by said high velocity stream of foam, said mixing tube being of a predetermined size to define an elongated enclosed turbulent mixing zone wherein the foam and entrained fluid form a well defined continuous turbulent flowing stream.

3,341,080

HEATING DEVICE FOR DISPENSERS

John M. Wittke, 10 Breezeknoll Drive,
Westfield, N.J. 07090

Filed May 14, 1965, Ser. No. 455,767
5 Claims. (Cl. 222-146)



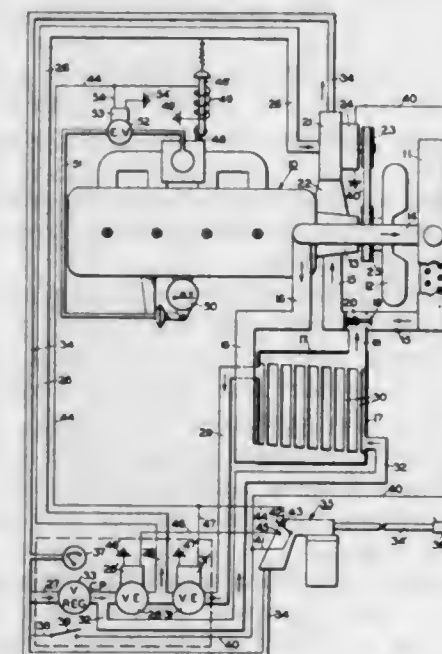
1. A heating device for a plastic product dispenser having a discharge spout comprising: a pair of metallic plates, an annular frame of plastic material having means thereon for slidably receiving said metallic plates in spaced superposed relation with a major external surface portion of at least one said plate exposed, said plates and said frame defining over a substantial portion thereof a wide, thin product-heating chamber terminating at one end in a wide, thin dispensing outlet and at the other end in a narrower inlet port, said outlet being at least as wide as the wide portion of said chamber, and means for detachably securing said inlet port to the discharge spout of the dispenser.

3,341,081

PORTABLE HOT WATER WASHING APPARATUS

William L. King, 1370 SW. Tarralynn Ave.,
Beaverton, Oreg. 97005

Filed Mar. 1, 1965, Ser. No. 436,175
7 Claims. (Cl. 222-146)



7. In a hot water washing apparatus of the character described, the combination of an internal combustion engine having the usual water-cooling circulating system with cooling water pump and radiator, a heat exchanger, a water conduit from said cooling water pump to said heat exchanger, a return conduit from said heat exchanger to said cooling water pump, a washing water pump, means for driving said washing water pump, an intake line for said washing water pump leading from an outside water supply source, said intake line passing through said heat exchanger, whereby to enable the water taken in by said washing water pump to be heated by said heat exchanger,

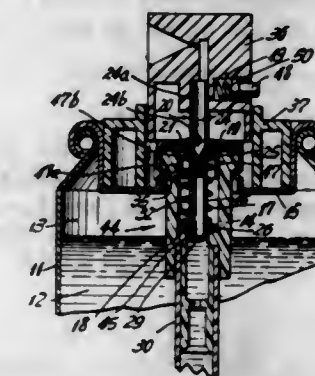
a discharge line leading from said washing water pump, a nozzle assembly at the end of said discharge line, electrically-operated throttle opening means for said internal combustion engine, electrically-operated distributor restraining means for preventing the advancing of the distributor for said engine with the increased opening of said engine throttle, and a control switch controlling the actuation of said electrically-operated throttle opening means and of said electrically-operated distributor restraining means.

3,341,082

DISPENSING DEVICE WITH PURGING MEANS

Philip Meshberg, 15 Stoneleigh Road,
Fairfield, Conn. 06430

Filed Jan. 24, 1966, Ser. No. 522,512
7 Claims. (Cl. 222-148)



4. A metering dispensing device for controlling the discharge of measured quantities of material under pressure of a propellant from a container, the portion of the container above the material defining a head space having gas under pressure therein, said dispensing device comprising a housing defining a measuring chamber having a normally open inlet port for receiving the material in the container and a normally closed outlet port for dispensing the material from the housing, a reciprocating valve stem having a dispensing nozzle on the outer end thereof, said valve stem being normally urged to a projecting position and having means for first closing the inlet port and thereafter opening the outlet port in response to inward movement of the stem from said normal position to dispense the measured quantity of material from said chamber, a purging port in the side of the housing communicating said chamber with the said head space, and means controlled by said valve stem for normally sealing said purging port until the valve stem has been moved inwardly to a position in which the material has been dispensed from the housing after which the purging port is unsealed by continued inward movement of the stem and gas from said head space flows through said purging port, outlet port and nozzle to purge the same of any material remaining therein.

3,341,083

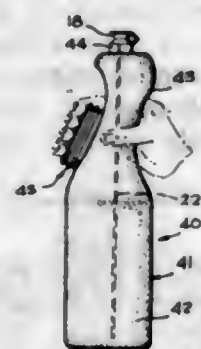
LIQUID DISPENSING CONTAINER WITH BELLOWS

James U. Stewart, 1151 Macy St.,
Whittier, Calif. 90603

Filed Sept. 21, 1965, Ser. No. 489,012
1 Claim. (Cl. 222-209)

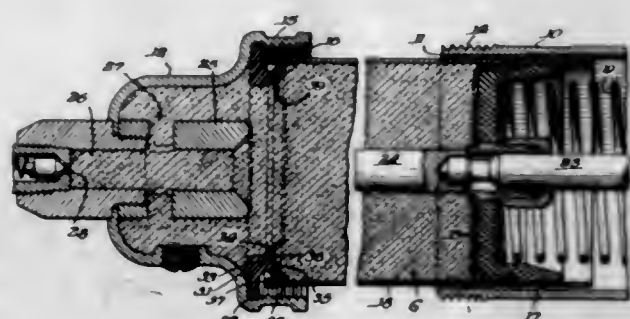
In a dispensing container, a hollow container body including a relatively large lower main section adapted to hold liquid to be dispensed and an upper gooseneck-like neck of reduced diameter, a dispensing tube in said container body open to the exterior at its upper end and extending to the bottom portion of the lower section, a generally cylindrical bellows on said neck of the container

body extending substantially normal to the adjacent wall of the neck whereby to enable a person to operate the bellows by grasping the neck and bellows in his hand, said



bellows being open to the interior of the neck but otherwise closed, said container body having an air escape passage in the region of the outlet of said tube.

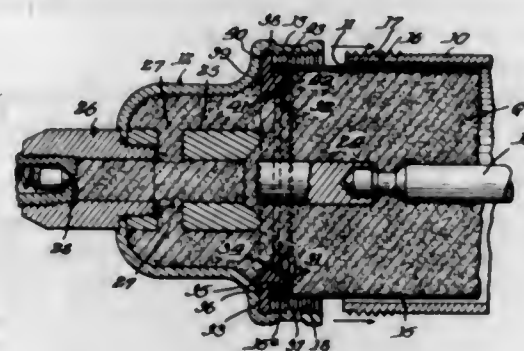
3,341,084
METHOD OF LOADING A HAND GREASE GUN WITH A GREASE CARTRIDGE
Edwin P. Sundholm, Albert City, Iowa 50510
Filed Aug. 13, 1965, Ser. No. 479,539
3 Claims. (Cl. 222-260)



1. The method of loading a hand grease gun with a grease-containing cartridge, said grease gun including a cylindrical barrel having an open front end, a detachable front cap for closing said end, a plunger assembly within said barrel movable from a position at the rear of said barrel to a forward position adjacent the said front end thereof, said grease cartridge including a tubular container receivable within said barrel and having an open rear end through which said plunger assembly can be inserted, and the front end portion of said cartridge extending around an opening for the discharge of grease, said grease gun also being provided with sealing gasket means mounted within said front cap, said gasket means including an annular portion for sealingly engaging said cartridge front end portion around said discharge opening, characterized by the steps of:
 - (a) removing said front cap preparatory to the insertion of said grease cartridge and permitting said plunger assembly to move to a forward position;
 - (b) inserting the rearward portion of said cartridge into the front end portion of said cylinder with said plunger assembly aligned with said cartridge open rear end for insertion therein, the rest of said cartridge projecting outwardly beyond the front end of said barrel;
 - (c) applying said front cap over the projecting front end portion of said cartridge, said annular portion of said gasket means sealingly engaging the front end portion of said cartridge around said opening; and

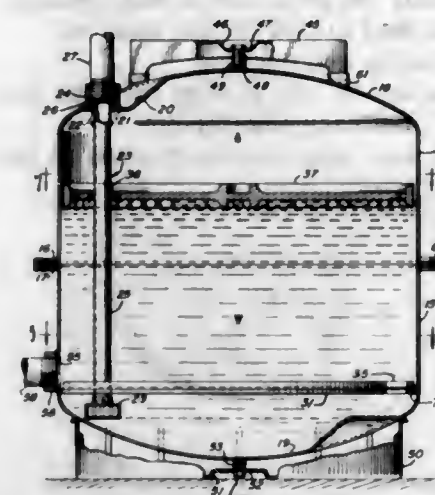
- (d) inserting said cartridge by forcing said barrel cap toward said barrel front end to cause said plunger assembly to move toward a rearward position, said cartridge moving into said barrel and receiving said plunger assembly while maintaining the said sealing engagement between said gasket annular portion and cartridge front end portion.

3,341,085
GASKET AND DISPENSING HEAD ASSEMBLY FOR CARTRIDGE GREASE GUNS
Edwin P. Sundholm, Albert City, Iowa 50510
Filed Mar. 16, 1966, Ser. No. 534,734
5 Claims. (Cl. 222-260)



1. A hand grease gun including the combination of:
 - a cylindrical barrel having an open front end for receiving a grease cartridge, the forward end portion of said barrel providing external threads for connecting said barrel front end to a dispensing head;
 - a grease cartridge having an open rear end and being insertable in said barrel by extending said rear end through said barrel front end, the front end edge portion of said cartridge being provided with a mounting rim for a removable closure, said rim having an outer annular attachment portion enclosing the said front end edge portion and an inwardly-extending annular flange portion surrounding a central opening; and
 - a dispensing head having a rearwardly-extending cylindrical mounting portion received over said barrel forward end portion, said head mounting portion having internal threads adjustably engaging the threads of said barrel forward end portion, said head providing an annular gasket seat within said cylindrical portion at the forward end thereof;
 wherein the improvement comprises an annular gasket of resilient, flexible material disposed within said cylindrical mounting portion and supported by said seat, said gasket providing a laterally outer annular portion, and a laterally inner annular portion providing a rearwardly-extending cylindrical portion, said outer annular portion on its rearward side bearing against and sealingly engaging said rim attachment portion and also on its forward side bearing against and sealingly engaging said gasket seat, and said gasket cylindrical portion having a rearward side bearing against and sealingly engaging the forward side of said rim flange portion inwardly of said rim attachment portion;
- whereby said head mounting portion is guided into threaded engagement with said barrel forward end portion as said cartridge is inserted, and the tightening of said head on said barrel achieves a double seal between said gasket and said cartridge rim.

3,341,086
TANK ASSEMBLY FOR DOMESTIC WATER SUPPLY SYSTEM
Paul S. Dougherty, Chicago, and John A. Guroy and Hugo O. Niemi, Olympia Fields, Ill., assignors to Metal Coating Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,201
13 Claims. (Cl. 222-383)

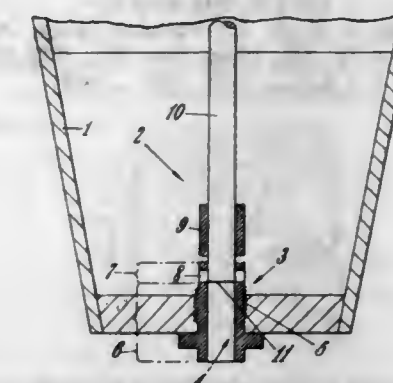


1. A tank assembly for the storage of liquid in an automatic liquid supply system including a liquid storage tank assembly, a pump and pump drive means, said tank assembly comprising:
 - a tank comprising two shell sections, each of said shell sections comprising a substantially cylindrical wall portion having two ends with one of said ends being flanged outwardly;
 - a head fixed to the remaining end of said respective wall portions;
 - said shell sections being joined together by a leak resistant fastening means at the edges of said flanges of said shell sections whereby the longitudinal axis of said cylindrical wall portions are in substantial alignment;
 - at least one of said shell heads having an opening therein;
 - a dip tube assembly positioned within said opening and having one of its two ends fixed in a leak resistant manner to said tank, said dip tube assembly including a liquid inlet means, a dip tube extending within said tank for substantially the length of said assembled tank, said tube being substantially parallel to the longitudinal axis of said wall portions;
 - a liquid outlet means located near the bottom of said tank; and
 - a disk means located within said tank having an opening therein through which said dip tube is inserted, whereby said disk is capable of moving up and down in said tank along the length of said dip tube, its position in said tank at any one time depending upon the liquid level in said tank.

3,341,087
METHOD AND APPARATUS FOR FORMING LIQUID DROPS
Sebastian Nicholas Rosin and Derek Wormald, London, England, assignors to Rosin Engineering Company Limited, London, England, a British company
Filed Oct. 16, 1963, Ser. No. 316,652
Claims priority, application Great Britain, Oct. 19, 1962, 39,715/62
9 Claims. (Cl. 222-422)

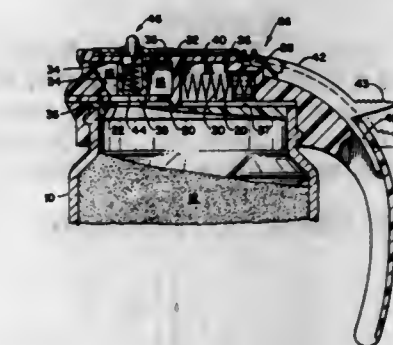
1. A method of dispensing a liquid in the form of a continuous series of discrete drops of uniform size from a container of the liquid including a nozzle having an axial passageway communicating with the interior of the container and having an unobstructed outlet opening and

including a reciprocable plunger cooperating with the nozzle to control the flow of liquid therethrough comprising the steps of moving the plunger toward and away from the nozzle so as to cause a drop to be dispensed from the outlet opening during each cycle of plunger operation,



ation, and maintaining a volume of the liquid being dispensed within the nozzle passageway at the unobstructed outlet end thereof at all times during the cycle of plunger operation so that each drop of liquid is dispensed by causing it to separate from the body of liquid maintained within the nozzle passageway.

3,341,088
DEVICE FOR DISPENSING POWDERED MATERIAL
Daniel J. Moynihan, 52 Pratte Lane, Wolcott, Conn. 06716
Filed Apr. 25, 1966, Ser. No. 544,784
6 Claims. (Cl. 222-440)

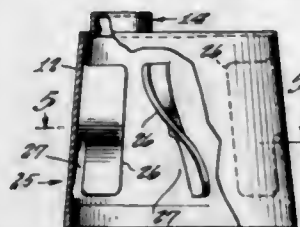


1. A dispensing closure for use with an inwardly open container having a powered material stored therein, said closure comprising a lower portion which defines a downwardly open receptacle for receiving the open end of said container, an upper portion which defines an elongated cavity having spaced side walls and a lower wall with an opening adjacent one end, a valve slidably received in said cavity, said valve being generally U-shaped in cross section having a lower wall with an opening registrable with said closure opening when said valve is in a first position, said valve further including an upper wall spaced from said lower wall and defining a dispensing chamber with said lower valve wall, said upper valve wall having an end which abuts a cooperatively shaped surface on said closure when said valve is in said first position and which defines a pour spout therewith when said valve is moved from said first position, a handle extending rearwardly and downwardly from said closure in spaced relation to the sides of a subadjacent container, said handle being located generally opposite to said pour spout, a trigger connected to said valve and slidably received in a track defined in said handle for movement between first and second positions corresponding to first and second valve positions respectively, biasing means for urging said valve and trigger toward said first position, a plug slidably received between said upper and lower valve walls for varying the

size of said valve defined dispensing chamber, and means connected to said plug and extending upwardly through a slot defined in said valve upper wall for manually moving said plug.

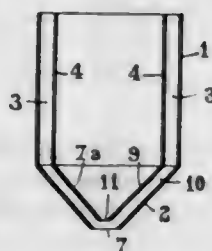
3,341,089 JIFFY SHAKER

Ralph W. Pearsall, R.D. 2, Watkins Glen, N.Y. 14891
Filed Aug. 15, 1966, Ser. No. 572,326
2 Claims. (Cl. 222-459)



1. In a cocktail mixer device the combination of an inverted cup-configured member and a cap, said cup-configured member being formed of flexible plastic material and including a generally slightly conical side wall, a circular top wall, at one end of said side wall, an upward extending spout in said top wall, said spout having a plurality of small openings for straining purpose, said cap being formed of flexible plastic material and frictionally removably sealing said spout, the opposite end of said side wall having an edge defining a wide mouth communicating with a central cavity within said cup configured member, and said side wall being widest adjacent said mouth, wherein a plurality of radially inwardly extending spiral fins are integrally formed on the inner side of said side wall, and each of said fins has a notch between the lower portion thereof and said side wall.

3,341,090
MEANS FOR DISCHARGING PULVERULENT OR GRANULAR MATERIALS FROM SILOS
André Reimbert, 67 Blvd. de Reuilly, Paris, France
Filed Nov. 22, 1965, Ser. No. 511,580
Claims priority, application France, Nov. 21, 1964, 995,842
9 Claims. (Cl. 222-464)

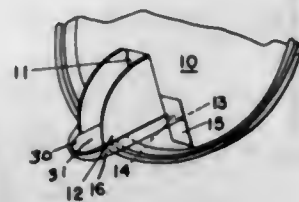


1. A silo comprising a first cylindrical wall and a second cylindrical wall disposed within said first cylindrical wall and concentric therewith and both walls being continuous and defining an annular first space, said second wall defining within itself a second space and being provided with at least one aperture communicating with both of said spaces, both of said walls being continuous and having lower ends respectively defining a first and a second outlet communicating with said first and second spaces, and said first outlet concentrically surrounding said second outlet.

3,341,091
CONTAINER COVER
Charles L. Lovercheck, 632 W. 7th St., Erie, Pa. 16502
Filed Oct. 23, 1965, Ser. No. 503,881
4 Claims. (Cl. 222-532)

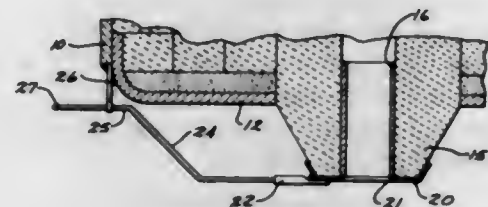
1. A cover for a container adapted to have the pressure therein reduced below the pressure on its outside comprising

a cover member made of relatively rigid material and having a relatively flat top surface, a generally rectangular opening in said member, two grooves formed in said cover member in the top thereof, one said groove being disposed at each side of said opening, a closure member received in said opening, said closure member having a plate like member of substantially the same size as said opening, two legs attached to said closure member, said legs entering said opening, a pivot attached to said closure member and extending laterally from each side thereof, the ends of said pivot being received in said grooves,



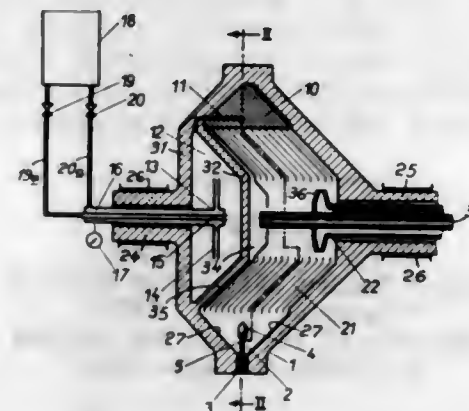
means on said closure member limiting its movement through said opening whereby said plate like closure member is generally flush with said cover member when in closed position, and a flexible sheet like member attached to said plate like closure member and having edges overlying said opening when said closure member is closed whereby a pressure on the outside of said flexible member greater than the pressure inside said container causes said flexible member to sealingly engage said cover member, said flexible member being made of a moldable plastic material having a built-in hinge molded therein, said built-in hinge overlying said pivot and parallel thereto whereby said flexible member flexes along said built-in hinge.

3,341,092
NOZZLE CONSTRUCTION WITH THERMALLY EXPANDING REFRACTORY INSERT
Alfred E. Finn, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1964, Ser. No. 393,523
3 Claims. (Cl. 222-566)



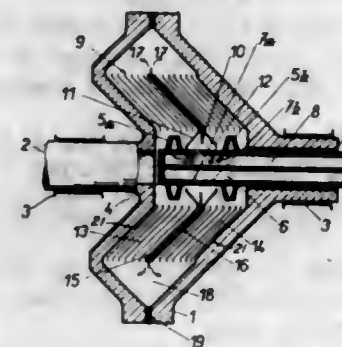
1. In combination with bottom pour ladle refractory nozzle construction, said nozzle having an inlet and an outlet, an open ended, hollow cylindrical refractory nozzle liner insert disposed within the surface areas of the nozzle which define said outlet, said refractory insert being expandable at operating temperatures to a degree sufficient to provide a contiguous frictionally engaging seat substantially conforming to adjacent surface areas of the nozzle which define said outlet and means cooperating with said insert disposed exterior to but adjacent the outlet of the nozzle to temporarily hold said nozzle insert in situ prior to maintenance of operating temperatures.

3,341,093
CENTRIFUGE WITH AUTOMATIC CONTROL OF THE DISCHARGE OF CONCENTRATED SOLIDS
Jan Putterlik, Prague, Czechoslovakia, assignor to Československá Akademie věd, Prague, Czechoslovakia
Filed Apr. 12, 1965, Ser. No. 447,273
Claims priority, application Czechoslovakia, Apr. 14, 1964, 2,152/64
4 Claims. (Cl. 233-20)



1. In a centrifuge, in combination:
(a) a rotary bowl having an axis;
(b) partition means in the outer peripheral portion of said bowl remote from said axis, said partition means defining a peripheral series of solids collecting chambers,
(1) each chamber having two opposite walls converging in a radially outward direction and a discharge nozzle opening radially outward from said chamber;
(c) valve means in each of said chambers and movable in the associated chamber toward and away from said discharge nozzle between a nozzle opening and a nozzle closing position;
(d) valve regulating means mounted in each chamber spacedly intermediate said walls,
(1) said valve regulating means being connected to said valve means in the associated chamber and responsive to pressure in said chamber in a direction transverse of said radially outward direction for moving said valve means from the nozzle closing to the nozzle opening position.

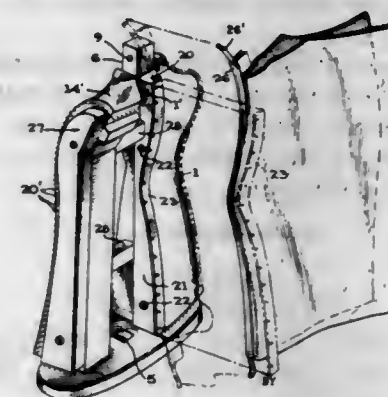
3,341,094
CENTRIFUGE FOR CONTINUOUSLY EFFECTING CONCENTRATION OF SOLIDS FROM A SUSPENSION THEREOF IN LIQUID
Jan Putterlik, Prague, Czechoslovakia, assignor to Československá akademie věd, Prague, Czechoslovakia
Filed Apr. 12, 1965, Ser. No. 447,165
Claims priority, application Czechoslovakia, Apr. 14, 1964, 2,151/64
3 Claims. (Cl. 233-29)



1. A centrifuge for the continuous concentration of solids from a suspension thereof in a liquid, comprising a hollow bowl rotated about a horizontal axis, an axially

arranged series of frusto-conical separating disks nested into each other in spaced relation within said bowl, said bowl having a space for collected concentrated solids extending around the outer peripheries of said disks and outlets for the concentrated solids opening from said space, a frusto-conical dividing disk arranged centrally in said series of separating disks to divide the latter into two separating sections, two frusto-conical distributing disks arranged at the opposite sides of said dividing disk and being spaced from the latter to define two distributing gaps therebetween opening radially outward into said space for the concentrated solids at the same sides of said dividing disk as the respective separating sections, a hollow tubular member extending axially into said bowl and having passages extending therealong for respectively supplying suspension and discharging clarified liquid, said dividing and distributing disks extending radially inward beyond said separating disks to the proximity of said tubular member to form entries for suspension at the radially inner peripheries of said distributing gaps, said tubular member having openings from said suspension supplying passage in the regions of said entries, and collecting members for clarified liquid extending from said tubular member in the regions of said separating sections and opening into said clarified liquid discharging passage, all of said disks within said bowl being identically oriented and said distributing gaps being narrow enough to prevent separation from taking place until said suspension reaches said space in said bowl around the outer peripheries of said separating disks.

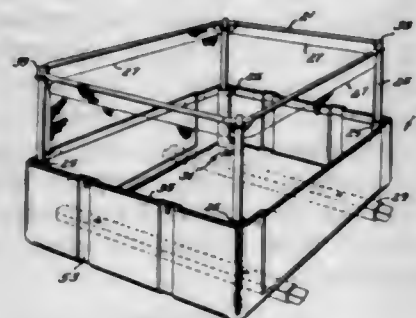
3,341,095
GARMENT FORMS FOR USE IN MAKING FUR GARMENTS AND THE LIKE
Theodore A. Sawallesh, 3011 Westcott St., Falls Church, Va. 22042
Filed Dec. 20, 1965, Ser. No. 515,072
4 Claims. (Cl. 223-68)



1. A form for use in making fur coats and the like from fur skins having an anchoring welt secured thereto and extending longitudinally along the central portion of a fur skin, said form comprising a body member corresponding in contour to a vertical half-portion of a human torso including the neck, shoulder, bust, waist and hip, said body member terminating at its back and front surfaces on a plane substantially corresponding to the front-to-back central median plane of the human torso, means at the rear of said body member defining a relatively narrow welt receiving slot extending longitudinally of said body member from top to bottom thereof adjacent to the terminating plane aforesaid, said slot being unobstructed at its opposite ends for slidably receiving the anchoring welt aforementioned, an auxiliary member extended laterally from the body member from top to bottom thereof, with its outer margin defining a complementary neck portion merging with a longitudinally extended straight edge spaced from the opposite marginal edge of the contoured

body member at a distance greater than one-half the girth of a coat at the neck, shoulder, bust, waist and hips and corresponding to the limits of the extended edges of the front lining, revers and collar lining portions of the coat, and additional anchor means provided on the auxiliary member and on the base of the body member for releasably engaging the fur skin along its marginal edges remote from the welt when the welt is received in the anchoring slot and the fur skin is drawn tightly in a doubled relation from the welt to extend about the body member from the back across the front thereof and to the extreme outer marginal edges of the auxiliary member.

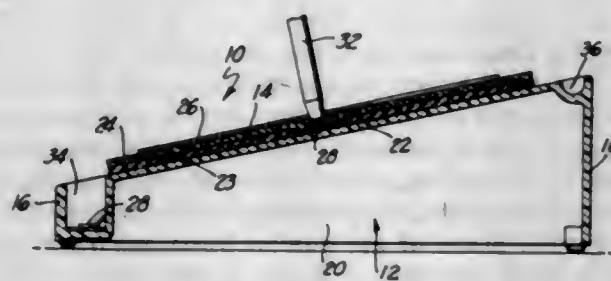
3,341,096
COMBINATION CAR TOP CARRIER-PLAY PEN
George A. Stanley, 229 Benton St.,
Bellevue, Mich. 49021
Filed June 27, 1966, Ser. No. 560,758
7 Claims. (Cl. 224-42.01)



1. A convertible car carrier comprising:
 - (a) a compartment formed as the closure within two rigid, separable, upper and lower shells;
 - (b) a vertically extendible support structure, attached to the inside of said lower shell, and normally contained therein;
 - (c) a strip of flexible closure material attached along its lower edge to the lower shell, and attached along its upper edge to the upper portion of said support structure;

whereby said upper shell may be separated from said lower shell and said support structure elevated to draw said flexible closure material vertically taut to form an upward extension of said lower shell, open at the top, for confinement of a small child.

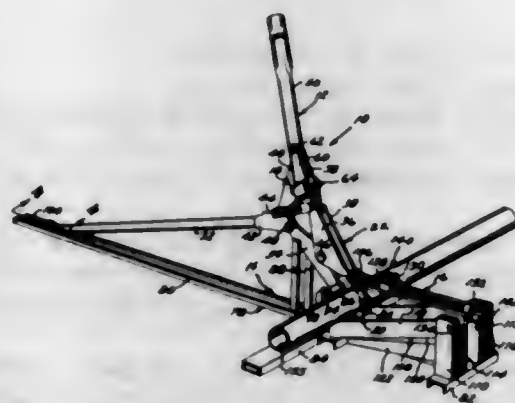
3,341,097
PAD ASSEMBLY
James Curtis Fielder, Downey, Calif., assignor to Mathematical Systems Corporation, Anaheim, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 553,907
3 Claims. (Cl. 225-93)



1. A pad assembly for use in removing parts of tabulating cards which are separated from the remainder of such cards by perforations which comprises:
 - a base having a rigid, flat supporting surface,
 - a pad of substantially uniform thickness located on said base so as to be supported thereby and secured to said surface, said pad comprising an elastomeric layer secured to said base and a felt layer secured to said elastomeric layer,

said pad having a substantially flat exposed surface, the thickness of said pad being related to the dimensions of parts to be removed from a tabulating card to be employed with said assembly so that the said pad is at least thick enough to allow said parts to be pushed into said pad a sufficient distance to separate said parts from said card, said pad being sufficiently elastic so that during the removal of parts from a tabulating card said card is supported by said pad without significant deformation and movement, said pad having a sufficiently slow spring back that a removed part is retained generally below said surface for a significant length of time.

3,341,098
PIPE CUTTING TOOL
Alfred D. Singley, 6819 E. San Carlos St.,
Paramount, Calif. 90723
Filed June 17, 1965, Ser. No. 464,800
20 Claims. (Cl. 225-104)



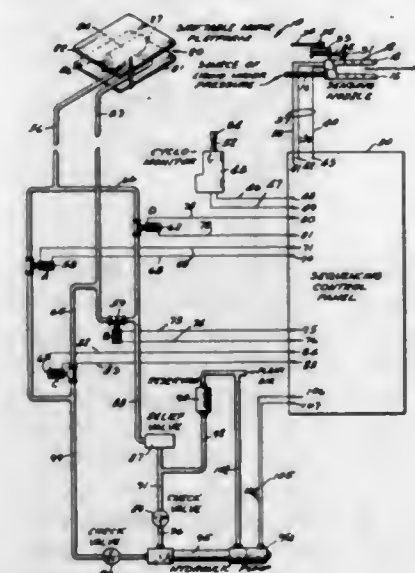
1. A cutting tool for parting an elongated, fracturable member, comprising:
 - a flexible, substantially nonextendible, cutter adapted to be placed around and tension-squeezed against said fracturable member to fracture and part said member;
 - a clamp for tensioning said cutter to squeeze and part said member upon a closing of said clamp, said clamp comprising a first clamp jaw secured to said cutter and a second clamp jaw spaced from said first clamp jaw and including cutter engaging means for releasably engaging a particular portion of said cutter after being placed around said member, said particular portion being dictated by the size of said member;
 - and a holder for said cutter remote from said first clamp jaw, said holder including means for indicating the particular portion of said cutter dictated by the size of said member for engagement with said cutter engaging means.

3,341,099
FLUID OPERATED SENSING HEAD
Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed Nov. 24, 1964, Ser. No. 413,429
2 Claims. (Cl. 226-19)

1. In an edge alignment control system including:
 - motor means having a hydraulic actuating cylinder for controlling the position of an edge of a paper forming wire extending in a loop including an active run and a return run;
 - sequential control means for receiving electrical signals indicative of position of the edge of said paper forming wire, said sequential control means being connected to said hydraulic actuating cylinder for control thereof in response to said electrical signals;

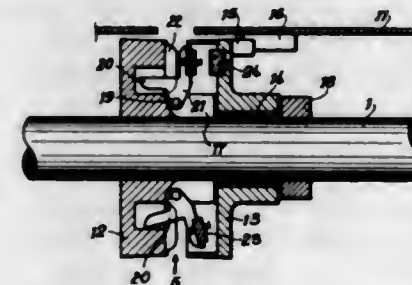
wherein the improvement comprises:

a sensing head having a sending member and a receiving member disposed in operative association with the return run of said forming wire, means connected with said sending member for supplying water under pressure thereto for discharge from the sending member as water jets directed toward said receiving member for detecting errors in the position of said forming wire in respective opposite directions from a correct range of positions of said forming wire and for producing electrical error signals in response to such errors, said error signals being



delivered to said sequential control means, said receiving member including at least two apertures in alignment with respective ones of said water jets from said sending member; a resilient member overlying each of said apertures; and a switch assembly mounted adjacent the surface of each of said resilient members opposite said water jets each of said switch assemblies including a switch having an actuator which is depressed by said resilient member in response to the respective water jet, and means for limiting the travel distance of said actuator.

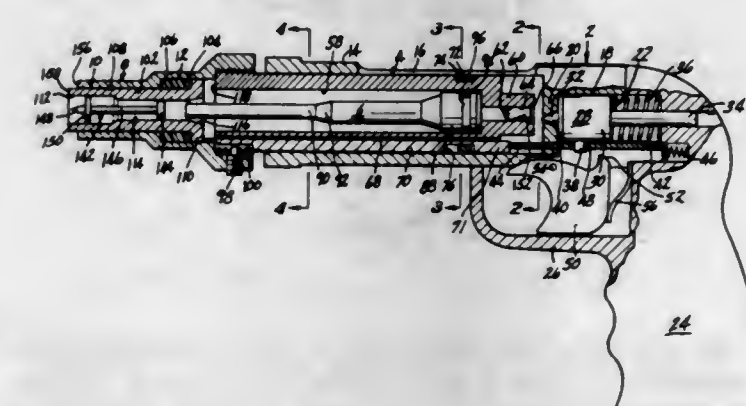
3,341,100
LEADING ROLLER FOR RISING TWISTING MACHINES, ESPECIALLY TWO-FOR-ONE TWISTING MACHINES
Gustav Franzen, Neersen, near Krefeld, Germany, assignor to Palitex Project-Company GmbH, Krefeld, Germany
Filed Apr. 15, 1965, Ser. No. 448,307
Claims priority, application Germany, Apr. 16, 1964, N 24,811
21 Claims. (Cl. 226-179)



1. A leading roller arrangement for textile machines, especially two-for-one twisting machines, which includes: a roller with a thread receiving and delivery groove,

clamping means forming a portion of said groove and being reciprocable in axial direction of said roller, said clamping means include magnetically responsive means circularly distributed in said roller, and control means operable automatically within the range from a point where a thread enters said groove to a point where said thread leaves said groove to impart upon said clamping means an axial movement in a groove narrowing direction, said control means including a magnet arranged within the range from said thread entry point to said thread exit point and operable magnetically to affect said magnetically responsive means to thereby exert an axial movement upon the same in a groove narrowing direction.

3,341,101
POWER-ACTUATED TOOL
David F. Butler, Hamden, and Elmer R. Hodill, Jr., New Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Sept. 2, 1965, Ser. No. 484,592
10 Claims. (Cl. 227-8)

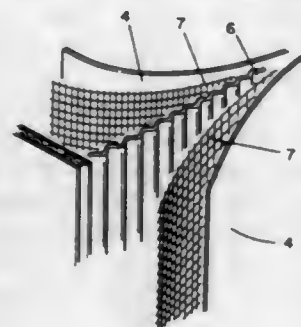


1. A power-actuated tool including a receiver having a front and rear portion, barrel means slidably mounted within said front portion for movement between a breech open position and a breech closed position, said barrel means including a breech end and a muzzle end, firing pin means mounted in said rear portion for movement between a cocked position and a fired position, cocking means operably connected to said firing pin means to move said firing pin means from its fired position to its cocked position, sleeve means attached to the muzzle end of said barrel means, guide means mounted within said sleeve means for relative axial movement therewith, and sensing means mounted in said barrel means for relative movement therewith, said sensing means being in engagement with said cocking means and with said guide means when said barrel means is in its breech closed position with said guide means extending from the muzzle end of said sleeve means, whereby said guide means must be moved toward said rear portion of said housing with respect to said sleeve means to move said firing pin means to its cocked position.

3,341,102
CARTONS FOR PROTECTION AND STORAGE OF MAGNETICALLY SENSITIVE MATERIALS
Giles D. Stephens, 4190 Balsam St., Wheat Ridge, Colo. 80033, and Robert C. Morsink, 8672 W. Brittany Drive, Littleton, Colo. 80120
Filed May 13, 1965, Ser. No. 455,504
7 Claims. (Cl. 229-3.5)

1. A magnetically shielded container for storing magnetically sensitive articles comprising bottom, top, and opposed side walls assembled in abutting relation to form a hollow enclosed storage space, each said wall including an inner corrugated backing layer, an intermediate layer

of ferromagnetic material affixed to and covering each side of said inner corrugated backing layer, and an outer

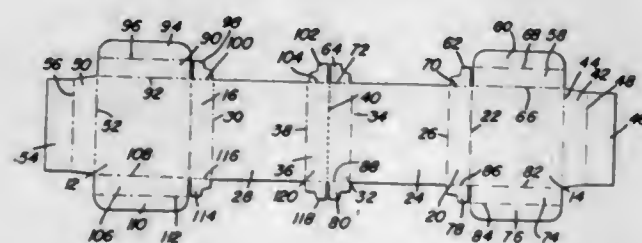


layer affixed to and covering said intermediate layers and forming the exterior and interior wear surfaces of the container.

3,341,103

FOLDING LENS BOX

Thomas W. May, St. Cloud, Minn., assignor to May Printing Company, a corporation of Minnesota
Filed Aug. 30, 1965, Ser. No. 483,415
2 Claims. (Cl. 229-27)



1. A folding box comprising a pair of compartments orientated in edge-to-edge aligned relation and each including a front wall and rear wall disposed generally in parallel relation, edge walls disposed generally parallel to each other and perpendicular to the front and rear walls, a bottom closure and a top closure connected with said rear walls, the end edge of the front wall being straight and uninterrupted, each edge wall having an extending tab on each end thereof folded under the closures, and a perforated fold line interconnecting the compartments at the adjacent edges of the rear surface of the compartments thereby urging the adjacent edge walls away from the inner surface of the rear walls when the rear walls are moved towards each other about the perforated fold line, the adjacent edge walls of the compartments being unitary with the front walls thereof, each rear wall having an edge wall underlying and glued to the adjacent edge wall integral with the front wall and including a connecting wall extending inwardly of and glued to the inner surface of the front wall adjacent the edge wall.

3,341,104

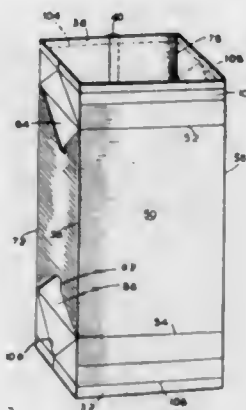
CORRUGATED FIBER BOARD CONTAINER FOR LIQUIDS

Richard W. Loheed and Gordon W. Whitaker, West Lafayette, Thomas J. Koehler and James W. Mollison, Lafayette, and Ralph Zynda, Battle Ground, Ind., assignors to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Apr. 20, 1965, Ser. No. 449,597
15 Claims. (Cl. 229-37)

10. An end closure for a self-sustaining tubular container formed from a rectangular section of corrugated fiber board comprising spaced liners and a corrugating medium, the peripheral edge area of which has been crushed and bonded into solid fiber board, said container having a body portion defined by four substantially rectangular side walls, said end closure comprising a pair of end rectangular panels extending from a first pair of oppositely disposed side walls and projecting substantially

in the same plane in opposite directions across and of a width to extend to the center of the end of said container body portion, and rectangular panels of crushed and bonded solid fiber board extending from the second pair of oppositely disposed side walls of the same width as said first named panels, and hingedly connected along scores to the adjacent first named panels, said last named panels being diagonally scored and having triangular corner portions folded over the remainder thereof, a continuous lip extension of crushed and bonded solid fiber board formed along the edge of each of said panels, said lip extension of crushed and bonded solid fiber board formed

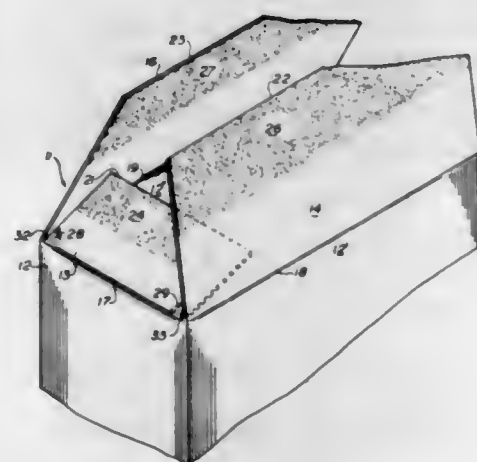


along the edge of each of said panels, said lip extensions being sealed together to form a fin, and said fin being folded to overlie a portion of one of said first named panels and portions of a triangular portion of each of said second named pair of panels, and said second named panels being folded down and overlying the upper ends of the carton sides from which the panels extend, the area of the first named panel covered by the folded over fin, and the areas of the side walls beneath said second named panels being also crushed and bonded into solid fiber board to form nesting recesses to receive the fin and second named pair of panels.

3,341,105

FOAMED SEAL PACKAGE

Thomas D. Curran, Walnut Creek, Calif., assignor to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,250
3 Claims. (Cl. 229-37)

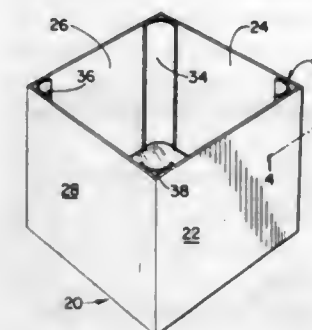


1. A wrapperless package including a closure portion having overlapped closure flaps with holes, gaps and channels therebetween, said flaps being adhesively sealed by an adhesive composition comprising a closed cell foam structure which fills said holes, gaps and channels.

3,341,106

CONTAINER WITH CORNER POSTS

Paul R. Seltman, Florence, Ky., assignor to Crescent Paper Tube Company, Inc., Florence, Ky., a corporation of Kentucky
Filed Oct. 18, 1965, Ser. No. 496,977
1 Claim. (Cl. 229-49)



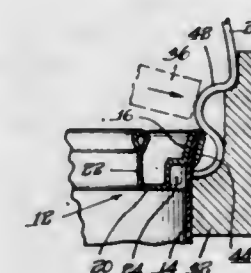
A container having substantially vertical walls and being polygonal in cross section, said container having a plurality of corners, a bottom closing the lower end of said container, a corner post disposed within said container in bridging relation with each of said corners and coextensive therewith, each of said corner posts comprising a semi-cylindrical member having free longitudinal edges: said semi-cylindrical member having its concave surface facing away from said vertical walls forming a corner of said container, said semi-cylindrical member having its convex surface spaced from said corner of said container, and the convex surface of said semi-cylindrical member tangentially engaging and secured to each of said vertical walls adjacent said corner of said container, and said free longitudinal edges extending into the interior of the container in spaced relation to an adjacent wall.

3,341,107

RIM DEVICE FOR CONTAINERS

Ougljesa Jules Pouplitch, Itasca, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,517
8 Claims. (Cl. 229-52)

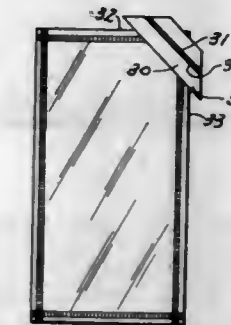


1. An annular sheet metal rim device for containers of impressionable material such as fiberboard and the like including a generally cylindrical wall section for insertion within the open upper end of a container, said wall section having a peripheral surface for engaging a complementary internal peripheral surface of a container, an extension of said wall section adapted to be folded over the upper margin of the container for impinging the outer periphery of the container opposite said wall section, said wall section having diametrically disposed indentations positioned adjacent said peripheral wall surface providing peripheral bail-coupling accommodating recesses, and annular closure receiving means integral with and spaced radially inwardly from said wall section.

3,341,108

EASY OPENING BAG

Douglas Kirk, Barrington, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 20, 1964, Ser. No. 338,931
5 Claims. (Cl. 229-66)



1. A bag comprising a plurality of panels composed of a material fusible above a predetermined temperature which when joined form an enclosure for receiving items to be packaged, a tear strip of heat-fusible material lying against one of said panels and having a portion thereof free to form a grip tab, a curved substantially semicircular heat seal intersecting one side of said bag at two locations and integrally joining said tear strip and all of said panels forming said bag enclosure.

3,341,109

ENVELOPE

Herbert A. Ellenbogen, 10 Butternut Drive, New City, N.Y. 10956

Original application June 18, 1963, Ser. No. 288,743, now Patent No. 3,263,576, dated Aug. 2, 1966. Divided and this application May 25, 1966, Ser. No. 568,079
5 Claims. (Cl. 229-80)



1. An envelope for packing lists or the like comprising first and second generally rectangular walls of plastic film in face to face relationship, said walls being joined together along three sides and having an opening at the fourth side, said first wall having a flap extending beyond the said opening, self-adhering adhesive covering the outside of said second wall and the surface of said flap adjacent the outside of said first wall, and releasable paper backing strips on said adhesive cover portions of said envelope.

3,341,110

COIN PACKAGE

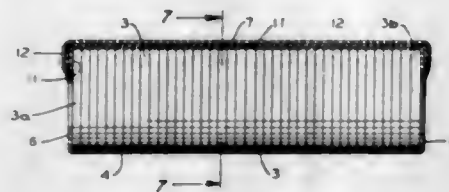
George H. Warfel, Menlo Park, Calif., assignor to Bank of America National Trust and Savings Association, San Francisco, Calif.

Filed Nov. 17, 1964, Ser. No. 411,812
1 Claim. (Cl. 229-87.2)

A coin package, comprising:

- (a) a cylindrical body of coins in axial alignment and face-to-face contact;
- (b) a tubular wrapper of shrinkable sheet material curved around the cylindrical surface of said body;

- (c) the marginal edges of said material being secured to each other along a longitudinally extending element of said body to form a continuous seam;
 (d) said wrapper being shrunk into firm engaging relation with said cylindrical surface;

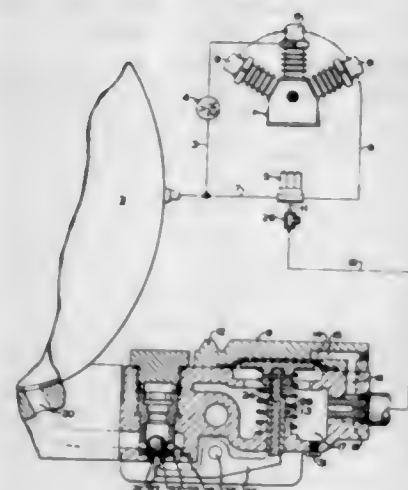


- (e) a radially intumed flange formed by the marginal ends of said material at each end of said wrapper;
 (f) said flanges being shrunk into firm engagement with the peripheries of the ends of said body; and,
 (g) said marginal edges being shrunk into overlying relation with the portion of said wrapper and with portions of said flanges adjacent said seam.

3,341,111 AUTOMATICALLY CONTROLLED DRAIN VALVE

Walter J. Sanders, Jeannette, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

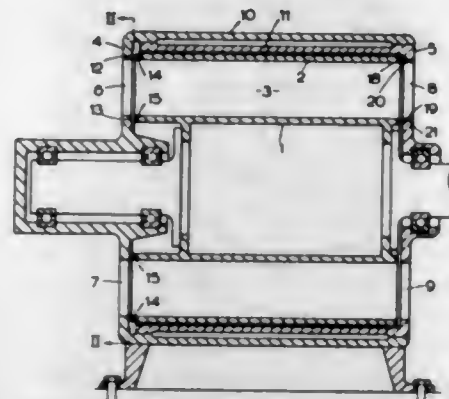
Filed Apr. 27, 1965, Ser. No. 451,223
 7 Claims. (Cl. 230—1)



1. For use in a compressed air system wherein a compressor supplying compressed air to a storage reservoir is loaded and unloaded responsively to variations of pressure in the reservoir; an automatic drain valve apparatus comprising, in combination:

- (a) a valve having a normally closed position and being operable to an open position for draining condensed moisture from the reservoir;
 (b) valve-operating means actuable responsively to air under pressure for operating said valve to its said open position;
 (c) control means operable responsively to air in the reservoir at a certain high value for effecting supply of air under pressure for causing the compressor to be unloaded and being operable responsively to air in the reservoir at a certain lower value for effecting venting of air under pressure for causing the compressor to be loaded and supplying such vented air under pressure to said valve-operating means for causing said valve to be operated to its said open position; and
 (d) atmospheric choke means via which such vented air under pressure supplied to said valve-operating means is dissipated.

3,341,112
PRESSURE EXCHANGERS
 John Anthony Barnes, Wokingham, England, assignor to Power Jets (Research & Development) Limited, London, England, a British company
 Filed Oct. 21, 1965, Ser. No. 505,602
 Claims priority, application Great Britain, Sept. 10, 1965, 38,853/65
 6 Claims. (Cl. 230—69)



1. A pressure exchanger comprising
 (a) a first structure having cells in which one gas quantity expands, so compressing another gas quantity with which it is in direct contact,
 (b) a second structure having ports communicating with the cells,
 (c) ducting communicating with the ports to lead gas at different pressures steadily to and from the cells,
 (d) means to effect relative motion between the structures,
 (e) a surface on each structure, which surfaces while defining a clearance permitting said motion, provide a path for the flow of leakage gas from a high-pressure zone to a low-pressure zone,
 (f) an expansion zone formed in one of the surfaces, that is to say a zone providing a local increase in volume of the leakage path, and
 (g) means on the other of said surfaces cooperating with the expansion zone to place it in communication with the low-pressure zone and to direct the leakage gas in the same general direction as the flow of gas in that zone.

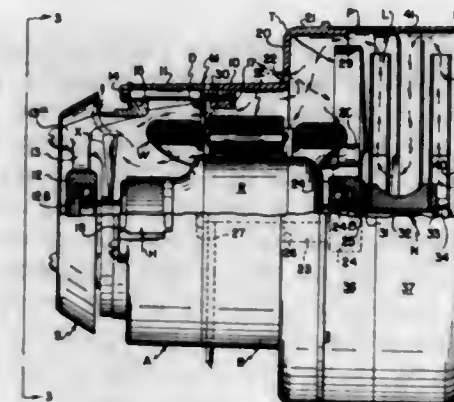
3,341,113
FLUID MOVING SYSTEM AND AN ELECTRIC MOTOR-PUMP UNIT THEREFOR
 Albert L. Sebok, Tallmadge, Ohio, and Ralph C. Kelley, Elkhart, Ind., assignors to Ametek, Inc., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,161
 4 Claims. (Cl. 230—117)

1. An electric motor-fan unit including a motor section and a fan section with fan housing means mounted on, and having a main suction air inlet remote from, the motor section, said unit adapted for safe temperature operation despite obstruction of suction air flow to said inlet, and comprising:

- first and second motor end bracket members with generally hollow body portions,
 being each spanned at one end by a respective integral motor shaft bearing supporting structure and secured together in aligned endwise abutting relation at their other ends to provide a motor frame circumferentially enclosing a substantial part of the hereinafter named motor stator;
 said first member having a fan section housing mounting integral rim portion external of its said integral structure and at least one motor ventilating air port axially inward of said rim portion;

said fan-section housing mounted on said rim portion;
 a fan section end baffle fixed on the outer end of said first member;
 a motor rotor with shaft supported at opposite ends by bearings in respective said integral structures and at one end the shaft projecting beyond said end baffle for supporting an impeller in the fan section;
 a motor stator supported in said frame;
 said end baffle defining with said first member an air flow space in communication with said port and adjacent end regions of said rotor and stator;
 means including an air shield cap concentrically externally mounted on the said second member providing a second ventilating air port;
 a motor ventilating fan on the other end of said shaft in an air flow space between said cap and stator;
 said stator defining with said rotor and said frame air



passages respectively internally and externally longitudinal of the stator and extending between said air flow spaces;

said end baffle having a periphery spaced inwardly from said rim portion to define a discharge passage into the first said air flow space for a vacuum air flow discharging from said fan section, and said ventilating fan acting to discharge air from the second air flow space through said second ventilating air port, whereby with vacuum air flow into said inlet unimpeded, the motor section is cooled by a part of the stream of vacuum air discharging from said fan section by an air flow path including said longitudinal passages and through said second air port, and the remainder of the vacuum air discharges from the first said port; and with vacuum air flow to said inlet impeded, the motor section is cooled by air drawn in at the first said port.

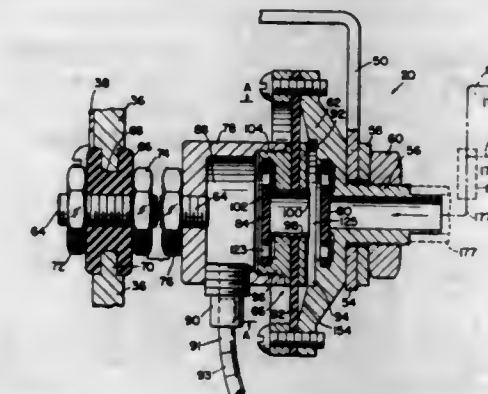
3,341,114
ANTI-ICING MEANS
 Harold A. Larson, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
 Filed Mar. 4, 1966, Ser. No. 531,954
 9 Claims. (Cl. 230—132)

1. In a gas turbine powerplant including a compressor having a casing with a bladed rotor therein, anti-icing means at the compressor inlet comprising,
 stationary hollow inlet guide vanes having leading and trailing edges with internal continuous passages,
 a corrugated-like supporting member disposed substantially lengthwise of each vane to form conduits therein,
 duct means connected to said casing and said vanes to introduce hot fluid for heating said vanes,
 said corrugations being disposed at an angle to the edges to be heated whereby all the hot fluid is directed by said corrugations toward the edges to be

heated, said corrugations forming a series of openings and providing a constantly fluid replenishing



3,341,115
DIAPHRAGM TYPE AIR PUMP
 Roland D. Beck and Thomas H. David, Jr., Anaheim, Alva R. Davis, Jr., Corona Del Mar, Donald A. Doyle, Santa Ana, and John H. Geiger, Los Alamitos, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
 Application Jan. 21, 1965, Ser. No. 428,605, now Patent No. 3,255,956, which is a continuation of application Ser. No. 149,990, Nov. 3, 1961. Divided and this application May 11, 1966, Ser. No. 568,994
 2 Claims. (Cl. 230—171)



1. In combination: a fluid pump having a pump body with an inlet; a flexible diaphragm having an inner periphery and an outer periphery, said diaphragm having one of said peripheries secured to said pump body; an exhaust chamber body receiving pumped fluid from said pump body and being interconnected to the other of said peripheries, said chamber body having a part thereof made of porous material to provide an outlet means for said fluid received therein and to muffle the noise thereof as said fluid passes through said porous part; and means for moving said exhaust chamber body relative to said pump chamber body to cause said diaphragm to pump said fluid from said inlet out through said outlet means.

3,341,116
LITTER BAG FOR AUTOMOTIVE VEHICLES
 Earl C. Lewis, 1416 E. Parker St., Midland, Tex. 79701
 Filed May 6, 1966, Ser. No. 548,206
 1 Claim. (Cl. 232—43.2)

A hidden litter bag for an automotive vehicle comprising a pair of mounting plates for mounting on a shelf of an automotive vehicle, a cover plate generally the size of the pair of mounting plates, the upper one of said

pair of plates having upturned and inwardly extending opposite edges for receiving restrained sliding movement of said cover plate, an interfacing aperture extending coaxially through said pair of plates and said shelf, a flexible plastic tubing of polyplastic material extending downwardly from said apertures to a remote distance from said



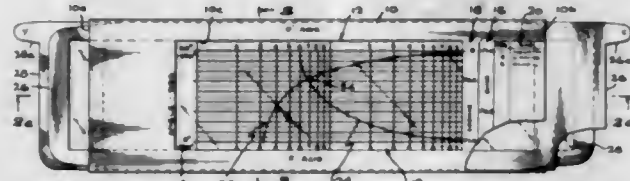
pair of plates, the free end of said plastic tubing connecting with a litter box cover lid having down-and-in turned opposite edges forming a track for receiving restrained sliding movement of a litter box means of plastic material for resting on the floor within said automotive vehicle.

ERRATA

For Class 233—20 see:
Patent No. 3,341,093

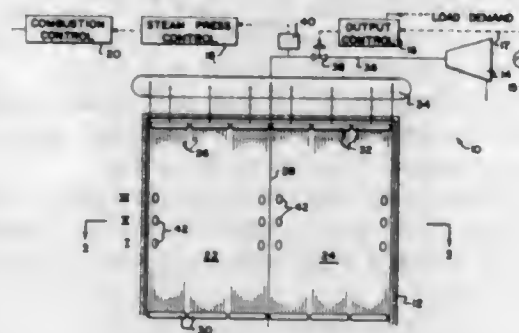
For Class 233—29 see:
Patent No. 3,341,094

3,341,117
COORDINATE SYSTEM CONVERTER
Weneth D. Painter, 43653 Foxton Ave.,
Lancaster, Calif. 93534
Filed Jan. 19, 1966, Ser. No. 521,756
9 Claims. (Cl. 235—89)



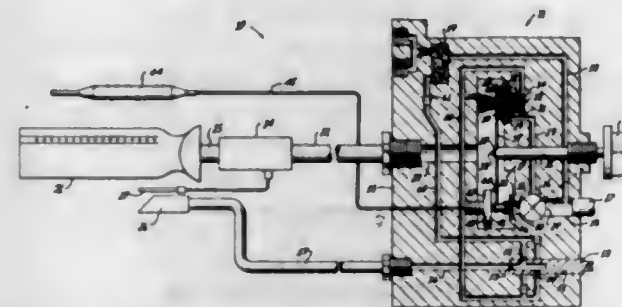
1. A conversion device for converting data between rectangular and polar coordinates comprising:
an envelope shaped slider-guide structure comprising of parallel spaced apart top and bottom sides, defining a slide channel therebetween;
first and second scales on the inside surface of the bottom side of said guide structure and arranged normal to each other, said first scale being scaled in units of length and said second scale being scaled in degrees, said top side defining an aperture through which said first and second scales are visible;
a first slider carrying a first trigonometric function curve and adapted to slide along said first scale in the slide channel of said guide structure; and
a second slider carrying a second trigonometric function curve and adapted to slide along said first scale in the slide channel of said guide structure;
said first and second sliders being superimposed on said scales, and slidable with respect to each other and said scales;
said first and second trigonometric curves varying inversely with each other, with the point of intersection of said curves superimposed on said scales and visible through the aperture in the top side of said structure.

3,341,118
BURNER ELEVATION CONTROL SYSTEM
Jack A. Schuss, Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Aug. 31, 1965, Ser. No. 484,061
34 Claims. (Cl. 236—26)



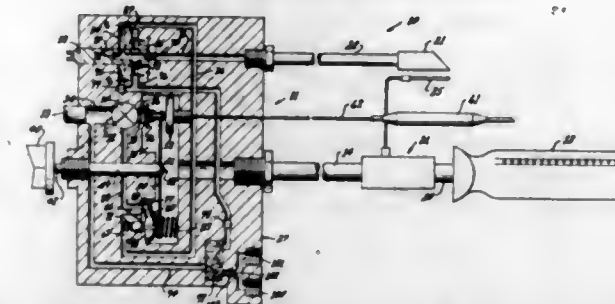
1. In a power plant including a vapor generator having a furnace chamber, a burner system including a plurality of fuel burners arranged in groups positioned at spaced locations in said furnace chamber and burner operating means associated with each of said fuel burners, a burner control system operated in response to load increases on said power plant including: means for sensing an increased load demand on said power plant and for emitting a signal in response thereto; burner monitor means for determining which of said burner groups are capable of being placed in operation; means rendering those burner groups not capable of being placed in service ineffective to receive said signal; and means for transmitting said signal to the operators of the burner group capable of being placed in service for starting up said operable burner group to satisfy said increase in load demand.

3,341,119
CONTROL DEVICE AND PARTS THEREFOR
OR THE LIKE
Hugh J. Tyler, Jeannette, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,985
14 Claims. (Cl. 236—51)



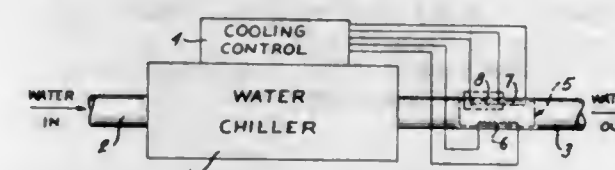
7. In combination, a housing having a valve seat, a valve member for opening and closing said valve seat, a fulcrum pin means axially movable in said housing, manual means for engaging and adjusting the axial position of said pin means to one position thereof, a lever fulcrumed on said pin means and being operatively interconnected to said valve member, a temperature responsive device carried by said housing and operatively engaging said lever to fulcrum said lever on said pin means to vary the position of said valve member relative to said valve seat in response to temperature sensed by said temperature responsive device, and rotatable adjusting means carried by said housing to be rotated to one position thereof to disengage said pin means from said manual means and set said pin means in another axial position thereof.

3,341,120
CONTROL DEVICE AND PARTS THEREFOR
OR THE LIKE
James R. Willson, Fountain Valley, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Dec. 2, 1964, Ser. No. 415,265.
Divided and this application Sept. 16, 1966, Ser. No. 580,094
12 Claims. (Cl. 236—68)



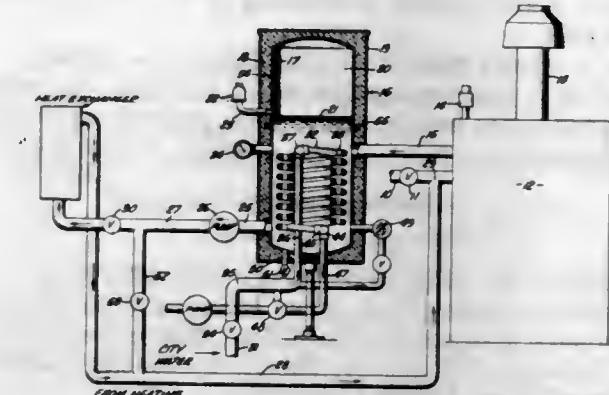
1. In combination, a housing having a first inlet and a first outlet interconnected together by a first valve seat, said housing having a second inlet interconnected to a second outlet by a second valve seat, a lever fulcrumed in said housing intermediate the ends of said lever, a first valve member for opening and closing said first valve seat, a second valve member for opening and closing said second valve seat, a first spring means carried by said housing and tending to move said first valve member against said first valve seat, said lever having one end thereof operatively interconnected with said first valve member, a second spring means tending to pivot said lever in a direction to open said first valve member, and a condition responsive means carried by said housing and having a movable portion disposed against the other end of said lever, said movable portion carrying said second valve member.

3,341,121
CONDITION RESPONSIVE CONTROL CIRCUIT
AND APPARATUS THEREFOR
Russell G. Attridge, Jr., Milwaukee, and John C. Donovan, Whitefish Bay, Wis., and Charles C. Grimes, Dallas, Tex., assignors to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 13, 1965, Ser. No. 425,205
14 Claims. (Cl. 236—74)



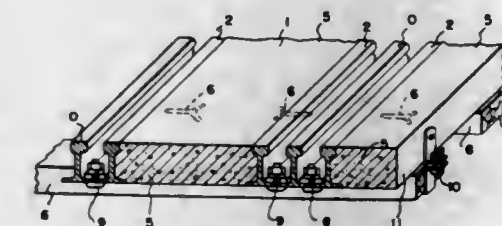
1. A condition responsive controller, comprising at least three condition sensitive means having characteristics proportional to the sensed condition and two of which are rapid response means having a substantially shorter time constant than the other one which is a relatively slow response means, means to mount said sensitive means to be subjected to essentially a single condition which tends to vary and to correspondingly vary the characteristics of the means with changes in the sensed condition, and means connecting said means in a control circuit to provide an adjustable proportional control action wherein the two rapid response means are connected in opposition and the slow response means is connected to aid the one rapid response means to provide a fixed reset of the response position of the two elements having the relatively short time constant.

3,341,122
INTEGRATED HYDRONIC HEATING SYSTEM
Alfred Whittell, Jr., Los Angeles, Calif., assignor to Raypak Company, Inc., El Monte, Calif., a corporation of California
Filed Mar. 30, 1965, Ser. No. 443,904
6 Claims. (Cl. 237—8)



1. A closed hydronic water heating system including, heat exchanging means;
means for heating water in said system;
means connected to said heating means for storing said heated water and permitting the separation of entrapped air therefrom;
means connected to said storage means for exhausting separated air from said storage means;
pump means connected to said storage means for continuously circulating said water through said storage means;
thermostatically controlled valve means for selectively regulating flow of heated water from said pump means through said heat exchanger means and back to said heating means; and
valve regulated means bypassing said heat exchanging means and said controlled valve means for enabling the continued circulation of water through said storage means when flow through said heat exchanger means is reduced.

3,341,123
ADJUSTABLY DISPOSABLE FILLER MEMBERS
FOR RAILROAD TRACKS AND THE LIKE
Mathias Holthausen, 2 Humberdinck Strasse,
4 Dusseldorf-Benrath, Germany
Filed June 3, 1965, Ser. No. 460,922
1 Claim. (Cl. 238—8)



In a railway crossing, the combination with said railway of
a filler to be situated between the rails of said railway, and including a plate of concrete or the like, having respective edges contoured to parallel the respective rails,
one or more wear-resistant reinforcing members disposed along one or more of said edges parallel to said rails, to protect such edges from stresses imposed by railway vehicle wheel rims,
means to interconnect said reinforcing members and said plate to resist relative movement thereof,

means to establish and maintain a substantially coplanar relationship of the upper surfaces of longitudinally adjacent fillers, said means including a socket, and an elongated dowel received in said socket, said socket and said dowel being respectively disposed at the respective abutting end faces of longitudinally abutting fillers,

means to afford precise positioning of the filler between said rails,

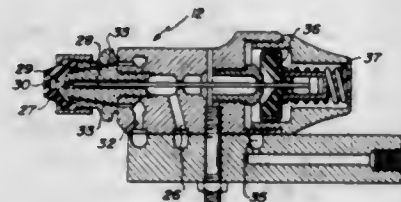
means to secure the filler to the ties of the railway, protective projections carried by said reinforcing members for use at switches to overhang and protect movable, tapering switch rails from damage and wear.

3,341,124

SPRAYING METHOD AND APPARATUS

Derek Barnes, Cedar, Vancouver Island, British Columbia, Canada, assignor to MacMillan, Bloedel and Powell River Limited, Vancouver, British Columbia, Canada, a corporation of British Columbia

Filed June 21, 1965, Ser. No. 465,407
27 Claims. (Cl. 239-8)



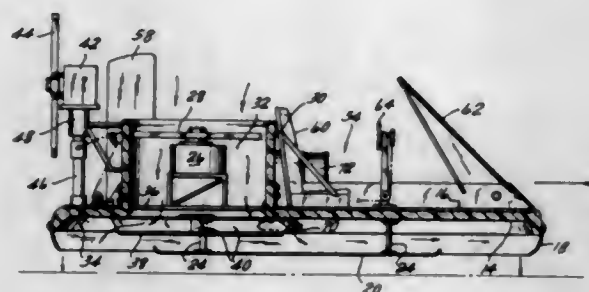
4. A method of spraying liquid by means of one or more nozzles without nozzle clogging, comprising directing liquid under pressure to a spraying nozzle, directing air to said nozzle at a pressure substantially equal to the liquid pressure to atomize the liquid at the nozzle, shutting off the liquid being directed to the nozzle, and inserting a slug of cleaning fluid into the air being directed to the nozzle to clean out the latter.

3,341,125

GROUND EFFECT MACHINE

Thomas E. Sweeney, Princeton, and Walter B. Nixon, Trenton, N.J., assignors to Carey Cushion Vehicle Corp., New York, N.Y., a corporation of New York

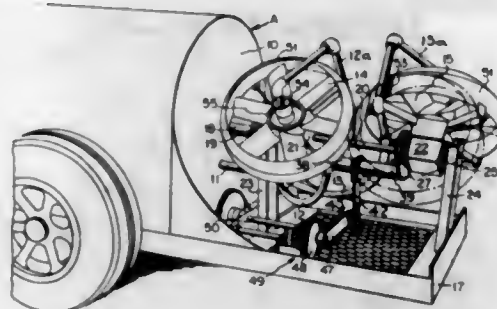
Filed Dec. 3, 1965, Ser. No. 511,890
14 Claims. (Cl. 239-8)



13. A method of spraying, dusting or the like a substance to be applied over selected terrain, operating a ground effect machine to thereby generate an air stream which is effluxed from the machine in a manner to produce a component of lift to cause the machine to lift off the ground, dispensing this substance to be applied so that it will be ultimately applied over the selected terrain, said efflux being gentle to keep the crops from being damaged, and maneuvering the ground effect machine in flight to cover the selected terrain and apply the substance uniformly thereover.

**3,341,126
ADJUSTABLE AGRICULTURAL SPRAY MECHANISM**

Richard H. Fish, P.O. Box 337,
Morgan Hill, Calif. 95037
Filed Nov. 30, 1965, Ser. No. 510,640
8 Claims. (Cl. 239-78)



1. In an orchard spray mechanism wherein a supporting vehicle for travel along a path between rows of trees in an orchard has a fan support mounted thereon with a power driven fan drive shaft extending through the fan support longitudinally of the supporting vehicle;

a pair of fan drive gear boxes journaled for separate rotative adjustment about the axis of the fan drive shaft,

an axial flow fan mounted on each gear box in driven relation with the fan drive shaft and with its flow axis perpendicular to the axis of the fan drive shaft, a yoke extending between the fan gear boxes, power transmission means operatively connected to rock the yoke back and forth upon rotation of the fan drive shaft,

clutch means releasably securing each end of the yoke to one of the gear boxes in selected rotatively adjusted position of the gear box about the axis of the fan drive shaft, and

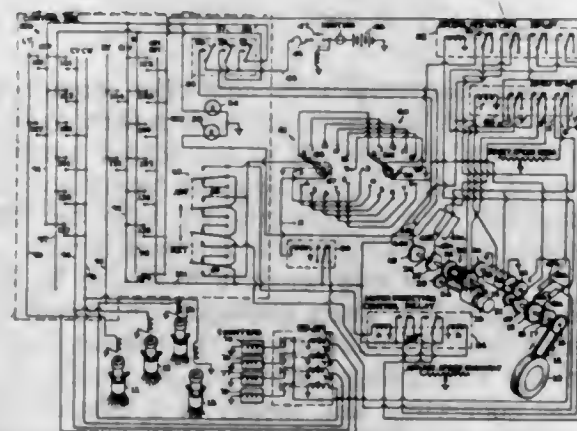
power drive means for rotatively driving the fan drive shaft and thereby the fans at high speed to create an axially directed air blast by each fan while simultaneously rocking the yoke and thereby the gear boxes in their individually adjusted positions back and forth about the axis of the fan drive shaft.

3,341,127

ROAD STRIPING MACHINE

Frank E. Miller and William R. Shaffer, Huntingdon, Pa., assignors to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania

Filed July 21, 1965, Ser. No. 473,637
11 Claims. (Cl. 239-100)



1. Road striping apparatus comprising

a plurality of spray guns,

solenoid means for controlling the operation of said spray guns,

an electrical circuit electrically connected to said solenoid means for controlling the operation thereof,

said electrical circuit including

a power supply,

a multi-station switch connected to said power supply,

a skip circuit including a skip switch responsive to movement of road striping apparatus and operable to cause said spray guns to spray an interrupted line through a predetermined skip cycle, a reset circuit including a reset switch for automatically resetting the skip cycle,

said multi-station switch including a plurality of sets of contacts that are electrically connected to said spray guns and said skip and reset circuits,

each set of contacts defining a predetermined striping pattern and controlling the operation of said electrical means to control the application of said pattern by said spray guns,

means for advancing and retarding said interrupted line sprayed by said spray guns, and means for incremental adjustment of the length of said interrupted line sprayed by said spray guns.

10. A road striping machine comprising at least one spray gun having a valve operating solenoid,

means responsive to movement of said strip machine for controlling the operation of said at least one spray gun,

said controlling means including

driving means,

first electrically controlled clutch means operatively coupled to said driving means,

second electrically controlled clutch means operatively coupled to said driving means by a different gear ratio than the coupling between said first clutch means and said driving means,

a first and second cam means operatively coupled to said driving means and to the input of said first and second clutch means,

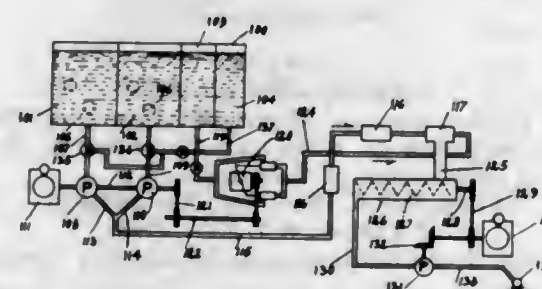
a third and a fourth cam means operatively coupled to the outputs of said first and second clutch means.

3,341,128

APPARATUS FOR SURFACING PAVED AREAS

Leon Nagin, Churchill Borough, and Harry S. Nagin, Merion, Pa., Donald H. Russell, Pennsauken, N.J., and Leo J. Wojcik, Boston, Pa., assignors to Reliance Steel Products Company, McKeesport, Pa., a corporation of Pennsylvania

Original application Oct. 30, 1958, Ser. No. 770,772, now Patent No. 3,245,329, dated Apr. 12, 1966. Divided and this application Apr. 1, 1966, Ser. No. 567,020
3 Claims. (Cl. 239-131)



1. Apparatus for utilizing epoxy resin in the paving of road and like areas comprising a mobile truck, a tank on the truck having at least two compartments therein, separate pump means for continuously withdrawing fluid from each of the compartments, a common drive for driving both pumps at correlated speeds, separate discharge pipes from each of the pumps extending vertically upward,

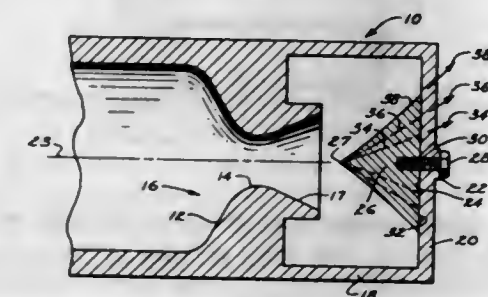
means connecting the upper ends of the two discharge pipes for combining the separate ingredients, a mixing means into which said connection discharges whereby the ingredients from the separate compartments are continuously mixed, and pump means for spraying the mixture over the road surface along which the truck is moving.

3,341,129

ROCKET NOZZLE

Henry H. Adams, Jr., Washington, D.C., and Philip D. Fisher, Fairfax, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia

Filed July 13, 1964, Ser. No. 392,061
7 Claims. (Cl. 239-265.11)



1. In combination with a rocket motor having a combustion chamber and exhaust nozzle means, a first thrust control nozzle portion adapted to be removably mounted in a predetermined fixed position on said rocket motor downstream of the exhaust end thereof, said first portion having port means oriented to effect a first rearwardly directed axial thrust component of a predetermined magnitude in the rocket motor exhaust gases flowing there-through when said first portion is mounted on said rocket motor, the magnitude of the sum of all the thrust components effected by said first portion being equal to a predetermined value, said first portion being replaceable by a second nozzle portion adapted to be removably mounted on said rocket motor in said predetermined position and having port means oriented to effect a second rearwardly directed axial thrust component of a different magnitude than said first axial thrust component and nonaxial thrust components in the rocket motor exhaust gases flowing therethrough when said second portion is mounted on said rocket motor, the magnitude of the sum of all thrust components effected by said second portion being equal to said predetermined value, thereby providing for preflight variance of the rocket motor axial thrust level by selection of one of said portions, whereby each of said portions effects a back pressure on said combustion chamber that is substantially the same for any given combustion chamber pressure during firing of said rocket motor.

3,341,130

SPRAY HEAD FOR FLEXIBLE CONTAINERS
Wolfgang Weber, Karlsruhe, Germany, assignor to Werner & Mertz G.m.b.H., Mainz (Rhine), Germany
Filed Sept. 22, 1965, Ser. No. 489,249

Claims priority, application Germany, Sept. 24, 1964, W 37,598

8 Claims. (Cl. 239-327)

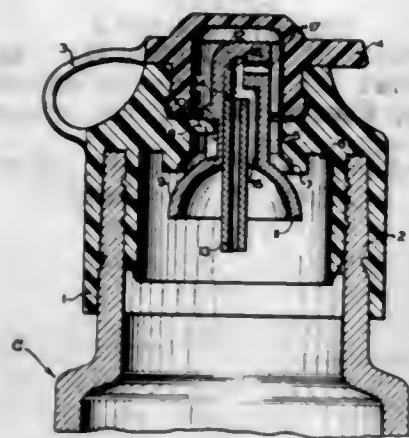
1. A spray head for a flexible container comprising:

(a) a closure member adapted to be fitted to the container;

(b) an air inlet passage through said closure member to permit ingress of air to the container through the closure member when fitted thereon;

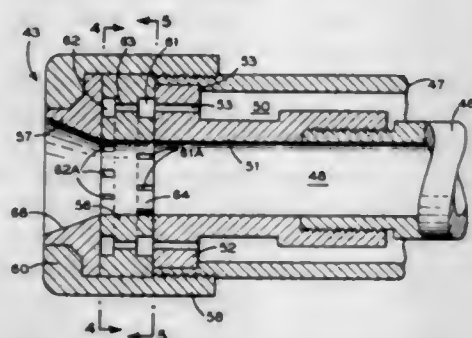
(c) a valve seating at the inner end of said air passage;

- (d) a valve member axially movable in said air passage and movable under internal pressure in the container to seat against said valve seating and seal said air passage;
- (e) a spray nozzle on said valve member;
- (f) a passageway through said valve member communicating with said spray nozzle;



- (g) a tube fitted in the passageway at the end opposite said spray nozzle, said tube serving to convey liquid from the container to said spray nozzle under pressure applied by squeezing the container, the external cross-sectional area of said tube being less than the internal cross-sectional area of said passageway so that air passages are formed alongside said tube which extend between the container and said spray nozzle; and
- (h) a removable cap covering said spray nozzle and the outer end of said air inlet passage.

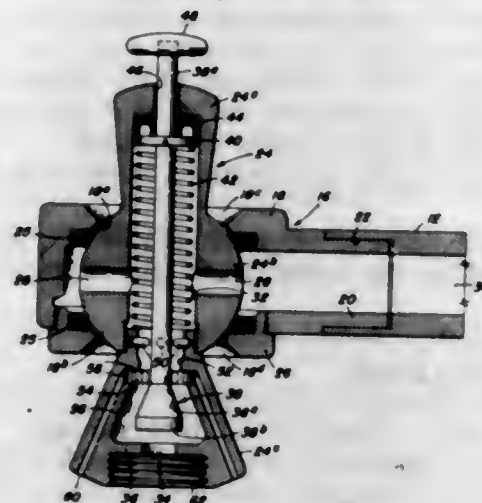
3,341,131
LIQUID FUEL BURNER HAVING PLURAL WHIRL PATTERNS OF VARYING RADII
 Hubert G. Stallkamp, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
 Filed June 16, 1965, Ser. No. 464,334
 4 Claims. (Cl. 239-402)



1. As an article of manufacture, a sprayer plate comprising a disk having an axial bore of substantially uniform diameter for passage of a fibrous material-containing liquor therethrough, means forming a first annular groove in one face of the sprayer plate radially spaced from and surrounding said bore, means forming a plurality of first circumferentially spaced fluid flow passages disposed in a common plane and extending inwardly from said first annular groove to said bore, said first passages being arranged to open into said bore in a direction tangential to a small diameter circle within said bore to act upon said fibrous material-containing liquor, means forming a second annular groove in the opposite face of the sprayer plate radially spaced from and surrounding said bore, passage means interconnecting said first and second annular grooves, and means forming a plurality

of second circumferentially spaced fluid flow passages disposed in a common plane parallel with and spaced from the plane of said first passages in the axial direction of the bore and leading from said second annular groove to said bore, said second passages being arranged to open into said bore in directions more nearly tangential than said first passages and directed to be tangent to a circle of greater diameter than said small diameter circle and less than the diameter of the bore.

3,341,132
SPOUT DIVERTER VALVE
 Richard G. Parkison, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
 Filed Feb. 18, 1965, Ser. No. 433,655
 18 Claims. (Cl. 239-443)



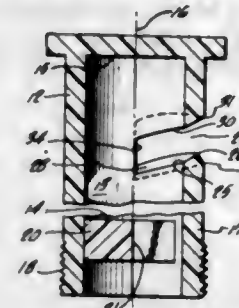
1. A fluid flow control system including a flow conduit having an interior bore formed with a throat of reduced diameter and terminating in a first liquid discharge opening, at least one passage connected into the bore of said flow conduit at a location adjacent said throat where negative pressures will occur during flow through said first discharge opening, a diverter element positioned in said bore being of a dimension to permit fluid flow therearound and out said first discharge, means biasing said diverter element in a direction away from said first discharge opening, said diverter element being movable against the force of said biasing means to close said first discharge opening to divert the fluid flow outwardly through said passage, and means cooperative with the hydraulic pressure of the fluid to maintain said diverter member in said position in which it closes said first discharge opening, whereby upon shutting off of the fluid flow the diverter member automatically returns to the position in which it permits fluid flow and said first discharge opening.

3,341,133
LIQUID DISCHARGE
 John O. Hruby, Jr., and Wayne W. Frempter, Burbank, Calif., assignors to Rain Jet Corporation, Burbank, Calif., a corporation of California
 Filed July 6, 1965, Ser. No. 469,676
 15 Claims. (Cl. 239-598)

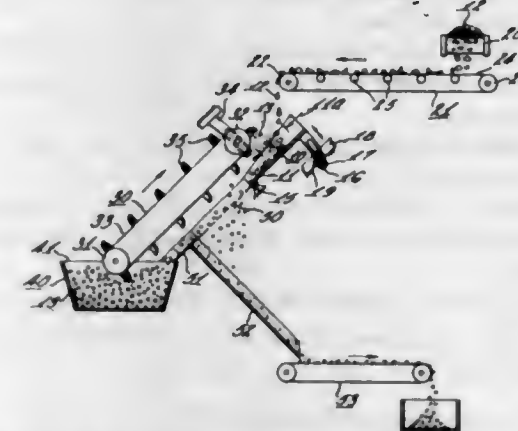
1. A liquid discharging and distributing device comprising a body defining an inner chamber having ends spaced from each other by the length of the chamber, a liquid inlet into the chamber at one end thereof, the body having outer wall surfaces and defining inner wall surfaces for the chamber and a liquid outlet opening there-through laterally from the chamber, the outlet opening being spaced along the length of the chamber from the ends thereof and having a minimum area greater than the area of the inlet opening, the outlet opening having peripheral boundary surfaces configured and arranged so

said minimum area of the outlet opening is defined at a selected location laterally of the chamber inwardly to-

ward the chamber inner wall surfaces from said body outer wall surfaces and produces a characteristic distribution pattern of liquid emitted therefrom.



3,341,134
IMPACT GRINDING
 Thomas P. Meloy, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
 Filed Dec. 16, 1964, Ser. No. 418,784
 6 Claims. (Cl. 241-5)



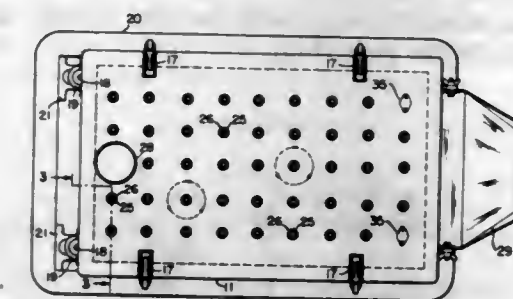
1. In a method of breaking material particles to reduce the size thereof the steps of feeding particles to be broken upon a surface, accelerating other particles at the particles to be broken on the surface, and controlling the feeding of particles to be broken to and across the surface while independently controlling the acceleration of the other particles at the particles to be broken.

3,341,135
FLOTATION METHOD FOR POTASH ORES
 Martin Wilson, Anaheim, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
 No Drawing. Filed Sept. 16, 1964, Ser. No. 397,036
 10 Claims. (Cl. 241-20)

6. In the method of recovering potash from potash ore by the froth flotation of an ore-brine pulp using a long chain aliphatic amine collector reagent, the improvement which comprises employing as an auxiliary reagent a polycyclic aromatic hydrocarbon oil having three rings in the molecule and having a distillation range within about 500°-800° F.

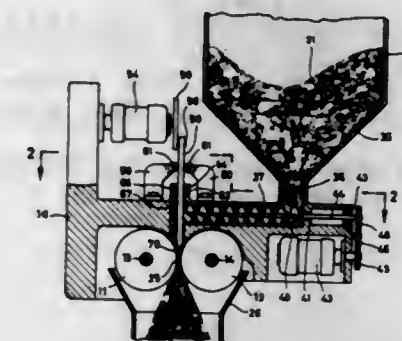
3,341,136
GYRATORY GRINDER
 Kenneth E. Stettinius, Le Roy, N.Y., assignor to Lapp Insulator Co., Inc., Le Roy, N.Y., a corporation of New York
 Filed Aug. 16, 1965, Ser. No. 480,043
 17 Claims. (Cl. 241-172)

1. In a gyratory ball mill having a grinding chamber containing a charge of grinding pebbles and drive means connected to said chamber for driving said chamber in a



said chamber and being movable with said chamber for repeatedly batting said pebbles about as said chamber is gyrated by said drive means.

3,341,137
TAMPING ARRANGEMENT FOR SUPPLYING A MATERIAL TO CRUSHING ROLLERS
 Josef Rettenmaier, Holzmühle Gemeinde, Rosenberg, Germany, assignor to J. Rettenmaier & Söhne, Holzmühle, Rosenberg über Ellwangen, Jagst, Germany
 Filed July 28, 1964, Ser. No. 385,674
 Claims priority, application Germany, July 31, 1963, R 35,803
 13 Claims. (Cl. 241-222)



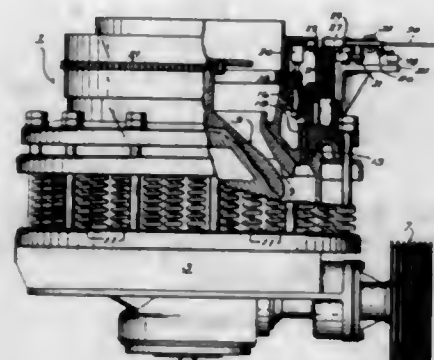
1. An apparatus for reducing the size of particles, comprising, in combination, a pair of cooperating rotary rollers having parallel axes and defining a gap between each other; feeding means for feeding the particles to said rollers and including a feed duct extending in a direction substantially parallel to a plane extending through said axes and having a discharge end located in the region of said gap so that a mass of particles accumulates on one side of said rollers in the region of said gap; a tamping means disposed at said discharge end on said side reciprocable perpendicularly to said plane toward and away from said gap so that the mass is periodically urged into said gap; passage means for said tamping means having an opening forming said discharge end of said feed duct, said tamping means being movable between an advanced position closing said discharge end of said duct, and a retracted position in which the operative end of said tamping means is spaced from said gap uncovering said discharge end and still located in said passage and means for reciprocating said tamping means.

3,341,138
ADJUSTING MECHANISM FOR GYRATORY CRUSHER BOWLS
 Frank M. Allen, Whitefish Bay, Wis., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
 Filed Oct. 6, 1964, Ser. No. 401,905
 9 Claims. (Cl. 241-290)

1. In a crusher having a frame, a gyratory crushing head mounted in said frame, and a concave crushing bowl mounted on the frame and adjustable by rotation

to form an adjustable crushing gap with the crushing head; means to rotate the crushing bowl comprising, a gear ring mounted on the exterior of the crushing bowl;

a pinion rotatably mounted on the frame to inter-mesh with the gear ring;

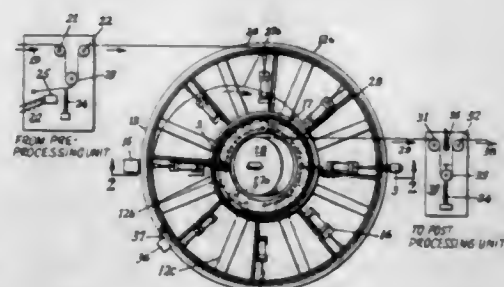


a pawl normally disengaged from said pinion gear; means to engage said pawl with said pinion gear; and means to ratchet the pawl and the pinion gear to rotate the ring gear and the crushing bowl to adjustably position the crushing bowl on the frame.

3,341,139

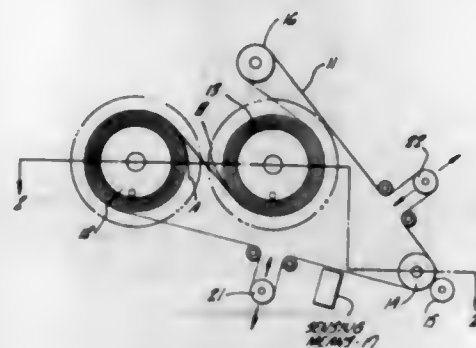
APPARATUS AND METHOD FOR ACCUMULATING METALLIC STRIP AND THE LIKE
Harry La Tour, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Mar. 3, 1966, Ser. No. 531,581
10 Claims. (Cl. 242-55)



2. In a strip accumulating device:
 - (a) an annular rotatable table surrounding a central stationary table, said rotatable table having a planar supporting surface for receiving a coil of strip,
 - (b) convolutions of which surround said stationary table,
 - (c) a fixed annular abutment on said stationary table against which convolutions of said coil collapse as strip is withdrawn from the inside of said coil,
 - (d) retractable abutments mounted for movement relative to rotatable table, said abutments being spaced outwardly from said central stationary table and radially disposed with respect thereto, said abutments being mounted for movement from a retracted position in which the planar supporting surface of said rotatable table remains uninterrupted to an operative position in which said abutments interrupt the planar surface of said table so that convolutions of the coil may be wound thereabout upon rotation of said rotatable table,
 - (e) means for starting and stopping rotation of said table, and
 - (f) means for moving said retractable abutments from one position to the other.

3,341,140
TAPE TRANSPORT APPARATUS
Magne Jarle Kjos, Duarte, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 21, 1965, Ser. No. 465,276
19 Claims. (Cl. 242-55.12)

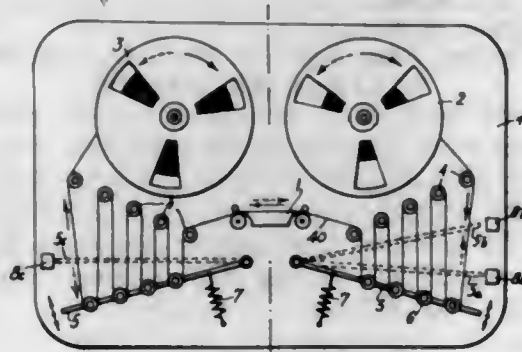


1. A transport apparatus, comprising:
 - a first rotatable hub;
 - a second rotatable hub;
 - a single strip of flexible material wound upon both the first and second hubs;
 - the flexible material unwinding from the first hub and belting the second hub before winding upon the second hub; and
 - a power transmitting means in operational contact with the flexible material;
 - the power transmitting means imparting a predetermined longitudinal movement directly to the flexible material;
 - the portion of the material belted around the second hub imparting rotational movement to the hub causing the material to wind upon the second hub.

3,341,141

TAPE TRANSPORT MECHANISM
Stanislav Jura and Miloslav Martinek, Prague, Czechoslovakia, assignors to Výzkumný ústav matematických stroju, Prague, Czechoslovakia

Filed Dec. 29, 1965, Ser. No. 517,256
Claims priority, application Czechoslovakia,
Jan. 8, 1965, 147/65
6 Claims. (Cl. 242-55.12)

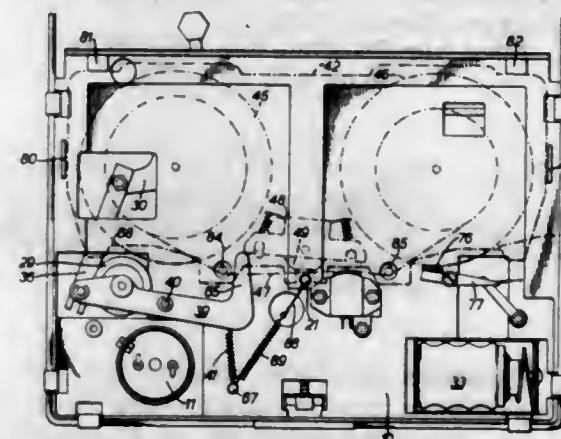


1. A tape transporting unit comprising, in combination:
 - (a) tape storage means for maintaining a reserve of tape;
 - (b) reel means adapted to carry coiled tape and rotatable in two directions respectively for releasing tape to said storage means and for withdrawing tape therefrom;

- (c) sensing means for sensing said reserve amount and for generating a first signal when said amount increases beyond a predetermined amount, and for generating a second signal when said reserve amount is reduced to less than said predetermined amount;
- (d) electrically operated drive means for rotating said reel means in said two directions;
- (e) electrically operated brake means for stopping rotation of said reel means;
- (f) a source of electric current; and
- (g) switch means operatively connected to said source, said sensing means, said drive means, and said brake means, said switch means being movable between two positions for actuating said brake means and deenergizing said drive means in response to said first signal, and for releasing said brake means and connecting said drive means to said source for rotation of said reel means by said drive means in one of said directions in response to said second signal when said switch means is in one of said positions thereof, and for releasing said brake means and connecting said drive means to said source for rotation of said reel means by said drive means in the other direction in response to said first signal, and for actuating said brake means and deenergizing said drive means in response to said second signal when said switch means is in the other position thereof,
- (1) said switch means being connected in circuit with said source, said sensing means, and said brake means; and
- (2) said drive means including a reversible electric motor having two windings respectively adapted to be energized for rotation of said motor in opposite directions, said switch means being interposed in circuit between said source and each of said windings.

3,341,142

SOUND REPRODUCING APPARATUS
Laszlo Nemenyi-Katz, London, England, assignor to Clarke & Smith Manufacturing Company Limited
Filed June 1, 1965, Ser. No. 460,393
Claims priority, application Great Britain, May 29, 1964,
22,430/64
18 Claims. (Cl. 242-55.13)

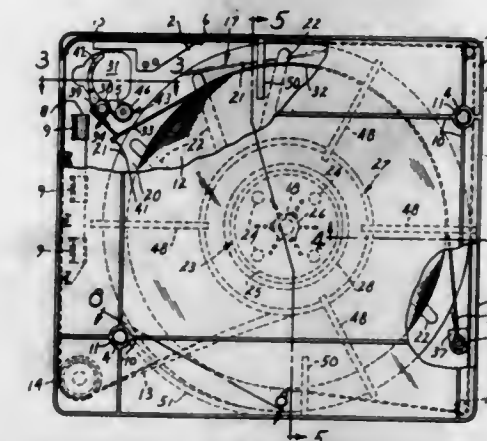


1. Apparatus for reproducing sound recorded on magnetic tape and comprising a tape deck; a capstan mounted on the tape deck for driving the tape; a pick-up transducer responsive to magnetic signals on the tape and mounted on the tape deck; a removable tape magazine comprising a body member having fiducial surfaces locating the magazine on the tape deck, a pair of tape spools rotatably mounted on said body member, and guide means for presenting a length of the tape extending between the spools to the capstan and the pick-up transducer, said guide means being mounted from said body member

member and including a capstan idler roller for co-operating resiliently in a tape drive position with the capstan whereby to urge the tape against the capstan and hence to provide the tape drive; and an actuator member mounted on the tape deck for withdrawing said idler roller to a tape disengaged position in which pressure of the capstan on the idler roller is released.

3,341,143

TAPE CARTRIDGE
Paul J. Nieland, South St. Paul, and William R. Rasmussen, Jr., Minneapolis, Minn., assignors, by mesne assignments, to The Telex Corporation, Tulsa, Okla., a corporation of Delaware
Filed Aug. 5, 1964, Ser. No. 387,696
1 Claim. (Cl. 242-55.19)



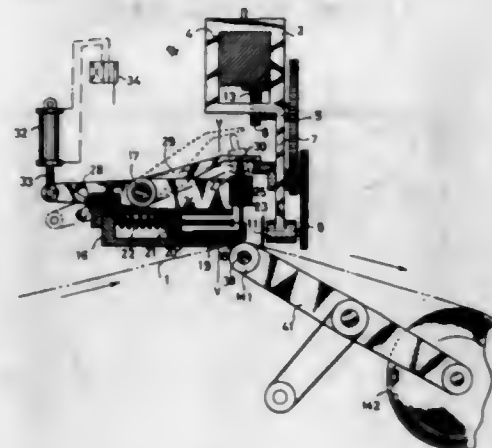
A tape cartridge for use with a tape handling machine of the type having a power driven capstan and a co-operating idle pressure roller mechanism swingably mounted for movements between a below-deck inoperative position and an above-deck operative position, said cartridge comprising:

- (a) a housing having top and bottom walls and wherein the bottom wall defines an aperture adapted to receive the pressure roller when said cartridge is operatively positioned on said machine,
- (b) a reel mounted for rotation within said housing and carrying a coil of tape convoluted on said reel,
- (c) a brake mechanism disposed within said housing for engaging said tape coil and stopping the movement thereof, said brake mechanism comprising:
 - (1) an elongated brake band disposed adjacent the outer convolution of said coil and extending in a generally arcuate configuration around a portion of the periphery of said coil and with one end thereof being disposed generally adjacent the aperture in said housing bottom wall,
 - (2) an anchor secured to said cartridge housing and carrying the other end of said band,
 - (3) means mounting said brake band within said housing for movements between a released position and an engaged position wherein said band presses against the outer surface of the outer convolution of said coil of tape,
 - (4) said means including an actuating lever disposed adjacent said one end of said band and pivotally mounted at an intermediate portion thereof for movements about an axis extending generally perpendicular to said housing top and bottom walls, one end portion of said lever carrying said one end of said brake band and the other end portion of said lever being located in the path of travel of said pressure roller mechanism when the pressure roller is swung up through said cartridge aperture to its operative position, whereby upon engagement of said

lever by said pressure roller mechanism said brake band is moved to its released position to permit rotation of said tape coil when the pressure roller is in its operative position.

3,341,144

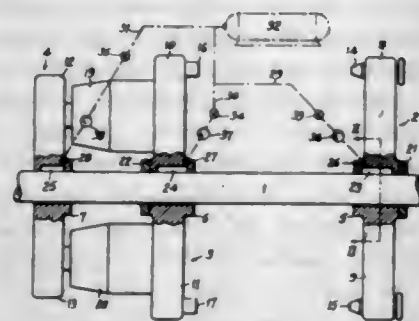
APPARATUS FOR WINDING WEB
Tetsuro Mase, 41-1 Furukawabashi, Kadoma,
Osaka Prefecture, Japan
Filed Mar. 22, 1966, Ser. No. 536,374
Claims priority, application Japan, Mar. 23, 1965,
40/16,865; Mar. 26, 1965, 40/17,711, 40/24,047
4 Claims. (Cl. 242-56)



1. Apparatus for winding web, comprising a plurality of mandrels, means for rotationally driving said mandrels, means supporting one of the mandrels in a position to guide the web and another of the mandrels in a position to wind the web from the guide mandrel, means for cutting the web when a desired length thereof has been wound on the mandrel in the winding position, means for fixing the forward end of the cut web onto the mandrel in the guiding position, and means for reversing the positions of the mandrels after the forward end of the cut web has been fixed onto the mandrel in the guiding position.

3,341,145

METHOD OF, AND APPARATUS FOR, FACILITATING THE ADJUSTMENT OF A ROLLSTAND SPIDER
Leslie Frank Moate, Ingrave, Brentwood, Essex, England, assignor to Fuller Electric Limited, London, England, a British company
Filed Sept. 1, 1965, Ser. No. 484,350
Claims priority, application Great Britain, Sept. 10, 1964, 37,009/64
12 Claims. (Cl. 242-64)

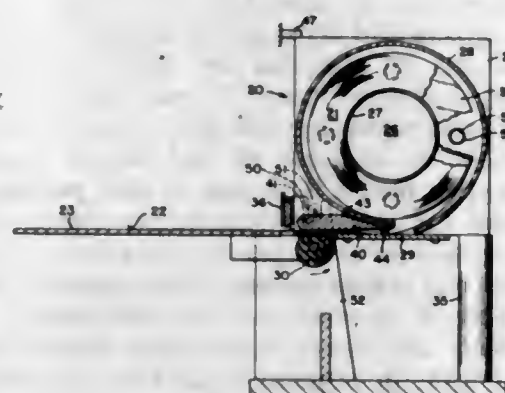


7. In a rollstand comprising a rotatable spider having a hub provided with a bore and a substantially horizontally disposed rollstand shaft received with clearance in said bore whereby the spider can be lifted slightly to float on the shaft, the improvement comprising a recess provided in said hub and communicating with said bore; and

means for supplying into said recess a gaseous fluid at a pressure requisite for lifting said spider on said shaft so as to cause the spider to float on the shaft.

3,341,146

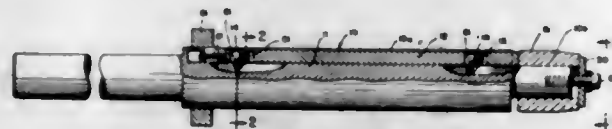
PHOTOSENSITIVE STRIP DRIVING SYSTEM
Henry N. Fairbanks, Penfield, and Thomas M. Madigan, Brighton, N.Y., assignors to Itel Corporation, Lexington, Mass., a corporation of Massachusetts
Filed Dec. 20, 1965, Ser. No. 514,957
28 Claims. (Cl. 242-71.1)



1. A strip driving device comprising:
 - (a) cooperable first and second transport elements, one of which includes a nonrotatable backing element and one of which is readily deformable, said strip being normally disposed between said first and second elements;
 - (b) means for moving said movable transport element to move said strip; and
 - (c) means for urging said first and second elements toward each other with force sufficient to deform said deformable element in the region of its area of contact normally with said strip and to retrovert the position of said contact area to a significant extent upon motion of said movable element.

3,341,147

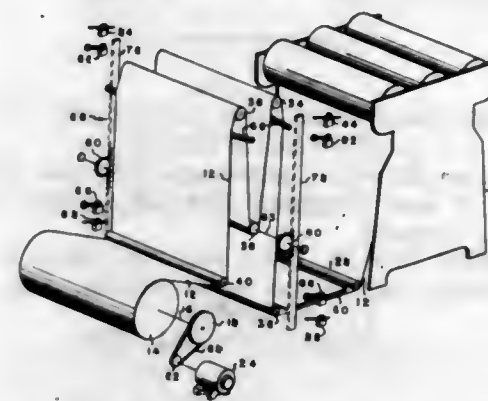
WEB WINDING MANDREL
Ernst Daniel Nystrand, Green Bay, Wis., assignor to Paper Converting Machine Company, Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Apr. 25, 1966, Ser. No. 545,009
3 Claims. (Cl. 242-72)



1. In a mandrel structure adapted for use in web winding operations, an elongated mandrel body having a plurality of circumferentially spaced longitudinally extending recesses in its periphery, an elongated locking bar received in each of said recesses, a plurality of links, each of said locking bars being connected to said mandrel body by two of said links, one end of each of said links being pivotally secured to its associated locking bar and the other end being pivotally secured to the mandrel body for adapting said locking bars for pivotal movement longitudinally of the mandrel body, spring means on said mandrel body biasing said locking bars against pivotal movement, screw means on one end of said mandrel body for pivoting said locking bar longitudinally upwardly against said bias to engage the inner surface of a core ensleeved on said mandrel body.

3,341,148

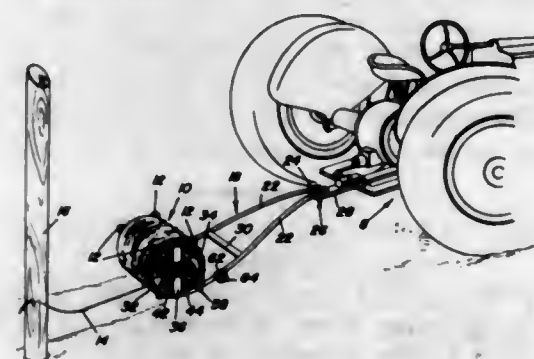
TAKE-UP APPARATUS
Gilbert N. Cooper, Elkins Park, Pa., assignor to Gayley Wycombe Corporation, Wycombe, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1966, Ser. No. 536,425
8 Claims. (Cl. 242-75.5)



1. In an apparatus for winding textile fabric in an open width onto a storage roll from a source of supply feeding the textile fabric at a normally constant speed comprising: a frame structure, a compensating roll, guide means on said frame structure receiving the ends of said compensating roll and allowing vertical movement of said compensating roll between upper and lower limits, a first idler roll carried by said frame structure above said compensating roll, a second idler roll carried by said frame structure beneath said first idler roll, said storage roll being rotatably supported horizontal from said second idler roll, a first drive means operating said source of supply, a second drive means driving said storage roll to cause said storage roll to take-up fabric faster than the speed at which the fabric is delivered from the source, a first upper switch means to deenergize said second drive means when said compensating roll moves up to a certain predetermined vertical position, a second lower switch means to energize said second drive means when said compensating roll moves to a predetermined low position in said guide means, means above and below said first and second switch means to deenergize said first drive means and said second drive means when said compensating roll moves vertically beyond said switch means, said source of textile fabric supply being spaced from said frame structure a predetermined distance, and floor means located between said source of textile fabric supply and said frame structure to allow an operator to inspect said fabric on said frame structure.

3,341,149

BARB WIRE HOLDING WINDING AND UNWINDING DEVICE
Vincent A. Graham, Rte. 1, Salem, S. Dak. 57058
Filed Aug. 25, 1965, Ser. No. 482,395
4 Claims. (Cl. 242-94)

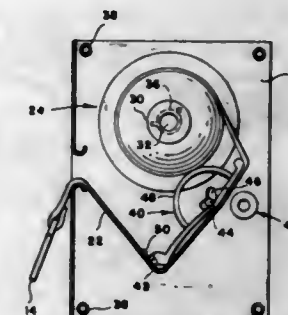


1. A device of the class described comprising an elongated frame made from rod stock and embodying coplanar spaced limbs, the rearward ends of the latter being bent upon themselves and forward into ring-like members,

each ring-like member being provided with a spider, said spider being rigid and centrally slotted, the slots on the respective spiders being aligned with each other to accommodate end portions of an attachable and detachable shaft which serves as a spool supporting and turning axle.

3,341,150

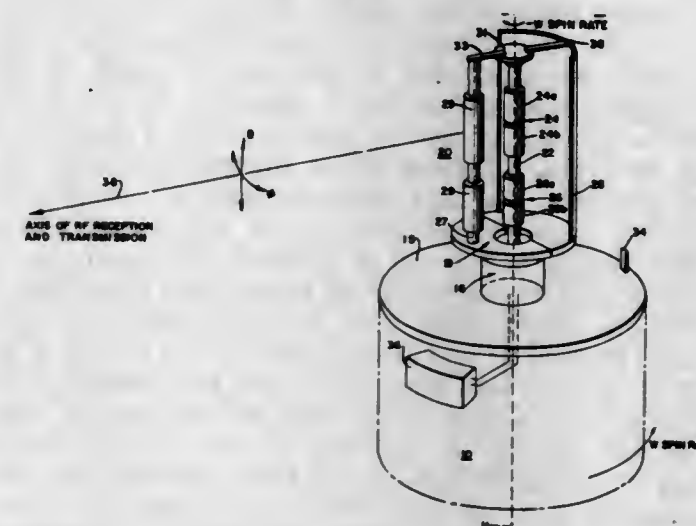
RETRACTABLE SAFETY BELT
Richard G. Board, Bethesda, Md. (3000 Connecticut Ave. NW., Washington, D.C. 20008), and Nelson H. Shapiro, Hyattsville, Md. (640 Washington Bldg., Washington, D.C. 20005)
Filed June 16, 1965, Ser. No. 464,369
29 Claims. (Cl. 242-107.2)



18. A retractable belt or the like comprising a retraction device, a strap connected to said retraction device for retraction and extension, a clamp having a moving clamp part and a fixed clamp part, means supporting said moving clamp part for translational movement between a first position and a second position and for pivotal movement, means training said strap between said moving clamp part and said fixed clamp part and reversely about said moving clamp part for exerting a force on said moving clamp part to cause it to translate from said first position to said second position, said moving clamp part being free to pivot and clamp said strap against said fixed clamp part when said moving clamp part is in said second position, and means for preventing pivotal clamping movement of said moving clamp part when said moving clamp part is in said first position.

3,341,151

APPARATUS PROVIDING A DIRECTIVE FIELD PATTERN AND ATTITUDE SENSING OF A SPIN STABILIZED SATELLITE
Abe Kampinsky, Lanham, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 23, 1965, Ser. No. 474,531
31 Claims. (Cl. 244-1)

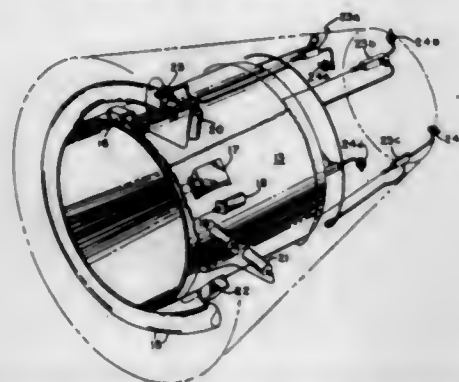


26. In a satellite adapted to spin about an axis, radiating means for communicating with a remote body, radiant

energy collimating means cooperating with said radiating means rotatable with respect to said axis, and means for rotating said collimating means at substantially the same angular velocity and in the opposite direction as the spin of said satellite.

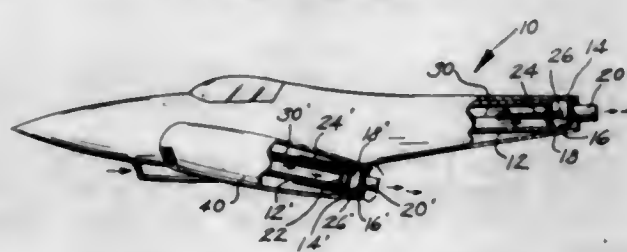
3,341,152 MEANS FOR AND METHOD OF CONTROLLING ATTITUDE OF RE-ENTRY VEHICLE

Arthur R. Kantowitz, Arlington, Merton Baron T. George, Melrose, and Herman Halpern, Lawrence, Mass., assignors to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 27, 1957, Ser. No. 688,801
5 Claims. (Cl. 244—3.22)



1. In a re-entry vehicle, an attitude control system comprising means for detecting deceleration of the vehicle and the existence of a low angle of attack relative to its trajectory, gyroscopic means for detecting oscillations in pitch and yaw of the vehicle relative to the trajectory, and damping means controlled by said first and second named means for producing periodic forces for damping oscillations of the vehicle.

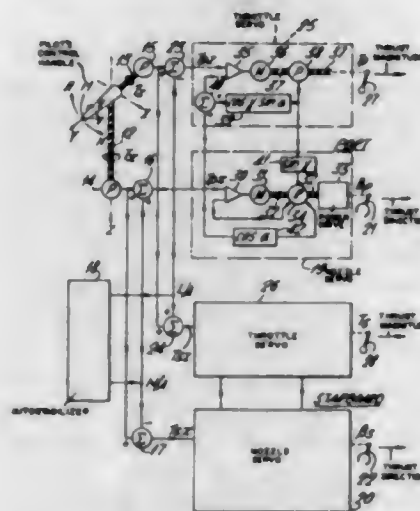
3,341,153 RUDDERLESS JET AIRCRAFT Sam Fatouras, The Surfside, 955 Foster Ave., Chicago, Ill. 60640 Filed Jan. 13, 1965, Ser. No. 425,286 1 Claim. (Cl. 244—52)



In a rudderless jet aircraft comprising, in combination, an aircraft having a plurality of jet engines, one of said jet engines being located within the tail of said aircraft, each of the other of said jet engines being located within a nacelle on either side of said aircraft, each of said jet engines having a rearward extending jet sleeve, the rear end of each of said jet sleeves having a plurality of cage members, a hollow sphere supported between said cage members, said cage members defining a support for retaining rotatably free said sphere, said sphere having a first opening at one end in communication with the interior of said jet sleeve, said jet sleeve being comprised of a first and second stage area, said first stage area being located forward of said second stage area, a venturi at the rear of each of said stage areas, said first opening being adjacent said venturi at the rear of said second stage, a second opening on said sphere, said second opening being diametrically opposite said first opening and communicating with one end of a tail pipe integrally secured to said sphere, said tailpipe comprising a cylindrical element having an opening at its opposite end for escape of exhaust gases from said jet engine, and control means

for rotating said sphere relative to said cage members, said control means comprising a pair of clamps received within a set of openings in said sphere, one end of a link chain secured to each of said clamps, a cable secured at one end of the opposite end of each of said link chains, the opposite ends of said cables extending to a pilot's cockpit on said aircraft.

3,341,154 CONTROL SYSTEMS FOR AIRCRAFT ENGINE INSTALLATIONS Kenneth Juster Howes, Cheltenham, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company Filed July 30, 1964, Ser. No. 386,282 Claims priority, application Great Britain, Aug. 1, 1963, 30,540/63 19 Claims. (Cl. 244—75)

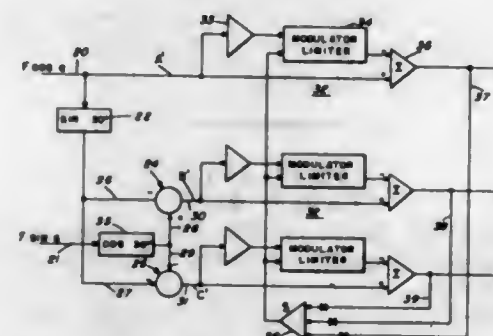


1. A control system for an aircraft engine installation of the kind in which thrust produced by the installation is controllable in both magnitude and direction for varying the components of the thrust that act along two mutually inclined axes, comprising: first means for supplying a first signal dependent upon demanded thrust magnitude parallel to a first of said axes; second means for supplying a second signal dependent upon demanded thrust magnitude parallel to the second of said axes; first and second servo systems for providing control outputs for controlling the thrust magnitude and thrust direction due to at least part of said engine installation; means for supplying said first signal as an input demand to said first servo system; and means for supplying said second signal as an input demand to said second servo system; said first servo system including feedback means responsive to said control outputs of both said first and second servo systems for providing degenerative feedback in said first servo system in accordance with a predetermined first function of both said thrust magnitude and thrust direction provided by the installation; and said second servo system including feedback means responsive to said control outputs of both the first and second servo systems for providing degenerative feedback in said second servo system in accordance with a predetermined second function of both said thrust magnitude and thrust direction provided by the installation.

3,341,155 VECTOR RESOLVER Stanley J. Rusk, Los Altos Hills, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy Filed Apr. 23, 1965, Ser. No. 450,563 35 Claims. (Cl. 244—77)

1. A vector resolver for determining the components of a vector in a non-orthogonal coordinate system comprising:

means to generate a signal analog representative of the vector;
means responsive to the vector analog to generate a number of signal analogs of the projection of the vector onto each of the axes of the non-orthogonal coordinate system;
separate subtracting means connected to the projection signal generating means for each projection;
separate output means connected to each subtracting means;
means connected to the output means to generate the sum of the absolute values of the output signals; and means connecting the output of the summing means to each of the subtracting means.

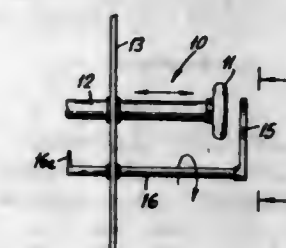


11. In a thrust vectoring control system for a rocket motor having a plurality of deflection means disposed at equal distances around the periphery of the rocket motor, forming thereby a non-orthogonal coordinate system having its origin on the longitudinal axis of the motor and its coordinate axes passing through each deflection means, a system to control the deflection means which comprises:
means to generate a vector error signal;
means to resolve the error signal into components along each of the non-orthogonal coordinate axes; and
means to actuate each deflection means in accordance with the component of the error signal along its respective non-orthogonal axis;
means connected to the vector generating means to provide a number of signal analogs of error signal vector projection onto each non-orthogonal coordinate axes;
a plurality of channels equal in number to the number of non-orthogonal coordinate axes, each connected to receive and process one of the projection signal analogs;
each channel including a subtracting means;
deflection control means connected to the output of the subtracting means;
means connected to the control means to monitor the control signal provided thereto;
means connected to the monitoring means to generate the sum of the absolute values of the control signals; and
means to provide the absolute value summation as one input of each subtracting means, a second input being provided by the respective projection signal analogs.

3,341,156 SAFETY CONTROL FOR AIRCRAFT LANDING GEAR

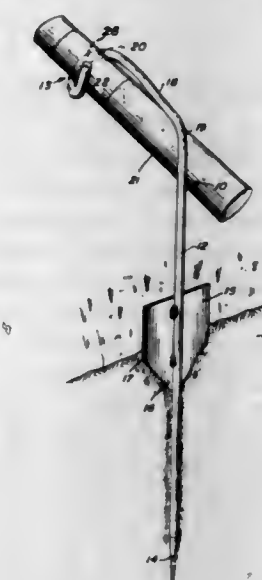
William R. Hirschson, 28 Orchard Drive,
New Canaan, Conn. 06840
Filed Oct. 23, 1965, Ser. No. 503,450
11 Claims. (Cl. 244—83)

1. A safety device to prevent landing an aircraft with retracted landing gear, comprising in combination a throttle control means, a landing gear control means, a locking means and a lockable means; one of said locking



the travel of said throttle control means only when the landing gear is retracted and an attempt is made to close the throttle control means to a landing setting, thereby preventing the throttle control means from being closed to said landing setting.

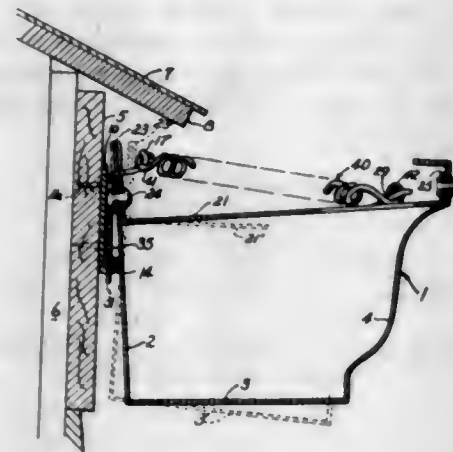
3,341,157 FISHING POLE HOLDER William J. Duncan, 805 Willow St., Kewanee, Ill. 61443 Filed Aug. 22, 1966, Ser. No. 574,080 2 Claims. (Cl. 248—42)



1. A fishing pole holder formed of a rod that is shaped to comprise a shaft portion, the upper end of the rod extending laterally away from said shaft portion at an angle of between about 100° and about 120° with respect to the longitudinal axis of said shaft portion to form a single bend with said shaft portion, the forward end of said lateral extension being shaped to form a simple curved hook open at the rear facing said bend, the distance between said bend and the farthest point on said hook from said bend being between 3 inches and 4 inches, said simple curved hook lying within a reference plane and following an arc having a slightly larger radius than the radius of the handle of a fishing pole of the type with which the holder is designed to be used, said lateral extension terminating at the outer end of said hook in a short upturned pole-gripping end portion extending away from the outer end portion of said hook at an acute angle with respect to said reference plane, the length of said upturned pole-gripping end portion being no greater than the approximate diameter of the handle of fishing poles of the type with which the holder is designed to be used, said lateral extension forming with said simple curved hook, said upturned pole-gripping end portion and said shaft portion a means for encircling a portion of the fishing pole handle, said hook being laterally displaced with

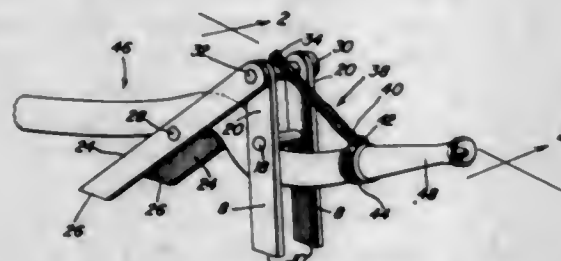
respect to said shaft so that the handle of a fishing pole may be supported upon said hook as a fulcrum, with the upper end of the handle being wedged against said upturned end portion of the lateral extension and the lower end of the handle being wedged, by the weight of the upper end of the fishing pole, against said bend connecting said shaft portion and said lateral extension.

3,341,158
GUTTER HANGER
Robert D. Landis, 501 Thayer Ave.,
Ashtabula, Ohio 44004
Filed Feb. 21, 1966, Ser. No. 529,038
2 Claims. (Cl. 248—48.2)



1. A hanger assembly for gutters of buildings wherein said gutters have a front wall and a rear wall, comprising: a mounting plate having a lower support socket and an upper hook formation and adapted to be secured to the side of the building; a brace member that has a first portion that spans the distance between the rear wall and the front wall of the gutter and is adapted to be secured to the walls at its respective ends, and a second portion forming a support that extends downwardly behind the rear wall of the gutter and having a means at its lower end for engaging the support socket of the mounting plate, and a hook formation in the first portion of the brace member near its forward end; and a resilient tie having its ends adapted to engage respectively the hook on the brace member and the hook on the mounting plate, whereby the brace member is supported on the mounting plate and carries the gutter while the resilient tie draws the gutter and brace assembly against the mounting plate in a yieldable fashion.

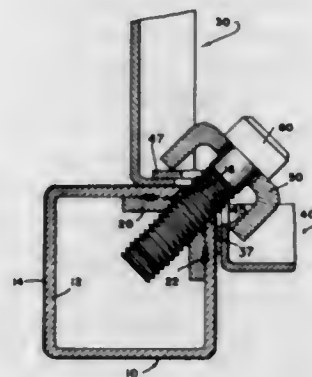
3,341,159
HOSE STAND
Edward W. Franssen, 2401 S. 9th St.,
Lincoln, Nebr. 68502
Filed Sept. 30, 1965, Ser. No. 491,577
5 Claims. (Cl. 248—83)



1. In combination, a conventional garden hose having the customary flexible and resilient properties, and a portable foldable hose-end supporting nozzle aiming stand comprising a first H-shaped leg frame embodying a pair of duplicate, oppositely spaced parallel legs

having corresponding median portions joined by a rigid integrally mounted rung, a second H-shaped leg frame complementary to said first named frame and likewise embodying a pair of duplicate oppositely spaced parallel legs having median portions bridged and joined by a rigid integrally mounted rung, the upper ends of the legs of the frames being overlapped and hinged together, said leg frames being spread apart and disposed in outwardly downwardly divergent relation with the lower ends of the legs suitably mitered and resting on a support surface, for example, a lawn surface, a portion of said hose-end being threaded between the legs of said leg frames and being bent over the rung of one leg frame and tensioned and bent under the rung of the other leg frame with a terminal end projecting beyond the latter rung and provided with a spray nozzle, and manually regulable means separably connecting said nozzle-equipped terminal end to an upper part of said stand.

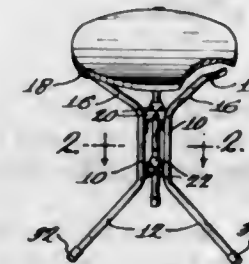
3,341,160
TABLE BASE
Lee B. Jones III, Jacksonville, Fla., assignor to Eversteady Table Company, Jacksonville, Fla., a corporation of Florida
Filed Aug. 4, 1965, Ser. No. 477,196
3 Claims. (Cl. 248—165)



1. A table base comprising: four spaced, vertical square-tube legs, each of said legs having a longitudinal slotted opening extending along one corner of said leg between opposite longitudinal extremities of said legs and each of said legs defining an aperture superimposed on the slotted opening adjacent an upper end thereof, decorative material overlying each of said legs, said decorative material having opposite ends extended into said slotted openings; angular pieces having apexes communicant with said slotted opening and defining threaded apertures communicant with apertures in said legs, said angular pieces welded to said legs and holding said slotted openings closed; a plurality of integral girders bridging said legs, said girders defining vertical portions, upper and lower horizontal portions extending laterally from said vertical portions, end portions extending perpendicular to said vertical and horizontal portions, from opposite longitudinal ends of said vertical portions, flanges fixed on said end portions in continuation of said girders remote from said vertical portions and parallel thereto, opposed flanges of girders overlying respectively opposed end portions, opposed flanges and end portions overlying said legs and cooperatively defining holes communicating with apertures in said legs;

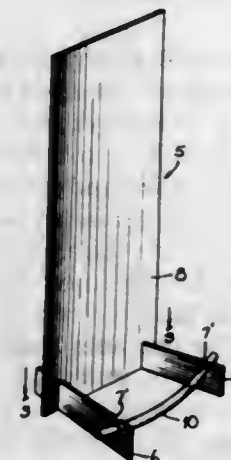
cap screws extending through apertures in said end portions and flanges and in said legs and engaging threaded apertures in said angular pieces; and clamps engaged by said cap screws urging said end portions and said flanges toward said legs.

3,341,161
TRIPOD STAND
Stephen V. Leonardo, 1128 Blanchard,
Downers Grove, Ill. 60515
Filed Oct. 14, 1965, Ser. No. 495,812
2 Claims. (Cl. 248—168)



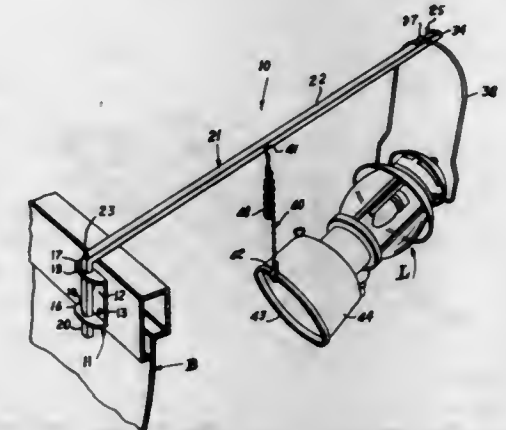
1. A tripod stand comprising three identical shaped tubes and six identical slightly flexible sheet metal clips, each said clip having a portion secured to a tube and a free standing tab in a plane normal to the axis of its tube, each said tab having a pair of perforations equally spaced from the axis of its tube, said clips being secured to said tubes in spaced pairs for each tube with their tabs parallel and in alignment such that all of said tubes with the clips thereon are identical, the three tubes with the clips thereon being arranged in side by side contiguous relationship with the tab perforations of the center tube in alignment with tab perforations of the outside tubes, fastening elements extending through the aligned perforations to articulate the outside tubes to the center tube, said outside tubes being hinged about said fastening elements to align the remaining tab perforations, and fastening elements extending through the last said perforations to form a rigid tripod structure.

3,341,162
COMPACT STAND
Hyman Ruchlis, Brooklyn, N.Y., assignor to Harcourt, Brace & World, Inc., New York, N.Y., a corporation of New York
Filed Nov. 12, 1965, Ser. No. 507,510
4 Claims. (Cl. 248—174)



1. A compact stand for display materials including a pair of elongated angularly disposed legs, each of said legs having a pair of spaced slots therein, a display board means mounted on said pair of legs in one of said slots in each of said legs, said display board having a pair of spaced slots in the base thereof each receiving one of said

3,341,163
LANTERN HANGER
Henry T. Honig, 5330 Royal Lane,
Dallas, Tex. 75229
Filed Sept. 2, 1965, Ser. No. 484,573
6 Claims. (Cl. 248—291)



1. A lantern hanger including: a support bracket securable to a boat; a rod having a vertical end portion securable to the bracket and a shank portion extending angularly upwardly from the upper end of the end portion; a spring clip secured to the top end portion of the shank portion and extending inwardly thereover, said shank portion and said spring clip having aligned recesses for receiving the bail of a lantern therein to be held thereby; and a chain having one end secured to the shank portion intermediate its ends and having means at its lower end thereof for holding the bottom of a lantern.

3,341,164
DEVICE FOR SUPPORTING AN ARCUATE SURFACE
Fred B. Ewing, Jr., 677 Neck Road,
Tiverton, R.I. 02878
Filed Oct. 22, 1965, Ser. No. 501,870
2 Claims. (Cl. 248—354)

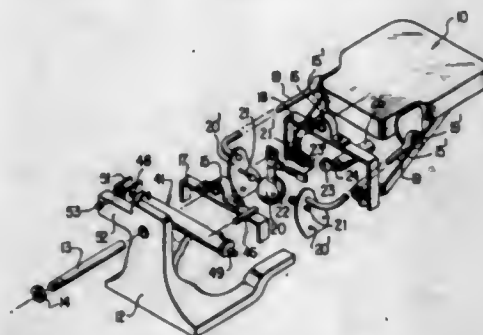


1. A device for supporting arcuate surfaces comprising a flexible plate to shape itself generally to the surface engaged, a fixed supporting body, a bracket pivoted on said supporting body and arms pivoted on said bracket engaging said plate at a plurality of points for supporting said plate and permitting adjustment thereof to the surface engaged.

3,341,165
AUTOMATIC LEVELING SEAT FOR TRACTORS AND THE LIKE
Ora Quinton Taylor, Rte. 3, Trenton, Tenn. 38382
Filed Sept. 8, 1965, Ser. No. 485,719
3 Claims. (Cl. 248—376)

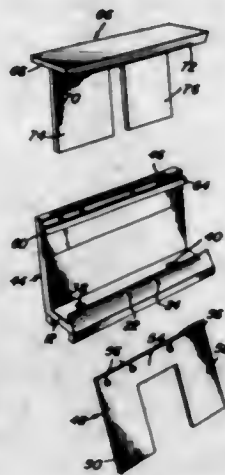
1. A self-leveling seat for tractors and the like comprising a main mounting bracket, a supporting shaft on said bracket projecting horizontally beyond one side

thereof, a seat structure rotatably suspended from said shaft for tilting movement laterally in either direction on the axis of said shaft, the center of gravity of said seat being spaced below the axis of said shaft, a cylinder-piston unit extending transversely of said shaft and including a cylinder and a single double-acting piston therein having piston rod extensions projecting through the ends of said cylinder, means forming a pivotal connection between said cylinder and seat structure, means forming another pivotal connection between one piston rod extension and said main mounting bracket, a control valve casing rigidly mounted upon the seat structure and having a pair of passages, flexible hydraulic lines interconnecting said pas-



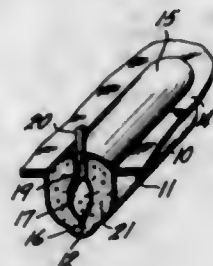
sages with the ends of said cylinder on opposite sides of said single piston, a rotary valve element in said valve casing having a pair of angularly spaced cross ports, said valve casing having a pair of cross passages interconnecting said first-named passages and each adapted for alignment with one of said cross ports to complete a hydraulic circuit in one direction only with said cylinder-piston unit, opposed check valve means in said cross passages of the valve casing on opposite sides of the valve element, a pendulum weight suspended pivotally from said shaft, and gearing interconnecting said weight and rotary valve element.

3,341,166
SELF-ADJUSTING BOOK HOLDER
Arthur C. Forrester, Rte. 262, Lockhart, Ala. 36455
Filed Sept. 9, 1965, Ser. No. 486,056
14 Claims. (Cl. 248-448)



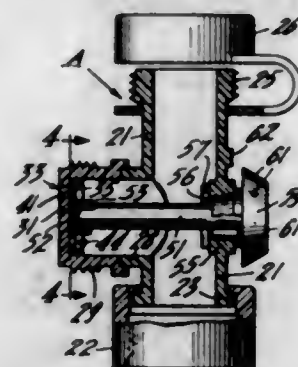
1. An improved self-adjusting book holder comprising base means adapted to support a book thereon, means for retaining a book on said base means, vertically adjustable top means for receiving books of various heights in said book holder, and resilient means for applying pressure across the width of the back of a book supported in said base means thereby fixedly holding the book open in the holder whereby a book may be inserted within the holder to be supported in an open position thereby without separate manipulation of said resilient means.

3,341,167
FRANKFURTER BUN BAKING RECEPTACLE
William C. Weiss, R.D. 1, Box 52,
Hershey, Pa. 17033
Filed May 13, 1964, Ser. No. 367,023
4 Claims. (Cl. 249-66)



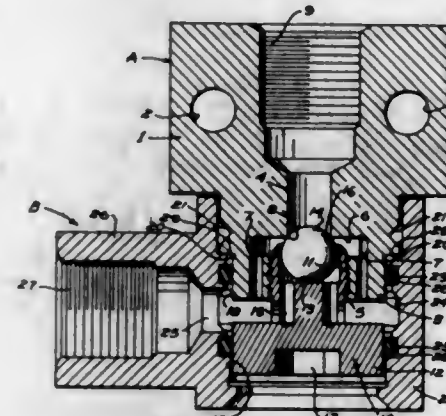
1. A baking receptacle comprising a support for a quantity of material to be baked, said support being elongated and formed with a longitudinal fin, an elongated cavity formed in the central portion of the fin and provided with apertures therein, the peripheral portion of the fin extending outwardly of and surrounding the cavity, the central portion of the fin in which the cavity is formed protruding outwardly from the remainder of the fin, means to introduce air under pressure into the cavity, and a co-operating receptacle portion adapted to receive the support and form an enclosure to shape the baked material.

3,341,168
APPARATUS FOR THE CONTROLLED DISTRIBUTION OF LIQUIDS
Thurston H. Toepfen, Lols Lane, R.D. 3,
Poughkeepsie, N.Y. 12603
Filed Mar. 25, 1964, Ser. No. 354,535
2 Claims. (Cl. 251-148)



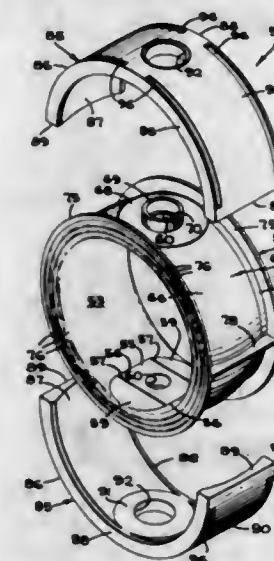
1. A distributing device for use with a liquid conveying line, comprising a hollow body member having connections for attaching sections of said conveying line to and from a source of supply of liquid, a tubular branch member formed on said body member and provided with a male screw thread connection for a branch section of said conveying line, a valve seat in the terminal end of said branch member, said valve seat having an off center discharge orifice communicating with the interior of said body member, a valve element rotatably operable against said valve seat, said valve element having a series of control orifices of different sizes for selective registration with said discharge orifice, a stem extending through said hollow body member and extending beyond said body member, said stem being slidably connected to said valve element in keyed relationship thereto, to provide for separation of the valve element from the valve seat, to permit washing out of dirt which may be carried into said body member, and handle means on said stem outside said body member for rotating said valve element on said valve seat to bleed off controlled amounts of liquid from said body member.

3,341,169
FILLER VALVE
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of William F. MacGlashan, Jr., Pasadena, Calif.
Filed Nov. 24, 1964, Ser. No. 413,661
7 Claims. (Cl. 251-148)



1. A filler valve, comprising:
(a) a valve body having a screw threaded socket at one end defining a valve chamber, a valve seat at the inner end of said socket, a bore continuing from said valve seat forming an outlet at the opposite end of said valve body, and a flow passage from said valve chamber to said one end of said valve body;
(b) a valve carrier having a stem screw threaded in said socket and a head confronting said one end and spaced therefrom;
(c) a valve element carried by said stem for engaging said valve seat;
(d) said valve body and said valve carrier head having coaxial external cylindrical seal ring surfaces of equal diameter;
(e) a removable open ended sleeve having a pair of seal rings engaging said surfaces and means defining an inlet passageway between said seal rings and communicating with the space between said one end and said head;
(f) and means for operation of said valve carrier.

3,341,170
VALVE
Gordon C. Housworth, Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 25, 1964, Ser. No. 354,684
24 Claims. (Cl. 251-306)

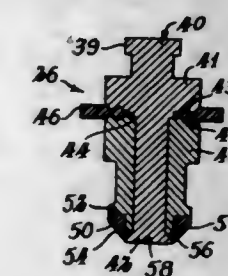


11. In a valve including a valve body having a circumferential internal wall surrounding a flow passage; a diametrically resiliently expandable and contractible unitary

seat assembly within said wall and including seat means of resiliently compressible and expandable material extending about the passage and seat retaining means of rigid material attached to the seat means for maintaining said seat means in a substantially predetermined geometric shape whereby fluid pressure in the flow passage is transmitted to and directed against the wall by the seat means and the seat retaining means, said seat retaining means extending substantially the entire circumference of the seat means, said seat retaining means being radially split and thereby providing a pair of closely adjacent, confronting and axially extending end edges movable toward and away from each other when the seat assembly contracts and expands respectively, said seat retaining means having a width dimension extending axially of the seat means, said seat retaining means being unyielding to forces tending to axially compress or expand said seat retaining means; and flow control means within the seat means.

19. A unitized seat assembly for a butterfly valve, comprising a continuously generally annular seat of resiliently compressible material having an inner surface defining a flow passage and an outer surface spaced radially outward from said inner surface; and a generally annular retainer including a plurality of separate rigid arcuate segments fitted about and bonded to the outer surface of the seat, said segments having opposite sides and opposite ends with the adjacent ends of adjacent segments being in spaced relation to each other, said segments being thereby in cylinder-forming relation and being radially movable to increase or decrease the diameter of the cylinder formed thereby.

3,341,171
CONTROL VALVE
Paul L. Tjossem, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa
Filed Nov. 16, 1964, Ser. No. 411,349
2 Claims. (Cl. 251-335)



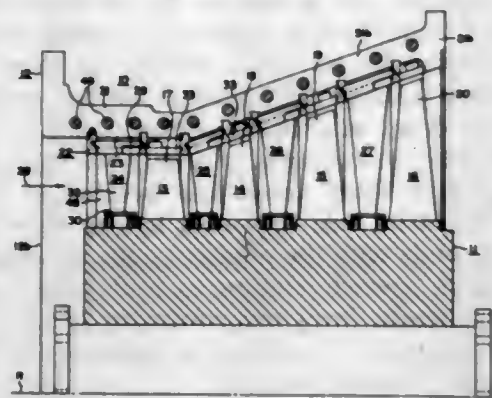
1. In a valve mechanism, the combination of a valve body, means defining a fluid flow passage in said valve body, means defining a valve seat in said valve body, a disc holder and diaphragm subassembly in said valve body disposed in an opening in said valve body which communicates with said flow passage and said valve seat, said subassembly comprising a disc holder having an enlarged portion, a reduced abutment shoulder providing a radially disposed surface and a transverse surface and an elongated rod-like portion, an annular diaphragm carried on said disc holder, a sleeve member carried on said elongated rod-like portion and engaging said diaphragm, the inner periphery of said diaphragm engaging said abutment shoulder and being compressed between said enlarged portion on said disc holder and said sleeve member, said sleeve member abutting said radially disposed surface on said abutment shoulder to prevent excessive compression of said diaphragm, a washer on the end of said rod-like portion defining a recess in cooperation with said rod-like portion, a valve disc carried in said recess for selectively engaging said valve seat to control the flow of fluid through said flow passage, the end of said rod-like portion being staked to secure the components of the

subassembly together, bonnet means threadedly secured to said valve body for securing said subassembly in the opening in the valve body and for abutting and compressing the outer periphery of said diaphragm to seal said opening in said valve body, and handle means including a valve stem rotatively engaged with said bonnet means and operatively connected with said subassembly for reciprocating said subassembly and said valve disc carried thereon toward and away from the valve seat to regulate flow through said flow passage.

3,341,172

FLUID MACHINE CASING SEALING STRUCTURE
Thomas J. Rahaim, Claymont, Del., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 24, 1965, Ser. No. 466,661
12 Claims. (Cl. 253-39)

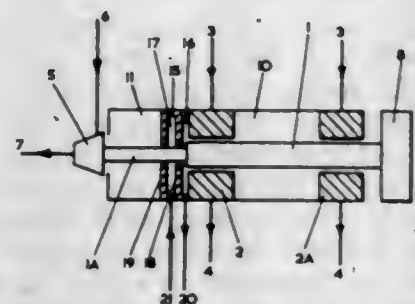


1. A tubular casing structure divided in an axial plane into an upper casing half portion and a lower casing half portion, said casing portions having planar surfaces mating with each other along said axial plane, ring structure disposed in said casing structure and divided into at least two arcuate portions of less than 180 degrees and disposed in peripherally spaced relation with each other, and means interposed in at least one space between said arcuate ring portions for providing a seal restricting flow of pressurized fluid therepast, said means including a block having a planar face disposed in said axial plane and a resilient seal strip interposed between said block and one of said arcuate ring portions.

3,341,173

APPARATUS EMPLOYING GAS BEARINGS
Michael E. Garrett, Addlestone, Surrey, England, assignor to The British Oxygen Company Limited, a British company

Filed Feb. 25, 1966, Ser. No. 530,144
Claims priority, application Great Britain, Mar. 4, 1965, 9,328/65
2 Claims. (Cl. 253-39)



2. A high speed expansion turbine comprising a gas bearing, a rotatable shaft supported in said gas bearing, a rotor mounted on the shaft, a chamber interposed between the rotor and the bearing, and guard means adjacent to

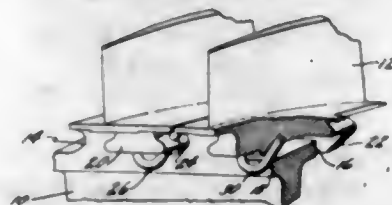
said bearing, said guard means comprising two pockets surrounding the shaft in axially spaced relationship; a first means being provided for maintaining in the pocket proximate to the bearing a gas pressure not exceeding the limiting end pressure of the bearing, and a second means being provided for maintaining in the pocket proximate to the chamber a pressure substantially equal to that in the chamber.

3,341,174

BLADE LOCK

Frank B. Manning, Vernon, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Feb. 27, 1967, Ser. No. 618,963
9 Claims. (Cl. 253-77)



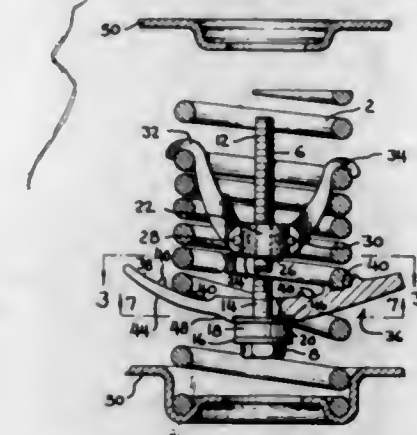
1. A rotor assembly for a turbomachine comprising a disc having blade receiving slots in the periphery thereof extending generally axially from the first side of said disc to the second side, and removable blades including a root portion slidably mounted in said slots, wherein the improvement comprises:

one end of said root portion having stop means, the stop means abutting said first side of said disc, the root end remote therefrom extending axially beyond said slot, said axially extending end having at least two passages positioned obliquely with respect to one another, said passages extending generally parallel to the plane of said disc and being in abutting relationship to said second side of said disc; and a deformable, substantially U-shaped member extending into said oblique passages, the portions of said U-shaped member which extend from said oblique passages beyond said root end abutting said second side of said disc so that said blade cannot move axially after said U-shaped member is inserted.

3,341,175

SPRING COMPRESSION TOOL

Charles E. Branick, P.O. Box 1937,
Fargo, N. Dak. 58103
Filed Sept. 30, 1965, Ser. No. 491,793
13 Claims. (Cl. 254-10.5)



1. In a device for shortening a helical spring for insertion between and removal from spaced spring seats, said device comprising spaced means for engaging the coils of the spring at points removed from the end coils and having means coaxial with the axis of the spring, shorter than the spring when the spring is under maxi-

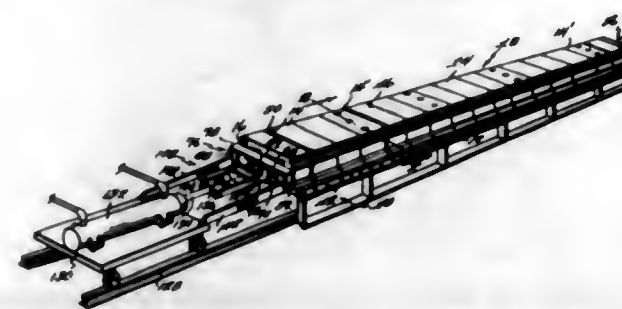
mum expected contraction and completely within the coils of the spring for moving the spaced means toward each other along a path parallel to the axis of the spring, one of said spaced means comprising a bifurcated fork, said fork having a concave upper surface, said upper surface including a plurality of spaced projections thereon, said projections extending in substantially parallel relation with each other.

3,341,176

APPARATUS FOR IMPARTING TENSION TO A REINFORCING CABLE OF U-SHAPED CONFIGURATION

Wayne C. Hart, Hyde, Md., assignor to Baltimore Concrete Plank Corp., Baltimore, Md., a corporation of Maryland

Original application Jan. 22, 1964, Ser. No. 339,506, now Patent No. 3,283,457, dated Nov. 8, 1966. Divided and this application June 2, 1966, Ser. No. 567,026
1 Claim. (Cl. 254-29)



An apparatus for imparting tension to a cable extending through a longitudinal passage in a plank formed by an aligned row of preformed concrete blocks, said cable being in the form of a generally U-shaped loop having an open end portion defined by the leading and trailing ends of the cable extending beyond one end of said passage and a closed end portion extending beyond the other end of said passage, said apparatus comprising in combination: a tubular member including an arcuate surface means to engage the closed end portion of the cable loop and restrain said closed end portion against longitudinal movement relative to said passage; gripping means for gripping the leading and trailing ends of said cable defining the open end portion of the loop at said one end of said passage; movable means positioned adjacent said one end of said passage; ram means connected to said movable means and mounted for longitudinal movement relative to said passage and said movable means, said ram means operatively engaging said gripping means; a reaction force transmitting means carried by said movable means operatively engaging the endmost block at said one end of said passage whereby movement of said ram means away from said one end of said passage when said ram means is in operative engagement with said gripping means will simultaneously impart tension to said cable and longitudinal compression to said plank through said reaction force transmitting means.

3,341,177

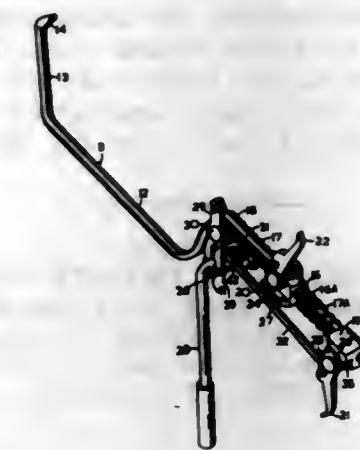
WIRE STRAINERS

Reginald Vincent Weise, Narran Plains, Walgett,
New South Wales, Australia

Filed Oct. 29, 1965, Ser. No. 505,617
Claims priority, application Australia, Dec. 31, 1964, 53,487/64
2 Claims. (Cl. 254-73)

1. A wire strainer comprising a generally U-shaped bar including an elongated base and two upright arms on the base, one of said arms having a free end and including a hook thereat, the other of the arms including an extension extending away from said base substantially parallel thereto, first and second spaced blocks slidably

mounted on said extension, each block including a flange having a planar surface constituting an anvil, a camming member pivotally mounted on each block for gripping a wire located on such anvil, an operating lever pivotally mounted on said extension, and bars connected to said lever and to a respective camming member such that upon pivotal movement of the operating lever in opposite directions, said camming members alternately engage and disengage the wire on the anvils while simultaneously moving the blocks towards and away from each other on said extension, each camming member having a convex surface for gripping the wire, and a groove which



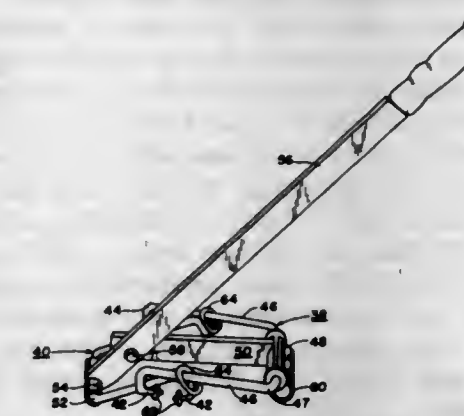
is part circular in cross-section and which extends along and into said surface, said groove having a width at said surface which is smaller than the diameter of the wire, a stop member secured to said extension proximate the location where it is joined to said other arm, said operating lever being pivotally connected to said stop member, a handle connected to said lever to operate the same, said handle being pivotally connected to said operating lever, and means for locking the handle to the lever in an operating position longitudinally of said lever and means to release it for pivotal movement parallel to said extension to a retracted inoperative position.

3,341,178

SINGLE-THROW LEVER TOOL FOR JOINING FLANGED SPLIT-BAND ELEMENTS

Norris E. Cott, 3201 Mayflower Drive,
Pittsburgh, Pa. 15227

Filed June 28, 1966, Ser. No. 561,233
6 Claims. (Cl. 254-79)

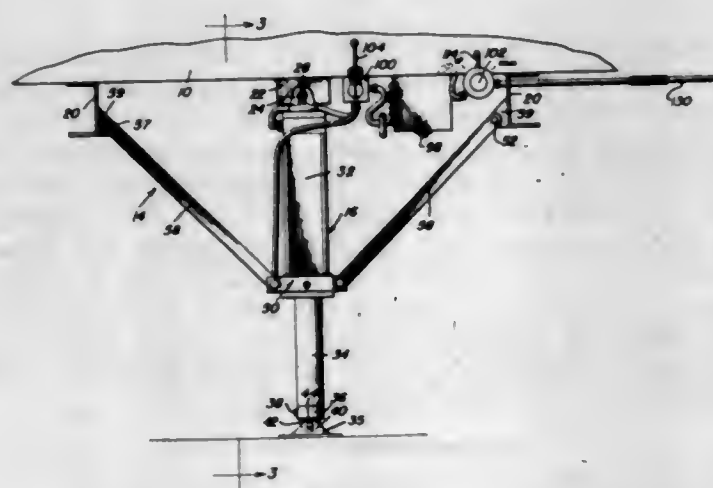


1. A clamping tool for forcing flanged ends of a splitting member into close abutting relationship where they may be fastened together, comprising first generally C-shaped hook means having a first relatively short portion adapted to fit into an opening in a flange on an end of the split-ring member on the side of the flange opposite the opposing end of the split ring, said first hook means also having a second relatively short portion at generally right angles to the first portion and a long third shank portion generally parallel to the first portion, second

generally C-shaped hook means having a first relatively short portion adapted to fit into an opening in a flange on the other end of the split-ring member on the side of said last-mentioned flange opposite the first-mentioned flange, said second hook means also having a second relatively short portion at right angles to its first portion and a relatively long third shank portion parallel to the first portion, the shank portions of the first and second hook means being crossed, a handle member pivotally connected to the end of the shank portion of the first hook means opposite said first portion, and a linkage pivotally connected at its opposite ends to the handle member and the end of the shank portion of the second hook means opposite said first portion, the arrangement being such that rotation of the handle member in one direction about its connection to the first hook means will draw the first portions of the hook means together while rotation in the opposite direction will cause the first portions to separate.

3,341,179

HYDRAULIC JACK TRAILER SUPPORT
Clowe Bernard Smith, West Monroe, La.,
(910 N. Howard St., Carlsbad, N. Mex. 88220)
Filed July 22, 1964, Ser. No. 384,294
5 Claims. (Cl. 254—86)



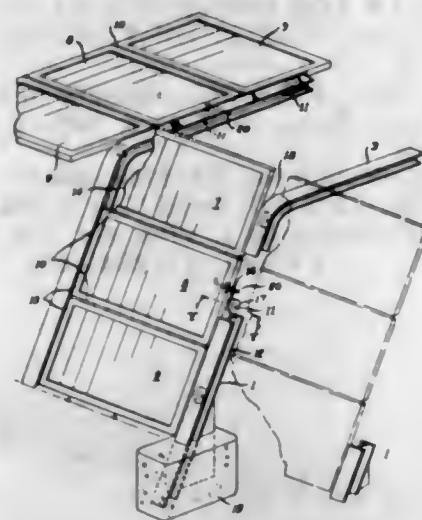
1. A trailer retractable supporting means comprising a leg assembly mounted upon a trailer and projecting downwardly below the trailer bed, said leg assembly including longitudinally telescoping, upper and lower leg sections, said upper leg section comprising a hydraulic cylinder, mounting means securing the cylinder upper end to said trailer, said lower leg section including a piston slidable in said cylinder and a ground engaging foot member, hydraulic actuating means connected to said cylinder at opposite ends of said piston and effecting positive movement of the latter inwardly and outwardly of said cylinder, said actuating means comprising hydraulic fluid tank means, conduits connecting said tank means to said cylinder at opposite ends of said piston, a control valve reversibly and alternately connecting said conduits to said tank means, a source of air pressure, pressure valve means selectively connecting said tank means to said source and venting said tank means to the atmosphere.

3,341,180

COMBINED WALL AND AWNING STRUCTURE
John C. Dashio, Gibsonia, Pa., assignor of thirty-three and one-third percent to William B. Jaspert, Pittsburgh, Pa.
Filed July 21, 1965, Ser. No. 473,788
4 Claims. (Cl. 256—1)

4. A combined barrier and roof structure for enclosing swimming pools, patios and like areas comprising a plurality of horizontally spaced uprights unsupported by and

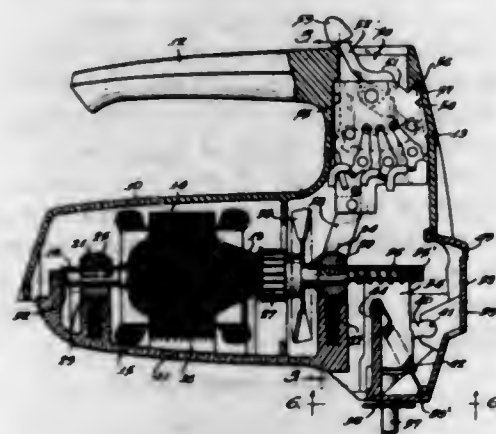
unattached to any super-structure and spaced around a substantial portion of a given area, each of said uprights having guideways for supporting articulated panel members each of which extends between adjacent pairs of said uprights for movement between a substantially vertical position substantially enclosing such area and a substantially horizontal position permitting unimpaired movement into such area and providing shade areas therebeneath, said guideways extending generally vertically up-



wardly from the bottom of the uprights and terminating in rafter portions extending in a generally horizontal direction, each of said panel members consisting of hinged joined sections having roller supports extending from the sides thereof slidably received in the guideways of said uprights, said panel members thereby providing barriers in their down position and a sloping roof in their up position.

3,341,181

EJECTOR MECHANISM FOR MIXER
Worthy L. Chambers, Wilmette, and James A. Wright, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Original application Mar. 27, 1964, Ser. No. 355,171, now Patent No. 3,271,013, dated Sept. 6, 1966. Divided and this application Mar. 3, 1966, Ser. No. 531,388
2 Claims. (Cl. 259—1)

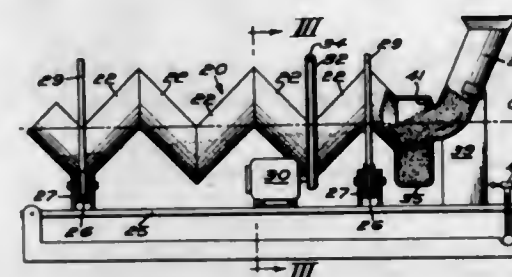


1. In a hand mixer, a casing comprising an elongated recessed lower housing member, a pair of hollow bearings integrally formed on said housing member adjacent the front end thereof, said bearings being disposed perpendicular to the lengthwise axis of said housing member, said front end and the bottom portion of said housing member adjacent said front end being open to expose the front and bottom of said bearings, a pair of beater shafts positioned in said bearings, a shoulder formed on said shafts beneath said bearings, a one-piece member for ejecting said beater shafts and closing said open bottom

portion and front end, said one piece member being generally L-shaped, the base portion of said L-shaped member being positioned in said open bottom portion between said bearings and shoulders, and the other portion of said L-shaped member being positioned ahead of said bearings, engageable pivot bearing means integrally formed on said housing member and said L-shaped member for pivotally mounting said L-shaped member on said housing member, and a spring interconnecting said housing member and L-shaped member, said spring retaining said pivot bearing means engaged and biasing said L-shaped member to non-ejecting position.

3,341,182

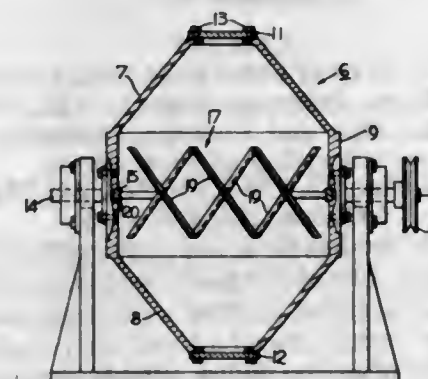
MATERIALS FEEDING AND BLENDING
John J. Fischer, East Stroudsburg, Pa., assignor to The Patterson-Kelley Co., Inc., East Stroudsburg, Pa.
Filed Apr. 10, 1962, Ser. No. 186,469
10 Claims. (Cl. 259—3)



1. A materials handling machine comprising a single container of generally tubular form through which material is to be transported from a feed supply to a point of discharge, said container being of zig-zag overall configuration in one plane while being of straight line form in a plane at right angles thereto, said container terminating at one end thereof in a discharge spout portion, said container including an eccentrically mounted feed inlet drum at the other end of said machine, gravity feed means disposed to feed material into said drum, means for rotating said container about its longitudinal axis, and means for adjusting the inclination of said longitudinal axis relative to the base support of said machine.

3,341,183

BATCH BLENDER
Bertil H. Bergstrom, Milwaukee, Walter W. Edens, Wauwatosa, and Eugene Revolinsky, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 22, 1966, Ser. No. 573,966
4 Claims. (Cl. 259—89)

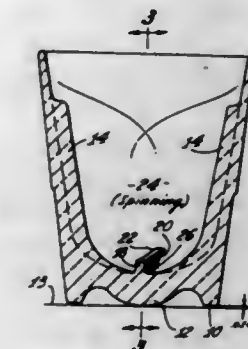


1. A blender for mixing material comprising: a container having a selectively closable opening for the material to be mixed; means for mounting said container for rotation about an axis; a splitting bridge supported

within said container in a position dividing said container into compartments on opposite sides of said bridge, said bridge having a plurality of oppositely directed deflecting means disposed at angles other than 90° with said axis and defining material passageways between said compartments; and means for rotating said container and said bridge.

3,341,184

ROTARY RECEPTACLE FOR MIXING LIQUIDS
Ted F. Merrill, 6020 Acacia, Los Angeles, Calif. 90026
Filed July 26, 1966, Ser. No. 567,996
12 Claims. (Cl. 259—81)



1. Means for mixing action on a liquid mixture, comprising:

an upright receptacle to contain a body of the liquid mixture, said receptacle being small to permit the receptacle to be spun on its axis by hand manipulation, the receptacle having an exterior axially projecting bottom portion on which it may be spun to rotate about its axis,

the receptacle having exterior prop means surrounding the projecting bottom portion at a higher level than the projecting bottom portion to cooperate with the projecting bottom portion to maintain the receptacle in a tilted liquid-holding position when the receptacle is at rest, said exterior prop means being radially outward from the center of gravity of the tilted receptacle,

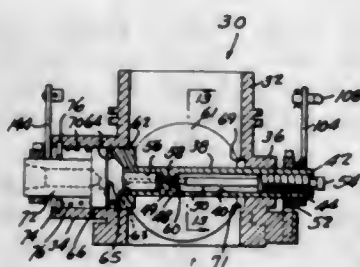
the mass of the receptacle relative to its volumetric capacity being high whereby when the receptacle is rapidly rotated on its axis the receptacle spins on said axial portion like a top and has sufficient inertia to rotate for a sufficient time period to impart substantial rotation to the liquid mixture so that when the receptacle decelerates to come to rest at a tilted position, the liquid mixture continues to rotate, whereby a rotational force briefly applied to the receptacle results in a mixing operation comprising a first stage in which the rotation of the receptacle exceeds the rotation of the liquid mixture and a second stage initiated while the receptacle is decelerating in which the rotation of the mixture exceeds the rotation of the receptacle.

3,341,185

FUEL INJECTOR
Walter L. Kennedy, Sr., 6039 Rolton Court, Waterford, Mich. 48095
Filed July 29, 1966, Ser. No. 568,834
9 Claims. (Cl. 261—41)

1. A fuel injector comprising an open ended tube having a continuous side wall, a butterfly valve shaft journaled through said side wall at one side of the tube and having a butterfly valve extending across the interior of the tube, said valve shaft having throttle accommodating lever means on its outer end, and adjustable idle stop

means engageable with a part of said tube, said valve shaft having a first longitudinal bore opening to its outer end and a second longitudinal bore opening to its inner end, the part of the valve shaft between these bores being solid and formed with a reduced diameter idler fuel passage communicating with the bores, said part having a needle valve seat at its outer end, a needle valve threaded in said first bore and having a point cooperating with said valve seat, an enlarged diameter head on the inner end of the valve shaft, a lateral tubular boss on the side of the tube remote from the valve shaft, said boss having a bore larger in diameter than said valve shaft in which said head is journaled, said head being formed in the end thereof remote from the valve shaft with a frusto-conical recess and with an annular idler fuel recess surrounding and communicating with the smaller end of the frusto-conical recess, a fuel metering rotor slidably and rotatably journaled in the bore of the boss and having a frusto-conical inner end rotatably and conformably engaged in said frusto-conical recess, said rotor having a reduced diameter axial solid boss on its inner end, said solid boss being journaled in the second bore of the valve shaft and being circumferentially spaced from the side of said annular idler fuel recess, passage means providing communication between said second valve shaft bore and said idler fuel recess, a snap ring fixed in the bore of the tubular boss, a coil spring circumposed on the rotor and compressed between the ring and a part of the rotor and maintaining engagement of the frusto-conical end of the rotor in said frusto-conical recess, a reduced diameter



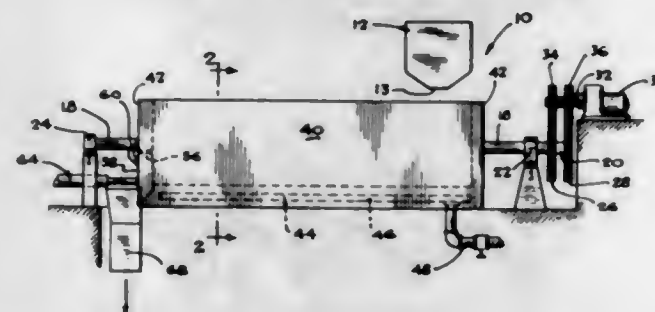
axial fuel inlet nozzle on the rotor and extending out of the bore of the tubular boss, adjustable rotary positioning means fixed on the said nozzle outside of the tubular boss, said positioning means being adapted to be operatively connected to control means, first fuel passage means traversing said rotor and providing communication between the bore of said nozzle and said frusto-conical end of the rotor, and second fuel passage means traversing the head on the valve shaft and providing communication between said frusto-conical recess and said annular idler fuel recess, said second passage means comprising at least two circumferentially spaced passages with which said first passage means is adapted to be registered in different rotated positions of said butterfly valve shaft.

9. A device of the character described, comprising an open-ended tube having a side wall, a butterfly valve shaft journaled across the tube, a butterfly valve fixed on the butterfly shaft, said valve having a peripheral edge working close to the wall of the tube, said tube being formed with a pair of internal circumferentially extending air idler grooves, said grooves being disposed substantially in a plane positioned at right angles to the axis of the tube, means for positioning the butterfly valve in a subnormal idle position, in which it covers one of said grooves and uncovers the other, means for rotating the valve from said subnormal position to and through a conventional idle position in which it uncovers the said one groove and covers the other, said valve shaft having a main fuel passage and an idler fuel passage, and a fuel metering rotor rotatably mounted with respect to the shaft and having a fuel feed passage registrable with said

main and idler fuel passages at relatively different angular positions of the rotor and shaft but so positioned as to register only with said idler fuel passage during the entire arc of rotation of the butterfly valve extending between said subnormal and conventional idle positions, said grooves serving to provide constant air flow around the edge of the butterfly valve as the butterfly valve is rotated from its subnormal idle position to its conventional idle position.

3,341,186 MATERIALS HEATING AND HANDLING APPARATUS

Donald M. Hoffman, Chicago, Ill., assignor to General Refractories Company, Philadelphia, Pa.
Filed Apr. 28, 1965, Ser. No. 451,599
8 Claims. (Cl. 263-25)



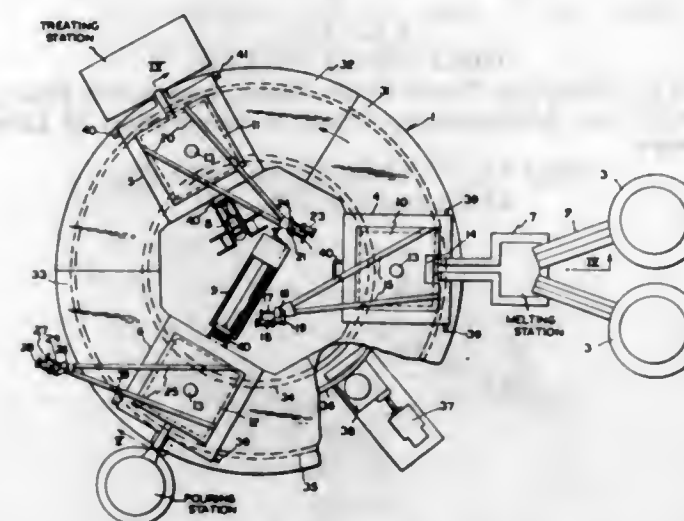
1. An apparatus for particulate materials comprising: a trough to support said materials therein; means to apply heat to said trough and thereby to the materials therein; a shaft rotatably supported in said trough; a first blade helically disposed about and affixed to said shaft in a first flight direction, said first blade terminating in a first base cylinder; a second blade helically disposed about and affixed to said shaft in flight direction opposed to said first flight direction, said second blade extending radially from said first base cylinder and terminating in a second base cylinder; a plurality of plate elements affixed to said shaft defining helical segments at intervals therealong, and means for adjusting the angle of said plate elements, the flight direction of said plate elements being substantially the same as the flight direction of said first blade whereby the materials in said trough will be circulated in one direction by said second blade and in another direction by the combined action of the first blade and the plate elements, the volume of materials movement in each direction being substantially the same and flow being in equilibrium in said troughs to provide for continuous movement of the particulate materials within the heating chamber to uniformly heat the particulate materials and to provide for discharge from the heating troughs in a continuous manner or in incremental portions.

3,341,187 APPARATUS FOR HANDLING MOLTEN METAL

Clifford M. Luna, Jefferson County, Ala., assignor to United States Pipe and Foundry Company, Birmingham, Ala., a corporation of New Jersey
Filed Mar. 22, 1965, Ser. No. 441,792
4 Claims. (Cl. 266-38)

1. Apparatus for handling hot metal comprising metal melting facilities, a turntable positioned adjacent the melting facilities, a receiving station, a treating station and a pouring station evenly spaced around the periphery of the turntable, three open top ladles tiltably mounted on the turntable and evenly spaced thereon so that when any ladle is positioned at any of said stations the other two ladles will be positioned at the other two said stations, drive means for rotating the turntable to successively position each of said ladles at each of said stations, means provided at the receiving station to control the flow of metal

from the melting facilities to a ladle positioned at the receiving station, means provided at the pouring station for tilting a ladle positioned thereat to discharge its contents,



and a ladle cover provided at each of said stations to reduce heat loss from the open tops of the three ladles while positioned at the stations.

3,341,188 REFRACTORY-LINED BLAST FURNACE TUYERE

Frank K. Armour, Olympia Fields, Ill., and Robert E. Touzalin, Aurora, Ohio, assignors to Interlake Steel Corporation, a corporation of New York
Filed June 3, 1965, Ser. No. 460,896
16 Claims. (Cl. 266-41)



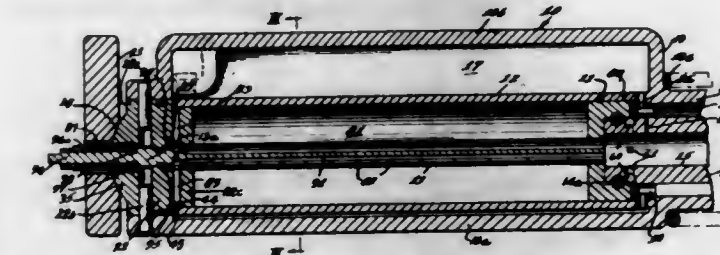
1. A tuyere comprising, a sleeve-like member having inner and outer side walls defining a cooling chamber therebetween, said inner wall defining an axially extending blast passageway through the tuyere, said inner wall having an interior circumferential recess therein extending for a major portion of the length of said blast passageway, insulating means disposed in said recess so as not to project out into said passageway past the other defining surfaces of said passageway, said insulating means being recessed radially from said other defining surfaces of said passageway and including a metallic liner disposed in said recess radially inwardly with respect to said insulating means, said liner being generally flushed with said other defining surfaces of said passageway so as not to interfere with the blast characteristics of the tuyere, and including opening means in said liner, closure means inserted in said opening means, and means attaching said closure means to the remainder of the liner.

3,341,189 HYDRAULIC BUFFER

Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Original application Dec. 8, 1961, Ser. No. 157,981, now Patent No. 3,190,630, dated June 22, 1965. Divided and this application Apr. 12, 1965, Ser. No. 463,978
13 Claims. (Cl. 267-1)

5. A hydraulic buffer adapted to be disposed between opposed movable members to resist movement of the members toward one another and the buffer comprising: a cylinder,

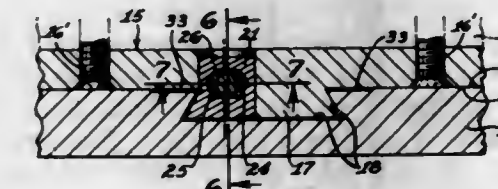
a piston in the cylinder and having a piston rod of substantially smaller diameter extending outwardly beyond one end of the cylinder, means defining a housing about the cylinder and providing a reservoir, means effecting communication between the reservoir and the cylinder, a tubular cylindrical extension projecting from the housing adjacent to and concentric with said one end of the cylinder and in surrounding relation to the piston rod but shorter than the piston rod so that the outer end portion of the piston rod projects therebeyond for opposition to one of said movable members,



bearing and sealing means on the piston rod slidably engaging said extension, a metering tube secured in concentric relation at the opposite end of said cylinder and extending through the cylinder and into and through the piston and concentrically into a bore extending longitudinally in the piston rod, means on the metering tube for metering displacement of fluid between the cylinder and said reservoir in reciprocations of the piston in the cylinder, and means associated with the metering tube for adjusting the metering rate through the metering tube.

3,341,190 QUICK CHANGE FACE PLATES FOR VICE JAWS

Melvin L. Adamson, 7939 W. Indianola Ave., Phoenix, Ariz. 85033
Filed Aug. 25, 1964, Ser. No. 391,881
5 Claims. (Cl. 269-271)



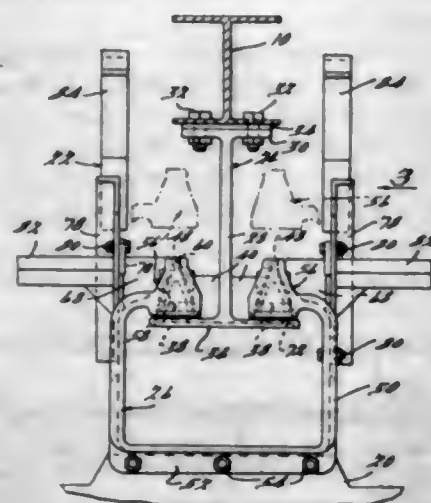
1. A vice jaw, said vice jaw having a V-guide, a face plate, said face plate having a guide slot to receive said V-guide, a movable section forming part of said V-guide, means for moving said section to engage a surface of said guide slot to retain face plate in contact with said vice jaw.

3,341,191 WORK RACK DEVICE

Leon J. Planowski, Detroit, Mich., assignor to The Udy-lite Corporation, Warren, Mich., a corporation of Delaware
Filed June 15, 1965, Ser. No. 464,059
7 Claims. (Cl. 269-321)

1. A work carrier assembly comprising two members, one of which is removably suspended from the other by a plurality of spaced engaging means, each said engaging means comprising a tapered projection formed on one of said members and provided with a plurality of substantially cylindrical surfaces disposed at spaced intervals

along the longitudinal axis thereof, and an engaging element formed with a cavity therein having a shape complementary to the shape of the periphery of said projection for slidably receiving said projection and restraining tilt-



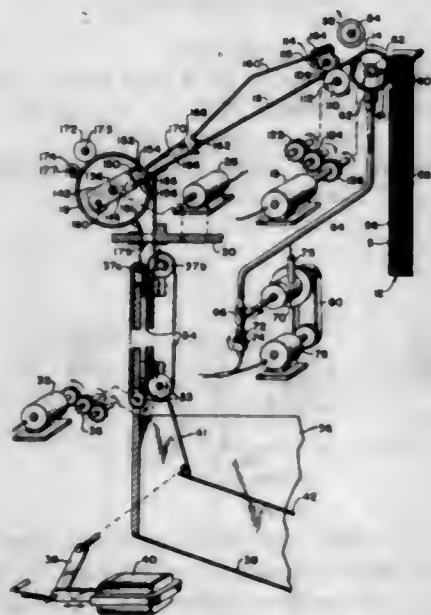
ing movement of the axis of said projection relative to the axis of said engaging element, and means on the one of said members suspended from the other of said members for mounting workpieces thereon.

3,341,192

AUTOMATIC SHEET TRANSPORT MEANS FOR MESSAGE SCANNING APPARATUS

John L. McMahon, Sag Harbor, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Filed Oct. 5, 1965, Ser. No. 493,114
7 Claims. (Cl. 271-5)



7. Message sheet transport means for sheet scanning apparatus comprising:

- a bin for storing message sheets;
- a first drum rotatable drum disposed adjacent said bin;
- means for applying suction to said drum for drawing one sheet out of the bin at a time;
- a first chute for receiving said sheet from the drum;
- means for driving the sheet down the chute;
- a reversible, rotatable second drum located at said chute for receiving said sheet from the chute;
- means for engaging said sheet at the second drum;
- means for winding said sheet automatically around the second drum as the second drum turns in one direction, to position the sheet for scanning in said apparatus; and

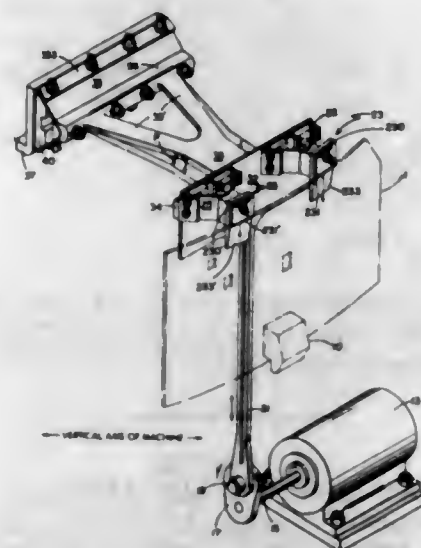
- means for receiving said sheet from the second drum when the second drum is reversed to unwind and release the sheet from the second drum.

3,341,193

DOCUMENT PICKER

Earl E. Masterson, Newtonville, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 7, 1965, Ser. No. 454,076
16 Claims. (Cl. 271-10)



1. A simplified computer document feeding apparatus comprising:

- a storage means adapted to support a plurality of documents placed therein; a document picker device positioned at one end of said storage means and adapted to sequentially advance documents therefrom to a document handling station; throat means positioned to cooperate with said picker device by defining a constricted passage for separating said documents so that only a single document will be fed during each advancement cycle; block means mounted adjacent said throat means for supporting documents and guiding them into said constricted passage; said picker device including support means pivotably coupled at one end with respect to a fixed base; motive means connected to reciprocate the other end of said support means; and a pair of document engaging means pivotably mounted at said other end of said support means to be spaced symmetrically about said block means and adapted, when driven by said support means, to engage said documents for the advancement thereof, flexure strip means coupling each of said engaging means to said support means to be resiliently pivotable with respect thereto, said strip means being adapted to render the engaging means pivotable virtually upon-itself, said strip means being self-straightening and conformable to curved edge-surfaces of said documents.

3,341,194

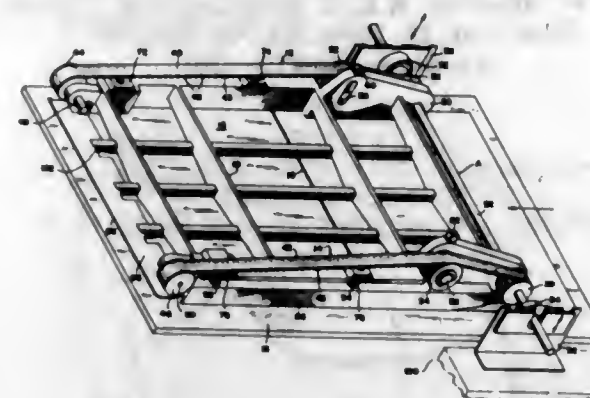
PAPER TRANSPORT ASSEMBLY

Louis Bentzman, Levittown, Pa., assignor to Quick-Chek Electronics and Photo Corporation, Philadelphia, Pa., a corporation of Delaware

Filed May 17, 1965, Ser. No. 456,081
7 Claims. (Cl. 271-45)

- In a paper transport assembly designed to move paper across a flat surface, the combination of a weighted frame; a driving shaft rotating within said frame, said frame having pivotal motion about the said shaft;

driving means spaced from the said frame, said means being rotated by the said shaft; a pair of spaced paper contacting means in engagement with the said driving means, said paper contacting means being urged into frictional contact with the paper by the weight of the said frame;



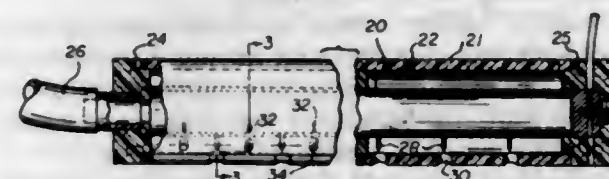
and adjustable means carried by the frame to balance the pressure along the area of contact between the paper contacting means and the paper, said adjustable means including a pair of longitudinal shoes in contact with portions of the interior of the said paper contacting means.

3,341,195

SHEET HANDLING APPARATUS

Gottlieb Herman Brandt, Shaker Heights, and Charles R. Miller, Bedford, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 443,406
18 Claims. (Cl. 271-51)



1. Sheet hold-down apparatus comprising an electrically conductive elongated member for establishing an electrostatic field, a housing of insulating material for said member providing an air space between said member and an interior wall of said housing and having opening means including at least one first opening exposing said member for establishing an electrostatic field in one plane and at least one second opening for directing air outwardly of said housing in a diverging direction from said plane, a unidirectional high voltage power supply connected to said member, and means for supplying air under pressure to said air space.

3,341,196

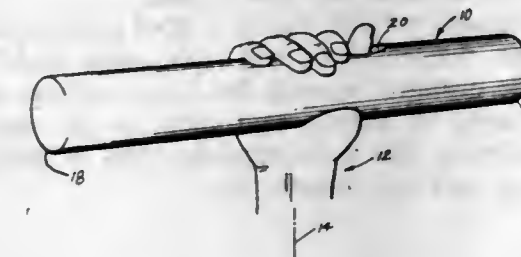
WRIST EXERCISING DEVICE FOR DRUMMERS

Arthur O. Perretta, 17 Haynes St., Hartford, Conn. 06103

Filed July 6, 1965, Ser. No. 469,596
2 Claims. (Cl. 272-67)

1. A hand-held wrist exercising device comprising an elongated member capable of being held in the palm of the hand with the ends thereof extending beyond the sides of the hand, said member defining a thumb-receiving opening in at least one side thereof and inclined with respect to the longitudinal axis of said member to support the user's thumb in a generally straight extended position

as the device is oscillated in an exercising movement, said thumb-receiving opening being cylindrical in cross section and extending through said device, and the cross-sectional



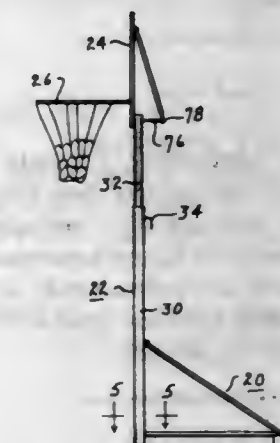
shape of the device being generally elliptical with the axis of said cylindrical opening lying in the same longitudinal plane with the major axis of said ellipse.

3,341,197

ADJUSTABLE GAME TARGET MAST APPARATUS

Richard D. Bottorff, 132 Terry Lane, Mishawaka, Ind. 46544

Filed Dec. 11, 1963, Ser. No. 329,708
3 Claims. (Cl. 273-1.5)



3. In a mast support apparatus an adjustable tubular mast section; a base for said mast section, comprising a fixed mast section for telescopically receiving said adjustable mast section, an elongated weight unit, two angularly disposed members releasably connected at one end to the lower end of said fixed mast section and at the other end to the respective ends of said weight unit, two angularly disposed diagonally positioned members releasably connected at one end to said fixed mast section spaced upwardly from said first mentioned angularly disposed members and at the other end to the respective ends of said weight unit, and a releasable securing means for retaining the adjustable section in adjusted telescopic position in said fixed section, and a camming means on said fixed section movable from an inwardly and upwardly extending position to a substantially horizontal position for forcing the adjustable mast section into frictional engagement with the fixed mast section, said camming means having an actuating means projecting through said lug for operating the camming means.

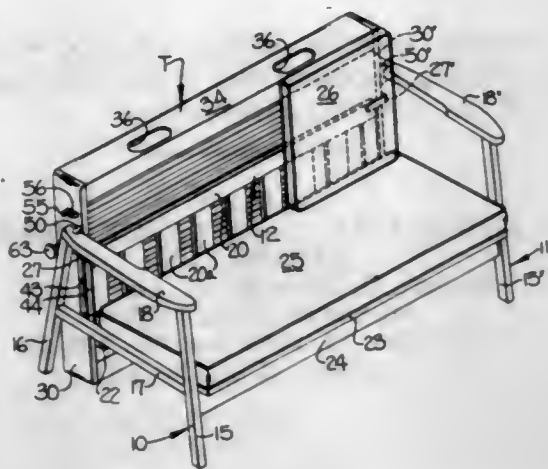
3,341,198

INTERCONVERTIBLE POOL TABLE AND COUCH
Philip B. Turpin, Sr., Charlotte, N.C., assignor to Microtron Corporation, Charlotte, N.C., a corporation of North Carolina

Filed Oct. 12, 1964, Ser. No. 403,017
7 Claims. (Cl. 273-5)

1. An interconvertible combination pool table and couch comprising
(a) a pair of end frames each having front and rear

- legs and arm rests carried by the upper ends of said front and rear legs,
- (b) a substantially horizontal seat supporting frame supported between said end frames,
- (c) a rectangular table having a pool playing area on one side, the length of said table being slightly less than the distance between the inner surfaces of said end frames to permit said table to be supported therebetween and with opposite ends of said table inside of said end frames, and



- (d) pivotal means supporting opposite ends of said table on said arm rests of said end frames for movement between a substantially vertical position between said rear legs of said end frames with the pool playing area facing away from said seat frame, and a horizontal position between said arm rests with the pool playing area uppermost.

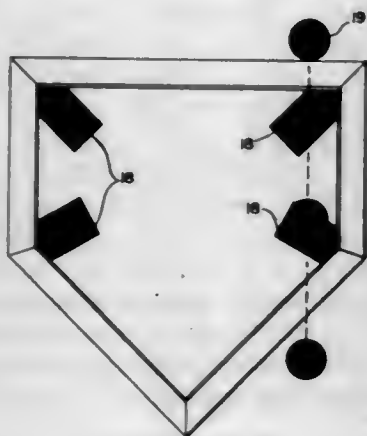
3,341,199

BASEBALL AND HOME PLATE

Paul S. Madsen, Bethany, Conn., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Sept. 29, 1964, Ser. No. 400,082

1 Claim. (Cl. 273—25)



A baseball home plate of irregular pentagonal shaped upper surface having one long side, two short sides at right angles to said long side and two sides of intermediate length each of which is at an angle of approximately 135° with respect to its corresponding shorter side and an inwardly extending and elongated rectangular strip at each apex adjacent to one of said short sides, said strip oriented parallel to the bisectrix of the angle at its respective apex,

said strips being further of a color contrasting to that of the top planar surface of said plate, and a baseball having a color similar to that of the strips.

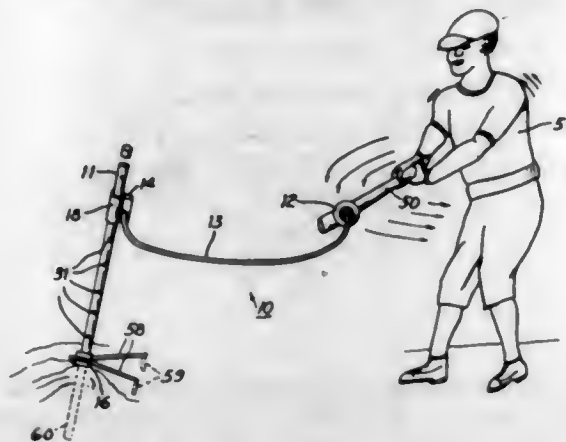
3,341,200

BATTING PRACTICE APPARATUS WITH GROUND ENGAGING AND INCLINING SUPPORT

Elden W. Brandley, R.R. 3, Richmond Ind. 47374

Filed Mar. 25, 1964, Ser. No. 354,687

3 Claims. (Cl. 273—26)



1. A baseball batting practice apparatus for the purpose of acquiring coordination of muscles by a baseball player comprising in combination,
- an elongated standard,
- means for supporting said standard in an inclined position on a ground-type supporting surface mounted about said standard,
- a baseball element, and
- a resilient arm freely rotatably coupled to said standard,
- said baseball element secured to the end of said arm opposite the coupling of said arm to said standard,
- said supporting means comprising
- a cylindrical hollow sleeve slideable and selectively placed on said standard and having a pair of transversely disposed diverging legs, said legs disposed in a plane acute to the axis of said standard when said supporting means is mounted thereon, and
- tines projecting from said legs for the purpose of grasping ground points to prevent shifting of said standard from its inclined position.

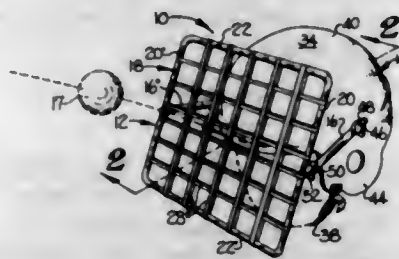
3,341,201

HEAD MOUNTED REBOUNDBING DEVICE

Arthur F. Ryan, 20 Roberta Drive,
Greenville, S.C. 29607

Filed Dec. 2, 1964, Ser. No. 415,389

13 Claims. (Cl. 273—67)



1. A recreational device adapted to be used by a person for projecting a missile through the air without use of the hands, comprising:
- (a) racket means having a substantially planar, resilient playing surface adapted to strike the missile and to thereby project the same through the air, said playing surface including a plurality of elongate flex-

- ible members mounted in spaced relation to each other; and
- (b) adjustable means adapted to be worn upon the head of the person and connected to said racket, means for mounting said racket means in any desired ones of a plurality of possible positions relative to and adjacent the head of the person with said playing surface of said racket means facing away from the head of the person.

3,341,202
GOLF CLUB
 William K. Stars, 1916 Glendale Ave.,
 Durham, N.C. 27701
 Filed Mar. 12, 1964, Ser. No. 351,370
 4 Claims. (Cl. 273-77)



1. A golf club comprising a shaft having a handle at one end thereof, a spring having one end securely mounted at the other end of said shaft, the other end of said spring extending beyond said other end of said shaft and extending substantially in alignment with the longitudinal axis of said shaft, a golf club head mounted on said other end of said spring, and flexible cable means guidably supported on said other end of said shaft and adjacent said handle whereby said cable means may be manipulated at said handle to flex said spring whereby upon returning to its relaxed condition, said spring may cause said club head to strike a golf ball.

3,341,203
SHAFT WEIGHTED GOLF CLUB INCLUDING OFFSET SHAFT PORTIONS
 Harry M. Brill, 5818 N. Kostner Ave.,
 Chicago, Ill. 60646
 Original application May 24, 1962, Ser. No. 197,358.
 Divided and this application June 10, 1965, Ser. No. 462,802
 4 Claims. (Cl. 273-81.3)

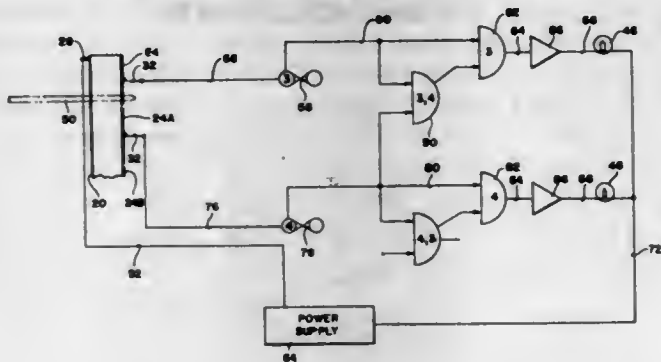
3. In a golf club having only one hand grip, a shaft including first and second shaft portions, a club head on the lower end of said first shaft portion, a hand grip on the upper end of said second shaft portion, means spaced from the club head and connecting the adjacent ends of said shaft portions together to extend in offset relation with respect to each other and weighting the shaft between the club head and the hand grip, comprising
- a metal block having said first shaft portion mounted therein and extending from one side

thereof and having said second shaft portion mounted therein in offset relation with respect



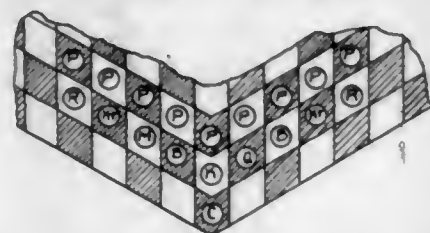
to said first shaft portion, and extending from the opposite side of said block.

3,341,204
METHOD AND APPARATUS FOR READING ARCHERY TARGETS
 Ronald E. McDannold, Bellevue, Wash., assignor of twenty percent to Donald F. Pettigrew and fifteen percent to Charles A. Sparling, Jr., both of Bellevue, Wash., five percent to Bill D. Reed and twenty percent to Ralph E. Veazie, both of Seattle, Wash.
 Filed Sept. 3, 1963, Ser. No. 306,067
 5 Claims. (Cl. 273-102.2)



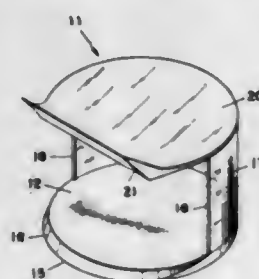
1. A scoring device for projectile targets, comprising:
- (a) a target having a front conductive surface and a rear conductive surface, said rear surface being segmented and electrically separated into scoring areas according to predetermined specifications, said front and rear surfaces being separated by a layer of nonconductive material, (b) a plurality of electrical contact means each of which contacts a single one of said areas, (c) an electrical circuit means for each of said areas including a scoring light means connected to its respective contact means with said light means being connected to one side of a power supply and said front conductive surface being connected to the other side of said power supply, and said front and rear surfaces combining with a projectile passing through said target to complete a circuit through one of said circuit means, and (d) selector means connected to the circuit means of any two adjacent scoring areas for automatically selecting and energizing the higher value scoring circuit means and preventing energization of the lower value scoring circuit means in the event said projectile contacts two of said scoring areas.

3,341,205
CHESS TYPE GAME FOR THREE PLAYERS
 Reggie D. Dykes, Baton Rouge, La.
 (4117 W. Central Ave., Zachary, La. 70791)
 Filed July 6, 1964, Ser. No. 380,516
 3 Claims. (Cl. 273-131)



1. A chess-type game for three players consisting of (a) a generally hexagonal board, said board including three equal diamond shaped portions, each divided into an equal number of ranks and files having bilaterally alternating colored spaces, three border zones of about the same width as a file, each said border zone running from a point of the hexagon board and bordering the sides of two of the fields, and a center space, the border zones being divided into alternating colored spaces to provide an alternating color space between the rank end spaces of the bordered diamond portions, and the center space also being colored to establish alternation with adjacent and contiguous spaces, and (b) three sets of chess pieces, each having an equal number of corresponding pieces and each set having from 18 to 19 pieces, which include: nine pawns, and from 9 to 10 other pieces.

3,341,206
PRACTICE PUTTING CUP
 Harry Ganger, 168 S. Maryland Ave.,
 Atlantic City, N.J. 08401
 Filed Feb. 9, 1965, Ser. No. 431,416
 3 Claims. (Cl. 273-177)



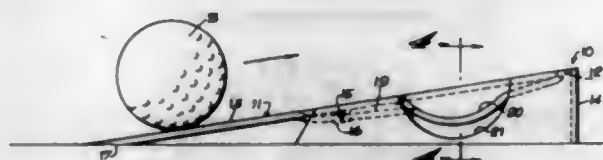
1. A golf-ball receptacle for use on a flat playing surface, said receptacle comprising a generally flat circular base, an upstanding side wall of generally semicircular configuration extending along the rear and side peripheral margins of said base, and a generally flat top wall fixed to the upper edge of said side wall in forwardly and upwardly inclined spaced relation over said base, said base and top wall being spaced to permit free entry of a putt golf ball therebetween while limiting rearward movement of said golf ball therebetween to a condition of frictional wedging.

3,341,207
PRACTICE GOLF PUTTING CUP
 John Shusda, Garfield, N.J., assignor to Arnold Palmer Enterprises Incorporated, Atlantic City, N.J., a corporation of Ohio

Filed Aug. 28, 1964, Ser. No. 392,820
 3 Claims. (Cl. 273-178)

1. A practicing golf cup, comprising, in combination, an inclined platform having a flat upper surface thereon except for the elevated end portion which contains a cir-

cular target portion including a concave chute portion therein inclined downwardly to one side of said target portion, said target portion being darkened to simulate the dark interior of a real golf cup; a semi-circular and upstanding ball retainer wall surrounding the semi-circular end of said target portion, the depressed end of said platform having a straight edge portion adapted to form a smooth juncture with a supporting surface and have a



golf ball putted thereover, said retainer wall including an opening therein in alignment with said chute portion, the dimensions of said chute portion and wall opening being sufficient to accommodate the outward passage of a golf ball from said cup; and fulcrum means enabling the weight of a golf ball putted up said inclined platform and into said chute portion to rock the elevated end of the platform downwardly.

3,341,208
GOLF SWING GUIDE
 Joseph F. Marcella, R.F.D. 2, Box 134,
 Katonah, N.Y. 10536
 Filed May 21, 1965, Ser. No. 457,716
 10 Claims. (Cl. 273-191)



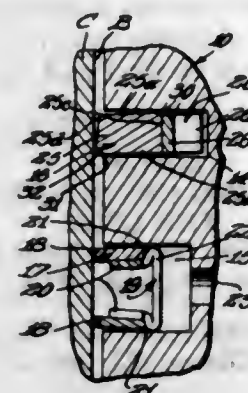
1. A golf swing guide device comprising a guide ring pivotally mounted for engagement with a golf club, means for setting said guide ring in a first plane defining the proper initial back swing movement of the golf club from the ball, and means responsive to the pressure of the golf club upon said ring during the back swing for pivotally shifting said guide ring to a second plane defining an "inside-out" path to guide the club on the down swing.

3,341,209
CIRCUMFERENTIALLY EXPANDING COMPRESSION PISTON RING

Herbert F. Prasse, Town and Country, and Donald J. Mayhew, Manchester, Mo., assignors to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio
 Filed Aug. 20, 1964, Ser. No. 390,930
 6 Claims. (Cl. 277-160)

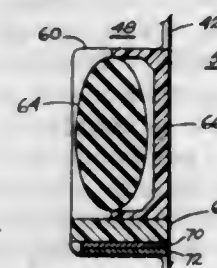
4. A highly flexible compression piston ring assembly adapted to conform to cylinder bore irregularities and exert high unit sealing pressures on the cylinder without bottoming in the ring groove of a piston receiving assembly which comprises a flat face solid dead split iron ring of shallow radial depth and thin width to fit freely

for twistable deformation in the ring groove of the piston, said solid ring having, in its free state, a tapered outer periphery converging from the bottom to the top flat faces of the ring, a spring metal circumferential expander ring within said solid ring having an inner diameter larger than the diameter of the ring groove to be spaced radially outward therefrom and having an axial height less than the axial height of the ring groove to provide a free fit



for the expander in the ring groove, said expander engaging a major portion of the inner circumference of the solid ring at closely spaced intervals and effective to exert radial force equally around the entire periphery of the solid ring to expand and twist the solid ring into sealing engagement with a surrounding bore wall and in side-sealing engagement with the sides of the piston ring groove into which the assembly is mounted.

3,341,210
HIGH PRESSURE SEAL
 Ralph L. Vick, Granada Hills, Calif., assignor to The Bendix Corporation, North Hollywood, Calif., a corporation of Delaware
 Filed Dec. 30, 1964, Ser. No. 422,198
 1 Claim. (Cl. 277-165)



A fluid seal for sealing between two relatively movable members having slidably fitted complementary cylindrical working surfaces operating in an environment where pressure and temperature conditions tend to cause flow of plastic materials, one of which contains an annular groove juxtaposed to the other working surface, said seal comprising:

- a sealing ring of plastic material having self-lubricating qualities and of generally U-shaped cross-section positioned in said annular groove, said ring having an axial dimension substantially less than the width of said groove, radial flanges extending inwardly of said groove to at least 40% of the depth of the groove and a center section which is thinner axially than the section at its edges;
- a circumferentially continuous deformable O-ring positioned back of said sealing ring, the combined radial thickness of said sealing ring and said O-ring when the latter is in its free state being greater than the radial depth of the groove, and the sealing ring being substantially stiffer than the O-ring whereby the O-ring is radially compressed between the bottom of the groove and the sealing ring when

the seal is installed in the groove forcing the center section of said sealing ring against said other working surface;

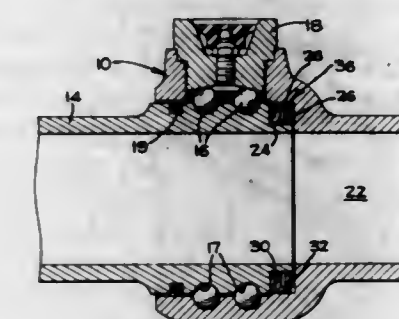
- a second sealing ring of plastic material having self-lubricating qualities having a radial dimension substantially the same as said groove positioned in said groove on the side of said first named sealing ring opposite the high pressure side thereof; and
- a pair of split metal sealing rings also of substantially the same diameter as the other of said working surfaces positioned between said second sealing ring and the side of said groove.

3,341,211
PACKING RINGS AND METHOD OF MAKING THEM
 George E. Houghton, Palmyra, and Edward J. Messenger, Fairport, N.Y., assignors to Garlock Inc., Palmyra, N.Y., a corporation of New York
 Filed Apr. 1, 1963, Ser. No. 269,481
 5 Claims. (Cl. 277-205)



1. A packing ring of V-shape in radial section with the recess of the V facing axially of the ring; said ring comprising an annulus which is of textile material of intertwined strands including asbestos and has an impregnation of sintered Teflon; said textile material extending in approximate parallelism with inner and outer surfaces of the packing ring; and said annulus being circumferentially uniform and continuous in that, at all circumferential areas, said strands are similarly disposed with reference to a circumferential line of the ring, and circumferentially extending strands in each of said areas are continuous with reference to circumferentially extending strands in adjacent areas.

3,341,212
PACKING
 Gus M. Bagnard, Anaheim, and Kenneth J. Downs, Yorba Linda, Calif., assignors to FMC Corporation, a corporation of Delaware
 Filed June 18, 1964, Ser. No. 376,038
 9 Claims. (Cl. 277-206)

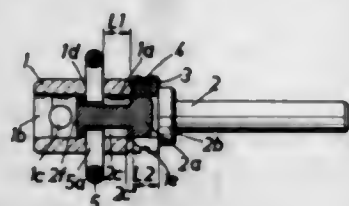


8. A packing comprising an annular sealing member of acid-resistant material having an intermediate annular portion and a pair of flanged sealing portions projecting inward from the intermediate portion in confronting rela-

tion to each other and having outwardly directed annular grooves on opposite sides of the intermediate portion, said flanged sealing portions being movable away from each other relative to said intermediate portion, and energizing means extending circumferentially of said intermediate portion and projecting into said grooves, said energizing means including a plurality of spring fingers in said grooves which fingers yieldably bear outwardly against said sealing portions, adjacent fingers in each groove being in nearly contacting relation so as to provide a substantially continuous circle of pressure on said sealing portions while permitting individual flexing moment of each of said fingers both toward and away from said sealing portions independently of the other said fingers.

3,341,213 TOOL HOLDER

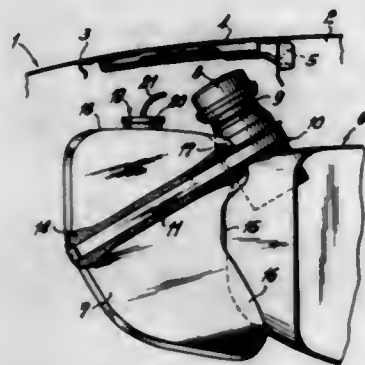
Fritz Lang, Ansbach, Bavaria, Germany, assignor to "Impex-Essen" Vertrieb Von Werkzeugen G.m.b.H., Ansbach, Bavaria, Germany, a German company
Filed Nov. 2, 1964, Ser. No. 417,258
Claims priority, application Germany, Nov. 2, 1963, J 24,670; Sept. 1, 1964, J 26,484
10 Claims. (Cl. 279-103)



1. Tool holder for pneumatic hammers or the like adapted to drive expansion bolts, comprising a support body formed with a conical bore for receiving a tool and a support shank axially aligned with and connected to said support body, a spacer element movably located between and coaxial with said support body and said support shank, said support body and said support shank being movable in their axial direction relative to one another, when said spacer element is moved from operative spacing position, so as to bring said support shank into engagement with the tool received in said conical bore of said support body, whereby the tool is ejected from said support body.

3,341,214 WINDOW-WASHING RESERVOIR INSTALLATION FOR MOTOR VEHICLES

Erwin Komenda, Stuttgart, Germany, assignor to Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Apr. 2, 1965, Ser. No. 444,959
Claims priority, application Germany, Apr. 4, 1964, P 33,975
10 Claims. (Cl. 280-5)

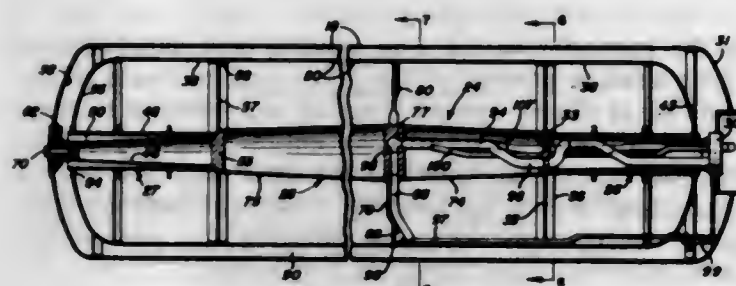


1. In a motor vehicle having a vehicle body, a fuel tank means including an inlet feed pipe therefor, an opening in said vehicle body providing access to said inlet feed

pipe, and a window-washing installation, the improvement essentially consisting of liquid reservoir means for said window-washing installation supported on said fuel tank and accessible through said opening in said body, releasable securing means for firmly and securely mounting said liquid reservoir means on said fuel tank means in an easily removable manner, said releasable securing means including a clamping strap, a guide support member mounted on said feed pipe and a gasket member mounted on said reservoir means with said clamping strap mounted around both said guide support member and said gasket member.

3,341,215 TANK FOR STORING CRYOGENIC FLUIDS AND THE LIKE

Sam Spector, Cleveland, Ohio, assignor to National Cryogenics Corporation, Holyoke, Mass., a corporation of Massachusetts
Filed Nov. 25, 1966, Ser. No. 604,103
17 Claims. (Cl. 280-5)



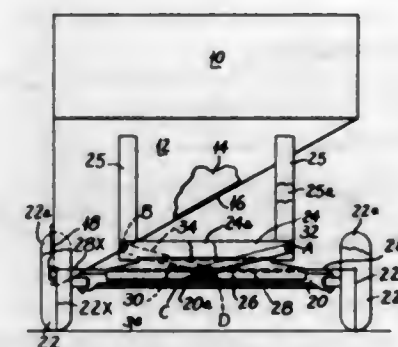
3. An insulated tank for storing cryogenic fluids comprising, an elongated cylindrical tank having end walls at opposite ends thereof, an inner tank mounted within said outer tank and having a configuration similar to but smaller than said outer tank for defining a space between said tanks, means defining tubular recesses in the ends of said inner tank extending a substantial distance into said inner tank, each of said recesses having a support plate at the innermost end thereof, a tubular support secured to said outer tank opposite each of said recesses and extending into said recesses to a connection with one of said support plates to create relatively long heat flow paths between said tanks, said tubular supports each having an outer diameter less than the inner diameter of said tubular recesses to form a heat flow retarding space therebetween, and a central support tube interconnecting said support plates and said tubular supports within the interior of said inner tank for cooperation with said tubular supports to form a rigid backbone disposed centrally of said tanks to support said inner tank within said outer tank against structural failure caused by dynamic loading.

3,341,216 ROCKING BOLSTER WAGON

John O. Bradford, 1015 N. Lott Blvd., Gibson City, Ill. 60936
Filed Mar. 15, 1965, Ser. No. 439,541
4 Claims. (Cl. 280-6.11)

1. In a rocking bolster wagon, a bolster member, a bolster supporting member having a substantially planar supporting surface, a rocker element on said bolster member adapted to rock on said supporting surface, and means for confining said bolster member against endwise movement relative to said supporting member comprising a pair of substantially horizontal links, one end of each link being pivoted to said supporting member adjacent the outer ends thereof whereby said links extend from opposite ends of said supporting member toward the center of said bolster member, and the other end of each link

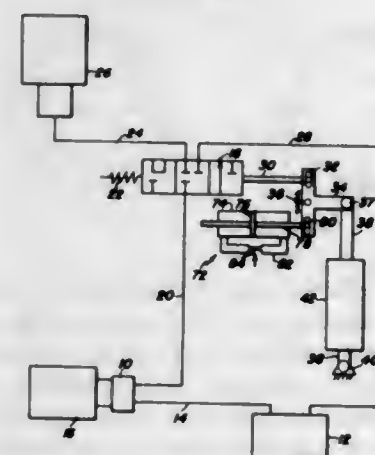
being pivoted to said bolster member adjacent the center thereof, said links being operable to also prevent upward movement of said bolster member away from said sup-



porting member and thereby retain said rocker element in substantial contact with said supporting surface at all times.

3,341,217 REGULATING MECHANISM

Lyle E. Eaton, Pekin, and Lawrence D. Strantz, Peoria, Ill., assignors to Westinghouse Air Brake Company, a corporation of Pennsylvania
Filed May 10, 1965, Ser. No. 454,619
3 Claims. (Cl. 280-6)

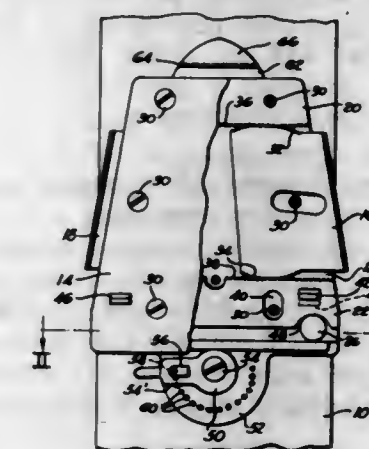


1. A mechanism for automatically leveling a vehicle having an oleopneumatic suspension unit connected between the sprung and unsprung portions of the vehicle comprising:

- a hydraulic circuit including a reservoir and a source of hydraulic fluid under pressure;
- a bell crank pivotally mounted on said sprung portion;
- a valve in said circuit movable between a first position wherein fluid under pressure is directed to said unit for extension thereof and a second position wherein fluid in said unit is exhausted to the reservoir for collapse of said unit, said valve being pivotally attached to the bell crank;
- a link pivotally connected at one end to the bell crank and pivotally attached at the other end to said unsprung portion, whereby said valve is moved to said first position in response to decreases in the distance between said sprung and unsprung portions and to said second position in response to increases in said distance;
- dampener means connected to said bell crank for controlling the rate of movement thereof; and
- lost-motion means interposed in said link for absorbing changes in distance between said sprung and unsprung portions whenever the rate of said changes exceeds the rate permitted by said dampener means.

3,341,218 FOOT HOLDER FOR SKIS

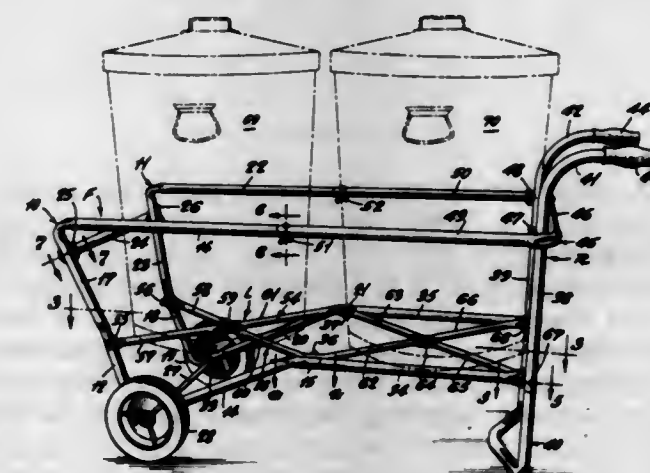
Nils Tage Forzellus, Brunemo, Vallenarna, Sweden
Filed Apr. 14, 1965, Ser. No. 448,176
3 Claims. (Cl. 280-11.35)



1. In a ski, a foot holding device, comprising, in combination, two opposed supports having teeth on opposite edges thereof, a fixed plate having teeth meshing with some of the teeth of said supports, a movable plate having teeth meshing with other teeth of said supports, two rubber discs engaging said movable plate, a movable bar engaging said rubber discs, and an excenter disc engaging said bar.

3,341,219 TRASH CAN RACK AND CART

Thomas O. Marini, 1500 Prospect Blvd., Haddon Heights, N.J. 08035, and Louis G. Marini, 316 Springhouse Lane, Moorestown, N.J. 08057
Filed Mar. 7, 1966, Ser. No. 532,191
3 Claims. (Cl. 280-47.19)

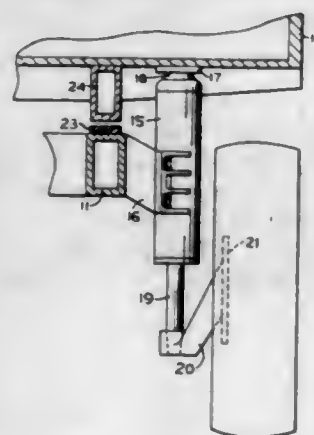


1. A trash can rack and cart formed of tubular structural elements which may be conveniently assembled and dis-assembled and comprising a front section, a rear section, and a load supporting and bracing section, said front section comprising a pair of spaced side frames, each frame comprising an upwardly and forwardly disposed front member terminating at the lower end in a front curved portion merging into a rearwardly and upwardly inclined lower front side member and terminating in a relatively short horizontal portion, said front member terminating at the upper end in a horizontal rearwardly extending upper side member, a removable front cross bar extending between said front members adjacent the upper ends, said front curved portions having aligned apertures therein, an axle removably received in said apertures and projecting outwardly of said side frames, and ground engaging wheels mounted on said axle outwardly of said side frames, rear section comprising a pair of spaced, horizon-

tal, rearwardly extending lower side bars removably secured to said short horizontal portions, a pair of spaced substantially vertical handle bars removably secured to the rear ends of said lower side bars, a generally U-shaped ground engaging foot removably secured to the lower ends of said handle bars, the upper ends of said handle bars being curved rearwardly to provide hand-engaging portions, and an upper generally U-shaped frame member providing a rear cross bar removably secured to said handle bars and spaced, horizontal, forwardly extending upper side bars removably secured to the rear ends of said upper side members, said load supporting and bracing section comprising a pair of identical tubular members detachably connected to said front members, to said short horizontal portions and to said handle bars and said tubular members extending inwardly and being detachably secured together intermediate said front members and said short horizontal portions and said handle bars to provide a double X-shaped structure.

3,341,220

SUSPENSION FOR LARGE CAPACITY TRUCKS
Ralph H. Kress, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of Illinois
Filed Sept. 21, 1965, Ser. No. 488,986
1 Claim. (Cl. 280—106.5)



A suspension system for a truck which has a load carrying body, a frame and wheels comprising a resilient suspension strut for each wheel, means on the frame supporting each strut in a generally vertical position adjacent a wheel, means connecting the lower end of the strut with the wheel, and the upper end of the strut being in engagement with the body in load supporting relationship therewith whereby the greater part of the weight of the body and its load are transmitted to the ground through the struts and wheels, said body having two longitudinally extending bracing members beneath its bottom disposed above and spaced from two longitudinally extending frame members, and resilient pads between the longitudinal body and frame members.

3,341,221

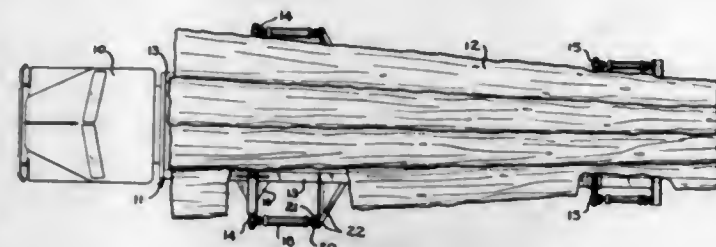
HYDRAULIC STAKE

Eric D. Kane, Marathon, Ontario, and Ole E. Olson, Caramat, Ontario, Canada, assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 3, 1965, Ser. No. 430,217
3 Claims. (Cl. 280—145)

1. For use in connection with a vehicle having supporting means tapered from a wide end to a narrow end for carrying logs in a substantially horizontal position with their larger diameter ends toward the wide end, a pair of stakes mounted on opposed sides of the supporting means for retaining and releasing logs from the sup-

porting means, and one stake in each pair being located toward the wide end of the supporting means and the other stake in each pair being located toward the narrow end, at least one pair of stakes being pivotally mounted

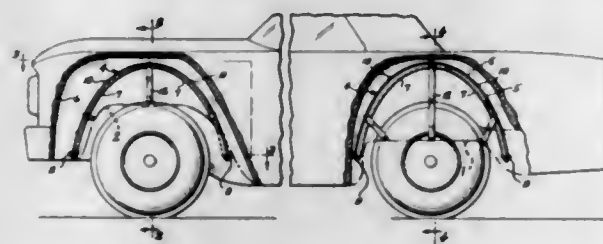


for movement between upright and horizontal positions about respective axes in a direction toward the narrow end of the supporting means, and means for moving the pivotally mounted pair of stakes between the upright and horizontal positions.

3,341,222

VEHICLE WHEEL SPRAY COLLECTOR

Frederick D. Roberts, Box 123, Star Rte., Kingston, Wash. 98346
Filed Sept. 10, 1965, Ser. No. 486,389
13 Claims. (Cl. 280—154.5)

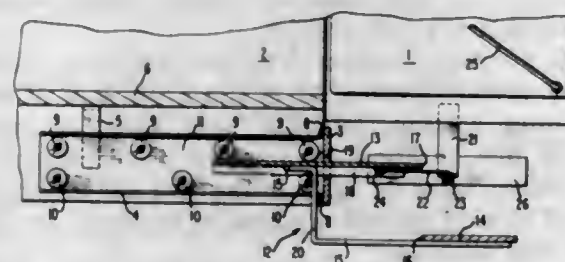


1. A vehicle wheel spray collector comprising a spray-collecting arch having on its concave side spray-collecting channels flaring downwardly from crests of such channels and apertures through such channel crests, means supporting said spray-collecting arch over a vehicle wheel with its arcuate shape in a position generally corresponding to the arcuate upper side of such wheel for passage through said apertures of spray thrown by such vehicle wheel into said spray-collecting channels, and backing means overlying said spray-collecting arch against which water passing through such apertures impinges to arrest its upward movement.

3,341,223

RETRACTIBLE SAFETY STEPS

Jacob Wampfler, Riegelsville, Pa. 18077
Filed Sept. 1, 1965, Ser. No. 484,392
7 Claims. (Cl. 280—166)



1. A retractible safety step for the emergency exit door of vehicles comprising a pair of laterally spaced longitudinal support members connected beneath the vehicle emergency door and extending forwardly of the vehicle,

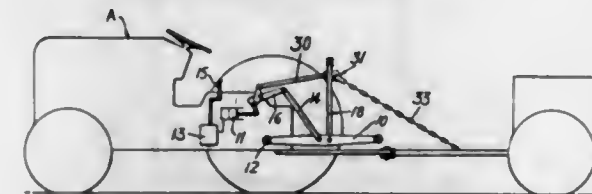
bearing means connected on the surfaces of said pair of support members facing each other, a first step portion connected for longitudinal movement between said pair of support members by said bearing means, a second step portion, support means depending from said first step portion connecting said second step portion for longitudinal movement therewith, said second step portion spaced below and rearwardly of said first step portion, and an arm member in substantially the same horizontal plane as said first step portion pivotally connected at one end to the base of said emergency door and pivotally connected at the other end beneath said first step portion and adapted to slide said first and second step portions rearwardly from a stored position beneath the vehicle to an extended position beneath the emergency door as the door is opened.

3,341,224

WEIGHT TRANSFER TRACTOR HITCH

Jean Bultheel, Taverny, and Jean-Claude Van Dest, Ezanville, France, assignors to Massey-Ferguson S.A., Paris, France

Filed Oct. 24, 1965, Ser. No. 504,966
Claims priority, application Great Britain, Oct. 27, 1964, 43,714/64
10 Claims. (Cl. 280—405)



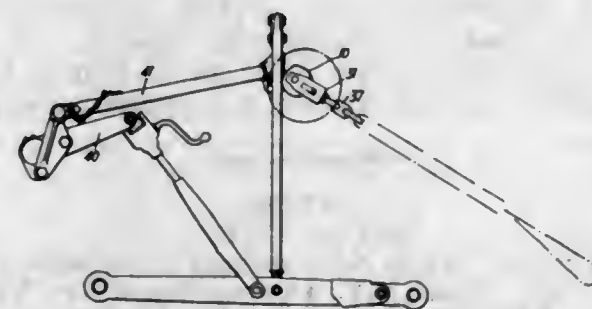
1. A weight transfer hitch for a tractor having a power lift system including a pair of draft links connected to hydraulically actuated lift arms, said hitch including a vertically extending support frame pivotally carried by said links for fore-and-aft movement about a horizontal transverse axis, first load support means connecting the upper portion of said support member with said lift arms to provide for fore-and-aft movement of said upper portion as said lift arms are actuated to raise and lower said draft links, said support member being raised and lowered with said draft links, second load support means connected to said upper portion and adapted to be connected to an implement drawn by the tractor.

3,341,225

ANGULARLY RESPONSIVE LOAD RELEASE

Jean Bultheel, Taverny, and Jean-Claude Van Dest, Ezanville, France, assignors to Massey-Ferguson S.A., Paris, France

Filed Oct. 24, 1965, Ser. No. 504,947
Claims priority, application Great Britain, Oct. 27, 1964, 43,714/64
8 Claims. (Cl. 280—449)



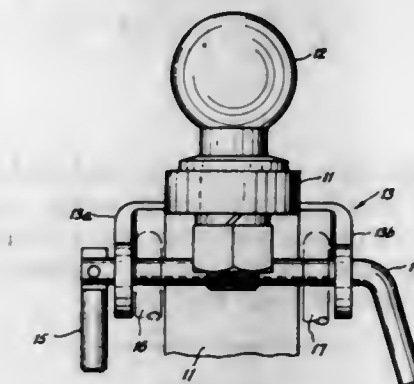
1. A load transmitting assembly including first and second releasably interconnected members connectible respectively to elements between which the load is to be

transmitted and angularly movable relative to each other, locking means freely movable under control of the members when no force is being transmitted and automatically lockable on application of a force, and means for overriding said locking means and disconnecting said members when the angle between them varies by a predetermined amount from the angle at which they are disposed when the force is applied.

3,341,226

DRAW BAR WITH SAFETY CHAIN FOR MOTOR VEHICLES

Basil M. Broun, Corner of William and Camberwell Sts., Cannington, Western Australia, Australia
Filed Nov. 22, 1965, Ser. No. 509,130
10 Claims. (Cl. 280—457)



1. A draw bar for motor vehicles to which a trailer or the like is to be attached in a releasable manner, both by coupling means and by at least one safety chain, comprising elongated draw-bar means attachable to said motor vehicle, a pair of substantially parallel, spaced-apart arms projecting from said draw-bar means and having substantially aligned transversal holes, and a locking pin removably passed through said holes for releasable attachment of the ends of said chains.

3,341,227

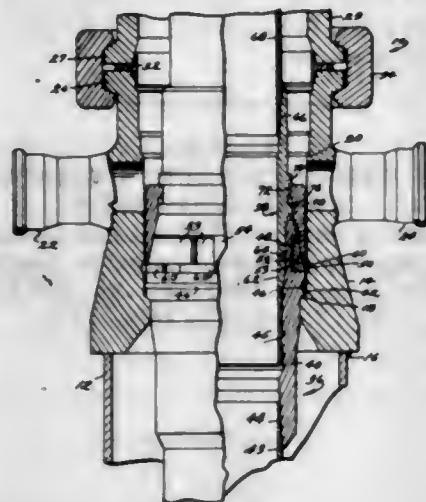
CASING HANGER

Elwood K. Pierce, Jr., Houston, Tex., assignor to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Feb. 4, 1964, Ser. No. 342,440

6 Claims. (Cl. 285—39)

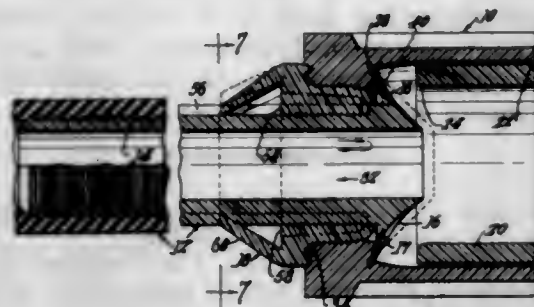
1. A hanger and tool assembly for use in landing and suspending a string of pipe within a head comprising: a hanger body having a vertical inner bore and an exterior downwardly facing shoulder by which the hanger body may be suspended in the head; means for connecting said hanger body to the pipe to be suspended; a laterally deflectable and resilient locking ring carried in an annular groove in the exterior of said hanger body above said shoulder, said locking ring having an outwardly extending flange portion and a body portion above said flange portion, said locking ring when relaxed assuming an expanded position such that said flange portion projects radially beyond the circumference of said hanger body, said body portion having an exterior surface which is tapered upwardly and inwardly; a tool body threadedly connected to said hanger body; means for connecting said tool body to the lower end of a landing casing or the like; a locking ring compressor collar having an inner surface tapered downwardly and outwardly to engage said tapered surface on said locking ring; and means connecting said collar to said tool body whereby upward movement of said tool body occasioned by rotation of said tool body in a direction to unscrew said tool body from said hanger body raises said collar away from said locking ring to permit the latter to expand and whereby

downward movement of said tool body occasioned by rotation of said tool body in a direction to screw said tool body on to said hanger body moves said collar toward said locking ring to compress the latter, said



means for connecting said collar to said tool body including a pair of axially spaced apart radial projections on the outer surface of said tool body and a radially inwardly extending projection on said collar disposed between the radial projections on said tool body.

3,341,228
QUICK-ACTING HOSE CONNECTION
Peter F. Miller, 118 Malburn St.,
Leominster, Mass. 01453
Filed Sept. 29, 1964, Ser. No. 400,172
5 Claims. (Cl. 285-86)

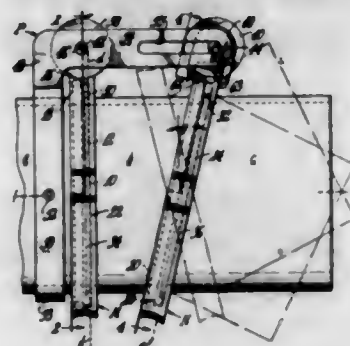


1. A quick detachable self-sealing hose connection comprising a housing having a hollow interior and an opening leading from a substantially planar exterior face to the interior, a pair of spaced substantially continuous internal abutments therein, said abutments facing each other and having a radially relatively enlarged portion therebetween within the housing,

a separate member for connection with respect to said housing, said member being elongated and hollow, means to connect a hose at one end thereof, and a distortable self-sustaining semiflexible sealing head on the member adjacent the opposite end thereof for introduction into said housing, said sealing head having an effective diameter which is normally in excess of said abutments, so that it must be compressed in order to pass the abutments, and said head being compressed by the entrance edge opening of the housing until it passes the first abutment encountered and snaps past the same, being held against withdrawal thereby, said sealing head upon engagement with the other abutment being compressed down to a diameter whereby it can be retracted past the first abutment so as to be dislodged and disconnected from said housing, the second-named abutment being movable

within the housing and being engaged frictionally with respect to said sealing head so that it is also retracted to a position adjacent the first abutment, a locking device engaging the housing and said member, said locking device being distortable at least in a direction axially of said member, and inter-engaging means on the member and the distortable part of said locking device, said means acting conjointly to exert a continuous bias on said member, holding the locking device in position against said substantially planar surface of said housing and the sealing head in engagement with said first abutment so that the sealing head and the locking device grip the housing and hold said member in locked position with relation to the housing.

3,341,229
ADJUSTABLE CONDUIT JOINT
Ambrosius N. De Wilde, Los Angeles, Calif.
(4181 Kling St., Burbank, Calif. 91505)
Filed Nov. 14, 1963, Ser. No. 323,758
8 Claims. (Cl. 285-184)



1. A movable structure comprising walls defining a fluid chamber *a* and two tubular segments *b* and *c* disposed in successive end alignment with said chamber and with each other, said segments jointly forming a fluid outlet from said chamber disposed to impart direction-controlled thrust to said structure by ejection of fluid therethrough, segment *b* being substantially wedge shaped in axial section, and selectively rotatable on such axis, transverse planes of separation between the chamber *a* and segment *b* and between segments *b* and *c* corresponding generally to the shape of the adjacent segment ends and being disposed angularly to each other and generally radial to the longitudinal direction of said fluid flow; annular sealing and bearing means disposed about each of said planes of separation and jointly embracing the respective segment ends, and thus adapting the segment *b* to be rotated by itself relative to the chamber *a* and to segment *c* while permitting uninterrupted fluid flow lengthwise through segments *b* and *c* from chamber *a*, whereby the axial inclination of segment *c* relative to chamber *a* may be progressively varied both by the changing rotational position of segment *b* alone, and by the rotation of segment *c* alone as well as by their joint rotation; remote-controlled, ejection thrust-producing means for selectively rotating said segments, and associated, selectively-operative brake means adapted to restrain relative segment rotation at a predetermined position.

3,341,230
SWIVEL UNIT
Louis Wichers, Nyack, N.Y., assignor to Swiveller Company, Inc., Nanuet, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 502,983
7 Claims. (Cl. 285-266)

1. A swivel unit, comprising
(a) a ball assembly defined by a pair of independent ball segments;

- (b) a nipple, one end of which is received in said ball assembly and which is pivotally mounted about its longitudinal axis relative thereto;
(c) spring means biasing the ball segments away from one another;



- (d) locking means formed integrally with each of said ball segments; and
(e) retaining means engaging said locking means for maintaining the ball segments in assembled relation, and being mounted for pivotal movement with respect thereto.

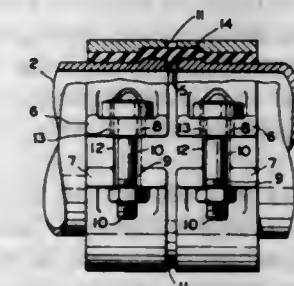
3,341,231
OIL TUBE HOLDING CHUCK
Lars Johanson, 19 Fairfield Place,
West Caldwell, N.J. 07007
Filed Mar. 11, 1966, Ser. No. 533,678
5 Claims. (Cl. 285-322)



1. An oil tube holding chuck comprising an elongated rigid body having a fluid conducting bore extending longitudinally therethrough, one end of said body having an annular groove therein extending axially from said one end to a position within said body, said groove being defined by axially extending inner and outer walls and a radially extending portion bridging the distance between the walls at the axial inner end of said groove, a portion of one wall of said body spaced from said one end being externally threaded, a compression sleeve rotatably received within said body and having a bore extending longitudinally therethrough, one integral end of said sleeve including an enlarged counterbore and defining an annular shoulder at its inner end, said one end of the compression sleeve having an axially extending portion defined in part by the inner wall of said counterbore, said portion having a radial thickness closely approaching the radial distance between the walls of said groove in the body so as to be snugly received therein, said axially extending portion being internally threaded for threaded engagement with said externally threaded wall of said body, an axially compressible resilient sealing sleeve snugly dis-

posed in the inner end of said counterbore and held captive between said shoulder and the adjacent end of said elongated body so that when said compression sleeve is threadedly received within said body, said sealing sleeve is axially compressed by abutment between the inner end of the counterbore and the end of the compression sleeve, said bores being aligned and said sealing sleeve defining a bore extending therethrough aligned with the first two mentioned bores, the other end of said compression sleeve including chuck means adapted to frictionally grip an oil tube disposed in the bores and of a diameter adapted to be snugly received through the bore in said sealing sleeve.

3,341,232
PIPE JOINT
Thomas A. Deakins, Chattanooga, Tenn., assignor to United States Pipe and Foundry Company, Birmingham, Ala., a corporation of New Jersey
Continuation of application Ser. No. 383,272, July 17, 1964. This application Sept. 9, 1966, Ser. No. 578,413
3 Claims. (Cl. 285-373)



1. A pipe joint for joining two pipe sections in end to end alignment, comprising: a unitary clamping band encircling and bridging adjacent ends of two pipe sections, each of said adjacent ends having a radially outwardly directed flange, the clamping band having, a longitudinal split providing it with two circumferentially spaced apart ends, two lugs at each of said ends providing two pairs of opposite lugs, the opposite lugs being circumferentially spaced apart sufficiently to prevent their coming together when the clamping band is tightened about the two pipe sections by drawing the ends closer together, a slit extending circumferentially between said two pairs of opposite lugs dividing the clamping band into two longitudinally side by side and independently adjustable split rings which are joined together for a portion of their circumference diametrically opposite the lugs, a tongue extending from one end of each of said adjustable split rings into a groove in the inside surface of the opposite end of the same adjustable split ring and a circumferential recess on the inner surface thereof positioned over and having an axial extent at least as great as the axial distance between the axially outermost portions of said flanges, said recess in said band having a radial depth substantially equal to the radial height of said flange; a unitary generally cylindrical sleeve of elastomeric material encircling and bridging the adjacent ends of the two pipe sections interposed between the clamping band and the pipe sections, said sleeve having an axial extent greater than the axial extent of said circumferential recess, the sleeve having at approximately the longitudinal midpoint of its internal surface a projection extending radially inward between the adjacent ends of the two pipe sections whereby the pipe ends are spaced and centered in the sleeve; and a bolt extending through each pair of lugs providing means for independently clamping each of the split rings about one of the two pipe sections to form a continuous circumferential ring of compression of the sleeve against each pipe section, the clamping band being substantially free of contact with the two pipe sections.

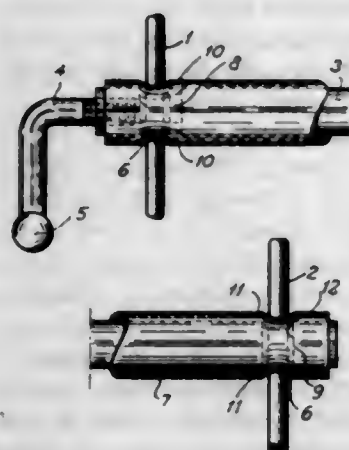
3,341,233
LOCKING MECHANISM
 Kenneth Vantine Cushman, 2138 Salta St.,
 Santa Ana, Calif. 92704
 Filed Feb. 4, 1965, Ser. No. 430,394
 6 Claims. (Cl. 287-20.924)



1. A locking mechanism comprising:
 - a latch;
 - a member formed with hook means at one end and spaced-apart parallel legs at its other end, said hook means being adapted to engage said latch;
 - a rotatably driven member rotatably mounted between said legs, said rotatably driven member having an eccentric axis of rotation forming a rotatable support for said locking member and being adapted for rotation on an eccentric axis through an over-center position with respect to said latch for moving said locking member into locking relationship with said latch; and
 - a detent carried by at least one of said legs and being engageable with said rotatably driven member to form a driving connection, said detent releasing said rotatably driven member when said locking member engages said latch thereby permitting continued movement of said rotatably driven member through its over-center position with respect to said latch, said one leg being axially flexible to flex away said rotatable member to release said detent.

3,341,234
CLAMPING MECHANISM FOR THE CLAMPING OF AT LEAST TWO BARS IN PROPORTION TO AN AXIS CROSSING THE BARS
 Georg Peter Christian Nielsen, Copenhagen, Denmark, assignor to Firm Allan Christensen & Co., Copenhagen, Denmark

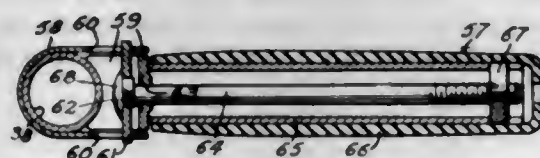
Filed July 16, 1964, Ser. No. 383,063
 9 Claims. (Cl. 287-51)



1. A clamping mechanism for the clamping of at least two bars in relation to an axis intersecting said bars, said mechanism comprising a spindle extending along said axis for longitudinal displacement and receiving said bars, abutment means adjacent each bar for engaging the same, and pressure means in engagement with said spindle and displaceable with respect thereto for first engaging a first bar and clamping the same between the associated abut-

ment means and the pressure means and for thereafter displacing the spindle and the other of the bars into contact with the associated abutment means such that each of the other of the bars is then clamped between the spindle and its associated abutment means, said abutment means being constituted by a pipe coaxially mounted with respect to the spindle and having transverse holes for the passage of the bars, said spindle having slots therein for the passage of the bars, said slot which receives said first bar having a sufficient extent in the longitudinal direction to enable displacement of the spindle while the first bar remains clamped between the pressure means and a wall of the associated hole in the pipe.

3,341,235
AUXILIARY HANDLE FOR TRIMMER-EDGER
 Charles A. Mattson, Oak Park, Ill., and Fredrick O. Ottosen, deceased, late of Chicago, Ill., by Harriet Ottosen, executrix, Chicago, Ill., and Marvin R. Olsen, Caldwell, Idaho, assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
 Continuation of application Ser. No. 303,474, Aug. 19, 1963. This application Sept. 27, 1965, Ser. No. 490,741
 1 Claim. (Cl. 287-57)



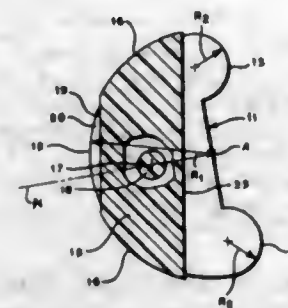
In a grass trimmer having a main guide handle which is directed downwardly and forwardly wherein an auxiliary laterally projecting adjustable handle is connected to the upper end of said guide handle, said adjustable handle comprising a first U-shaped bracket embracing said guide handle, the opposite ends of said bracket having notches formed therein, another U-shaped bracket, said another bracket being disposed within said first bracket in opposed ninety degree shifted relationship, a cross member extending between said notches and brackets, aligned apertures formed in said cross member and another bracket, a threaded bolt extending through said aligned apertures, means acting between said bolt and said cross member to prevent relative rotary motion therebetween, and a rotatable tubular member on said bolt in abutting relationship with respect to said another bracket, said tubular member having a nut member therein connected thereto which is engageable with the outer end of said bolt to move said brackets towards each other in clamping relationship with respect to said guide handle upon rotation of said tubular member, opposite ends of said cross member being disposed in said notches, and rotation of said tubular member causing movement of said cross member in said notches.

3,341,236
ANNULAR SPRAG ASSEMBLY
 Albert C. Eichmann, Bethayres, Carl A. Damm, Upper Black Eddy, John R. Hess, Oreland, and Ralph L. McGiboney, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Apr. 26, 1963, Ser. No. 276,112
 5 Claims. (Cl. 287-119)

1. An annular sprag assembly rotatable about an annular axis comprising:
 - a plurality of planar sprags each having a semicircular body portion terminating in opposed semicircular lip portions of radii less than that of said body portion, said body portion of each of said sprags having an aperture extending therethrough with its center near the outer perimeter of the sprag and lying in a transverse

plane that bisects the sprag and passes through said annular axis of rotation, said sprags being equally spaced about an annular axis lying along said transverse plane,



and said apertures and the spaces between said sprags being filled with a flexible material having good surface adhesion characteristics.

3,341,237
DRILL COUPLING TOOL
 Emilio A. Anzalone, 181 Parsons St.,
 Brighton, Mass. 02135
 Filed July 6, 1965, Ser. No. 469,535
 1 Claim. (Cl. 287-125)

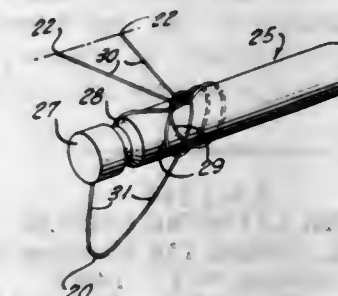


- A drill coupling, comprising
- (a) an elongated tubular body of hardened metal,
 - (b) radially extending lugs formed in said body adjacent one end thereof,
 - (c) threads formed on the opposite end thereof,
 - (d) said body being formed with an elongated smooth shank portion between said lugs and said threads and of substantially the same diameter as the threaded end, said shank portion comprising approximately one-half the total length of said body,
 - (e) said body being radially grooved at the threaded end of said body between the start of said threads and the center of said body and being longitudinally grooved along the outer surface of said body between said shank portion and the end of said threads.

3,341,238
STERILIZATION INDICATING DEVICES AND METHOD OF SECURING LEADER STRING THERETO
 James C. White, Bronx, N.Y., assignor to Propper Manufacturing Company, Inc., Long Island City, N.Y., a corporation of New York
 Substituted for abandoned application Ser. No. 267,640, Mar. 25, 1963. This application Jan. 27, 1967, Ser. No. 622,850
 3 Claims. (Cl. 289-1.5)

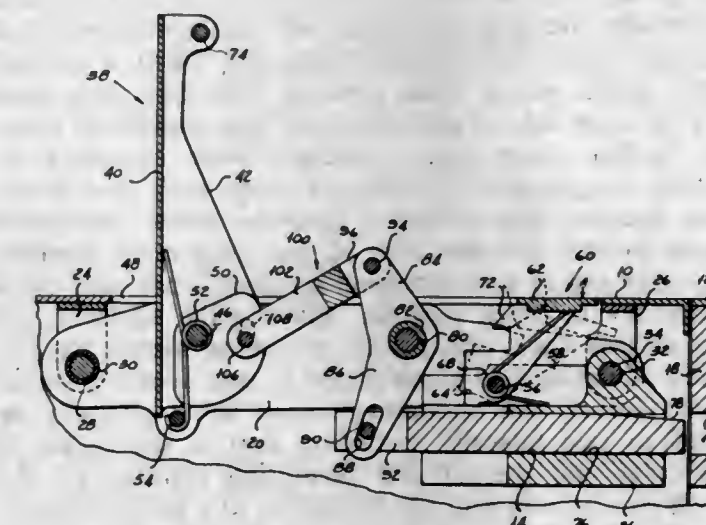
1. In the method of securing a leader string to an elongate body, the steps which comprise: providing a string having a free bight and legs extending from the bight to

secured ends, winding the bight about the body to spirally wrap an intermediate portion of the legs around the body with the remaining leg portions extending tangentially from one side of the body in opposite directions, one pair of remaining leg portions extending to the bight and the other pair of remaining leg portions extending to the string ends, turning said body together with the wrapped intermediate leg portions and said one pair of remaining leg portions and bight approximately 180 degrees in a



plane generally normal to said opposite directions to twist said other pair of remaining leg portions, turning said body and said wrapped intermediate leg portions approximately 180 degrees in a plane generally parallel to said remaining leg portions and in a direction to twist said pairs of remaining leg portions and to engage said one pair of remaining leg portions over said other pair of remaining leg portions, engaging said bight about said body and drawing said string up tightly about said body.

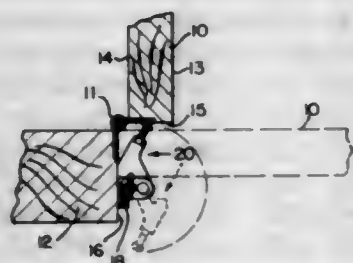
3,341,239
HANDLE-OPERATED SHEAR PIN LATCH
 Frank Wheeler, Little Falls, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
 Filed July 23, 1964, Ser. No. 384,616
 3 Claims. (Cl. 292-139)



1. A latch assembly for use on a member having a surface formed with an opening, a shear pin, means mounting said shear pin for movement along a predetermined path between a retracted position and an extended position, an operating handle having a dimension corresponding to one dimension of said opening, means mounting said handle for movement between an open position extending out of said opening and a position in registry with said opening, a bell crank having a pair of arms, a fixed pivot mounting said bell crank for pivotal movement, means providing a positive two-way connection

between one of said bell crank arms and said pin, a link connecting the other bell crank arm to said handle, said bell crank being so constructed and said link having a length such that said one bell crank arm occupies a position adjacent a position generally perpendicular to the path of movement of said shear pin in the open position of said handle and such that said one bell crank arm occupies a position remote from said generally perpendicular position in the closed position of said handle, an actuable catch for releasably holding said handle in its closed position, means mounting said catch with an area thereof in registry with said opening, said area having a dimension corresponding to said one dimension of said opening and means responsive to release of said catch for producing an initial movement of said handle out of said opening.

3,341,240
DOOR CLOSURE CHECK
George E. Hazard, 118 Aberdeen St.,
Rochester, N.Y. 14611
Filed Sept. 29, 1965, Ser. No. 491,181
4 Claims. (Cl. 292—338)

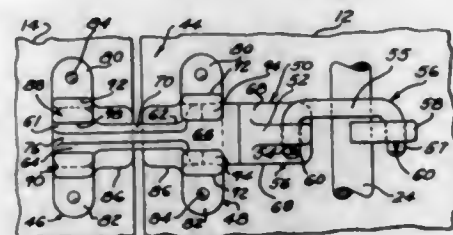


1. A closure check useful for a door hinged to a doorpost having a jamb with a doorstop thereon, which comprises: block means for spanning the space between the adjacent side end of said door when in a predetermined open position, and said jamb and doorstop, said block means comprising a main body member and a longitudinally adjustable extension member, said main body member having longitudinally a front end and a back end and a laterally extending arm, said back end having two plane surfaces which meet at right angles and which, when said block means are in block position, abut said door jamb and the door side of said doorstop, said main body member further comprising a threaded bore extending inwardly longitudinally from said front end, said extension member comprising a machine screw threadedly seated in said threaded bore of said main body member, the outer end of said extension member, when said block means are in block position, abutting the adjacent side end of said door; and pivotal mounting means for pivotally mounting said block means to said doorstop on the front thereof, said mounting means being pivotally secured to said laterally extending arm in the region of the outer end thereof and permitting pivoting of said block means from said block position to a position whereat said door can be swung toward closed position.

3,341,241
DOOR LATCHING ARRANGEMENT
Harold J. Carlson, Lakeside, Mich., and Richard H. Stinnett, Chicago, Ill., assignors to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 10, 1964, Ser. No. 388,366
6 Claims. (Cl. 292—340)

3. A pair of identical keepers adapted to be mounted on respective doors of a truck trailer for use in the latch assembly for said doors, the improvement comprising a first passageway in each keeper for receiving a linearly movable bolt element, an inclined wedge face in each

passageway for engagement, respectively, with a pair of complementary inclined wedge faces on said bolt element, and a second passageway in each of said keepers to permit



said bolt element to be disengaged from either of said keepers upon movement thereof transverse to said first passageway.

3,341,242
PAPER CUP HOLDER AND CARRIER
Raymond M. Carson, Box 101, Faxon, Okla. 73540
Filed Mar. 30, 1965, Ser. No. 443,924
10 Claims. (Cl. 294—16)



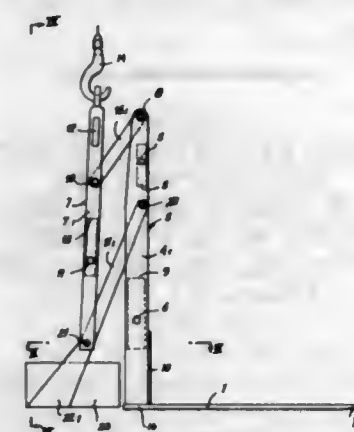
1. Holding and carrying means for a plurality of cups such as are currently being used as containers for soft drinks and the like, said means comprising a flexible element, a fingergridding and handling ring pivotally attached to an upper end of said element, and spring-biased clip means pivotally mounted on a lower end of said flexible element, said clip means comprising a pair of opposed coplanar clips having finger-pieces and serrated jaws, said jaws having the capability of adequately and suitably clamping said cups, a clip-assembling and mounting body provided at an upper end with a body portion on which said clips are spring-biased and pivotally mounted, and an inverted T-shaped part carried by and depending from said body portion and embodying a crosshead joined to said body portion by a shank and defining and providing ledge-like shoulders to adaptably seat and support oriented segmental portions of the beads on said cups.

3,341,243
MATERIAL HANDLING APPARATUS
Michel Jean-Marie Archer, La Celle Saint Cloud, Les Yvelines, France, assignor to Delphi Holding Co., Inc., Geneva, Switzerland
Filed June 28, 1966, Ser. No. 561,074
Claims priority, application France, Apr. 2, 1965, 11,678; Nov. 25, 1965, 39,819; Feb. 18, 1966, 50,273

18 Claims. (Cl. 294—67)
1. A lifting device for suspension from the end of the cable of a lifting and transporting apparatus of the traveling crane type, comprising, in combination:

(a) an L-shaped lifting fork having at least one substantially horizontal arm defining a finger, and an upright carrier element having one end rigidly connected to one end of said arm;

(b) at least one linkage connected to said carrier element near the other end thereof and forming, together with said carrier element, a deformable quadrilateral;



(c) cable attachment means connected to said linkage near that upper corner, of said quadrilateral which is farthest away from said fork; and
(d) at least one counterpoise carried by said linkage in proximity to that lower corner of said quadrilateral which is farthest away from said fork.

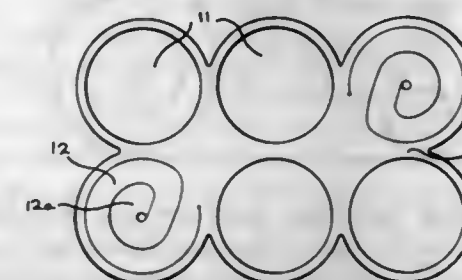
3,341,244
AUTOMATICALLY RELEASABLE CABLE HOOK
Downing C. Johnson, P.O. Box 144,
Valley Head, Ala. 35989
Filed Dec. 1, 1965, Ser. No. 510,882
7 Claims. (Cl. 294—75)



1. A cable hook for forming cable loops comprising, a shank member, means on the upper portion of said shank member for receiving a cable, means rotatably mounted relative to said shank member for forming a releasable hook in conjunction with the bottom end of said shank member, said releasable hook adapted to receive the end of the cable therein whereby a loop will be formed in said cable, means for rotatably biasing said hook forming means to an open or released position, means for overcoming the bias force of said biasing means whereby a static balance will be maintained on said hook forming means for retaining said hook forming means in closed or hook-forming position, and means for ejecting the cable end from said hook forming means when said overcoming means is relieved and said bias means operates to open said hook forming means, said ejecting means comprising, an ejector housing, one end of said housing mounted at the upper end of said shank member for rotation with respect thereto, said hook forming means comprising, a latch member rotatably mounted at the other end of said ejector housing, said shank member having a downwardly opening recess at the bottom end thereof, said latch mem-

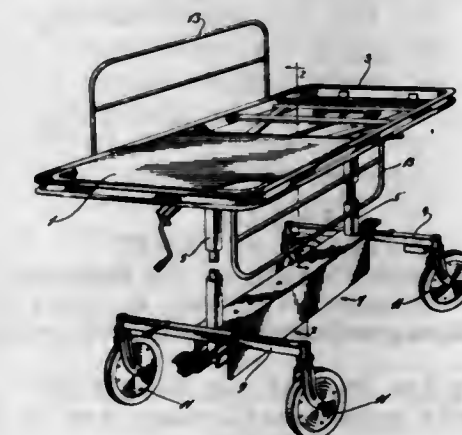
ber and said recess forming a reeve way for the cable when said overcoming means operates to maintain said hook forming means in static balance.

3,341,245
MULTI-PACK CONTAINER CARRIER
Wallace W. Wolford, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 522,576
1 Claim. (Cl. 294—87.2)



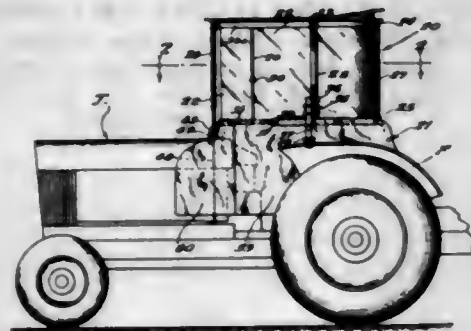
In a multi-pack container carrier comprising a sheet of resilient plastic material, said sheet having a plurality of container receiving apertures punched therein, the improvement comprising a pair of elongated strips respectively punched from the sheet material removed from two of said apertures, each of said strips having one end thereof integrally united with the sheet and being originally formed in a generally helical configuration to provide such strip with an extended length in excess of the diameter of said aperture, the free ends of such strips being united to form a carrying handle.

3,341,246
HOSPITAL STRETCHER
Robert Lavalley, Montreal, Quebec, Canada, assignor to Techlem Inc., St. Laurent, Quebec, Canada
Filed Oct. 24, 1965, Ser. No. 504,779
6 Claims. (Cl. 296—20)



1. A hospital stretcher comprising: a horizontal litter; two supporting vertical posts on which said litter is mounted and disposed axially centrally thereof; said posts being formed of telescoping inner and outer elements; said inner elements being connected to said litter; an extensible operating member for one of said posts, and interconnecting flexible means between said operating member and said inner element of said one post responsive to extension of said operating member to displace the inner element in relation to the outer element wherein said operating member is formed of a manually rotatable rod having a screw threaded end and a nut threadedly received on said end and axially displaceable on said rod, wherein said interconnecting means is a cable fixed at one end to said nut and at the other end to the lower end of said inner element, and a pulley arrangement around which said cable is trained.

3,341,247
TRACTOR CAB
 Werner W. Martinmaas, 835 10th Ave.,
 Watertown, S. Dak. 57201
 Filed Feb. 25, 1966, Ser. No. 530,083
 16 Claims. (Cl. 296—28)

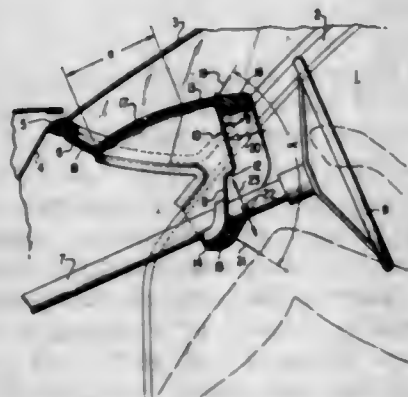


1. A universal enclosure structure for tractors comprising: frame means including a top frame and a bottom frame connected by upright frame members, said top and bottom frames being constructed and arranged to extend about the perimeter of the operator's area of a tractor, there being a gap in said bottom frame for entering and leaving the operator's area; a cover panel overlying and secured to the top frame; an upright front post of adjustable length which is secured to said frame means and is adapted to rest upon a part of the tractor near the front of the operator's area; upright side posts of adjustable length which are secured to the frame means and which cooperate with the front post to orient the frame means with the top and bottom frames generally horizontal with the bottom frame substantially above the floor of the tractor; laterally adjustable means on said side posts for securing them to tractor fenders which are adjacent said posts; a plurality of panels mounted in said frame means and cooperating to form an enclosure which entirely surrounds the upper part of the operator's area, at least some of said panels being movable to selectively provide openings in said enclosure; curtain-like skirt means which is detachably secured to and hangs loosely from the bottom frame and completely surrounds the lower part of the operator's area, said skirt means including a portion hanging across the gap in the bottom frame; and means for detaching said portion from the bottom frame at one side of the gap for entering or leaving the operator's area.

3,341,248
INSTRUMENT PANEL
 Béla Barényi, Stuttgart-Vaihingen, and Hermann Renner, Magstadt, Württemberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Apr. 29, 1965, Ser. No. 451,908
 Claims priority, application Germany, Apr. 29, 1964,
 D 44,296

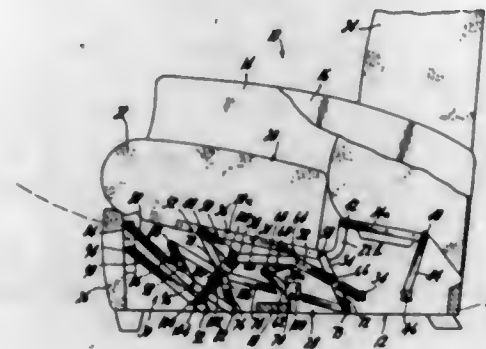
7 Claims. (Cl. 296—70)



1. In a motor vehicle having side wall members and a steering column, an instrument panel, fastened to said motor vehicle only at said side wall members thereof,

having its largest bending strength in a direction approximately perpendicular to the steering column and its minimum bending strength in a direction about perpendicular to the plane of said first-mentioned direction so that during impact of body parts of the passengers, in case of accidents, the instrument panel is able to yield in the impact directions.

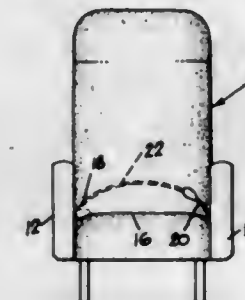
3,341,249
RECLINING CHAIR OF THE MULTIPLE MOVEMENT TYPE
 Peter S. Fletcher, 200 NW. 15th St.,
 Delray Beach, Fla. 33444
 Filed Mar. 18, 1964, Ser. No. 352,891
 5 Claims. (Cl. 297—85)



1. A reclining chair comprising a frame, a body-supporting unit including a seat and a back-rest mounted on said frame for movement from an upright sitting position through a first movement phase, at the beginning of which the angle between the seat and back-rest initially increases, to an intermediate, tilted sitting position, the angle between said seat and back-rest being substantially the same in the upright sitting position and in the intermediate, tilted sitting position, and for subsequent movement from said intermediate, tilted sitting position through a second movement phase to a fully reclined position with the angle between said seat and back-rest substantially increasing, a leg-rest mounted for movement from a stored position beneath the forward portion of said seat to an elevated leg-supporting position in response to movement of said body-supporting unit in said first movement phase with said leg-rest having an initial upward component of movement, means mounting said seat and back-rest on said frame comprising a carrier link pivotally mounted on said frame at a carrier link pivot, a front guide link pivotally connected to said carrier link at a front pivotal mount and pivotally connected to said seat at a front guide link pivot, said seat pivotally connected to said back-rest at a seat-back-rest pivot, a back-rest guide link pivotally mounted at one end on said frame at a rear pivotal mount and pivotally connected at its opposite end to said back-rest at a back-rest pivot spaced rearwardly from said seat-back-rest pivot, said front guide link and said back-rest guide link pivoting rearwardly about said front and rear pivotal mounts respectively during said first movement phase, a first holding link pivotally connected to said seat at a point rearwardly of said front guide link pivot, and second movement links connecting said first holding link to said frame, said first holding link moving with respect to said second movement links during said first movement phase and moving with said front guide link for initially increasing the angle between said seat and said back-rest during an initial portion of said first movement phase and for maintaining said angle in the intermediate, tilted sitting position substantially the same as it is in the upright sitting position, said second movement links including a bell-crank lever pivotally connected to said carrier link at a first pivot and pivotally connected to said first holding link at a second pivot and a second holding link pivotally connected at one end to

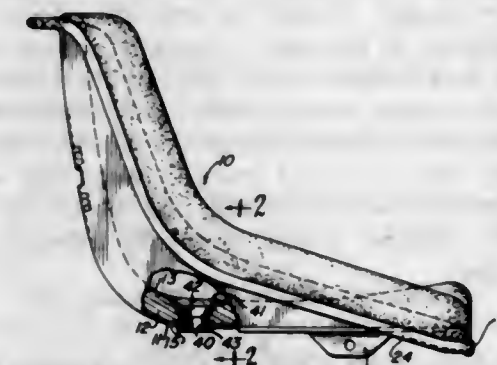
said bell-crank lever at a third pivot and pivotally mounted on said frame at a second movement holding pivot, said bell-crank lever pivoting with respect to said carrier link during said second movement phase for raising said first holding link and substantially opening the angle between said seat and back-rest during said second movement phase, stop means defining the upright sitting position and the fully reclined position of said seat and back-rest, and a leg-rest mounting linkage mounting said leg-rest for movement having an initial upward component of motion from said stored position to said elevated, leg-supporting position in response to initial movement of said seat and back-rest during said first movement phase.

3,341,250
SAFETY BELT BUCKLE
 Borge A. Rasmussen, deceased, late of Santa Monica, Calif., by Hazel K. Rasmussen, widow, Santa Monica, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
 Filed Apr. 19, 1965, Ser. No. 449,335
 11 Claims. (Cl. 297—388)



8. A safety belt buckle for securing an occupant in a moving vehicle, said belt buckle having a rotatable shaft thereon for winding up said belt;
 said buckle having an inertia reel mechanism thereon for locking said shaft in non-rotating position when subjected to sudden acceleration; and
 spring means for unlocking said inertia reel mechanism to permit rotation of said shaft in either direction when not subjected to sudden acceleration.

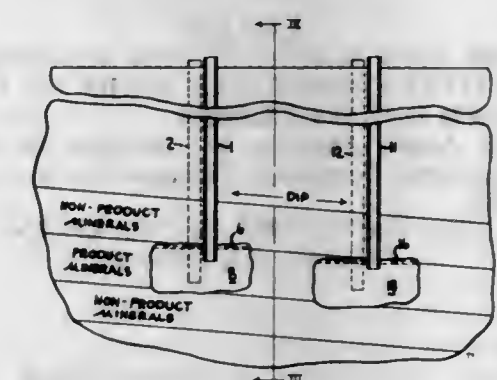
3,341,251
SEAT ASSEMBLY
 Robert W. Costin, Palatine, Ill., assignor to Coach and Car Equipment Corporation, Chicago, Ill., a corporation of Illinois
 Filed Apr. 11, 1966, Ser. No. 541,743
 6 Claims. (Cl. 297—452)



1. A seat assembly comprising:
 a rigid seat base having a pair of opposed surfaces; padding means overlying a substantial portion of one surface of said seat base;
 flexible fabric means having a pair of opposed fabric surfaces with one of said surfaces covering said padding;
 said rigid seat base having a peripheral flange terminating at an end;

said flexible fabric means having a peripheral portion extending alongside said peripheral flange of the seat base and terminating at a peripheral edge;
 and a deformable channel-shaped strip, having a pair of opposed wings, and extending around the end of the peripheral flange on the seat base, and protectively covering the other of said fabric surfaces at the peripheral portion of the flexible fabric means;
 said deformable strip being disposed along the entire periphery of the seat assembly and being self-secured to said flange portion;
 one of said wings on the deformable strip having protrusion means protruding from the inner side of said wing, pressing into the peripheral portion on the flexible fabric means, and holding the one fabric surface in contacting engagement with an adjacent surface of the peripheral flange of the seat base;
 said protrusion means extending continuously for the length of said strip and including means cooperating with said flexible fabric means to provide a continuous, uninterrupted seal along the entire periphery of the seat assembly.

3,341,252
SOLUTION MINING OF SLOPING STRATA
 James Bowen Dahms, New Martinsville, W. Va., and Byron Priestly Edmonds, Regina Saskatchewan, Canada, assignors to Kalium Chemicals Limited, Regina, Saskatchewan, Canada, a corporation of Canada
 Filed Apr. 7, 1965, Ser. No. 446,369
 16 Claims. (Cl. 299—4)



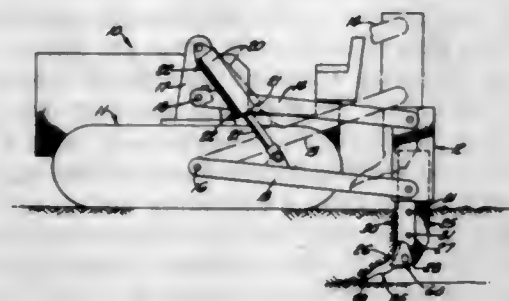
1. In solution mining a sloping subterranean stratum of soluble product minerals disposed adjacent soluble non-product minerals, the improvement which comprises providing in communication with the product stratum a plurality of bore holes spaced in the directions of the strike and the dip thereof, avoiding communication between bore holes in the direction of the dip by preferentially establishing communication between bore holes in the direction of the strike, feeding solvent through a first bore hole to extract product minerals and withdrawing effluent bearing product minerals through a second bore hole communicating with the first bore hole and spaced from said first bore hole in the direction of the strike thereby to develop a solution mining cavity in the direction of the strike in preference to the direction of the dip thereby minimizing extraction of non-product minerals.

3,341,253
RIPPER APPARATUS AND METHOD OF USING SAME
 Morgan D. Hostetter, West Covina, Calif., assignor of ten percent to Joseph F. Brunner, Jr., San Marino, Calif., and thirty percent to Walter M. Ennis, El Monte, Calif.

Filed Nov. 13, 1964, Ser. No. 410,856
 30 Claims. (Cl. 299—10)

30. That method of ripping hard terrain and utilizing the weight of freshly ripped material to increase the effective traction forces of a tractor hauling a ripper which

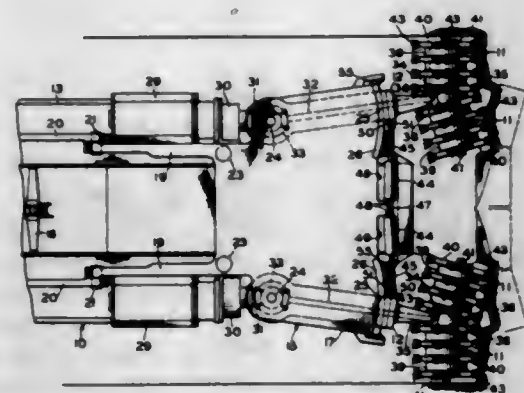
method comprises, utilizing parallelogram linkage means to couple the forward end of terrain ripper means to the mid-length of the frame of a track laying tractor having a frame, attaching a ripper tooth to the lower forward end of a ripper shank forming part of said ripper means, providing an adjustable rigid draft-transmitting connection between the ripper means and the mid-length of the tractor frame, utilizing said adjustable draft connection



and said parallelogram linkage means to hold said ripper tooth at a desired penetration level in terrain being ripped and to transfer onto the mid-length of the tractor frame a major portion of the weight of broken terrain overlying said ripper tooth as the tractor is propelled forwardly, and utilizing the forces and weight of broken terrain acting on the ripper tooth as the tractor is propelled to increase the tractive effectiveness of the tractor.

3,341,254
METHOD AND MACHINE FOR MINING WITH RELATIVELY SHIFTABLE PAIRS OF OBTUSE ANGLED DRUM CUTTERS
Charles J. Arndt, Harvey, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed May 28, 1965, Ser. No. 459,636
5 Claims. (Cl. 299—18)

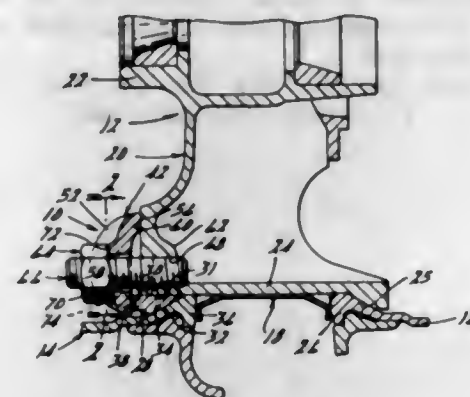


5. A system of continuously mining coal and the like, comprising the steps of:

- providing two sets of laterally and vertically movable ripper cutters,
- the cutters of each set including two cutter drums rotatably driven in opposite directions,
- advancing the two sets of rotating ripper cutters along the floor of the mine into the working face with the two sets of ripper cutters disposed adjacent each other,
- feeding the two sets of rotating ripper cutters vertically to the roof of the mine,
- then feeding the rotating sets of ripper cutters laterally along the roof of the mine away from each other to the ribs of the working place, and trimming the ribs in parallel relation with respect to each other,

then lowering the two sets of ripper cutters, while rotating in the same direction as when mining upwardly from the floor to the roof of the mine, to the floor of the mine, and then feeding the two sets of ripper cutters along the floor of the mine towards each other to trim the previously mined working face and position the ripper cutters in position for a next succeeding mining operation.

3,341,255
RIM CLAMP
Sylvester A. Malthaner, Rockford, Ill., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 22, 1965, Ser. No. 473,972
4 Claims. (Cl. 301—12)

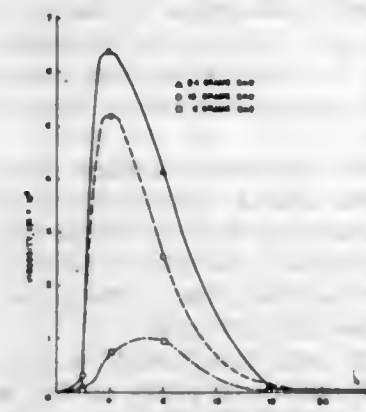


1. In combination with a vehicle wheel and wheel rim adapted to be detachably secured thereto, a rim clamp assembly comprising a first member and second clamping member for securing the wheel rim on the wheel, said first member being wedge shaped in transverse section and inserted between adjacent portions of the wheel and wheel rim, said second clamping member having an opening therein adapted to receive a stud on the wheel whereby a nut threaded on the stud can be adjusted to urge said second member against said first member so that said first member is forced between the adjacent portions of the wheel and wheel rim, said clamping member having a radially outer portion pivotally contacting said wedge shaped member whereby said members are pivotable about an axis generally transverse to the axis of said wheel, and finger means secured to one of said members and adapted to pivotally engage a portion of the other of said members such that an axial force applied to said second member will be transmitted to said first member through said means whereby said first member will be biased from between the adjacent portions of said wheel and said wheel rim as said second member is moved axially outwardly from said wheel.

3,341,256
PROCESS FOR CONVEYING MINERAL SOLIDS THROUGH CONDUITS
Roger L. Adams, Grand Forks, N. Dak., assignor to the United States of America as represented by the Secretary of the Interior
Filed May 24, 1963, Ser. No. 283,120
14 Claims. (Cl. 302—66)

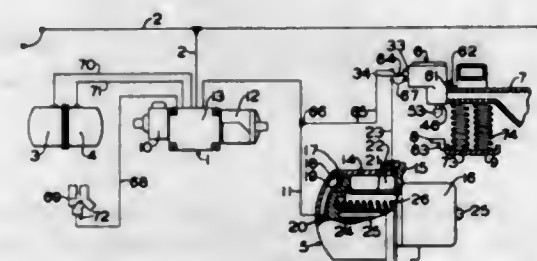
1. A process for conveying solids through a conduit comprising passing said solids through said conduit while said solids are suspended in a thixotropic gel made essentially from (1) water, (2) leonhardtite, (3) a basic

alkali metal compound and (4) an alkaline earth metal compound selected from the group consisting of alkaline earth oxides and alkaline earth salts, whereby the shear



between said gel and said conduit causes a thin layer of said gel to break down and thus allows flow of said solids through said conduit under a low flow resistance.

3,341,257
EMPTY AND LOAD RAILWAY BRAKE CONTROL APPARATUS
Charles L. Weber, Jr., Irwin, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1965, Ser. No. 491,132
18 Claims. (Cl. 303—22)

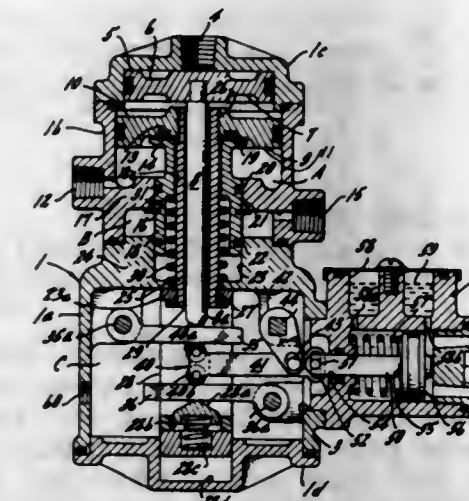


1. In an empty and load fluid pressure brake equipment for a vehicle having a sprung part and an unsprung part, the combination of:

- (a) a brake pipe normally charged with fluid under pressure,
- (b) a reservoir normally charged to the pressure in said brake pipe,
- (c) braking means for effecting a brake application,
- (d) a fluid pressure responsive brake control valve device operative upon a reduction in the pressure in said brake pipe to effect the supply of fluid under pressure from said reservoir to said braking means to cause a brake application,
- (e) a stop carried by the unsprung part of the vehicle, and
- (f) a change-over valve means carried by the sprung part of the vehicle, said change-over valve means comprising:
 - (i) a fluid pressure operated change-over valve controlling the degree of braking effected by said braking means and operable by fluid under pressure from a first position in which said change-over valve renders said braking means effective to cause a first chosen degree of braking on the vehicle to a second position in which said change-over valve renders said braking means effective to cause a second chosen degree of braking on the vehicle, and
 - (ii) fluid pressure operated load-measuring means movable sequentially into and out of contact with said stop by fluid under pressure supplied

to said braking means in response to each operation of said brake control valve device, said load-measuring means controlling the supply of fluid under pressure to said change-over valve to cause positioning thereof accordingly as the car is empty or loaded each time a brake application is effected.

3,341,258
RELAY-MODULATION VALVE
Harold L. Dobrikin, Highland Park, and Charles Horowitz, Skokie, Ill., assignors, by mesne assignments, to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed June 15, 1964, Ser. No. 375,042
2 Claims. (Cl. 303—54)

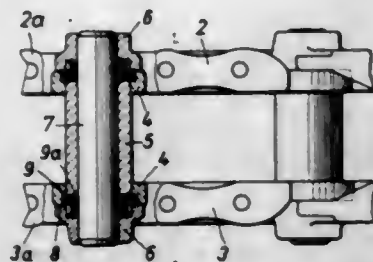


1. A combined relay and load responsive valve for vehicles including a housing, a moveable wall in said housing, a service inlet positioned in said housing for delivery of fluid pressure to one side of said wall to move the same in one direction, a fluid pressure inlet and a fluid pressure outlet in said housing, valve elements positioned in said housing to be opened in response to movement of said wall in said direction and to communicate said inlet with said outlet upon opening, a variable-ratio engagement structure between and engaging said wall and valve elements whereby a predetermined movement of said wall in said direction produces a selectively predetermined amount of opening of communication between said inlet and said outlet, wherein said valve elements are axially aligned with said wall and said variable-ratio engagement structure includes a pair of levers pivoted in said housing and extending in parallel, spaced relationship perpendicularly across the axis of said wall and valve elements, a fulcrum between and engaging said levers and moveable therebetween in a path perpendicularly across said axis, and said wall and valve elements are located on one side of said levers, a yoke engages said valve elements and one of said levers and a rod engages said moveable wall and the other of said levers.

3,341,259
AXIAL SEAL, ESPECIALLY FOR THE BEARING EYES OF ENDLESS TRACKS
Horst Schulz, Hennef (Sieg), and Wilhelm Hahn, Cologne-Deutz, Germany, assignors to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne, Germany
Filed Jan. 12, 1965, Ser. No. 424,987
Claims priority, application Germany, Jan. 16, 1964, K 51,849
6 Claims. (Cl. 305—11)

1. An axial sealing unit, especially for insertion into a first recess and a second recess respectively provided in a first track link and a second track link to be pivotally interconnected by a pin, which includes: an elastic an-

nular body, a first annular metal disc firmly connected to one of the end faces of said annular body for insertion into said first recess, a second annular metal disc firmly connected to the other end face of said annular body for insertion into said second recess, each of said discs and said annular body being provided with an axial bore and the bores of said discs being in substantially axial alignment with each other, said first disc having bendable outer peripheral flange means of L-shaped cross section protruding beyond the outer periphery of said elastic body and having an outer diameter approximately equalling the diameter of said first recess in which said first disc is to be inserted, the shorter arm of said cross sectionally L-shaped portion of said flange means pointing in the direction toward said second annular disc while forming an acute angle with the longer arm of said cross section-



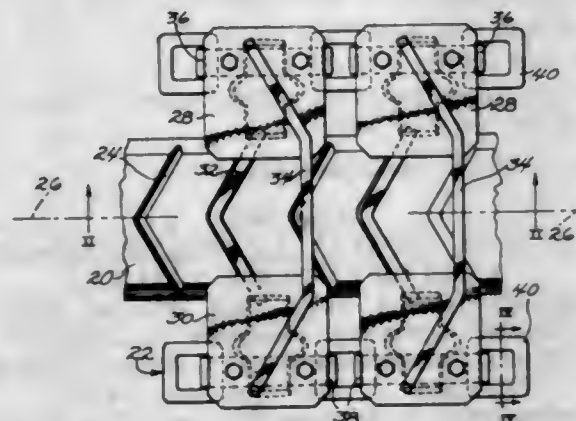
ally L-shaped portion, said second annular disc having a radially inwardly extending collar portion protruding beyond the inner diameter of the annular body and folded into said annular body in the direction toward said first annular disc, said collar portion folded into said annular body defining a passage of such a diameter that the pin intended to pivotally interconnect said track links will spread said collar portion substantially radially outwardly further into said annular body when passing through said passage and will in assembled condition be firmly frictionally engaged by said collar portion, the inner diameter of said annular body being such as to permit said pin when passing through said annular body to rotate therein in radially spaced relationship thereto, said flange means being bendable into firm frictional engagement with said first recess.

3,341,260

ENDLESS TRACK DRIVE

Frederick A. Skanes, Burlington, Ontario, and Robert W. Logue, Hamilton, Ontario, Canada, assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Nov. 5, 1964, Ser. No. 409,129
12 Claims. (Cl. 305-13)



1. In a positive drive, articulated, endless track assembly adapted for movement in the forward direction along a longitudinal axis, a unitary, centrally open, metal track shoe for use with a pneumatic track-driving tire

provided with a chevron tread, of which the grooves in the tread have a uniform pitch and have the apex rearwardly directed along said longitudinal axis; said unitary shoe being rigid and comprising: plates arranged in the plane of the shoe in transversely spaced-apart relation for disposition one at each side of the tread of the tire and having an outer side for ground engagement and an inner side to face the tread; and outer an inner crossbars between the plates holding them in the spaced apart relation aforesaid, each crossbar having at least one bend between the ends so as to present diagonal end portions and an integral central portion offset in the general plane of the bar from said end portions; said outer and inner crossbars arranged with their end portions affixed to the plates on the respective outer and inner sides of the latter, and with their central portions offset in opposite directions generally along said longitudinal axis, so that due to a maximum divergence occurring between the central portions of the crossbars, the major dimension of the central opening measured in the longitudinal direction is centered between the plates.

3,341,261

PORTABLE IMPACT TOOLS

John M. Fenlin, River Bank, Beverly, N.J. 08010
Filed Jan. 19, 1965, Ser. No. 426,650
9 Claims. (Cl. 306-33)



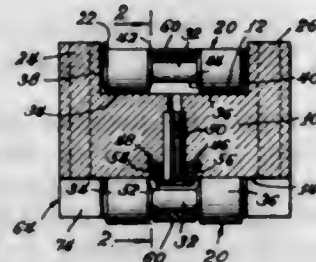
1. An improved portable impact tool comprising a striking head formed with a handle-receiving socket extending through the head, all surfaces of said socket converging from the front to the rear of the head and a preformed hollow thermoplastic resin handle, said handle having a terminal divergent flared section tightly abutting all contiguous surfaces of said socket and a wedge member having a convergent section within and abutting the contiguous surfaces of the flared section of the handle.

3,341,262

RECIRCULATING BEARING

Joseph M. Kalmanek, Cicero, Ill., assignor, by mesne assignments, to Scully-Jones Company, a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,721
8 Claims. (Cl. 308-6)



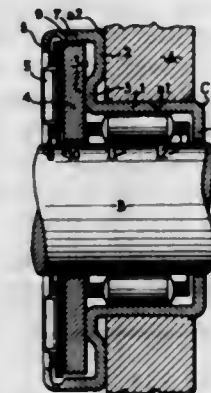
7. In a recirculating way bearing, in combination, an inner race body providing a continuous oblong track having a pair of oppositely disposed parallel sides, said sides being substantially flat and one comprising a load surface and the other a return surface, and a pair of oppositely disposed arcuate track end portions, said flat

sides and said arcuate end portions together comprising said continuous track, a plurality of rollers disposed on said track and movable around the same in substantially abutted relation to one another, said rollers being generally cylindrical and each having a reduced diameter central portion approximately midway between its ends, a stationary generally rectilinear guide rail extending longitudinally along said load surface and projecting therefrom so as to extend into the reduced diameter central portions of rollers moving on said load surface whereby the rollers straddle said guide rail, and an endless elastic tension band of a width approximately equal to the length of said reduced diameter central portion of each of said rollers, said band being non-metallic and highly flexible both radially and laterally and extending around the periphery of said oblong track so as to overlie the reduced diameter central portions of said rollers and thereby maintain said rollers in close association with said track and in proper alignment thereon.

3,341,263

COMBINED JOURNAL AND THRUST BEARING

Alfred Pitner, Paris, France, assignor of one-half to Nadella S.A., Ruell-Malmalson, France, a corporation of France
Filed Mar. 30, 1965, Ser. No. 443,868
Claims priority, application France, Apr. 7, 1964, 969,967
23 Claims. (Cl. 308-174)



1. A combined thrust and journal bearing comprising: a journal bearing including rolling elements and a cylindrical ring cooperating with the rolling elements; a thrust bearing including substantially cylindrical rolling elements, a flange extending radially outwardly from and being integral with the cylindrical ring and cooperating with the thrust bearing rolling elements on an annular support surface on the flange, and an annular rolling plate having a first face constituting a race for the thrust bearing rolling elements and a second face abutting the support surface, the radial extent of the support surface being less than the generatrices of the thrust bearing rolling elements.

3,341,264

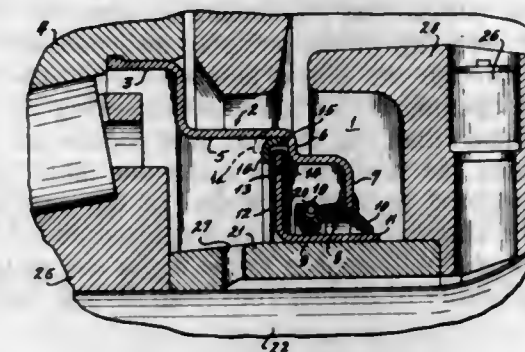
UNITIZED DUAL LIP SEAL

Dennis L. Otto, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed Sept. 3, 1965, Ser. No. 484,858
8 Claims. (Cl. 308-187.1)

1. A unitized dual lip seal for a rotary shaft comprising a cylindrical seal casing having a central shoulder and having an inwardly directed radial flange, a seal member bonded onto the free end and adjacent surface of the radial flange, said seal member having a pair of diagonally diverging sealing lips projected on opposite sides of said radial flange, a wear member having a cylindrical seal

surface for said sealing lips to seat on and having an outwardly directed radial portion extending axially adjacent said central shoulder and spaced from said seal casing, and a thrust ring member having a radial rim and abutting



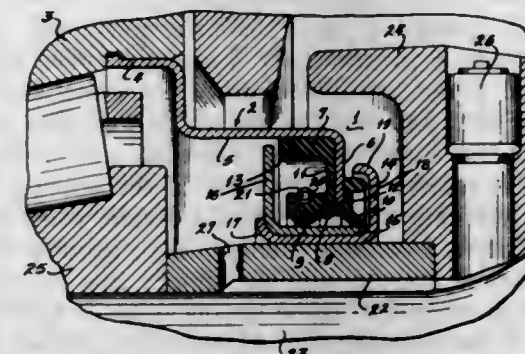
said central shoulder with said radial rim axially spaced from said radial portion, said thrust ring retaining said wear member intermediate said central shoulder and said radial rim.

3,341,265

UNITIZED DUAL LIP SEAL

Peter C. Paterson, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed Sept. 3, 1965, Ser. No. 484,864
10 Claims. (Cl. 308-187.1)



1. A unitized dual lip seal for a rotary shaft comprising a cylindrical seal casing having an inwardly directed radial flange, a seal member having a main body portion adjoining a pair of diagonally diverging sealing lips and having an inner flange portion and an outer flange portion, said seal member bonded to said radial flange along said inner flange portion and said outer flange portion, said outer flange portion having a cylindrical bumper rim extending beyond one of said sealing lips, and said inner flange portion having an inner bumper member bonded to said seal case and extending longitudinally beyond the other of said sealing lips, a wear member having a cylindrical portion for said sealing lips to seat on and having an outwardly directed radial portion extending axially adjacent said inner bumper member and spaced from said seal case, and a thrust ring having a cylindrical part nested with the cylindrical portion of said wear member and having a radial member outwardly extending beyond said bumper rim and terminating in a roller lip extending around said bumper rim.

3,341,266

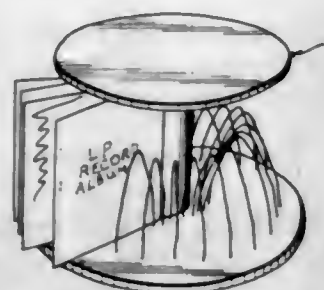
ROTARY STORAGE CABINET

Donald Schecter, Washington, D.C., and Stanley Skalka, Arlington, Va., assignors to Victor Stanley, Inc.

Filed Oct. 21, 1963, Ser. No. 317,842
3 Claims. (Cl. 312-11)

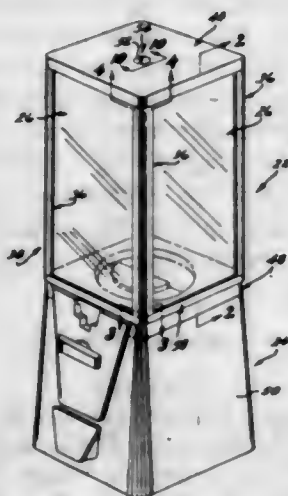
1. In combination, a table and record storage cabinet comprising: a base means having upper and lower surfaces, bearing means engaging the upper surface of the base means, an annular disc having an upper and lower

surface, the lower surface of said annular disc engaging the bearing means, tube means, said tube means secured to the upper surface of the annular disc in vertical alignment with a central opening in the annular disc, a circular vertical post means, said circular vertical post means secured to the base means and extending upwardly through the central opening in the annular disc and continuing upwardly through the entire length of the tube means, the central opening in the annular disc being of slightly larger diameter than the circular post means but of less diameter than the tube means, a circular table top, said table top secured to the upper end of the vertical post whereby the circular table top is supported above the annular disc and closely spaced to the upper end of the tube means, a plurality of divider rods, said divider rods being



radially disposed about the tube means and supported vertically from the annular disc, each of said divider rods being curved and having two free ends, the curved divider rods extend upward a short distance above the annular disc then form a substantially V-shaped curve with the bight of the curve positioned more than halfway above the annular disc and the circular table top, two rings of openings in the annular disc disposed about the tube means which receive the free ends of the curved divider rods and frictionally hold the curved divider rods in place, one ring of inner openings evenly spaced around the tube means adjacent thereto and an outer ring of openings evenly spaced around the tube means adjacent to the outer periphery of the annular disc whereby the curved divider rods are each disposed in an inner and outer opening to form a radial pattern.

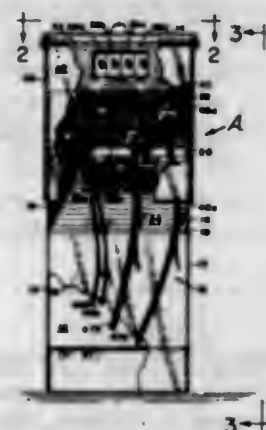
3,341,267
MULTIPLE PANEL MERCHANDISE RECEPTACLE FOR A MERCHANDISE VENDING MACHINE
Norman G. Weltzman, % Arnold J. Provisor,
16401 Knapp St., Sepulveda, Calif. 91343
Filed June 2, 1965, Ser. No. 460,687
17 Claims. (Cl. 312-35)



1. A multiple panel merchandise receptacle for a merchandise vending machine, comprising: a bottom hopper means; an intermediate upstanding framework means ef-

fectively coupled with respect to said bottom hopper means thereabove and extending upwardly therefrom to a predetermined extent; said upstanding framework means comprising a plurality of upstanding, substantially similar, parallel, spaced corner post members, each having a bottom end and a top end; a top fastening rim and ring of substantially the same shape as seen in plan view as that defined at a corresponding plurality of spaced locations by said top ends of said plurality of upstanding corner post members of said upstanding framework means, said top fastening rim and ring being provided with a corresponding plurality of corner-positioned fastening projections extending outwardly therefrom into positions directly overlying and fastened to the corresponding top ends of said plurality of corner post members of said upstanding framework means, each of said corner post members being provided with two angularly related receiving channel portions facing the corresponding receiving channel portion of the next laterally spaced adjacent corner post member and being substantially parallel thereto; a corresponding plurality of substantially rectangular panel members each having vertically spaced, substantially parallel top and bottom edges and horizontally spaced, substantially parallel side edges adapted to be effectively vertically slidably received within a corresponding and different facing pair of said vertically directed receiving channel portions of the corresponding laterally spacedly adjacent pair of said corner post members in closing relationship across the corresponding side of said framework means and controllably vertically slidably removable therefrom when desired; a permanent-type closure cover means provided with fastening and locking means for controllably removably fastening said permanent-type closure cover means immediately above and in retaining relationship with respect to said top edges of said panel members for effectively forcing said panel members downwardly into edge-mounted, positively retained relationship within each of said corresponding and different facing pairs of said vertically directed receiving channel portions of the corresponding, laterally spacedly adjacent pairs of said corner post members.

3,341,268
UTILITY CABINET
Ralph W. Bickford, Napa, Calif., assignor to James L. Hall Co., Inc., San Francisco, Calif., a corporation of California
Filed Aug. 6, 1965, Ser. No. 477,853
4 Claims. (Cl. 312-100)

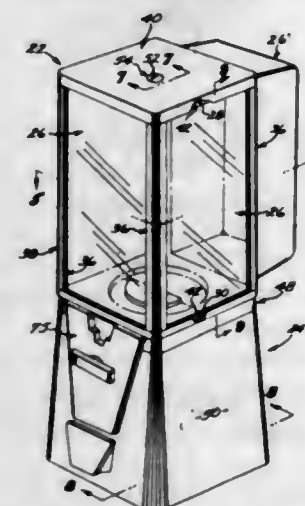


1. A weatherproof outdoor utility cabinet adapted to receive at least one utility cable comprising a container having back, side, top and front sections; said front section including spaced upper and lower vertical portions and a central mounting support having a pair of opposed ends secured to the confronting edges of said upper and lower vertical portions, said support including a pair of

inwardly extending intersecting surfaces, angularly disposed in relation to said vertical portions; at least one utility outlet secured through each of said surfaces; a cover panel pivotally attached to said side sections immediately beneath said top section for movement from a closed position to an open position with respect to said front section, said cover panel having a width sufficient to extend beyond said side sections, and having side flanges disposed relative to said cover panel, and a lower edge extending below said at least one utility outlet when said panel is in said closed position; said cover panel and the confronting edge of said lower vertical portion defining a slot of sufficient width to receive at least one utility cable when said panel is in said closed position whereby said cover panel can be pivoted to the open position to allow connection of said at least one utility cable to said at least one utility outlet in said pair of surfaces and returned to the closed position to protect said at least one utility outlet from exposure to weather.

4. A weatherproof outdoor utility cabinet in accordance with claim 1 wherein the lower edge of said cover panel is irregularly shaped to receive said utility cables when disposed in the closed position.

3,341,269
MULTIPLE SLIDING-PANEL MERCHANDISE RECEPTACLE FOR A MERCHANDISE VENDING MACHINE
Norman G. Weltzman, % Arnold Provisor, 16401 Knapp St., Sepulveda, Calif. 91343
Filed Mar. 11, 1966, Ser. No. 533,551
14 Claims. (Cl. 312-205)



1. A multiple sliding-panel volume-adjustable merchandise receptacle for a merchandise vending machine, comprising: a bottom hopper means; an intermediate upstanding framework means positioned above and effectively coupled with respect to said bottom hopper means and extending upwardly therefrom to a predetermined extent, said upstanding framework means comprising a plurality of upstanding, substantially similar, parallel spaced corner post members, each having a bottom end and a top end, each of said corner post members being provided with two angularly related receiving channel portions facing the corresponding receiving channel portion of the next laterally spacedly adjacent corner post member and being substantially parallel thereto; and a plurality of side panel members, each of substantially rectangular configuration as seen in front elevation, and each having vertically spaced substantially parallel top and bottom edges and horizontally spaced, substantially parallel side edges adapted to be effectively vertically slidably received within a corresponding and different facing pair of said vertically directed receiving channel portions of the corresponding laterally spacedly adjacent pair of said corner post members in closing relationship across the corresponding side of said framework means and controllably

vertically slidably removable therefrom when desired, at least one of said plurality of side panel members having an effective volume-expanding, outwardly projecting, inward-cavity-defining intermediate wall portion integrally connected to said top, bottom, and side edges and effectively defining an auxiliary volume-enlarging cavity there-within communicating with the hollow interior of the merchandise receptacle and effectively comprising a side-positioned volume-increasing portion thereof.

3,341,270
OFFICE EQUIPMENT SYSTEM AND COMPONENTS THEREOF
William I. Sohl, Chappaqua, N.Y., assignor to Art Metal, Inc., Jamestown, N.Y.
Filed Oct. 21, 1965, Ser. No. 499,454
10 Claims. (Cl. 312-214)

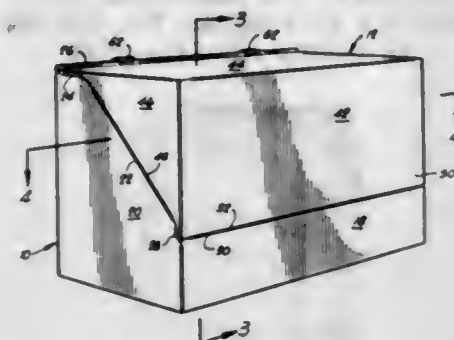


1. An office equipment assembly comprising a shell component including opposite side wall panel portions, a pair of vertical stringer devices rigidly fixed in spaced parallel relation against the inside surfaces of each of said panel portions, each of said stringer devices having a vertically extending runner portion spaced from the adjacent wall panel, said runner portions being perforated at closely spaced intervals in vertical and horizontal alignments, said stringers being thereby adapted to receive insert connection device in detachably engaged relation at vertically adjustable positions thereon for mounting accessory devices in movable relation thereon, and a liner plate member of generally flat-surfaced form disposed in standing relation against each of said stringer runner portions and perforated in congruence therewith, whereby the same insert connection devices may be employed to relatively assemble said liner plates to said stringers and to mount the desired accessory devices upon said assembly.

3,341,271
FILE FOR STORING PERIODICAL MAGAZINES
Edward B. Nelson, P.O. Box 487,
Chandler, Okla. 74834
Filed Sept. 16, 1965, Ser. No. 487,772
2 Claims. (Cl. 312-290)

2. A periodical storage file comprising:
a base formed of an integral unitary structure of molded synthetic resin and including:
a generally rectangular, vertically extending back wall;
a generally rectangular, vertically extending front wall spaced from and extending parallel to said back wall, said front wall being of substantially lesser height than said back wall;
a generally rectangular bottom wall extending perpendicular to said front and back walls and being substantially coextensive in length therewith;
a pair of spaced, parallel, generally trapezoidally shaped end walls extending perpendicular to said front, back and bottom walls, said end walls each having a diagonal edge, a top edge and a front edge, said top edge extending in a hori-

zontal plane slightly below the top edge of said back wall, and said front edge extending vertically and being slightly longer than the height of said vertically extending front wall; and a plurality of spaced, parallel divider panels positioned in said integral unitary base and disposed between, and spaced from, said end walls and extending parallel thereto, said divider panels each being substantially identical in shape to said end walls, and extending perpendicularly to, said front, back and bottom walls, said divider panels each having a thickness which is about one-half that of said end walls, front wall, back wall and bottom wall; and



a movable, integrally molded, unitary cover pivotally connected to said base portion and including:
a rectangular top wall having a pair of hinge lugs extending from one edge thereof and engaging said back wall, the top wall of said cover being of substantially the same size as the bottom wall of said base portion;
a rectangular front wall extending perpendicularly to said top wall and having a total area together with first mentioned front wall substantially equal to the back wall of said base portion; and
a pair of spaced, parallel, generally triangular end walls secured perpendicularly to the top wall of said cover and each having an edge of coextensive length with the diagonal edge of said trapezoidally shaped end walls, said cover being configured to mate, when closed, with said base portion to form a right parallelepiped.

3,341,272

PROCESS OF MANUFACTURE OF INCANDESCENT LAMP

Nickolas P. Demas, Cranford, N.J., assignor to Wagner Electric Corporation, a corporation of Delaware
Filed Sept. 18, 1964, Ser. No. 397,401
6 Claims. (Cl. 316-17)



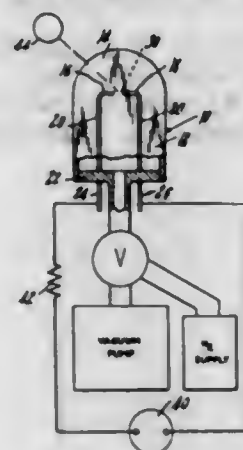
1. A process of manufacturing an incandescent lamp which comprises the steps of flowing a stream of fill gas

into the open neck of a heat fusible envelope containing a filament, said open neck constituting the sole opening in said envelope, delivering said flowing gas stream to an end of said envelope remote from said open neck, reversing the direction of flow of said gas stream at said remote end back towards said open neck and spreading said gas stream laterally at a rate of flow sufficient to completely displace air from said envelope but insufficient to cause turbulence, fusing said open neck when said envelope has been filled with said fill gas, and uniting the walls of said fused open neck about at least one lead-in wire for said filament, said method being carried out without refrigerating said fill gas in order to condense it into liquid form.

3,341,273

METHOD OF MANUFACTURING PHOTO-SENSITIVE DEVICES

Philip Glufrieda, North Andover, John Pratt, Braintree, and Donald L. Graves, Woburn, Mass., assignors to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Original application June 19, 1963, Ser. No. 288,963.
Divided and this application Nov. 14, 1966, Ser. No. 605,114
7 Claims. (Cl. 316-22)



1. The method of processing electrode elements for use in radiation sensitive devices comprising the steps of placing two spaced metal elements in an ionizable gas, applying an electric potential across said metal elements to create an electrostatic field between said elements of a magnitude sufficient to initiate an arc discharge between said elements, and controlling said applied electric potential to gradually heat said metal elements up to incandescent temperature in a purification and crystal growing operation to produce improved photosensitive characteristics in the regions of said metal elements that are heated to incandescent temperature.

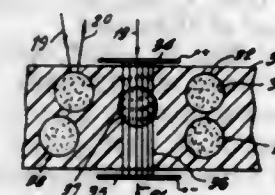
3,341,274

ELECTRICALLY RESPONSIVE LIGHT CONTROLLING DEVICE EMPLOYING SUSPENDED DIPOLE PARTICLES IN A PLASTIC FILM

Alvin M. Marks, 153-16 10th Ave., Whitestone, N.Y. 11357
Original application Feb. 4, 1964, Ser. No. 342,437, now Patent No. 3,257,903, dated June 28, 1966. Divided and this application Sept. 28, 1965, Ser. No. 490,943
3 Claims. (Cl. 350-267)

1. An electrically responsive light controlling device comprising a continuous transparent plastic film having two parallel faces, a plurality of small drop-like elements within the film, said drops comprising a liquid and a

plurality of thin high index flakes suspended therein, a transparent electrode on each face of the film and means

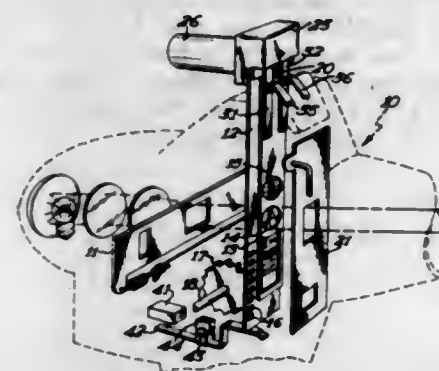


to apply an electrical potential to the electrodes to align the flakes within the drops normal to said faces.

3,341,275

REMOTE CONTROL VISUAL ACUITY TEST PROJECTOR WITH ELECTRIC MOTOR CARRIED BY FILM CHART AND COUPLED TO ASTIGMATISM TEST ELEMENT

Norman D. Haugen, Minneapolis, Minn., assignor to The Benson Optical Company, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 21, 1963, Ser. No. 317,471
4 Claims. (Cl. 351-30)



1. In visual acuity projector apparatus, the improvement comprising:

- a projector including a light source and a film chart adapted to be controllably moved in a vertical plane across the light beam from said projector between predetermined limits of travel, said film chart including visual acuity test characters and at least one rotating element for testing astigmatism rotatable between predetermined limits;
- a first electrical driving means disposed on said projector;
- translational drive means drivably connected between said film chart and said first electrical driving means for vertically moving said film chart;
- a second electrical driving means attached to the upper end of said film chart and connected to at least said one rotating element thereof including a

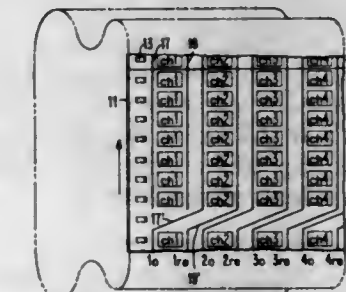
motor connected to reduction gearing, said motor and gearing being disposed on the upper end of said film chart on the side nearest to said light source, said second electrical driving means being adapted to be controlled electrically when said film chart is drivably engaged with said translational drive means;

- a pair of elongated electrical contacts insulatedly attached in a vertical direction along said film chart adjacent its upper vertical end and electrically connected to said second electrical driving means;
- a pair of resiliently urged electrical contacts insulatedly attached to said projector and engaging said pair of electrical contacts on said film chart when said film chart is disposed within a predetermined range from its lower limit of travel;
- and control means electrically connected to said first and second electrical driving means for controlling the movement of said film chart.

3,341,276

RANDOM ACCESS MOTION PICTURE FILM

Merle P. Prater, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 17, 1964, Ser. No. 418,996
1 Claim. (Cl. 352-37)



A random access motion picture film adapted to be filed flat and run in a projector as an endless belt, said film comprising

- a plurality of equal-sized picture frames arranged in parallel channels and rows, and
 - at least two recording tracks extending parallel to each of the channels of picture frames and associated therewith,
- one of the recording tracks containing pre-recorded information while the other is a magnetic record-erase track, said recording tracks having diagonal cross-over portions connecting the tracks associated with a row of picture frames with the tracks associated with the next parallel row of picture frames to provide continuity between the tracks associated with adjacent parallel channels.

CHEMICAL

3,341,277

DYEING WITH A TRIFLUOROMETHYL-PHENYLazo-8-QUINOLINOL AND ARTICLES SO DYED

Ernest M. May, Summit, and Andrew Fono, Montclair, N.J., assignors to Otto B. May, Inc., Newark, N.J., a corporation of New Jersey
No Drawing. Original application Mar. 26, 1963, Ser. No. 267,948. Divided and this application Feb. 11, 1965, Ser. No. 438,154
16 Claims. (Cl. 8-21)

1. An article which comprises a synthetic shaped article dyed and stabilized with a compound which is 5-(2-trifluoromethylbenzeneazo)-8-quinolinol, 5-(4-trifluoromethylbenzeneazo)-8-quinolinol or 5-(3-trifluoromethyl-6-chlorobenzeneazo)-8-quinolinol.

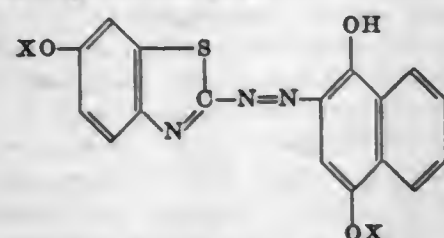
3,341,278

DYEING METALLIZED POLYOLEFINS WITH BENZOTHAZOLEAZONAPHTHOL DYES

Paul L. Stright, Hamburg, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Feb. 28, 1963, Ser. No. 261,862, now Patent No. 3,245,981, dated Apr. 12, 1966. Divided and this application Feb. 23, 1966, Ser. No. 549,073
5 Claims. (Cl. 8-42)

1. The process for dyeing normally solid polymers of α -olefins having 2 to 3 carbon atoms and containing a Werner complex forming metal which comprises contact-

ing said polymer with an aqueous dispersion of a monoazo compound having the formula



wherein X represents a lower alkyl group and wherein the aromatic nuclei are unsubstituted or further substituted by radicals selected from the group consisting of lower alkyl, lower alkoxy, halogen, nitro, N,N-diethyl sulfamyl and N-methyl sulfamyl.

3,341,279

MODIFICATION OF REACTIVE HYDROGEN- AND HALOGEN-CONTAINING MATERIALS WITH THIOXANE DIOXIDE

Harlan B. Freyermuth, Easton, Pa., and David I. Randall, New Vernon, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 22, 1961, Ser. No. 111,454
17 Claims. (Cl. 8—120)

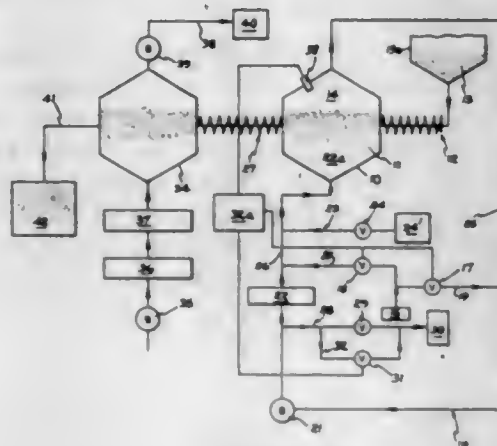
1. A process for improving the properties of fibrous material while retaining the fiber structure thereof comprising treating fibrous material containing a member of the group consisting of reactive hydrogen atoms and reactive halide atoms with an aqueous alkaline medium containing about 0.5 to 50% by weight of 1,4-thioxane dioxide and then drying and curing the treated material at a temperature of at least about 250° F.

3,341,280

STERILIZATION APPARATUS AND METHOD

Dave Eolkin, San Lorenzo, Calif., assignor to Norda Essential Oil and Chemical Co., New York, N.Y.

Filed June 20, 1963, Ser. No. 289,278
9 Claims. (Cl. 21—58)



1. A continuous method for sterilizing a particulate material comprising introducing said material into an enclosed treatment zone, fluidizing the material in said zone with a sterilizing gas to sterilize the same, discharging the sterilized material from said zone while introducing more material to said zone to be sterilized, and continuously maintaining the gas pressure in said treatment zone above the fluidized material at a preselected pressure below the external atmosphere by removing gas from said treatment zone, and recycling only a portion of the removed gas whereby said introducing, fluidizing and discharging steps result in substantially no contamination of the ambient atmosphere with said sterilizing gas.

3,341,281

FLUORINATION CATALYST PELLETS

Ralph A. Davis and Keith A. Allswede, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,515

4 Claims. (Cl. 23—88)

1. A pelleted intimate mixture of 1-3 parts by weight of graphite, 1-10 parts of starch, and 100 parts of a fluoride composition consisting essentially of one part of CrF_3 as the polyhydrated salt and 0-4 parts by weight of aluminum fluoride.

3. A process for making an improved chromium oxy-fluorination catalyst which comprises forming an intimate mixture of 1-3 parts by weight of graphite, 1-10 parts of starch, and 100 parts of a fluoride composition consisting essentially of one part of CrF_3 as the polyhydrated salt and 0-4 parts by weight of aluminum fluoride, compressing said mixture into pellets, and heating said pellets in an oxygen-containing gas at 350-750° C. until they are substantially free of carbonaceous material.

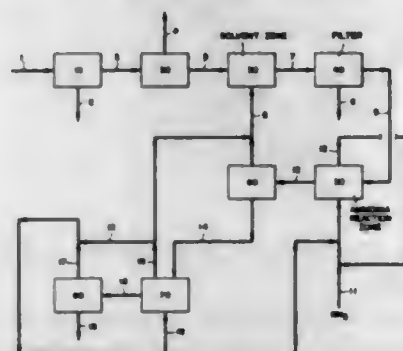
3,341,282

DEHYDRATION MAGNESIUM CHLORIDE UTILIZING ALCOHOL SOLUTION AND AMMONIA

Charles Newton Kimberlin, Jr., and Fred J. Buchmann, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 14, 1965, Ser. No. 448,220

9 Claims. (Cl. 23—91)



1. Process for the production of high quality anhydrous magnesium chloride from carnallite which comprises heating the carnallite in a roasting zone under temperature and pressure conditions to remove the water of hydration therefrom, thereafter dissolving the dehydrated magnesium chloride in a solvent, filtering the solution to remove undissolved impurities including potassium chloride therefrom, treating the solution in an initial reaction zone with ammonia gas under conditions to precipitate magnesium chloride ammoniate, separating the precipitate from the solvent, passing the precipitate in a drying zone to remove the last traces of solvent therefrom by treatment with additional ammonia gas, then subjecting the dried magnesium chloride ammoniate in a secondary reaction zone to conditions to decompose the same into ammonia and into a high-quality, anhydrous magnesium chloride product.

3,341,283

CHLORINATION OF ALUMINUM IN THE PRESENCE OF IRON

Denis Cleaver, Saltburn, and John Dennis Herriman, Great Ayton, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom

Continuation of application Ser. No. 354,677, Mar. 25, 1964. This application May 16, 1966, Ser. No. 550,566

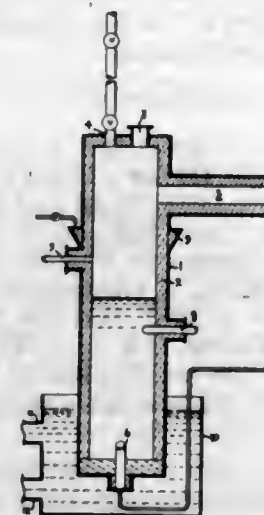
Claims priority, application Great Britain, Apr. 1, 1963, 13,994/62

10 Claims. (Cl. 23—93)

1. A process for purifying vaporous aluminum trichloride containing iron as an impurity in excess of 200 parts

per million by weight which comprises intimately contacting in the absence of substantial free chlorine said contaminated vaporous aluminum chloride with molten aluminum metal at a temperature of at least 700° C. to effect reaction between said molten aluminum metal and

ing temperature; and forming said fibrous alumina on said condensing surface; the improvement which comprises: maintaining the rate of flow of said gas between about 60 ml./min. and 90 ml./min. for a melt surface area of about 5 square inches thereby producing alpha alumina substantially entirely in the form of wool-like fibers.



said iron impurity whereby said iron impurity is converted to a non-volatile state under the conditions of said contacting and separating aluminum chloride vapors containing less than 100 parts per million by weight of iron impurity from the molten aluminum metal.

3,341,284

HIGH-SILICA MOLECULAR SIEVE ZEOLITES

Dean Arthur Young, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,111

7 Claims. (Cl. 23—112)

1. A method for the manufacture of a molecular sieve zeolite of the Y crystal type which comprises forming a reaction mixture consisting essentially of water, an amorphous diatomite, sodium hydroxide and sodium aluminate, wherein the mole-ratios of the components fall within the ranges:

$\text{Na}_2\text{O}/\text{SiO}_2$ —0.2-0.6

$\text{SiO}_2/\text{Al}_2\text{O}_3$ —6-30

$\text{H}_2\text{O}/\text{Na}_2\text{O}$ —18-60

and wherein said diatomite forms the principal source of SiO_2 therein; digesting said reaction mixture at an elevated temperature for a sufficient length of time to form a substantial proportion of a sodium Y molecular sieve zeolite having a $\text{SiO}_2/\text{Al}_2\text{O}_3$ mole-ratio greater than about 3, and recovering said zeolite from the reaction mixture.

3,341,285

PROCESS FOR PREPARING ALUMINA WOOL

Robert H. Kelsey, West Acton, Mass., assignor to Horizons Incorporated, a corporation of New Jersey

Filed July 16, 1964, Ser. No. 383,097

1 Claim. (Cl. 23—142)

In the process of forming fibrous anhydrous, alpha alumina which consists in heating a metal consisting essentially of aluminum to melt said metal; contacting the melt with gas consisting essentially of hydrogen gas dried to a dewpoint between minus 30° C. and minus 90° C., while said melt is maintained at a temperature of at least 1370° C. to below about 1510° C.; providing a condensing surface in physical contact with the vapor phase above the melt, said surface containing at least one refractory oxide having a heat of formation smaller than the heat of formation of aluminum oxide, at the prevail-

3,341,286

METHOD OF REMOVING SODIUM CARBONATE FROM SODIUM ALUMINATE LIQUOR

Henri Mercier and Maurice Jamey, Gardanne, France, assignors to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,730

Claims priority, application France, Nov. 19, 1963, 954,258

5 Claims. (Cl. 23—143)

1. In the process for the production of alumina by the treatment of bauxite with sodium hydroxide to form sodium aluminate from which alumina is precipitated by dilution and wherein the alumina is separated from the remaining liquor, the improvement which comprises the steps of concentrating the liquor to a range of 280-330 grams total Na_2O per liter, adding to the liquor sodium hydroxide solution in which the sodium hydroxide is present in a concentration corresponding to an amount within the range of 400-600 grams Na_2O per liter, heating the resultant mixture whereby sodium carbonate present in the liquor precipitates as crystals of large dimension that enable easy separation, and separating the crystals of sodium carbonate from the solution.

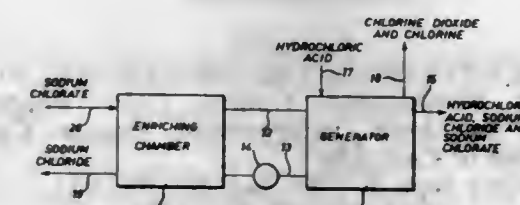
3,341,287

PROCESS FOR THE PRODUCTION OF CHLORINE DIOXIDE

Herbert C. Scribner, Scarborough, Ontario, Canada, assignor to Electric Reduction Company of Canada, Ltd., Toronto, Ontario, Canada

Filed Oct. 11, 1963, Ser. No. 315,456

8 Claims. (Cl. 23—152)



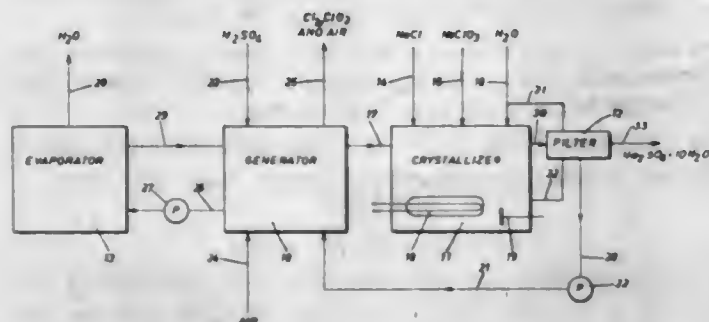
1. In a process for the production of chlorine dioxide of a type in which an aqueous solution of an alkali metal chlorate is reacted with hydrochloric acid in a reaction zone to produce chlorine dioxide and an alkali metal chloride, at least a portion of the solution in said reaction zone is passed to an enriching zone to increase the chlorate content of the last-mentioned solution and then conducted after enrichment to said reaction zone for reaction with hydrochloric acid to generate chlorine dioxide; the improvement characterized by providing in said enriching zone alkali metal chlorate in an amount in excess of the amount of chlorate required to saturate said last-mentioned solution with respect to said alkali metal chloride, whereby conditions favourable to the precipitation of said alkali metal chloride are established in said enriching zone, and increasing the chlorate content of said last-mentioned solution and precipitating said alkali metal chloride therefrom in said enriching zone by passing said last-mentioned solution through said enriching zone.

3,341,288

PRODUCTION OF CHLORINE DIOXIDE

Harold Devere Partridge, Youngstown, and Edward S. Atkinson, Lewiston, N.Y., and Herbert C. Scribner, Scarborough, Ontario, and William Howard Rapson, Toronto, Ontario, Canada, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed Dec. 27, 1963, Ser. No. 333,872
14 Claims. (Cl. 23—152)



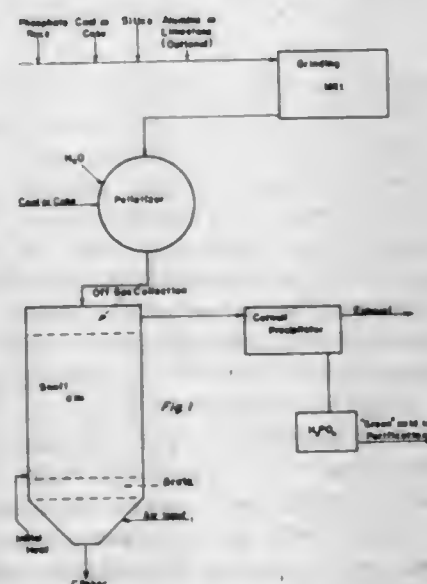
1. A process for the production of chlorine dioxide and the recovery of hydrated sodium sulphate which comprises maintaining a reaction zone for the production of chlorine dioxide and a crystallization zone for the crystallization of hydrated sodium sulphate, adding sodium chloride, sodium chlorate, water and liquid effluent from said reaction zone to said crystallization zone, maintaining the solution in said crystallization zone at a temperature sufficiently low to crystallize hydrated sodium sulphate therefrom, recovering said hydrated sodium sulphate from the crystallization liquor, conducting the liquor remaining after the recovery of said hydrated sodium sulphate to said reaction zone, adding sulphuric acid to said reaction zone, generating chlorine dioxide and chlorine from the reaction mixture in said reaction zone, removing said chlorine dioxide and said chlorine gases from said reaction zone, conducting the liquid effluent from said reaction zone to said crystallization zone, and removing water from said reaction zone to maintain the acid concentration in the reaction zone in excess of that in the crystallization zone, the amount of water added to said crystallization zone being sufficient to result in crystallization of hydrated sodium sulphate.

3,341,289

PRODUCTION OF ORTHO PHOSPHORIC ACID

Thomas A. Hendrickson, Golden, Colo., assignor to Cameron and Jones, Incorporated, Denver, Colo., a corporation of Colorado

Filed Sept. 3, 1963, Ser. No. 305,931
15 Claims. (Cl. 23—165)



1. The method of producing phosphoric acid which consists of comminuting and concomitantly blending a

proportioned intermix of phosphatic rock and solid carbonaceous fuel, pelletizing the intermix as units of from 3/4 inch to 2 inch diametric size in exposure to water, individually coating the intermix pellets with water-bonded, crushed, solid carbonaceous fuel, passing the so-coated pellets through combustion temperatures near 2650° F. adequate to decompose the phosphatic rock contacting through and countercurrent to uprise of air, and recovering from the vapors of combustion the resulting phosphoric acid constituent thereof.

3,341,290

PREPARATION OF HIGH PURITY MAGNESIUM OXIDE FROM MAGNESIUM SALT SOLUTIONS

Gary A. Bornemann and William F. McIlhenny, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Nov. 4, 1963, Ser. No. 321,130
9 Claims. (Cl. 23—201)

1. A method for the preparation of high purity magnesium oxide from a water-soluble magnesium salt comprising:

- adding a calcium ion sequestering agent to an aqueous solution of a magnesium salt feed material;
- adding an aqueous basic solution selected from the group consisting of aqueous alkali metal hydroxides and ammonium hydroxide to said mixture so as to raise the pH of said mixture to at least 11.0 thereby precipitating magnesium hydroxide;
- separating said magnesium hydroxide from the residual aqueous liquor;
- dissolving said magnesium hydroxide in an aqueous solution of a mineral acid thus forming a corresponding magnesium salt solution;
- adding an aqueous solution of a soluble salt of a metal selected from the group consisting of iron and aluminum to the magnesium salt solution;
- adding an aqueous basic solution selected from the group consisting of alkali metal hydroxides and ammonium hydroxide to said solution thereby raising the pH of said solution to at least 8 and not greater than about 9 thereby precipitating out said hydroxide of the metal salt;
- removing the insolubles from said solution;
- passing the substantially solid free solution through an ion exchange resin bed, said resin bed having a stronger affinity for aluminum and iron ions than for magnesium ions;
- adding to said solution from said resin bed, a compound selected from the group consisting of sodium oxalate, potassium oxalate, ammonium oxalate, sodium lactate, potassium lactate, ammonium lactate, sodium carbonate, potassium carbonate, and ammonium carbonate, in an amount sufficient to precipitate from solution the corresponding magnesium salt;
- separating said precipitated magnesium salt from said solution; and
- calcining said magnesium salt thereby producing high purity magnesium oxide.

3,341,291

PRODUCTION OF TITANIUM DIOXIDE

Frank Edward Mabbs, Redcar, and Brian Barnard, Nunthorpe, Middlesbrough, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,425
Claims priority, application Great Britain, Oct. 4, 1963, 39,114/63

14 Claims. (Cl. 23—202)

1. In the process for producing titanium dioxide from oxidic titaniferous materials contaminated by at least one material of the group consisting of chromium, vanadium,

niobium and iron impurities, which process comprises the steps of

- dissolving said oxidic titaniferous material in aqueous sulfuric acid to form an aqueous solution of titanyl sulfate;
- hydrolyzing said titanyl sulfate solution to form hydrous titanium dioxide; and
- recovering and calcining said hydrous titanium dioxide, the improvement for substantially reducing the amount of said contamination carried over into the final product which comprises the additional steps of
 - heating said solution from step (a) to a temperature and for a time sufficient to initiate precipitation of titanyl sulfate;
 - adding aqueous sulfuric acid to the heated solution from step (i) after commencement of precipitation of titanyl sulfate but prior to the completion thereof to provide an aqueous acidic slurry of precipitated titanyl sulfate;
 - separating the precipitated titanyl sulfate from the mother liquor after the completion of said precipitation;
 - redissolving the precipitated titanyl sulfate from step (iii) in aqueous liquid to provide a fresh aqueous solution of titanyl sulfate of substantially reduced contamination; and
 - employing said titanyl sulfate solution of step (iv) in hydrolysis step (b).

3,341,292

FLUORO COMPOUND SYNTHESIS

Abe F. Maxwell, Morris Township, Morris County, Robert L. Sturtevant, Morristown, and Bernard Sukornick, Elizabeth, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 15, 1962, Ser. No. 218,480
13 Claims. (Cl. 23—203)

1. The process for making trifluoroamine oxide which comprises introducing into the reaction zone of a reactor, gaseous elemental fluorine and gaseous nitric oxide, regulating relative rates of feed of fluorine and of nitric oxide and relative proportions of fluorine and of nitric oxide so as to maintain in the reaction zone spontaneous exothermic reaction of fluorine and nitric oxide, and discharging trifluoroamine oxide from the reaction zone.

7. The process for making trifluoroamine oxide which comprises introducing into and bringing together in the reaction zone of a reactor gaseous elemental fluorine and gaseous nitric oxide, regulating relative rates of feed of fluorine and of nitric oxide and relative proportions of fluorine and of nitric oxide so as to maintain in the reaction zone spontaneous exothermic reaction of fluorine and nitric oxide, abruptly discharging reaction zone reaction products into a quenching zone and immediately shock-cooling said reaction products therein to temperature substantially in the range of minus 110—minus 135° C., and discharging trifluoroamine oxide from the quenching zone.

3,341,293

PREPARATION OF FLUORO COMPOUNDS

Abe F. Maxwell, Durham, N.C., and Donald H. Kelly, Gladstone, and Bernard Sukornick, Elizabeth, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 26, 1963, Ser. No. 276,105
6 Claims. (Cl. 23—203)

1. The process for making trifluoroamine oxide which comprises heating NOF and elemental fluorine, in a reaction zone, at temperatures not less than about 150° C. and while at pressure not less than about 2000 p.s.i.g. to effect reaction of NOF with fluorine to form trifluoroamine oxide.

3,341,294

DIOXYGEN BROMINE PENTAFLUORIDE

Aristid V. Grosse and Alex G. Streng, Philadelphia, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Jan. 10, 1964, Ser. No. 337,106
2 Claims. (Cl. 23—203)

- Dioxygen bromine pentafluoride, O₂BrF₅.
- A process of producing dioxygen bromine pentafluoride comprising: depositing a coat of O₂F₂ on a surface maintained at a temperature of 90° K., subsequently coating said O₂F₂ with a stoichiometric amount of BrF₃, and raising the temperature from 90° K. to 130° K.

3,341,295

THIONYLTETRAFLUORIDE

Richard E. Elbeck, Morristown, N.J., and Abe F. Maxwell, Durham, N.C., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 18, 1964, Ser. No. 368,339
4 Claims. (Cl. 23—203)

- A process for producing thionyltetrafluoride from sulfur dioxide and elemental fluorine which comprises contacting gaseous sulfur dioxide with elemental fluorine at a temperature above 1000° C. to convert the sulfur dioxide and fluorine into thionyltetrafluoride.

3,341,296

ORTHORHOMBIC BORON ARSENIDES AND THEIR PREPARATION

Forrest V. Williams, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Original application July 21, 1958, Ser. No. 749,661. Divided and this application Aug. 2, 1965, Ser. No. 505,774

3 Claims. (Cl. 23—204)

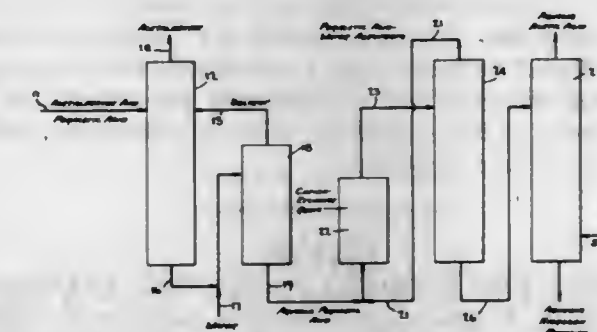
- Process for the production of shaped objects which comprises pressing a mass of finely-divided orthorhombic crystalline boron arsenide into the desired shape and heating the said mass at a temperature of from 900° C. to 1,200° C. in order to consolidate the said powder into a compact mass.

3,341,297

PRODUCTION AND RECOVERY OF AQUEOUS HYDROGEN PEROXIDE SOLUTIONS

Alexander F. MacLean and Adin L. Stautzenberger, Corpus Christi, Tex., assignors to Celanese Corporation, a corporation of Delaware

Continuation of application Ser. No. 714,627, Feb. 11, 1958. This application Feb. 26, 1964, Ser. No. 347,394
8 Claims. (Cl. 23—207)



- Process for the production of aqueous hydrogen peroxide which comprises bringing a feed mixture of peracetic acid and sufficient water to convert at least 50% of said peracetic acid, by reaction with water, to hydrogen peroxide into contact with a solid acid cation-exchange

resin catalyst to effect the reaction of water and peracetic acid whereby at least 50% of said peracetic acid is converted to hydrogen peroxide and acetic acid; separating said catalyst from the reaction mixture; partially recovering said reaction mixture by subatmospheric azeotropic distillation to produce a peracetic acid-water azeotropic distillate, and recovering aqueous hydrogen peroxide from the thus-distilled reaction mixture.

3,341,298

METHOD FOR THE DETECTION OF FREE WATER IN HYDROCARBON FUELS

Robert P. Pietrangelo, Apt. 25A, Erringer Place, Manheim and Morris, Philadelphia, Pa. 19144

No Drawing. Filed Feb. 18, 1964, Ser. No. 345,809
4 Claims. (Cl. 23—230)

1. A method for visually detecting the presence of free water in hydrocarbon fuels which comprises the following steps, viz—

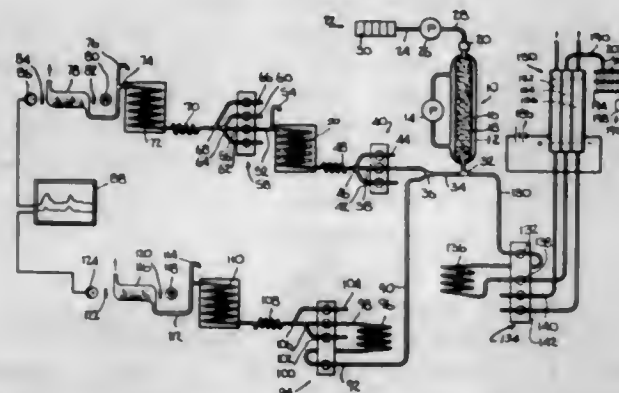
- intermixing said hydrocarbon fuel with sodium fluorescein;
- brominating the sodium fluorescein to produce sodium tetrabromo fluorescein;
- passing ammonia gas through the sodium tetrabromo fluorescein;
- and observing the nature of the change in coloration of the ammoniated sodium tetrabromo fluorescein.

3,341,299

CHROMATOGRAPHY ANALYSIS APPARATUS AND METHOD

George N. Catravas, Yonkers, N.Y., assignor to Technicon Corporation, a corporation of New York

Filed Aug. 14, 1964, Ser. No. 389,728
12 Claims. (Cl. 23—230)



8. A method of analyzing a plurality of different peptides, each appearing in a fraction of a continuous liquid stream, comprising: mixing the continuous peptide stream with a continuous stream of alkali having a concentration in the range of 3 to 4 normal; heating the continuous stream of peptide and alkali over an interval of its flow to hydrolyze the peptides; reacting the continuous stream of hydrolyzed peptides with a continuous stream of color producing reagent; and continuously measuring the optical density of the stream of color producing reagent reacted hydrolyzed peptides.

3,341,300

DEVICE FOR CHROMATOGRAPHIC ELUTION

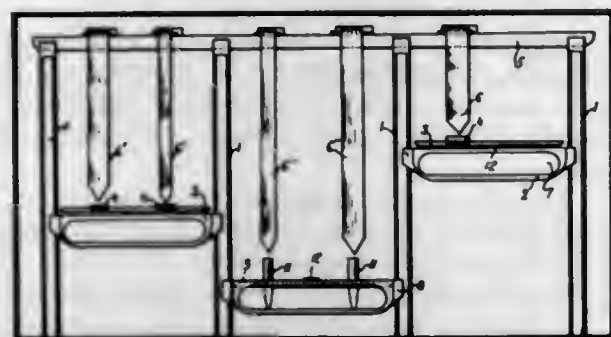
Jiří Hofman, Prague, Czechoslovakia, assignor to Laboratorní Přístroje, národní podnik, Prague, Czechoslovakia

Filed Sept. 23, 1964, Ser. No. 398,634
Claims priority, application Czechoslovakia, Sept. 25, 1963, 5,262/63

8 Claims. (Cl. 23—253)

1. In a chromatographic apparatus, in combination: (a) a plurality of horizontally spaced, upwardly elongated support members;

- a carrier member interposed between two of said support members;
- two resilient clip members on said carrier member respectively normally engaging said two support members under the resilient force thereof;



- a first receptacle adapted to hold a liquid and extending between said support members above said carrier member; and
- holding means on said carrier member for holding a second receptacle adapted to hold a liquid.

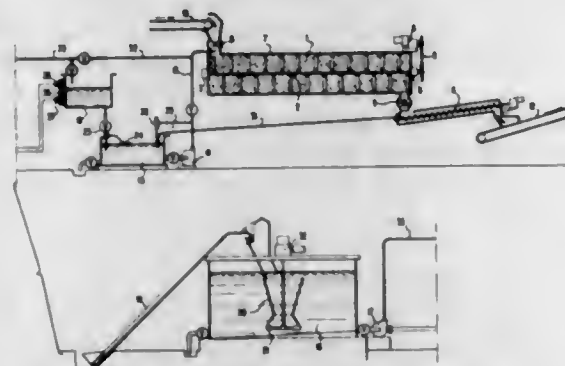
3,341,301

APPARATUS FOR THE CONTINUOUS PRODUCTION OF ARTIFICIAL FERTILIZERS

Fernando Carbona, 9 Rue Galilee, Paris 8, France

Filed Feb. 3, 1964, Ser. No. 341,956
Claims priority, application France, Feb. 7, 1963, 923,991

3 Claims. (Cl. 23—259.1)



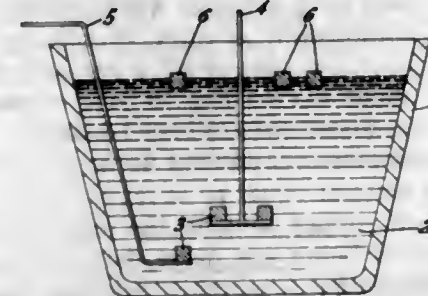
1. Apparatus for the continuous production of artificial fertilizer from vegetable material, comprising a pressure vessel, a sealed inlet for raw vegetable material, means for feeding raw vegetable material to said inlet, a sealed outlet for treated vegetable material, means for removing treated vegetable material from said outlet, means for moving vegetable material through the pressure vessel from said inlet to said outlet, means for feeding a nitrogenous aqueous solution to said pressure vessel adjacent said inlet and for maintaining the interior of said pressure vessel under superatmospheric pressure, means for removing spent solution from said pressure vessel adjacent said outlet, said nitrogenous solution moving generally cocurrently with the vegetable material through the pressure vessel to impregnate the vegetable material with nitrogenous compounds, a storage vessel, means for conducting said spent solution to said storage vessel, a make-up vessel for fresh solution, means for introducing water-soluble nitrogenous compounds and water into said make-up vessel, agitator means in said make-up vessel for promoting the dissolution of said nitrogenous compounds, means for conducting fresh solution from said make-up vessel to said storage vessel, and means for conducting nitrogenous solution from said storage vessel to said pressure vessel.

3,341,302

FLUX-MELT METHOD FOR GROWING SINGLE CRYSTALS HAVING THE STRUCTURE OF BERYL

Edith M. Flanigen, Buffalo, and Allan M. Taylor, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Oct. 6, 1964, Ser. No. 402,004
12 Claims. (Cl. 23—301)



1. A melt-flux process for growing single crystals having the structure of beryl which comprises depositing a composition having the structure of beryl on a seed crystal from a molten flux solution containing nutrient sources of the oxides of beryllium, aluminum and silicon and comprising said oxides as solutes in a state of equilibrium with the crystal being grown, the flux being selected from the class consisting of a vanadium pentoxide, acidic molybdate salts of alkali metals, and acidic tungstate salts of alkali metals, positioning the nutrient source and seed crystal in the molten flux solution, the nutrient sources being located in the flux solution in a zone which is above the zone in which the seed crystal is located, the nutrient source being maintained at a higher temperature than that of the zone in which said seed crystal is located, the said arrangement substantially precluding impurities from migrating from said nutrient source to said seed crystal.

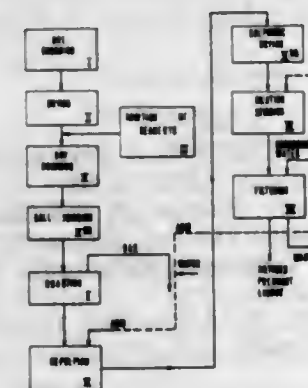
3,341,303

PROCESS FOR THE CONCENTRATION OF URANIFEROUS ORES

Rino Berri, Chatillon-sous-Bagneux, Emile Roques, Versailles, Ernest Sialino, Marly-le-Roi, and Jean Vial, Clamart, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 17, 1966, Ser. No. 521,180
Claims priority, application France, Jan. 22, 1965, 3,042

10 Claims. (Cl. 23—321)



1. Pyrometallurgical and chemical process for the concentration of uraniferous ores containing uranium in the tetravalent state as compounds which are locked in a divided state in silico-aluminates and basic carbonate gangues comprising the steps of grinding the ore, then forming a mixture by adding to the ground ore reagents providing additional sulfur, chlorine and free silica, then heating the mixture at a temperature within the range of 750° C. to 900° C., the proportion of said reagents being such that during the heat treatment the silico-aluminates and basic carbonate gangues are converted into a co-

hesive and water-repellent silico-aluminous matrix and then extracting uranium from said matrix by leaching with an acid solution which does not attack said matrix.

3,341,304

SEPARATION OF URANIUM FROM URANIUM DIOXIDE-ZIRCONIUM DIOXIDE MIXTURES

Billie J. Newby, Idaho Falls, Idaho, assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 8, 1966, Ser. No. 541,401
10 Claims. (Cl. 23—324)

1. A method for separating uranium values from a mixture of uranium dioxide and zirconium dioxide, comprising:

- contacting said dioxide mixture with boiling concentrated hydrofluoric acid or any of the following acids or acid mixtures in combination with boiling concentrated hydrofluoric acid: oxalic and boric acids, chromic and boric acids, boric acid, or nitric acid, in the presence of copper ions, nickel ions or a mixture of copper and nickel ions under an inert atmosphere, whereby the zirconium dioxide is dissolved by said acid or acid mixture solution and the uranium remains as hydrated uranium tetrafluoride, and
- separating the solid from the acid solution.

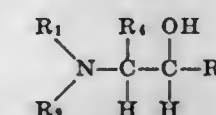
3,341,305

RECOVERY OF URANIUM AND MOLYBDENUM VALUES USING CERTAIN DIFATTY HYDROXYALKYL AMINES

Maurice M. Kreevoy, Minneapolis, Minn., and Kirtland E. McCaleb, Oakland, Calif., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Original application June 7, 1962, Ser. No. 200,646, now Patent No. 3,239,565. Divided and this application Mar. 9, 1965, Ser. No. 438,414
9 Claims. (Cl. 23—340)

1. A process for the recovery of uranium and molybdenum values from aqueous solutions thereof comprising: (1) contacting said aqueous solutions with an organic phase comprising an amine having the general formula



wherein R_1 and R_2 are aliphatic hydrocarbon radicals of from 8 to about 22 carbon atoms, R_3 is an aliphatic hydrocarbon radical of from 5 to about 22 carbon atoms and R_4 is selected from the group consisting of hydrogen and lower alkyl radicals; (2) separating the resulting metal-pregnant organic phase from the resulting metal-barren aqueous phase; (3) contacting said metal-pregnant organic phase with an aqueous stripping medium to strip the metal values from the metal-pregnant organic phase; and (4) separating the resultant metal-pregnant aqueous stripping medium from the organic phase.

3,341,306

PREPARATION OF DIFLUOROAMINE

Donald H. Kelly, Gladstone, and Bernard Sukornick, Elizabeth, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 18, 1963, Ser. No. 296,886
8 Claims. (Cl. 23—356)

6. The process for making difluoroamine which comprises subjecting sulfamic acid in aqueous solution to the action of gaseous elemental fluorine in amount not substantially in excess of 2.5 mols of fluorine per mol of

$\text{NH}_2\text{SO}_3\text{H}$, while maintaining reaction temperature substantially in the range of $0-5^\circ\text{C}$., and thereafter heating the reaction mass to higher temperature but not substantially above 85°C ., and recovering difluoramine resultingly evolved from the reaction mass.

8. The process for making difluoramine which comprises subjecting sulfamic acid in aqueous solution to the action of gaseous elemental fluorine, in amount not substantially in excess of two mols of fluorine per mol of $\text{NH}_2\text{SO}_3\text{H}$, while maintaining reaction temperature substantially in the range of $15-30^\circ\text{C}$., and recovering difluoramine resultingly evolved from the reaction mass.

3,341,307

OXIDATION RESISTANT NIOBIUM

Charles Oliver Tarr, Cincinnati, Ohio, Ray C. Lever, Anchorage, Ky., and Carl S. Wukusick, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 25, 1965, Ser. No. 458,796

4 Claims. (Cl. 29—182.1)

1. A composite oxidation resistant refractory article comprising a porous niobium skeleton having a low melting aluminum, chromium, silicon, and titanium alloy dispersed in said skeleton.

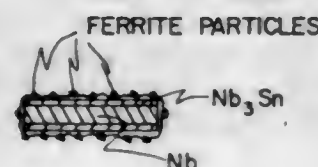
3,341,308

SUPERCONDUCTOR COMPRISING A NIOBIUM SUBSTRATE HAVING A COATING OF NIOBIUM STANNIDE AND PARTICLES OF A FERROMAGNETIC MATERIAL

Anton E. van Arkel, Leiden, Netherlands, assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Sept. 30, 1963, Ser. No. 312,737

4 Claims. (Cl. 29—195)



1. A superconductive electromagnetic coil comprising therein distributed layers of ferromagnetic material for shunting magnetic fields in the coil at cryogenic temperatures, the material having a resistivity in excess of about 10^4 ohm-cm. at cryogenic temperatures.

3,341,309

TERPOLYMER POUR POINT DEPRESSANT AND METHOD OF MANUFACTURE

Stephan Ihnyckij, Islington, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Mar. 11, 1966, Ser. No. 542,981

4 Claims. (Cl. 44—62)

1. A hydrocarbon composition having improved pour characteristics which comprises a major proportion of a petroleum distillate fuel boiling within the range between about 250°F . and 750°F . and a pour depressing effective amount of an oil soluble terpolymer consisting essentially of from about 30 to 85 wt. percent of ethylene, from about 10 to 40 wt. percent of an olefinically unsaturated C_3-C_5 monocarboxylic ester and from about 5 to 30 wt. percent of an ester of ethylenedicarboxylic acid and a C_1-C_{24} monohydric alcohol; said terpolymer having a molecular weight in the range of from about 1,000 to 4,000.

3,341,310
FUELS FOR INTERNAL COMBUSTION ENGINES

Ernst Drouven, Verona, Italy, assignor to Torrimetal Trust, Vaduz, Liechtenstein
No Drawing. Filed Apr. 15, 1963, Ser. No. 272,880
Claims priority, application Austria, Sept. 26, 1958, A 6,768/58

14 Claims. (Cl. 44—69)

1. A motor fuel for use in internal combustion engines, said motor fuel comprising a liquid hydrocarbon motor fuel for internal combustion engines containing as an essential co-active ingredient an additive per each liter of fuel consisting of about 0.5–15 mg. of zinc in the form of zinc naphthenate, about 0.5–25 mg. of copper in the form of copper naphthenate, and lead in the form of lead naphthenate in an amount equal to at least two times the total of the zinc and copper content, the total amount of zinc, copper and lead being not more than 200 mg. per liter, and also containing a member selected from the group consisting of brominated and chlorinated benzene and ethylene in an amount sufficient for an about 10–100% bromination and an about 20–200% chlorination, respectively, of said copper, zinc and lead.

3,341,311

LIQUID HYDROCARBON FUELS

Charles J. Pedersen, Salem, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 27, 1953, Ser. No. 370,286

23 Claims. (Cl. 44—69)

1. A normally liquid hydrocarbon fuel consisting of hydrocarbons in the gasoline boiling range composed preponderantly of aliphatic hydrocarbons containing from about 0.001% to about 1% by weight of an organic compound containing the dicyclopentadienyliron nucleus which is soluble in the fuel and which is a member of the class consisting of dicyclopentadienyliron and substituted dicyclopentadienylirons in which the substituents are on the cyclopentadienyl rings and consist of 1 to 4 members of the class consisting of monohalogenated hydrocarbon radicals of 1 to 12 carbon atoms in which the halogen atom has an atomic weight of at least 35, oxygen-containing organic radicals consisting of 1 to 12 carbon atoms, 1 oxygen atom and the rest hydrogen atoms, amino groups, monoaminoalkyl radicals of 1 to 12 carbon atoms, and a second dicyclopentadienyliron nucleus joined to the first mentioned dicyclopentadienyliron nucleus by two divalent hydrocarbon bridging radicals each of which contains 1 to 12 carbon atoms, there being no more than two of such substituents on any one cyclopentadienyl ring.

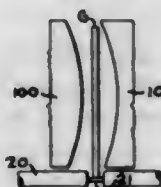
3,341,312

METHOD OF SUPPORTING A THERMOPLASTIC SHEET WITH GAS

Robert William Wheeler, Pittsburgh, and Charles Richard Davidson, Jr., Natrona Heights, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 4, 1964, Ser. No. 372,653

13 Claims. (Cl. 65—25)



6. A method of supporting a flat sheet in stable position comprising engaging the bottom edge surface of said sheet with spaced support elements and directing fluid only between said flat sheet and a curved wall spaced

closely and in convex relation to said sheet at a pressure sufficient to produce a Venturi effect to hold the sheet close to said wall without touching.

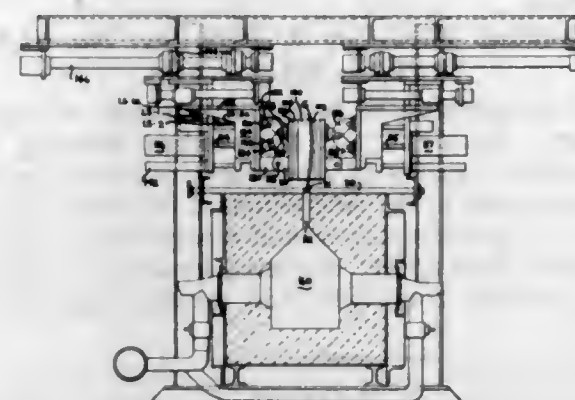
3,341,313

METHOD AND APPARATUS FOR BENDING AND TEMPERING GLASS SHEETS VERTICALLY SUPPORTED WITH FLUID PRESSURE

Robert W. Wheeler, Pittsburgh, and Charles R. Davidson, Jr., Natrona Heights, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 21, 1963, Ser. No. 317,634

19 Claims. (Cl. 65—104)



17. A method of bending and tempering glass sheets as they are moved along a predetermined path through successive heating, bending and chilling areas, said sheets being supported along the lower edges thereof free from gripping by tongs on heated gas during movement through said heating area by applying hot gas against the major surfaces thereof at a pressure sufficient to support said sheets and to heat said sheets to a deformation temperature and on relatively cool gas during movement through said chilling area by applying cold gas against said major surfaces at a pressure sufficient to support said sheets and to reduce the temperature of the sheets sufficiently rapidly to temper the glass, interrupting the forward movement of each of the sheets in said bending area when said sheet is aligned between spaced complementary shaping surfaces and, while supporting said sheets along said lower edges between said complementary shaping surfaces free from gripping by tongs, pressing said sheets into the desired curvature between said complementary shaping surfaces before passing them into the chilling area.

3,341,314

GLASS BEAD MAKING APPARATUS

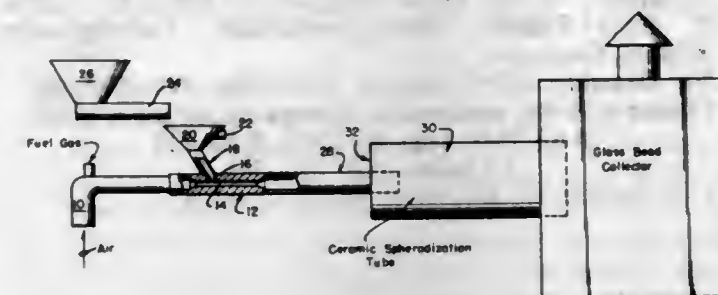
Mark S. Vukasovich, Parma, and Theodore M. Harkulch, Cleveland, Ohio, assignors to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey

Filed May 9, 1963, Ser. No. 279,205

1 Claim. (Cl. 65—142)

A glass bead making apparatus which comprises: means for forming a flowing stream from a combustible mixture of air and gaseous fuel; a horizontal tube for conducting said flowing stream from the entry end of said horizontal tube into a horizontally disposed combustion zone at the exit end of said tube, said tube including a venturi section intermediate the ends of said tube; means for feeding glass cullet into said tube and into said flowing stream at the throat of said venturi section; and a horizontal sleeve defining a combustion zone, said sleeve being disposed about the exit end of said horizontal tube whereby the resulting flowing stream

comprising a mixture of fuel, air and glass cullet is confined by said sleeve and is caused to flow in a more laminar and less turbulent flow pattern during the combustion of said fuel in said sleeve whereby the cullet is heated and forms spherical beads while



it passes along the bore of said sleeve the diameter of said sleeve being between about 4 and 6 times the diameter of said horizontal tube at its exit end and the length of said sleeve being about 1.5 times the length of the combustion zone in said sleeve.

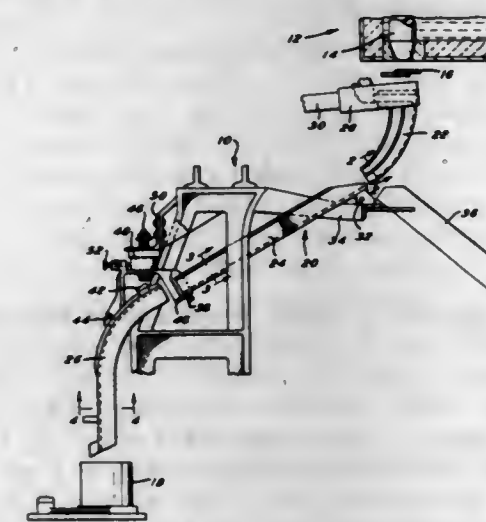
3,341,315

GLASS DELIVERY SYSTEM

Walter O. Patschorke, Bridgeton, N.J., assignor to Maul Brothers, Inc., Millville, N.J., a corporation of New Jersey

Filed Aug. 6, 1964, Ser. No. 387,901

7 Claims. (Cl. 65—304)



1. A glass delivery system for hot material comprising a generally U-shaped member in cross section made from aluminum and angled with respect to the horizontal, a material engaging surface on said member having a generally uniform coating of aluminum oxide which is smooth and has a thickness of at least .0015 inch, and a feeder above said member for feeding gobs of hot glass to said member, whereby the member may deliver the gobs of hot glass to a molding machine.

3,341,316

METHOD FOR DESTRUCTION AND PREVENTION OF WEEDS

Justin H. Reinhart, Jamesburg, N.J., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Nov. 6, 1964, Ser. No. 409,568

1 Claim. (Cl. 71—88)

A method for the destruction and prevention of weeds which comprises applying to the area to be protected in an amount sufficient to exert a herbicidal action the compound 6,8-dinitro-1,3-benzodioxane.

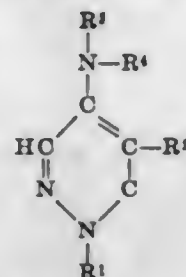
3,341,317

PYRIDAZONE DERIVATIVES AND THEIR USE AS HERBICIDES

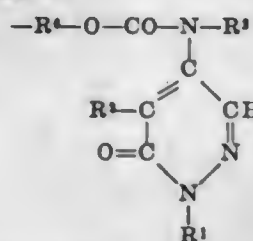
Franz Reicheneder and Franz Winter, Ludwigshafen (Rhine), and Adolf Fischer, Mutterstadt, Pfalz, Germany, and Karl Dury, deceased, late of Kirchheimbolanden, Pfalz, Germany, by said Franz Winter, representative of the heirs, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 3, 1966, Ser. No. 570,091
Claims priority, application Germany, Aug. 17, 1965, B 83,287; Aug. 25, 1965, B 83,429
5 Claims. (Cl. 71-92)

1. A pyridazone derivative of the formula



in which R¹ is a member selected from the group consisting of phenyl, fluoro-substituted phenyl, chloro-substituted phenyl, lower alkyl-substituted phenyl, cyclohexyl, cyclooctyl and cyclohexenyl, R² is a member selected from the group consisting of chlorine, bromine, methoxyl and thiomethyl, R³ and R⁴ together form =C=O or =S=O, or R³ is a member selected from the group consisting of hydrogen and alkyl of one to four carbon atoms and R⁴ denotes —COXR⁵ in which X denotes =O or =S and R⁵ is a member selected from the group consisting of



in which R⁶ denotes ethylene, propylene or butylene and R¹, R² and R³ have the above meanings, alkyl of one to eighteen carbon atoms, hydroxyl-substituted alkyl of 1 to 18 carbon atoms, methoxyl-substituted alkyl of 1 to 18 carbon atoms, ethoxyl-substituted alkyl of 1 to 18 carbon atoms, carboxyl-substituted alkyl of 1 to 18 carbon atoms, chloro-substituted alkyl of 1 to 18 carbon atoms, bromo-substituted alkyl of 1 to 18 carbon atoms, thiocyno-substituted alkyl of 1 to 18 carbon atoms, dialkylamino-substituted alkyl of 1 to 18 carbon atoms, each of said alkyls containing 1 to 4 carbon atoms, alkenyl of three or four carbon atoms, chloro-substituted alkenyl of 3 to 4 carbon atoms, alkynyl of three to six carbon atoms, phenyl chloro-substituted phenyl, bromo-substituted phenyl, hydroxyl-substituted phenyl, lower alkyl-substituted phenyl, cyclohexyl, cyclooctyl and benzyl radical.

5. A method of controlling unwanted plants wherein the plants or the soil in which the plants are growing or are to grow are treated with a phytotoxic quantity of the pyridazone derivative as claimed in claim 1.

3,341,318

AGRICULTURAL MULCH AND HERBICIDAL COMPOSITION AND METHOD

John E. Chilton, Tempe, Ariz., assignor to Arizona Agrochemical Corporation, a corporation of Arizona
No Drawing. Filed Dec. 24, 1964, Ser. No. 421,084
3 Claims. (Cl. 71-96)

1. An agricultural mulch composition comprising:
(a) lignin sulfonate in an amount sufficient, when ap-

plied to the soil in the locus of seeds and growing crop plants, to form an effective moisture conserving soil mulch;

(b) carbon black in an amount sufficient, when applied to the soil in the locus of seeds and growing crop plants, to provide effectively increased soil temperatures; and

(c) water in an amount sufficient to form an effective carrier for said lignin sulfonate and carbon black for application to the soil.

3,341,319

VISCIOUS AQUEOUS PREPARATIONS

Billy B. Hibbard, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 7, 1960, Ser. No. 41,245

15 Claims. (Cl. 71-110)

10. A composition of matter comprising, in aqueous dispersion a herbicide and the product resulting from the contacting together of a polymeric alkenyl-substituted cyclic carbamate in the ring structure of which there are from 5 to 7, inclusive, atoms and a polyalkenyl substance upon which there appear recurring structures comprising moieties selected from sulfo and carboxyl and the salts thereof.

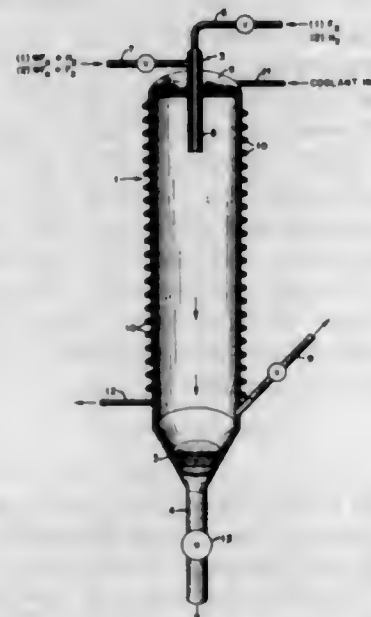
3,341,320

PRODUCTION OF LOW PARTICLE SIZE-HIGH SURFACE AREA METAL POWDERS

Seymour H. Smiley, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 5, 1966, Ser. No. 547,689

6 Claims. (Cl. 75-5)



1. A process for forming a powder from a volatile fluoride of a metal selected from Group IIb, IVa, Va, VIa, VIIa, and VIII of the Periodic Table which comprises separately introducing gas streams consisting of (a) a volatile metal fluoride of the metal of the selected class in a carrier selected from hydrogen and fluorine and (b) a gas selected from the non-selected carrier gas in (a) into a nozzle and surrounding annulus nozzle arrangement within a reaction zone, reacting said hydrogen and fluorine to cause ignition thereof to form a hydrogen-fluorine flame, collecting the resultant powder issuing from said flame and withdrawing the resulting gases from said reaction zone.

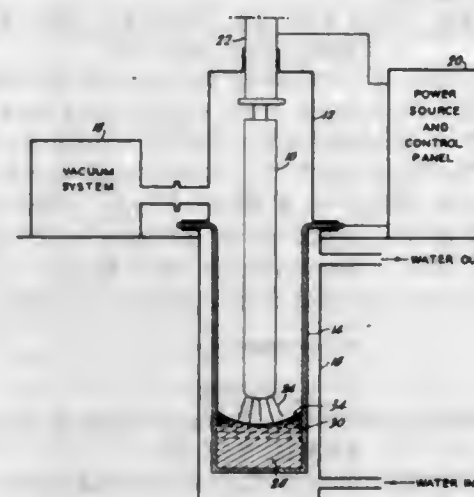
3,341,321

PROCESS FOR TREATING PRIMARILY METALLIC MATERIALS

Thomas W. Morrison, Jenkintown, and Harry Owen Walp, Bywood Heights, Pa., assignors to SKF Industries Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 9, 1963, Ser. No. 315,086

5 Claims. (Cl. 75-12)



1. A process for the treatment of original material of the class capable of use as the consumable electrode in consumable-electrode arc melting in an inert environment, comprising the steps of forming a first consumable electrode of said material and subjecting material of said last-named electrode to repeated consumable-electrode arc melting in an inert environment to form successive ingots, each of said ingots after the first being formed by melting of a limited portion of the immediately-precedingly formed ingot located below the top thereof, said original material consisting substantially of the following:

Element:	Percent by weight (about)
Carbon	0.95 to 1.10
Chromium	1.30 to 1.60
Manganese	0.25 to 0.45
Silicon	0.20 to 0.35
Phosphorus	Up to 0.025
Sulfur	Do.
Aluminum	Up to 0.015
Copper	Up to 0.060
Molybdenum	Up to 0.020
Nickel	Up to 0.080
Vanadium	Up to 0.003
Iron	Remainder.

the respective amounts of the elements aluminum, copper, molybdenum, nickel and vanadium present in said alloy being such as to provide a value of ϕ not greater than about 3.5 in the formula:

$$\phi = \frac{\text{Al}}{0.015} + \frac{\text{Cu}}{0.060} + \frac{\text{Mo}}{0.020} + \frac{\text{Ni}}{0.080} + \frac{\text{V}}{0.003}$$

where the element symbols Al, Cu, Mo, Ni and V represent the percent by weight of each such element present in said alloy.

3,341,322

REDUCTION OF OXIDIC IRON ORES

George William Bailey, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,345

8 Claims. (Cl. 75-26)

1. In a process for the production of sponge iron by the direct reduction of particulate oxidic iron ores in the sequence including a plurality of staged fluidized reduction zones, the combination comprising

dispersing, in liquid, additive compounds of particle size 14 mesh and finer which are selected from oxides and carbonates of the Groups II, IIIA, IVB, and VIB of the Periodic Chart of the Elements, to form a slurry,

wetting and admixing the oxidic iron ore with the slurry to provide concentrations of additive ranging from about 0.1 to about 5%, based on the weight of the feed,

charging the wetted ore into the initial stage of the sequence, fluidizing and drying the oxidic iron ore by direct contact with upwardly flowing hydrogen-containing combustion gases generated in a reduction zone wherein ferric oxide is reduced to a lower state of oxidation and hydrogen is burned with an oxygen-containing gas to provide heat for the process and to maintain an operating temperature of from about 1300° F. to about 1600° F. in said ferric reduction zone, and

in a plurality of ferrous reduction zones operating at a temperature ranging from about 1300° F. to about 1500° F. wherein ferrous oxide is reduced to metallic iron.

3,341,323

BLAST FURNACE CONTROL METHOD

Kenneth H. Gee, Bethlehem, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Filed Mar. 31, 1964, Ser. No. 356,112

2 Claims. (Cl. 75-41)

1. The method of controlling the operation of a blast furnace to produce molten iron, having a sulphur content within a desired control range, from a burden comprising coke, ore and flux, which comprises:

- obtaining a slag basicity control range by
 - taking samples of slag from a plurality of casts from said furnace when operating during periods when the iron temperatures as measured during casting fall within a desired temperature range and when producing iron having a sulphur content within said desired control range,
 - analyzing said slag samples to obtain the range of slag basicities thereof,
- obtaining the basicity of slag cast from said furnace during subsequent casts by
 - taking samples of slag from consecutive subsequent casts,
 - analyzing said slag samples to obtain the slag basicities thereof, and
- changing said burden when the iron temperatures as measured during subsequent casts fall within said temperature range by increasing the flux charge when the slag basicities of at least two of said consecutive subsequent casts fall below said control range and by decreasing the flux charge when the slag basicities of at least two of said consecutive subsequent casts fall above said control range.

3,341,324

METHOD FOR THE RECOVERY OF A COMBUSTIBLE GAS DURING REFINING PIG IRON

Karl Rieder, Linz, Austria, assignor to Firma Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria

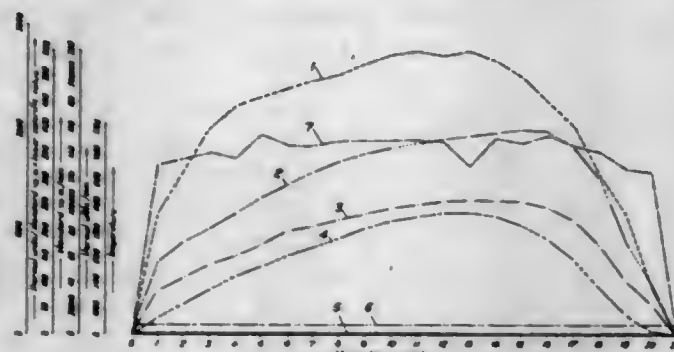
Filed Dec. 18, 1964, Ser. No. 419,490

Claims priority, application Austria, Dec. 23, 1963, A 10,377/63

5 Claims. (Cl. 75-60)

1. In a method for the recovery of a combustible gas during a process of refining pig iron including blowing oxygen from above onto a pig iron bath in a converter, wherein the waste gases evolved during the combustion of carbon and having a content of carbon oxide varying

in dependence on the progress of the refining process, after having escaped from the converter, are passed through a chimney including a boiler system to utilize their sensible heat and stored after their exit from the



chimney, the step comprising adding a slightly oxidizing gas having a substantially constant percentage of oxygen content which is lower than that of air to said waste gases after the beginning of the combustion of carbon.

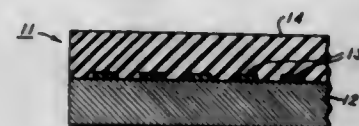
3,341,325 METHOD FOR PRODUCING ALLOY-STEEL ARTICLES

Thomas S. Cloran, East Liverpool, Ohio, assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey
No Drawing. Filed Dec. 9, 1966, Ser. No. 600,367
9 Claims. (Cl. 75-225)

1. A method for producing fine-grained, homogeneous articles characterized by extreme cleanliness from oxygen-contaminated, carbon-bearing metal particles comprising confining a charge of said particles in a substantially moisture-free gas-tight container, in the absence of continuous evacuation heating said charge and container to an elevated temperature and for a time sufficient to substantially reduce oxides present on the powder without causing substantial agglomeration of carbides and sulfides, beginning further evacuation of said container when the pressure therein reaches a predetermined level, continuing evacuation until removal of gaseous reaction products is substantially complete, and compacting said charge within said container while at low pressure and elevated temperature.

3,341,326 DARK DECAY CONTROLLED XEROGRAPHY

Christopher Snelling, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 1, 1962, Ser. No. 227,487
10 Claims. (Cl. 96-1.5)



1. A xerographic plate comprising a continuous photoconductive insulating layer on an electrically conductive base layer and further including a pattern of small, separate, discrete portions of an insulating material on said conductive substrate between portions of said conductive substrate, and portions of said continuous photoconductive insulating layer, said portions of an insulating mate-

rial being thin relative to said continuous photoconductive insulating layer and having a thickness greater than 2 microns.

3,341,327 PHOTOCERAMIC PROCESS FOR PRODUCING VITRIFIED PHOTOGRAPHIC IMAGES

Francis J. Avery, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 30, 1964, Ser. No. 363,989
9 Claims. (Cl. 96-34)

1. The process of producing permanent colored photographic images on ceramic ware which comprises applying to such ware a gelatino-silver halide emulsion, exposing said emulsion underneath a pattern and processing the resultant latent image to a silver image, converting said silver image to an image of a mixture containing lead ferrocyanide and a ferrocyanide of a heavy base metal and firing to convert said ferrocyanides to metal oxides.

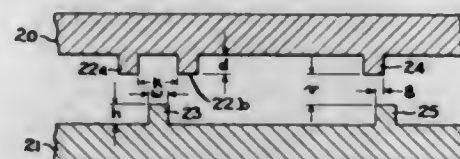
3,341,328 PHOTOPOLYMERIZATION SYSTEM USING CERIC SALTS

Andre K. Schwerin, deceased, late of Binghamton, N.Y., by Johanna Schwerin, administratrix, Binghamton, N.Y., and Edward Cerwonka, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 21, 1964, Ser. No. 420,210
10 Claims. (Cl. 96-35.1)

1. A light-sensitive element carrying on a suitable support, a photopolymerizable coating comprising a hydrophilic colloidal carrier material, a water-soluble ceric salt, a salt selected from the group consisting of ammonium and alkali metal salts of oxalic acid and aliphatic α -hydroxy-substituted carboxylic acids and an ethylenically unsaturated monomer, the ratio of said salt being at least three molar equivalents based on the amount of ceric salt.

3,341,329 PHOTOMECHANICAL METHOD FOR PRODUCING CUTTING DIES

Trevor H. Blake, Neenah, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 26, 1963, Ser. No. 311,788
8 Claims. (Cl. 96-36)



1. In a method for producing a cutting and scoring die for working a sheet material along a preselected pattern of cut lines and score lines, said die comprising a pair of opposed, coating die members, each member being all of one homogeneous piece and including as working elements on its working surface in shallow relief one of a coating pair of cutting elements and one of a pair of coating scoring elements, said paired cutting elements having their longitudinal axes slightly displaced on opposite sides of a desired cut line to be formed in said sheet material and said scoring elements including a male scoring element the longitudinal axis of which is centered on a desired score line to be formed in said sheet material and a female scoring element comprising two raised areas parallel to and having their longitudinal axes slightly and equally displaced on opposite sides of said desired score

line, which method comprises the steps of forming a plan image of each of said cutting and scoring elements, optically transferring the plan image of a first member of each of said pairs of elements onto a first photosensitive surface and the plan image of the second member of each of said pairs of elements onto a second photosensitive surface, removing by chemical means material from said surfaces except in the regions bearing said images to produce a pair of matched opposed coating cutting and scoring dies having said cutting and scoring elements as integral portions thereof in shallow relief above the background areas of said surfaces, the improvement which comprises:

forming a single drawing including the plan images of both members of each pair of working elements, the plan image of the working elements of the first of said pair of die members being marked on said drawing in the combination of a first indicating medium and a second indicating medium, the plan image of the working elements of the other of said pair of die members being marked on said drawing in the combination of the second indicating medium and a third indicating medium, the second indicating medium comprising an area common to the plan images of certain working elements of both die members, said common area being aligned with and substantially equivalent in length to a line of working in said sheet material to be worked and having a critical width precisely related to the displacement of the longitudinal axes of the working elements from the desired line of working and to the degree of undercutting resulting from chemical removal of material in forming said die, said first and third indicating media being optically separable from each other and said second indicating medium being optically combinable with either of said first and third indicating media under conditions which exclude the other of said first and third media.

3,341,330 METHOD OF FORMING THERMALLY STABLE PHOTOCHROMIC IMAGES AND PRODUCT

Peter L. Foris, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Jan. 16, 1964, Ser. No. 338,136
17 Claims. (Cl. 96-48)

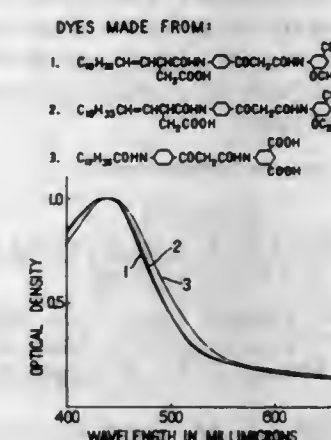
7. A method of recording consisting of the steps of: (a) forming an image on a layer of photochromic material of the spiro-pyran type by exposure of it to ultraviolet light in the image-representing areas, and keeping such image from thermal decay by cooling said layer; (b) and later subjecting the record to acid vapors selected from the group consisting of hydrohalic acid vapors and sulfur dioxide vapors before subjecting the layer to higher temperatures apt to cause thermal decay of the image, said image being reversible to its state in which it is subject to thermal decay by application of ammonia vapors.

3,341,331 PHOTOGRAPHIC SILVER HALIDE MATERIALS UTILIZING SUCCINMONOAMIDO BENZOYL ACETANILIDE COLOR COUPLERS

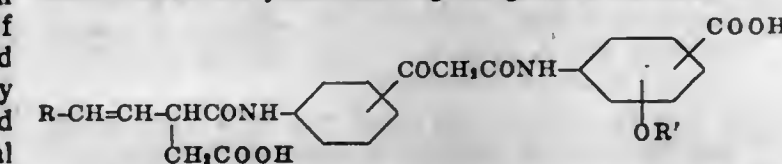
Shiro Kimura, Makoto Yoshida, and Momotoshi Tsuda, Kanagawa-ken, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan
Filed Mar. 23, 1964, Ser. No. 354,049
8 Claims. (Cl. 96-55)

8. The process of producing a yellow dyestuff image in a silver halide emulsion which comprises exposing

said emulsion to light and developing the same with a primary aromatic amino developer in the presence of a



color former for yellow having the general formula

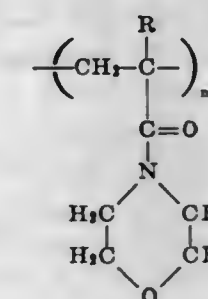


wherein R is an alkyl group having 8-16 carbon atoms and R' is an alkyl group having 1-4 carbon atoms.

3,341,332 LIGHT-SENSITIVE PHOTOGRAPHIC MATERIAL CONTAINING POLYALKENOYL MORPHOLINE

Yosuke Nakajima and Daijiro Nishio, Minami-Ashigara-machi, and Fumihiko Nishio, Odawara-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan
No Drawing. Filed July 20, 1964, Ser. No. 383,972
Claims priority, application Japan, July 24, 1963, 38/37,292

1. A light sensitive photographic material comprising a support, at least one photographic silver halide emulsion layer, auxiliary layers, and incorporated in at least one of said layers polyalkenoylmorpholine represented by the general formula



wherein R is a member selected from the group consisting of H and CH₃, and n is a positive integer.

3,341,333 PROCESS FOR PREPARING PHOTOGRAPHIC EMULSIONS

Guenther H. Klinger and Peter A. Landskroener, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 18, 1963, Ser. No. 317,120
10 Claims. (Cl. 96-114)

1. The process for preparing gelatino-silver halide emulsions which comprises, in combination, the steps of

adding in any sequence, after making, to such an emulsion containing in excess of 1% of gelatin, a small proportion of a coagulant namely not more than 15% of the amount required to cause substantially complete coagulation of the emulsion, adding a precipitant in sufficient proportions to obtain rapid settling of the gelatino-silver halide in a relatively coarse state of subdivision, and washing the precipitant to remove soluble salts and to recover a high proportion of unreacted silver.

3,341,334

COLD WATER SOLUBLE GELATIN MADE WITH CANDY MELTS

William A. Mitchell, Lincoln Park, N.J., and William C. Seidel, Monsey, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 25, 1966, Ser. No. 522,826
6 Claims. (Cl. 99—130)

1. A process for preparing a cold water-soluble gelatin powder comprising:

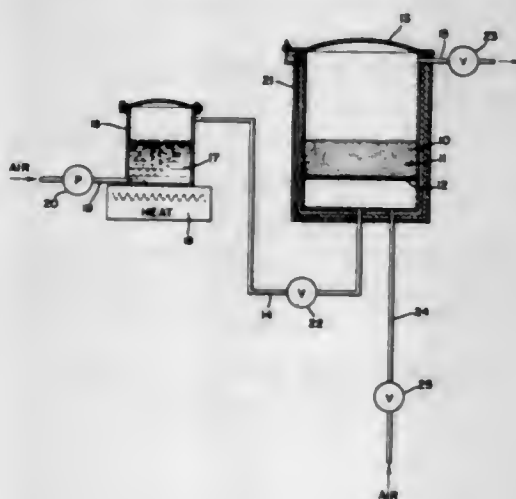
- dissolving a saccharic substance selected from the group consisting of sugars and mixtures of sugars in water, and heating the solution until no more than about 5% moisture remains,
- cooling the resulting sugar melt to a temperature just above the crystallization point of the sugar,
- mixing a predetermined amount of gelatin with the sugar melt,
- rapidly cooling the sugar-gelatin dispersion, and
- comminuting the sugar-gelatin dispersion.

3,341,335

METHOD OF STERILIZING DRY PARTICULATE MATERIAL

Dave Eolkin, Pacifica, Calif., and Robert J. Bouthilet, Western Springs, Ill., assignors of one-half to Norda Essential Oil and Chemical Co., New York, N.Y.

Filed Apr. 1, 1963, Ser. No. 269,392
11 Claims. (Cl. 99—150)



1. A method for sterilizing a water-containing commercially dry particulate material comprising establishing a flow of carrier gas and a vaporized hydrocarbon diester of pyrocarbonic acid, and contacting said material sufficiently with said flow so that said material absorbs about .000001-.001% by weight of said diester to sterilize the material while maintaining said diester in the vapor state, and after sterilization has been completed, permitting the residual diester to remain on the material to react with water content of the dry material to decompose the diester into products including carbon dioxide and alcohol.

3,341,336 METHOD OF STABILIZING THE STRUCTURE OF EASILY FRAGMENTED FOOD

Louis Jokay, Evanston, Ill., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,322
5 Claims. (Cl. 99—199)

1. Method of stabilizing the structure of a fragile food item to prevent crumbling or shattering of said item, which method comprises soaking said item in a food grade gelatin solution, said gelatin having a bloom strength of from about 250 to about 300, and then freeze-drying said item to a moisture level of less than 3%.

3,341,337

ALLOY POWDER FOR FLAME SPRAYING

Joseph F. Quas, Island Park, and John P. Broderick, Bayside, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

No Drawing. Filed Jan. 9, 1964, Ser. No. 336,628
12 Claims. (Cl. 106—1)

1. A powdered mesh composition for flame spraying consisting essentially of a major proportion of an alloy having as its base a member selected from the group consisting of nickel, iron and cobalt and from 0.5 to 5.0 percent by total composition weight of boric acid powder, said powder having a particle size of less than 325 mesh whereby said composition is protected from oxidation during deposition and its flow is facilitated.

10. A tungsten carbide laden composition comprising from 50-80 percent by weight tungsten carbide and from 20 to 50 percent by weight of a mixture, said mixture consisting essentially of a major proportion of an alloy having as its base a member selected from the group consisting of nickel, iron and cobalt and from 0.5 to 5.0 percent by weight of boric acid powder, said powder having a particle size of less than 325 mesh whereby said tungsten carbide laden alloy is protected from oxidation during deposition and its flow is facilitated.

3,341,338

POLYSILOXANE POLISH FORMULATIONS

Anton S. Pater, Williamsville, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 28, 1965, Ser. No. 459,902
12 Claims. (Cl. 106—10)

7. A polish which comprises (A) as the sole polysiloxane containing constituent from about 0.1 to about 98 weight percent of a polysiloxane-oxyalkylene block copolymer consisting essentially of (1) at least one siloxane block containing at least two siloxane units represented by the formula



wherein each R group contains from one to about twenty carbon atoms and is selected from the class consisting of monovalent hydrocarbon groups, halogen-substituted monovalent hydrocarbon groups and divalent hydrocarbon groups and b has a value from 1 to 3 inclusive, said siloxane block containing at least one of said siloxane units wherein at least one R group is a divalent hydrocarbon group, and (2) at least one oxyalkylene block containing at least four oxyalkylene groups represented by the formula $-R'O-$, wherein R' is an alkylene group containing from two to about ten carbon atoms, said siloxane and oxyalkylene blocks being interconnected by said divalent hydrocarbon group, and said siloxane blocks constituting from 5 to 50 parts by weight and said oxyalkylene blocks constituting from 50 to 95 parts by weight per 100 parts by weight of the copolymer, (B) from at least 2 to about 50 weight percent of a wax, (C) from about zero to about 97.9 weight percent of an inert

liquid organic compound, (D) from about zero to about 30 weight percent of an abrasive cleanser and (E) from about zero to about 99 weight percent water.

3,341,339

LIGHTWEIGHT CASTABLE REFRACTORY COMPOSITION

Joseph L. Stein, Cherry Hill, N.J., assignor to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 2, 1965, Ser. No. 436,641
15 Claims. (Cl. 106—64)

1. A lightweight insulating castable refractory composition, exhibiting a linear shrinkage of less than 1.5% upon firing at a temperature of from about 2500 to about 2800° F., consisting essentially of from about 30 to about 70 parts of vesicular granules of thermally bloated clay having a pyrometric cone equivalent of at least 20 Orton, said granules having a bulk density no greater than about 35 pounds per cubic foot; from about 15 to about 55 parts of crude kyanite; and from about 15 to about 40 parts of calcium aluminate cement, said parts being parts by weight based upon the combined dry weight of said three ingredients, and said granules being further characterized in having a vitreous skin and exhibiting substantial shrinkage upon firing.

3,341,340

STABILIZED CLAY DISPERSIONS

Edgar W. Sawyer, Jr., and Walter L. Haden, Jr., Metuchen, N.J., assignors to Minerals & Chemicals Philipp Corporation, Woodbridge Township, N.J., a corporation of Maryland

No Drawing. Filed Jan. 6, 1966, Ser. No. 529,900
12 Claims. (Cl. 106—72)

1. A mineral composition in the form of a flowable dispersed aqueous slurry and comprising water, finely divided kaolin clay, an alkali metal salt of a condensed phosphate in dispersant-effective quantity and an alkali metal salt of amino trimethyl phosphonic acid in amount sufficient to lengthen the time span during which said slurry remains fluid when maintained at a temperature within the range of 70° F. to 130° F.

3,341,341

LIGHTWEIGHT AGGREGATE

Bolton L. Corson, Chestnut Hill, and Julius Henry Pfau, Blue Bell, Pa., assignors to G. & W. H. Corson, Incorporated, Plymouth Meeting, Pa., a corporation of Delaware

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,310
9 Claims. (Cl. 106—98)

7. A lightweight aggregate consisting essentially of discrete, finely divided siliceous particles bonded together at their points of contact by interfacial vitrification to form a substantially non-spherical solid body having interconnecting pores, an average transverse dimension of from about $\frac{1}{4}$ " to about $\frac{3}{4}$ " and a length of from about $\frac{1}{4}$ " to about 1", from about 80 percent to about 100 percent by weight, of said particles comprising the highly siliceous, glassy spherical component of fly ash, and from about 0 to about 20 percent comprising a finely divided material selected from the group consisting of clay, shale, cinders and slag, said body being capable of absorbing from about 15 to about 30 percent, by weight, of water, on a dry basis, in 5 minutes, and only minor amounts of water subsequent thereto.

8. A concrete mix consisting essentially of approximately 20 percent by weight of Portland cement, approximately 45 percent of sand, and approximately 35 percent of the lightweight aggregate of claim 7.

3,341,342

METHOD OF GRINDING AND COOLING CEMENT

Milton Harrison Evans, Los Angeles, Calif., assignor to Southwestern Portland Cement Company, Los Angeles, Calif., a corporation of West Virginia

Filed June 14, 1963, Ser. No. 288,859
7 Claims. (Cl. 106—102)

1. That improvement in the pulverization of cement clinker to provide a fully finished cement end product cooled to a temperature of approximately 150 degrees F. which comprises: circulating cement clinker of a wide range of sizes in a closed circuit through a clinker classifier and a pulverizing mill to reduce said clinker to predetermined pulverized fineness, collecting pulverized cement clinker of the desired fineness from the classifier and levitating the same in a column of ambient atmospheric air to extract heat therefrom and to cool the cement to approximately 150 degrees F., adding and mixing a gypsum set retardant with said air cooled cement, passing the air and cooled cement and set retardant mixture from said column into a cement and air separator, returning the separated air to the atmosphere, and conducting the cooled fully finished cement product away from said air and cement separator.

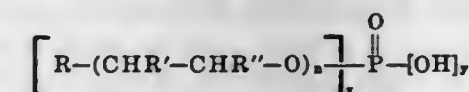
3,341,343

HYDROPHOBIC POLYMERIC RESIN CONTAINING PHOSPHATE ESTER ANTISTATIC AGENT AND PROCESS FOR PRODUCING ANTISTATIC PROPERTIES

John P. G. Beiswanger, Easton, Pa., and James J. Robinson, Teaneck, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 12, 1963, Ser. No. 324,600
15 Claims. (Cl. 106—177)

1. A hydrophobic polymeric resin shaped article having dispersed therein, in a minor amount effective to produce antistatic properties, a phosphate ester of the formula:



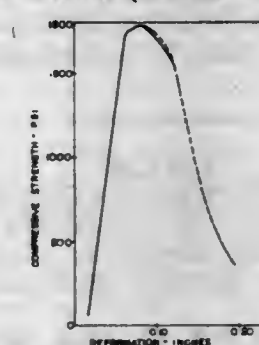
wherein R represents a member of the group consisting of a residue of an aliphatic alcohol of from 6 to 27 carbon atoms and a residue of an alkylater phenol containing from 1 to 36 alkyl carbon atoms; R' and R'' are each independently selected from a member of the group consisting of hydrogen and methyl; n is an integer from 1 to 150; x represents an integer of 1 to 3 and y represents an integer of 0 to 2, the sum of x and y being 3.

3,341,344

ROAD BINDER AND SURFACE COATING FROM COAL

Henry H. Ginsberg, Martin D. Schlesinger, and Raymond W. Hiteshue, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Interior

Filed Mar. 2, 1965, Ser. No. 436,699
4 Claims. (Cl. 106—281)

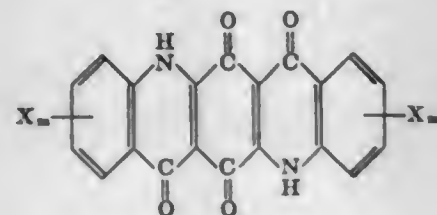
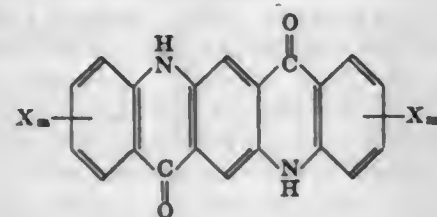


1. A paving and construction composition consisting of a mixture of an aggregate and a binder consisting of asphaltene derived from hydrogenation of coal.

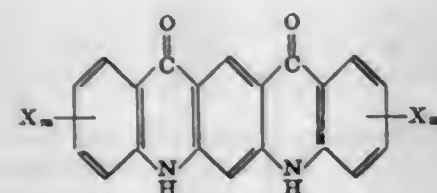
3,341,345
SOLID SOLUTIONS OF A QUINACRIDONE AND N,N'-DIARYL-DIAMINO COMPOUNDS
 Felix Frederick Ehrich, Westfield, and William S. Struve, Chatham, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 18, 1966, Ser. No. 521,311
 12 Claims. (Cl. 106-288)

1. A solid solution consisting essentially of at least one quinacridone compound selected from the group of compounds having the structural formulas



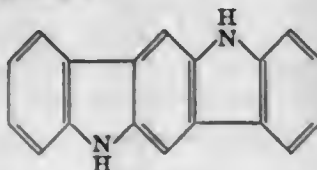
and



wherein x is selected from the group consisting of fluorine, chlorine, bromine, a lower alkyl, a lower alkoxy and combinations of these and m is an integer from zero to two, and from about 1 to about 15% of the total solid solution of an agent selected from the group of compounds having the structural formulas



wherein R is selected from hydrogen and an alkyl group having up to 3 carbon atoms and R' is selected from phenyl and 2-naphthyl,



and



said solid solution being characterized by an X-ray diffraction pattern different from the sum of the X-ray diffraction patterns of the components, and said solid solution being further characterized as exhibiting a degree of light-fastness superior to that of the quinacridone compound alone.

3,341,346
PROCESS FOR THE PREPARATION OF CADMIUM YELLOW PIGMENTS
 Louis J. Gagliano and Edward L. Moore, Glens Falls, N.Y., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Feb. 13, 1964, Ser. No. 344,551
 15 Claims. (Cl. 106-293)

1. The process of preparing cadmium yellow pigments which comprises calcining, in a nonoxidizing atmosphere,

a mixture of zinc and cadmium sulfides with a nonsulfide material selected from the group consisting of (1) the oxides, hydroxides and/or carbonates of cadmium and/or zinc, and (2) the precipitation products formed when water-soluble salts of at least one metal selected from the group consisting of zinc and cadmium are reacted with at least one compound selected from the group consisting of aluminates, silicates, hydroxides and carbonates of alkali metals, alkali earth metals and ammonia, the mole ratio of nonsulfide material to sulfur being from about 1:1 to about 1.5:1, and the temperature of calcination being such as to bring about reaction of the sulfur and nonsulfide material and to insure a hexagonal crystalline structure in the pigment, and uncombined sulfur, the sulfides of zinc and cadmium constituting from about 31 mol percent to about 99 mol percent of said mixture and the nonsulfide material and uncombined sulfur constituting from about 1 mol percent to about 69 mol percent of said mixture.

3,341,347
PROCESS FOR PRODUCING IRON OXIDE PIGMENTS
 Clifford Jackson Lewis, Lakewood, and Eldon Ray Dement, Golden, Colo., assignors to Southwest Enterprises, Inc., Magnolia, Ark., a corporation of Arkansas
 No Drawing. Filed Oct. 16, 1963, Ser. No. 316,511
 2 Claims. (Cl. 106-304)

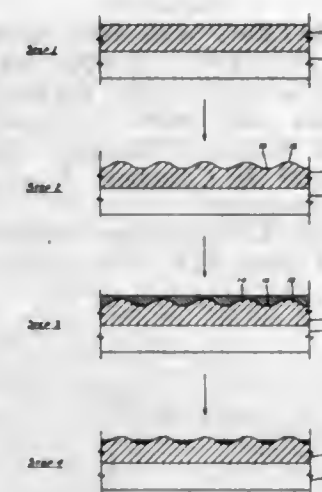
1. A process for preparing iron oxide pigments of a controlled color from iron ores containing silica and manganese in which the iron is present substantially in the ferric form which comprises producing a concentrated sulphuric acid slurry of said iron containing ore, by adding concentrated sulphuric acid in an amount equivalent to at least about 80% of the sulphuric acid needed to react stoichiometrically with the iron product and mixing to form a slurry, adding water to said concentrated sulphuric acid iron slurry, mixing until the entire mass becomes hot, dry and granulated, said water being added in an amount such that the exothermic heat resulting from said addition is sufficient to render the silica and manganese present water insoluble, rendering impurities insoluble by thermal dehydration and leaching said mass with water to produce a clarified solution of ferric sulphate having a concentration in excess of 300 grams per liter and reducing the free water content of said solution to produce ferric sulphate sufficiently dry to be fed to a roaster and roasting said ferric sulphate at a temperature within the range from about 1200° F. to about 1800° F., at a residence time of at least about 45 minutes and obtaining an iron oxide pigment having a color that is faithfully reproducible and primarily dependent on the roasting atmosphere and controlled by the relative oxygen content surrounding the roasting furnace feed during its conversion to pigment, reducing atmosphere giving black pigment, inert atmosphere giving red pigment and oxidizing atmosphere giving orange pigment.

3,341,348
RELEASE SURFACES AND PROCESSES
 Calvin O. Letendre, Northford, Conn., assignor to Chromium Corporation of America, Waterbury, Conn., a corporation of Delaware

Filed Dec. 11, 1963, Ser. No. 329,882
 15 Claims. (Cl. 117-8)

1. The process for forming, on a substrate, a novel surface having superior release and abrasion properties which comprises the steps of forming on said substrate a uniformly textured chromium surface having a plurality of substantially uniformly distributed depressions and peaks; applying to said textured surface a thin uniform deposit of fluorocarbon polymer; heating said textured surface to a temperature above the fusion temperature

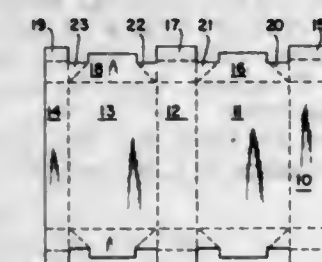
of said fluorocarbon polymer thereby forming a continuous film of fluorocarbon polymer on said textured surface; and removing said film from said peaks; thereby forming



a release surface containing discrete islands of chromium substantially uniformly distributed throughout a continuous film of fluorocarbon polymer, said chromium constituting 0.01-30% of the area of said release surface.

3,341,349
FOLDING CARTON BLANK HAVING EDGES SEALED WITH FLUORO-CHEMICAL COMPLEXES AND HYDROGENATED CASTOR OILS

Joseph W. Feeney, Pikesville, Md., Paul L. Pojawis, Pennsauken, and James E. Allenbaugh, Jr., Fords, N.J., and John W. McNair, Jr., New York, N.Y., assignors to International Paper Company, New York, N.Y., a corporation of New York
 Continuation of application Ser. No. 478,019, July 26, 1965, which is a continuation of application Ser. No. 446,372, Apr. 7, 1965. This application July 11, 1966, Ser. No. 564,423
 3 Claims. (Cl. 117-44)



1. A folding carton blank cut from paperboard and having disposed solely on one of its edges an edge sealing material selected from the group consisting of water-soluble fluorochemical complexes and hydrogenated castor oils.

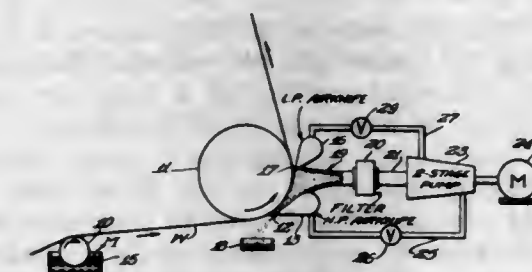
3,341,350
METHOD OF PREPARING A URANIUM ARTICLE FOR A PROTECTIVE COATING

Phillip D. Anderson and Paul R. Coronado, Livermore, Calif., and Louis M. Berry, Albuquerque, N. Mex., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
 No Drawing. Filed Sept. 30, 1964, Ser. No. 401,763
 3 Claims. (Cl. 117-50)

1. In the art of providing a uranium article with a protective coating on an exposed surface thereof wherein a treating solution is used to prepare said surface for

receiving said coating: the method comprises immersing a portion of a uranium article in a treating solution consisting essentially of about 10 to about 35 weight percent of a stannous chloride selected from the group consisting of anhydrous stannous chloride and hydrated stannous chloride, about 3 to about 20 weight percent nitric acid, and about 87 to about 50 weight percent water, and maintaining said solution at a temperature of about 0° to about 100° C.

3,341,351
MIST CONTROL ON AIR KNIFE COATERS
 Cecil L. Brewer, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
 Filed Aug. 12, 1963, Ser. No. 301,521
 6 Claims. (Cl. 117-64)



1. A method of controlling the mist on air knife coaters comprising the steps of

removing excess coating and smoothing the coating on a freshly coated web traveling about a backing roll by impinging high pressure air along the web for the width thereof, as the web passes about the backing roll, in a direction opposite to the direction of travel of the web and generally tangential of the web,

simultaneously impinging low pressure air along the web for the width thereof and spaced in an outgoing direction from the high pressure air impinging operation and in the same direction as the high pressure air impinging operation,

confining the mist particles between the two air impinging operations and mixing the low pressure air impinging on the web with the mist particles so confined, then withdrawing the confined mist particles by suction and filtering the mist particles as withdrawn.

2. In a paper coating machine for coating a traveling web,

means coating the web including a coating bath pan and an applicator roll immersed in the coating bath pan and over which the web travels,

a backing roll on the outgoing side of said applicator roll, the improvements comprising:

a vacuum chamber opening to the traveling web as it passes about said backing roll,

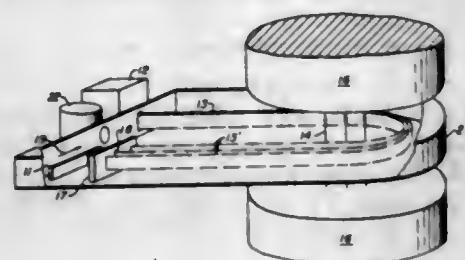
an air knife on the incoming side of said vacuum chamber and extending for the width of the traveling web and disposed to direct a smoothing blade of air on the traveling web in a direction opposite to the direction of travel of the web and tangentially of the backing roll,

a second air knife on the outgoing side of the vacuum chamber extending for the width of the traveling web and directing a mist confining blade of air on the traveling web in a direction opposite to the direction of travel thereof and supplying clean air to said vacuum chamber, pumping means creating a vacuum in said vacuum chamber,

and filtering means between said vacuum chamber and said pumping means for filtering the mist particles from the air.

3,341,352 PROCESS FOR TREATING METALLIC SURFACES WITH AN IONIC BEAM

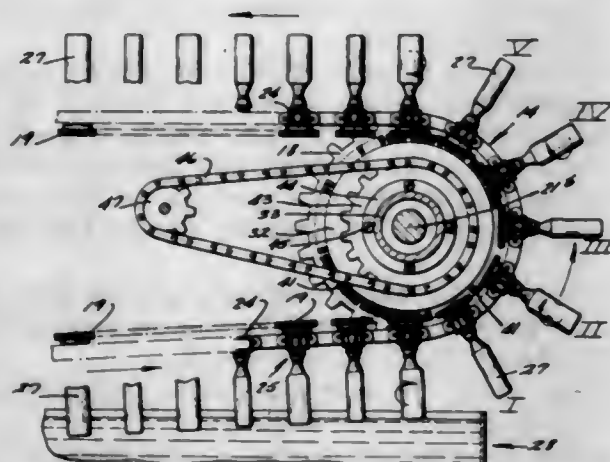
Kenneth W. Ehlers, Lafayette, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 10, 1962, Ser. No. 243,680
3 Claims. (Cl. 117-93.3)



3. In a process for treating a metal surface to form a coating thereat, the steps comprising ionizing an inert gas, accelerating said ionized gas into a directed beam, passing said beam of ionized gas through a transverse magnetic field to obtain at least one beam composed of monoenergetic ions having substantially a single charge and mass, disposing said metal surface in at least one of said beams of monoenergetic ions in transverse relationship thereto whereby said monoenergetic ion beam is injected into said metal surface and combines therewith to form said coating, and regulating the energy level of said monoenergetic beam within a range of 5 to 50 kev., regulating the current level of said monoenergetic beam to tens of milliamperes and regulating the bombardment time of said monoenergetic beam to control properties of said coating.

3,341,353 DETEARING METHOD

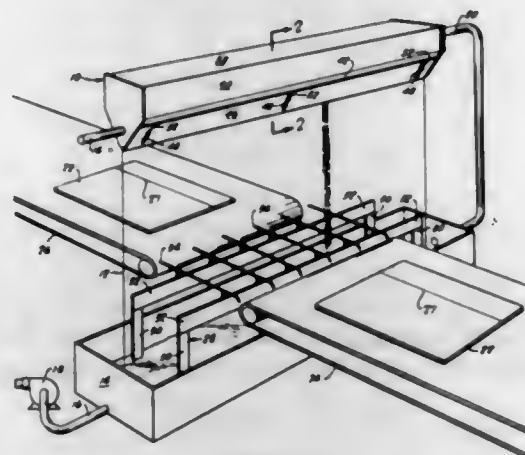
John R. Johnson, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 21, 1959, Ser. No. 835,361
3 Claims. (Cl. 117-94)



1. The method of treating articles in succession which comprises the steps of coating said articles with liquid coating material by dipping them into and continuously moving them in a horizontal direction through a bath of said material with their axes disposed substantially vertically, gradually removing said articles from the bath by moving them in an upwardly inclined path, whereupon the excess liquid coating material is allowed to separate from said articles, and the liquid material which remains thereon is thereafter allowed to progressively become set, subjecting said coated articles simultaneously to continuous plural rotational movements commencing when said coating material is still in a flowable condition, (1) about a horizontal axis so that the axis of the articles is continuously moved in an arcuate path and the article is inverted, and (2) about the axis of the article, maintaining said rotations of the coated article until the coating material

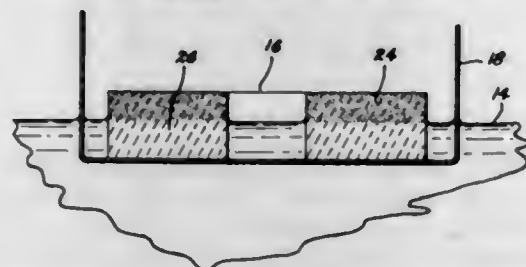
is distributed smoothly thereon, and thereafter setting the smoothed coating by application of heat to the article as it achieves said inverted position.

3,341,354
CURTAIN COATING METHOD AND APPARATUS FOR APPLYING A NON-UNIFORM LIQUID COATING MATERIAL TO SHEET STOCK
Warren W. Woods and Travis L. Gordy, Ponca City, Okla., and Irwin Polltizer, Brigham City, Utah, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Mar. 11, 1964, Ser. No. 351,000
8 Claims. (Cl. 117-105.3)



1. In a curtain coating machine of the type having a hollow coating head provided with an elongated slot therein for dispensing a gravitating curtain of a liquid coating material, and a pair of elongated, rigid members extending generally parallel to, and spaced from, each other to define said slot, the improvement which comprises one of said bars having a notch therein forming a transverse enlargement of said slot whereby a larger amount of said liquid coating material is dispersed through said slot at the location of said notch than over the remaining length of said slot.

3,341,355
PROCESS FOR IMPREGNATING POROUS BODIES WITH A SOLID FUSIBLE SUBSTANCE
Thomas P. Gallagher, Orange, Conn., assignor to The Fuller Merriam Company, West Haven, Conn., a corporation of Connecticut
Filed Oct. 19, 1962, Ser. No. 231,644
4 Claims. (Cl. 117-113)

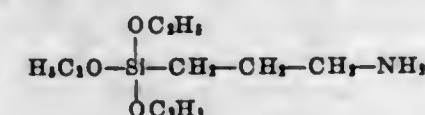


1. A process for the impregnation of a porous body with a solid fusible substance, said process comprising, heating the impregnating substance above its melting temperature to form a bath of molten liquid, immersing the porous body in the molten bath and retaining the body therein until all of the pores of the body are filled with the liquid of the bath, maintaining the surface of the liquid bath at a temperature just above the fusion temperature of the impregnating substance, and continuously withdrawing the porous body through the surface of the liquid bath at a low incremental rate that is not in excess of the rate of solidification

of the liquid impregnating substance trapped within the emerging increment of the body immediately above the surface of the liquid bath.

3,341,356
TREATED GLASS FIBERS AND METHODS FOR TREATING GLASS FIBERS TO IMPROVE THE BONDING RELATION WITH EPOXY RESINS
Theodore J. Collier, Chillicothe, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Original application Dec. 8, 1954, Ser. No. 474,007. Divided and this application Mar. 16, 1962, Ser. No. 180,362
6 Claims. (Cl. 117-126)

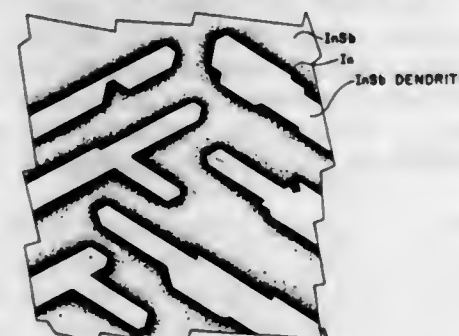
1. Glass fibers and a coating on the glass fiber surfaces to improve their bonding relation with condensation polymerization resins in which the coating contains an anchoring agent in the form of an organo silane represented by the formula:



3,341,357
DEGRADABLE POLYOLEFIN MULCHING FILM HAVING OPAQUE COATING
George B. Feld, New Castle, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed June 25, 1964, Ser. No. 378,057
5 Claims. (Cl. 117-138.8)

1. A degradable agricultural mulching film comprising a transparent film of a polyolefin having on its under-surface an adherent opaque coating which prevents transmission of light from the upper surface of the film through the coating, said opaque coating consisting essentially of opaque pigment and binder.

3,341,358
FABRICATION OF MAGNETORESISTIVE SEMICONDUCTOR FILM DEVICES
Arthur R. Clawson and Harry H. Wieder, Riverside, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 31, 1964, Ser. No. 356,330
5 Claims. (Cl. 117-200)

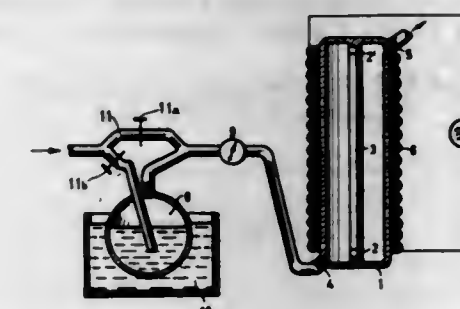


1. The method for fabricating magnetoresistive semiconductor film devices, comprising:
(a) vapor depositing a thin layer of pure indium on the surface of a thin film indium antimonide semiconductor element to form a composite layered film of indium antimonide and indium,
(b) heating said composite layered film in a vacuum chamber to just below the melting temperature of the alloy of indium antimonide with indium,
(c) admitting an inert gas into the vacuum chamber, the initial effect of which is to cause a momentary heat rise causing the indium and indium antimonide to be in a molten state only momentarily until the indium layer alloys with the indium antimonide and

then immediately conduct the heat to the chamber surroundings and cool the film allowing it to solidify and recrystallize,

(d) the alloying of indium with an indium antimonide film and simultaneously causing their recrystallization producing a resultant film having a sharp increase in the transverse magnetoresistive coefficient over that of the initial indium antimonide and a preferential orientation of the crystallographic (111) plane parallel to the major plane of the semiconductor substrate.

3,341,359
PROCESS FOR PYROLYTICALLY PRECIPITATING ELEMENTAL SEMICONDUCTOR SUBSTANCE
Theodor Rummel, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Aug. 7, 1963, Ser. No. 300,587
Claims priority, application Germany, Aug. 24, 1962, S 81,093
6 Claims. (Cl. 117-201)

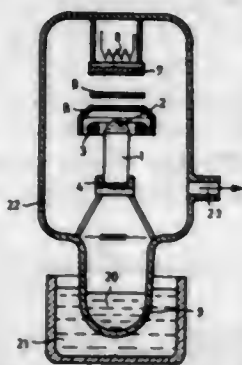


1. With the process of thermally dissociating elemental semiconductor substance selected from the group consisting of silicon and germanium from a reaction gas, containing a component of said substance and free of undesired impurity, upon a monocrystalline carrier of said substance heated in a flow of said reaction gas to pyrolytic reaction temperature below the melting point of said substance, in combination the steps of maintaining said pyrolytic temperature at the carrier surface by directly subjecting the carrier substantially uniformly to an alternating-current induction field, and mutually adjusting during the entire precipitation process the composition of the reaction gas and said pyrolytic reaction temperature at the carrier surface so that every slight increase of said temperature produces a decrease in the deposition rate of the substance on the carrier surface and every slight decrease of said temperature from the adjusted value thereof produces an increase in the deposition rate of the substance on the carrier surface.

3,341,360
METHOD OF PRECIPITATING CRYSTALLINE LAYERS OF HIGHLY PURE, BRITTLE MATERIALS
Julius Nickl, Neukeferloh, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Aug. 19, 1963, Ser. No. 302,810
Claims priority, application Germany, Aug. 27, 1962, S 81,124
18 Claims. (Cl. 117-201)

1. The method of precipitating crystalline, particularly monocrystalline layers of highly pure semiconductor material and other brittle materials, whereby the material to be precipitated is vaporized in a reaction vessel and precipitated on a carrier of similar lattice type, located in the same vessel, which comprises directing the material to be precipitated in the form of a vapor jet upon the carrier to be coated, executing the vaporization process by maintaining the gas pressure in the precipitation vessel such

that the free path length of the vapor particles lies in the order of magnitude of the distance between the vapor source and the carrier and adding gaseous halide sub-



stances of the same vaporization material whose partial pressures amount to 10^{-1} to 10^{-6} mm. Hg to the vapor of the material to be precipitated.

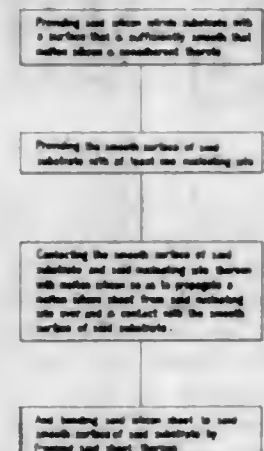
3,341,361

PROCESS FOR PROVIDING A SILICON SHEET

Daniel A. Gorski, Middleburgh Heights, Cleveland, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed Feb. 21, 1963, Ser. No. 260,287
8 Claims. (Cl. 117-213)

A PROCESS FOR PRODUCING A SILICON SHEET



1. A process for producing a silicon sheet of relatively large silicon crystals bonded to a silicon nitride substrate, which process comprises:

- providing said silicon nitride substrate with a surface that is sufficiently smooth that molten silicon is non-adherent thereto;
- providing the smooth surface of said substrate with at least one nucleating site;
- contacting the smooth surface of said substrate and said nucleating site thereon with molten silicon so as to propagate a molten silicon sheet from said nucleating site over and in contact with the smooth surface of said substrate;
- and bonding said silicon sheet to said smooth surface of said substrate by freezing said sheet thereon.

3,341,362

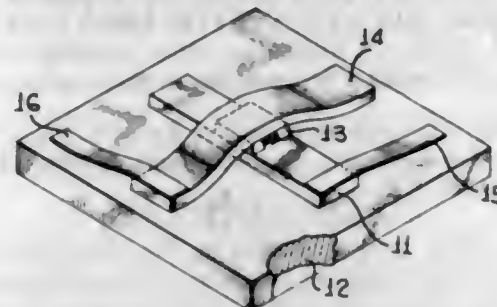
THIN FILM DIODE MANUFACTURE

Michael Hacksaylo, Falls Church, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Aug. 26, 1964, Ser. No. 392,235
6 Claims. (Cl. 117-217)

1. Method of fabricating a thin film diode in which current conduction is governed by Schottky mechanism for a first range of biasing voltages and by avalanche mechanism for a second contiguous range of biasing voltages, a substantially sharp transition point occurring in the voltage versus current characteristic of said diode be-

tween said ranges, said method comprising vacuum depositing a discrete layer of aluminum of substantially uniform thickness of about 1,000 Angstroms on an insulating substrate maintained at a temperature of approximately 120°C . at a pressure on the order of approximately 10^{-6} torr; forming a discrete thin insulating film of substantially uniform thickness in the range from approx-



imately 30 Angstroms to approximately 100 Angstroms on said aluminum layer; and vacuum depositing a discrete metal counter-electrode layer on said insulating film to a substantially uniform thickness in the range from approximately 500 Angstroms to 1,000 Angstroms at said pressure while maintaining said substrate, said aluminum layer, and said thin insulating film at a temperature of approximately 25°C .

3,341,363

METHOD OF MAKING A THIN-FILM ELECTRONIC COMPONENT

Charles J. Owen, 11 Deerfield Drive, Owego, N.Y. 13827

No Drawing. Filed May 27, 1963, Ser. No. 283,603
1 Claim. (Cl. 117-227)

A method of making a thin-film, passive electronic component comprising the steps of

- admixing to uniformity, with about 93.5 parts of squeegee oil, about 15.3 parts of silicon metal powder, about 84.7 parts of tungsten trioxide, about 60 parts molybdenum disilicide, about 30 parts cobalt metal powder, about 25 parts tungsten metal powder, about 30 parts magnesium metal powder, about 20 parts of an adherence-promoting mixture composed of about 50 weight percent kaolin and about 50 weight percent of high-firing commercial glaze material, and about 160 parts of a reaction-retardant mixture composed of about 40 weight percent alumina, about 40 weight percent molybdenum disilicide, and about 20 weight percent cobalt metal powder, all parts by weight and said metal powders being minus 325 mesh, the admixture thus produced being capable of being passed through a 180-mesh screen,
- applying to a glazed, cast-alumina substrate said admixture in the form of a film about 10 mils thick,
- heating said substrate and film to a temperature of about 180°C . to volatilize the major portion of said squeegee oil, and
- heating said substrate and film further in an environment of about 700°C . to cause thermite reaction in said film.

3,341,364

PREPARATION OF THIN FILM INDIUM ANTIMONIDE FROM BULK INDIUM ANTIMONIDE

David A. Collins, Ontario, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 27, 1964, Ser. No. 385,523
2 Claims. (Cl. 117-227)

1. The preparation from bulk indium antimonide of thin indium-antimonide films having high Hall coefficient and maximum magnetoresistance comprising:

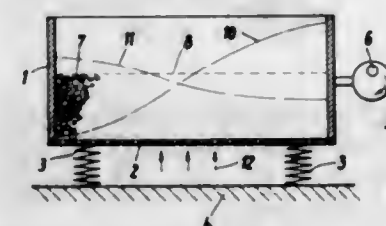
- evaporation of bulk InSb onto an unheated suitable substrate in proportion to provide an InSb film of up to several microns thickness as desired at approximately 10^{-3} torr vacuum pressure,
- coating said InSb film in vacuum with a thin-film of pure indium of approximately 100-500 A. thickness,
- heating said indium coated InSb film in vacuum until said pure indium coating melts on the surface of said InSb film,
- further heating said coated film in vacuum until the InSb also liquifies, and then removing the heat allowing the composite film to cool and recrystallize with the indium and antimony recombined leaving a slight excess of free indium between the crystallites.

3,341,365

METHOD OF CLEANING GRANULAR FILTER MATERIAL

Wolfgang Berz, Bayerlandstrasse 7, Kochel (See), Germany

Filed Jan. 31, 1964, Ser. No. 341,652
2 Claims. (Cl. 134-25)



1. Method of cleaning dust from granular filter material spread on at least one grid surface in a movable box, comprising shaking the box by rotating an unbalanced weight attached to said box in one direction in a substantially vertical plane to shift and pile up said material against one side of the box, then reversing the direction of rotation of said weight to shift and level said material, and simultaneously with said shaking blowing air through said material to remove dust loosened by the shifting of said material in said box.

3,341,366

SULFONATED POLYMERS OF α,β,γ -TRIFLUOROSTYRENE, WITH APPLICATIONS TO STRUCTURES AND CELLS

Russell Bates Hodgdon, Jr., Hamilton, John Francis Enos, West Peabody, and Edwin Joseph Alken, Magnolia, Mass., assignors to General Electric Company, a corporation of New York

Filed Mar. 30, 1965, Ser. No. 444,010
28 Claims. (Cl. 136-86)



27. A fuel cell comprising an ion exchange membrane having opposed faces and having an equivalent ion exchange capacity in the range of from 0.5 to 4.10 comprised of a sulfonated polymer of α,β,γ -trifluorostyrene and water in a proportion of from 10 to 48 percent, by weight, based on the total weight of the membrane,

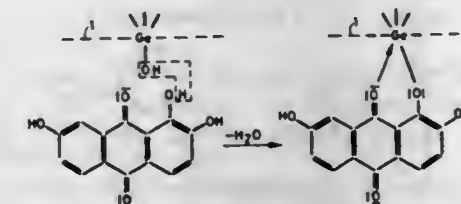
first and second electrodes mounted adjacent the opposed faces of the ion exchange membrane, and means supplying a fuel to said first electrode and an oxidant to said second electrode.

3,341,367

METHOD FOR TREATING THE SURFACE OF SEMICONDUCTOR DEVICES

Fritz-Werner Beyerlein, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Apr. 23, 1963, Ser. No. 275,107
Claims priority, application Germany, Apr. 25, 1962, S 79,160
7 Claims. (Cl. 148-1.5)



1. The method of treating the surface of p-n junction semiconductor devices for improving reverse-current stability, which comprises etching the semiconductor surface, immediately thereafter contacting the etched semiconductor with substance selected from the group consisting of derivatives of quinoid and ketoid ring compounds having an OH-group in 2-position of the $>\text{C}=\text{O}$ -grouping.

3,341,368

ALUMINUM-MANGANESE ALLOYS

Raymond Chevigny, 1 Ave. Alsace-Lorraine, Chambéry, France, and Jean Louis Mercier, Fonchoma, Issoire, France

No Drawing. Filed Feb. 13, 1964, Ser. No. 344,533
Claims priority, application France, Feb. 14, 1963, 924,834
4 Claims. (Cl. 148-2)

1. In the method of reducing horns during the processing of aluminum-manganese alloys by stamping and by mandrel forming comprising the steps of casting plates of the aluminum-manganese alloy, said alloy consisting essentially of from 0.8 to 2.0 percent by weight manganese, up to 0.4 percent by weight iron, up to 0.1 percent copper, and containing 0.2 to 0.4 percent by weight silicon with the balance aluminum, heating the cast plates for from 36 to 48 hours at a temperature of about 600 to 620°C ., and shaping the plates into sheets after said heat treatment whereby the shaping operation takes place without any cooling to ambient temperature occurring between the heat treatment and the shaping operation.

3,341,369

COPPER BASE ALLOYS AND PROCESS FOR PREPARING SAME

Elmer J. Caule, New Haven, Michael J. Pryor, Hamden, and Philip R. Sperry, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

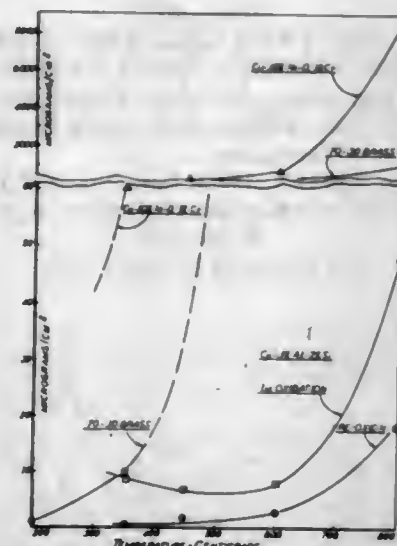
Filed Mar. 3, 1965, Ser. No. 436,746
26 Claims. (Cl. 148-3)

1. A process for the preparation of a copper base alloy capable of substantial resistance to oxidation which comprises:

- providing from 2.0 to 25 percent by weight of two elements, with the ratio of the first to the second of said elements being from 0.03:1 to 10:1, the first of said elements being selected from the group consisting of: aluminum; gallium; indium; and berylli-

um, the second of said elements being selected from the group consisting of: silicon; germanium; tin; and beryllium, provided that when beryllium is the second element, aluminum is the first element;

(B) alloying said elements with copper;



(C) heating the resultant alloy in an oxidizing environment for at least one minute at a temperature of from 400° C. to the solidus temperature of the alloy to form a first outside layer 25 to 5000 Angstroms in depth of copper oxides and oxides of said alloying additions and a second oxidation resistant layer immediately beneath said first layer, said second oxidation resistant layer having a metal matrix containing a discrete dispersion of a complex oxide including at least one of said alloying additions, said second layer being of a thickness at least 50 Angstroms; and

(D) removing said first outside layer.

3,341,370

HAFNIUM-CONTAINING COLUMBIUM-BASE ALLOYS

Elihu F. Bradley, West Hartford, Conn., and Edwin S. Bartlett, Worthington, and Horace R. Ogden and Robert I. Jaffee, Columbus, Ohio, assignors, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Dec. 10, 1963, Ser. No. 329,379

9 Claims. (Cl. 148-11.5)

1. A method for improving the high-temperature stress-rupture strength of a columbium-base alloy without sacrificing its low-temperature ductility properties and its structural stability during subsequent fabrication or service at high temperatures, the columbium-base alloy consisting essentially, by weight, of:

	Percent
Hafnium	up to 10
A solid solution strengthener selected from the group consisting of tungsten, molybdenum and mixtures thereof	5 to 30
Tantalum	0 to 40
Zirconium	0 to 5
Vanadium	0 to 5
Beryllium	0 to 5
Essentially columbium	balance

said alloy containing not more than 10% by weight of zirconium, vanadium, and beryllium, in aggregate; and the method comprising the steps of heating said alloy to a temperature of 2800° to 3200° F., and subjecting said alloy, from a strain-free state, to final reduction forces of a nature such that plastic deformation of the alloy is effected and the cross-sectional area of the alloy is reduced by an amount from 40 to 90% of the initial cross-sectional area.

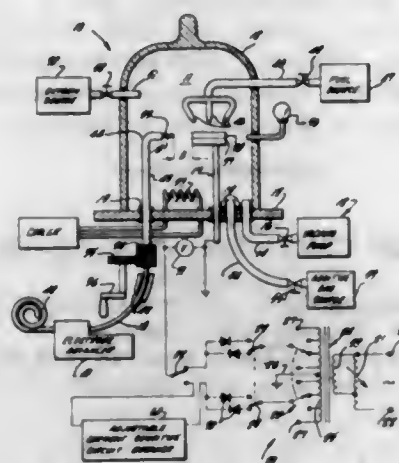
3,341,371

ELECTROSTATIC METHOD FOR TREATING METALS

Cecil A. Baumgartner, 918 E. Bennett Ave., Glendora, Calif. 91740

Filed May 31, 1966, Ser. No. 554,201

10 Claims. (Cl. 148-20.3)



1. A method for treating a metal part to alter selected physical properties thereof including the steps of

- (a) heating the part to a selected temperature elevated above room temperature,
- (b) cooling the part from the elevated temperature to a selected lower temperature at a selected rate, and
- (c) impressing on the part during at least the initial portion of the cooling step an electrostatic charge of selected magnitude and polarity.

3,341,372

PROCESS FOR HEAT TREATING CAST MARAGING STEELS

Edward P. Sadowski, Ringwood, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 12, 1965, Ser. No. 471,458

4 Claims. (Cl. 148-142)

1. A process for improving the resistance to stress-corrosion cracking of martensitic cast steels containing about 14% to about 17.5% nickel, about 8% to about 12% cobalt, about 4% to about 5% molybdenum, up to about 0.5% titanium, up to about 0.5% aluminum, up to about 0.05% carbon, up to 0.1% zirconium, up to about 3.5% chromium with the sum of nickel plus chromium not exceeding 17.5%, up to about 2% tungsten, up to about 0.5% columbium, up to about 0.45% vanadium, up to about 0.5% tantalum, up to about 3% copper, up to about 0.3% beryllium, the total sum of the tungsten, columbium, vanadium, tantalum, copper and beryllium not exceeding about 4%, and the balance being essentially iron which comprises subjecting the steels to a homogenization heat treatment within the temperature range of 1700° F. to 1850° F. for a period sufficient to achieve a good homogeneous structure, cooling the said steel to a temperature sufficiently low to provide a martensitic structure, heating the steel within a temperature range of about 1000° F. to 1250° F. for about one to eight hours, solution annealing the steel at a temperature of 1350° F. to 1600° F. for about one to ten hours, again cooling to a temperature sufficiently low to provide a martensitic structure and thereafter aging the steels at a temperature of about 800° F. to about 1000° F. up to about 24 hours.

3,341,373

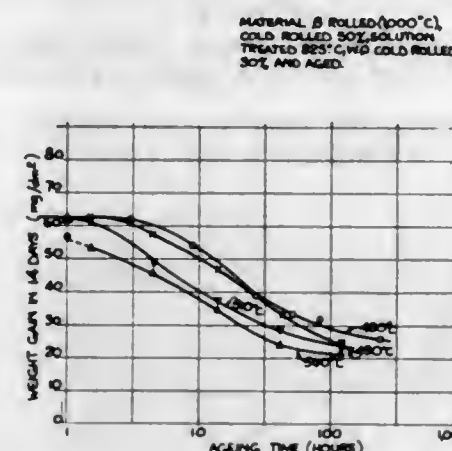
METHOD OF TREATING ZIRCONIUM-BASE ALLOYS

Evan William Evans, Hagley, and Donald Grainger Lees, Redditch, England, assignors to Imperial Metal Industries (Kynock) Limited, London, England, a corporation of Great Britain

Filed Sept. 25, 1963, Ser. No. 311,531

Claims priority, application Great Britain, Sept. 26, 1962, 36,583/62

9 Claims. (Cl. 148-12.7)



1. A method of heat-treating an alloy consisting of 2-3% niobium, balance zirconium apart from usual impurities includes the steps of cold-working the alloy up to 50% reduction approximately, solution-treating at a temperature above the alpha/alpha plus beta transition temperature, cold-working a second time to a reduction between approximately 10% and 50% reduction and ageing at a temperature between 470°-520° C.

3,341,374

PROCESS OF PYROLYTICALLY GROWING EPITAXIAL SEMICONDUCTOR LAYERS UPON HEATED SEMICONDUCTOR SUBSTRATES

Erhard Sirtl, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed May 7, 1964, Ser. No. 365,573

Claims priority, application Germany, May 9, 1963, S 85,119

15 Claims. (Cl. 148-175)

1. The process of producing semiconductor members selected from the group consisting of silicon and germanium by thermally dissociating a gaseous compound of the semiconductor material and precipitating it as a layer upon a heated substrate of semiconductor material, which comprises adjusting and maintaining during a first processing stage the equilibrium conditions of the reaction by bringing an inert cover plate, in the reaction space above and near the substrate surface thereby forming a quasi-stationary substrate-dissolving condition so as to eliminate part of the substrate surface, and thereafter, in a second processing stage removing said cover plate thereby shifting the reaction equilibrium to effect precipitation of the semiconductor material upon the substrate.

3,341,375

FABRICATION TECHNIQUE

Frederick Hochberg and Arnold Reisman, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 8, 1964, Ser. No. 381,190

9 Claims. (Cl. 148-175)

1. A process for fabricating an insulated gate field effect transistor comprising the steps of: forming a semiconductor layer of first conductivity type onto a substrate;

introducing a dopant material through a central portion of said layer to convert said central portion throughout to second conductivity type and form p-n junctions therebetween and the remaining portions of said layer, said central portion of said layer defining a gate region and said remaining portions of said layer defining source and drain regions, respectively;

forming a thin insulating layer at least over said central portion of said layer; and depositing a thin film metallic pattern over said insulating layer and registered with said central portion of said layer.

3,341,376

METHOD OF PRODUCING CRYSTALLINE SEMICONDUCTOR MATERIAL ON A DENDRITIC SUBSTRATE

Eberhard Spenke, Pretzfeld, and Heinrich Welker, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin and Erlangen, Germany, a corporation of Germany

Continuation of application Ser. No. 382,691, July 8, 1964, which is a continuation of application Ser. No. 99,163, Mar. 29, 1961. This application Dec. 13, 1965, Ser. No. 523,486

Claims priority, application Germany, Apr. 2, 1960, S 67,895

3 Claims. (Cl. 148-175)

1. A method for producing a flat semiconductor body of single crystal structure and of a uniform thickness including several zones of different semiconducting properties by pyrolytically precipitating a layer of a semiconductor material from a gaseous mixture containing a compound of said semiconductor material and a reaction gas upon a carrier crystal consisting of a semiconductor material having the same lattice structure but another value or type of conductivity as said pyrolytically precipitated layer, employing as the carrier crystal a semiconductor body yielded by dendritic growth from a melt of the last-mentioned semiconductor material by pulling a tape-shaped crystal out of a supercooled region of the melt, and removing some semiconductor material from the dendrite prior to the precipitation step so as to secure an undisturbed surface upon which monocrystalline growth can ensue.

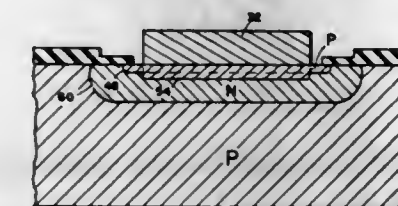
3,341,377

SURFACE-PASSIVATED ALLOY SEMICONDUCTOR DEVICES AND METHOD FOR PRODUCING THE SAME

Henry A. Wacker, Cupertino, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,352

9 Claims. (Cl. 148-177)



4. A method for forming a PN junction in a solid state device that includes a monocrystalline semiconductor body of one conductivity type with a surface, the steps comprising: forming a diffused region within said body having a conductivity type opposite to that of said body, and forming a PN junction therewith extending to the surface of said body; forming a protective coating over at least a part of the junction where it extends to the surface of the body, said coating formed to expose a portion of

the diffused region; and alloying the exposed portion of the diffused region and the body with a material having the same conductivity type as the diffused region to form an alloy junction with said wafer below said wafer surface.

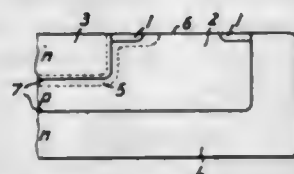
3,341,378

PROCESS FOR THE PRODUCTION OF ELECTRICALLY UNSYMMETRICAL SEMICONDUCTING DEVICE

Willi Gerlach, Frankfurt am Main-Eschersheim, Günter Köhl, Königstein, Taunus, and Winfried Mönch, Neu-Isenburg, Schonbornring, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Dec. 9, 1963, Ser. No. 328,893
Claims priority, application Germany, Dec. 19, 1962, L 43,741

4 Claims. (Cl. 148—187)



1. A method of manufacturing electrically unsymmetrical conducting devices having at least three layers of alternately different conducting zones, each of which extends to a common plane, and the middle zone acting as a barrier layer between the other two zones comprising the steps of applying oxide material to the surface of the barrier layer containing an impurity, the surface of the oxide sloping toward the common plane at the pn-junctions, diffusing an impurity opposite in conductivity to that contained in the barrier layer and thereby effectively modifying the conductivity of the surface of the barrier layer in the region adjacent to the pn-junctions and also effectively widening the zone adjacent the barrier layer just beneath the surface of the common plane to reduce the field intensity occurring in said region when a potential is applied to the semiconductor.

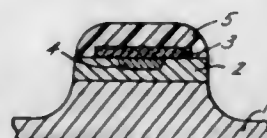
3,341,379

METHOD OF MANUFACTURE OF SILICON TRANSISTOR

Matami Yasufuku, Yokohama-shi, Toyosaku Kawamura, Kanagawa-ken, Yoshihiro Matsumoto, Tokyo, and Atsuo Kuramochi, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed Dec. 14, 1964, Ser. No. 418,349
Claims priority, application Japan, Dec. 14, 1963, 38/67,292

4 Claims. (Cl. 148—187)



1. A method of manufacture of a mesa transistor, comprising the steps of providing a first layer of determined conductivity type semiconductor material; providing a second layer of opposite conductivity type semiconductor material on said first layer; covering the second layer with an oxide layer; providing a zone of said determined conductivity type in said second layer; removing the oxide layer from said second layer except for an area covering said zone of determined conductivity type;

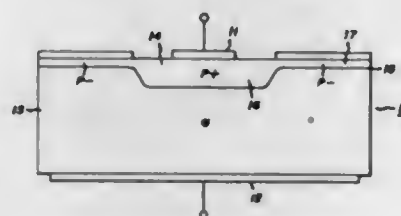
covering the remaining oxide layer and the area of said second layer substantially circumferential to said remaining oxide layer with a material which does not respond to etchant thereby retaining said remaining oxide layer for the life of said mesa transistor; and etching said layers with an etchant to form a mesa configuration.

3,341,380

METHOD OF PRODUCING SEMICONDUCTOR DEVICES

Edwin J. Mets and Finis E. Gentry, Skaneateles, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,278
4 Claims. (Cl. 148—187)



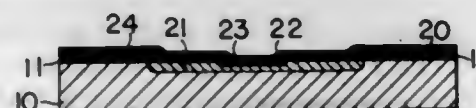
1. The method of producing a semiconductor device starting with a body of semiconductor material having a zone of one conductivity type material adjacent one major surface comprising the steps of producing a coating of an insulating material on at least the said one major surface of said semiconductor body, removing a portion of said insulating coating thereby exposing an area on the one surface and leaving said insulating material around the periphery of said area, and diffusing an impurity of a conductivity type opposite to that of the said zone into said one major surface for a time sufficient simultaneously to convert a region of said body immediately under said insulating layer to a high resistivity region of opposite conductivity type and a second region within said high resistivity region wherein said insulating coating is removed to said opposite conductivity type region of low resistivity and greater depth than said high resistivity region whereby the junction transition between the two regions is gradual.

3,341,381

METHOD OF MAKING A SEMICONDUCTOR BY SELECTIVE IMPURITY DIFFUSION

Henry P. Bergman and Roy W. Stiegler, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 359,886, Apr. 15, 1964. This application Oct. 24, 1966, Ser. No. 589,123
7 Claims. (Cl. 148—187)



1. A method of making a planar transistor having gallium as the impurity in the base region comprising the steps of providing a wafer of N-type semiconductor material, depositing at low temperature on one face of the wafer a coating of silicon oxide containing gallium, removing said oxide coating from said one face except in a centrally-located portion, subjecting said wafer to a high temperature to diffuse gallium from said portion

into the wafer whereby a base region is produced, and thereafter removing a small centrally-located segment of said portion of gallium-doped oxide and diffusing a donor impurity into said base region to form an emitter region.

3,341,382

BOOSTERS FOR RELATIVELY INSENSITIVE HIGH AMMONIUM NITRATE EXPLOSIVES

Melvin A. Cook, Salt Lake City, Utah, and Henry E. Farnam, Jr., Saguenay, Quebec, Canada, assignors to Iron Ore Company of Canada, Wilmington, Del., a corporation of Canada

No Drawing. Filed Apr. 28, 1964, Ser. No. 363,290
7 Claims. (Cl. 149—15)

1. In combination, a mass of high ammonium nitrate explosive containing a major proportion of said nitrate and a fuel oil, said mass being insensitive to reliable detonation by ordinary pentaerythritol tetranitrate core fuse, and having in a long column a critical diameter of at least 4 inches, and a sensitive booster capable of producing a detonation pressure of at least 130 kilo atmospheres and composed primarily of water resistant material selected from the group which consists of pressed and cast pentolite, pressed tetryl and pressed cyclotrimethylenetrinitramine, said booster having a mass of at least 20 grams to assure reliable detonation of said mass of high explosive.

3,341,383

AQUEOUS AMMONIUM NITRATE EXPLOSIVE SLURRIES CONTAINING PARTIALLY HYDROLYZED ACRYLAMIDE POLYMER

Jack Edward Bergwerk, Baldwin, N.Y., assignor to Stein, Hall & Co., Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 12, 1966, Ser. No. 571,980
4 Claims. (Cl. 149—60)

1. A pourable, nonseparating explosive slurry composition containing as its essential ingredients (a) from about 30% to about 65% by weight of ammonium nitrate, (b) from about 15% to about 50% by weight of an explosive sensitizer, (c) from about 5% to about 25% by weight of water, (d) from about 0.1% to about 5% by weight of a partially hydrolyzed acrylamide polymer having a degree of hydrolysis such that 15% to 40% of the monomeric units therein have been converted to the hydrolyzed form, and the polymer having a molecular weight such that a 1% solution of the polymer in distilled water will have a viscosity in the range of 1500—7000 centipoises at 25° C.

3,341,384

DISSOLUTION OF METAL WITH ACIDIFIED HYDROGEN PEROXIDE CONTAINING DIBASIC ACID

Carmelo L. Alderuccio, Camillus, and Harold F. Jones, Marcellus, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 4, 1964, Ser. No. 364,798
11 Claims. (Cl. 156—18)

1. The method for dissolution of copper and copper alloys which comprises contacting the metal with an acidified aqueous solution containing 2—12% by weight hydrogen peroxide, about 0.45—5.5 grams per liter hydrogen ion; and having incorporated therein a catalytic amount of an additive containing (A) a member selected from the group consisting of phenacetin, sulfathiazole, silver ions, and mixtures thereof, and (B) at least 40 parts per million of a member selected from the group consisting of saturated dibasic acids of 4 to 12 carbon atoms and hydroxy and carboxyl substituted saturated dibasic acids of 4 to 12 carbon atoms and mixtures thereof, provided

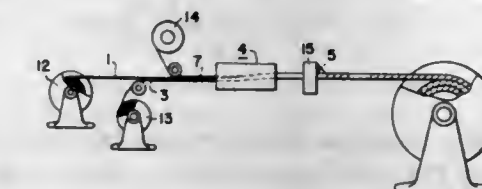
at least one carbon atom adjacent a terminal dibasic acid carboxyl group is free of said hydroxy and carboxyl substituents, said solution being regulated at a temperature between about 40—65° C.

3,341,385

METHOD FOR PRODUCING COAXIAL CABLE

Akira Nago, Suginami-ku, Tokyo-to, Japan, assignor to Tujikura Densen Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Feb. 3, 1964, Ser. No. 342,056
Claims priority, application Japan, Feb. 2, 1963, 38/5,182
7 Claims. (Cl. 156—54)



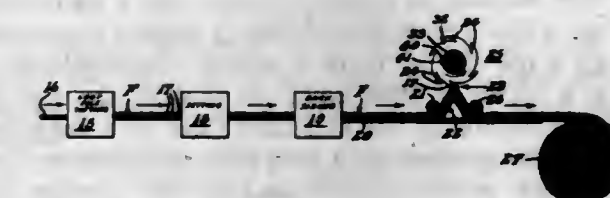
1. A method of fabricating coaxial cables which comprises: causing an inner conductor core to travel in a line; feeding a plastic film tape to travel concurrently at the same speed with and in contact with the said inner conductor on one side thereof, the said tape being provided along its two longitudinal side edges with fusion allowance material which are thinner than the main part of the said tape, and which are so designed that, after mutual fusion, the fused seam part will be of approximately the same thickness as the main part of the said tape; feeding a metal tape to travel concurrently at the same speed and in contact with the said plastic film tape on its side opposite that contacting the said inner conductor core; feeding the resulting assembly of the said core, plastic film tape, and metal tape, into a heat forming device to form said plastic tape into a plastic tube intimately about said core and butt joining the longitudinal side edges while heating said fusion allowance material during passage of said assembly through said heat forming device to cause fusion bonding and to form the metal tape into a longitudinal butt seamed tube intimately about the plastic tube; and, winding retaining binding tapes around the coaxial cable so formed upon exit from the heat forming device.

3,341,386

METHOD OF MAKING FRIEZE EFFECT FABRICS

William L. White, Wynnewood, Pa., and James E. Hallinan, New York, N.Y., assignors to Collins & Aikman Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 11, 1966, Ser. No. 519,935
7 Claims. (Cl. 156—72)



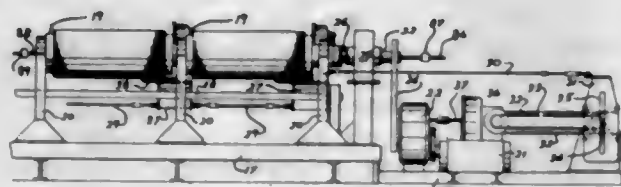
1. The method of producing a frieze effect pile fabric comprising the steps of tufting a plurality of heat-settable loop pile yarns into a backing material, subjecting the fabric to elevated temperature sufficient to set the pile yarns, anchoring the pile yarns in the backing material, and tension cutting a plurality of pile loops in the fabric to form arcuate cut pile projections corresponding to the set shape of the uncut loops.

3,341,387

APPARATUS AND METHOD FOR FILAMENT WINDING AND CURING ON A PLURALITY OF MANDRELS

Le Roy R. Boggs, Bristol, Tenn., assignor to Universal Moulded Fiber Glass Corp., Bristol, Va., a corporation of Delaware

Filed Jan. 29, 1964, Ser. No. 340,960
18 Claims. (Cl. 156—175)



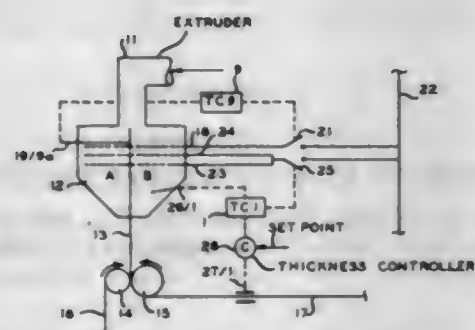
1. In the production of filament reinforced resin articles, the method which comprises rotating a plurality of hollow cylindrical mandrels in axially aligned horizontal position in a filament winding machine, applying filament reinforcements and liquid heat hardenable resin material to the outside surfaces of the mandrels, the filament reinforcements being fed to the mandrels to effect filament winding thereon, while the mandrels are rotating passing a heat transfer medium axially sequentially through the aligned mandrels to initiate hardening of the resin material, after the articles are solidified but before the resin material is fully hardened, terminating rotation of the mandrels and removing them from the winding machine, and thereafter separately passing heating medium through each of the mandrels to further harden the resin material.

3,341,388

METHOD AND APPARATUS FOR THE UNIFORM EXTRUDING OF THERMOPLASTIC FILM

Edwin D. Bunyea, Chicago, Ill., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 20, 1964, Ser. No. 368,781
7 Claims. (Cl. 156—244)



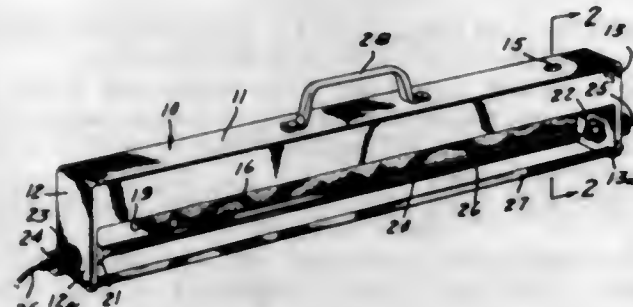
1. The method of coating a web with a thermoplastic material which comprises extruding molten thermoplastic through a die slot to form a molten thermoplastic sheet having a width at least equal to that of the web to be coated; withdrawing the extruded sheet at a substantially constant rate; contacting a web with said molten thermoplastic sheet; pressing the sheet and web together with a substantially constant amount of pressure; continuously adding heat to the die across its width in an amount substantially equivalent to the heat radiated from the die; continuously measuring the thickness of the coated web at a plurality of loci across the width of the web; and adding heat to those areas of the die corresponding to the loci of measurement of film thickness in amounts sufficient to maintain the thickness of the web substantially constant.

3,341,389

PACKAGING FILM WELDER AND CUTTER

William S. West, 2600 California Ave.,
San Marino, Calif. 91108

Filed Nov. 23, 1964, Ser. No. 413,097
5 Claims. (Cl. 156—498)



1. Apparatus for securing together superposed sheet portions of plastic film material along an axis, comprising:

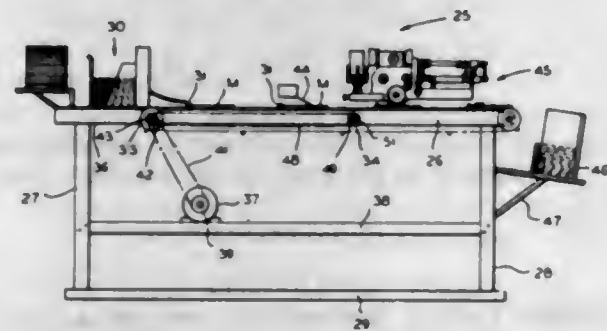
- (a) means for supporting the superposed sheets;
- (b) an elongate heating element movable from a position above said axis into engagement with the sheet material extending along said axis;
- (c) an elongate container for a quenching fluid; and
- (d) a presser element of compressible material extending along one side of said container, said element having flow channels therein for conducting fluid from said container to a pressing surface thereof and said fluid container and presser element being movable as a unit to position the pressing surface over said heating element and adjacent sheet material along said axis for urging the same against said supporting means and deliver quenching fluid along said axis.

3,341,390

MACHINE FOR APPLYING INTELLIGENCE TO A MOVING ARTICLE

Harry V. Kirk, Libertyville, Ill., assignor to Cheshire Incorporated, a corporation of Illinois

Filed Feb. 4, 1964, Ser. No. 342,436
11 Claims. (Cl. 156—511)



1. In a machine for applying intelligence to a moving article such as a magazine or the like, said machine being adapted to apply said intelligence from a sheet thereof containing discrete bits of intelligence arranged in a plurality of columns with the intelligence in each column arranged at regularly spaced intervals, said machine including means for feeding the sheet and means for severing the same between adjacent bits of intelligence of a column to provide an intelligence bearing strip, strip severing means adapted to engage said strip therebetween and sever the same into a discrete portion of said strip bearing a discrete bit of intelligence thereon, an impression roller adapted to receive said discrete portion and apply the intelligence thereof onto said moving article; the improvements in said machine wherein said sheet severing means includes stationary knife means and movable knife means, means for receiving the so severed strip, and means for feeding the

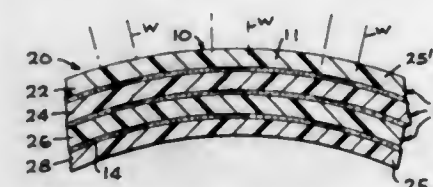
so severed strip for engagement by said strip severing means comprising a strip feed roller disposed between said strip receiving means and said strip severing means, and an idler roller supported on said movable knife and adapted to move into engagement with said strip feed roller with said strip therebetween to advance said strip to said strip severing means.

3,341,391

SPHERICAL SHAPED PLASTIC FILTER FOR CATHODE RAY TUBE

Vern E. Hamilton, Palos Verdes Estates, and Luther M. Roseland, Santa Ana, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Apr. 8, 1964, Ser. No. 358,222
4 Claims. (Cl. 161—3)



1. A transparent light filter body comprising a plurality of layers of plastic film selected from the group consisting of polycarbonate and polystyrene, each of such layers having grid patterns superimposed thereon, said grid patterns of adjacent layers being substantially in depthwise alignment, said layers being adhesively bonded together by a cured transparent urethane polymer, said filter body being spherically shaped and adapted to fit over a cathode ray tube.

3,341,392

LAMINATING METHOD AND ARTICLE USING CARBOXYLATED LATEX ADHESIVE

John Hubert Potter, Worcester, Worcestershire, England, assignor to Sto-Chem, Bromsgrove, England, a British limited-liability company

No Drawing. Filed Mar. 18, 1964, Ser. No. 352,959
Claims priority, application Great Britain, Mar. 20, 1963, 11,032/63

15 Claims. (Cl. 161—137)

2. A laminate comprising at least first and second sheets of cellulosic fibrous material, the first sheet being bonded to the second sheet by an adhesive composition comprising:

- (A) an adhesive substance selected from the group consisting of
 - (a) water-soluble carbohydrate paper adhesives, and
 - (b) water-soluble proteinaceous paper adhesives;
 - (B) a latex dispersion, compatible with the adhesive, of a rubbery copolymer of (I) butadiene, (II) styrene, and (III) itaconic acid; and
 - (C) a cross-linking agent operative to chemically link the adhesive to the copolymer, selected from the group consisting of
 - (c) a water-soluble A-stage urea-formaldehyde condensate,
 - (d) a water-soluble A-stage melamine-formaldehyde condensate, and
 - (e) a water-soluble complex salt of a di- or tri-valent metal,
- the said cross-linking agent (C) being chemically bound to the adhesive substance (A) and the copolymer of the latex (B), the said fibrous material being paper impregnated with aluminum trifluoride.

3,341,393

NON-WOVEN POLYOLEFIN NET

Richard J. Powell, Orange, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1965, Ser. No. 449,632
6 Claims. (Cl. 161—57)

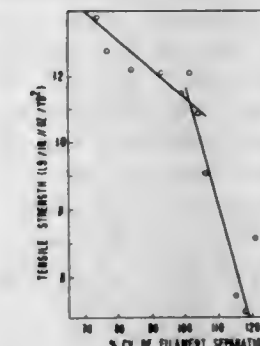
1. A non-woven thermoplastic netting consisting essentially of a homogeneous blend of a coordination polymerization copolymer of ethylene and an α -olefin having 4 to 12 carbon atoms, said coordination polymerization copolymer containing from about 75 to about 99.75 weight percent polymerized ethylene, and a free radical polymerization copolymer of ethylene and vinyl acetate, said free radical polymerization copolymer containing from about 91.5 weight percent to less than 98.5 weight percent polymerized ethylene, said blend having a stretch draw modulus of less than about 30,000 p.s.i. and a polymerized vinyl acetate content of 0.75 to 3 weight percent, based upon the combined weights of said coordination and free radical polymerization copolymers.

3,341,394

SHEETS OF RANDOMLY DISTRIBUTED CONTINUOUS FILAMENTS

George Allison Kinney, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 21, 1966, Ser. No. 613,370
11 Claims. (Cl. 161—72)



1. A substantially uniformly opaque nonwoven sheet of nonparallel continuous synthetic organic filaments, the continuous filaments being randomly distributed throughout said sheet and so disposed as to be substantially separate and independent of each other except at filament cross-over points within the sheet, the filament separation distances having a coefficient of variation, CV_{ts} , of no greater than about 100%.

3,341,395

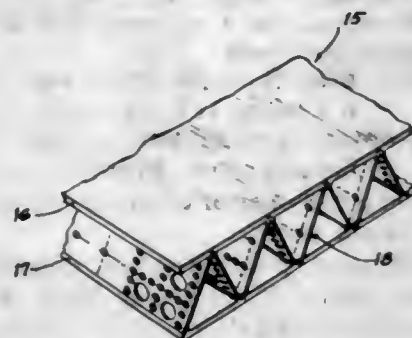
LIGHTWEIGHT STRUCTURAL PANEL

John F. Weber, Aurora, Ill., assignor to Solar Reflection Room Corporation, Warrenville, Ill., a corporation of Illinois

Filed Dec. 3, 1962, Ser. No. 241,968
11 Claims. (Cl. 161—113)

1. A structural panel comprising:
a pair of parallel skin members in spaced, opposing relation, said skin members of sheet plastic material; and
a core of sheet material secured to and extending between said skin members and coextensive therewith, said core having spaced parallel portions extending transversely of the panel, said spaced parallel portions inclined to the planes of said skin members, the mar-

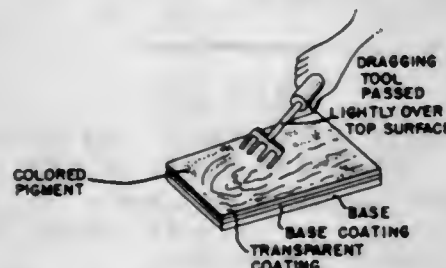
gins of said spaced parallel portions embedded in said skin members and having spaced apertures lo-



cated at least in part within the bodies of said skin members.

3,341,396

MARBLEIZING PROCESS AND ARTICLE
Elizabeth M. Iverson, Wayzata, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,537
11 Claims. (Cl. 161-162)



1. A method of producing a marbled surface coating in simulation of natural marble and the like which comprises applying to a surface a pigmented base layer of a curable synthetic resinous liquid coating material; before the base layer has set up, applying on top of the base layer at least one color pigment of a color different from the color of the base layer arranged in a random discontinuous pattern overlying the base layer; before the underlying layers have set up, applying a substantially transparent coating of the same curable synthetic resinous coating material as the pigmented base layer; before the coating layers have set, acting upon the surface of the transparent top layer to initiate surface movement only to induce by wave motion sub-surface flow and diffusion of the pigmented intermediate layer; and, thereafter, permitting the composite coating to set up and harden.

9. A method of marbleizing according to claim 1 further characterized in that said coating is applied to a surface having a smooth non-adhering surface and after setting up and hardening the coating is stripped from said base.

3,341,397

RUBBERISED HAIR

Harold A. Howard, London, England, assignor to The Hairlok Company Limited, London, England
Original application Nov. 27, 1961, Ser. No. 155,050, now Patent No. 3,156,965, dated Nov. 17, 1964. Divided and this application Apr. 13, 1964, Ser. No. 364,054
Claims priority, application Great Britain, Dec. 1, 1960, 41,324/60
4 Claims. (Cl. 161-168)



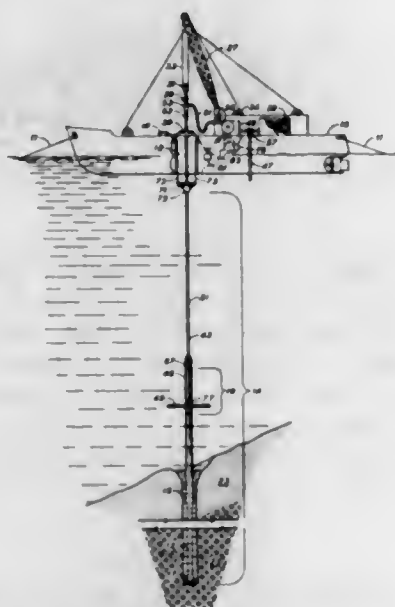
1. A resilient shock-absorbing pad of laterally compressed rubberised hair having substantially plane parallel

faces, said pad being resiliently extensible in a direction parallel to the plane faces and consisting of a single structure of intermingled fibers which extend multi-directionally between the plane faces and are held by a flexible adhesive in a predominantly sinuous grain configuration resulting from lateral compression, in a direction substantially parallel to the plane faces, applied at closely spaced intervals within the thickness of the pad during manufacture of the pad and before setting of the adhesive.

3,341,398

OFFSHORE DEEP DRILLING METHOD FROM A FLOATING PLATFORM

Kingsley M. Nicolson, Fullerton, Calif., assignor, by mesne assignments, to Chevron Research Company, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,715
3 Claims. (Cl. 175-7)



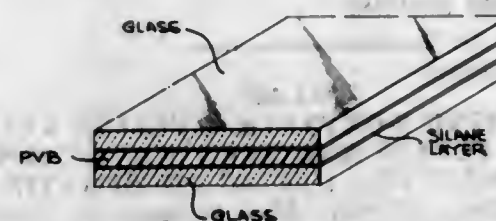
1. The method of drilling and working in a well bore in an underwater bottom from a floating vessel which comprises positioning said vessel over an underwater drilling site, suspending an assembled conductor pipe of a predetermined length from said vessel and above the underwater bottom, connecting a landing flange to the upper end of said conductor pipe, assembling in axial alignment with and as an integral part of said conductor pipe and landing flange assembly a tubular guide assembly having affixed thereto at least a pair of guide cables, inserting a drill string with a radially expandable and contractible drill bit attached to the lower end thereof axially through said conductor pipe from said vessel and into contact with said underwater bottom, radially expanding said drill bit to a diameter greater than that of said conductor pipe and rotating said drill string by means on said vessel while lowering said drill string from said vessel to drill into said underwater bottom a bore hole having a diameter and depth to permit said conductor pipe to be received therein to permit said landing flange to seat on said underwater bottom, lowering said conductor pipe, said landing flange and said guide assembly from said vessel along said drill string and guiding said conductor pipe into said bore hole with said drill string to position said landing flange on said underwater bottom, radially contracting said drill bit to a diameter smaller than that of said conductor pipe and retracting said drill string and said drill bit from said conductor pipe while maintaining a flexible connection between said conductor pipe and said vessel with said guide cables, lowering from said vessel along said guide cables and to said tubular guide assembly a string of cement tubing having a guide member attached thereto and co-operating with said guide cables, guiding the lower end

of said string of cement tubing into said conductor pipe by said guide cables and said tubular guide assembly, introducing cement from said vessel through said string of cement tubing into said bore hole and cementing said conductor pipe in said bore hole, retracting said string of cement tubing from said conductor pipe and slacking said guide cables while said cement sets.

3,341,399

GLASS TO GLASS ADHESIVES

James J. Hazdra, Joliet, Ill., and Hubert M. Lontz, Brockway, Pa., said Hazdra assignor to Brockway Glass Company, Inc., Brockway, Pa., a corporation of New York
Filed Nov. 16, 1966, Ser. No. 594,818
22 Claims. (Cl. 161-193)

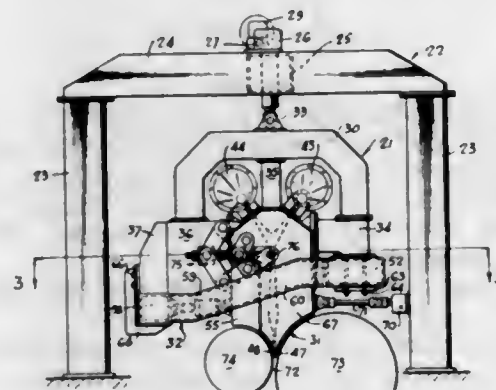


11. A glass-polyvinylbutyral-glass article characterized by high-shear strength and high-moisture resistance which comprises at least two glass surfaces bonded together by an organic adhesive, said adhesive comprising a combination of a triethoxysilane and polyvinyl butyral on the inner surfaces of said glass; said triethoxysilane being selected from the group consisting of aminoalkyl triethoxysilanes, alkyl triethoxysilanes, aryl triethoxysilanes, and vinyl triethoxysilanes.

3,341,400

PRESSURE HEADBOX FOR WEB FORMING MACHINE

Vivian S. Grater, Islington, Ontario, Canada, assignor to Dominion Engineering Works Limited, Montreal, Quebec, Canada
Filed Dec. 21, 1964, Ser. No. 419,988
5 Claims. (Cl. 162-347)



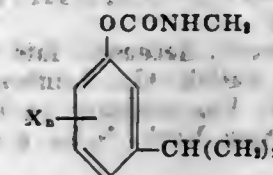
1. In a headbox for the discharge of stock onto a machine web forming section, said headbox having stock inlet means, an adjustable orifice slice for discharging therethrough a web of variable thickness and stock passage means between said inlet means and said slice, the improvement comprising reaction frame means surrounding said headbox having opposing elongated side members lying in a plane substantially normal to said stock passage means, said headbox being operatively connected to said reaction frame side members to minimize headbox deflection due to the pressure of stock flowing through said passage means.

3,341,401

HALO - META - ISOPROPYLPHENYL N-METHYLCARBAMATES AND PESTICIDAL COMPOSITIONS

John R. Kilsheimer, Westfield, N.J., and Herbert H. Moorefield, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 11, 1961, Ser. No. 158,561
15 Claims. (Cl. 167-30)

1. Compounds of the formula:

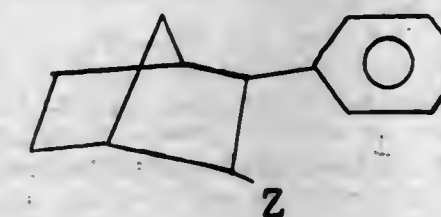


wherein X is a member of the group consisting of chlorine and bromine, and n is an integer having a value of from 1 to 4.

3,341,402

ANTI-VIRAL COMPOSITION AND METHOD
Hilary F. Goonewardene, Moorestown, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 15, 1965, Ser. No. 425,915
4 Claims. (Cl. 167-30)

1. The method of inhibiting the multiplication of plant viruses selected from the group consisting of tobacco mosaic virus, bushy stunt virus, and tobacco ring spot virus which comprises applying to living plants a virus growth inhibiting quantity of a compound of the formula:



wherein:

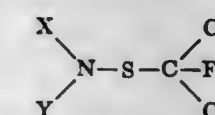
Z is selected from the group consisting of $-\text{NH}_2$, $-\text{NHR}$, $-\text{NRR}'$ and $-\text{N}^+\text{RR}'\text{R}''\text{X}^-$; R, R' and R'' are selected from the group consisting of lower alkyl to five carbon atoms; and X represents halogen.

3,341,403

METHOD OF CONTROLLING FUNGI WITH N-THIO - MONOFLUORO - DICHLORO - METHYL IMIDES

Erich Klauke, Cologne-Flittard, Engelbert Kuhle and Ferdinand Grewe, Cologne-Stammheim, and Helmut Kaspers and Richard Wegler, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Original application Oct. 31, 1961, Ser. No. 148,845, now Patent No. 3,285,929, dated Nov. 15, 1966. Divided and this application May 31, 1966, Ser. No. 553,663
Claims priority, application Germany, Nov. 3, 1960, F 32,468; Nov. 25, 1960, F 32,620
12 Claims. (Cl. 167-30)

1. A method of controlling fungi which comprises contacting fungi with a fungicidally effective amount of a compound having the formula



wherein X and Y individually are selected from the group consisting of an organic acyl radical, an aliphatic radical,

an aromatic radical and a heterocyclic radical and when X and Y are taken together with the nitrogen atom, a heterocyclic radical, at least one member of X and Y being an organic acyl radical linked to the nitrogen atom through the acyl portion.

3,341,404

METHOD OF KILLING INSECTS WITH 5,6,7,8-TETRAHYDRO-1-NAPHTHYL-N-METHYL CARBAMATE

Joseph A. Lambrech, deceased, late of Charleston, W. Va., by Vallah G. Lambrech, executrix, Charleston, W. Va., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

No Drawing. Application June 26, 1962, Ser. No. 205,466, which is a division of application Ser. No. 531,274, Aug. 29, 1955. Divided and this application Mar. 31, 1966, Ser. No. 560,991

1 Claim. (Cl. 167—30)

The method for killing insects which comprises applying to said insects an insecticidally effective amount of 5,6,7,8-tetrahydro-1-naphthyl N-methyl carbamate.

3,341,405

METHOD OF CONTROLLING MICROBES BY MEANS OF TETRAHALOCYCLOPENTADIENYLDIAMINES

Edward D. Well, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 414,898, Nov. 30, 1964. This application July 6, 1966, Ser. No. 563,300

9 Claims. (Cl. 167—30)

1. A method for controlling the growth of fungal and bacterial microbes which comprises applying to the locus of said microbe an effective growth-controlling amount of 5,5-diamino-1,2,3,4-tetrahalocyclopentadiene in which the tetrahalocyclopentadiene nucleus is bis-substituted in the 5-position by secondary amino groups selected from the group consisting of di-lower-alkylamino, diphenylamino, N-phenyl-lower-alkylamino, N-morpholino, N-piperidino and N-pyrrolidino.

3,341,406

PESTICIDAL KETONE-MALONATE ADDUCTS

Everett E. Gilbert, Morris Township, Morris County, and Pasquale Lombardo, East Hanover Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Jan. 30, 1963, Ser. No. 255,097, now Patent No. 3,278,579, dated Oct. 11, 1966. Divided and this application May 24, 1966, Ser. No. 567,025

6 Claims. (Cl. 167—30)

1. A pesticidal composition comprising an adduct of decachlorooctahydro-1,3,4-metheno-2H-cyclobuta (cd) pentalen-2-one and a member of the group consisting of dialkyl and diaryl malonates, as the active ingredient, together with a carrier therefor.

3,341,407

METHOD FOR CONTROLLING INSECTS AND WORMS WITH ORGANOPHOSPHORUS CYCLIC SULFONE COMPOSITIONS

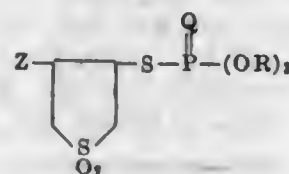
Sheldon B. Greenbaum, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 30, 1964, Ser. No. 414,886

8 Claims. (Cl. 167—33)

1. A method for controlling a pest selected from the group consisting of insects and worms which comprises

applying to the locus of said pests a compound of the formula



wherein the R's are alkyl of 1 to 8 carbon atoms, which may be the same or different, Q is selected from the group consisting of oxygen and sulfur and Z is selected from the group consisting of alkylmercapto, of one to eight carbon atoms, chlorine-substituted alkylmercapto, phenylmercapto, chlorine-substituted phenylmercapto, nitro-substituted phenylmercapto, alkoxy of one to eight carbon atoms, phenoxy, chlorine-substituted phenoxy and nitro-substituted phenoxy.

3,341,408

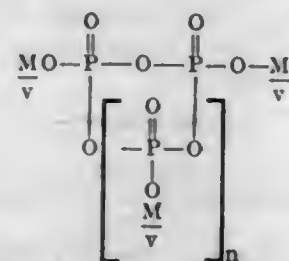
AUGMENTING 5-OXYTETRACYCLINE AVIAN BLOOD LEVELS AND FEED SUPPLEMENTS WITH SELECTED CYCLIC PHOSPHATES

Chung Yu Shen, Olivette, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,264

9 Claims. (Cl. 167—53.1)

1. A method of augmenting avian blood levels of 5-oxytetracycline which comprises feeding birds a mixture of one part by weight of 5-oxytetracycline and from about one to about 250 parts by weight of a cyclic phosphate of the formula:



wherein n is an integer from one to two; M is a non-toxic metal of v valence selected from the group consisting of alkali metals, alkaline earth metals, hydrogen and iron, provided that at least one M is a metal; and v is an integer from one to three.

3,341,409

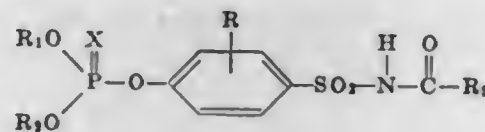
ACYLSULFAMOYLPHENYL PHOSPHATE WARM-BLOODED ANIMAL SYSTEMIC INSECTICIDES

Gerald Berkelhammer, Ewing Township, Mercer County, and Frank Albert Wagner, Jr., Belle Mead, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,904

11 Claims. (Cl. 167—53)

1. A warm-blooded animal systemic insecticidal composition of matter which comprises from 0.01% to about 5% of a compound of the formula:



wherein R_1 and R_2 are lower alkyl radicals; X is selected from the group consisting of sulfur and oxygen atoms; R is selected from the group consisting of hydrogen, halogen, and lower alkyl radicals; and R_3 is selected from the group consisting of mononuclear aryl, lower alkyl and halo(lower)alkyl radicals in an inert orally acceptable carrier.

3,341,410

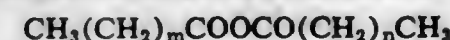
METHOD OF PROMOTING EPITHELIALIZATION WITH TOPICAL NON-AQUEOUS ACID ANHYDRIDE COMPOSITIONS

Irving L. Ochs, Anne Arundel County, Md., assignor of one-half to Preston L. Veltman

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,274

29 Claims. (Cl. 167—58)

1. A method for the promotion of epithelialization by the control of bacterial action with a substantially anhydrous composition, consisting of an acid anhydride component selected from the group of the formula



where m and n may be varied between 0 and 16, but are never equal to one another in a non-aqueous solvent vehicle selected from the group consisting of glyceride oils, propylene glycols, polyethylene glycols, silicone oils, petrolatum, and mixtures thereof, the anhydride component being present in proportions from 0.5% to substantially 100% by weight, so as to produce therapeutic action at tissue interface.

3,341,411

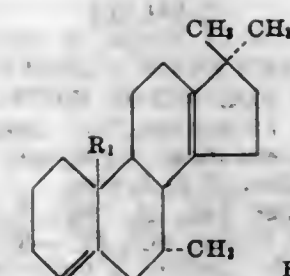
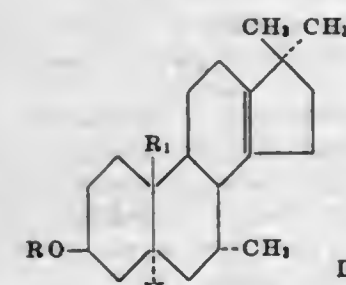
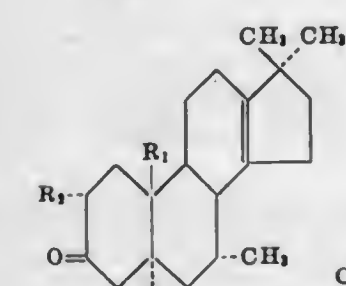
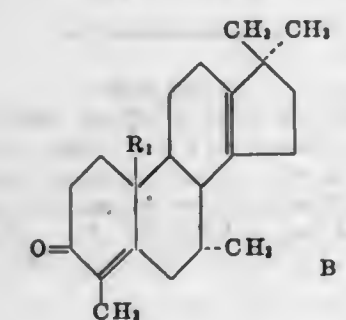
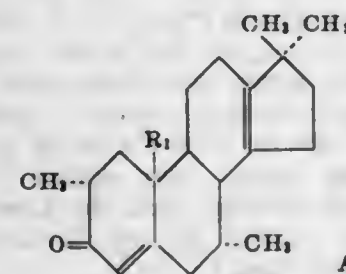
7 α ,17,17-TRIMETHYL-18-NOR- $\Delta^{13(14)}$ -STEROIDS OF THE ANDROSTANE SERIES

J. Allan Campbell and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,384

14 Claims. (Cl. 167—65)

14. A method for reducing blood cholesterol in mammals comprising: administering to mammals a compound selected from the group consisting of those having the formulae



wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from one through twelve carbon atoms and R_1 and R_2 are selected from the group consisting of hydrogen and methyl.

3,341,412

METHODS OF TREATING SCHIZOPHRENIA

Paul Francis O'Hollaren and Frederick Lemere, Seattle, Wash., assignors to Enzomedic Laboratories, Inc., a corporation of Washington

No Drawing. Filed Mar. 4, 1966, Ser. No. 531,741

10 Claims. (Cl. 167—65)

1. A method of treating schizophrenia which comprises internally administering to a patient evidencing symptoms of schizophrenia a therapeutic composition containing diprophosphoryl nucleotide in an amount sufficient to reduce said symptoms and return the patient to a normal state.

3,341,413

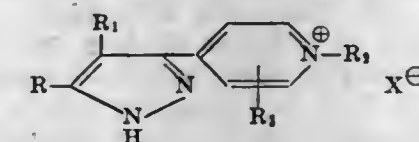
COMPOSITIONS CONTAINING PYRAZOLYL PYRIDINIUM SALTS AND METHOD OF ADMINISTRATION

Edward Charles Tocus, West Nyack, N.Y., and Victor John Bauer, Montvale, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 15, 1965, Ser. No. 464,192

20 Claims. (Cl. 167—65)

11. The method of inducing hypoglycemia which comprises administering orally to a warm-blooded animal in whom a hypoglycemic effect is desired an amount sufficient to produce hypoglycemia of a pyrazolylpyridinium salt of the formula:



wherein R is selected from the group consisting of hydrogen, lower alkyl and cyclopropyl; R_1 and R_2 are selected from the group consisting of hydrogen and lower alkyl; R_3 is selected from the group consisting of lower alkyl, lower alkenyl, cinnamyl, cyclopropylmethyl and lower alkoxy-(lower)alkyl; and X is a pharmaceutically acceptable anion.

3,341,414

N-CYCLOHEXYLSULFAMATE SOLUBILIZED MEDICATION

Max A. Cherkas, Philadelphia, and William R. Ross, Jr., Oreland, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,597

7 Claims. (Cl. 167—82)

1. A shaped medicinal composition consisting essentially of an alkali metal salt of cyclohexylsulfamic acid, an effective amount of a normally insoluble medicinal agent, and a candy base carrier, said alkali metal salt present in an amount sufficient to solubilize said medicinal agent.

3,341,415

PHARMACEUTICAL TABLET EXCIPIENTS OF SOLID PARTICLES OF A BINARY SOLID SOLUTION OF MANNITOL WITH A SUGAR
Morton W. Scott, Livingston, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Feb. 12, 1964, Ser. No. 344,253
12 Claims. (Cl. 167-82)

1. In a method of forming a tabletting excipient containing mannitol as an essential ingredient for use in compression tabletting, the improvement which consists essentially of forming solid particles of a binary solid solution of mannitol with a sugar.

3,341,416

ENCAPSULATION OF ASPIRIN IN ETHYL-CELLULOSE AND ITS PRODUCT
Jerrold L. Anderson, Gary L. Gardner, and Noble H. Yoshida, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
No Drawing. Filed Dec. 11, 1963, Ser. No. 329,887
14 Claims. (Cl. 167-83)

1. A composition for the en masse individual encapsulation of minute particles of aspirin in polymeric material, by use of agitation, and heating, followed by cooling with continued agitation, consisting of

- a vehicle consisting of a major part, by weight, of cyclohexane, and a minor part, by weight, of polyethylene characterized substantially by having a molecular weight of about 7000 and a softening point of about 100-101 degrees centigrade;
- a minor part, by weight, of ethyl cellulose having an ethoxyl content of 48.0 to 49.5 percent, by weight, and a viscosity of 90-105; and
- a minor part, by weight, of powdered aspirin.

3,341,417

METHOD OF AND MEANS FOR DIAGNOSIS OF INGESTED DRUGS WITH RADIO-OPAQUE AND OTHER INDICATORS

Edwin S. Sinaiko, 5555 S. Everett Ave., Chicago, Ill. 60627

No Drawing. Filed July 14, 1965, Ser. No. 472,060
10 Claims. (Cl. 167-84.5)

1. A method of determining drug poisoning by in vivo roentgenographic identification of ingested peroral dosage units of drugs in a comatose subject, which comprises roentgenographing the gastro-intestinal tract of a comatose subject who has previously ingested peroral dosage units, each containing therein a specific amount and type of drug and a distinctively shaped radiopaque marker identifying that specific amount and type of drug, in order to thereby identify such markers present.

3,341,418

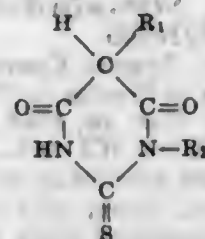
SELF-HEATING SHAVING PREPARATION COMPOSITION

Ronald E. Moses, Winthrop, and Philip Lucas, Chestnut Hill, Mass., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,930
5 Claims. (Cl. 167-85)

1. A package containing an aqueous exothermic shaving preparation composition, said package having two compartments for separate storage of ingredients of said composition from which the ingredients are adapted to be dispensed simultaneously for exothermic reaction with each other, the first compartment containing an oxidant selected from the class consisting of hydrogen peroxide and urea hydrogen peroxide and the second compartment

containing a reductant selected from the class consisting of thiourea and

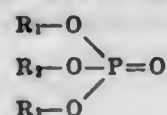


in which R₁ is a member of the class consisting of hydrogen, lower alkyl, lower hydroxyalkyl, lower alkoxy, and lower alkanoyl and R₂ is a member of the class consisting of phenyl, lower alkyl, lower hydroxyalkyl, lower alkoxy, and lower alkanoyl; and an alkaline material in an amount sufficient to provide a pH in the mixture dispensed from 5.0 to 10.0.

3,341,419

SUN-SCREENING COMPOSITIONS
Heinz Josef Elermann, Fair Lawn, and Irwin Rappaport, Bergenfield, N.J., assignors to Shulton, Inc., Clifton, N.J., a corporation of New Jersey
No Drawing. Filed June 30, 1965, Ser. No. 468,641
6 Claims. (Cl. 167-90)

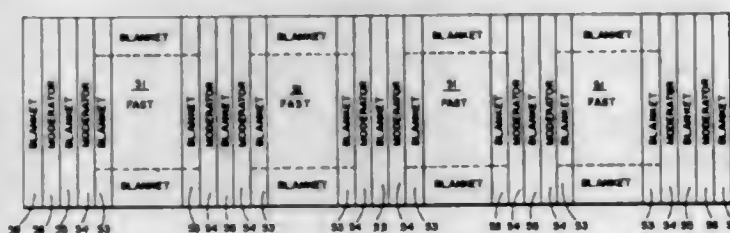
1. A protective composition for effectively protecting the human skin from erythema-producing ultraviolet radiation containing from about 0.5% to about 20% of a sun-screening agent, from about 0.1% to about 20% of a phosphoric acid ester having the formula:



wherein R₁ is an alkoxy fatty alcohol radical formed by the reaction of a fatty alcohol having from about 12 to about 20 carbon atoms with from about 4 to about 30 moles of alkylene oxide per mole of fatty alcohol and R₂ and R₃ are selected from the group consisting of hydrogen and said alkoxy fatty alcohol radicals, and at least one vehicle selected from the group consisting of water and lower alkanol, the composition being a clear, mobile, single phase liquid.

3,341,420

MODULAR FLUX TRAP REACTOR
Robert H. Sevy, Woodland Hills, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 4, 1965, Ser. No. 492,771
7 Claims. (Cl. 176-18)

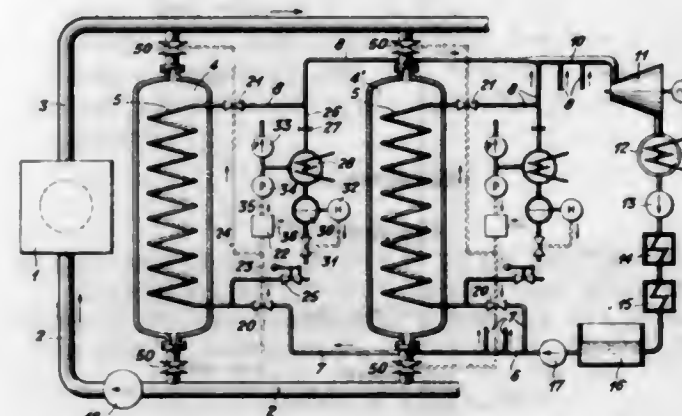


1. A fast breeder nuclear reactor core comprising a plurality of non-concentric fast regions spaced from each other, each of said fast regions having a plurality of fast fuel elements and an annular concentric barrier means around each region, each of said barrier means comprising a pair of spaced concentric thermal neutron absorption regions, one of said thermal regions being concentrically positioned adjacent to and around each fast region and a moderator region positioned between said pair of thermal neutron absorption regions.

3,341,421
NUCLEAR REACTOR PLANT HAVING LEAK DETECTION CONTROL SYSTEM

Jakob Kägi, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland

Filed Mar. 16, 1964, Ser. No. 352,258
Claims priority, application Switzerland, Mar. 20, 1963, 3,563/63
5 Claims. (Cl. 176-20)



1. A nuclear reactor plant comprising:
a nuclear reactor,
a plurality of heat exchangers,
a heat carrier medium,
means for consecutively passing said heat carrier medium as a coolant through said reactor and as a heating agent in the gas state in parallel relation through said heat exchangers,
a working medium,
means for passing said working medium as a coolant in parallel relation through said heat exchangers for receiving heat from said heat carrier medium, the pressure of said heat carrier medium, at least in said heat exchangers, being higher than the pressure of said working medium,
said means for passing said working medium through said heat exchangers comprising an inlet pipe and an outlet pipe for each heat exchanger,
separate conduits individually connected to said outlet pipes for tapping working medium therefrom,
separate detector means individually connected to said conduits for separately detecting the presence of heat carrier medium in the working medium tapped from said outlet pipes,
means individually connected to said conduits for feeding a predetermined rate of flow of working medium therethrough to said detector means, and
shut-off means individually connected to said outlet pipes and to said inlet pipes for individually preventing passage of working medium through the heat exchangers when heat carrier medium has been detected by said detector means in the working medium passed through the respective heat exchanger.

3,341,422

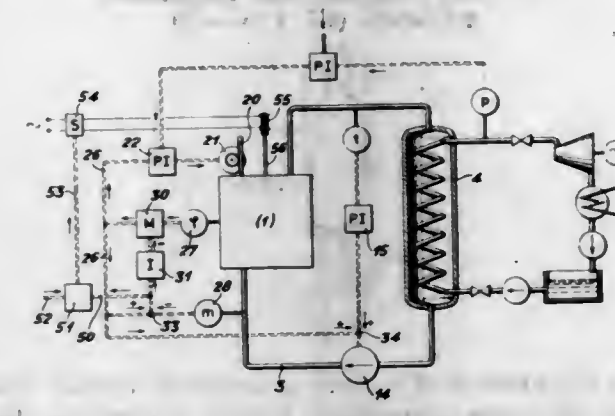
APPARATUS FOR CONTROLLING THE OUTPUT OF A NUCLEAR REACTOR

Jacques Gilbert, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland

Filed Nov. 16, 1965, Ser. No. 508,110
Claims priority, application Switzerland, Nov. 16, 1964, 14,792/64
6 Claims. (Cl. 176-20)

1. An apparatus for controlling the output of a nuclear reactor having a controller for adjusting the control rods of the reactor to control the heat generated thereby, said apparatus comprising
first means for generating a first signal in dependence

upon the measurement of the neutron flux at a point in said reactor,
second means for generating a second signal in dependence upon the measurement of the heat output of said reactor,
a multiplying means operatively connected to said first means for producing a control signal corresponding to the instantaneous output of the reactor,
a comparing device operatively connected to said sec-



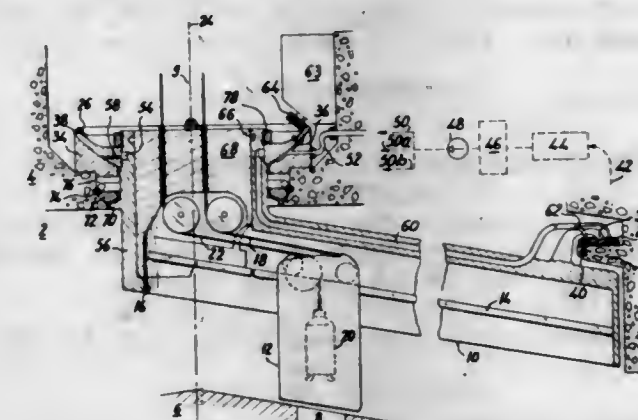
ond means and said multiplying means for comparing said control signal and said second signal to produce a first difference signal,
means for comparing said first difference signal to a limiting value signal to produce a second difference signal when said first difference signal exceeds said limiting value signal; and means responsive to said second difference signal for causing a rapid decrease in the heat generated by the reactor.

3,341,423

HANDLING DEVICE FOR NUCLEAR REACTOR REFUELLING FACILITY

Didier Costes, Paris, France, assignor to Commissariat à l'Energie Atomique

Filed Aug. 25, 1965, Ser. No. 482,502
Claims priority, application France, Sept. 1, 1964, 986,803
5 Claims. (Cl. 176-30)



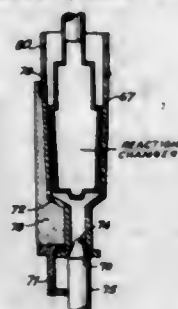
1. Handling device for the refueling facility of a nuclear reactor which is cooled by circulation of heat-transferring gas through vertical channels, said device comprising an arm rotatably mounted about an axis parallel to said channels on a central gas-cushion cup-bearing and on a terminal gas-cushion member slidably mounted on a circular ring, a machine which is movable along said arm, and means for driving said arm in rotation and for driving said machine in translation along said arm, said terminal member being supplied with gas through a pipe carried by the arm from a source which is common with that of said central cup-bearing.

3,341,424

UNDERGROUND NUCLEAR REACTOR AND METHOD OF INSTALLING AND OPERATING THE SAME

Gunther Schlicht, deceased, late of Hamburg, Othmarschen, Germany, by Erika Marie Schlicht, legal representative, Hamburg, Othmarschen, Germany, and Hans Lange, Wietze, Kreis Celle, Germany, assignors to Deutsche Erdol-Aktiengesellschaft, Hamburg, Germany
Filed Apr. 2, 1964, Ser. No. 357,349

The portion of the term of the patent subsequent to Feb. 22, 1983, has been disclaimed
4 Claims. (Cl. 176—39)



1. In the method of mounting a nuclear reactor underground, the steps comprising boring a borehole downwardly through the earth to the depth of a bituminous deposit, enlarging the diameter of the borehole at its lower end in the bituminous deposit, lowering a controllable nuclear reactor having an expandable shield downwardly through the borehole, mounting the reactor in the enlarged portion of said borehole, expanding said shield and sealing said borehole beneath the surface of the earth and permitting a passage therethrough from the nuclear reactor.

3,341,425

NUCLEAR REACTOR WITH IMPROVED MODERATOR MATERIAL

Ju Chin Chu, Garden City, N.Y.,
(1928 Taft Ave., Hollywood, Calif. 90028)
No Drawing. Filed Apr. 28, 1964, Ser. No. 363,273
22 Claims. (Cl. 176—41)

1. A fuel element intended for use in a thermal nuclear reactor that comprises a fissionable component and a matrix component, said matrix component consisting essentially of a solid solution of beryllium oxide and at least one-tenth atomic percent of a material selected from the group consisting of chromium, zirconium, titanium, chromium oxide, zirconium oxide, and titanium oxide.

3,341,426

LIQUID MODERATOR-COOLED NUCLEAR REACTOR

Charles Peter Gratton, Dorchester, and Albert Henry Russell, Weymouth, England, assignors to Societe Anglo-Belge Vulcain S.A., Brussels, Belgium
Filed Oct. 16, 1964, Ser. No. 404,248
Claims priority, application Great Britain, Oct. 21, 1963, 41,558/63

1 Claim. (Cl. 176—41)

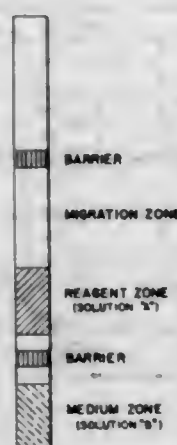
A liquid moderator-cooled nuclear reactor comprising a core having a plurality of fuel elements, each element having a symmetrically disposed array of components, said components being spaced apart to define passages therebetween for the flow of liquid moderator-coolant, the greater proportion of said components comprising fuel-containing fuel cans, the remaining, lesser, proportion of said components comprising empty fuel cans externally substantially the same as said fuel-containing fuel cans and being open-ended to permit flooding thereof with liquid moderator-coolant, said empty fuel cans being located in fuel elements only in outer regions of said core, the number of empty fuel cans being such as to provide power flattening by effectively replacing some fuel in said outer regions with moderator liquid.

3,341,427

DIAGNOSTIC PREPARATION AND PROCESS FOR THE DETECTION OF ACETYLMETHYL CARBINOL

George L. Evans, Hopatcong, and Charles I. Heller and Benjamin S. Schwartz, Livingston, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,272

4 Claims. (Cl. 195—103.5)



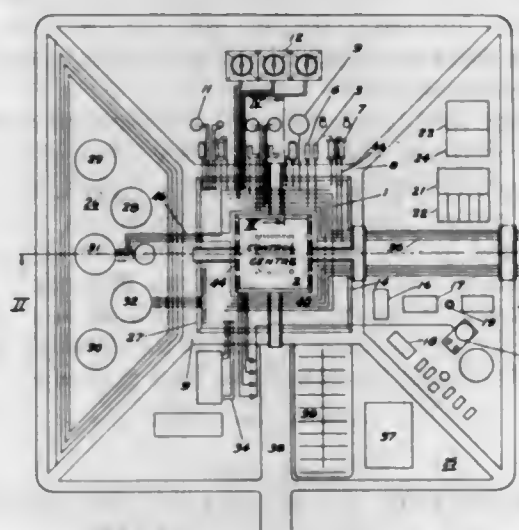
1. A diagnostic preparation for the rapid and positive detection of acetylmethylcarbinol which comprises a strip of a bibulous material impregnated with a medium zone comprising brain-heart infusion, trypsinase and glucose; a reagent zone comprising L-arginine and α -naphthol and a hydrophobic barrier zone separating said medium zone and reagent zone.

3,341,428

REFINERY ARRANGEMENT

Calvin J. McManus, East Orange, N.J., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed June 10, 1964, Ser. No. 374,034

2 Claims. (Cl. 196—46)



1. A control arrangement comprising a petroleum refinery system in a refining area:

a control unit geometrically located in a substantially central position with respect to the refinery system in the refinery area of polygon shape, said refinery area being proportioned into equal area portions corresponding to each side to said polygon shape; each portion being adjacent a side of said control unit for visual inspection from said control unit, said

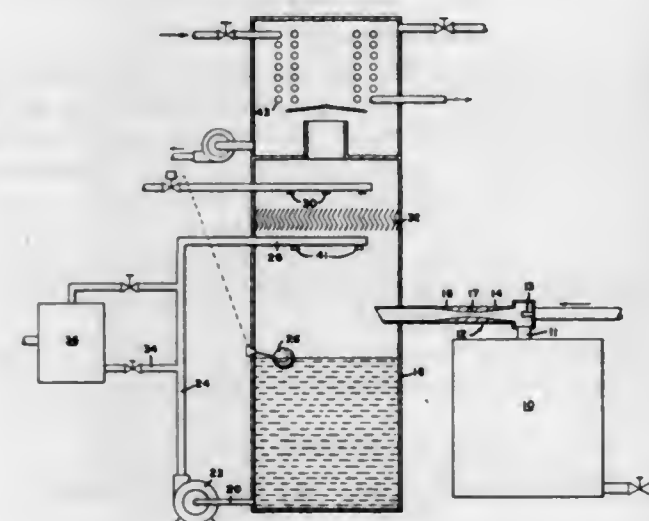
control unit having a polygon shape identical with and concentric of said refinery area polygon shape; valves for controlling the flow of fluid through said refinery system located adjacent said control unit in at least one of said area portions; electrical refinery controls located within said control unit; and a trough having a polygon shape identical with said control unit located annularly about the periphery of said control unit, said trough having two tiers of pipes and electrical conduits located within said trough, said pipes and conduits interconnecting refinery equipment and said electrical refinery controls and said valves for operation of said refinery system.

3,341,429

FLUID RECOVERY SYSTEM WITH IMPROVED ENTRAINMENT LOSS PREVENTION MEANS

Victor V. Fondrk, Jeannette, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,295

3 Claims. (Cl. 203—95)

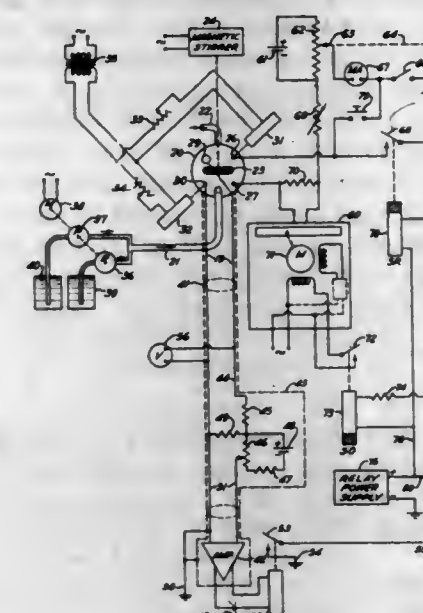


1. The process of separating and recovering a constituent of a liquid mixture which comprises the steps of: utilizing a stream of high velocity motive fluid to create a low pressure within a chamber containing the mixture such that the constituent is evaporated and is induced to flow from the chamber by the action of the motive fluid, introducing the gaseous mixture of motive fluid and constituent into a separation column, continuously circulating contact liquid through a circuit including a sump in the vessel, a spray header disposed in spaced relation to said sump and a zone between said sump and header wherein the contact liquid flows in direct contact heat transfer relation with the gas being supplied to the vessel, causing the gaseous constituent to condense, go into solution, or be physically entrained, and gravitate to said sump, regulating the pressure within said column such that the heat liberated in the separation of the constituent from the motive fluid is adsorbed by the circulating contact liquid causing portions thereof to evaporate, collecting any constituents entrained in the flow of motive fluid within the vessel, providing quantities of contact liquid to the circulating flow to compensate for that vaporized, utilizing the quantities of contact liquid so supplied to wash the collected constituents into the circulating flow and periodically withdrawing portions of constituent and contact liquid mixture in said circuit, and externally separating constituent and contact liquid, returning contact liquid to the system and recovering or disposing of the constituent.

3,341,430

COULOMETRIC TITRATION EMPLOYING ON-OFF CYCLING

Warren E. Wickerham, Penn Hills Township, Allegheny County, and Ralph D. Wyckoff, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 28, 1963, Ser. No. 291,378
13 Claims. (Cl. 204—1)



1. A method of controlling the titrating current in the coulometric titration of a continuously flowing liquid which comprises measuring a titration potential in the liquid, turning the titrating current on whenever said potential varies on one side of a predetermined potential, turning the titrating current off whenever said potential varies on the other side of a predetermined potential, measuring the length of a time interval during which the titrating current is on, measuring the length of an adjacent time interval during which the titrating current is off, and adjusting the magnitude of the titrating current so that the time during which the current is on bears a predetermined relation to the time during which the current is off.

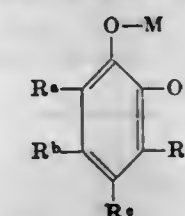
3,341,431

ELECTROLYTIC RECORDING MEDIUM CONTAINING A PHENOLIC ETHER

Marcel A. Gradsten, Demarest, N.J., and Irving Lieblich, Elmhurst, N.Y., assignors to Hogan Faximile Corporation, New York, N.Y.

Filed July 3, 1964, Ser. No. 380,166
19 Claims. (Cl. 204—2)

1. An electrolytic recording medium comprising an impregnated sheet containing in an electrolytically conducting solution as a marking compound a phenolic ether selected from the class consisting of



where R^a , R^b , R^c , and R^d are selected from the group consisting of H, lower aliphatic hydrocarbon groups usually having one to six carbon atoms, —OH, —OR^e (where R^e is a lower aliphatic group usually having one to six carbon atoms); where M is selected from the group consisting of aliphatic, cycloaliphatic, aromatic, and heterocyclic groups, but usually aliphatic groups.

3,341,432

METHOD OF MAKING WAVE GUIDES

Woldemar Kadner, Birkenfeld, Wurttemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 6, 1964, Ser. No. 349,981
Claims priority, application Germany, Mar. 14, 1963, St 20,404

5 Claims. (Cl. 204—9)

1. The method of manufacturing wave guides comprising the steps of molding a lost mandrel under negative atmospheric pressure from a material having a low melting point, said material being soluble in aqua regia, electroforming a wave guide on the lost mandrel by first plating the mandrel with a layer of silver, then with a layer of base metal, and following with another layer of silver whereby said base metal is encased in silver, melting the lost mandrel out of the shell of plating metal to leave a wave guide, and flushing the interior of the wave guide with aqua regia to eliminate all residue of the lost mandrel.

3,341,433

ELECTRODEPOSITION OF NICKEL

Frank Passal, Detroit, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 1, 1964, Ser. No. 364,278
15 Claims. (Cl. 204—49)

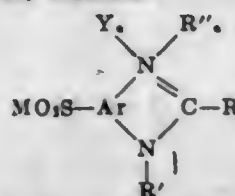
1. The process for electrodepositing nickel from an aqueous acidic nickel electroplating bath containing a secondary brightener and as a primary brightener an effective amount of a cyanoethyl compound selected from the group consisting of cyanoethyl thiobhydantoin, cyanoethyl 2-imidazolidine thione, cyanoethyl thiobarbituric acid, and cyanoethyl 2-thiouracil.

3,341,434

ELECTRODEPOSITION OF CHROMIUM

Frank Passal, Detroit, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 24, 1963, Ser. No. 311,223
13 Claims. (Cl. 204—51)

3. In the process for electroplating chromium from a chromium plating bath, the improvement which comprises maintaining in said bath about 0.001–0.2 g./l. of a compound having the formula



wherein Ar is selected from the group consisting of phenyl and naphthyl rings, said ring being incorporated into the imidazole structure through vicinal carbon atoms of said ring; M is a cation selected from the group consisting of hydrogen, ammonium and metals; R is a non-aromatic hydrocarbon containing 3–18 carbon atoms; R' is selected from the group consisting of omega-sulfonated lower alkyl, sulfonated phenyl and sulfonated benzyl; R'' is selected from the group consisting of hydrogen, lower alkyl and benzyl; Y is a water-soluble anion; and a is 0–1.

3,341,435

ANODIC OXIDATION OF ALUMINUM AND OF ITS ALLOYS

Dionisio Rodriguez Martinez, Neopatria 84, Barcelona 16, Spain
Filed Apr. 30, 1964, Ser. No. 363,782

Claims priority, application Spain, May 4, 1963, 287,693; Feb. 1, 1964, 295,984
7 Claims. (Cl. 204—58)

1. A process for the surface protection of aluminum and of its alloys by anodic oxidation in an aqueous bath of

chromic acid under a constant voltage with a direct current, characterized by the following means employed in combination:

the chromic acid concentration is about 15 to 19% by weight; the bath temperature is below 30° C.; the electrolysis voltage is below 25 volts; the anodic surface is between substantially "1.7×B" dm.² and "2.3×B" dm.², B representing volume of the bath expressed in liters; the cathodic surface is below "0.06×B" dm.²; whereby the ratio of the number of atom grams of chromium dissolved in the bath in the hexavalent state to the number of atom grams dissolved in the trivalent state remains constant with a value greater than 70 and which may exceed 120.

3,341,436

ELECTROLYTIC PROCESS FOR THE MANUFACTURE OF LINEAR POLYESTERS

Hans-Otto vom Orde, Bobingen, near Augsburg, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany
No Drawing. Filed July 30, 1963, Ser. No. 298,543
Claims priority, application Germany, July 31, 1962, F 37,475

10 Claims. (Cl. 204—59)

1. In the process for the manufacture of linear polyesters of dicarboxylic acids and diols comprising the steps of (a) subjecting esters of dicarboxylic acids and lower aliphatic alcohols to ester interchange with diols and (b) subsequent polycondensation, the improvement comprising contacting the reaction mixture in at least one of steps (a) or (b) with two metal electrodes and producing a current flow in the reaction mixture by the application of direct current voltage.

3,341,437

METHOD OF PRODUCING RARE EARTH OXYFLUORIDE

Lyle Russell Wood, P.O. Box 965, Apple Valley, Calif. 92307
Filed Apr. 28, 1964, Ser. No. 363,190

12 Claims. (Cl. 204—61)

8. The process of producing rare earth oxyfluoride which comprises impressing an alternating current through molten rare earth fluoride in an atmosphere containing oxygen.

3,341,438

PROCESS FOR THE PREPARATION OF TEREPHTHALIC AND ISOPHTHALIC ACID DICHLORIDE

Ewald Katzschmann, Dortmund-Kruckel, Germany, assignor to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany
No Drawing. Filed Mar. 13, 1963, Ser. No. 264,758
Claims priority, application Germany, Apr. 7, 1962, C 26,694

3 Claims. (Cl. 204—158)

1. A process for preventing sublimation in the production of terephthalic acid dichloride and isophthalic acid dichloride, by the chlorination of the corresponding terephthalic or isophthalic acid dimethyl ester in the presence of light at a temperature of between approximately 100° and 220° C., which comprises conducting said chlorination in the presence of benzoyl chloride.

3,341,439

PHOTOCHEMICAL PROCESS FOR THE PREPARATION OF CHLORIDE DERIVATIVES OF PARATOLUNITRILE

Wolfgang Wolfes, Witten-Bommern, Germany, assignor to Chemische Werke Witten GmbH., Witten (Ruhr), Germany
No Drawing. Filed June 28, 1966, Ser. No. 560,999
Claims priority, application Germany, Nov. 23, 1963, C 31,484; Dec. 17, 1963, C 31,684

9 Claims. (Cl. 204—158)

1. A process for the preparation of mono- and trichloro derivatives of para-tolunitrile which comprises chlorinating para-tolunitrile in an aqueous suspension under the action of light at a temperature of from 0° to 70° C.

3,341,440

PHOTOCHEMICAL PROCESS FOR THE PREPARATION OF DECACHLOROBUTANE

Samuel Gelfand, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Feb. 10, 1964, Ser. No. 343,452

9 Claims. (Cl. 204—163)

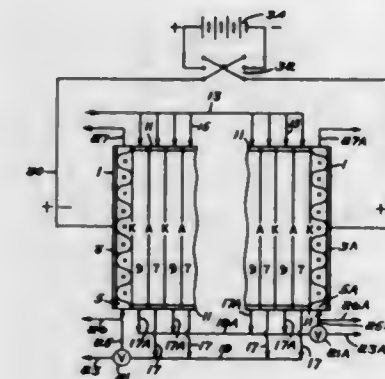
1. A process for the preparation of decachlorobutane which comprises reacting hexachlorobutadiene with liquid chlorine at a temperature of from –40 degrees centigrade to about 10 degrees centigrade in the presence of actinic light.

3,341,441

METHOD FOR PREVENTING SCALE BUILDUP DURING ELECTRODIALYSIS OPERATION

Anthony J. Glaffrida, North Andover, and Edgardo J. Parsi, Cambridge, Mass., assignors to Ionics, Incorporated, Cambridge, Mass.
Filed Jan. 7, 1964, Ser. No. 336,157

7 Claims. (Cl. 204—180)



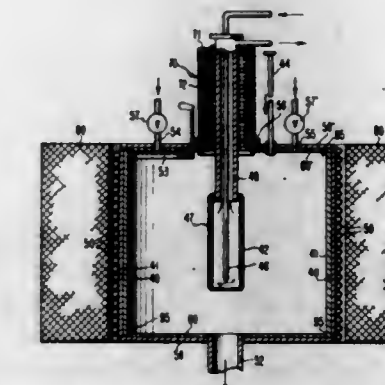
1. In the method of substantially preventing scale buildup in the electrode chambers of an electrodialysis apparatus during the electrolytic transfer of ions from one solution to another solution in an apparatus comprising a plurality of spaced membranes arranged between two electrodes to define liquid containing chambers and wherein a direct current is passed across said membranes and liquid, the improvement comprising periodically reversing the polarity of the direct current and simultaneously reducing the rate of flow of electrolyte solution to the anode chamber to allow the acid generated in said anode chamber to reach a concentration sufficient to substantially dissolve any scale contained therein.

3,341,442

METHOD OF CATHODE SPUTTERING INCLUDING CLEANING BY ION BOMBARDMENT WHEREIN AN ARTICLE TO BE COATED IS SUBJECTED TO CANAL RAYS

Eric Kay, Campbell, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Sept. 16, 1963, Ser. No. 309,159, now Patent No. 3,282,816, dated Nov. 1, 1966. Divided and this application Aug. 22, 1966, Ser. No. 574,868

5 Claims. (Cl. 204—192)



1. A method pre-cleaning the inner surfaces of a glow-discharge sputtering device, comprising: removing the anode-electrode from a discharged chamber into a storage chamber; sealing said storage chamber; applying Canal Ray bombardment through a biased perforated grid to said anode-electrode; inserting an auxiliary electrode into the discharge chamber; invoking a sputtering discharge between said auxiliary electrode and the cathode surface; removing said auxiliary electrode; and reinserting said anode-electrode for the initiation of sputtering deposition.

3,341,443

GLASS ELECTRODE WITH METAL FRAME SUPPORT AND METHOD OF MAKING THEREOF

Lynn B. Leonard, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Mar. 5, 1964, Ser. No. 349,721

19 Claims. (Cl. 204—195)

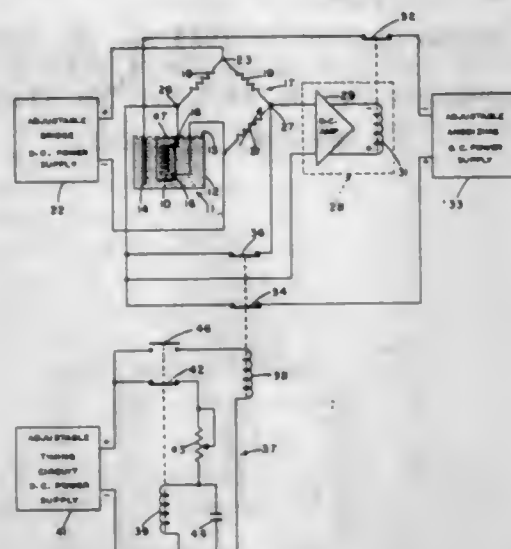


1. In a glass electrode, an envelope adapted to hold an electrolyte, an internal half cell positioned to contact said electrolyte, said envelope comprising: a hollow tube formed of a material inert to electrolyte; a metal frame inert to electrolyte extending from one end of said tube; and a sleeve of ion sensitive glass sealed to said tube and enclosing said metal frame with said frame support in said glass sleeve and defining the configuration thereof.

3,341,444

ANODIZATION CONTROL CIRCUITS

Edward A. La Chapelle, Flemington, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 1, 1964, Ser. No. 393,705
8 Claims. (Cl. 204-228)

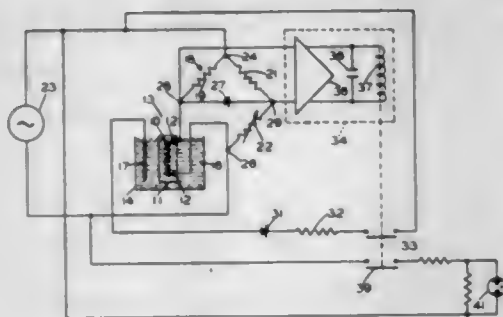


1. A circuit for anodizing a metal object in an electrolytic anodizing cell to increase the resistance of said object to a desired value, which comprises:
means for supplying anodizing current to the cell to anodize the object and thereby increase its resistance;
means for testing the resistance of the object;
means cyclically rendered effective for alternately and automatically switching the current supplying means across the cell and then across the resistance testing means into testing relationship with the object to alternately anodize the object and test the resistance thereof; and
means, responsive to the resistance testing means, for indicating when the object has reached the desired resistance value.

3,341,445

ANODIZATION CONTROL CIRCUITS

Allen R. Gerhard, Fullerton, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 1, 1964, Ser. No. 394,104
12 Claims. (Cl. 204-228)



1. A circuit for anodizing a metal object in an electrolytic anodizing cell to increase the resistance of the object to a desired value, which comprises:
an A.C. source;
means for connecting the A.C. source to the cell such that during one-half of a cycle, the source supplies anodizing current to the cell to anodize the object and thereby progressively increase its resistance and, during the other half of a cycle, the source supplies testing current to the object to test the resistance thereof;

a detector, responsive to the voltage drop across the object resulting from the passage therethrough of the test current, for detecting when the object has reached its desired resistance value; and
means for connecting the detector to the object such that the detector is operable only during the half cycle when test current is flowing through the object.

3,341,446

PROCESS FOR THE PRODUCTION OF A SINGLE-FRAME CATALYZER ELECTRODE AND PRODUCT

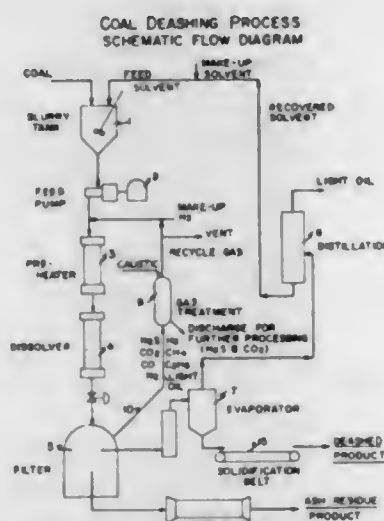
Wolf Vielstich, Bonn, Germany, and Egbert Guth, Neuenhof, Heinz Gunther Plust, Spreitenbach, and Carl Georg Telschow, Zurich, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
No Drawing. Filed Nov. 1, 1962, Ser. No. 234,843
Claims priority, application Germany, Nov. 3, 1961, V 21,546; Sept. 7, 1962, A 41,106
10 Claims. (Cl. 204-284)

1. Process for the production of a single-frame catalyzer electrode of optimum porosity and inner surface for use in electrochemical devices which comprises mixing a powder of a catalytically active metal selected from the group consisting of Ni and Ag with a powder of a catalytically inactive metal selected from the group consisting of Al and Zn under sufficient mechanical pressure to effect plastic deformation of the inactive metal grains, pressing the mixture into a shaped piece, sintering the shaped piece and then treating the shaped piece with a lye to dissolve out the catalytically inactive components.

3,341,447

SOLVATION PROCESS FOR CARBONACEOUS FUELS

Willard C. Bull, Prairie Village, Lawrence G. Stevenson, Merriam, Dean L. Kloepper, Mission, and Thomas F. Rogers, Shawnee Mission, Kans., assignors to the United States of America as represented by the Secretary of the Interior and Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania, joint owners
Filed Jan. 18, 1965, Ser. No. 426,340
20 Claims. (Cl. 208-8)



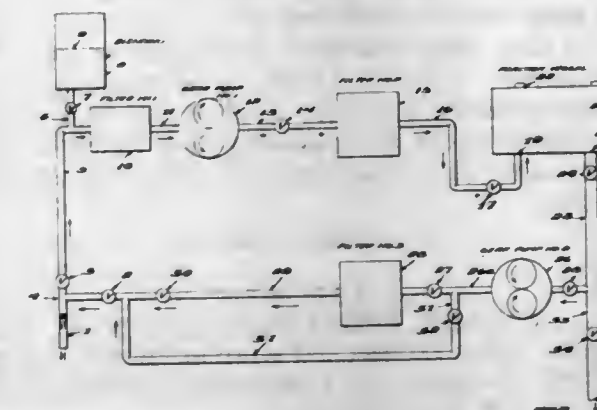
1. In a process for preparing an upgraded, substantially ash-free and low-sulfur fuel from carbonaceous fuels which comprises:

(a) Preparing a slurry of an organic solvent and a finely divided carbonaceous fuel in a ratio of about 1/1 to about 4/1 with said solvent being highly aromatic and having a boiling range of about 150° C. to about 750° C., a density of about 1.1 and a car-

3,341,449

METHOD AND APPARATUS FOR THE PURIFICATION OF HYDRAULIC FLUIDS

Henderson Hiram Howard, R.F.D. 2, Ellicott City, Md. 21043
Filed May 5, 1964, Ser. No. 365,026
13 Claims. (Cl. 210-44)



bon to hydrogen mole ratio from about 1.0 to 0.9 to about 1.0 to 0.4;
(b) Feeding said slurry to a heating zone;
(c) Heating said slurry in said heating zone to a temperature in the range of about 370° C. to about 500° C.;
(d) Charging the slurry at said temperature to a solubilizing zone;
(e) Holding the charge of step (d) in said solubilizing zone;
(f) Separating the solution formed in the solubilizing zone from the residue of said fuel;
(g) Recovering at least a major portion of solvent having a boiling point in the range of 150° to 750° C. from said solution; and
(h) Returning the recovered solvent to the process for further processing of fresh carbonaceous fuels;
the improvement comprising:
adding hydrogen before the slurry is charged to the solubilizing zone to increase the pressure of the said slurry and hydrogen mixture to at least 500 p.s.i.; holding the hydrogen pressurized slurry in said solubilizing zone at a pressure of at least 500 p.s.i. until the relative viscosity of the said hydrogen pressurized slurry rises substantially above 20 and then decreases below 10; and
then separating the solution formed in the solubilizing zone from the residue of the said fuel while the relative viscosity of the said solution is below 10.

3,341,448

DESULPHURIZATION OF HYDROCARBONS USING OXIDATIVE AND HYDRO-TREATMENTS

John Frederick Ford, Timothy Arrowsmith Rayne, and Dennis George Adlington, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock company

No Drawing. Filed Nov. 9, 1962, Ser. No. 236,688
Claims priority, application Great Britain, Nov. 24, 1961, 42,093/61

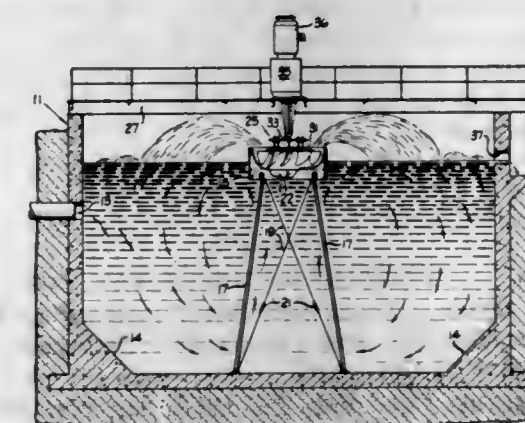
7 Claims. (Cl. 208-211)

1. A process for the desulphurization of a petroleum fraction containing at least a proportion of material boiling above 250° C. and having at least 1% weight of sulphur, the sulphur being present in said fraction in the form of sulphur-containing compounds of high molecular weight, said process comprising: treating said fraction in separate and successive stages, one stage comprising a two-step oxidative and thermal desulphurization stage and the other stage comprising a hydrocatalytic desulphurization stage; said two-step oxidative and thermal desulphurization stage comprising contacting the fraction with an oxidizing agent at a temperature within the range 80° C.-180° C. using an amount of oxidizing agent corresponding to between 1 and 6 active oxygen atoms per atom of sulphur in the fraction, and for a period of time of 1/2 to 20 hours, to selectively oxidize the sulphur-containing compounds of high molecular weight, subjecting the oxidized product to a thermal decomposition treatment at a temperature in the range about 200° C.-400° C. for a period of time sufficient to decompose the oxidized sulphur compound and liberate the sulphur as a sulphurous gas, and removing the gaseous decomposition products from the product of said thermal decomposition treatment; and said hydrocatalytic desulphurization stage comprising contacting the fraction with a desulphurization catalyst in the presence of hydrogen at a temperature within the range 500° F.-900° F. and a pressure within the range 100 to 2500 p.s.i.g.

3,341,450

GASIFICATION APPARATUS AND METHOD

Emil J. Ciabattari, Melrose Park, and Richard J. Nogaj, Winfield, Ill., assignors to Yeomans Brothers Company, Melrose Park, Ill., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,701
10 Claims. (Cl. 210-63)



10. A method of gasifying a body of fluid having its upper surface exposed to a gaseous medium, which method comprises rotating in a horizontal plane and around a vertical axis, a circumferentially spaced series of blades each of which is radially spaced from said axis, each blade having a vertically and horizontally curved front face which is concave toward the direction of rota-

tion, said blade having a front plowing end and a relatively elevated rear upper end edge, said rotating being performed so that the lower front ends of said blades dip below the operative surface level of the body of fluid to a depth which is a minor fraction of the distance between the plane of rotation of the upper ends and the plane of rotation of the lower ends, whereby the rotating blades plow separate portions of the upper layer of the fluid and then cause said fluid portions to be spread thin on the concave surface and then cut on the elevated upper edge and projected upwardly so as to fall back onto the main body of liquid in a receiving zone which is located generally exterior of the circular path of movement of the blades.

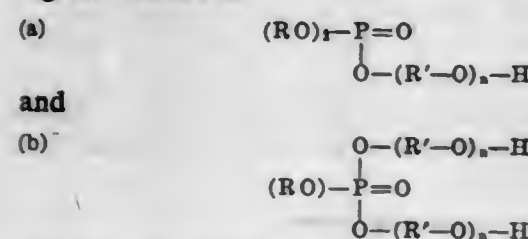
3,341,451

TEXTILE PROCESSING AGENTS

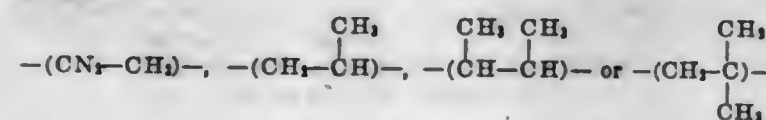
Wladyslaw Adam Dziuba and Gordon Palmer, Coventry, England, assignors to Courtaulds Limited, London, England, a British company
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,264
Claims priority, application Great Britain, Mar. 6, 1964, 9,493/64

4 Claims. (Cl. 252-8.6)

1. A homogeneous textile processing agent comprising from 5 to 25 percent by weight of a potassium alkyl phosphate in which the alkyl radical has, on the average, from 6 to 10 carbon atoms per molecule; from 50 to 90 percent by weight of an organic liquid selected from the group consisting of a mineral oil, a liquid monoester of an alkanol and a fatty acid containing at least 12 atoms per molecule, a vegetable oil and mixtures of at least two thereof; and from 5 to 25 percent by weight of a blending agent selected from the group consisting of (1) a substantially equimolecular mixture of compounds having the formulae:



wherein the groups R are hydrocarbon radicals having, on the average, from 6 to 18 carbon atoms, the groups R' are



and n is an integer of at least 1; (2), a polyethylene glycol derivative of reaction between an alcohol having, on the average, from 8 to 18 carbon atoms per molecule and from 2 to 5 moles, per mol of alcohol, of ethylene oxide, and mixtures of (1) and (2).

3,341,452

TEXTILE LUBRICANT

Leigh W. Cooley, Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,322

5 Claims. (Cl. 252-8.9)

1. A finish composition for application to yarn for high temperature processing comprising, by weight
(a) 40 to 60 parts of coconut oil,
(b) 5 to 20 parts of a soft hydrocarbon-wax which is an intimate mixture of naphthenic oil and wax having a molecular weight in the range of about 600 to 800 and a melting point below about 35° C., and
(c) about 25 to 50 parts of a condensate of about

10 mols of ethylene oxide and a mol of nonylphenol, and an ester of a mol of the condensate of about 30 mols of ethylene oxide and a mol of sorbitol with 5 mols of a mixture containing 4 mols of oleic acid and one mol of lauric acid.

3,341,453

INHIBITING SALT DEPOSITION

Paul H. Ralston, Bethel Park, Pa., assignor to

Calgon Corporation

No Drawing. Filed June 10, 1964, Ser. No. 374,147

8 Claims. (Cl. 252-8.55)

1. Method of treating brine to inhibit the deposition therefrom of salt under conditions which would render said brine supersaturated comprising adding to said brine prior to subjection to such conditions a small amount of glassy phosphate composition analytically consisting essentially of (a) about 35 to about 50 mole percent P₂O₅, (b) about 5.0 to about 65 mole percent of an oxide selected from the group consisting of CdO, PbO, and mixtures thereof, and (c) about 0 to about 60 mole percent of an oxide selected from the group consisting of Na₂O, CaO, ZnO, MgO, and mixtures thereof.

8. Method of treating oilfield brine coproduced with oil to inhibit the deposition therefrom of salt during a period of receding temperature comprising adding to said brine prior to said period of receding temperature a small amount of a phosphate glass analytically consisting essentially of (a) about 35 to about 50 mole percent P₂O₅, (b) about 5.0 to about 65 mole percent of an oxide selected from the group consisting of CdO, PbO, and mixtures thereof, and (c) about 0 to about 60 mole percent of an oxide selected from the group consisting of Na₂O, CaO, ZnO, MgO, and mixtures thereof.

3,341,454

LUBRICANT COMPOSITION

John Chor, Jr., Oaklawn, and Lee N. Hodson, Palos Heights, Ill., assignors to The Hodson Corporation, a corporation of Delaware

No Drawing. Filed Feb. 25, 1963, Ser. No. 260,837

9 Claims. (Cl. 252-22)

7. A lubricant preparation in anhydrous particulate form suitable for subsequent mixing with aqueous media consisting essentially of 0.5% to 2% by weight of the dry solids of a water soluble non-corrosive wetting agent selected from the class consisting of (1) the anionic alkyl, alkaryl sulphates and sulphonates in which the alkyl radical has a chain length of 8 to 12 carbon atoms and aryl sulphonates, (2) the cationic imidazoline salts of the phosphoric acids, (3) the nonionic condensation products of polyalkylene oxide and mixtures thereof with a member selected from the group consisting of long chain hydrocarbon fatty acids, fatty alcohols, fatty amines, fatty amides and alkyl phenols, (4) high titer soaps of a high titer fatty material and a base selected from the group consisting of organic bases and alkali metal bases, and (5) fatty alkanol amides; from about 10% to about 40% by weight of a suspending agent comprising a member of the class consisting of the animal and vegetable gums, the polyvinyl lactams having a molecular weight in the range between 50,000 and 400,000, the bentonitic clays, the alkyl celluloses, the polyacrylic acids having a molecular weight of 18,000 to 100,000 and their alkali metal and ammonium salts, and pectin; 0.5% to 5% by weight of a fungicide/bactericide selected from the group consisting of a monohydroxy mononuclear aromatic compounds, halogenated monohydroxy mononuclear aromatic compounds and the alkali salts thereof and the balance comprising a solid lubricant selected from the class consisting of graphite and vermiculite maintained in particulate form by being coated with dry premixture of said wetting and suspended agents.

3,341,455

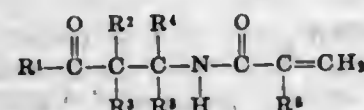
LUBRICANTS CONTAINING COPOLYMERIC NITROGEN COMPOUNDS

Lester E. Coleman, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 1, 1967, Ser. No. 613,092

8 Claims. (Cl. 252-51.5)

1. A lubricating composition comprising 100 parts by weight of a lubricating oil and up to about 10 parts of an oil-soluble interpolymer of (A) an N-3-oxohydrocarbon-substituted acrylamide having the structural formula



wherein each of R¹, R², R³, R⁴, R⁵ and R⁶ is individually hydrogen or a lower alkyl radical, with (B) at least about 50% by weight of at least one oil-solubilizing monomer having at least eight aliphatic carbon atoms.

3,341,456

WATER-BASED HYDRAULIC FLUID

Arthur W. Sawyer, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

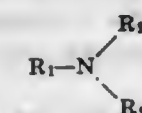
No Drawing. Filed June 11, 1964, Ser. No. 374,239

11 Claims. (Cl. 252-75)

1. A fluid composition comprising from about 50 to about 79 percent by weight of a random addition product of ethylene oxide and propylene oxide with a polyfunctional initiator selected from the group consisting of: (A) a glycol of the formula:



wherein R is alkylene of from 2 to 6 carbon atoms and n is an integer of 1 to 5, (B) an amine of the formula:

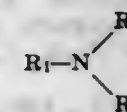


wherein R₁ is hydroxyalkyl of from 2 to 8 carbon atoms and R₂ and R₃ are independently selected from the group consisting of phenyl, hydrogen and hydroxyalkyl having from 2 to 8 carbon atoms, and (C) a material selected from the group consisting of ethylene diamine, glycerine, trimethylol propane, sorbitol, methyl glucoside, pentaerythritol, dipentaerythritol and tripentaerythritol, the said random addition product being prepared by reacting the polyfunctional initiator with a mixture of ethylene oxide and propylene oxide in which the weight ratio of ethylene oxide to propylene oxide is from about 0.60:1 to about 1.75:1, said addition product having a molecular weight of greater than 600 and a viscosity at 100° F. of at least 90 centistokes, about 0.15 to about 5.0 percent of an inhibitor composition selected from the group consisting of phenothiazine, sodium mercaptobenzothiazole, p-hydroxy diphenylamine, dioctyl diphenylamine, polymerized trimethyl hydroquinoline, hydroquinone, borax-glycol condensate, salicylal monoethanolamine, an alkali metal borate, an alkali metal soap of a fatty acid, morpholine, N-ethyl morpholine, diisopropylamine nitrite, dicyclohexyl ammonium nitrite, amino methyl propanol, and mixtures thereof, and the balance being water.

9. A fluid composition comprising from about 50 to about 79 percent by weight of a random addition product of ethylene oxide and propylene oxide with a polyfunctional initiator selected from the group consisting of: (A) a glycol of the formula:



wherein R is alkylene of from 2 to 6 carbon atoms and n is an integer of 1 to 5, (B) an amine of the formula:



wherein R₁ is hydroxyalkyl of from 2 to 8 carbon atoms and R₂ and R₃ are independently selected from the group consisting of phenyl, hydrogen and hydroxyalkyl having from 2 to 8 carbon atoms, and (C) a material selected from the group consisting of ethylene diamine, glycerine, trimethylol propane, sorbitol, methyl glucoside, pentaerythritol, dipentaerythritol and tripentaerythritol, the said random addition product being prepared by reacting the polyfunctional initiator with a mixture of ethylene oxide and propylene oxide in which the weight ratio of ethylene oxide to propylene oxide is from about 0.60:1 to about 1.75:1, the said addition product having a molecular weight of greater than 600 and a viscosity at 100° F. of at least 90 centistokes, about 0.15 to 1.5 percent by weight of an antioxidant selected from the group consisting of phenothiazine, sodium mercaptobenzothiazole, p-hydroxy diphenylamine, polymerized trimethyl hydroquinoline, hydroquinone and mixtures thereof, about 0.25 to about 2.45 percent by weight of a corrosion inhibitor selected from the group consisting of a borax-glycol condensate, salicylal, monoethanolamine, an alkali metal borate and an alkali metal soap of a fatty acid and mixtures thereof, from about 0.1 to about 1.0 percent by weight of a vapor phase corrosion inhibitor selected from the group consisting of morpholine, n-ethyl morpholine, diisopropylamine nitrite, dicyclohexyl ammonium nitrate, amino methyl propanol and mixtures thereof, and the balance being water.

3,341,457

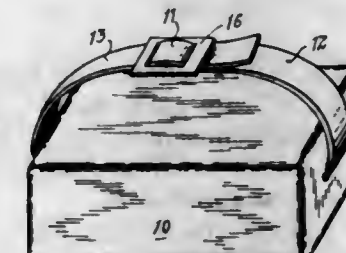
TUB AND SHOWER SOAP BAR

Georgette I. Schmidt, 2658 45th Ave.,

San Francisco, Calif. 94116

Filed May 11, 1965, Ser. No. 454,797

2 Claims. (Cl. 252-92)



1. A hand soap for tub and shower use, consisting essentially of a rectangular bar of hand soap, a continuous length band encircling band embedded centrally within and extending longitudinally through said bar of soap with its ends extending at each end thereof, the ends of said encircling band having cooperating snap fastener elements and being of a length sufficient to position said fastener elements substantially centrally at either side of said bar of soap, and characterized by the fact that one of said fasteners has oppositely disposed and similar snap fastener elements whereby said bar of soap may be firmly positioned with either side of said bar of soap exposed in the hands of a user when passed under said encircling band.

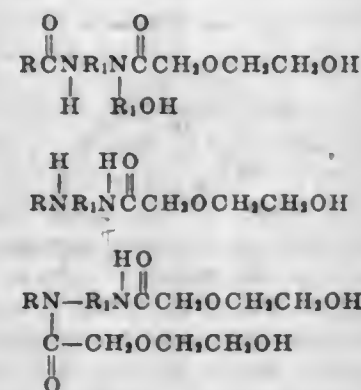
3,341,458

N-SUBSTITUTED AMIDES OF HYDROXYETHOXY-ACETIC ACID AND PROCESSES FOR USING SAME

Raymond L. Mayhew, Summit, N.J., and Earl P. Williams, Pen Argyl, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,243
5 Claims. (Cl. 252-117)

1. A method of dispersing lime soaps formed in hard water with alkali metal fatty acid soaps which comprises incorporating in the water as a dispersing agent a compound selected from the group consisting of:



wherein R is a hydrocarbon radical containing from about 8 to about 21 carbon atoms; and R₁ is a lower alkylene radical, said dispersing agent being employed in an amount of from about 1% to about 40% by weight based on the amount of lime soap.

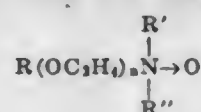
3,341,459

DETERGENT COMPOSITIONS

Jerry Edison Davis, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed May 25, 1964, Ser. No. 370,036
5 Claims. (Cl. 252-137)

1. A detergent composition consisting essentially of an amine oxide in the following general formula



wherein R is an alkyl radical containing from 12 to 14 carbon atoms, R' and R'' are each methyl, and n averages 3, and sodium tripolyphosphate, the ratio by weight of said amine oxide to said tripolyphosphate being in the range of about 4:1 to about 1:20.

5. A laundering process comprising the steps of immersing soiled fabrics and garments into an aqueous solution having a temperature within the range of from 60° F. to 90° F., and a pH of from about 8 to about 12, said aqueous solution containing from about .05% to .50% by total weight of the detergent composition of claim 1.

3,341,460

SHAMPOO COMPOSITION

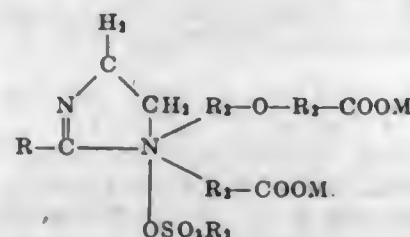
Ling Wei, East Brunswick, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 500,208
9 Claims. (Cl. 252-152)

1. A shampoo composition substantially non-irritating to an animal eye when in contact therewith, consisting essentially of

(A) between about 10 and about 20 percent by

weight of a compound represented by the general formula



wherein—

R is an alkyl group of 4-18 carbon atoms;

R₂ is selected from the class of consisting of

- alkylene group of 1-4 carbon atoms,
- hydroxy substituted alkylene groups of 1-4 carbon atoms wherein at least one hydrogen is hydroxy substituted,
- alkylene ether groups, of 2-4 carbon atoms having a single ether linkage therein,
- hydroxy substituted alkylene ether groups, of 2-4 carbon atoms having a single ether linkage therein and wherein at least one hydrogen is hydroxy substituted,
- alkylene keto groups, of 2-4 carbon atoms having a single keto linkage therein,
- hydroxy substituted alkylene keto groups, of 2-4 carbon atoms having a single keto linkage therein and wherein at least one hydrogen is hydroxy substituted,

R₃ is a fatty acid monoglyceride group wherein the fatty acid contains from about 8 to about 18 carbon atoms;

and

M is selected from the group consisting of hydrogen and an alkali metal

and

(B) between about 1 and about 15 percent by weight said amount being sufficient to substantially lower the cloud point of the composition, of an iminodipropionate represented by the general formula



wherein R₄ is an alkyl group having about 10 to about 18 carbon atoms, and Y is selected from the group consisting of hydrogen and a salt forming radical selected from the group consisting of alkali metal salts and alkylolamine salts; and water.

3,341,461

COMPOSITION FOR PROTECTING METALS AGAINST CORROSION

Norman B. Larsen, Norristown, Pa., assignor, by mesne assignments, to C. J. Webb, Inc., a corporation of Pennsylvania

No Drawing. Filed July 24, 1964, Ser. No. 385,053

3 Claims. (Cl. 252-153)

1. A composition for protecting metals against corrosion consisting essentially of a uniform mixture of 5 to 10 weight percent of a salt selected from the group consisting of the cyclohexylamine and dicyclohexylamine salts with a phosphate having the formula R₃PO₄ in which R is selected from the group consisting of methyl, ethyl, propyl, isopropyl, butyl and isobutyl radicals, and 5 to 20 weight percent of an alkyl stearate in which the alkyl radical has from 1 to 5 carbon atoms dissolved in a suitable organic solvent capable of dissolving said salt and said alkyl stearate.

3,341,462

MODIFIED POLYISOCYANATE COMPOSITIONS

Andrew Shultz, Amherst, and Melvin Kaplan, Tonawanda, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 27, 1964, Ser. No. 355,417
6 Claims. (Cl. 252-182)

1. In a process for the production of polyisocyanate compositions adapted for use in the production of "one-shot" cellular urethanes by phosgenation of toluene diamines in the presence of a solvent, to produce a toluene diamine phosgenation product, the improvement which comprises adding a difunctional active hydrogen containing material selected from the group consisting of a diol or a hydroxy terminated polyester thereof, said difunctional active hydrogen containing material consisting solely of carbon, hydrogen and oxygen, to said toluene diamine phosgenation product in an amount within the range of about 3% to about 7% by weight of the toluene diamine phosgenation product and thereafter distilling said mixture to remove volatile constituents until the resultant distilland has a viscosity of at least 20 cps. at 25° C. and an amine equivalent within the range of 90 and 125.

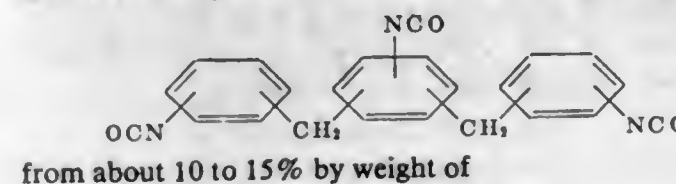
3,341,463

ORGANIC POLYISOCYANATES

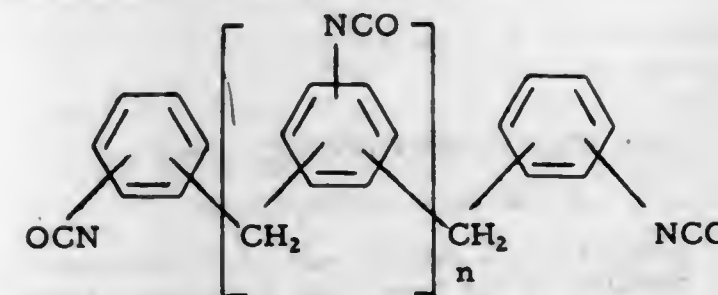
Paul G. Gemelhardt, Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 16, 1964, Ser. No. 411,608
9 Claims. (Cl. 252-182)

1. An organic polyisocyanate composition comprising from about 32 to 48% by weight of 2,4-tolylene diisocyanate, about 8 to 12% by weight of 2,6-tolylene diisocyanate, from about 18 to 27% by weight of diphenyl methane diisocyanate, from about 12 to 18% by weight of



from about 10 to 15% by weight of



wherein n is 2 to 5, from about 0.01 to about 2% by weight of hydrolyzable chloride, from about 0.2 to about 5% by weight of an acid phosphate with the proviso that at least about 0.75% by weight of the mixture is hydrolyzable chloride and acid phosphate combined.

3,341,464

HEAT RESISTANT AMINIUM SALT INFRARED ABSORBERS

Peter Vincent Susi and Ralph Arthur Coleman, Middlesex, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,785
11 Claims. (Cl. 252-300)

1. A method for increasing the infrared absorption of an organic plastic material capable of transmitting visible light which comprises incorporating in said material at least 0.01% by weight of a compound of the formula



wherein R is an alkyl of from 1-5 carbon atoms and X-

is an anion selected from the group consisting of hexafluoroantimonate and hexafluoroarsenate.

10. A composition of matter consisting essentially of an organic plastic material capable of transmitting visible light having incorporated therein at least 0.01 percent by weight of a compound of the formula



wherein R is an alkyl of from 1-5 carbon atoms and X- is an anion selected from the group consisting of hexafluoroantimonate and hexafluoroarsenate.

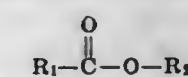
3,341,465

NOVEL GEL EMULSIONS

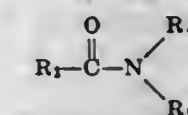
Thomas G. Kaufman, Boonton, N.J., and Richard J. Tkaczuk, Stamford, Conn., assignors to Drew Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,633
11 Claims. (Cl. 252-316)

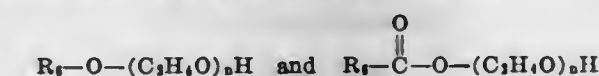
1. A clear gel emulsion composition consisting essentially of from about 10% to about 40% by weight of at least one ester selected from the group having the following generic formula:



wherein R₁ is a residue of a fatty acid and contains from about 8 to about 24 carbon atoms, and R₂ is a lower alkyl radical having from 1 to about 4 carbon atoms; from about 20% to about 80% of water; from about 3% to about 15% of at least one alkylolamide selected from the group having the following generic formula:



wherein R₃ is a residue of a fatty acid and contains from about 8 to 14 carbon atoms, R₄ is a member selected from the group consisting of hydrogen and a monohydric alkyl radical having from 1 to 4 carbon atoms, and R₅ is a monohydric alkyl radical having from about 1 to about 4 carbon atoms; from about 1% to about 25% of a polyoxyethylene surfactant selected from the class of compounds having the generic formulas of:



wherein R₆ is an aliphatic radical containing from about 8 to 24 carbon atoms and n is an integer having a value of from about 2 to about 40; and from about 1% to about 8% of a partial oleic acid ester of a polyglycerol.

3,341,466

PROCESS FOR MAKING CAPSULES

Carl Brynko, 4320 Frieda Lane 45429; Joseph A. Bakan, 1230 Benfield Drive 45429; Robert E. Miller, 2319 Rockwell Court 45420; and Joseph A. Scarpelli, 245 Wroe Ave. 45406, all of Dayton, Ohio

No Drawing. Continuation of application Ser. No. 137,992, Sept. 14, 1961. This application Oct. 31, 1966, Ser. No. 591,023

4 Claims. (Cl. 252-316)

1. A process for making capsules having walls of gelled complex hydrophilic film-forming polymeric material and nuclei of substantially water-immiscible material, including the steps of providing an aqueous solution containing intended nucleus material particles and at least two kinds of hydrophilic polymeric film-forming material having molecules of opposite electric charge in the solution, at least one of the polymeric materials being temperature-gelable and the solution being kept at a temperature above

the gelation point of the gelable component at the commencement of the process; lowering the pH of the solution to a point where coacervation commences and the higher weight fractions of coacervate deposit on the nucleus particles; with agitation lowering the temperature just into the gelation range to complete coacervation and the formation of small, more viscous coacervate entities which, because of such viscous condition, form thick walls around each nucleus entity without further pH adjustment; and then dropping the temperature, still with agitation, to a point where the deposited walls gel regardless of the agitation.

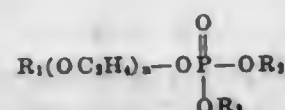
3,341,467

METHOD OF INHIBITING FOAMING IN AQUEOUS SYSTEMS

Chih M. Hwa, Arlington Heights, Ill., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Mar. 3, 1967, Ser. No. 620,255
7 Claims. (Cl. 252-321)

1. The method of inhibiting foaming in a circulating water system which comprises introducing into said water an effective amount of a phosphated alkoxy polyethylene-oxy ethanol having the structural formula:



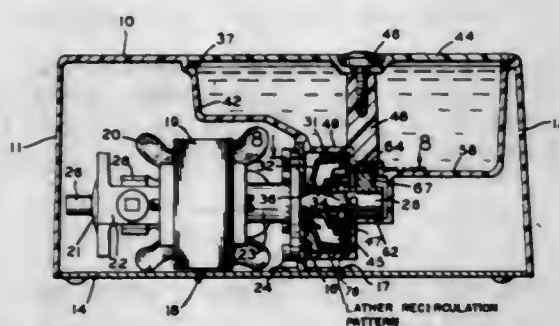
where n is an integer of from 2 to 50, R_1 is an alkyl group containing from 8 to 24 carbon atoms, R_2 and R_3 are each selected from the group consisting of hydrogen atoms and alkyl groups containing from 1 to 24 carbon atoms, and where n is from 11 to 30, the total number of carbon atoms in R_1 , R_2 , and R_3 is at least 30, and where n is from 31 to 50 the total number of carbon atoms in R_1 , R_2 , and R_3 is at least 48.

3,341,468

APPARATUS FOR PRODUCING HOT LATHER

Mel S. Rosen, 148-44 61st Road,
Flushing, N.Y. 11367

Filed Sept. 28, 1965, Ser. No. 490,976
11 Claims. (Cl. 252-359)



1. An apparatus for producing hot lather and including a frame, a motor with a shaft mounted on the frame, an impeller with radial blades fast on the shaft, a bushing freely carried on the shaft and means for imparting a twisting moment to the bushing in a direction non-parallel with the shaft to create friction and heat between the bushing and the shaft, a reservoir for soap solution above the impeller, a housing closely surrounding the impeller and bushing, means for feeding liquid soap and air into said housing near the axis of the bushing and impeller to heat the same and impart kinetic action to the soap centrifugally outwardly against the housing and feed it back to said axis for recirculation to incorporate fine

air bubbles therein, a valve controlling feed of the liquid, a manual control for the motor and said valve, and a relatively small discharge conduit for the lather so as to cause it to recirculate a number of times before it can move out through said discharge opening.

3,341,469

NOVEL ORGANOSILOXANE-SILICATE COPOLYMERS

Arthur N. Pines, Snyder, and Eugene A. Zientek, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Apr. 26, 1961, Ser. No. 105,535. Divided and this application Dec. 15, 1964, Ser. No. 418,532

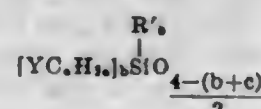
7 Claims. (Cl. 252-389)

1. A process for inhibiting the corrosion of metals below sodium in the electromotive series that come in contact with aqueous liquids, said process comprising adding to the liquid a corrosion inhibiting amount of a copolymer consisting essentially of:

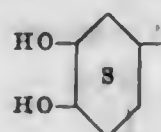
(1) from 0.1 to 99.9 parts by weight of (a) a member selected from the group consisting of siloxane groups represented by the formula:



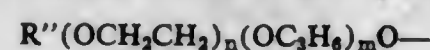
wherein R is a member selected from the group consisting of the methyl, ethyl, phenyl and vinyl groups and (b) siloxane groups represented by the formula:



wherein Y is a member selected from the group consisting of the cyano group, $CH_2(OH)CH(OH)$ group, $CS_2(OH)CH(OH)CH_2$ group,

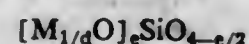


group, $CH_2(OH)CH(OH)CH_2O$ -group and



group, R'' is a member selected from the group consisting of the monovalent hydrocarbon groups and the hydrogen atom, n has a value of at least 1, m has a value from 0 to 20 inclusive, the ratio of n to m is at least 2 to 1, a has a value of at least 2, C_2H_5 is an alkylene group, the group represented by Y is separated from the silicon atom by at least two successive carbon atoms by the group represented by C_2H_5 , b has a value of from 1 to 3 inclusive, R' is a monovalent hydrocarbon group, c has a value from 0 to 2 inclusive, $(b+c)$ has a value from 1 to 3 inclusive; and

(2) from 0.1 to 99.9 parts by weight of at least one silicate group represented by the formula:



wherein M is a cation that forms a water soluble silicate selected from the group consisting of the sodium, potassium, lithium, rubidium and the tetraorgano ammonium cations, d is the valence of the cation represented by M and has a value of 1 and e has a value from 1 to 3 inclusive, said parts by weight of said groups in the copolymer being based on 100 parts by weight of the copolymer.

3,341,470

CHEMICAL PROCESS

Albert L. Hensley, Jr., Munster, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Feb. 27, 1963, Ser. No. 261,466
5 Claims. (Cl. 252-413)

1. A process for recovering and recycling catalyst, selected from the group consisting of cobalt and manganese catalysts and mixtures thereof, used in a liquid phase molecular oxygen oxidation process, wherein said catalyst contains minor, but oxidation-inhibiting, amounts of a contaminant metal from the group consisting of iron, chromium, copper and mixtures thereof, said process comprising:

- oxidizing said contaminated catalyst by incineration,
- dissolving said oxidized catalyst with sulfuric acid,
- treating the resulting acidic solution with calcium hydroxide to neutralize sulfuric acid, until the acidic solution has a pH of about 4,
- buffering the calcium hydroxide treated solution with calcium carbonate and precipitating a contaminant metal oxide,
- separating said oxide from the solution,
- introducing sodium carbonate to the solution and precipitating a carbonate of the catalyst, free from inhibiting metals,
- converting the catalyst carbonate to a carboxylate salt by treatment with an organic acid, and
- reintroducing the catalyst to the oxidation process.

3,341,471

ATTRITION RESISTANT SOLID CATALYSTS

James L. Callahan and Warren R. Knipple, Bedford, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed May 9, 1963, Ser. No. 279,308
14 Claims. (Cl. 252-451)

1. The process for preparing an attrition resistant solid oxidation catalyst comprising the steps of

- activating at a temperature of from about 1000° F. to about 2000° F. in an oxidizing atmosphere an oxidation catalyst per se or said catalyst on a carrier said catalyst consisting essentially of the combined oxides of the metals antimony and M wherein M is at least one metal selected from the group consisting of uranium, iron, manganese, thorium, cerium, molybdenum and tin and reducing the resulting catalyst to a fine powder and
- mixing the powder from (A) with an aqueous silica sol, drying and heat treating the resulting mixture at a temperature of from about 750° F. to about 2000° F.

6. The attrition resistant catalyst prepared by the process of claim 1 said catalyst being further characterized as having a compressive strength greater than thirty pounds at failure as determined on particles of said catalyst which are about 4 mm. in diameter and 5 to 6 mm. in length.

3,341,472

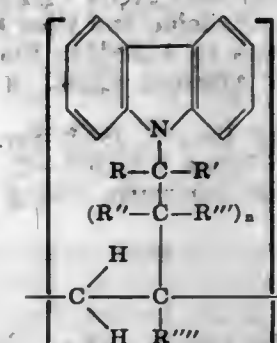
PHOTOCONDUCTORS AND METHOD OF MAKING THE SAME

William A. Hewett, Saratoga, and Alfred H. Sporer, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,687
19 Claims. (Cl. 252-501)

1. An organic polymeric photoconductor which consists essentially of:

a polymer which has the structural formula:

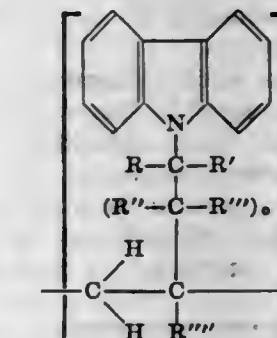


where $n=1-19$, $m=10-1000$, and R , R' , R'' , R''' and R'''' are substituents selected from the group consisting of hydrogen, alkyl, aryl and alkylaryl substituents, and

an electron acceptor complexed with aromatic units of said polymer, in a concentration which effectively increases the photo-semiconductive sensitivity of said polymer to radiation.

12. The method of making an organic photoconductor, which method comprises:

complexing aromatic units of polymeric material containing monomeric units having the structural formula:



wherein $n=1-19$, $m=10-1000$, and wherein R , R' , R'' , R''' and R'''' are substituents selected from the group consisting of hydrogen, alkyl, aryl and alkylaryl substituents, with an electron acceptor in a concentration which effectively increases the photo-semiconductive sensitivity of the monomeric units to radiation.

3,341,473

HIGH BETA THERMISTORS

Luther D. Loch, Youngstown, N.Y., assignor to Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Feb. 16, 1966, Ser. No. 534,588
8 Claims. (Cl. 252-520)

1. A thermistor suitable for use as a high temperature flame sensor which consists of a body and a pair of leads attached thereto, said body consisting essentially of:

- a solid solution of oxides of polyvalent metals represented by the formula $MO_2 \cdot M'O_2$, where M and M' are different and the mol ratio of MO_2 to $M'O_2$ ranges from 98:2 to 2:8 and where M is tin and M' is titanium;
- a resistance modifier consisting of at least one metal oxide selected from the group consisting of antimony trioxide and tantalum pentoxide present in an amount ranging from about 0.1 mol percent to about 5 mol percent with respect to the mols of $MO_2 \cdot M'O_2$;

said thermistor having a measurable resistivity over a wide range of temperatures up to and including 1000° C. and being characterized by having a resistivity at 600° C. of not more than about 5×10^4 ohm-cm., a resistivity ratio of from about 3×10^1 to about 4×10^7 and a percent resistivity change per degree C. of at least about 0.5.

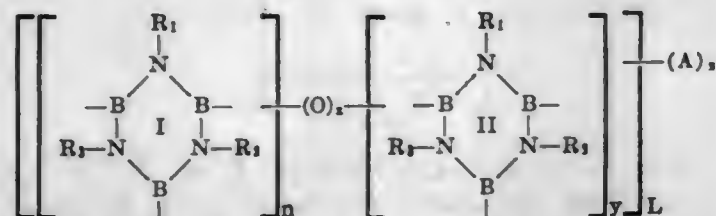
3,341,474

BORAZENE OXIDE DERIVATIVE POLYMERS AND PREPARATION THEREOF

James L. Bradford, Anaheim, and Ross I. Wagner, Whittier, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Dec. 1, 1961, Ser. No. 156,521
13 Claims. (Cl. 260-2)

1. A borazene oxide derivative having the formula:



wherein:

Formulas I and II represent a separate borazene derivative;

n , y , and L are integers chosen so that $L(n+y)$ is at least 2;

x is the total number of single oxygen linkages between borazene rings I and II and is an integer equal to at least 1;

z is an integer which is at least 4 and is equal to the number of annular boron atoms of said formula which are not attached to one another through a single oxygen atom;

R_1 , R_2 , and R_3 are each independently selected from the group consisting of hydrogen, alkyl, alicyclic and arene substituent, said substituent containing no more than 12 carbon atoms each; and

A is independently selected from the group consisting of hydroxy, alkyl, alicyclic and arene substituent, said substituent containing no more than 12 carbon atoms each.

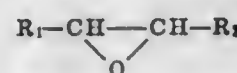
3,341,475

VULCANIZABLE COPOLYMERS OF OXETANES AND HALOGEN SUBSTITUTED EPOXIDES

Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Aug. 28, 1962, Ser. No. 220,025
11 Claims. (Cl. 260-2)

1. An essentially linear, vulcanizable polyether copolymer of at least about 4% and not more than about 90% by weight of flexibilizing oxetane, at least about 10% and not more than about 96% by weight of epoxide containing at least one aliphatic halogen group, and not more than about 75% by weight of epoxide having the formula

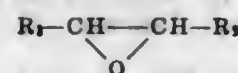


in which R_1 and R_2 are radicals selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, and phenyl radicals, said copolymer having a weight average molecular weight of at least about 50,000; said flexibilizing oxetane having the formula



and selected from the group consisting of (1) where X , X_1 , X_2 , Y , Y_1 and Y_2 are all hydrogen, (2) where any one of X , X_1 , X_2 , Y , Y_1 and Y_2 is alkyl, alkoxy, alkoxy-methyl, haloalkyl, haloalkoxy, and haloalkoxymethyl and the remainder are hydrogen, and (3) where each of X and Y is alkyl and X_1 , X_2 , Y_1 and Y_2 are hydrogen; and said

epoxide containing at least one aliphatic halogen group having the formula



where R_3 is selected from the group consisting of halo-alkyl and haloalkoxyalkyl and R_4 is selected from the group consisting of hydrogen, alkyl, haloalkyl and halo-alkoxyalkyl.

3,341,476

FLUORINATED COPOLYMERS OF ALKYLENE IMINES

Carl C. Thurman, Jr., Lake Jackson, James S. Scruggs, Angleton, and Fred N. Teumac, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 21, 1962, Ser. No. 246,370
16 Claims. (Cl. 260-2)

1. A process for making a copolymer which comprises reacting by contacting at about 0° to about 80° C. from about 2 to about 25 moles of at least one vicinal lower alkylene imine with one mole of at least one mono-unsaturated aliphatic fluorocarbon of the formula C_nF_{2n-2a} wherein n is an integer from two to about six and a is an integer from zero to one.

3,341,477

POLYMERIC PHOSPHORANES, ARSANES AND STIBANES AND PROCESS FOR MAKING THE SAME

Robert M. Washburn and Roger A. Baldwin, Whittier, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Application Jan. 11, 1963, Ser. No. 268,425, now Patent No. 3,311,646, dated Mar. 28, 1967, which is a division of application Ser. No. 149,887, Nov. 3, 1961, now Patent No. 3,112,331, dated Nov. 26, 1963. Divided and this application Aug. 1, 1966, Ser. No. 574,848

4 Claims. (Cl. 260-2)

1. A process for the preparation of a new class of polymers which comprises reacting under anhydrous conditions,

(a) One mole of a compound having the formula



where R is selected from the group consisting of aryl, alkyl, halogen, alkoxy, aryloxy, amino, alkylthio, and arylthio groups;

M is a metal selected from the group consisting of silicon, germanium, and tin;

L is an organic group selected from the groups consisting of alkylene and arylene; and

n is a whole number from 1 to 3; with

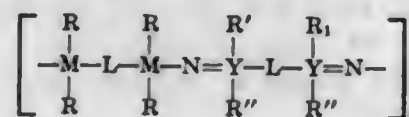
(b) from 1 to 3 moles of a compound having the formula



wherein Y is selected from the group consisting of phosphorus, arsenic, and antimony; and R' and R'' are selected from the groups consisting of aryl, alkyl, alkoxy, aryloxy, alkylthio, and arylthio groups; and

L is an organic group selected from the alkylene and arylene groups.

3. As new compositions of matter, polymeric materials having the general formula



wherein R is selected from the group consisting of aryl, alkyl, halogen, alkoxy, aryloxy, amino, alkylthio, arylthio, and azide groups;

M is a metal selected from the group consisting of silicon, germanium, and tin;

Y is selected from the group consisting of phosphorus, arsenic and antimony;

R' and R'' are selected from at least one of the group consisting of aryl, alkyl, alkoxy, aryloxy, amino, alkylthio and arylthio groups;

L is an organic group selected from the alkylene and arylene groups; and

x indicates the polymeric nature of the material.

3,341,478

POLYMERIC PHOSPHORANES, ARSANES AND STIBANES AND PROCESS FOR MAKING THE SAME

Robert M. Washburn and Roger A. Baldwin, Whittier, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Application Jan. 11, 1963, Ser. No. 268,425, now Patent No. 3,311,646, dated Mar. 28, 1967, which is a division of application Ser. No. 149,887, Nov. 3, 1961, now Patent No. 3,112,331, dated Nov. 26, 1963. Divided and this application Aug. 1, 1966, Ser. No. 574,849

6 Claims. (Cl. 260-2)

1. A process for the preparation of a new class of polymers which comprises reacting under anhydrous conditions,

(a) one mole of a compound leaving the formula



where R is selected from the group consisting of aryl, alkyl, halogen, alkoxy, aryloxy, amino, alkylthio, and arylthio groups;

M is a metal selected from the group consisting of silicon, germanium, and tin; and

n is a whole number from 2 to 4; with

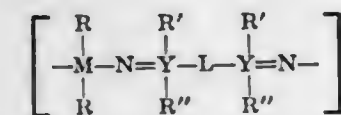
(b) from 1 to 2 moles of a compound having the formula



wherein Y is selected from the group consisting of phosphorus, arsenic, and antimony; and R' and R'' are selected from at least one of the group consisting of aryl, alkyl, alkoxy, aryloxy, amino, alkylthio, and arylthio groups; and

L is a group selected from the groups consisting of alkylene and arylene.

3. As new compositions of matter, polymeric materials having the general formula



where R is selected from the group consisting of aryl, alkyl, halogen, alkoxy, aryloxy, amino, alkylthio, arylthio, and azide groups;

M is a metal selected from the group consisting of silicon, germanium, and tin;

Y is selected from the group consisting of phosphorus, arsenic and antimony;

R' and R'' are selected from at least one of the group consisting of aryl, alkyl, alkoxy, aryloxy, amino, alkylthio and arylthio groups;

L is an organic group selected from the alkylene and arylene groups; and

X indicates the polymeric nature of the material.

3,341,479

TRIAMINOTRIPHENYLMETHANE MODIFIED PHENOLSULFONIC ACID-FORMALDEHYDE ION EXCHANGE RESIN MEMBRANES

Siegfried Aftergut, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 26, 1964, Ser. No. 355,074
2 Claims. (Cl. 260-2.2)

1. A process for forming a flexible cation exchange structure having at least two dimensions in excess of 0.25 inch comprising

mixing triaminotriphenylmethane and a sulfonated aromatic compound chosen from the group consisting of sulfonated diphenyl ether, phenolsulfonic acid, anisolesulfonic acid, alpha-naphthol-sulfonic acid, beta-naphtholsulfonic acid, and cresolsulfonic acid,

reacting the mixture formed by said triaminotriphenylmethane and said sulfonated aromatic compound with an aldehyde chosen from the group consisting of formaldehyde and paraformaldehyde, and

shaping and heating to cure at a temperature of from about 80 to 90° C. for about 6 to 27 hours.

3,341,480

CELLULAR POLYOLEFIN

George B. Feild, New Castle, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed July 2, 1964, Ser. No. 380,018
1 Claim. (Cl. 260-2.5)

The process of preparing a cross-linked ethylene-propylene foam having a uniform cell structure in which at least 50% of the cells are closed from an ethylene-propylene copolymer which is predominantly crystalline and contains at least 80 mole percent of ethylene, which comprises (1) blending said ethylene-propylene copolymer with a blowing agent, which yields at least one mole of gas per mole of blowing agent at a temperature above the softening temperature of the composition to about 190° C., and from about 0.01 to about 1%, based on the weight of the copolymer of an azido cross-linking agent selected from the group consisting of poly(sulfonazide)s and poly (azidoformate)s, and (2) heating said blend at a temperature of at least the softening temperature of the blend and sufficient to release gas from said blowing agent, whereby blowing and cross-linking of the ethylene-propylene copolymer are effected.

3,341,481

PREPARATION OF CELLULAR POLYOLEFINS

David A. Palmer, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed July 2, 1964, Ser. No. 380,068
14 Claims. (Cl. 260-2.5)

1. A process for preparing cellular thermoplastic polymers which comprises

(1) heating in a closed mold a preformed composition comprising

(a) a thermoplastic polymer selected from the group consisting of polyethylene, polypropylene, ethylene-propylene copolymers, ethylene-vinyl acetate copolymers, ethylene-alkyl acrylate copolymers, polystyrene, acrylonitrile-butadiene-styrene terpolymers, and polyvinyl chloride,

(b) an azido cross-linking agent which decomposes at a temperature within the range of from the softening temperature of the composition to about 275° C.,

(c) a blowing agent which yields at least one mole of gas per mole of blowing agent at a temperature within the range of from the softening temperature of the composition to about 275° C., said composition being heated to a temperature above the softening point of said composition and

sufficient to release the gas from said blowing agent and to effect azido modification of said polymer, and

- (2) reducing the pressure on the composition by opening the mold to allow free expansion at atmospheric pressure of the composition in all directions to retain essentially the preformed shape.

3,341,482

CELLULAR POLYURETHANE COMPOSITION AND METHOD OF MAKING SAME

George T. Gmitter, Akron, and Edwin M. Maxey, Stow, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation of application Ser. No. 284,802, June 3, 1963. This application Aug. 1, 1966, Ser. No. 570,136

The portion of the term of the patent subsequent to Oct. 25, 1977, has been disclaimed

9 Claims. (Cl. 260-2.5)

1. In the method of making a breathable, cellular and resilient polyurethane wherein polyurethane forming reactants comprising (1) a hydroxy terminated polyol having a molecular weight of from 600 to 5,000 and being at least one polyol selected from the group consisting of a polyalkylene ether polyol and a polyester comprising the reaction product of a polycarboxylic acid and a polyhydric alcohol and (2) an organic polyisocyanate having from 2 to 3 isocyanato groups in which the major amount is an organic diisocyanate, said polyisocyanate being present in a substantial excess over a 1:1 molar ratio of said polyisocyanate to said polyol, are mixed and reacted together in admixture with (3) a blowing agent in an amount sufficient to foam the polyurethane, the improvement comprising additionally mixing with said polyol, polyisocyanate and blowing agent from about 0.05 to 5 parts by weight based on 100 parts by weight of said polyol and said polyisocyanate of a catalytic material for the polyurethane forming reaction, said material comprising an amine consisting of C, H, O and N, having from 4 to 11 carbon atoms, having an oxygen atom on an acyclic aliphatic carbon atom beta to an amino acyclic nitrogen atom, having only acyclic amino nitrogen atoms, being free of —COOH groups and being selected from the group consisting of tertiary aliphatic amino alcohols and tertiary aliphatic-aromatic amino alcohols, and thereafter repeatedly wringing said foam to remove free catalytic material and to break closed cells at a temperature of from about 150 to 300° F.

3,341,483

ANIONIC GRAFT POLYMERIZATION OF VINYL MONOMERS ON NATURAL POLYHYDROXY COMPOUNDS, THEIR DERIVATIVES AND ON SYNTHETIC POLYHYDROXY POLYMERS

Albert Zilkha, Ben-Ami Felt, and Akiva Bar-Nun, Jerusalem, Israel, assignors to Yissum Research Development Company, Hebrew University, Jerusalem, Israel, a company of Israel

No Drawing. Filed July 26, 1962, Ser. No. 243,176

Claims priority, application Israel, Aug. 30, 1961, 15,962

9 Claims. (Cl. 260-17)

1. A process for preparing graft copolymers, which comprises reacting ethylenically unsaturated monomers under anhydrous conditions with an alkali metal or alkaline earth metal alkoxide derivative of a member of the group consisting of cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, cellulose acetate, cellulose propionate, cellulose acetate-butyrate, cellulose nitrate, methyl cellulose, ethyl cellulose, starch, lignin, dextrin polysac-

charides, polyvinyl alcohol, polyvinyl acetate, polyvinyl butyral and polyvinyl formal.

3,341,484

VARNISHES PREPARED FROM NOVEL COPOLYMERS OF MONOEPHOXY ALCOHOLS AND MONOEPHOXIDES

Kenneth L. Hoy, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

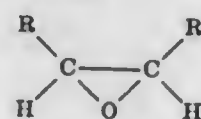
No Drawing. Filed May 19, 1964, Ser. No. 368,704

14 Claims. (Cl. 260-18)

1. A fusible polyhydric copolymer of (A) at least one monoeponoxide alcohol compound of the group consisting of

- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecan-9-ol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxyalkanol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxyalkane-polyol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecane-9,10-diol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecane-10,11-diol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridecan-4-ol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridecan-4,5-diol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-yl-alkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylenedialkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxy-alkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxy-alkane-polyol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkyleneoxyalkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylmethyleneoxyalkane-polyol,
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxy (mono- and polyalkyleneoxy)alkanols,
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9,10-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols],
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-10,11-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols],
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxy(mono- and polyalkyleneoxy)alkanols,
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols],
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkyleneoxy(mono- and polyalkyleneoxy)alkanols,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di[alkyleneoxy(mono- and polyalkyleneoxy)alkanols], and
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di[alkyleneoxy(mono- and polyalkyleneoxy)alkanols];

(B) in copolymerized form with at least one monoeponoxide of the formula



wherein each R is of the group consisting of hydrogen, alkyl, haloalkyl, aryl, and wherein both R's can form a six-membered cycloaliphatic ring; said polyhydric copolymer being characterized in that (1) it contains a plurality of alcoholic hydroxy groups, and (2) the copolymer chain of said polyhydric copolymer being formed by the reaction of an alcoholic hydroxy group with a vicinal epoxy group of the aforesaid monoeponoxides.

2. The esterification reaction products obtained by reacting, at a temperature in the range of from about 100° C. to about 300° C., the polyhydric copolymer defined in claim 1, with an aliphatic monocarboxylic acid which contains at least 4 carbon atoms.

3,341,485

OXIDIZED ESTERS OF FATTY ACIDS AND POLYHYDROXYL-CONTAINING POLYMERS

James S. Long, Hattiesburg, Miss., assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

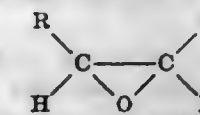
No Drawing. Filed Oct. 6, 1964, Ser. No. 401,979

9 Claims. (Cl. 260-18)

1. A film-forming composition comprising the blown oxidized monocarboxylic fatty acid esters of the polyhydroxyl-containing polymers selected from the group of (A) polymers obtained by the polymerization of at least one monoeponoxide alcohol selected from the group consisting of:

- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecan-9-ol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxyalkanol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxyalkane-polyol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecan-9,10-diol,
- 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undecan-10,11-diol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridecan-4-ol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridecan-4,5-diol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylenedialkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxyalkanol,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxyalkane-polyol,
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9-oxy (polyalkyleneoxy) alkanols, which result from the monoepoxidation of the reaction products of tricyclo[5.2.1.0^{2,6}]dec-3-en-8-ol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-9,10-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols] which result from the monoepoxidation of the reaction products of tricyclo[5.2.1.0^{2,6}]dec-3-ene-8,9-diol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- the 4-oxatetracyclo[6.2.1.0^{2,7}.0^{3,5}]undec-10,11-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols] which result from the monoepoxidation of the reaction products of tricyclo[5.2.1.0^{2,6}]dec-3-ene-9,10-diol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-oxy-(polyalkyleneoxy)alkanols which result from the monoepoxidation of the reaction products of tetracyclo[6.2.1.1^{3,6}.0^{2,7}]dodec-9-en-4-ol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di[oxy(mono- and polyalkyleneoxy)alkanols] which result from the monoepoxidation of the reaction products of tetracyclo[6.2.1.1^{3,6}.0^{2,7}]dodec-9-ene-4,5-diol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkyleneoxyalkanols,
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4-ylalkyleneoxy(polyalkyleneoxy)alkanols which result from the monoepoxidation of the reaction products of tetracyclo[6.2.1.1^{3,6}.0^{2,7}]dodec-9-en-4-ylalkanol with a saturated aliphatic mono vicinal-epoxyhydrocarbon,
- 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di(alkyleneoxyalkanol),
- the 10-oxapentacyclo[6.3.1.1^{3,6}.0^{2,7}.0^{9,11}]tridec-4,5-ylene-di[alkyleneoxy(polyalkyleneoxy)alkanols] which result from the monoepoxidation of the reaction products of tetracyclo[6.2.1.1^{3,6}.0^{2,7}]dodec-9-en-4,5-ylene-dialkanol with a saturated aliphatic mono vicinal-epoxyhydrocarbon, and

(B) copolymers obtained by the polymerization of at least one of said monoeponoxide alcohols with at least one monoeponoxide of the formula:



wherein R represents a member selected from the group consisting of hydrogen, alkyl, haloalkyl, aryl, and wherein both R's can form a six-membered cycloaliphatic ring, said blown, oxidized monocarboxylic fatty acid esters having a viscosity above about 50,000 centipoise units at 50° C. at 100 percent solids.

3,341,486

ORGANOPOLYSILOXANE COMPOSITIONS AND A METHOD FOR MAKING THEM

Robert A. Murphy, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,312

11 Claims. (Cl. 260-18)

1. A composition protected from moisture and curable to the solid elastic state upon exposure to moisture consisting essentially of (A) 100 parts of a silanol-terminated organopolysiloxane consisting essentially of chemically combined units of the formula,



and (B) 0.1 to 100 parts of a mixture consisting essentially of

- diaminoxy organosilicon material having attached to silicon, two aminoxy radicals of the formula —OY, and
- from 0.1% to 50% by weight (a) of polyaminoxy-organosilicon material having attached to silicon at least three of said aminoxy radicals,

where said diaminoxyorganosilicon material and said polyaminoxyorganosilicon of (B) are members selected from the class consisting of organosilanes, linear organopolysiloxanes, cycloorganopolysiloxanes, bis(silyl)hydrocarbons and combinations thereof, wherein the monovalent organo radicals attached to silicon, other than the OY radicals, are members selected from the class consisting of monovalent cyanoalkyl, alkoxy and (R)₃SiO_{0.5} where R is a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, Y is a monovalent amine radical selected from the class consisting of —NR₂ and a heterocyclic amine radical attached to silicon by a silicon oxygen nitrogen linkage, and R' is a monovalent hydrocarbon radical.

9. A method for making room temperature vulcanizing organopolysiloxane compositions which are curable to the solid elastic state upon exposure to moisture comprising mixing together under substantially anhydrous conditions (A) an effective amount of a metal salt of a carboxylic acid having from 1 to 8 carbon atoms, (B) a silanol-terminated organopolysiloxane consisting essentially of chemically combined units of the formula



and (C) 0.1 to 100 parts of a mixture of aminoxy substituted organosilicon materials selected from the class consisting of organosilanes, linear organopolysiloxanes, cycloorganopolysiloxanes, bis (silyl) hydrocarbons, and combinations thereof, wherein the monovalent organo radicals attached to silicon, other than the OY radicals, are members selected from the class consisting of monovalent hydrocarbon, halogenated monovalent hydrocar-

bon, monovalent cyanoalkyl, alkoxy and $(R)_3SiO_{0.5}$ radicals, which mixture of (C) consists essentially of (a) a diaminoxysilicon material having attached to silicon, two aminoxy radicals of the formula $-OY$, and

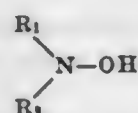
(b) from 0.1% to 50% by weight (a) of a polyaminoxysilicon material having attached to silicon at least three of said aminoxy radicals, where R is a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, Y is a monovalent amine radical selected from the class consisting of $-NR'_2$ and a heterocyclic amine radical attached to silicon by a silicon oxygen nitrogen linkage, and R' is a monovalent hydrocarbon radical.

3,341,487

PROCESS FOR STOPPING EMULSION POLYMERIZATIONS BY THE ADDITION OF DITHIOCARBAMATE SALTS AND ALKYL HYDROXYLAMINES

Harry E. Albert, Lafayette Hill, Alfred C. Whiton, Blue Bell, and Benjamin S. Garvey, Jr., Wayne, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed July 21, 1964, Ser. No. 384,232
14 Claims. (Cl. 260-29.7)

1. In the process of polymerizing a conjugated diolefin monomer and terminating the polymerization by the addition of a stopping agent, the improvement which comprises stopping said polymerization with a water soluble dithiocarbamate and an alkylhydroxylamine of structure



where R_1 is a member selected from the group consisting of hydrogen, alkyl and cycloalkyl, R_2 is a member of the group consisting of alkyl and cycloalkyl, and where the organic R_1 and R_2 groups contain up to 18 carbon atoms, said alkylhydroxylamine being used in an amount from about 0.01 to about 0.15 part per hundred parts of monomer and the amount of dithiocarbamate being an amount sufficient to improve the stability of the polymer, but less than that required to stop the polymerization, said amount of dithiocarbamate being between about 0.03 to about 0.10 part per hundred parts of monomer.

3,341,488

RELEASE OF AGENTS FROM ADSORBATE-CONTAINING MOLECULAR SIEVES

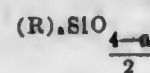
Francis M. O'Connor, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Sept. 29, 1961, Ser. No. 141,589
15 Claims. (Cl. 260-37)

1. A process for curing non-sulfur-modified polychloroprene-based elastomer formulations comprising the steps of adsorbing a curing accelerator within the inner adsorption region of a crystalline zeolitic molecular sieve; providing the elastomer formulation in a reaction zone at below curing temperature; introducing the curing accelerator-containing molecular sieve and a water source into said reaction zone, said water being liberated from the source at elevated temperature below said curing temperature and below the desorption temperature of said curing accelerator; heating said reaction zone to said curing temperature, thereby liberating said water which in turn releases said curing accelerator from the inner adsorption region of said molecular sieve; and reacting the released curing accelerator with said non-sulfur-modified polychloroprene-based elastomer formulation for curing thereof.

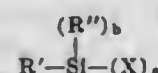
ELASTOMERIC ORGANOPOLYSILOXANE COMPOSITIONS CONTAINING UNSATURATED ALKOXY SILANES

Verne G. Simpson, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 28, 1962, Ser. No. 227,081
11 Claims. (Cl. 260-37)

1. A composition curable at temperatures in the range of between 80° C. to 650° C. comprising by weight (1) 100 parts of an organopolysiloxane polymer having a viscosity of at least 100,000 centipoises at 25° C. of the formula,



(2) 10 to 300 parts of a filler selected from the class consisting of reinforcing fillers, semi-reinforcing fillers, and mixtures thereof, and (3) 0.1 to 5 parts of an olefinically unsaturated organosilane of the formula,



where R is a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, R' is an olefinically unsaturated monovalent hydrocarbon radical, R'' is a member selected from the class consisting of hydrogen, and monovalent hydrocarbon radicals free of olefinic unsaturation, X is a member selected from the class consisting of alkoxy radicals, alkoxyalkoxy radicals, alkoxyaryloxy radicals, and acyloxy radicals, a is equal to 1.95 to 2.01 inclusive, b is a whole number equal to 0 to 2 inclusive, c is an integer equal to from 1 to 3 inclusive, and the sum of b and c is equal to 3.

3,341,490

BLENDS OF TWO POLYSILOXANE COPOLYMERS WITH SILICA

Duane F. Burdick, Midland, James L. Mishler, Chesaning, and Keith E. Polmanteer, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 13, 1964, Ser. No. 389,472
11 Claims. (Cl. 260-37)

1. A composition consisting essentially of 60 to 70 parts of a dimethylvinylsilyl endblocked copolymer consisting essentially of about 6 to 9 mol percent of phenylmethylsiloxane units, about 0.1 to 0.2 mol percent of vinyl-methylsiloxane units and the balance essentially dimethylsiloxane units and 30 to 40 parts of a dimethylvinylsilyl endblocked copolymer consisting essentially of about 15 to 25 mol percent of methylvinylsiloxane units, about 4 to 6 mol percent of phenylmethylsiloxane units and the balance essentially dimethylsiloxane units, there being a total of 100 parts of the two polymers in the composition, said parts being on a weight basis.

3,341,491

VULCANIZED EPIHALOHYDRIN POLYMERS

Anderson E. Robinson, Limestone Gardens, and William D. Willis, Limestone Acres, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 4, 1966, Ser. No. 547,453
The portion of the term of the patent subsequent to Mar. 8, 1983, has been disclaimed

18 Claims. (Cl. 260-45.75)

1. A cross-linked polymer of an epihalohydrin prepared by heating a polymer of an epihalohydrin in the presence of a cross-linking formulation consisting essentially of from about 2% to about 20% by weight of at

least one metal compound selected from the group consisting of salts of aromatic carboxylic acids, salts of saturated aliphatic carboxylic acids, salts of carbonic acid, salts of phosphorous acid, salts of silicic acid and oxides of beryllium, magnesium, calcium, strontium, barium and the metals of Groups IIB, and IVA of the Periodic Table and from about 0.2% to about 10% by weight of at least one other agent selected from the group consisting of 2-mercaptoimidazolines and 2-mercaptopyrimidines, said epihalohydrin polymer having a molecular weight of at least about 40,000 and being selected from the group consisting of homopolymers of epihalohydrins and copolymers of an epihalohydrin with at least one other epoxide.

2. The composition of claim 1 wherein the epihalohydrin polymer is polyepichlorohydrin.

4. The composition of claim 2 wherein said polyepichlorohydrin was cross-linked by heating in the presence of 2-mercaptoimidazole and red lead.

9. A cross-linked polymer of an epihalohydrin prepared by heating a polymer of an epihalohydrin in the presence of (1) from about 0.5% to about 20% by weight of a stabilizer comprising pentaerythritol, and (2) a cross-linking formulation consisting essentially of from about 2% to about 20% by weight of at least one metal compound selected from the group consisting of salts of aromatic carboxylic acids, salts of saturated aliphatic carboxylic acids, salts of carbonic acid, salts of phosphorous acid, salts of silicic acid and oxides of beryllium, magnesium, calcium, strontium, barium, zinc, cadmium, mercury germanium, and tin, and from about 0.2% to about 10% by weight of at least one other agent selected from the group consisting of 2-mercaptoimidazolines and 2-mercaptopyrimidines said epihalohydrin polymer having a molecular weight of at least about 40,000 and being selected from the group consisting of homopolymers of epihalohydrins and copolymers of an epihalohydrin with at least one other epoxide.

3,341,492

POLYAMIDES STABILIZED WITH IODINE AND/OR BROMINE SUBSTITUTED PHENOLS

Antony E. Champ, Scotch Plains, and Henry W. Steinmann, Lake Mohawk, N.J., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Filed May 11, 1964, Ser. No. 366,652
8 Claims. (Cl. 260-45.95)

1. A synthetic linear polyamide having recurring amide groups as an integral part of the main polymer chain and the recurring intra-linear carbonamide groups in these polyamides being separated by hydrocarbon groups containing at least two carbon atoms which is stabilized against degradative effects of heat, oxygen, and atmospheric conditions having incorporated therein stabilizing quantities of a stabilizer composition comprising an arylene radical to which is attached at least one hydroxyl group and at least one halogen atom selected from the group consisting of iodine and bromine.

3,341,493

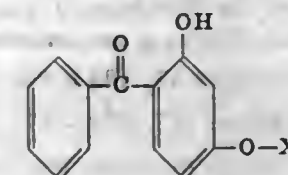
ETHYLENICALLY UNSATURATED DERIVATIVES OF 2,4-DIHYDROXYBENZOPHENONE

Albert I. Goldberg, Berkeley Heights, N.J., and Joseph Fertig and Martin Skoultchi, New York, N.Y., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 17, 1962, Ser. No. 224,247
The portion of the term of the patent subsequent to Dec. 22, 1981, has been disclaimed

16 Claims. (Cl. 260-47)

9. A composition comprising a polymer of at least one ethylenically unsaturated monomer together with at least one ethylenically unsaturated 2,4-dihydroxybenzo-

phenone derivative having a formula corresponding to the following representation:



wherein X is an ethylenically unsaturated radical selected from among the group consisting of the beta-hydroxypropylene crotonate, beta-hydroxypropylene C_1-C_4 alkyl fumarate, beta-hydroxypropylene C_1-C_4 alkyl itaconate, and beta-hydroxypropylene C_1-C_4 alkyl citraconate radicals.

3,341,494

SILICON-CONTAINING POLYMERS AND THEIR PRODUCTION

Brian Beard Millward, Penycuik, Wrexham, Wales, assignor to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Mar. 11, 1965, Ser. No. 439,100

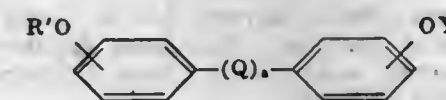
Claims priority, application Great Britain, Mar. 12, 1964, 10,512/64

10 Claims. (Cl. 260-47)

1. A process for the production of a silicon-containing polymer which comprises contacting a polyhydric phenol ether selected from the group consisting of

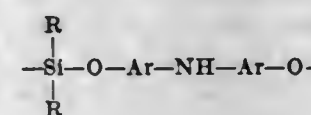


and



wherein R' is lower alkyl, Y is selected from the group consisting of hydrogen and R', a is an integer from zero to one, and Q is selected from the group consisting of oxygen, sulfur, carbonyl, secondary amino and methylene, with a silane of the formula R_nSiX_{4-n} wherein n is an integer from one to two, R is selected from the group consisting of phenyl and lower alkyl, and X is selected from the group consisting of chlorine and bromine, such contacting being carried out at a temperature of at least about 100° C. and in the presence of an acidic reagent selected from the group consisting of Lewis acids, hydrohalic acids and the hydrohalide salts of pyridine, picoline, quinoline and methylquinoline.

8. A polymeric material consisting essentially of recurring units of the formula,



wherein R is selected from the group consisting of phenyl and lower alkyl; and Ar is selected from the group consisting of phenyl, tolyl, naphthyl and chlorophenyl.

3,341,495

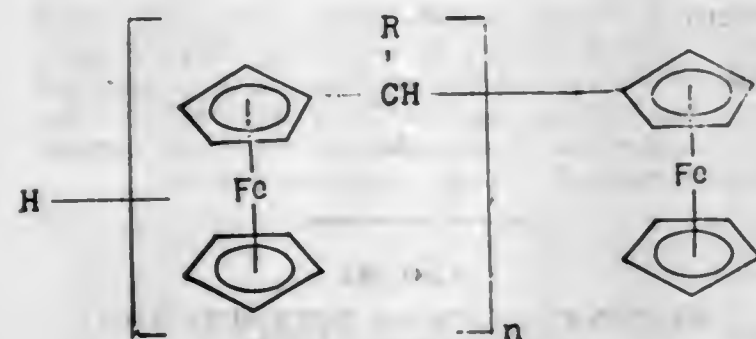
FERROCENE POLYMERS

Eberhard W. Neuse, Santa Monica, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,318

5 Claims. (Cl. 260-67)

1. A polymeric mixture of molecules having the structure



wherein n is a positive integer and R is selected from the group consisting of hydrogen and the methyl radical, such mixture consisting predominantly of such molecules wherein n is substantially in excess of unity, said mixture having a number average molecular weight of at least 860.

2. The method of polymerizing ferrocene which comprises reacting (1) ferrocene with (2) a material selected from the group consisting of formaldehyde and acetaldehyde, said reaction being carried out by heating a mixture of the reactants in the presence of a Lewis acid catalyst, such heating being carried out in the substantial absence of a solvent and in the melt phase.

3,341,496

TWO-STEP PROCESS FOR THE POLYMERIZATION OF ALDEHYDES

Tatsuya Imoto, Osaka, Kiyoshi Aotani, Habikino-shi, Osaka, and Tsutomu Matsubara, Kishiwada-shi, Osaka, Japan, assignors to Chisso Corporation, a corporation of Japan

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,843

Claims priority, application Japan, Sept. 22, 1962, 37/41,611; July 3, 1963, 38/38,183

5 Claims. (Cl. 260-67)

1. In a method for the production of an aliphatic aldehyde polymer by polymerizing the aldehyde in the presence of a metal amalgam catalyst, the improvement which comprises polymerizing an aldehyde selected from the group consisting of acetaldehyde, acetaldol, propionaldehyde, crotonaldehyde and mixtures thereof, in the presence of a catalytic amount of a metal amalgam polymerization catalyst selected from the group consisting of alkali metal-amalgams and alkaline earth metal-amalgams, in the presence of an inert solvent for the aldehyde in an amount of 0 to about 70% by weight based on the total feed, and in the following two steps: the first step which comprises polymerizing the aldehyde at a temperature of from about -40°C . to 20°C ., at a pressure of from normal pressure to pressure above normal pressure for less than about 50 hours, and the second step which comprises further polymerizing the resultant polymer having a molecular weight of from several hundreds to one thousand and several hundreds by raising the temperature of the reaction mixture obtained in the first step to a temperature of from 70°C . to 80°C ., to form a polymer having a molecular weight higher than that of the polymer obtained in the first step.

3,341,497
ORGANIC SOLVENT SOLUBLE PERFLUOROCARBON COPOLYMERS

Patsy O. Sherman, Bloomington, and Samuel Smith, Roseville, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 21, 1966, Ser. No. 522,058

9 Claims. (Cl. 260-72)

1. A nonfluorinated organic solvent soluble fluorocarbon precondensate resin reactable with formaldehyde containing at least 1 percent fluorine in form of perfluorocarbon tails and comprising (1) about 2 to about 50 percent by weight of monomeric units of the monomer R_1P , where R_1 is a perfluorocarbon radical containing at least 4 carbon atoms and P is a polymerizable group containing terminal ethylenic unsaturation, (2) about 1 to about 25 percent by weight of monomeric units of an ethylenically unsaturated monomer containing a functional group reactable with formaldehyde and (3) about 25 to about 97 percent by weight of monomeric units different from (2) above of an ethylenically unsaturated monomer free of nonvinyl fluorine, the fluorine content of the appendant perfluorocarbon R_1 tails of the copolymer representing at least 1 percent and less than 40 percent by weight of the copolymer, the backbone of the copolymer being substantially entirely carbon with at least half of the substituents being hydrogen, a radical having an unsubstituted alkyl group of not greater than 6 carbon atoms or both, and the copolymer having a molecular weight between about 20,000 and about 500,000.

2. An organic solution in a nonfluorinated organic solvent of a random fluorocarbon copolymer of between about 2 and about 75 weight percent of a monomer of the formula R_1P , where R_1 is a perfluorocarbon radical containing at least 4 carbon atoms and P is a polymerizable group containing terminal ethylenic unsaturation and of a terminally ethylenically unsaturated monomer free of nonvinyl fluorine, the fluorine content of the appendant perfluorocarbon R_1 tails of the copolymer representing at least 1 percent and less than 40 percent by weight of the copolymer, the backbone of the copolymer being substantially entirely carbon with at least half of the substituents being hydrogen, a radical having an unsubstituted alkyl group of not greater than 6 carbon atoms or both, and the copolymer having a molecular weight of at least 20,000.

3,341,498

POLYURETHANE COATING COMPOSITIONS DERIVED FROM A POLYESTER OF $\Delta 4$ -TETRAHYDROPHthalic ACID AND A POLYOL

Gerald R. Skreckoski, Buffalo, and Maurice E. Bailey, Orchard Park, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,297

6 Claims. (Cl. 260-75)

1. A liquid coating composition composed of an inert normally liquid organic solvent containing in solution as film former the reaction product of substantially stoichiometric equivalent quantities of an organic polyisocyanate and a hydroxyl terminated polyester having an acid number below 10 and a hydroxyl number of at least 60, said polyester obtained by condensation of a dibasic carboxylic acid component in which a major proportion of the dibasic carboxylic acid component is $\Delta 4$ -tetrahydrophthalic acid and a polyol, said film former being produced by maintaining said polyester and said organic polyisocyanate in the presence of an inert liquid organic solvent at a temperature of about 60°C . to 120°C . until the viscosity of the reaction mass becomes constant, said reaction mass being further characterized by the substantial absence of free-isocyanato and hydroxyl groups.

3,341,499

POLYURETHANES CURED WITH GUANAMINES

Donald W. Kaiser, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Oct. 11, 1963, Ser. No. 315,683

8 Claims. (Cl. 260-75)

1. A polyurethane polymer prepared by reacting (1) an organic polyisocyanate, (2) a material selected from the group consisting of a polyether polyol having a number average molecular weight between about 400 and 10,000 and a hydroxyl-terminated polyester having a molecular weight of between 500 and 5000, and (3) a guanamine selected from the group consisting of caproguanamine, pelargoguanamine, lauroguanamine, stearoguanamine, oleoguanamine and 2-ethylhexanoquanamine; there being about 0.75 to 1.1 $-\text{NCO}$ groups for each $-\text{NH}_2$ group; with about 50 to about 85 percent by weight of the said polyurethane polymer being derived from said material (2) and about 4 to about 40 percent by weight of said polyurethane polymer being derived from said guanamine compound.

3,341,500

COPOLYESTER PRODUCT

Eckhard Christian August Schwarz, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 30, 1964, Ser. No. 379,393

4 Claims. (Cl. 260-75)

1. The linear random copolyester of ethylene glycol with a mixture of 90 to 99 mol percent terephthalic acid and 10 to 1 mol percent 2,3,5,6-tetramethylterephthalic acid.

3,341,501

POLYAMIDES CONTAINING SILANE END GROUPS

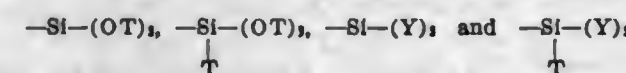
Ross M. Hedrick and William R. Richard, Jr., St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 31, 1963, Ser. No. 284,344

13 Claims. (Cl. 260-78)

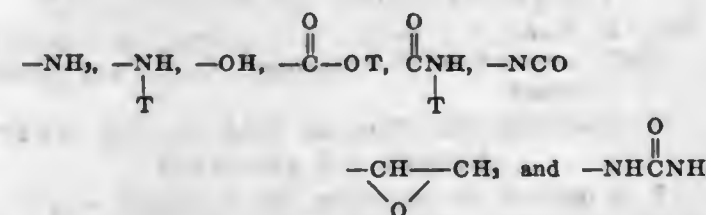
1. Polycaprolactam prepared by a base-catalyzed substantially anhydrous anionic polymerization of caprolactam conducted in the presence of an organosilicon compound containing

(A) a silane radical selected from the group consisting of



wherein T is an alkyl radical of 1 to 8 carbon atoms and Y is selected from the group consisting of chlorine, bromine and iodine, and

(B) a functional group selected from the group consisting of



wherein T is an alkyl radical of 1 to 8 carbon atoms, and (C) a bivalent hydrocarbon group, $-\text{Z}-$, connecting (A) and (B), wherein $-\text{Z}-$ is selected from the group consisting of alkylene radicals of 2 to 9 carbon atoms and phenylene radicals, said organosilicon compound formed by groups A, B and C above being present in sufficient quantity to provide a polycaprolactam having silane end groups, which poly-

caprolactam is capable of adhering to glass with a force that withstands the dissolution effect of boiling water for 75 minutes.

3,341,502

PROCESS FOR THE PREPARATION OF POLYMERS CONTAINING ISOCYANATES

Gottfried Pampus and Hans Holtschmidt, Leverkusen, and Helmut Freytag, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 17, 1965, Ser. No. 433,469

Claims priority, application Germany, Feb. 27, 1964, F 42,144

12 Claims. (Cl. 260-79.5)

1. A method for the preparation of polymers containing isocyanate groups which comprises reacting a sulfonyl halide organic isocyanate with a polymer having a plurality of unsaturated $\text{C}=\text{C}$ bonds substantially free of any functional groups which would react with free or masked NCO groups to form isocyanate containing polymers having isocyanate groups in the molecule.

3,341,503

OLEFIN POLYMERIZATION PROCESS USING A PRE-MIX ZONE

John L. Paige, Naugatuck, Conn., and Sebastian M. Di Palma, Baton Rouge, La., assignors to Uniroyal, Inc., a corporation of New Jersey

Filed July 17, 1964, Ser. No. 383,329

3 Claims. (Cl. 260-80.78)

1. A method of making a rubbery ethylene-propylene-non-conjugated diolefin polymer comprising dissolving all of the said monomers in a volatile inert organic solvent, the solvent and monomers being prechilled to a temperature such that the temperature of the resulting solution is from 15 to 50°F ., advancing the solution at a controlled rate of flow continuously into a mixing device followed by a reaction vessel in series with the mixing device, the volumetric capacity of the mixing device being from 0.05 to 1.5% of the volumetric capacity of the reaction vessel, introducing an aluminum alkyl-vanadium compound catalyst to the mixing device to effect thorough mixing of the catalyst with the solution and thus form a liquid polymerization mixture which immediately begins to react exothermically, immediately thereafter transferring the said polymerization mixture from the mixing device into the said reaction vessel, cooling and agitating the mixture in the reaction vessel to maintain the temperature of the mixture within the range of from 40° to 150°F ., the volumetric capacity of the reaction vessel being from 20 to 200 times the volume of polymerization mixture flowing therethrough in one minute, the mixing device and polymerization vessel being maintained completely filled with the liquid polymerization mixture, continuously withdrawing from the reaction vessel a final mixture containing dissolved polymer, and recovering said polymer from the final mixture.

3,341,504

METHOD FOR THE PREPARATION OF CHLORINE-CONTAINING POLYMERS OF DERIVATIVES OF 1,3-DIOXOLANONE-(2)

Franz Stürzenhofecker, Hermann Springmann, Wilhelm Dietrich, and Siegfried Artmeyer, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed May 6, 1963, Ser. No. 278,426

Claims priority, application Germany, Sept. 6, 1962, C 27,868; Sept. 25, 1962, C 28,011

2. Polymeric 4,5-dichloro-4,5-bis-allyloxy-1,3-dioxolanone-(2).

3. The method of preparing a new synthetic composition which comprises polymerizing 4,5-dichloro-4,5-bis-

allyloxy-1,3-dioxolanone-(2) under heat to a conversion of the monomer up to 20% at a pH-value outside of the alkaline range.

3,341,505

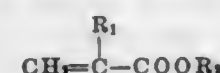
ADHESIVE COMPOSITIONS COMPRISING AMINE SALTS OF ACRYLIC POLYMERS

Robert J. Gander, Whitehouse, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,334

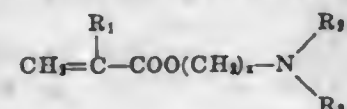
20 Claims. (Cl. 260—86.1)

1. A liquid composition for forming flexible water-soluble polymer films comprising an organic solvent having dissolved therein a water-soluble film-forming linear polymer amine salt containing in interpolymerized form an acrylic ester of the group acrylate esters and methacrylate esters of the general structure:



wherein R_1 is H or CH_3 and R_2 is an alkyl chain of 1 to 12 carbons where R_1 is CH_3 and R_2 is an alkyl chain of 1 to 3 carbons where R_1 is H

and an acrylic amine of the general structure:



wherein

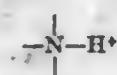
R_1 is H or CH_3

x is an integer of 2 to 12

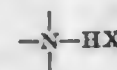
R_2 is H or an alkyl group of 1 to 12 carbons

R_3 is an alkyl group of 1 to 12 carbons,

the amine derived component of said polymer containing 1.7% to 4.6% by weight of radical



said radical being present in the salt form



where X is an anion of an acid and said ester derived component of said polymer being present in an amount of at least 40% by weight of said linear polymer amine salt on a nonsalt basis.

3,341,506

METHOD OF INDUCING CLEAVAGE OF PEROXIDES, HYDRAZINES AND DISULFIDES USING TITANOUS TRIHALIDES

Chi-Hua Wang, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed May 20, 1963, Ser. No. 281,793

3 Claims. (Cl. 260—88.7)

1. A method of providing in an aqueous medium a catalyst system comprising free radicals capable of polymerizing vinyl monomers, consisting of the step of adding separately to said aqueous medium (1) a water-soluble compound of the general formula, $\text{RX}-\text{XR}$, wherein X is oxygen, nitrogen, or sulfur and R is the residue of a peroxide, a hydrazine or an organic disulfide, and (2) a water-soluble titanous trihalide whereby there is provided as the catalyst system $\text{RX}^- + \text{RX}^+ + \text{Ti}^{4+}$.

3,341,507

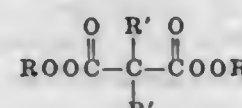
PEROXYDICARBOXYLIC ACID ESTERS AND POLYMERIZATION PROCESSES EMPLOYING SAME

James E. Gullett, Don Mills, Ontario, Canada, and Edmund B. Towne, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 313,430, Oct. 3, 1966. This application May 23, 1966, Ser. No. 552,336

9 Claims. (Cl. 260—89.1)

1. The process for the polymerization of an unsaturated polymerizable compound containing a $\text{CH}_2=\text{C}<$ group which comprises polymerizing said compound at a temperature in the range of about 60° to about 250° C. and a pressure in the range of about atmospheric pressure to about 50,000 p.s.i. in the presence of about 5 parts per million to 5%, by weight, of a peroxydicarboxylic acid ester having the formula:



where each R is a member selected from the group consisting of alkyl, cycloalkyl, lower alkoxy substituted alkyl and aryl radicals containing 3-14 carbon atoms and each R' is an alkyl radical containing up to 8 carbon atoms.

3,341,508

PREPARATION OF POLYOLEFINS FOR CHLORINATION AND CHLORINATION OF POLYOLEFINS

Horst Elsner, Sprich, and Hans Moser and Hans-Ewald Konermann, Oberlar, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Cologne, Germany, a corporation of Germany

No Drawing. Filed May 28, 1963, Ser. No. 284,292
Claims priority, application Germany, June 19, 1962, D 29,170

10 Claims. (Cl. 260—92.8)

1. Process for the chlorination of polyolefin which comprises providing polyolefin in finely divided form in a liquid, alcoholic medium having chlorinated hydrocarbon swelling agent for the polyolefin dissolved therein, adding water to said medium to precipitate chlorinated hydrocarbon on the polyolefin, the alcohol of said medium being a water-miscible alcohol providing chlorinated hydrocarbon, water and alcohol in a single liquid phase, and contacting the chlorinated hydrocarbon bearing polyolefin with chlorine for the chlorination thereof.

3,341,509

POLYMERIZATION OF POLYOLEFINS

Peter L. Stang, Ewingville, N.J., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Nov. 24, 1965, Ser. No. 511,287

5 Claims. (Cl. 260—94.2)

1. A method for increasing the molecular weight of a liquid hydroxyl terminated polyolefin polymer, which comprises adding to said polymer a curing agent selected from the group consisting of alkali metals, alkali metal hydrides and organo-alkali metallic compounds, said material being present in an amount sufficient to yield at least 2% of reactive alkali metal in said polymer, mixing said polymer and said material to uniformly distribute said material through said polyolefin and curing the mixture at a temperature of at least about 70° F.

3,341,510

L-ALANYL-L-PHENYLALANYL-L-ISOLEUCYL-GLYCYL-L-LEUCYL-L-METHIONINAMIDE AND A PROTECTED DERIVATIVE THEREOF

Francesco Chillemi, Milan, Italy, assignor to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,564

Claims priority, application Italy, Oct. 5, 1961,

17,983/61; Feb. 5, 1962, 2,161/62

2 Claims. (Cl. 260—112.5)

1. L-alanyl-L-phenylalanyl-L-isoleucyl-glycyl-L-leucyl-L-methioninamide.

3,341,511

PROCESS FOR PRODUCING NITROSOCYCLO-HEXANE DIMER

Ikuzo Tanaka and Tokuji Sakai, Hino-shi, Tokyo, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

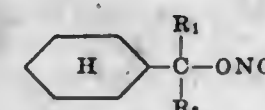
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,815

Claims priority, application Japan, Jan. 31, 1964,

39/4,490; Nov. 17, 1964, 39/64,885

4 Claims. (Cl. 260—143)

1. A process for producing nitrosocyclohexane dimer which comprises pyrolyzing in the presence of nitrogen monoxide at least one cyclohexylcarbinol nitrous acid ester represented by the formula



wherein



is a cyclohexyl radical, R_1 and R_2 are members selected from the group consisting of hydrogen and the alkyl radicals having one to four carbon atoms wherein R_1 and R_2 may be the same or different radicals,

at a temperature of 250° C.—600° C. under a reduced pressure of from 0.5 to 0.002 atmospheres.

3,341,512

BENZENE-AZO-BARBITURIC ACID DYESTUFFS

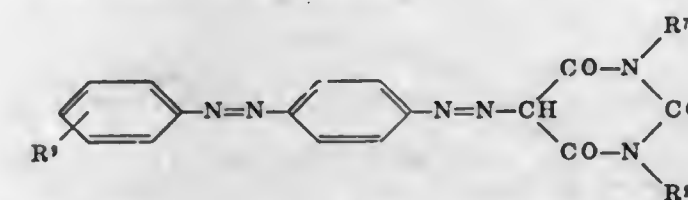
Hans E. Wegmüller and Werner Bossard, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Aug. 17, 1964, Ser. No. 390,232

Claims priority, application Switzerland, Sept. 9, 1963, 11,094/63

7 Claims. (Cl. 260—154)

1. A dyestuff of the formula



wherein

R^7 is a member selected from the group consisting of lower alkyl, lower alkoxy-lower alkyl, chloro-lower alkyl, bromo-lower alkyl and cyano-lower alkyl,

R^8 is a member selected from the group consisting of lower alkyl, lower alkoxy-lower alkyl, phenyl, lower alkyl-phenyl, lower alkoxy-phenyl, chloro-phenyl and bromo-phenyl, and

R^9 is a member selected from the group consisting of hydrogen and straight chain lower alkyl.

3,341,513

DISPERSE MONOAZO DYESTUFFS

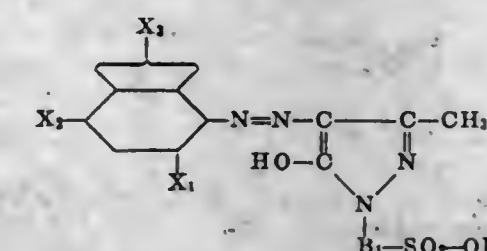
Hans E. Wegmüller and Werner Bossard, Riehen, and Jacques Voltz and Francois Favre, Basel, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,670

Claims priority, application Switzerland, Aug. 2, 1962, 9,258/62

6 Claims. (Cl. 260—156)

1. A disperse monoazo dyestuff of the formula



wherein X_1 is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, —Cl, —Br, —NO₂, and —CN;

X_2 is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, —Cl, —Br, —F, and —NO₂;

X_3 is a member selected from the group consisting of hydrogen, —Cl, —Br, —CF₃, and lower alkoxy-carbonyl,

B_1 is a member selected from the group consisting of phenyl, lower alkyl-phenyl, chloro-phenyl, bromo-phenyl, lower alkoxy-phenyl, lower alkanoylamino-phenyl, naphthyl,

and R is a member selected from the group consisting of primary alkyl with from 4 to 10 carbon atoms, secondary alkyl with from 4 to 10 carbon atoms, phenyl, lower alkyl-phenyl, lower alkoxy-phenyl, chloro-phenyl, bromo-phenyl, lower alkanoylamino-phenyl, hydroxy-lower alkyl-phenyl, carbamyl-phenyl, N-lower alkyl-carbamyl-phenyl, lower alkoxy-carbonyl-phenyl, nitrophenyl, di(lower alkyl)-amino-phenyl, phenoxy-phenyl, pyridyl-(3), chloro-pyridyl-(3) and methyl-pyridyl-(3);

the radical —SO₂—OR being bonded directly to a carbocyclic aromatic nucleus of B_1 ,

said monoazo dyestuff being free from water-solubilizing groups which dissociate acid in water.

3,341,514

BASIC MONOAZO AND DISAZO DYESTUFFS CONTAINING A HYDRAZINIUM GROUP

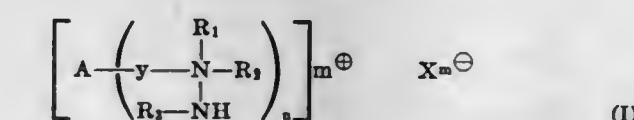
Roland Entschel and Curt Mueller, Basel, and Walter Wehrli, Riehen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Apr. 29, 1966, Ser. No. 546,192

Claims priority, application Switzerland, Apr. 21, 1961, 4,709/61; Jan. 12, 1962, 359/62; May 3, 1963, 5,588/63; Jan. 16, 1964, 479/64; Feb. 7, 1964, 1,482/64

6 Claims. (Cl. 260—165)

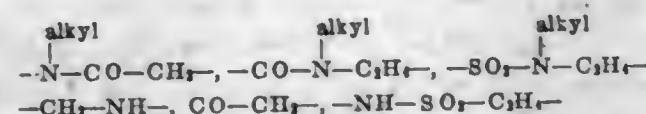
1. A basic dyestuff of the formula



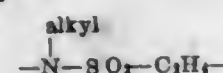
wherein

A is a member selected from the group consisting of a radical of a monoazo and a disazo dyestuff, said

dyestuffs being free from carboxylic acid and sulfonic acid groups,
 R_1 is a bridge member connected to an aryl nucleus of A and is selected from the group consisting of



and



alkyl in each occurrence thereof being lower alkyl,
 R_1 is a member selected from the group consisting of methyl, ethyl, propyl, cyanethyl and cyclohexyl,
 R_2 is a member selected from the group consisting of ethyl, propyl and cyanethyl,
 R_3 is a member selected from the group consisting of hydrogen, methyl and ethyl,
 R_1 and R_2 together with the adjacent N-atom form a member selected from the group consisting of 1,2,4-triazolo-, pyrrolidino-, piperidino- and morpholino,
 n is a positive integer of up to 2,
 m is a positive integer of up to 2 and when n is 2, m is 2,
 and
 X is an anion.

3,341,515

MANUFACTURE OF HYDROCARBON-WET, DENSIFIED NITROCELLULOSE

Frank J. Connelly, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed July 28, 1964, Ser. No. 385,750

11 Claims. (Cl. 260-223)

1. A process for producing hydrocarbon-wet, densified nitrocellulose particles which comprises:

- subjecting to non-shearing agitation a slurry of water-wet fibrous nitrocellulose in a volatile mixture of a hydrocarbon and a nitrocellulose solvent which is completely miscible therewith and which is soluble in H_2O to the extent of at least about 2.5% by weight, said mixture being capable of softening the fibrous nitrocellulose without dissolving the same;
- hardening the nitrocellulose particles by distilling off water and nitrocellulose solvent from the slurry, while continuing agitation; and
- recovering densified nitrocellulose particles wet with sorbed hydrocarbon diluent.

3,341,516

SURFACE-SULFONATED CELLULOSE ETHERS HAVING IMPROVED WATER DISPERSIBILITY

Albert Buckley Savage, Midland, and Julius C. Aldrich, Mount Pleasant, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 4, 1964, Ser. No. 364,776

5 Claims. (Cl. 260-232)

1. A process which comprises the steps of passing sulfur trioxide vapor through a dry, water-soluble particulate, non-ionic cellulose ether containing less than about 6 percent by weight free moisture, based on the weight of the cellulose ether, said cellulose ether being soluble in water at a pH of 7 to 10, and thereafter passing ammonia gas through the cellulose ether to effect neutralization of sulfonic moieties within the cellulose ether mass to produce a D.S. of sulfonate substitution along the ether chain within the range from about 0.001 to about 0.1 whereby the water dispersibility of the cellulose ether is enhanced.

3,341,517 PRODUCTION AND USE OF DIAZASPIRO-ALKANES

Karl-Helmut Buechel, Beuel, Alexius Kiskéri Bocz, Bonn, and Friedrich W.A.G.K. Korte, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

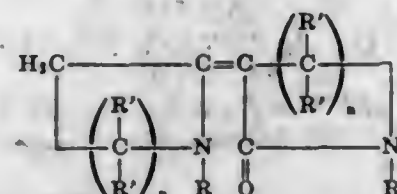
Filed Feb. 17, 1964, Ser. No. 345,108

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,108

Claims priority, application Germany, June 12, 1963, S 85,661

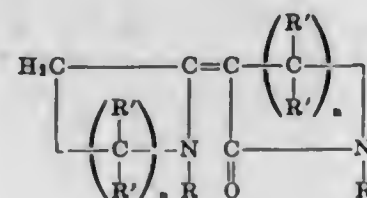
6 Claims. (Cl. 260-239)

1. The process of reacting diaza-oxo-dicycloalkylidene of the formula



wherein R is selected from the group consisting of alkyl of up to 12 carbon atoms, aralkyl of up to 12 carbon atoms, cycloalkyl of up to 12 carbon atoms, and aryl of from 6 to 10 carbon atoms, R' is selected from the group consisting of hydrogen and R, and n is a whole number from 2 to 4 inclusive, with non-oxidizing aqueous acid, said aqueous acid having a concentration of at least 8 equivalents of acid per liter of solution and said acid having a pK_a of less than about 2.5, at a temperature of at least about 50° C.

6. The process of reacting diaza-oxo-dicycloalkylidene of the formula



wherein R is selected from the group consisting of alkyl of up to 12 carbon atoms, aralkyl of up to 12 carbon atoms, cycloalkyl of up to 12 carbon atoms, and aryl of from 6 to 10 carbon atoms, R' is selected from the group consisting of hydrogen and R, and n is a whole number from 2 to 4 inclusive, with non-oxidizing aqueous acid, said acid having a concentration of at least 8 equivalents of acid per liter of solution and said acid having a pK_a of less than about 2.5, at a temperature of at least about 50° C., and catalytically hydrogenolyzing the product obtained thereby.

3,341,518

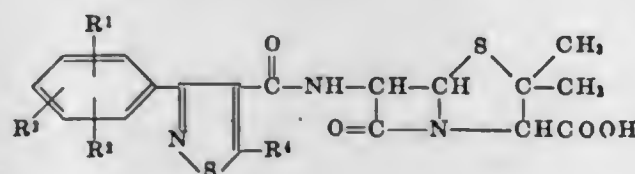
6-[5'-LOWERALKYL-3'-PHENYLISOTHIAZOLE-4'-CARBOXAMIDO]PENICILLANIC ACIDS AND SALTS THEREOF

Takayuki Naito and Susumu Nakagawa, Tokyo, Japan, assignors to Bristol-Banyu Research Institute, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 25, 1966, Ser. No. 567,375

16 Claims. (Cl. 260-239.1)

1. A compound of the formula



wherein R^1 , R^2 and R^3 represent hydrogen, chloro, bromo, iodo, trifluoromethyl, fluoro, methylsulfonyl, nitro, (lower)alkyl or (lower)alkoxy, and R^4 represents (lower)alkyl; and nontoxic, pharmaceutically acceptable salts thereof.

3,341,519

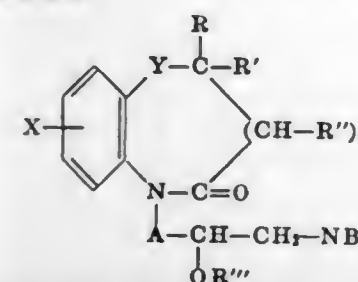
NOVEL BENZOXAZINES, BENZOTHAZINES, BENZOXAZEPINS AND BENZOTHAZEPINS

John Krapcho, Somerset, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, New York, N.Y., a corporation of Delaware

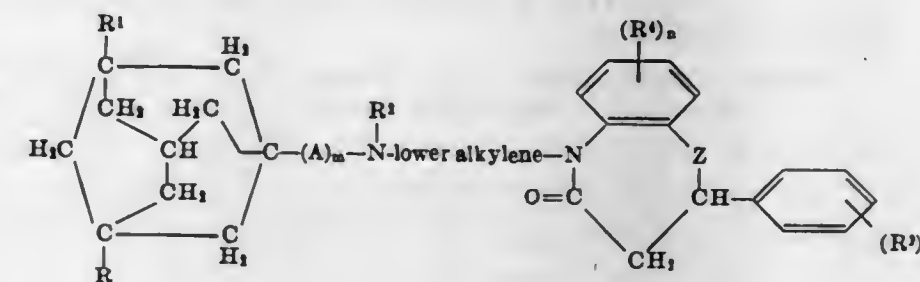
No Drawing. Filed Apr. 28, 1965, Ser. No. 451,631

10 Claims. (Cl. 260-239.3)

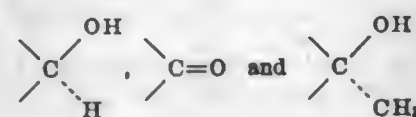
1. A compound selected from the group consisting of bases of the formula



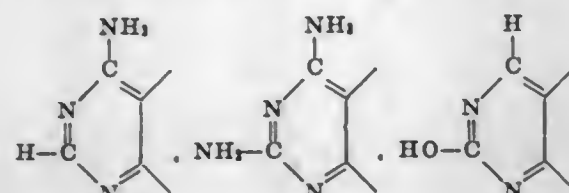
and pharmaceutically-acceptable acid-addition salts thereof, wherein X is selected from the group consisting of



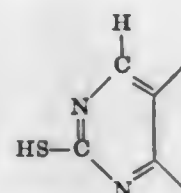
wherein R is a member selected from the group consisting of H and CH₃, X is a member selected from the group consisting of



and Y is a member selected from the group consisting of



and



3,341,523

2- OR 3-ALKYL-2,3-EPITHIO-5 α -ANDROSTAN-17 β -OLS AND THEIR 17-ALKANOATES, AND PRODUCTION THEREOF

Taichiro Komeno, Osaka, Japan, assignor to Shionogi & Co. Ltd., Osaka, Japan

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,210

2 Claims. (Cl. 260—239.5)

1. 2 β -methyl-2 α ,3 α -epithio-5 α -androstan-17 β -ol.

3,341,524

2-METHYL- Δ^2 -CORTICOIDS

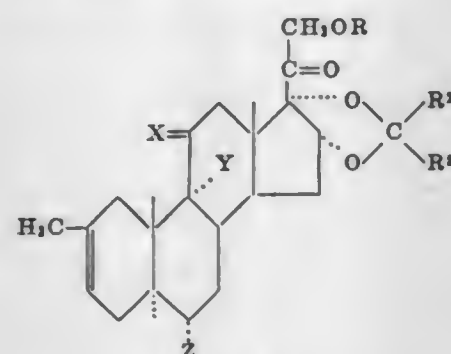
Albert Bowers and James C. Orr, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Sept. 15, 1961, Ser. No. 138,265

The portion of the term of the patent subsequent to Oct. 2, 1979, has been disclaimed

26 Claims. (Cl. 260—239.55)

25. A compound of the following formula:



wherein X is selected from the group consisting of β -hydroxyl and keto; Y is a member of the group consisting of hydrogen, fluorine and chlorine; Z is selected from the group consisting of hydrogen, fluorine, chlorine and methyl; R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; and R² and R³ are each selected from the group consisting of hydrogen and a hydrocarbon radical containing up to 8 carbon atoms.

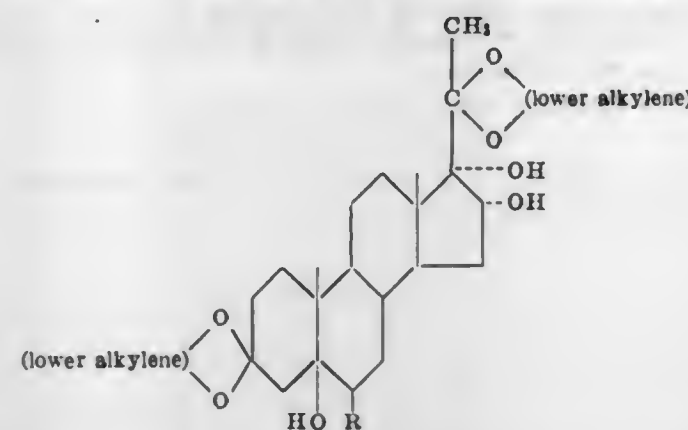
3,341,525 5 α ,16 α ,17 α -TRIHIDROXY-6 β -HALOPREGNANE-3,20-BIETHYLENE KETALS

Josef Fried, Princeton, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 16, 1959, Ser. No. 859,840

2 Claims. (Cl. 260—239.55)

1. A steroid of the general formula



wherein R is a halogen selected from the group consisting of fluorine and chlorine.

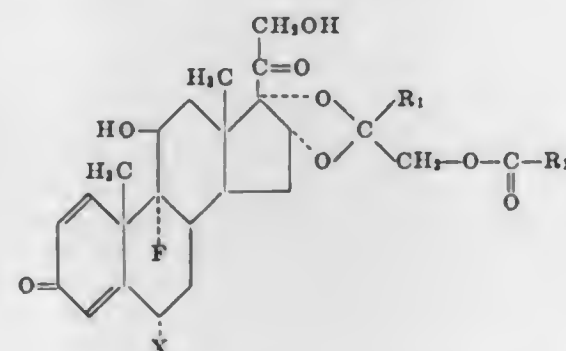
3,341,526 ACYLOXYACETALS OF FLUORO-16 α -HYDROXY-PREDNISOLONES

Bo Thuresson Af Ekenstam, Molndal, and Bror Gösta Pettersson, Karlskoga, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a Swedish company

No Drawing. Filed Jan. 12, 1965, Ser. No. 425,048

4 Claims. (Cl. 260—239.55)

1. A compound of the formula



wherein R₁ and R₂ are selected from the group consisting of methyl and ethyl and X is hydrogen or fluoro.

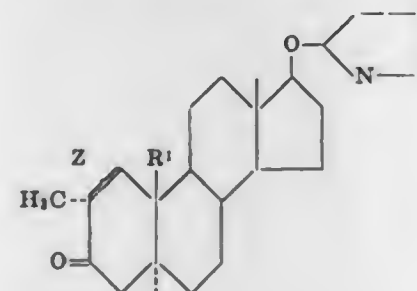
3,341,527 17 β -TETRAHYDROFURANYLOXY ANDROSTANES

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Feb. 16, 1965, Ser. No. 433,177

24 Claims. (Cl. 260—239.55)

1. A compound of the formula:



wherein Z is selected from the group consisting of a saturated linkage and a double bond; R¹ is selected from the group consisting of hydrogen and methyl, and when Z represents a double bond, R¹ is methyl.

3,341,528

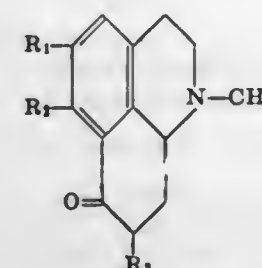
SUBSTITUTED BENZOQUINOLINES

John Shavel, Jr., Mendham, and Glenn Curtis Morrison, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,013

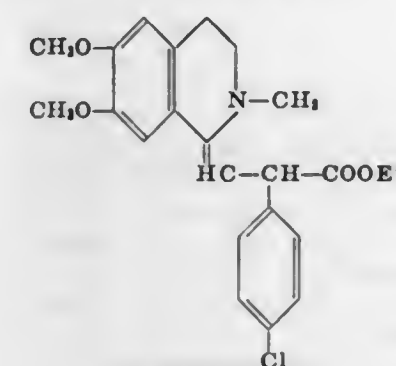
5 Claims. (Cl. 260—240)

1. A compound selected from the group consisting of those having the formula:



wherein R₁ is straight chain lower alkoxy, R₂ is a member of the group consisting of hydroxy and benzyloxy and R₃ is a member of the group consisting of hydrogen and chloro substituted phenyl and the nontoxic pharmaceutically acceptable acid addition salts thereof.

5. A compound of the formula:



3,341,529

METHOD FOR PREPARING 2-STYRYLNAPHTHOXAZOLE COMPOUNDS

Bennett George Buell, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,584

15 Claims. (Cl. 260—240)

1. A method for preparing a 2-styrylnaphthoxazole compound which comprises reacting the anil formed from cinnamaldehyde and an ortho aminonaphthol compound selected from the group consisting of 1-amino-2-naphthol, 3-amino-2-naphthol, 2-amino-1-naphthol, 1-amino-2-naphthol-3-carbanilide, 1-amino-2-naphthol-4-sulfonic acid, and 1-amino-2-naphthol-3-carboxylic acid with nitrous acid in a water-miscible solvent, introducing water to the reaction mixture to precipitate the 2-styrylnaphthoxazole product and isolating said product.

3,341,530

NAPHTHO(1,2)TRIAZOLE BRIGHTENERS FOR FINE FABRICS

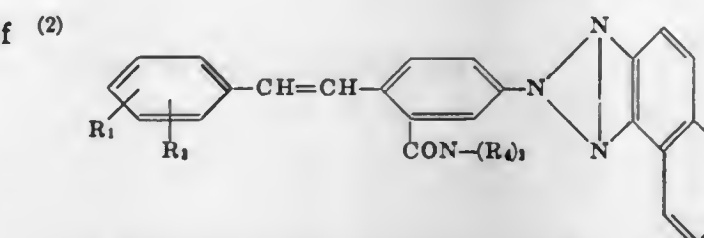
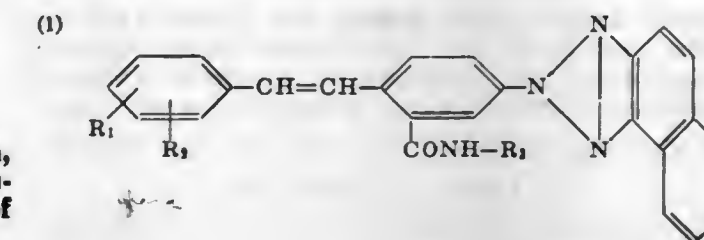
Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 24, 1965, Ser. No. 458,369

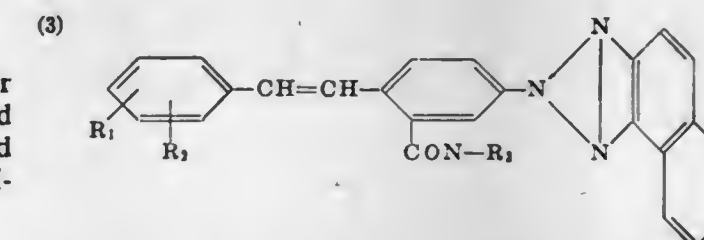
12 Claims. (Cl. 260—240)

1. A fluorescent naphthotriazole compound of the class

selected from the group consisting of those of the following formulae:



and



wherein R₁ and R₂ represent a member selected from the class consisting of hydrogen, halogen, lower alkyl and lower alkoxy, R₃ represents a member selected from the class consisting of hydrogen, lower alkyl, lower hydroxy alkyl, dialkylamino alkyl of from 3 to 16 carbon atoms, morpholino-N-alkyl and piperidino-N-alkyl wherein the alkyl group contains from 1 to 4 carbon atoms, R₄ represents a member selected from the class consisting of a lower alkyl and lower hydroxy alkyl group, and R₅ represents the atoms necessary to complete with the nitrogen atom a heterocyclic ring system selected from the class consisting of 5- and 6-membered ring system.

3,341,531

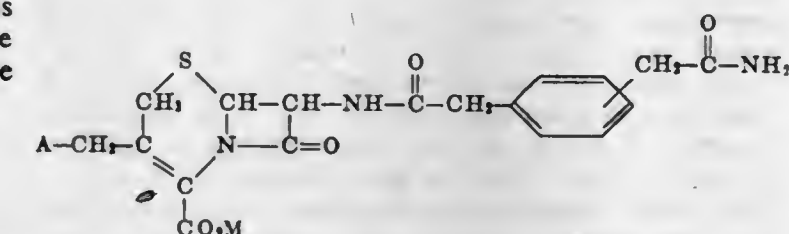
SUBSTITUTED 7-ACETYLAMINO CEPHALOSPORANIC ACIDS

Benjamin Arthur Lewis, Suffern, and Martin Leon Sasser, Pearl River, N.Y., and Robert Gordon Shepherd, Ridgewood, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 15, 1967, Ser. No. 616,179

10 Claims. (Cl. 260—243)

1. A compound of the formula:



wherein A is selected from the group consisting of acetoxy and N-pyridinium; and M is selected from the group consisting of hydrogen, pharmaceutically acceptable nontoxic cations and an anionic charge when A is N-pyridinium.

3,341,532

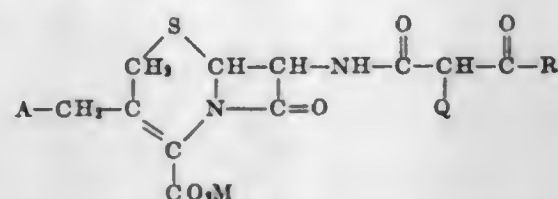
SUBSTITUTED 7-ACETYLAMINO
CEPHALOSPORANIC ACIDS

Benjamin Arthur Lewis, Suffern, and Martin Leon Sasser, Pearl River, N.Y., and Robert Gordon Shepherd, Ridgewood, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 15, 1967, Ser. No. 616,170

10 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of those of the formula:



wherein R is selected from the group consisting of hydroxy and amino; A is selected from the group consisting of acetoxy and N-pyridinium; M is selected from the group consisting of hydrogen, pharmaceutically acceptable non-toxic cations and an anionic charge when A is N-pyridinium; and Q is selected from the group consisting of 1-naphthyl, 2-naphthyl and a moiety of the formula:



wherein R' is selected from the group consisting of hydrogen, halogen, nitro and lower alkyl; and the non-toxic pharmaceutically acceptable basic salts thereof when R is hydroxy.

3,341,533

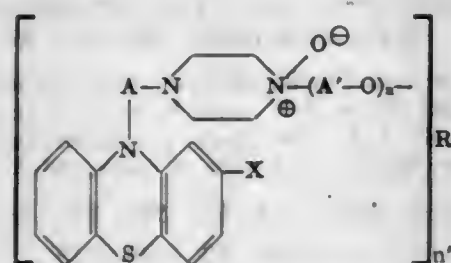
N-OXIDES OF PHENOTHIAZINE COMPOUNDS

Harry L. Yale, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 5, 1965, Ser. No. 437,561

6 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of a base of the formula



and a non-toxic pharmaceutically acceptable acid-addition salt thereof, wherein X is selected from the group consisting of hydrogen, halogen, lower alkyl, lower cycloalkyl, lower alkoxy, lower cycloalkoxy, lower alkanoyl, lower alkylmercapto, trifluoromethylmercapto, lower alkylsulfonyl, di-lower alkylsulfonamido, cyano and trifluoromethyl; A and A' are each lower alkylene; n and n' are integers selected from the group consisting of one and two; and R is selected from the group consisting of hydrogen, and, when n' is 1, the acyl radical of an acid selected from the group consisting of alkanic acid having two to twelve carbon atoms, alkenic acid having three to eighteen carbon atoms, alkanedienoic acid having seven carbon atoms, benzoic acid, and phenyl (lower alkanic) acid, and when n' is 2, the acyl radical of an alkanedienoic acid having four to nine carbon atoms.

3,341,534

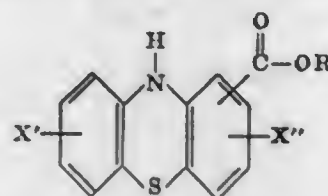
HALOGENATED PHENOTHIAZINE
CARBOXYLATE ESTERS

John S. Driscoll, Lynnfield, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 23, 1965, Ser. No. 466,451

3 Claims. (Cl. 260—243)

1. A dihalophenothiazine carboxylate ester of the formula



where X' and X'' are halogen atoms having an atomic weight below 80 and R is a saturated aliphatic hydrocarbon radical from 1 to 6 carbon atoms.

3,341,535

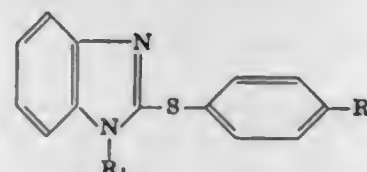
BENZIMIDAZOLE DERIVATIVES

Teruya Seki, Tokyo, Manki Komatsu, Ichikawa, Yoshiaki Watanabe, Niiza-machi, and Michitada Sasajima and Yachiyo Matsuda, Tokyo, Japan, assignors to Taisho Pharmaceutical Co., Ltd., Tokyo, Japan

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,415

25 Claims. (Cl. 260—247.1)

1. A compound of the formula:



wherein R is a member selected from the group consisting of Cl, Br, lower alkyl, lower alkoxy, lower alkyl amino and a di(lower)alkyl amino, and R₁ is a member selected from the group consisting of di(lower)alkylaminoethyl and morpholinoethyl.

23. 1-[β-(4-morpholino)-ethyl]-2-phenylthio-benzimidazole.

3,341,536

2-MORPHOLINO, OR PIPERIDINO ALKYL SULFONYL OR SULFONYL-PYRIDINES AND HALO PYRIDINES

Helmut Beschke, Frankfurt am Main, and Wilhelm Schuler, Bad Homburg vor der Höhe, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed July 9, 1964, Ser. No. 381,577
Claims priority, application Germany, July 11, 1963, D 41,963

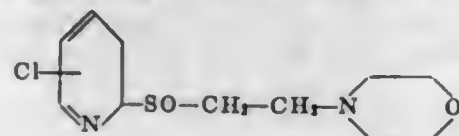
8 Claims. (Cl. 260—247.1)

1. A pyridine compound of the formula



wherein X is selected from the group consisting of —SO— and —SO₂—, Alk is lower alkylene of up to 4 carbon atoms, Y is selected from the group consisting of hydrogen and halogen and W is selected from the group consisting of —O— and —CH₂—.

2. A pyridine compound of the formula



3,341,537

1 - TERTIARYAMINOALKOXYPHENYL - 1,2 - DIMONOCARBOCYCLIC ARYL - ALKANES AND THEIR PHARMACEUTICALLY - ACCEPTABLE ACID-ADDITION SALTS

Dora Nellie Richardson, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

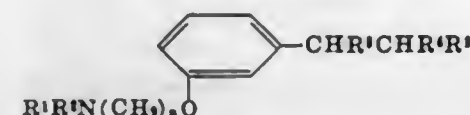
No Drawing. Filed Aug. 18, 1964, Ser. No. 390,449
Claims priority, application Great Britain, Sept. 2, 1963, 34,608/63

7 Claims. (Cl. 260—247.2)

3. An amino compound selected from the compounds of the formulae:



and



wherein R¹ and R² are selected from methyl and ethyl or the —NR¹R² group is selected from piperidino, morpholino and pyrrolidino, n is selected from 2 and 3; R³ and R⁴ are selected from phenyl, and phenyl substituted with a member selected from the group consisting of methyl, ethyl, methoxy, chlorine, bromine and diethylaminoethoxy; and R⁵ is selected from methyl, ethyl, n-propyl, isopropyl, n-butyl and benzyl, and the pharmaceutically-acceptable acid-addition salts thereof.

6. 1-(p-β-morpholinoethoxyphenyl) - 1,2 - diphenylbutane or the pharmaceutically-acceptable salts thereof.

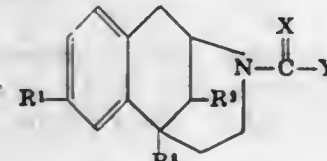
3,341,538

CERTAIN 2,6-METHANO-3-BENZAZOCINES
Fred B. Block, Hartsdale, and Frank H. Clarke, Jr., Armonk, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed June 18, 1965, Ser. No. 465,143

31 Claims. (Cl. 260—247.2)

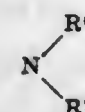
1. Compounds of the formula:



wherein

X is selected from the group consisting of O, S and NH;

Y is selected from the group consisting of OR⁴, SR⁵ and



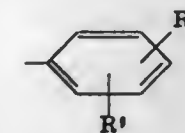
in which:

each of R⁴ and R⁵ is selected from the group consisting of (lower)alkyl, (lower)alkenyl, phenyl and phenyl(lower)alkyl, and

each of R⁶ and R⁷ is selected from the group consisting of hydrogen, (lower)alkyl, (lower)alkenyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, chlorophenyl, bromophenyl, hydroxyphenyl, trifluoromethylphenyl, phenyl (lower)alkyl and when R⁶ and R⁷ are taken together alkylene of from 2 to 7 carbon atoms and ethyleneoxyethyl;

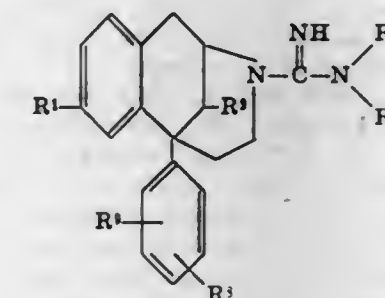
R¹ is selected from the group consisting of hydrogen, hydroxy, (lower)alkoxy and (lower)alkanoyloxy; R² is selected from the group consisting of hydrogen and (lower)alkyl and

R³ is selected from the group consisting of hydrogen, (lower)alkyl, β-methoxyethyl and



in which each of R⁸ and R⁹ is selected from the group consisting of hydrogen, halogen, (lower)alkyl, (lower)alkoxy, (lower)alkanoyloxy, hydroxy and trifluoromethyl.

12. A compound of the formula:



wherein

R¹ is selected from the group consisting of hydrogen, hydroxy, (lower)alkoxy and (lower)alkanoyloxy, R² is selected from the group consisting of hydrogen and (lower)alkyl,

each of R⁶ and R⁷ is selected from the group consisting of hydrogen, (lower)alkyl, (lower)alkenyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, chlorophenyl, bromophenyl, hydroxyphenyl, trifluoromethylphenyl, phenyl(lower)alkyl and when R⁶ and R⁷ are taken together alkylene of from 2 to 7 carbon atoms and ethyleneoxyethyl, and

each of R⁸ and R⁹ is selected from the group consisting of hydrogen, halogen, (lower)alkyl, (lower)alkoxy, (lower)alkanoyloxy, hydroxy and trifluoromethyl.

3,341,539

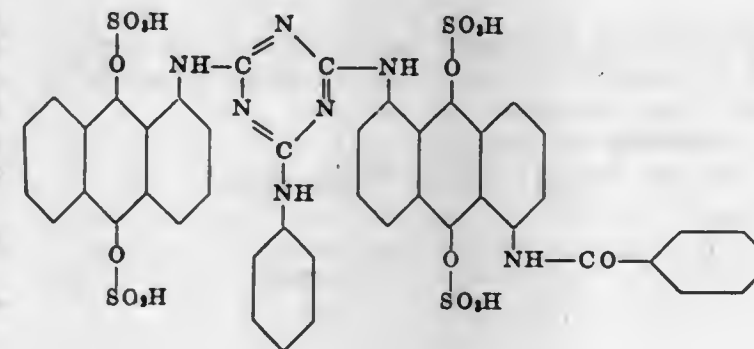
FIBER-REACTIVE AND NON-REACTIVE SULFURIC ACID ESTERS OF LEUCO VAT DYE-STUFFS

Max Staenble, Basel, Switzerland, Hussein C. Sharaf, Cairo, Egypt, and Kurt Hoelzle, Liestal, and Ernst Jenny, Peter Stahel, Paul Ulrich, and Walter Opplinger, Basel, and Max Aeberli, Riehen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

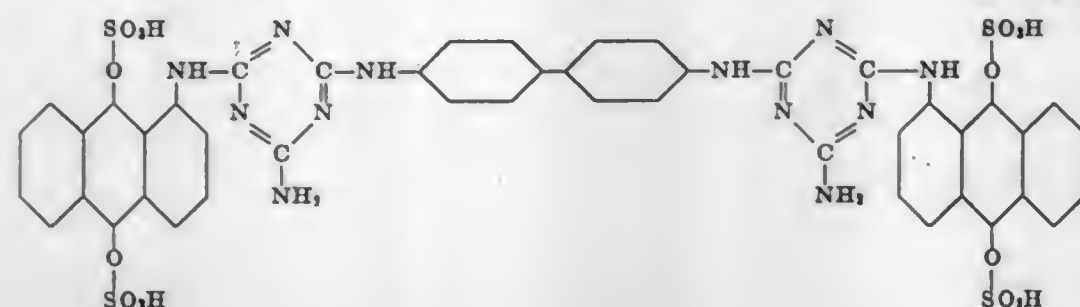
No Drawing. Filed Sept. 1, 1964, Ser. No. 393,737
Claims priority, application Switzerland, Mar. 24, 1961, 3,518/61, 3,520/61, 3,521/61

9 Claims. (Cl. 260—249)

1. A water-soluble salt of the leuco sulfuric acid ester of the formula



5. A water-soluble salt of the leuco sulfuric acid ester of the formula



with a compound of the formula
 $N \equiv C - CH_2CH_2OR$

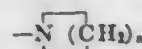
(III)

3,341,540

3-AMINO-6-HALOPYRAZINONITRILES AND THEIR SYNTHESIS

Edward J. Cragoe, Jr., Lansdale, and James H. Jones, Blue Bell, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
 No Drawing. Filed Oct. 4, 1965, Ser. No. 492,862
 12 Claims. (Cl. 260-250)

1. A process for preparing 3-amino-5-X-6-halopyrazinonitriles comprising the reaction of a 3-amino-5-X-6-halopyrazinamide with dimethylformamide and an agent selected from phosphoryl chloride and thionyl chloride to give N,N-dimethyl-N'-(3-cyano-5-halo-6-X-2-pyrazinyl)formamide which is hydrolyzed with a strong acid to 3-amino-5-X-6-halopyrazinonitrile, wherein in each of the foregoing products X is selected from hydrogen, chloro, bromo, lower alkyl, lower alkoxy, lower alkylthio, phenyl, halophenyl, lower alkyl phenyl, phenyl-lower alkoxy, phenyl-lower alkylthio and $-NR^1R^2$, wherein each of the variable radicals R^1 and R^2 is separately selected from hydrogen, phenyl, halophenyl, and lower alkyl phenyl, lower alkyl, lower alkenyl, halo-lower alkyl, hydroxy-lower alkyl, lower(alkoxyalkyl), lower(cycloalkylalkyl) wherein in the cycloalkyl moiety has 3 to 6 nuclear carbons, lower(dialkylaminoalkyl), phenyl-lower alkyl, lower(alkylphenylalkyl), halophenyl-lower alkyl, pyridyl-lower alkyl, furyl-lower alkyl, lower cycloalkyl having from 3 to 6 nuclear carbon atoms, lower alkoxy, and wherein R^1 and R^2 are joined together to form with the nitrogen to which they are attached a radical of the structure



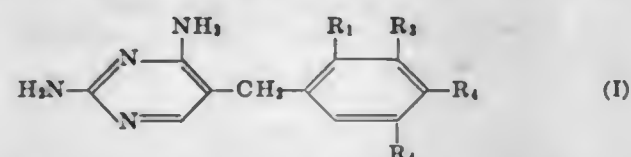
wherein n is an integer from 4 to 6, and wherein the 6-position halo is selected from chloro and bromo.

3,341,541

PROCESSES AND INTERMEDIATES FOR PYRIMIDINE DERIVATIVES

Max Hoffer, Nutley, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
 No Drawing. Filed July 9, 1965, Ser. No. 470,917
 17 Claims. (Cl. 260-256.4)

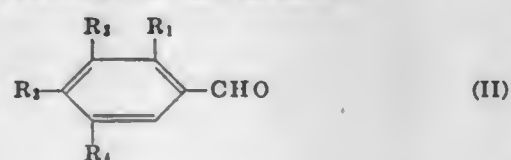
1. A process for the preparation of a compound of the formula



wherein R_1 is hydrogen, methyl, chlorine, or methoxy; R_2 is hydrogen, chlorine, or methoxy; and R_3 and R_4 are each lower alkoxy;

comprising the steps of

(a) reacting an aldehyde of the formula



(II)

3,341,542

OIL SOLUBLE ACRYLATED NITROGEN COMPOUNDS HAVING A POLAR ACYL, ACYLIMIDOYL OR ACYLOXY GROUP WITH A NITROGEN ATOM ATTACHED DIRECTLY THERETO

William M. Le Suer, Cleveland, and George R. Norman, Lyndhurst, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
 No Drawing. Original application July 21, 1961, Ser. No. 126,809, now Patent No. 3,219,666, dated Nov. 23, 1965. Divided and this application July 1, 1965, Ser. No. 468,948

10 Claims. (Cl. 260-268)

1. A composition comprising an oil-soluble acylated nitrogen compound having within its structure (A) a hydrocarbon-substituted polar group selected from the class consisting of acyl, acylimidoyl and acyloxy radicals other than succinoyl, succinimidoyl and succinoyloxy radicals, wherein the hydrocarbon substituent contains at least about 50 aliphatic carbon atoms and (B) a nitrogen containing group characterized by a nitrogen atom attached directly to said polar group.

6. The composition of claim 1 wherein the nitrogen-containing group is an amino group derived from an alkylene polyamine.

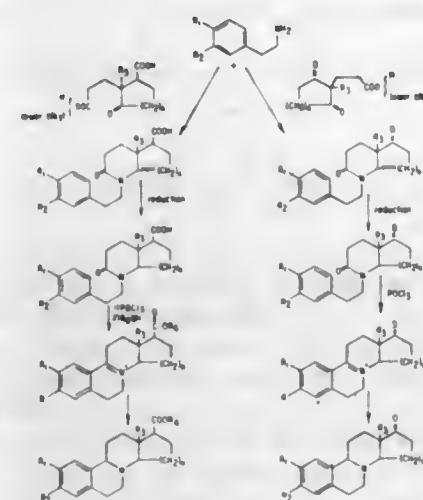
3,341,543

SUBSTITUTED QUINOLIZINES

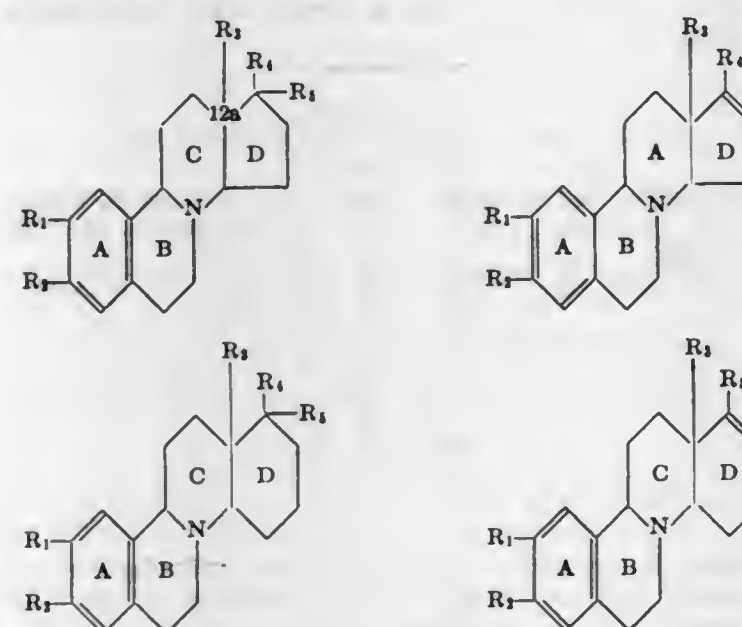
Robert I. Meltzer, Rockaway, and Richard E. Brown, Hanover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

Filed Jan. 2, 1963, Ser. No. 248,872

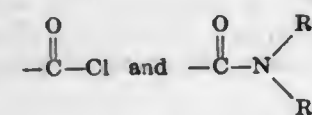
33 Claims. (Cl. 260-286)



1. A compound selected from the group consisting of free bases of the formulae:



wherein R_1 and R_2 each is a member selected from the group consisting of hydrogen, hydroxy, and lower alkoxy; R_3 is a member selected from the group consisting of hydrogen, and lower alkyl; R_4 is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, alkenyl, and R_5 is a member selected from the group consisting of hydrogen, lower alkyl, alkoxy, alkenyl, and R_6 is a member selected from the group consisting of hydrogen, hydroxy, acyloxy of a carboxylic acid, alkoxy, $-COOH$, $-COOR_{11}$ in which R is lower alkyl



in which R_6 and R_7 is each a member selected from the group consisting of hydrogen, and lower alkyl; and R_4 and R_5 taken together with the carbon atom to which they are attached form a member selected from the group consisting of keto and cyclic ketal; and the nontoxic pharmaceutically acceptable salts thereof.

4. 1,2,3,3a,5,6,10b,11,12,12a-decahydro-8-methoxy-12a-methyl-1-carbomethoxybenzo[a]cyclopenta[f]quinolizine hydrochloride.

3,341,544

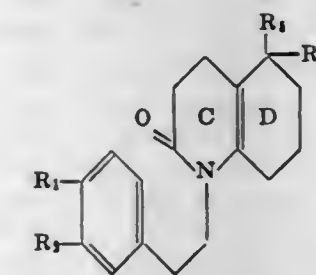
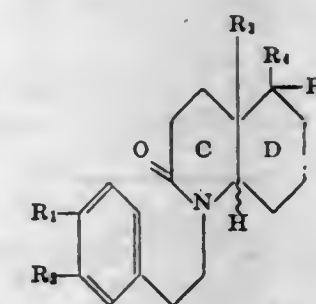
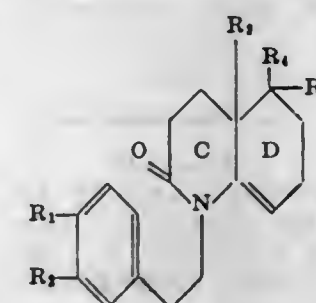
QUINOLINE LACTAMS

Robert I. Meltzer, White Meadow Lake, Rockaway, and Richard E. Brown, Hanover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Original application Oct. 23, 1963, Ser. No. 318,190. Divided and this application Aug. 10, 1966, Ser. No. 571,385

14 Claims. (Cl. 260-286)

1. A compound selected from the group consisting of those having the formulas:



wherein R_1 and R_2 each is a member selected from the group consisting of hydrogen, hydroxy, and lower alkoxy; R_3 is a member selected from the group consisting of hydrogen, and lower alkyl; R_4 is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, alkenyl, and R_5 is a member selected from the group consisting of hydrogen, hydroxy, acyloxy, in which acyl is that derived from a carboxylic acid, lower alkoxy, $-COOH$, $-COOR_{11}$ in which R_{11} is lower alkyl; and R_4 and R_5 taken together with the carbon atom to which they are attached form a member selected from the group consisting of keto and cyclic ketal.

14. 1-(3,4-dimethoxyphenethyl)-3,4,4a,5,6,7,8a-octahydro-5-hydroxy-2-(1H)-quinolone acetate.

3,341,545

PYRIDINE ISOCYANATES

Seymour Hyden, Spring Valley, and Godfrey Wilbert, Carmel, N.Y., assignors to Nepera Chemical Co., Inc.
 No Drawing. Filed May 20, 1966, Ser. No. 551,548

1 Claim. (Cl. 260-296)

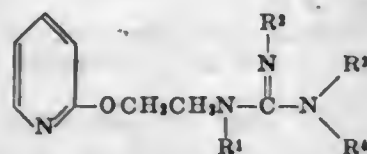
Pyridine-3-isocyanate.

3,341,546
2-(2'-PYRIDYLOXY)ETHYL GUANIDINE
DERIVATIVES

William F. Minor, Fayetteville, N.Y., assignor to Bristol Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 18, 1965, Ser. No. 440,947
 11 Claims. (Cl. 260-296)

1. A member selected from the group consisting of bases of the formula



in which R¹, R², R³ and R⁴ each represent a member selected from the group consisting of hydrogen and (lower)alkyl; and the nontoxic, pharmaceutically acceptable acid addition salts thereof.

3,341,547
3,4-DICHLOROISOTHIAZOLES AND PROCESS
FOR MAKING THEM

Everett A. Mailey, Norristown, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,306
 3 Claims. (Cl. 260-302)

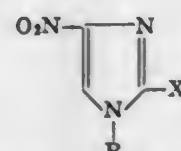
1. 3,4-dichloroisothiazole-5-carboxylic acid.

3. The process of making 5-cyano-3,4-dichloroisothiazole which comprises chlorinating an alkali-metal cyanodithioformate at a temperature between about 20° and 50° C.

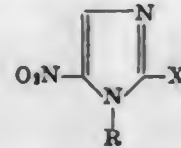
3,341,548
NITROIMIDAZOLES AND THEIR PREPARATION
 Max Hoffer, Nutley, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,604
 13 Claims. (Cl. 260-309)

1. A compound selected from the group consisting of a member having the formula

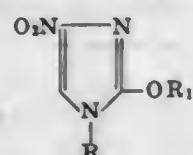


and a member having the formula



wherein R in each of the foregoing formulas is a member selected from the group consisting of hydrogen, lower alkyl and hydroxyl lower alkyl; and wherein X in each of the foregoing formulas is a member selected from the group consisting of iodo, hydroxy, lower alkoxy, phenoxy, nitrophenoxy, halophenoxy and lower alkylphenoxy and alkali salts of the compounds of Formulae I and II where R in each case is hydrogen.

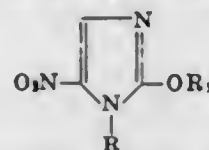
12. A method of preparing a compound of the formula



wherein R₁ is a member selected from the group consisting of lower alkyl, lower alkoxy alkyl, phenyl, halophenyl, nitrophenyl and lower alkyl phenyl and R is a

member selected from the group consisting of lower alkyl and hydroxy lower alkyl which comprises treating alkalized 2-iodo-4(5)-nitroimidazole with an alkylating agent and thereafter treating the alkylation product with an alkali metal alcoholate selected from the group consisting of alkali metal alcoholates of primary and secondary lower alkanols, alkali metal phenolates and alkali metal phenolates in which the phenyl moiety is substituted by halogen, nitro or lower alkyl to form the corresponding 1-R-2-lower alkoxy-4-nitroimidazole or 1-R-2-aryloxy-4-nitroimidazole wherein R has the same meaning as above.

13. A method of preparing a compound of the formula



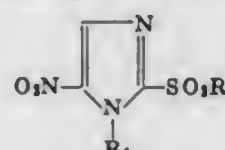
wherein R₁ is a member selected from the group consisting of lower alkyl, lower alkoxy alkyl, phenyl, halophenyl, nitrophenyl and lower alkyl phenyl and R is a member selected from the group consisting of lower alkyl and hydroxy lower alkyl which comprises treating 2-iodo-4(5)-nitroimidazole with an alkali metal alcoholate selected from the group consisting of alkali metal alcoholates of primary and secondary lower alkanols, alkali metal phenolates and alkali metal phenolates in which the phenyl moiety is substituted by halogen, nitro or lower alkyl to form the corresponding 1-R-2-lower alkoxy-5-nitroimidazole or 1-R-2-aryloxy-5-nitroimidazole wherein R has the same meaning as above and thereafter treating the so-formed product with an alkylating agent.

3,341,549
2-SULFONYL- AND 2-CYANO-5-NITRO-
IMIDAZOLES

David W. Henry, Menlo Park, Calif., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

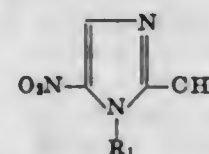
No Drawing. Filed July 22, 1966, Ser. No. 567,060
 11 Claims. (Cl. 260-309)

1. A compound having the formula:



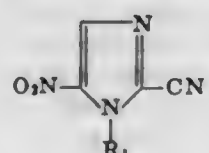
where R₁ represents a member of the class consisting of phenyl, and -(CH₂)_nOX, R is a member of the class consisting of an alkyl group of from 1-5 carbon atoms, phenyl and benzyl, n has a value of 2-4, and X is selected from the class consisting of hydrogen and lower alkanoyl.

5. A compound of the formula:

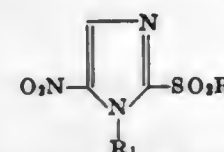


where R₁ represents a member of the class consisting of phenyl and -(CH₂)_nOX, n has a value of 2-4, and X is selected from the class consisting of hydrogen and lower alkanoyl.

9. The process for preparing a 2-cyano-5-nitroimidazole of the formula:



that comprises intimately contacting a compound of the formula:



with cyanide ion in a non-aqueous reaction medium, where R is selected from the class consisting of an alkyl group of 1-5 carbon atoms, phenyl and benzyl, and R₁ is selected from the class consisting of loweralkyl, phenyl, and -(CH₂)_nOX, n has a value of 2-4, and X is lower alkanoyl.

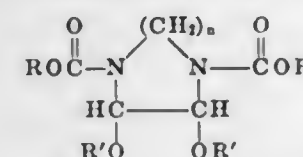
3,341,550
GLYOXAL-BISCARBAMATE REACTION
PRODUCTS

Sidney L. Vail and Clifford M. Moran, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Oct. 22, 1963, Ser. No. 318,129. Divided and this application Aug. 2, 1966, Ser. No. 574,890

3 Claims. (Cl. 260-309.7)

1. A compound represented by the formula



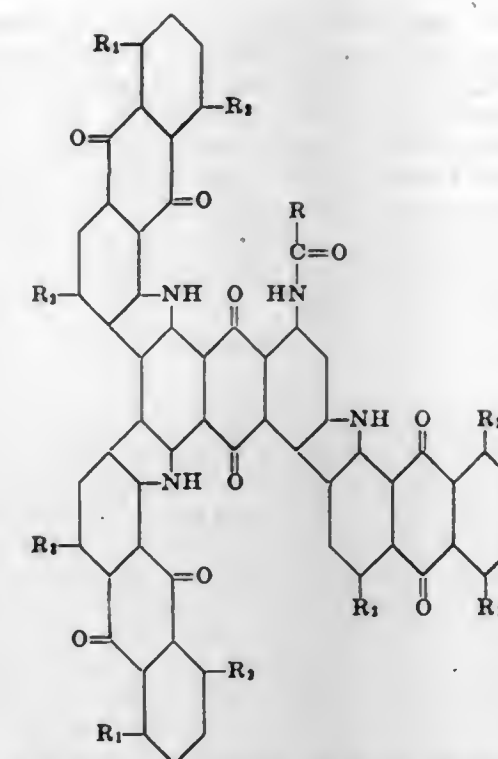
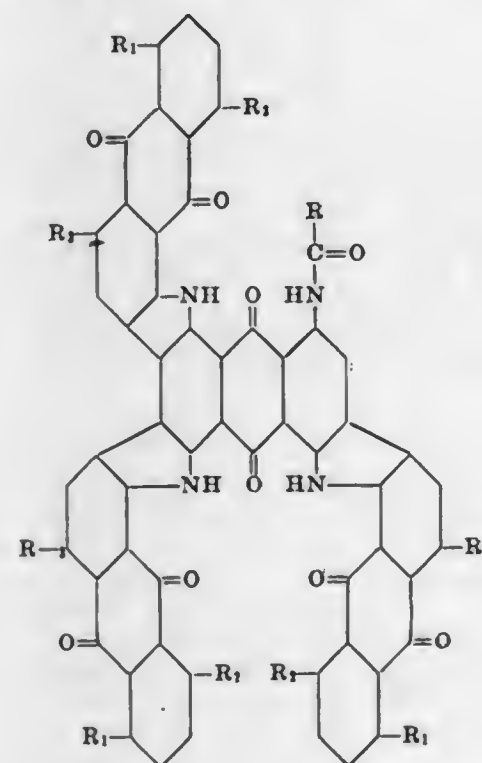
wherein n is an integer less than three, R is an alkyl group of one to four carbon atoms, and R' is hydrogen or an alkyl group of one to four carbon atoms.

3,341,551
TETRAANTHRIMIDE VAT DYE STUFFS
 Walter Hohmann and Heinrich Vollmann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 28, 1965, Ser. No. 475,589
 Claims priority, application Germany, Aug. 8, 1964, F 43,704

5 Claims. (Cl. 260-316)

1. A compound selected from the group consisting of compounds of the formulae

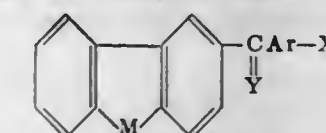


wherein R is a methyl radical, an ethyl radical, a phenyl radical or a β-anthroquinonyl radical and wherein R₁, R₂ and R₃ represents hydrogen or wherein one group of the radicals R₁, R₂ or R₃ represents a benzoylamino group.

3,341,552
ACYL SUBSTITUTED 2,2'-BIPHENYLENE
CHALKOGENIDES
 John H. Cornell, Jr., Arlington, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 24, 1965, Ser. No. 482,240
 10 Claims. (Cl. 260-329.3)

1. A compound having the formula:



wherein M is a chalkogen element selected from the class consisting of oxygen, sulfur, selenium and tellurium, Y is a chalkogen element selected from the class consisting of oxygen and sulfur, Ar is a bivalent aromatic hydrocarbon radical of from 6 to 12 carbon atoms and X is a substituent attached to one of the ring carbon atoms comprising Ar; and is a member selected from the group consisting of the nitro radical, halogen elements of atomic weight below 130 and perhaloalkyl radicals free of aliphatic unsaturation containing from 1 to 6 carbon atoms.

3,341,553
S-(2,5-DICHLORO-3-THIENYL-THIOMETHYL)-O,O-
DIETHYLPHOSPHORODITHIOATE
 Peter F. Epstein, El Cerrito, Calif., assignor to Stauffer Chemical Company, a corporation of Delaware

No Drawing. Filed July 15, 1964, Ser. No. 382,952
 1 Claim. (Cl. 260-332.5)

The compound, S-(2,5-dichloro-3-thienyl-thiomethyl)-O,O-diethylphosphorodithioate.

3,341,554
PROCESS FOR PREPARING CARBOXYLIC ACIDS
 Kenneth J. Murray, East Brunswick, and Allen R. Kittle, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,928
 9 Claims. (Cl. 260-343.6)

1. The method for preparing 2,2,4-trimethylglutaric acid compounds which comprises reacting a member of the group consisting of mesitonitrile and mesitonic acid

with hydrogen cyanide at a pH of 1 to 6 at a temperature of from 0 to 120° C. for a period of from about 1 to 24 hours thereby forming 2,2,4-trimethylglutaric acid lactone and reducing the latter with hydrogen in contact with a metal hydrogenation catalyst consisting essentially of a metal selected from the group consisting of . . . ruthenium, platinum, palladium, and nickel and in the presence of an excess of an alkali metal hydroxide at elevated temperatures and pressures to form the alkali metal salt of 2,2,4-trimethylglutaric acid.

3,341,555

STABLE LIQUID DICARBOXYLIC ACID ANHYDRIDE COMPOSITIONS

George S. Wooster, Hamburg, and Aloysius J. Kane, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,888

11 Claims. (Cl. 260—346.3)

1. A stable composition which is a homogeneous liquid at a temperature of about 20° to 30° C. and freeze-thaw resistant comprising essentially a mixture of hexahydrophthalic anhydride, tetrahydrophthalic anhydride and phthalic anhydride, which mixture is normally heterogeneous at least after being subjected to a freeze-thaw cycle and is capable of acting as a curing agent for epoxy resins, and as a stabilizing agent for said mixture, a small amount of the reaction product of about equimolecular quantities of a tertiary amine and a polycarboxylic acid anhydride, the amount of said reaction product being about 0.2 to about 5.0 percent of the weight of the mixture of anhydrides.

3,341,556

PROCESS FOR THE PRODUCTION OF PROPYLENE OXIDE

Adin L. Stautzenberger and Al H. Richey, Corpus Christi, Tex., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Filed Jan. 22, 1959, Ser. No. 788,280

13 Claims. (Cl. 260—348.5)

1. Process for the production of propylene oxide which comprises reacting propylene and peracetic acid containing at most about 1/4 mole of acetic acid per mole of peracetic acid in an inert solvent, and recovering propylene oxide from the products of the reaction.

3,341,557

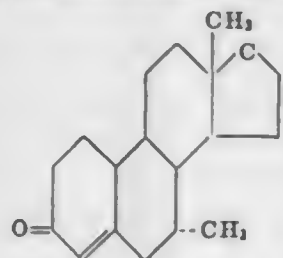
7-METHYLTESTOSTERONES

John C. Babcock, Kalamazoo, and J. Allan Campbell, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

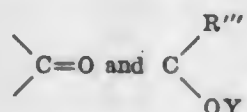
No Drawing. Filed June 5, 1961, Ser. No. 114,621

8 Claims. (Cl. 260—397.3)

1. A 7 α -methyl-19-nortestosterone having the formula:



wherein C represents a group selected from the class consisting of



wherein R''' is selected from the class consisting of hydrogen and a lower aliphatic hydrocarbon radical containing

from 1 to 4 carbon atoms, inclusive, and Y is selected from the class consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive.

3,341,558

19-NOR-10 α - Δ^4 -ANDROSTENE-3,17-DIONE AND PROCESS FOR THE PRODUCTION THEREOF

Eugene Farkas, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Aug. 13, 1964, Ser. No. 389,484

2 Claims. (Cl. 260—397.3)

1. 10-nor-10 α -4-androstene-3,17-dione.

3,341,559

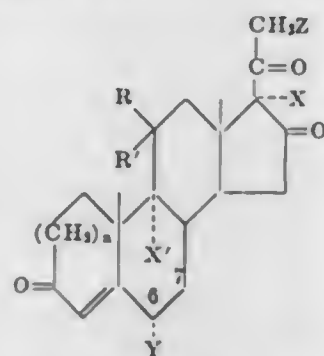
17 α -HALO-16,20-STERIODS OF THE PREGNANE AND A-NOR-PREGNANE SERIES AND METHODS FOR THEIR PREPARATION

Saul L. Neideman, Lawrence Township, Samuel C. Pan, Metuchen, and Patrick A. Dlassi, Westfield, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,443

16 Claims. (Cl. 260—397.3)

10. A compound of the formula



wherein the 6,7-position is saturated or double-bonded; n is selected from the group consisting of zero and one; R is hydrogen, R' is selected from the group consisting of hydrogen and β -hydroxy, and together R and R' is keto; X is halogen; X' is selected from the group consisting of hydrogen and halogen; Z is selected from the group consisting of hydrogen, halogen, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms; and Y is selected from the group consisting of hydrogen, halogen and methyl.

12. 16-keto-17 α -chloroprogesterone.

3,341,560

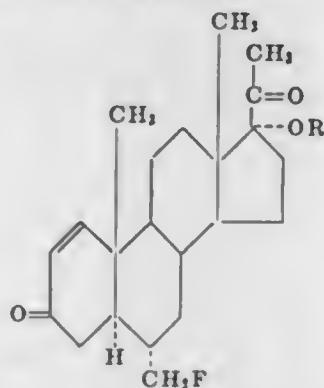
6-MONOFLUOROMETHYL-17 α -HYDROXYPROGESTERONES AND 17-ACYLATES THEREOF

J. Allen Campbell and John E. Pike, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Continuation of application Ser. No. 143,567, Oct. 9, 1961. This application May 22, 1963, Ser. No. 282,213

2 Claims. (Cl. 260—397.4)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

3,341,561

PREPARATION OF SALTS OF ALKANESULFONIC ACIDS

Charles M. Starks, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed May 31, 1963, Ser. No. 284,383

12 Claims. (Cl. 260—448)

1. A process for preparing a salt of an alkanesulfonic acid which process comprises oxidizing, in an aqueous medium, a metal salt of an alkanesulfonic acid, at a temperature substantially below the decomposition temperature of said alkanesulfonate and for a time to oxidize an appreciable amount of said alkanesulfonate to the corresponding alkanesulfonate, in the presence of dissolved ions of a metal capable of existence in more than one valence state, said ions being present in an amount sufficient to accelerate said oxidation reaction, said metal being selected from the class consisting of iron, cobalt and nickel.

4. A process for preparing a salt of an alkanesulfonic acid which process comprises:

(A) oxidizing, in an aqueous medium having a pH of not more than about 7, a metal alkanesulfonate, said metal being capable of reacting with hydroxyl ions to form a hydroxide of low solubility in water, at a temperature of between about 50° C. and about 200° C., which reaction temperature is held below the decomposition temperature of said alkanesulfonate, for a time such that substantially all of said alkanesulfonate is oxidized to the corresponding alkanesulfonate, and in the presence of metal ions in an amount at least sufficient to accelerate said oxidation reaction, said ions being derived from a metal capable of existing in more than one valence state, said metal being selected from the class consisting of iron, cobalt and nickel,

(B) treating said alkanesulfonate-containing aqueous reaction product with an ion selected from the group consisting of ammonium and alkali metal, at a pH above 7, to obtain an aqueous solution of product alkanesulfonate and a precipitate of metal hydroxide and,

(C) separating said aqueous solution of product alkanesulfonate from said precipitate.

3,341,562

PROCESS FOR THE MANUFACTURE OF PHENYL-ALUMINUM COMPOUNDS

Herbert Lehmkuhl and Rolf Schäfer, Mulheim (Ruhr), Germany, assignors to Professor Dr. Karl Ziegler, Mulheim (Ruhr), Germany

No Drawing. Filed July 24, 1963, Ser. No. 297,204

Claims priority, application Germany, July 30, 1962, Z 9,569

10 Claims. (Cl. 260—448)

1. Process for the manufacture of phenyl aluminum compounds, wherein a sodium tetra-alkyl aluminum compound is reacted with benzene in the presence of a compound selected from the group consisting of sodium alcoholates and phenyl sodium, and recovering the sodium tetraphenyl aluminum thereby formed.

8. Process according to claim 1, wherein the sodium tetraphenyl aluminum produced in said reaction is converted into triphenyl aluminum by reaction with a compound selected from the group consisting of an aluminum halide and an alkyl aluminum halide.

3,341,563

METHOD OF PREPARING SILYL AMINO ETHERS

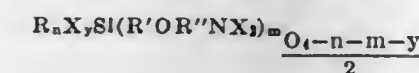
Paul Buchheit, Heinrich Marwitz, and Siegfried Nitzsche, Burghausen, Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed July 17, 1963, Ser. No. 295,823

Claims priority, application Germany, Aug. 3, 1963, W 32,731

5 Claims. (Cl. 260—448.8)

1. A silylaminoether of the formula



wherein each X is a hydrolyzable radical containing not more than 6 carbon atoms selected from the group consisting of alkoxy radicals, organic radicals composed of carbon atoms, hydrogen atoms and oxygen atoms present as ether linkages bonded to silicon through oxygen, and aminoalkoxy radicals, each R is a monovalent hydrocarbon radical containing 1 to 18 inclusive carbon atoms, each R' is a divalent saturated aliphatic hydrocarbon radical containing 1 through 18 inclusive carbon atoms, each R'' is a divalent radical containing 1 through 18 inclusive carbon atoms selected from the group consisting of saturated aliphatic hydrocarbon radicals and aromatic hydrocarbon radicals, each Z is a monovalent radical selected from the group consisting of hydrogen atoms and hydrocarbon radicals containing from 1 to 18 inclusive carbon atoms, m has a value from 0.01 to 2.0 inclusive, n has a value from 0 to 3 inclusive, y has a value from 0 to 3 inclusive, and the sum of n+m+y does not exceed 4.

3,341,564

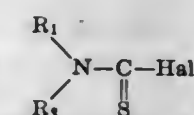
PROCESS FOR CONVERTING PRIMARY AMINES TO ISOTHIOCYANATES

Jon S. Potts, Hamden, Adnan A. R. Sayigh, North Haven, and Henri Ulrich, Northford, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 13, 1964, Ser. No. 344,549

14 Claims. (Cl. 260—454)

1. The process which comprises reacting at a temperature within the range of about 50° C. to about 150° C. a compound containing a primary amino group having a pK_b of greater than 9.4 with a thiocarbonyl halide having the formula:



wherein Hal represents a member selected from the group consisting of chlorine and bromine, R₁ and R₂ taken individually represent lower-alkyl, and R₁ and R₂ taken together with the attached nitrogen atom represents a saturated heterocyclic radical having from 5 to 7 atoms in the ring, whereby said primary amino group is converted to isothiocyanato.

3,341,565

PROCESS FOR PREPARING 2,6-DICHLOROBENZONITRILE

Lenze Hartstra and Haalke J. Visser, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 17, 1964, Ser. No. 338,307

Claims priority, application Netherlands, Jan. 22, 1963, 288,047

4 Claims. (Cl. 260—465)

1. A process for preparing 2,6-dichlorobenzonitrile which comprises reacting in the presence of a catalytic quantity of a heterocyclic nitrogen base at a temperature within the range of from about 120° C. to about 240° C., 6-chloro-2-nitrotoluene or 2,6-dinitrotoluene with a chlori-

nating agent selected from elemental chlorine, sulfur chloride, phosphorus pentachloride, hydrogen chloride, and thionyl chloride.

3,341,566

PROCESS FOR THE MANUFACTURE OF ORGANIC NITRILES

Toshio Nakaoka, Suganami-ku, Tokyo, and Kozo Sonobe, Sadao Suganuma, and Eiji Mori, Edogawa-ku, Tokyo, Japan, assignors to Nippon Chemical Industrial Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed July 1, 1964, Ser. No. 379,735
Claims priority, application Japan, July 5, 1963, 38/34,467; Mar. 23, 1964, 39/15,675
6 Claims. (Cl. 260-465)

1. The process of making a nitrile which comprises forming a mixture of a phosphonitrilic chloride with an additional nitrogen-containing composition in amount to convert nitrogen of the mixture to an organic nitrile, said composition being an ammonium salt of a carboxylic acid or a mixture of an amide with an alkali metal salt of a carboxylic acid or with an ammonium salt of an inorganic acid, heating the final mixture to a temperature within the range 100°-600° C., to cause generation of hydrogen chloride and until the generation ceases, and then separating the resulting organic nitrile from the heated mixture.

3,341,567

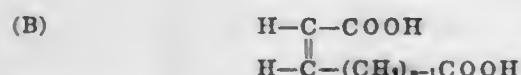
PROCESS FOR THE PRODUCTION OF BENZENEDICARBOXYLIC ACID AND ALIPHATIC DINITRILE BY EXCHANGING CARBOXYLIC GROUP FOR CYANO GROUP

Teruo Yasui and Hiromichi Kohara, Kurashiki, Japan, assignors to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan
No Drawing. Filed Jan. 22, 1965, Ser. No. 427,460
Claims priority, application Japan, Feb. 14, 1964, 39/7,553
4 Claims. (Cl. 260-465.8)

1. A process for the production of a benzenedicarboxylic acid and an aliphatic dinitrile which comprises heating a benzenedinitrile and an aliphatic dicarboxylic acid having the formula



or



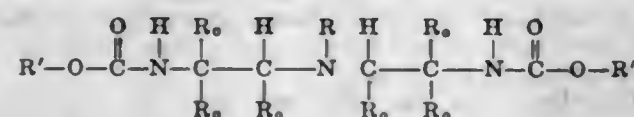
where $n=1$ or 2 at a temperature of 200-300° C. for 10-100 minutes to obtain benzenedicarboxylic acid and corresponding aliphatic dinitrile.

3,341,568

DICARBAMATES

George E. Ham, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 5, 1963, Ser. No. 306,719
12 Claims. (Cl. 260-468)

1. A compound of the formula



wherein

each R_0 is independently selected from the group consisting of the hydrogen atom and a lower alkyl group, R is selected from the group consisting of the hydrogen atom and a hydrocarbon group of from 1 to 10 carbon atoms selected from the group consisting of

alkyl, cycloalkyl and aralkyl groups, and each R' is an alkyl group of from 1 to 18 carbon atoms.

3,341,569

PRODUCTION OF BIARYL COMPOUNDS THROUGH FREE RADICAL REACTION WHEREIN THE FREE RADICAL SOURCE IS AN AROMATIC CARBOXYLIC ACID

William H. Starnes, Jr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
No Drawing. Filed Oct. 1, 1962, Ser. No. 227,551
15 Claims. (Cl. 260-469)

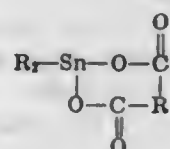
1. A method of carrying out a liquid phase, free-radical reaction wherein the free radical is generated from an aromatic carboxylic acid free of readily oxidizable substituents which comprises continuously adding oxygen and a free-radical initiator over the course of the reaction to a reaction mixture containing said aromatic carboxylic acid, a coreactant solvent, and a cobalt catalyst, whereby said initiator is maintained in said liquid phase in a concentration of at least 0.01 weight percent, and wherein said free-radical initiator is chosen from the group consisting of organic peroxides and peracids, said coreactant solvent is chosen from the group consisting of benzene, chlorobenzene, the isomeric dichlorobenzenes, nitrobenzene, *t*-butylbenzene and methyl benzoate, and said cobalt catalyst is chosen from the group consisting of cobalt naphthenate, cobalt stearate, cobalt octoate, and cobalt acetylacetonate.

3,341,570

ESTERIFICATION IN THE PRESENCE OF THE CATALYST COMBINATIONS—TIN DIBASIC ACID CARBOXYLATES AND EITHER SULFURIC, BENZENESULFONIC OR TOLUENE SULFONIC ACID

Walter P. Barie, Jr., Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Apr. 1, 1963, Ser. No. 269,744
8 Claims. (Cl. 260-475)

1. A process for the production of a monomeric ester having improved color which comprises contacting an aromatic organic acid reactant having between 1 and 4 carboxyl groups per molecule with a saturated unsubstituted aliphatic alcohol reactant having between 4 and 37 carbon atoms per molecule and wherein at least one of the two reactants is monofunctional under esterification conditions in the presence of a strong acid catalyst selected from the group consisting of sulfuric acid, benzene sulfonic acid and paratoluene sulfonic acid wherein said strong acid catalyst has a hydrogen ion concentration equivalent to sulfuric acid having an H_2SO_4 content of at least 80 percent and a tin dibasic acid carboxylate having the general formula:



where R is selected from the group consisting of an acyclic saturated or olefinically unsaturated hydrocarbon radical having between 1 and 18 carbon atoms; phenyl or a monocyclic alkaryl radical having between 6 and 18 carbon atoms when R' is a divalent saturated or olefinically unsaturated hydrocarbon radical having from 1 to 18 carbon atoms, and where R is selected from the group consisting of an acyclic saturated or olefinically

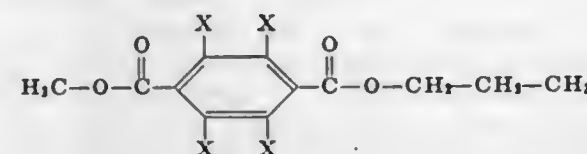
unsaturated hydrocarbon radical having between 1 and 18 carbon atoms when R' is phenylene.

3,341,571

METHYL-N-PROPYL TETRAHALO-TEREPHTHALATES

Sidney B. Richter, Chicago, and Alfred A. Levin, Skokie, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,654
4 Claims. (Cl. 260-475)

1. A compound of the formula



wherein X is halogen.

3,341,572

BASIC THYMOL N-ETHYL-N-BETAHALOETHYL-AMINOETHYL ETHERS

Hermann Engelhard, Göttingen, Gerhard Renwanz, Berlin-Tegel, Karl Credner, Berlin-Frohnau, and Berthold Gelsel, Berlin-Spandau, Germany, assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed May 26, 1965, Ser. No. 461,225
6 Claims. (Cl. 260-479)

2. (4-acetoxymethyl) - (N-ethyl - N - β - chlorethyl-aminoethyl) ether monohydrochloride.

3. (4-chloromethyl) - (N-ethyl - N - β - chlorethyl-aminoethyl) ether monohydrochloride.

4. (4-bromomethyl) - (N-ethyl - N - β - chlorethyl-aminoethyl) ether monohydrochloride.

3,341,573

POLYAMIDE ESTERS FOR HYDRAULIC FLUIDS AND METHOD OF MAKING THE SAME

William J. Shibe, Jr., Riverton, N.J., assignor to R. M. Hollingshead Corporation, Camden, N.J., a corporation of New Jersey
No Drawing. Filed June 5, 1963, Ser. No. 285,585
4 Claims. (Cl. 260-482)

1. A polyamide ester prepared by the process of contacting and reacting approximately equi-molar portions of ingredients (1) and (2), wherein ingredient (1) is a polyglycol amine having a formula selected from the group consisting of $\text{NH}_2(\text{CH}_2\text{CH}_2\text{O})_m\text{H}$ where m is an integer from 2 to 45 and $\text{NH}_2[(\text{CH}_2\text{CH}(\text{CH}_3)\text{O})_m\text{H}]$ where m is an integer from 2 to 45, and ingredient (2) is a dibasic acid selected from the group consisting of acids of the formula $\text{HOOC}(\text{CH}_2)_n\text{COOH}$ where n is an integer from 1 to 10, phthalic, isophthalic, pyromellitic and bicyclo (2,2,1) heptane 5-dicarboxylic acids, and the anhydrides of all said acids.

3,341,574

DI-(NEOPENTYLGLYCOL MONONEOHEPTANOATE)AZELATE

Wallace E. Taylor, Hubert H. Thigpen, and Enrique R. Witt, Corpus Christi, Tex., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Filed Sept. 18, 1964, Ser. No. 397,635
1 Claim. (Cl. 260-485)

Di-(neopentylglycol mononeoheptanoate)azelate.

3,341,575

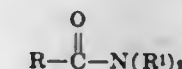
PREPARATION OF ESTERS FROM ALKYL CHLORIDES AND CARBOXYLIC ACID SALTS IN THE PRESENCE OF AMIDE SOLVENT AND A SOLUBLE IODIDE COMPOUND

William L. Fierce, Crystal Lake, Ill., and Roger L. Weichman, Orono, Maine, assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,316
16 Claims. (Cl. 260-493)

1. The process of producing an ester of an organic acid which comprises reacting a salt of an organic acid having the formula



wherein R^5 is a member of the group consisting of C_1 to C_{20} alkyl, C_6 to C_{18} aryl, C_3 to C_7 cycloalkyl, C_1 to C_{20} alkyl-substituted C_6 to C_{18} aryl, and C_6 to C_{18} aryl-substituted C_1 to C_{20} alkyl; M is a member of the group consisting of ammonium and a Group I metal and n is an integer from 1 to 4, with a normal alkyl chloride of the group consisting of alkyl chlorides having 1 to 20 carbon atoms per molecule and alkylene dichlorides having 3 to 20 carbon atoms per molecule, at a temperature of at least about 100° C. in a solvent comprising a normally liquid stable amide of a carboxylic acid, having the formula



wherein R is a substituent of the group consisting of hydrogen and C_1 to C_4 alkyl, R' is a substituent of the group consisting of hydrogen and C_1 to C_4 alkyl and at least one R' is C_1 to C_4 alkyl, in the presence of a catalytic amount of a soluble compound of iodine selected from the group consisting of alkali metal iodides, ammonium iodide, normal alkyl iodides having 1 to 10 carbon atoms per molecule and branched-chain alkyl iodides having 3 to 10 carbon atoms per molecule and mixtures thereof.

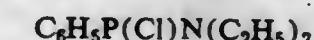
3,341,576

PREPARATION OF BENZENE 1,4-BIS(PHENYLPHOSPHINIC ACID)

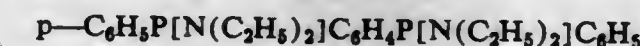
David L. Herring, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed July 17, 1963, Ser. No. 295,854
1 Claim. (Cl. 260-500)

The synthesis of benzene 1,4-bis(phenyl phosphinic acid) which comprises:

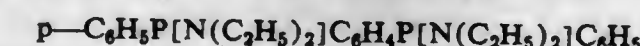
(a) slowly adding two molar quantities of



to a pentane-hexane slurry of one molar quantity of *p*-dilithiobenzene and heating the resulting mixture at 50-55° C. to form a liquid reaction product which is freed from both insoluble starting materials and insoluble reaction by-products by filtration and extraction of any solid materials with boiling *n*-hexane, then fractionally distilling the combined filtrate and extract to recover the compound



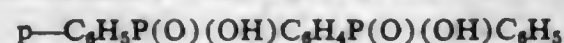
(b) reacting said recovered compound



with dilute HCl followed by reaction with 30% H_2O_2 at 25-100° C. to form a water insoluble, cream colored, crude acid,

(c) purifying said crude acid by recrystallization from

a member of the group consisting of ethanol and nitrobenzene to yield a pure product of the formula



having a melting point of 330–333° C.

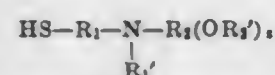
3,341,577

MERCAPTO OXYALKYL AMINES

John C. James, Melrose, Robert J. Wineman, Concord, and Morton H. Gollis, Brookline, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 28, 1962, Ser. No. 176,409
7 Claims. (Cl. 260–501)

1. Compounds selected from the class consisting of acyclic mercaptoalkyl oxyalkyl amines of the formula



where each R is saturated aliphatic hydrocarbon, each R' is selected from the class consisting of hydrogen and saturated aliphatic hydrocarbon, and x is an integer of from 1 to 3, and N is separated from other hetero atoms by at least two carbon atoms; and acid addition salts of said amines with protonic acids; where each of said saturated aliphatic hydrocarbon radicals contains up to 18 carbon atoms.

3,341,578

PREPARATION OF SUCCINIC ACID

James F. Vitche, New Providence, N.J., and Lester Weintraub, Bronx, N.Y., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 30, 1963, Ser. No. 319,971
7 Claims. (Cl. 260–537)

1. A method of making succinic acid which comprises reacting acrylic acid and carbon monoxide at superatmospheric pressure and at a temperature of at most the boiling point of acrylic acid in the presence of oleum, the carbon monoxide being in at least stoichiometric quantity with respect to the acrylic acid, and hydrating the resultant reaction product.

3,341,579

PREPARATION OF ACETIC ACID AND ALKYL CHLORIDES FROM ESTER-ALCOHOL MIXTURES

Gerhard Künstle and Herbert Siegl, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a corporation of Germany

Filed Mar. 11, 1965, Ser. No. 438,968
Claims priority, application Germany, Mar. 13, 1964, W 36,389; Dec. 7, 1964, W 38,094
10 Claims. (Cl. 260–541)

1. Method of processing ester-alcohol mixtures selected from the group consisting of methyl acetate-methanol and ethyl acetate-ethanol, which comprises subjecting said ester-alcohol mixture to the action of hydrogen chloride at a temperature up to 100° C. in a reaction zone consisting essentially of large-surface filler bodies containing a cation exchanger, withdrawing any excess formed hydrochloric acid from the lower portion of said reaction zone, continuously withdrawing the reaction mixture free of hydrochloric acid from the upper portion of said reaction zone in vapor form, splitting said reaction mixture in the presence of water and a cation exchanger into alkyl chloride and an aqueous alcohol-acid mixture, removing the resulting reaction water containing acetic acid from said last-mentioned mixture, and circulating the remaining alcohol to said reaction zone.

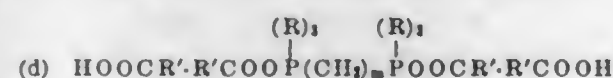
3,341,580

TETRAHYDROCARBYL PHOSPHONIUM ACID CARBOXYLATES

Ingenuin Hechenbleikner, Kenwood, Ohio, assignor to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Filed June 21, 1965, Ser. No. 465,746
19 Claims. (Cl. 260–541)

1. A compound having a formula selected from the group consisting of (a) $\text{R}_4\text{P}^+\text{OOCR}'\text{R}'\text{COOH}$; (b) $\text{R}_4\text{P}^+\text{OOC}(\text{CH}_2)_n\text{COOH}$; (c) $\text{R}_4\text{P}^+\text{OOCCH}=\text{CHCOOH}$; and



where R is a hydrocarbon group selected from the group consisting of alkyl, alkenyl, phenyl, methylphenyl, naphthyl, benzyl, dimethyl phenyl, ethylphenyl and phenyl ethyl, R' is selected from the group consisting of hydrogen alkyl up to 17 carbon atoms, phenyl, alkenyl of 2 to 17 carbon atoms, and styryl n is selected from the group consisting of 0 and a positive integer up to 10 and m is a positive integer of from 1 to 10.

3,341,581

MANUFACTURE OF MONOFLUOROACETYL FLUORIDE

Kaoru Kato, Toyonaka-shi, and Tooru Akiyama, Osaka-fu, Japan, assignors to Dalkin Kogyo Kabushiki Kaisha, Osaka-shi, Japan

Filed Mar. 15, 1965, Ser. No. 439,585
Claims priority, application Japan, Mar. 18, 1964, 39/15,132
6 Claims. (Cl. 260–544)

1. A process for manufacturing monofluoroacetyl fluoride comprising contacting acetyl fluoride with fluorine in the ratio of at least 3 moles of acetyl fluoride on the basis of 1 mole of fluorine in gas phase at a temperature of from 20° to 300° C.

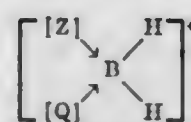
3,341,582

NOVEL BORON SALTS

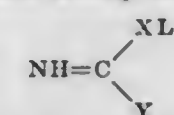
Stanley Frank Stafiej, Springdale, and Edward Andrew Takacs, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 9, 1964, Ser. No. 351,584
4 Claims. (Cl. 260–551)

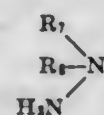
1. A salt of



wherein [Q] is a ligand having the structure



wherein X is selected from the group consisting of oxygen and sulfur, L is selected from the group consisting of a lower alkyl radical and an aryl radical having from 6–12 carbon atoms, inclusive, and Y is selected from the group consisting of a lower alkyl radical and a nitrile or chloro substituted lower alkyl radical and wherein [Z] is a ligand selected from the group consisting of (1) a tertiary amine free of aliphatic unsaturation, (2) [Q], as previously defined, (3) a hydrazine having the formula



wherein R₇ and R₈ are each an organic substituent free of aliphatic unsaturation and (4) a tertiary phosphine free of aliphatic unsaturation.

3,341,583

SYNTHESIS OF SYMMETRICAL UREAS

John E. Anderson, Clyde E. Parish, and George H. Ross, Houston, Tex., assignors to Signal Oil and Gas Company, Los Angeles, Calif.

No Drawing. Filed May 4, 1964, Ser. No. 364,754
13 Claims. (Cl. 260–553)

1. An improved method of preparing ureas comprising treating an adduct consisting of carbonyl sulfide and a nitrogen compound selected from the group consisting of ammonia, a primary amine and a secondary amine, said adduct having a molecular ratio of carbonyl sulfide to nitrogen compound of 1:2, in an inert liquid medium with molecular oxygen and from about 1–5% by weight of said adduct of an inorganic salt of a metal which readily undergoes a change in valence at a temperature below the heat decomposition temperature of said adduct, said temperature being not more than about 60° C.

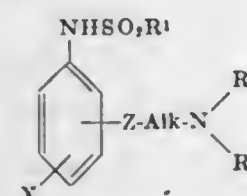
3,341,584

ANILIDES

Aubrey A. Larsen and Robert H. Uloth, Evansville, Ind., assignors to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana

No Drawing. Filed Mar. 11, 1965, Ser. No. 439,086
28 Claims. (Cl. 260–556)

1. A compound selected from the group consisting of (a) the substance of Formula I



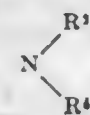
wherein

X is selected from the group consisting of hydrogen, hydroxy, amino, lower alkoxy, benzyloxy, halogen, lower alkyl, and R²SO₂NH—

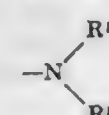
R¹ and R² are selected from the group consisting of lower alkyl, phenyl, lower alkyl phenyl, halophenyl, lower alkoxy phenyl, and benzyloxy-phenyl,

Z is selected from the group consisting of >C=O and >CHOH,

Alk is an alkylene group having 1 to 4 carbon atoms joining Z and



through from 1 to 2 carbon atoms,



is a nitrogen heterocycle bonded through the nitrogen atom thereof including heteromonocyclic containing up to 7 carbon atoms and heterobicyclic containing up to 11 carbon atoms and up to one additional heteroatom selected from the group of nitrogen, oxygen and sulfur, or an amino, wherein

R⁴ is selected from the group consisting of hydrogen, lower alkyl, and benzyl, and

R⁵ is selected from the group consisting of hydrogen, alkyl, alkenyl, cycloalkyl, cycloalkenyl, cycloalkyl-alkyl, cycloalkenylalkyl, bicycloalkyl, tricycloalkyl, bicycloalkenyl, bicycloalkylalkyl, bicycloalkenylalkyl, aryl, phenylalkyl, phenylalkenyl, phenoxyalkyl, heteromonocyclic, heteromonocycloalkyl, and heterobicyclic each containing up to 10 carbon atoms and having up to two substituents selected from the group consisting of hydroxyl, carboxyl, amino, lower alkoxy, benzyloxy, halogen, lower alkyl, methylenedioxy, and R²SO₂NH

each of said heteromonocyclic, heteromonocycloalkyl and heterobicyclic containing a nitrogen atom and up to one additional heteroatom selected from the group of oxygen, nitrogen and sulfur, and wherein each of said lower alkyl and lower alkoxy groups has up to 4 carbon atoms, (b) the acid addition salt of (a), and the metal salt of (a).

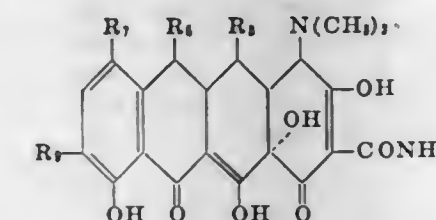
3,341,585

SUBSTITUTED 7- AND/OR 9-AMINO-6-DEOXYTETRACYCLINES

Panayota Bitha, New York, Joseph John Hlavka, Tuxedo, and Michael Joseph Martell, Jr., Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,158
10 Claims. (Cl. 260–559)

1. A compound selected from the group consisting of 6-deoxytetracyclines of the formula:



wherein R₅ is selected from the group consisting of hydrogen, α-hydroxy and β-hydroxy, R₆ is selected from the group consisting of α-methyl and β-methyl, and R₇ and R₈ are each selected from the group consisting of hydrogen, mono(lower alkyl)amino and di(lower alkyl)amino with the proviso that R₇ and R₈ cannot both be hydrogen, and with the further proviso that when R₅ is hydrogen then R₆ is α-methyl; and the non-toxic acid-addition salts thereof.

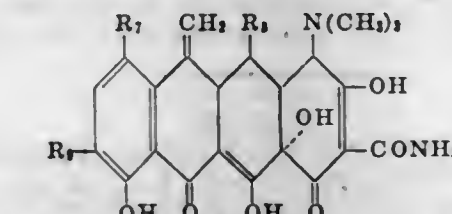
3,341,586

SUBSTITUTED 7- AND/OR 9-AMINO-6-METHYLENETETRACYCLINES

Panayota Bitha, New York, Joseph John Hlavka, Tuxedo, and Michael Joseph Martell, Jr., Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,232
10 Claims. (Cl. 260–559)

1. A compound selected from the group consisting of 6-methylenetetracyclines of the formula:



wherein R₅ is selected from the group consisting of hydrogen, α-hydroxy and β-hydroxy, and R₇ and R₈ are each selected from the group consisting of hydrogen, mono(lower alkyl)amino and di(lower alkyl)amino with the proviso that R₇ and R₈ cannot both be hydrogen; and the non-toxic acid-addition salts thereof.

3,341,587

PROCESS FOR THE PREPARATION OF N-ACETYL-P-AMINOPHENOL (APAP)

Bernard F. Duesel, Yonkers, and Godfrey Wilbert, Carmel, N.Y., assignors to Nepera Chemical Co., Inc.

No Drawing. Filed Oct. 15, 1964, Ser. No. 404,150
6 Claims. (Cl. 260–562)

1. A process for the preparation of N-acetyl-p-aminophenol consisting essentially of:

(A) reducing a member of the group consisting of p-nitrophenol and p-nitrosophenol at a temperature

- in the range of about 70° C. to about 100° C. with gaseous hydrogen in an acetic anhydride reaction medium containing a hydrogenation catalyst,
- (B) adding acetic anhydride to the reaction medium after the reduction of step (A),
- (C) reheating the system to a temperature in the range of about 70° C. to about 100° C.,
- (D) filtering the reaction medium to recover the catalyst, and
- (E) cooling the filtrate whereby N-acetyl-p-aminophenol crystallizes therefrom.

3,341,588

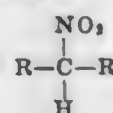
PROCESS FOR PREPARING OXIMES

Lawrence R. Jones, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed July 6, 1965, Ser. No. 469,918

7 Claims. (Cl. 260—566)

1. A process for the production of oximes which consists essentially of reacting a water-soluble alkali metal salt of a nitroparaffin with formic acid, the said nitroparaffin having the formula



wherein R is an alkyl radical having from 1 up to 3 carbon atoms, at a temperature in the range of about 15 to about 100° C.

3,341,589

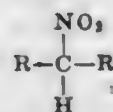
PROCESS FOR PREPARING OXIMES

Lawrence R. Jones, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed July 6, 1965, Ser. No. 469,928

6 Claims. (Cl. 260—566)

1. A process for the production of oximes which comprises reacting a water-soluble alkali metal salt of a nitroparaffin with oxalic acid, the said nitroparaffin having the formula



wherein R is an alkyl radical having from 1 up to about 3 carbon atoms, at a temperature in the range of about 15 to about 100° C. in the presence of an inert solvent.

3,341,590

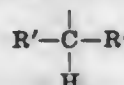
PROCESS FOR PREPARING OXIMES

Lawrence R. Jones, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

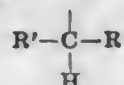
No Drawing. Filed July 6, 1965, Ser. No. 469,929

8 Claims. (Cl. 260—566)

1. A process for the production of oximes which comprises providing a sulfuric acid solution of a nitroparaffin of the formula $\text{R}-\text{NO}_2$ wherein R is a radical selected from the group consisting of cyclohexyl and



wherein R' is a lower alkyl radical and passing carbon monoxide into the said solution thereby producing oximes of the formula $\text{R}=\text{NOH}$ wherein R is a radical selected from the group consisting of cyclohexyl and



wherein R' is a lower alkyl radical.

3,341,591

1-(o-CHLOROPHENYL)- AND 1-(o,p-DICHLORO-PHENYL)-2-HYDRAZINOPROPANES

Edward L. Schumann, Kalamazoo Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,542

4 Claims. (Cl. 260—569)

1. 1-(o-chlorophenyl)-2-hydrazinopropane.

3,341,592

2-AMINO-2'-TRIFLUOROMETHYL-BENZO-PHENONES

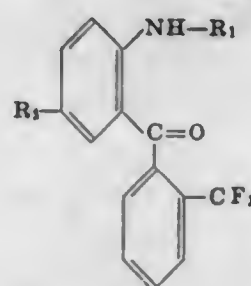
Leo Henryk Sternbach, Upper Montclair, N.J., and Gabriel Saucy, Riehen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 23, 1962, Ser. No. 182,134

Claims priority, application Switzerland, Dec. 2, 1960, 13,490/60, 13,492/60, 13,493/60, 13,494/60, and 13,495/60

3 Claims. (Cl. 260—570)

1. A benzophenone of the formula



wherein R₁ is chosen from the group consisting of hydrogen and lower alkyl and R₂ is chosen from the group consisting of halogen and nitro.

3,341,593

1-p-HYDROXYPHENYL - 2 - (β - 3',5' - DIHYDROXY-PHENYL - β - HYDROXY) - ETHYLAMINO-PROPANES

Karl Zelle, Otto Thomä, and Anton Mentrup, Ingelheim, Rhine, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany, a corporation of Germany

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,398

Claims priority, application Germany, Nov. 30, 1962, B 69,820

3 Claims. (Cl. 260—570.6)

1. A compound selected from the group consisting of 1-p-hydroxyphenyl-2-(β-3',5'-dihydroxyphenyl-β-hydroxy)-ethylamino-propane, its stereoisomers, its racemates, its optical antipodes and nontoxic, pharmacologically acceptable acid addition salts of said racemates, stereoisomers and optical antipodes.

3,341,594

1 - (3,5 - DIHYDROXY - PHENYL) - 1 - HYDROXY-2 - ISOPROPYLAMINO - ETHANE AND SALTS THEREOF

Otto Thoma and Karl Zelle, Ingelheim am Rhine, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany, a corporation of Germany

No Drawing. Filed Feb. 3, 1964, Ser. No. 342,290

Claims priority, application Germany, Feb. 15, 1960, B 56,662

2 Claims. (Cl. 260—570.6)

1. A compound selected from the group consisting of 1-(3,5-dihydroxyphenyl)-1-hydroxy-2-isopropylamino-ethane and its non-toxic, pharmacologically acceptable acid addition salts.

3,341,595

PREPARATION OF 3-CHLORO-4-TOLUIDINE

Arthur Albert Doering, Bound Brook, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,905

6 Claims. (Cl. 260—580)

1. A process for the preparation of 3-chloro-4-toluidine comprising:
- (a) chlorinating 4-nitrotoluene with elementary chlorine in the presence of a chlorination catalyst until the reaction has produced conversion of said 4-nitrotoluene to 2-chloro-4-nitrotoluene with a minimum amount of contamination by unreacted 4-nitrotoluene and dichloronitrotoluene;
- (b) stopping the reaction when such conversion has been achieved and washing the product substantially free of inorganic materials to leave an organic component containing 85% to 98% 2-chloro-4-nitrotoluene;
- (c) reducing said organic component to convert the 2-chloro-4-nitrotoluene therein to 3-chloro-4-toluidine; and
- (d) recovering substantially pure 3-chloro-4-toluidine therefrom.

3,341,596

METHOD FOR MAKING DIFLUOROAMINO COMPOUNDS

Richard P. Rhodes, Newark, and Leland K. Beach, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 27, 1960, Ser. No. 5,072

7 Claims. (Cl. 260—583)

1. Process for making a difluoroamino compound having an NF₂ group attached to each carbon atom in the compound, which comprises reacting an allyl halide with tetrafluorohydrazine at a reaction temperature in the range of about minus 50° to 350° C. and for a period such that an NF₂ group is substituted for an allylic halogen constituent of said allyl halide to form an allyl difluoroamine, separating the resulting allyl difluoroamine from the resulting reaction mixture, and reacting the separated allyl difluoroamine with additional tetrafluorohydrazine at a temperature in the range of about room temperature to 350° C. for sufficient time and in sufficient proportion to attach NF₂ groups to double bonded carbon atoms in said allyl difluoroamine.

3,341,597

PURIFICATION OF SATURATED ALIPHATIC DIFLUOROAMINO COMPOUNDS

Richard P. Rhodes, Newark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed June 22, 1960, Ser. No. 38,071

7 Claims. (Cl. 260—583)

1. Process for purifying a saturated aliphatic difluoroamino organic compound of 2 to 6 carbon atoms per molecule having an NF₂ group attached to each carbon atom to remove therefrom an unsaturated aliphatic difluoroamino organic compound as an impurity in a mixture with said saturated compound, which comprises contacting said mixture of difluoroamino compounds with sulfuric acid of at least 85 wt. percent sulfuric acid concentration in a mixing zone wherein the sulfuric acid selectively reacts with impurities including the unsaturated compound and extracts said impurities and their decomposition product but leaves said saturated compound unextracted and undecomposed in a liquid raffinate phase, and recovering the thus purified saturated aliphatic difluoroamino organic compound in the raffinate phase by separation from the acid and its extract.

3,341,598

NF₂ ADDUCTS OF ACYCLIC POLYENES AND THEIR PREPARATION

Richard P. Rhodes, Newark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 21, 1960, Ser. No. 77,461

15 Claims. (Cl. 260—583)

1. Bis (NF₂) adduct of an acrylic hydrocarbon polyene containing 5 to 10 carbon atoms and 2 to 4 conjugated double bonds in the polyene molecule.

3,341,599

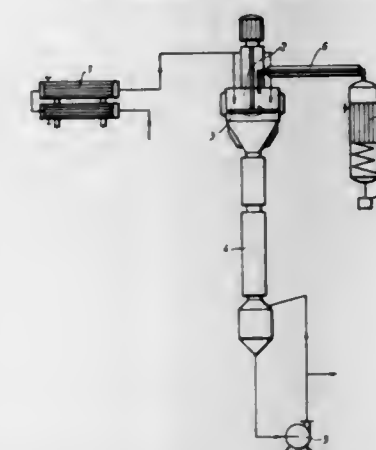
PURIFICATION OF POLYETHERS

Heinrich Bormann and Herbert Nordt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed July 1, 1964, Ser. No. 379,539

Claims priority, application Germany, July 11, 1963, F 40,206

8 Claims. (Cl. 260—584)



1. A method of purifying a polyhydric polyoxyalkylene ether prepared by the reaction of a compound containing active hydrogen selected from the group consisting of polyhydric alcohols, amines, phenols, and water, with an alkylene oxide in the presence of an alkalimetal hydroxide, which comprises neutralizing the alkali metal hydroxide with an aqueous solution of a mineral acid to prepare an emulsion containing polyether and mineral acid salt, removing water from said emulsion until a residual water content of from about 0.5 to about 3% by weight based on the total weight of the emulsion is formed, mechanically removing the mineral acid salts precipitated thereby and finally removing substantially the balance of the water.

3,341,600

PURIFICATION OF DIAMINE

Thomas H. Cour and Herbert G. Muhlbauer, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,732

3 Claims. (Cl. 260—584)

1. In a method for recovering high purity N-aminoethylethanolamine by distillation from a crude reaction mixture comprising N-aminoethylethanolamine, monoethanolamine, N-hydroxyethylpiperazine and N-aminoethylpiperazine and wherein a crude distillate fraction is obtained which contains a major amount of N-aminoethylethanolamine, at least 0.1 mol percent of N-hydroxyethylpiperazine and not more than about 15 mol percent of N-aminoethylpiperazine, the improvement which comprises:
- (A) adjusting the N-aminoethylpiperazine of said crude fraction to a concentration of at least about 20 wt. percent,
- (B) fractionally distilling said thus-modified crude fraction to obtain a
- (C) N-aminoethylpiperazine distillate fraction con-

taining substantially all of the said N-hydroxyethyl-piperazine, and
(D) a higher boiling purified N-aminoethylethanolamine distillate fraction.

3,341,601

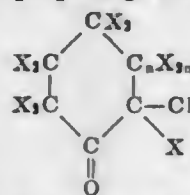
PREPARATION OF DIELS-ALDER ADDUCTS
Joseph Kern Mertzweiler, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 25, 1962, Ser. No. 189,990
12 Claims. (Cl. 260—586)

1. A process for directly producing a Diels-Alder adduct which comprises contacting a liquid reaction mixture containing a C₄-C₁₀ conjugated diene and a C₂ to C₁₀ saturated aliphatic carbonyl compound having at least two alpha hydrogen atoms with an aldo condensation-dehydration catalyst comprising an aliphatic carboxylic acid salt of a metal selected from the group consisting of magnesium, calcium, zinc, strontium, iron and cobalt at a temperature between 100° and 250° C.

3,341,602

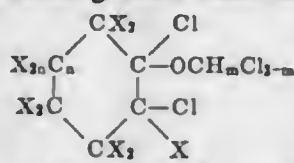
PREPARATION OF HALOGENATED KETONES
Louis G. Anello, Basking Ridge, and Richard F. Sweeney, Randolph Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 10, 1965, Ser. No. 431,706
28 Claims. (Cl. 260—586)

1. The process for preparing a ketone of the formula:



wherein X may be F or Cl and n may be 0 or 1, there being at least one fluorine atom present in the molecule;

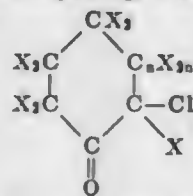
which comprises reacting, at temperatures of at least about 120° C., a starting ether material of the formula:



wherein X and n are as defined above and m may be 1 or 2, there being at least one fluorine atom present in the molecule,

and a cleaving agent selected from the group consisting of H₂SO₄ of at least 60% concentration, oleum, SO₃ and mixtures thereof, and recovering the ketone produced in the reaction.

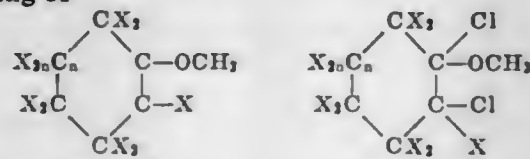
5. The process for preparing a ketone of the formula:



wherein X may be F or Cl and n may be 0 or 1, there being at least one fluorine atom present in the molecule,

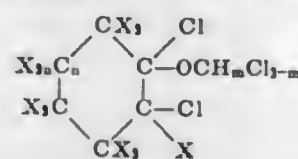
which comprises:

(a) chlorinating, at temperatures below about 25° C., a starting ether material selected from the group consisting of



and mixtures thereof,

wherein X and n are as defined above, in the presence of actinic radiation for a period of time sufficient to substantially convert the starting ether material to a reaction product containing an intermediate ether material of the formula:



wherein X and n are as defined above and m may be 1 or 2, there being at least one fluorine atom present in the molecule,

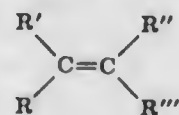
(b) reacting, at temperatures of at least about 120° C., the reaction product containing the intermediate ether and a cleaving agent selected from the group consisting of H₂SO₄ of at least 60% concentration, oleum, SO₃ and mixtures thereof, and

(c) recovering the ketone produced in the reaction.

3,341,603

CATALYTIC OXIDATION OF COMPOUNDS CONTAINING AN OLEFINIC GROUP
Wilbur K. Leaman, Medford Lakes, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Jan. 14, 1963, Ser. No. 251,045
7 Claims. (Cl. 260—592)

1. A process for catalytically converting an olefin characterized by the formula:



where R and R' are hydrocarbon substituents selected from the group consisting of alkyl radicals having from 1 to 18 carbon atoms and aryl radicals containing from 6 to 20 carbon atoms, and R'' and R''' are substituents selected from the group consisting of hydrogen, R and R', as above defined, to a ketone which comprises contacting said olefin with a solid porous catalyst, having air initially absorbed in the pores thereof, consisting essentially of a material selected from crystalline alkali metal and alkaline earth metal aluminosilicates having rigid three-dimensional networks made up of unit cells characterized by the substantial absence of change in unit cell dimensions upon dehydration and rehydration and a uniform molecular sieve structure characterized by pores having an effective diameter within the approximate range of 7 to 13 Angstrom units.

3,341,604

COLOR STABLE KETONE SOLVENT COMPOSITION

Joseph R. Quelly, Fanwood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 28, 1963, Ser. No. 254,500
4 Claims. (Cl. 260—593)

1. A dialkyl ketone of 3 to 8 carbon atoms stabilized with 0.0001 to 0.5 wt. percent of ascorbic acid.

3,341,605

PREPARATION OF METHYLENE BIS(TRIHYDRO-CARBYPHOSPHONIUM) TETRAHALIDES

Daniel W. Grisley, Jr., Kirkwood, Mo., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 13, 1964, Ser. No. 411,139
4 Claims. (Cl. 260—606.5)

1. A method of making a methylenebis(trihydrocarbylphosphonium) tetrahalide comprising heating a trihydrocarbylphosphine with a (halomethyl)trihydrocarbylphos-

phonium halide, wherein each said hydrocarbyl is free of aliphatic unsaturation and contains up to 18 carbon atoms, and each halogen is halogen of atomic weight below 130.

3,341,606

PROCESS FOR PRODUCING VINYL ETHERS
Henry O. Mottern, Far Hills, N.J., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,342
6 Claims. (Cl. 260—614)

1. The process for preparing vinyl ethers which consists of reacting calcium carbide with an alkanol containing up to 18 carbon atoms at a temperature between about 70° C. and 350° C. thereby forming the vinyl ether of said alcohol, and recovering said vinyl ether.

3,341,607

PROCESS FOR SEPARATION OF MONO-TERTIARY-BUTYLATED CRESOLS

Gerd Leston, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,352
5 Claims. (Cl. 260—624)

3. Process for separating 2-t-butyl-5-methylphenol from a mixture of 2-t-butyl-5-methylphenol and 2-t-butyl-4-methylphenol comprising:

adding 1,4-dioxane to said mixture to form a solid complex comprised mainly of 2-t-butyl-5-methylphenol and 1,4-dioxane, separating said solid complex from said mixture, decomposing said solid complex to give 2-t-butyl-5-methylphenol and 1,4-dioxane, and recovering substantially pure 2-t-butyl-5-methylphenol therefrom.

3,341,608

FLUORINATED NITRO ALCOHOLS AND PROCESS

Murray Hauptschein, Glenside, and Robert E. Oesterling, Flourtown, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 2, 1961, Ser. No. 128,646
6 Claims. (Cl. 260—633)

2. Fluorine containing nitro alcohols having the formula RCH(OH)CF₂NO₂ in which R is a radical having from 1 to 20 carbon atoms selected from the group consisting of perfluoroalkyl, chlorofluoroalkyl, and R' (CH₂CF₂)_n where R' is selected from the group consisting of perfluoroalkyl and chlorofluoroalkyl and n is an integer from 1 to 8, said nitro alcohols being strongly resistant to dehydration, to etherification and to cleavage at the terminal nitrobearing carbon in the presence of strong acids and bases.

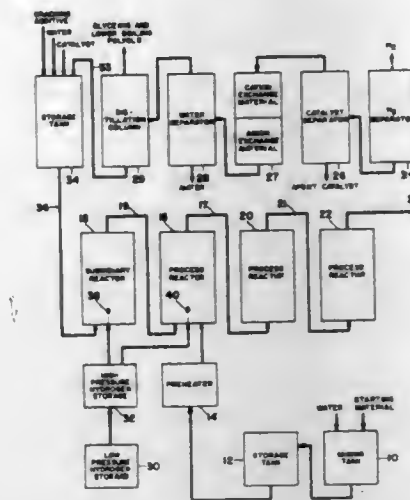
3,341,609

DUAL FEED HYDROGENOLYSIS PROCESS FOR GLYCERIN AND GLYCOLS USING FEED OF REDUCIBLE SUGAR WITH HYDROGENOLYSED RESIDUE OF PROCESS

Leo Kasehagen, West Chester, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
Filed July 20, 1962, Ser. No. 211,219
10 Claims. (Cl. 260—635)

1. A process for the continuous hydrogenolysis of a reducible sugar which comprises the steps of reacting a carbohydrate hydrogenolysis process residue depleted of glycerin and glycols with hydrogen in the presence of a cracking additive and a hydrogenation catalyst to form a first hydrogenolysis product, mixing the said product with a feed of reducible sugar and reacting the formed mixture with hydrogen in

presence of a cracking additive and a hydrogenation catalyst to form a second hydrogenolysis product, and



separating glycerin and glycols from the latter product leaving another carbohydrate hydrogenolysis process residue.

3,341,610

HYDROGENATION OF ALPHA,BETA-UNSATURATED ALDEHYDES

Andrew P. Dunlop, Riverside, Donald G. Manly, Barrington, and Fred J. Rice, Jr., Carpentersville, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,528
6 Claims. (Cl. 260—638)

4. A single pass process for producing a saturated alcohol comprising contacting an aldehyde in the vapor phase with hydrogen in the presence of a reduced copper oxide (CuO)-chromium oxide (Cr₂O₃) catalyst having a ratio by weight of copper oxide (CuO) to chromium oxide (Cr₂O₃) of less than 5:1 and more than 1.25:1 prior to reduction, the molar ratio of hydrogen to aldehyde being between 6:1 and 125:1, said aldehyde having the general formula



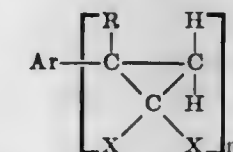
wherein R is a member selected from the group consisting of methyl, ethyl, and n-propyl, and R' is a member selected from the group consisting of hydrogen, methyl, and ethyl, said contacting being at a temperature between 125° C. and 215° C. and at a pressure between 1 and 3 atmospheres.

3,341,611

AROMATIC DICHLOROCYCLOPROPANES

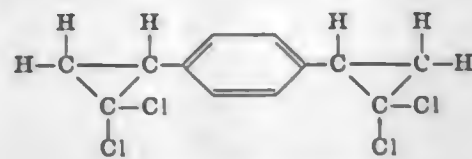
Ivan C. Popoff, Ambler, and Bernard Loev, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application Mar. 28, 1958, Ser. No. 724,527. Divided and this application Sept. 20, 1965, Ser. No. 505,421
2 Claims. (Cl. 260—650)

1. An aromatic dichlorocyclopropane having the formula



wherein Ar is an aromatic hydrocarbon radical whose valence corresponds to the value of n selected from the class consisting of the divalent phenylene radical, and aromatic hydrocarbons containing fused rings, R is hydrogen, X is chlorine, and n is 2 when Ar is a phenylene radical and n is 1 when Ar is a fused ring.

2. p-Di-(2,2-dichlorocyclopropyl) benzene having the formula



3,341,612
METHOD FOR SYNTHESIZING VICINAL DICHLORIDES

Charles H. Hayes, Anaheim, Frederick F. Caserio, Jr., Laguna Beach, and Robert Y. Mixer, Orange, Calif., assignors to Atlantic Richfield Company, a corporation of Pennsylvania

Filed May 20, 1964, Ser. No. 368,941
13 Claims. (Cl. 260-659)

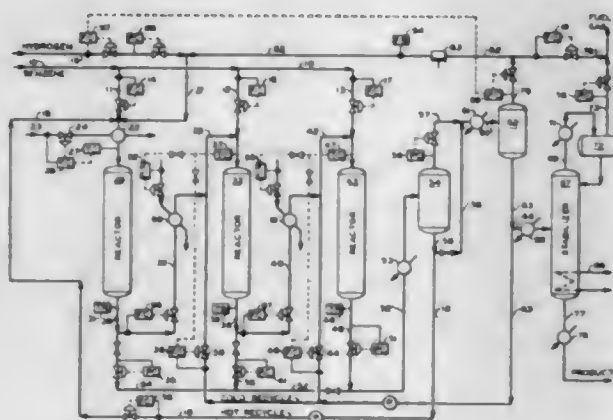
1. A method for making vicinal dichlorides which comprises:

reacting a reaction mixture consisting essentially of an aliphatic olefin containing at least one non-conjugated double bond and a chloride of a polyvalent metal in the oxidized state selected from the group consisting of cupric chloride and ferric chloride, in a liquid organic nitrile represented by the formula RCN, where R is selected from the group consisting of lower alkyls and phenyl, at a temperature between about 80 and 200° C. and at a pressure between about 50 and 500 p.s.i.g.

3,341,613
METHOD FOR PRODUCTION OF CYCLOHEXANE BY THE HYDROGENATION OF BENZENE

Paul D. Hann, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 30, 1964, Ser. No. 407,667
10 Claims. (Cl. 260-667)



1. A process for the production of cyclohexane, which process comprises, in combination, the steps of:

- dividing a feed stream comprising benzene into a plurality of substantially equal individual portions;
- combining a first said individual portion of said benzene feed stream with an excess of a gas stream comprising hydrogen and with a first stream of a diluent comprising cyclohexane having a temperature within the range of from about 275 to about 390° F., and passing the resulting mixture into a first hydrogenation zone of a corresponding plurality of hydrogenation zones at an initial reaction temperature within the range of from about 300 to about 400° F.;
- in said first hydrogenation zone, forming cyclohexane by reacting benzene and hydrogen under hydrogenation conditions in the presence of a catalyst capable of catalyzing the hydrogenation of benzene;
- withdrawing reaction mixture effluent at an elevated final reaction temperature not exceeding about 600° F. from said first hydrogenation zone;

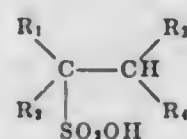
(e) combining said effluent with another individual portion of said benzene feed stream and with another stream of a diluent comprising cyclohexane having a temperature within the range of from about 50 to about 150° F., and passing the resulting mixture into a succeeding hydrogenation zone of said plurality of hydrogenation zones at an initial reaction temperature within the range of from about 300 to about 400° F.;

(f) repeating said steps (c), (d), and (e) for said succeeding hydrogenation zone and any further succeeding hydrogenation zones which succeed said first mentioned succeeding hydrogenation zone except the last hydrogenation zone in said plurality of hydrogenation zones, whereby said individual portion of said benzene feed stream and said individual cyclohexane diluent streams pass through said individual hydrogenation zones of said plurality of hydrogenation zones in parallel and said hydrogen passes through said plurality of hydrogenation zones in series;

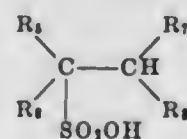
- withdrawing hydrogenation zone effluent from said last hydrogenation zone of said plurality of hydrogenation zones at an elevated final reaction temperature within the range of from about 450 to about 600° F.;
- cooling said last mentioned effluent to a temperature within the range of from about 275 to about 390° F. and passing same to a first flash separation zone;
- withdrawing liquid phase from said first flash separation zone and passing a portion of same to said first hydrogenation zone as said first stream of cyclohexane diluent;
- cooling the remainder of said liquid phase withdrawn from said first flash separation zone to a temperature within the range of from about 50 to about 150° F. and passing same to a second flash separation zone;
- withdrawing liquid phase from said second flash separation zone and passing separate portions thereof to said succeeding hydrogenation zones as said cyclohexane diluent streams used therein;
- and recovering cyclohexane product from the remainder of said liquid phase withdrawn from said second flash separation zone.

3,341,614
PRODUCTION OF DETERGENT ALKYLATE
Max Marlin Wirth and John Habeshaw, Dollar, Scotland, assignors to British Hydrocarbon Chemicals Limited, London, England, a British company
No Drawing. Filed Feb. 16, 1965, Ser. No. 433,171
Claims priority, application Great Britain, Feb. 25, 1964, 7,885/64; Feb. 28, 1964, 8,436/64, 8,437/64
15 Claims. (Cl. 260-671)

1. A process for the production of olefines which comprises thermally decomposing an alkane sulphonic acid selected from the group consisting of (1) alkane sulphonic acids of the formula

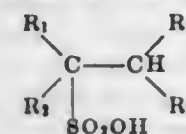


where R₁, R₂, R₃ and R₄ are selected from the group consisting of hydrogen, alkyl and aryl radicals and (2) alkane sulphonic acids of the formula



where a member of the group consisting of R₅ and R₆ and a member of the group consisting of R₇ and R₈ form part of the same cycloaliphatic ring, the remaining member in each group being selected from the group consisting of hydrogen alkyl and aryl.

12. In a process for the production of an alkyl aryl compound from an aromatic hydrocarbon by alkylation, in the presence of an alkylation catalyst, with an olefin, the improvement which comprises preparing the olefin from a paraffin by a method which comprises the steps of forming an alkane sulphonic acid of the formula



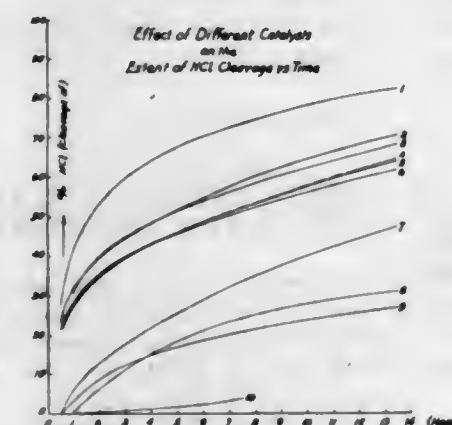
where R₁, R₂, R₃ and R₄ are hydrogen, alkyl or aryl, and thermally decomposing the alkane sulphonic acid to obtain an olefin and sulphur dioxide.

3,341,615
PROCESS FOR THE DEHYDROHALOGENATION OF HALOGENATED HYDROCARBONS

Horst-Dieter Wulf and Werner Schmidt, Marl, Germany, assignors to Chemische Werke Hüls Aktiengesellschaft, Marl, Germany

Filed May 7, 1963, Ser. No. 278,695
Claims priority, application Germany, June 2, 1962, C 27,158

9 Claims. (Cl. 260-677)



1. In a process for the production of an olefin from a halogenated hydrocarbon having halogen attached to other than a tertiary carbon atom, which process comprises reacting a raw material comprising said halogenated hydrocarbon at 150-500° C. in contact with an iron catalyst in the form of packing, the improvement which comprises conducting said reacting under conditions of simultaneous fractional distillation, the rate of the fractionally distilling of the olefin from the reaction mixture being substantially the same rate at which the olefin is formed.

3,341,616
DEHYDROHALOGENATION PROCESS AND CATALYST
Van C. Vlves, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 10, 1966, Ser. No. 519,446
10 Claims. (Cl. 260-677)

1. A catalyst composition comprising an alkali metal salt of boric acid and diatomaceous earth.

6. A process for preparing aliphatically unsaturated hydrocarbons by dehydrohalogenation which comprises contacting a halogenated hydrocarbon compound with a catalyst composition comprising an alkali metal salt of boric acid and diatomaceous earth.

3,341,617
PROCESS FOR THE PRODUCTION OF LOW-MOLECULAR WEIGHT LIQUID BUTADIENE/DIOLEFIN COPOLYMERS WITH A HIGH CONTENT OF CENTRALLY POSITIONED DOUBLE BONDS

Bernhard Schielmer and Heinrich Weber, Marl, Germany, assignors to Chemische Werke Hüls A.G., Marl, Germany

No Drawing. Filed Mar. 11, 1966, Ser. No. 533,437
Claims priority, application Germany, Mar. 12, 1965, C 35,293

10 Claims. (Cl. 260-680)

1. Process for the production of low-molecular weight liquid copolymers having a molecular weight of 500 to 30,000 and a viscosity, measured at 50° C. of from 50 to 5,000 centipoises, from monomers of butadiene and conjugated diolefins, the process comprising: copolymerizing 0.1 to 3 mols of conjugated diolefin containing more than 4 carbon atoms with one mole of butadiene in an inert diluent containing a mixed catalyst therein comprising catalytic amounts of a diluent-soluble nickel compound and an aluminum halide of the formula



wherein

R represent hydrogen, alkyl, aryl, or alkylaryl residues of 1 to 12 carbon atoms
X represents halogen, and
n is a number of 0.5 to 2.5.

9. A copolymer of butadiene and a conjugated diolefin having more than 4 carbon atoms, said copolymer having a molecular weight of 500 to 30,000, a viscosity measured at 50° C., of 50 to 5,000 centipoises, and more than 90% of centrally positioned double bonds.

3,341,618
ISOMERISATION PROCESS AND CATALYST
Kenneth Hugh Bourne and Arnold Fisher, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed June 18, 1964, Ser. No. 376,250
Claims priority, application Great Britain, Aug. 22, 1963, 33,278/63

15 Claims. (Cl. 260-683.2)

1. A catalyst for use in the isomerization of hydrocarbons consisting essentially of aluminum ions free of associated anions, and ions of a Group IA metal, said ions carried on a cation exchange support selected from the group consisting of silica, titania and zirconia supports, the weight of the aluminum ions being less than 3.0% and the weight of the Group IA ions being greater than 0.05% and less than 1.0% by weight, each percentage being expressed as a percentage of the weight of the support.

8. A process for the isomerisation of an olefinic hydrocarbon which is capable of undergoing double bond shift which process comprises contacting the hydrocarbon with a catalyst according to claim 1.

3,341,619
POLYMERIZATION OF CIS TYPE II OLEFINS
Eugene L. Stogryn, Fords, N.J., and Herbert F. Stroh-mayer, Wezembeek-Ophem, Brabant, Belgium, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,416
7 Claims. (Cl. 260-683.15)

1. A process for the polymerization of cis Type II olefins comprising contacting at least one monomer consisting solely of a C₄ to C₁₂ Type II olefin containing at least 50 wt. percent of the cis isomer of said olefin, in an inert hydrocarbon diluent at temperatures of about -50 to 200° C. and at pressures ranging from atmospheric to 30

atmospheres, with a catalyst consisting essentially of a reducible halide of a transition metal of Group VIII and the A subgroup of Groups IV to VI activated with from about 0.5 to 5 moles of an alkyl metallic compound selected from the group consisting of alkyl-lithium and dialkylberyllium per mole of said halide, thereby forming a polymer of said cis isomer having a viscosity average molecular weight of at least 400, and recovering said polymer.

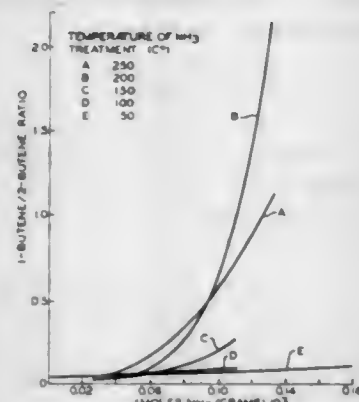
3,341,620

PROCESS FOR DIMERIZATION OF ETHYLENE OVER NICKEL OXIDE-SILICA-ALUMINA CATALYST

Alfred Clark and Jack N. Finch, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,214

6 Claims. (Cl. 260-683.15)



1. In a process for dimerizing ethylene over a nickel oxide-silica-alumina catalyst to produce 1-butene and 2-butenes, the method of increasing the yield of 1-butene which comprises pretreating said catalyst with gaseous ammonia in an amount in the range of 0.06 to 0.18×10^{-3} moles per gram of catalyst at a temperature in the range of 175 to 300° C.

3,341,621

THERMALLY DEGRADED BLOCK COPOLYMERS OF PROPYLENE AND 1-BUTENE

Hugh J. Hagemeyer, Jr., and Raymond L. Etter, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 31, 1963, Ser. No. 284,326

3 Claims. (Cl. 260-878)

1. Thermally degraded polymeric product prepared by thermally degrading a block copolymer of propylene and 1-butene containing 5 to 95 percent 1-butene, 50-95 percent crystalline polymer and 50-5 percent amorphous polymer at between 260 and 420° C. in the absence of oxygen for a sufficient period of time to achieve a product viscosity between about 500 and 30,000 centipoises as measured at 190° C.

3,341,622

PROCESS FOR CONDUCTING A CONTINUOUS POLYMERIZATION REACTION

Irving Leibson, Odessa, Tex., and Blaine B. Kuist, Whittier, Calif., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,187

8 Claims. (Cl. 260-878)

1. In a process for polymerizing an alpha-olefin monomer in a polymerization zone wherein there is formed an alpha-olefin polymer slurry comprising polymer and unreacted monomer and wherein said slurry is introduced

into a separation zone where unreacted monomer is separated from the polymer by a flashing operation thereby forming a gaseous recycle unreacted monomer stream and a substantially dry polyolefin polymer which is thereafter treated in a subsequent treatment zone with an oxygen-containing catalyst deactivating agent, the improvement for preventing contamination of said unreacted monomer with said reactive component and for condensing and directly recycling said condensed unreacted monomer to said polymerization zone which comprises continuously withdrawing said alpha-olefin polymer from said separation zone and introducing it to one end of a confined zone, continuously advancing said polymer to the other end of said confined zone and to an outlet therefor, and continuously introducing a sweep gas at one end of said confined zone and flowing it cocurrently with the movement of the polymer to said other end of said confined zone.

3,341,623

INHIBITING OFF-COLOR IN HOT-FORMING STYRENE POLYMERS BY ADDING ALKALINE SOLIDS

Granville J. Hahn, Big Spring, Tex., assignor to Cosden Oil & Chemical Company, Big Spring, Tex., a corporation of Delaware

Filed Jan. 3, 1964, Ser. No. 335,547

2 Claims. (Cl. 260-880)

1. The process of inhibiting the development of off-white color in the hot-forming of dry, acid-treated beads of graft copolymer of styrene onto butadiene polymers which tend to evolve acidic vapors during the hot-forming, comprising adding to said beads sufficient dry powdered alkaline substance selected from the group consisting of oxides and hydroxides of alkali forming metals to raise the pH of the evaporated vapors to the range of about 3 to 8.

3,341,624

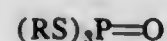
TRITHIOPHOSPHATE ESTERS AS FLAME-RETARDANT AGENTS FOR THERMOPLASTIC PRODUCTS

Allan Ellis Sherr, Norwalk, Conn., and Helen Currier Gillham, Princeton, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 22, 1966, Ser. No. 567,075

8 Claims. (Cl. 260-887)

1. A flame-retardant composition comprising a thermoplastic polymer produced from at least one ethylenically unsaturated monomer wherein only hydrogen, carbon or halogen atoms are attached directly to the chain of the polymer and from about 15% to about 35%, by weight, based on the weight of the polymer, of a compound having the formula



wherein R is selected from the group consisting of an aryl (C_6-C_{10}) radical, an alkaryl (C_7-C_{11}) radical and an aralkyl (C_7-C_{11}) radical.

6. A flame-retardant composition according to claim 1 wherein the thermoplastic polymer is a mixture of (A) a butadiene-acrylonitrile copolymer and (B) an acrylonitrile-styrene copolymer, the amount of A and B ranging from about 10-75% to 90-25%, by weight, respectively.

3,341,625

PHOSPHINE OXIDES AS FLAME-RETARDANT AGENTS FOR THERMOPLASTIC PRODUCTS

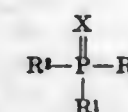
Helen Currier Gillham, Princeton, N.J., and Allan Ellis Sherr, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 15, 1966, Ser. No. 579,506

10 Claims. (Cl. 260-887)

1. A flame-retardant composition consisting essentially of a thermoplastic polymer produced solely from ethyl-

enically unsaturated monomers and a flame-retarding amount of a compound having the formula



wherein R, R¹ and R² are, individually, selected from the group consisting of (A) hydrogen, (B) saturated alkyl radicals having from 1-6 carbon atoms, inclusive, (C) cyano, substituted alkyl radicals having 1-6 carbon atoms, inclusive, in the alkyl portion, (D) aryl radicals of 6-10 carbon atoms, inclusive, (E) aralkyl radicals of 7-11 carbon atoms, inclusive and (F) halo and polyhalo substituted aralkyl radicals of 7-11 carbon atoms, inclusive, and X is selected from the group consisting of oxygen and sulfur, no more than one of R, R¹ and R² being hydrogen.

4. A flame-retardant composition according to claim 1 wherein the thermoplastic polymer is a mixture of (A) a butadiene-acrylonitrile copolymer and (B) an acrylonitrile-styrene copolymer, the amount of A and B ranging from about 10-75% to 90-25%, respectively.

3,341,626

HOT MELT ADHESIVE COMPRISING POLYPROPYLENE AND A POLYTERPENE

Melvin E. Peterkin, Brookhaven, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,767

1 Claim. (Cl. 260-897)

A thermoplastic hot melt adhesive composition consisting essentially of a homogeneous mixture of from 70 to 78 wt. percent of atactic polypropylene having a molecular weight of 16,000 to 20,000, from 8.5 to 15 wt. percent of isotactic polypropylene having a molecular weight of 80,000 to 95,000 and from 15 to 17 wt. percent of terpene resin selected from the group consisting of alpha-pinene resin and beta-pinene resin having a molecular weight of about 1200, said adhesive being effective to bond kraft facer sheets to kraft corrugating medium in the making of corrugated paper bond.

3,341,627

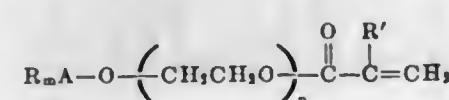
POLYMERIC ANTI-STATIC COMPOSITION AND PROCESS

William Kenneth Wilkinson, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 9, 1963, Ser. No. 293,833

5 Claims. (Cl. 260-898)

1. An acrylonitrile polymer fiber having admixed therein from about 1% to about 10% by weight based on said fiber of a water-insoluble addition polymer of an alkylphenoxy polyethylene glycol acrylate having the formula:



wherein R is an alkyl radical of from 1 to 20 carbon atoms, A is a phenylene radical, R' is selected from the group consisting of hydrogen and methyl, m is an integer from 1 to 2, and n is an integer from 4 to 40, the ratio of the number of $(CH_2CH_2O)_n$ groups to the number of carbon atoms in the radicals R and A, n/R_mA , being between 0.28 and 4.0, said polymer being soluble in N,N-dimethylformamide and having an inherent viscosity measured therein of from about 0.08 to 0.6.

3,341,628

BLENDS OF ISOTACTIC POLYVINYL CHLORIDE AND POSTCHLORINATED ATACTIC POLYVINYL CHLORIDE

Robert Buning and Karl-Heinz Diessel, Troisdorf, Bezirk Cologne, Horst Elsner, Spich, and Hans-Ewald Konermann, Oberlar, Germany, assignors to Dynamit Nobel A.G., Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 468,119, June 29, 1965. This application Oct. 12, 1966, Ser. No. 586,304

Claims priority, application Germany, Jan. 25, 1962, D 37,989

5 Claims. (Cl. 260-899)

1. Process for improving mechanical properties of isotactic polyvinyl chloride which comprises admixing with isotactic polyvinyl chloride, postchlorinated atactic polyvinyl chloride having a chlorine content of about 62-68%, to thoroughly distribute these materials in each other, the amount of postchlorinated atactic polyvinyl chloride being from a significant amount up to about 75% of the admixture of said postchlorinated atactic polyvinyl chloride and isotactic polyvinyl chloride.

3,341,629

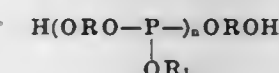
POLYPHOSPHITES AND PROCESS OF MAKING SAME

Millard S. Larrison, Livingston, N.J., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,395

18 Claims. (Cl. 260-928)

1. A thermoplastic material having the basic structure



where R is the divalent residue of a member of the group consisting of (a) bis (hydroxy alkyl) benzenes and (b) hydrogenated dihydric phenols, R₁ is selected from the group consisting of aryl, alkyl and haloaryl and n is an integer.

3,341,630

PENTAFLUOROPHENYL PHOSPHORYL CHLORIDES

Robert H. Boschan, Los Angeles, and James P. Holder, Woodland Hills, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed May 4, 1964, Ser. No. 364,756

4 Claims. (Cl. 260-955)

1. Pentafluorophenyl phosphoryl chlorides selected from the group consisting of pentafluorophenyl phosphoryl dichloride and bis(pentafluorophenyl) phosphoryl chloride.

3,341,631

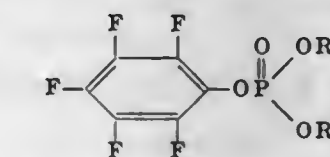
POLYFLUOROPHENYL PHOSPHATE ESTERS

Christian A. Seil, Santa Monica, Robert H. Boschan, Los Angeles, and James P. Holder, Woodland Hills, Calif., assignors to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed May 4, 1964, Ser. No. 364,787

12 Claims. (Cl. 260-955)

1. A phosphate having the formula



where R and R' are each a member selected from the class consisting of pentafluorophenyl and alkyl groups.

3,341,632 PRODUCTION OF ORGANIC TRITHIOPHOSPHITES

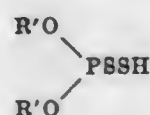
Chisung Wu, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 24, 1964, Ser. No. 377,525
20 Claims. (Cl. 260-971)

1. Process that comprises reacting an organic disulfide with elemental phosphorus in the presence of a base catalyst, in a dipolar aprotic solvent reaction medium to produce an organic trithiophosphite.

3,341,633 REACTION OF O,O-DIHYDROCARBYL PHOSPHORODITHIOIC ACIDS WITH EPOXIDES

Peter A. Asseff, Euclid, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 27, 1955, Ser. No. 484,592
9 Claims. (Cl. 260-978)

1. A method for the preparation of a neutral phosphorus- and sulfur-containing composition which comprises reacting, at a temperature between about -60° and 100° C., a phosphorodithioic acid having the general formula



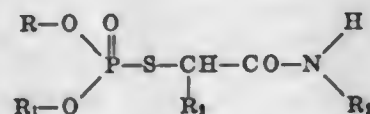
wherein each of R and R' is a hydrocarbon radical or a halo, nitro or alkoxy derivative thereof, with an approximately equivalent amount of an unsubstituted or aryl- or halogen-substituted alkylene oxide.

3,341,634 PROCESS FOR THE PRODUCTION OF O,O-DIALKYL THIO-PHOSPHORYL ACETIC AND PROPI- ONIC ACID MONO SUBSTITUTED AMIDES

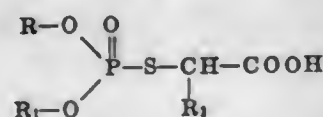
Günter Oertel, Cologne-Filtard, Hugo Malz, Leverkusen, and August Dörken, Wuppertal-Sonnborn, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed June 4, 1963, Ser. No. 285,207
Claims priority, application Germany, June 6, 1962, F 37,004

4 Claims. (Cl. 260-984)

1. A process for the production of a compound of the formula



wherein R and R₁ stand for alkyl, R₂ stands for a member selected from the group consisting of hydrogen and methyl and R₃ stands for member selected from the group consisting of alkyl, haloalkyl, cyanoalkyl, cycloalkyl, benzyl, tetrahydrobenzyl, p-tolylsulfonyl, dichlorohexahydrobenzyl and O,O-diethylphosphoryl comprising reacting a compound of the formula:



wherein R, R₁ and R₂ are defined as above, with a compound of the formula



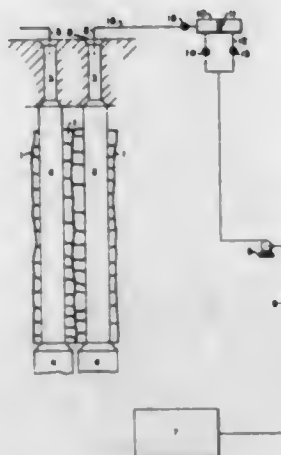
wherein R₂ is defined as above, at a temperature between 20 to 50° C.

3,341,635 OIL-FIRED COKE OVENS AND METHOD OF FIRING

Horace Johnson, Sunbury-on-Thames, and Leslie H. W. Savage, Hounslow, England, assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 25, 1963, Ser. No. 254,551

Claims priority, application Great Britain, Jan. 26, 1962, 3,035/62

2 Claims. (Cl. 263-52)

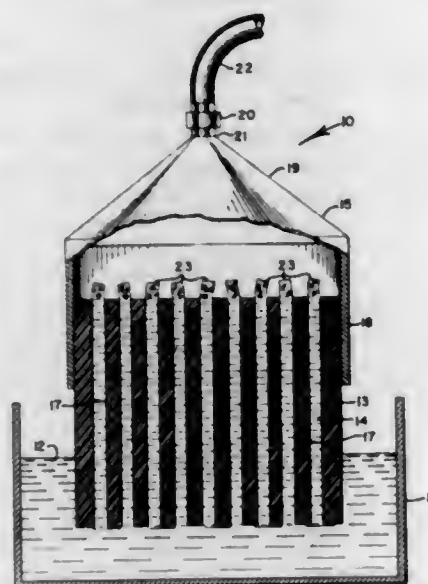


1. The method of firing coke ovens containing vertical combustion flues comprising pulse injecting slugs of liquid fuel downwardly into the tops of said combustion flues at a predetermined volume and frequency and introducing combustion air upwardly through said combustion flues so that said slugs of fuel continue to burn as they travel down the length of the flue, thereby producing long flames.

3,341,636 METHOD FOR FABRICATING BURNING RATE STRANDS AND TENSILE SPECIMENS

Floyd L. Hill, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 17, 1966, Ser. No. 521,150

2 Claims. (Cl. 264-3)



1. A method for fabricating strands of solid propellant comprising the steps of lowering a mold having mold cavities therein into a reservoir of uncured liquid propellant, applying a vacuum source to the mold to draw the uncured liquid propellant into the mold cavities, continuing applying the vacuum source until all of the uncured liquid propellant containing air bubbles has been drawn through the mold cavities, curing the uncured liquid propellant and

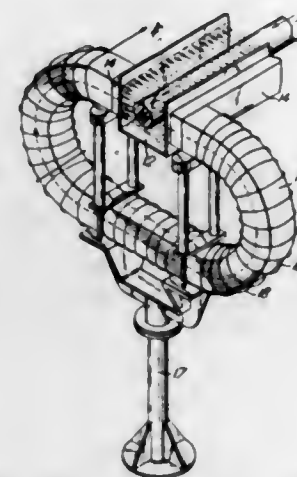
then applying air under pressure to the mold cavities to eject the cured solid propellant from the mold cavities.

3,341,637 SUPPORTING OF ELECTRIC CABLES WHILST TRAVELLING IN THE DIRECTION OF THEIR LENGTH

Peter Nicholson, Gravesend, Kent, England, assignor to British Insulated Callender's Cables Limited, London, England, a British company
Filed Nov. 10, 1964, Ser. No. 410,085

Claims priority, application Great Britain, Nov. 13, 1963, 44,851/63

4 Claims. (Cl. 264-22)

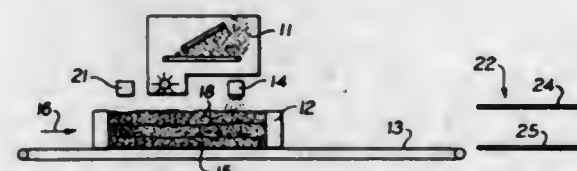


1. In the manufacture of an elongated cable as hereinbefore defined by a method which involves application of an outer covering material to an elongated conductor by a horizontal extrusion plant and treatment to strengthen this extruded outer covering by running the cable in the direction of its length with a horizontal component of travel through a treatment vessel which has a base wall, the improvement consisting of imparting support to the cable between the extrusion plant and a positive support by arranging for the cable running through the treatment vessel to pass through a uni-directional magnetic field whose direction is substantially horizontal and transverse to the direction of travel of the cable and by continuously passing a uni-directional electric current along the conductor, the strength of the magnetic field and the magnitude and direction of the current in the conductor being such that the vertical component of the resulting magnetic force exerted on the cable opposes the gravitational forces thereon to an extent to maintain the cable out of contact with the base wall of the treatment vessel without the need to maintain the advancing cable under heavy tension.

3,341,638 FOAMING OF POLYSTYRENE IN A HIGH FREQUENCY FIELD

Helmut Mandel, Reibach über Dieburg, Germany, assignor to Dorplastex A.G., Zug, Switzerland, a corporation of Switzerland
Filed Sept. 14, 1965, Ser. No. 487,244

3 Claims. (Cl. 264-25)



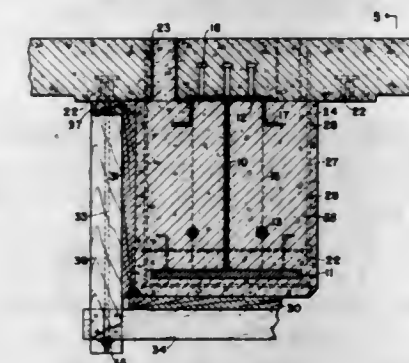
1. In a method of forming foamable polystyrene material into panels, the steps of continuously injecting said material by spreading it from the top onto a box form

while said box form is moving forward and backward relative to the point of injection, so as to form a number of substantially continuous layers, one superimposed upon the other; humidifying at least some of said layers with dissolved electrotone during said spreading, and exposing said layers to a dielectric field immediately after spreading and humidification.

3,341,639 METHOD FOR GROUTING GIRDERS SUP- PORTING CONCRETE SLABS

Jacob D. Naillon, Walnut Creek, Calif.
(17 Diamond Drive, Danville, Calif. 94526)
Filed Dec. 21, 1964, Ser. No. 419,714

3 Claims. (Cl. 264-35)



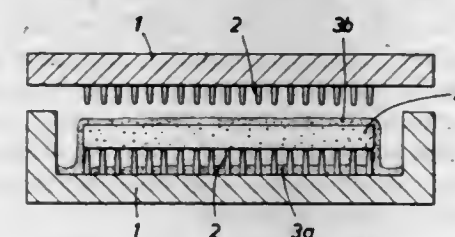
1. A method of applying grout to a metallic girder which supports a concrete slab, said slab being positioned above the girder and extending laterally therefrom, said method comprising the steps of:

- suspending from said slab a form which encloses the bottom and at least one side of said girder,
- providing said slab with at least one hole extending therethrough and communicating with the interior of said form, and
- injecting wet grout through said hole into the said form.

3,341,640 PROCESS FOR THE MANUFACTURE OF PAD BODY

Fredrik Holger Ulfstand Rosencrantz,
O. Jarnvaggsgatan 16, Tranås, Sweden
Filed May 7, 1964, Ser. No. 365,685
Claims priority, application Sweden, May 14, 1963, 5,307/63

4 Claims. (Cl. 264-46)



1. In a process for producing a pad body by foaming and vulcanizing a latex composition which contains foaming and vulcanizing agents in a mold comprising a bottom, side walls, and a lid defining together a mold cavity of a height lesser than its length and width, said lid being movable for opening and closing said mold, said lid and bottom each being provided with a plurality of metal pins disposed in close relationship to each other and extending into said mold cavity to such a limited depth as to leave a space between the ends of the lid pins and the ends of the bottom pins when said mold is closed, the improvement that, in order to bestow a convex curvature on the pad body to be produced, placing an elastic panel, which is made of foamed plastics and has a lesser length and width than said mold cavity but a thickness greater

than said space between said pin ends, on the end of said bottom pins and substantially centrally in said mold while the latter is open, introducing said latex composition underneath and on top of said panel resting on said bottom pins, then closing said mold to compress said panel between the ends of said lid pins and the ends of said bottom pins while said latex composition is converted to a foam provided with holes corresponding to the dimensions of said lid and bottom pins and is then vulcanized, whereby the foamed rubber structure thus produced is vulcanized firmly onto said panel on all sides thereof, then opening said mold and the vulcanized structure containing said compressed panel is removed from said mold, said panel thus being released from the compressive stress of said pins, and said panel being allowed to freely expand in this released state until a pad body is obtained which has a convex curvature on both of its faces.

3,341,641

CENTRIFUGAL CASTING PROCESS

Charles D. Spencer, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 10, 1963, Ser. No. 315,370
5 Claims. (Cl. 264-72)

1. In a centrifugal casting process wherein a mold is charged with a material to a molded, and the material is converted therein from a fluid liquid to a solid phase, the improvement which comprises a repeated cycle of rotating said mold about its vertical axis to a desired rotational speed of at least 50 r.p.m. and quickly braking said rotating mold when it attains said desired rotational speed, each cycle comprising about 10 seconds of rotation followed by about 10 seconds in which the mold is not rotated.

3,341,642

COMPACTING OF PARTICULATE METALS

John H. Mahar, Scotch Plains, and Ronald V. Trense, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 4, 1965, Ser. No. 461,518
12 Claims. (Cl. 264-83)

1. A process for producing a briquette comprising admixing particulate metals with a petroleum oil fraction having a penetration index at 77° F. ranging from about 85 to about 100 and a softening point ranging from about 110° F. to about 140° F., in concentration ranging from about 0.05 to about 10 percent, based on the weight of the metal, pressing the mixture between opposing surfaces at pressures ranging from about 20,000 pounds per square inch and higher to form a briquette, and then heat-treating the briquette in an oxygen-containing atmosphere at temperatures ranging from about 300° F. to about 600° F. for a sufficient time to cause a chemical change and bring about a final curing of the said oil fraction which bonds together the particulate metals.

3,341,643

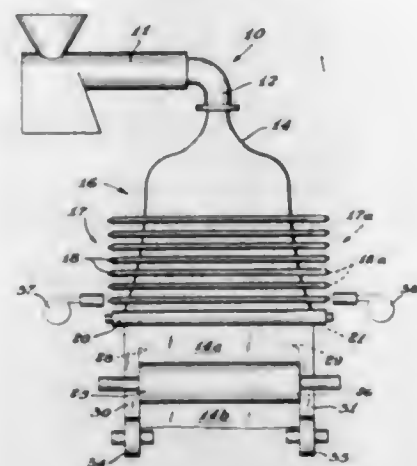
METHOD AND APPARATUS FOR THE PREPARATION OF THERMOPLASTIC RESINOUS FILM

Charles C. Barnhart, Springfield, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 13, 1965, Ser. No. 455,393
9 Claims. (Cl. 264-95)

1. In a method for the production of biaxially orientated heat shrinkable thermoplastic synthetic resinous film, by means of the trapped bubble process comprising, an orientable synthetic resinous material in a tubular form, inflating the tube by means of internal fluid pressure sufficient to distend and biaxially orient the tube,

cooling the tube to a temperature below its thermoplastic temperature, collapsing the tube to a flattened form, the improvement which comprises,



heating narrow portions of the tube generally adjacent the edge of the partially flattened tube immediately adjacent to complete flattening of the tube, to a temperature sufficient to cause heat shrinkage of a narrow portion of the almost completely collapsed bubble, the heat shrunk portion of the bubble corresponding to the edges of the flattened tube.

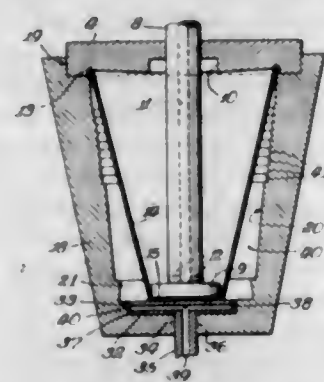
3,341,644

PROCESS FOR PRODUCING PLASTIC CONTAINERS

Kenneth R. Allen, Wenona, Ill., assignor to Flair Plastics Corporation, Wenona, Ill., a corporation of Delaware

Continuation of application Ser. No. 281,125, May 17, 1963, which is a continuation of application Ser. No. 830,229, July 29, 1959. This application Jan. 27, 1965, Ser. No. 431,488

4 Claims. (Cl. 264-97)



1. In a method of making an open-topped plastic container having a lip circumscribing the container top, a bottom wall and side walls joining said lip to said bottom wall, the steps of (1) injection molding in an injection mold a substantially flat parison having (a) an outer rim portion corresponding in size and contour to the lip of the finished container, (b) a central portion corresponding substantially in thickness and contour to at least a portion of said container bottom wall, and (c) a medial portion integrally joining said outer rim to said central portion and of neither the thickness nor the contour of the side walls of said container, said medial portion being of a thickness substantially greater than the thickness of said container side walls; (2) relatively moving into axial alignment (a) said parison while still hot and (b) a blow mold cavity having side wall and bottom wall portions corresponding to size and contour to the side wall and bottom wall portions, respectively, of the finished container, the parison projecting across the blow mold cavity in a plane substantially normal to the longitudinal axis of said cavity and said rim portion still being at least par-

tially retained in said injection mold; (3) mechanically pushing the central portion of said parison toward the bottom wall of said cavity, thereby (a) positioning said central portion of said parison adjacent its final position in said cavity, and (b) bringing said medial portion closer in contour and thickness to the side wall portions of said container, while (c) the outer rim portion of the parison remains at least partially retained in said injection mold, thus (d) deforming the initially substantially flat parison to a blowable shape; (4) blowing the so deformed parison into full contact with said blow mold cavity without disturbing said rim portion in its still retained position; and (5) finally removing the finished container side walls and bottom wall from the blow mold and said container rim from its retained position in said injection mold.

3,341,645

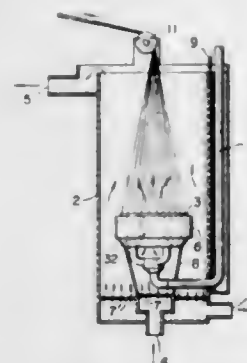
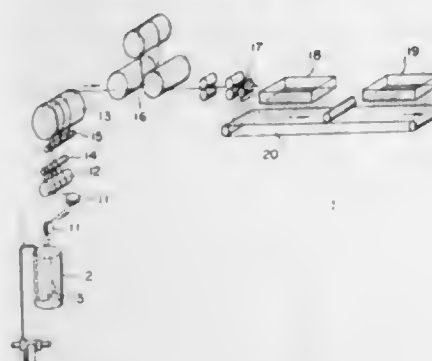
METHOD OF PRODUCING VISCOSE RAYON STAPLE AND A SPINNING APPARATUS FOR USE IN THE METHOD

Soichiro Horiuchi, Junichi Hashimoto, Kanji Wakabayashi, Kazuhiko Yamada, Eiji Masunaga, and Isamu Kishimoto, Yamaguchi-ken, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

Filed Feb. 26, 1964, Ser. No. 347,453

Claims priority, application Japan, Mar. 7, 1963, 38/10,444; Mar. 29, 1963, 38/14,119, 38/14,120; Apr. 6, 1963, 38/17,312

7 Claims. (Cl. 264-196)



1. Method of producing viscose fibers comprising extruding a viscose having a gamma value of at least 60 and containing between 4% and 7% by weight of a cellulose component having a degree of polymerization of at least 500 and between 3% and 6% by weight of sodium hydroxide through an annular spinneret provided with a channel at about its center, with at least 10,000 orifices around the channel at a temperature not higher than 30° C. into a coagulation bath containing not more than 30 g./l. of sulphuric acid, at least 0.1 g./l. of anhydrous zinc sulphate and not more than 80 g./l. of anhydrous sodium sulphate, the coagulation liquid being allowed to flow into the bath in substantially the same direction as that of the extrusion of the viscose, stretching the partially regenerated filaments with a draw ratio of 1.5 to 3.5 by means of a pair of rollers outside the bath, and completing the regeneration in a hot aqueous bath characterized in that the viscose is extruded into the coagula-

tion bath at a spinning lineal speed not exceeding 10 m./min., 1/4 to 3/4 of the total amount of the flow of the coagulation liquid into the bath is passed through said channel in the spinneret, wherein the difference in the sulphuric acid content of the coagulation liquid continuously supplied to the bath and that continuously withdrawn from the bath is adjusted to between 0.5 and 3.0 g./l., and whereby the filament which has left the second roller is run in air prior to the completion of the regeneration until its degree of regeneration reaches between 65 and 85%.

3,341,646

METHOD OF DE-MOLDING POLYURETHANE PLASTICS

J. W. Britain, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,941

13 Claims. (Cl. 264-213)

1. A method for shaping a polyurethane which comprises preparing a shaping means adapted to allow good release of the polyurethane therefrom, at least the shaping surface of which is constructed of a member selected from the group consisting of a polytetrahaloethylene and polypropylene polymer by coating the said shaping surface with a layer of an organo-silicone oil, mixing an organic compound containing at least two reactive hydrogen atoms as determined by the Zerewitinoff method with an organic polyisocyanate, charging the resulting mixture onto the shaping surface, allowing sufficient reaction to take place to yield a solid polyurethane and removing the resulting thermoplastic polyurethane from the shaping surface.

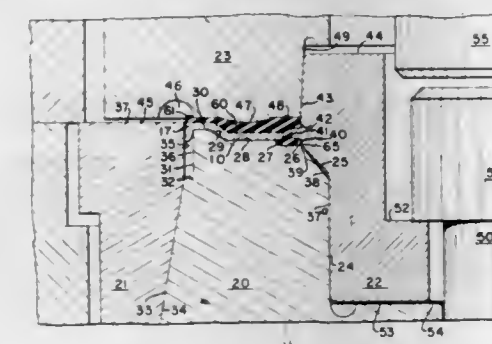
3,341,647

METHOD AND APPARATUS FOR MAKING DUAL-LIP SEALS

Douglas J. Aberle, San Carlos, Calif., assignor to Federal Mogul Corporation, a corporation of Michigan

Filed Oct. 14, 1963, Ser. No. 315,808

9 Claims. (Cl. 264-325)



7. A method of molding elastomeric members in a plural-element mold having a mold cavity that provides sharp edges between two stationary parts of the mold, comprising:

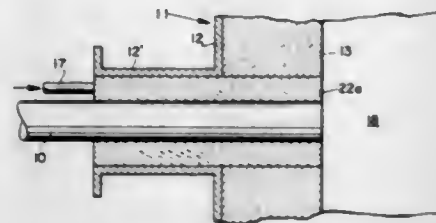
closing said mold upon uncured elastomer so as to deform it and develop hydraulic pressure by the deformation, employing said elastomer and its hydraulic pressure to drive the air in said cavity into a corner therein at one of said sharp edges, driving the air out between the said stationary parts at said edge, employing said elastomer to force at least one of said two stationary parts to move toward the other one and thereby tighten the gap between said stationary parts to seal said edge against passage of elastomer and fill said cavity, and curing said elastomer in said mold.

ELECTRICAL

3,341,648

ELECTRODE INSTALLATION

Byron V. Molstedt, Robert O. Maak, and Lawrence J. Delaune, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed July 18, 1966, Ser. No. 566,032
4 Claims. (Cl. 13-20)

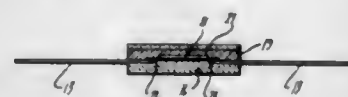


1. In a high temperature electro-fluid bed reactor the combination comprising
 - (a) a vertical reactor wall;
 - (b) an opening through the reactor wall;
 - (c) a dense fluidized bed of solids confined within said reactor wall;
 - (d) an elongated electrode, of diameter lesser than that of said opening, mounted transversely with its forward end extended through the opening and into contact with the fluidized bed of solids to produce, upon application of an electrical voltage, resistance heating of the solids without electrical spark discharges;
 - (e) a cooling element, of diameter intermediate that of the electrode and wall opening, circumferentially mounted within the opening and surrounding said electrode, said cooling element including
 - an electrically nonconductive porous refractory sleeve adapted to receive a purge gas stream through its interior;
 - (f) gas inlet means adapted to provide purge gas to the interior of said porous sleeve to effect cooling of the electrode during operation of the reactor.

3,341,649

MODULAR PACKAGE FOR SEMICONDUCTOR DEVICES

Brian David James, Menlo Park, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Continuation of application Ser. No. 338,438, Jan. 17, 1964. This application Aug. 19, 1966, Ser. No. 573,722
6 Claims. (Cl. 174-52)



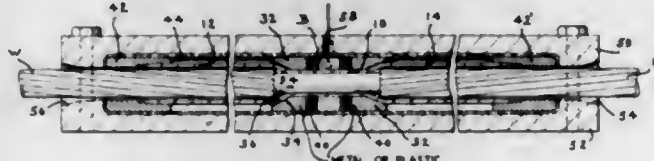
1. In a modular package, a body formed of insulating material, a plurality of spaced metallic leads carried by the body and being insulated from each other, said leads having contact areas arranged in a pattern lying in a common plane within the confines of the body, the portions of said leads in contact with said body being carried by the body so that said leads are insulated from each other, a semiconductor body having an integrated circuit formed therein and having a plurality of metal pads connected to the integrated circuit and carried by the semiconductor body, and said contact pads being disposed exclusively adjacent the outer margin of the semiconductor body and lying in a common plane, and a plurality of connecting elements lying generally in a single plane formed of a thin metallic film supported by the body in direct and

intimate contact with said contact areas, said semiconductor body being disposed so that said contact pads are in direct and intimate electrical contact with said connecting elements, said connecting elements extending exclusively in directions away from said semiconductor body, said connecting elements of thin film forming the sole means making electrical contact between the leads and said contact pads connected to said portions of said electrical circuit whereby electrical contact can be made to the integrated circuit through the leads.

3,341,650

EXPLOSIVELY-FORMED ELECTRICAL CONNECTION

William F. Broske, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 14, 1965, Ser. No. 455,818
8 Claims. (Cl. 174-94)

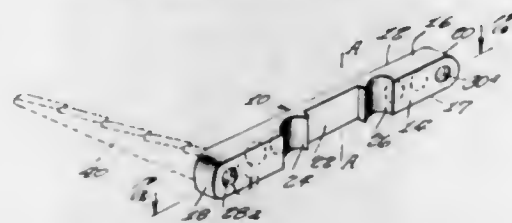


1. A connector for splicing conductors comprising: a ferrule adapted to receive an electrical conductor, an explosive charge surrounding the outer surface of the central portion of the ferrule, means disposed on said ferrule actuated by the explosive charge for cold-forging the ferrule to the conductor.

3,341,651

CABLE OR WIRE PLASTIC SECURING DEVICE

John Odegaard, 5618 8th Ave., Brooklyn, N.Y. 11220
Filed Oct. 17, 1966, Ser. No. 587,261
2 Claims. (Cl. 174-159)



1. A stand-off securing device for selective support of either a flat or round cable or both comprising:
 - (a) a spike having at its rear end a neck and a tapered head for securement to a support,
 - (b) an insulator carried by the rear end of the spike,
 - (c) said insulator comprising an initially straight bar element of flexible and bendable plastic material having parallel faces,
 - (d) a central rectilinear depression formed in one face of said bar element,
 - (e) a substantially semi-circular depression adjacent each end of the rectilinear depression formed in said one face of said bar element,
 - (f) a transverse cylindrical opening at each end of the bar element extending from face to face thereof,
 - (g) an annular radial flange in each said opening adjacent the other face of said bar element defining with its associated opening a co-axial opening of reduced diameter,
 - (h) said bar element in its connection to said spike being of U-shape with both annular flanges in direct opposed relationship and seated in the neck of the

SEPTEMBER 12, 1967

ELECTRICAL

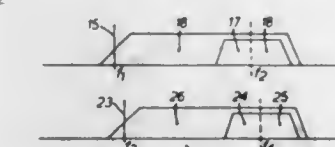
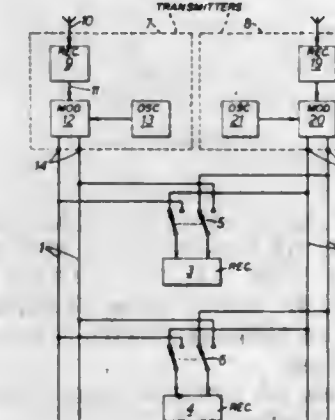
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spike and with the tapered head of the spike positioned within the rearmost cylindrical opening, whereby the U-shaped bar element may support a flat cable seated in the rectilinear depression with the ends thereof clampingly engaging the edges of the flat cable or a round cable seated in and clampingly engaged by the semi-circular depressions.

3,341,652

WIRED BROADCASTING SYSTEMS AND APPARATUS THEREFOR

Leonard Sidney Palmer, West Wimbledon, and Daniel Henry Smart, Coulsdon, Surrey, England, assignors to Communications Patents Limited
Filed Nov. 27, 1964, Ser. No. 414,117
Claims priority, application Great Britain, Dec. 5, 1963, 48,077/63
5 Claims. (Cl. 178-5.2)



1. In a wired color television broadcasting system having a predetermined line scanning frequency which system includes a transmitter for energizing a corresponding conductive network of the system by producing and applying to said network a modulated carrier wave brightness information component and a suppressed carrier wave color information component, the frequencies of said carrier waves differing from each other by an odd multiple of half the line scanning frequency, the provision of frequency control means for establishing the frequency of the carrier wave of the brightness information component at a whole multiple of the line scanning frequency plus or minus an odd multiple of one quarter of the frame scanning frequency, the beats arising due to second and fourth order distortions of these carrier waves thereby occurring at frequencies such that in a picture produced with the aid of said brightness and color information components said beats form a dot pattern which is less discernible than other patterns in which said beats would otherwise appear with different carrier waves.

3,341,653

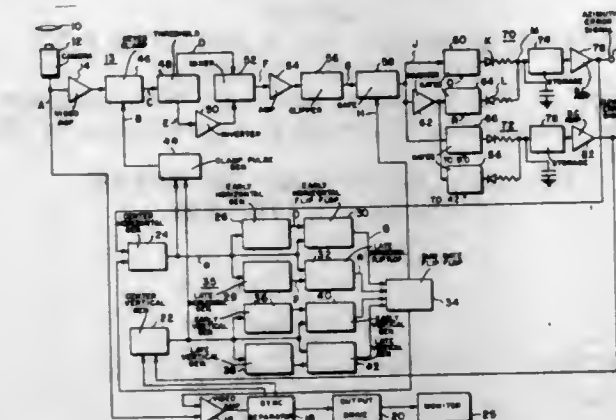
VIDEO TRACKER

John R. Kruse, Jr., Weston, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Dec. 5, 1963, Ser. No. 328,276
4 Claims. (Cl. 178-6.8)

1. A video tracker using a target reference system so that background variation surrounding the target of interest does not affect the ability of the tracker to discriminate the target, comprising, in combination,
 - (a) a video camera for generating video signals, including horizontal and vertical sync pulses in accord-

ance with a field of view which may include a target which is desired to be tracked,

- (b) sync separator means for separating said horizontal and vertical sync pulses from said video signals,
- (c) voltage controlled horizontal pulse generator means coupled to said horizontal sync pulses,
- (d) voltage controlled vertical pulse generator means coupled to said vertical sync pulses,
- (e) means for combining the output of said horizontal and vertical pulse generator means to produce an electronic window which covers a portion of the field of view containing the target to be tracked,

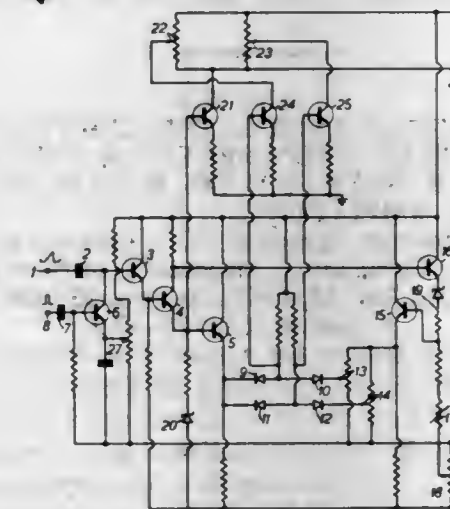


- (f) clamp pulse means coupled to said voltage controlled horizontal and vertical pulse generator means for generating a reference pulse of short duration corresponding in time to the center of said electronic window,
- (g) means for clamping said video waveforms to a reference level set by said reference pulse whereby the target being tracked is at the reference level,
- (h) means for generating error signals in both the horizontal and vertical directions of said electronic window, and
- (i) means for applying said error signals to said voltage controlled horizontal and vertical pulse generator means for keeping the target centered in said electronic window such that the video tracker automatically follows the target.

3,341,654

TELEVISION SIGNAL CORRECTING CIRCUIT ARRANGEMENTS

Donald Alexander Pay and John Harwood Deveson, Essex, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Mar. 26, 1964, Ser. No. 354,964
Claims priority, application Great Britain, Apr. 1, 1963, 12,750/63
6 Claims. (Cl. 178-7.1)



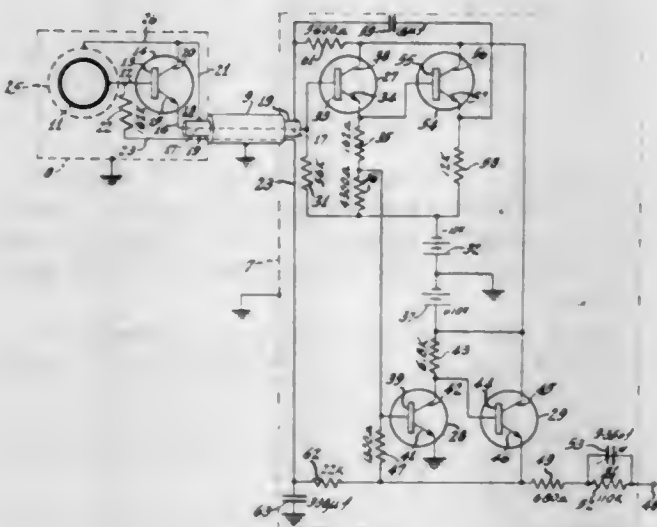
1. A gamma correcting circuit arrangement comprising means for producing from input video signals a main

signal whose amplitude ratio to that of the input signal remains constant from "black" to "white"; means for producing from said input signals at least one correcting signal the amplitude of which increases substantially linearly at a pre-determined fixed rate from zero to an adjustable maximum from "black" to an adjustable value of "grey" intermediate between "black" and "white" thereafter decreasing substantially linearly to zero for an input signal increasing from said adjustable value of grey to "white"; and means for adding said correcting signal to said main signal.

3,341,655 TRANSISTORIZED PREAMPLIFIER FOR TELEVISION CAMERAS

Benjamin S. Vilkomerson, Camden, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,959
9 Claims. (Cl. 178-7.2)



8. In combination with a video signal-producing photoconductive image pickup tube, an amplifier comprising: a signal input transistor, a signal takeoff transistor and a feedback transistor, each transistor having base, emitter and collector electrodes; means connecting the collector and emitter electrodes of said respective transistors to a source of potential; means coupling in signal-receiving manner the base of said input transistor to said pickup tube, the base of said takeoff transistor to the emitter of said input transistor, and the base of said feedback transistor to the emitter of said takeoff transistor; and means capacitively coupling the emitter of said feedback transistor to the collector of said input transistor.

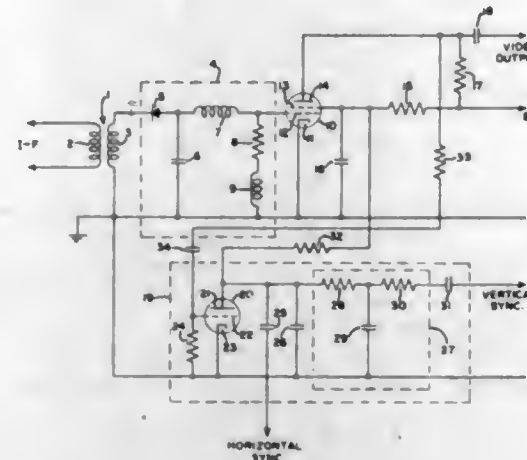
3,341,656 DYNAMICALLY REGULATED CLIPPER SYSTEM FOR A TELEVISION RECEIVER WHICH IS OPERATIVE OVER A WIDE RANGE OF VIDEO SIGNAL AMPLITUDE

Norman Szeremy, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 21, 1964, Ser. No. 339,190
5 Claims. (Cl. 178-7.3)

1. A clipper system for a television receiver comprising: a clipper circuit including an electron tube having a plate and at least two other electrodes including a grid, said electron tube being the active clipper element of said clipper circuit; a video amplifier for amplifying the demodulated composite video signal of a television receiver, said video amplifier providing an input signal to said grid, said video amplifier additionally providing control means

for the plate voltage of said electron tube, said control means causing the plate voltage of said electron tube to

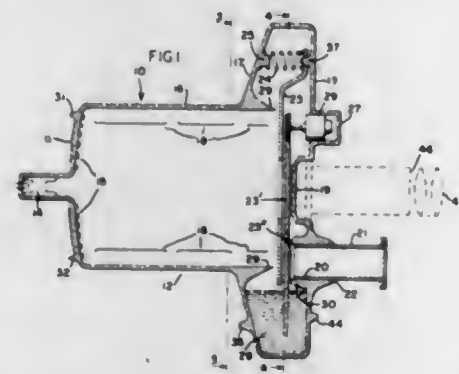


vary in proportion to the average strength of said composite video signal, whereby proper clipping of said input signal at all signal levels is achieved.

3,341,657 LIGHT VALVE ALIGNING MEANS COMPRISING STRUCTURAL MEMBERS FOR MECHANICALLY POSITIONING THE LIGHT VALVE ELEMENTS

Frank A. Romano, Jr., and William H. Nicklas, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 24, 1965, Ser. No. 434,961
8 Claims. (Cl. 178-7.5)



1. In a light valve of the type in which the elements of the light valve are enclosed in an envelope, the improvement comprising the placing of positioning means on said envelope whereby said elements may be aligned with each other and with additional elements external to said envelope, and the light valve itself may be aligned with an overall system.

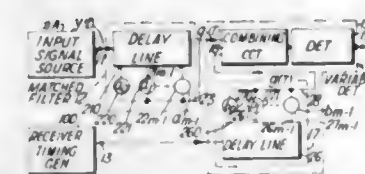
3,341,658 SYNCHRONIZATION SYSTEM UTILIZING A MATCHED FILTER FOR CORRELATION DETECTION OF SYNC SIGNALS

Hisashi Kaneko, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

Filed Feb. 4, 1964, Ser. No. 342,464
Claims priority, application Japan, Mar. 18, 1963,
38/14,640

1. A synchronizing signal detector for synchronizing a receiver with synchronizing signals contained in received input signals supplied to the receiver, comprising: (a) a timing signal source for generating timing signals having a shape which is related to the a priori probability distribution curve for the position of a timing point in said synchronizing signals;

(b) a matched filter connected to receive the input signals for producing filtered output signals which vary in accordance with a predetermined characteristic of the input signals; and

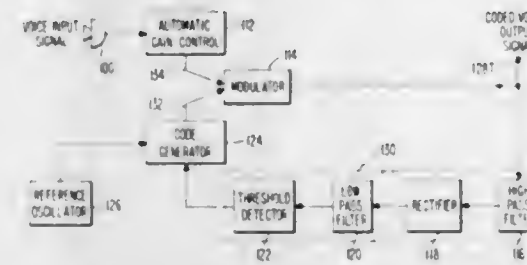


(c) detector means connected to receive and combine the timing signals and the filtered output signals for detecting a timing point in said combined signals and producing a detector output signal each time said combined signals exceed a preset value, whereby the detection level for a time point in said filtered output signals is varied in accordance with the a priori probability distribution curve for the position of said time point, thereby to increase the likelihood of detection of said timing point.

3,341,659 CONTROLLED BANDWIDTH CODED VOICE COMMUNICATION SYSTEM

David M. Stern, Merion Station, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 24, 1964, Ser. No. 340,020
9 Claims. (Cl. 179-1.5)



1. A coded signal communication system comprising an encoding and a decoding subsystem, each of said subsystems including a code generator and means connected to said code generator for controlling the frequency spectrum of the output signal therefrom, the frequency spectrum controlling means of both the encoding and decoding subsystems includes a modulator with input and output terminals to receive and deliver the uncoded and encoded signals respectively, a code generator having coded output signal terminals also connected to the input terminals of said modulator, said code generator also having output signal frequency spectrum control terminals, said encoder further including a frequency monitor and threshold means having frequency selective input means and threshold indicating output means, said selective input means connected to said modulator output terminals and said threshold indicating output means connected to the control terminals of said code generator whereby the spectra of the code generator output means is controllably responsive to selective frequency components of said modulator encoded output signal.

3,341,660 TIME DIVISION MULTIPLEX PULSE CODE MODULATION COMMUNICATION SYSTEMS

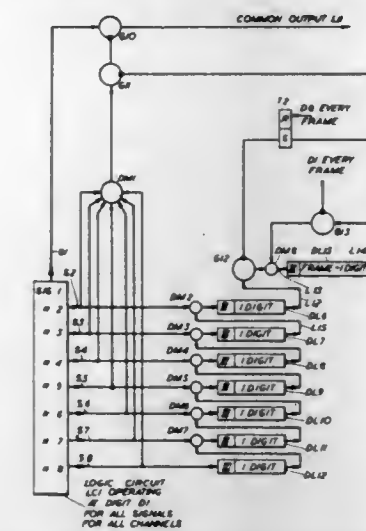
Winston Theodore Duerdoh, Ruislip, England, assignor to Her Majesty's Postmaster General, London, England

Filed Jan. 14, 1964, Ser. No. 337,623
Claims priority, application Great Britain, Jan. 14, 1963,
1,664/63

8 Claims. (Cl. 179-15)

1. A multichannel pulse code modulation communication system in which one digit position of each channel is allocated for the transmission of signalling information

relating to the channel comprising in combination a pulse transmitter, a control unit for said transmitter, a plurality of control leads from said control unit, different combinations of said leads each representing a different type of signalling information, a pulse train source the pulses of which are coincident with said digit position, means

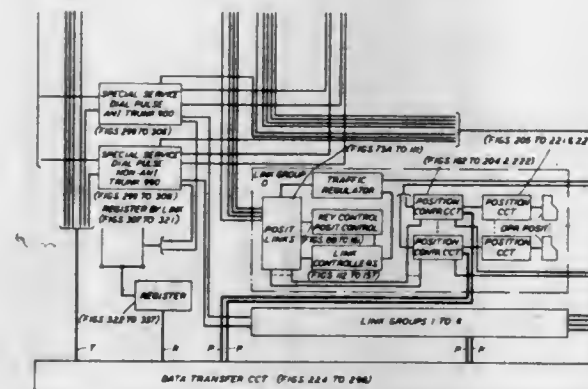
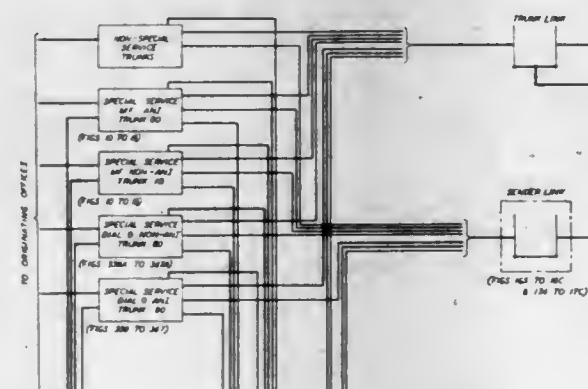


for applying said pulse to that combination of said leads representing the signalling information to be transmitted and for suppressing the transmission of pulses of the pulse train other than those separated by a time interval characterising the signalling information to be transmitted, and receiving means for receiving said pulses in said signalling digit position.

3,341,661 EQUIPMENT FOR OPERATOR SERVED CALLS AT AN INTERMEDIATE SWITCHING CENTER

Robert B. Curtis, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

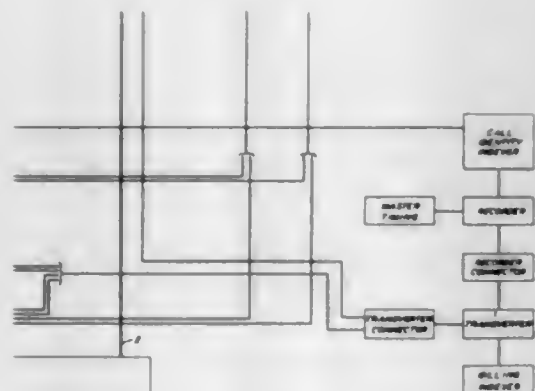
Filed Oct. 23, 1963, Ser. No. 318,275
67 Claims. (Cl. 179-27)



1. In a telephone switching system, trunk circuits, a first and a second group of other circuits, means responsive to the receipt of a call by one of said trunk circuits for interconnecting it with one circuit in each of said groups, a data transfer circuit, further means responsive

to the receipt of said call for causing said one trunk circuit to effect the transmission of a service request signal to said data transfer circuit, and means responsive to

service request thereon for initially requesting a nonpriority connection to one of said other circuits, switching means responsive to said connection request for establishing said connection on a nonpriority basis, means subsequently operative for releasing said connection, means

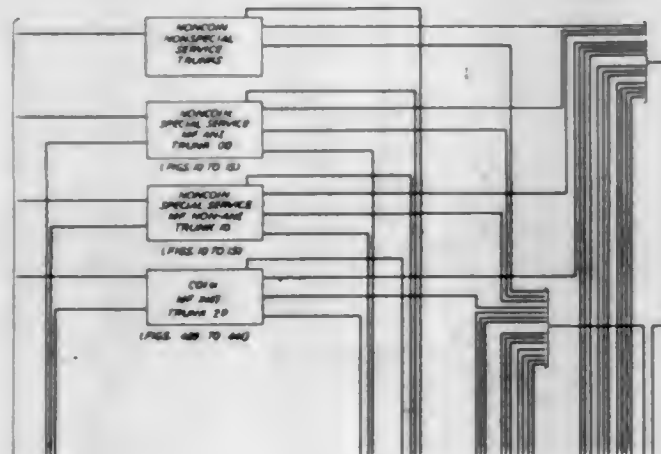


the receipt of said signal by said data transfer circuit for causing it to establish a data transmission path interconnecting said one trunk circuit with said one circuit in each of said groups.

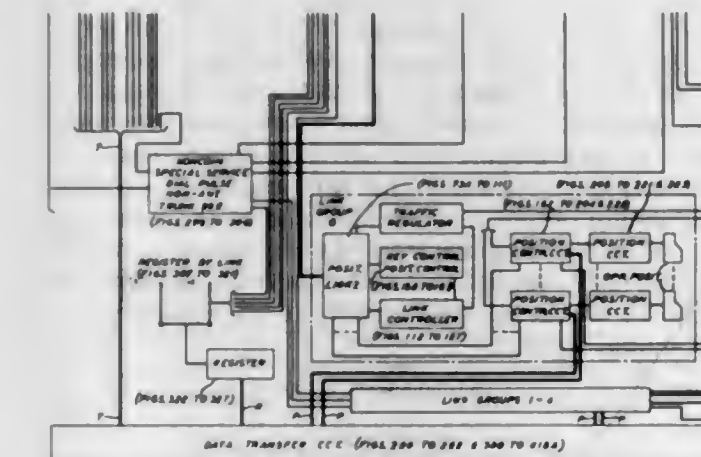
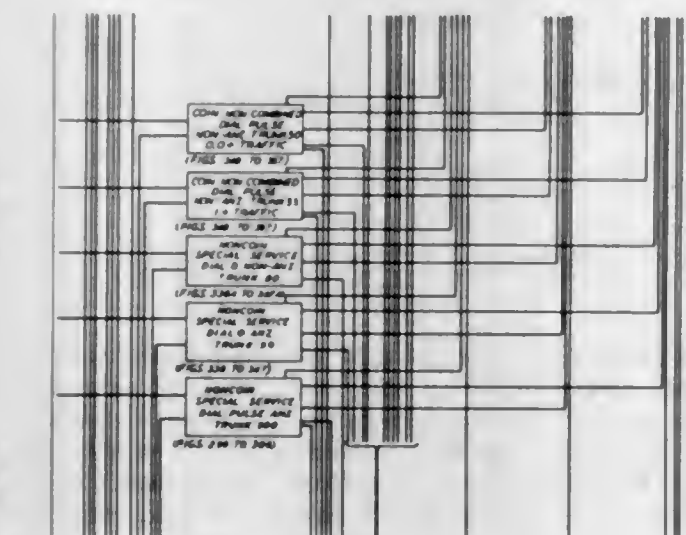
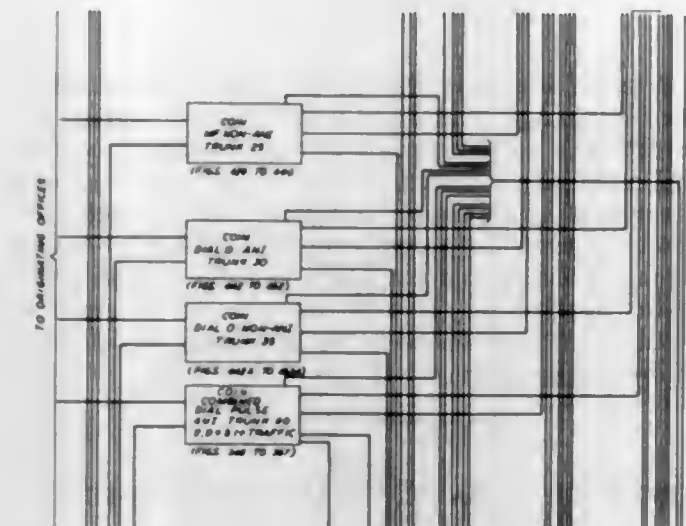
3,341,662

EQUIPMENT FOR OPERATOR SERVED CALLS AT AN INTERMEDIATE SWITCHING CENTER

Louis J. Cerny, Long Island City, N.Y., Orfeo Cesario, Washington Township, Bergen County, N.J., Robert B. Curtis, Columbus, Ohio, John G. Nightingale, Fair Lawn, N.J., and Frederick H. Parkinson, Jr., Columbus, Ohio, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 26, 1963, Ser. No. 325,842
81 Claims. (Cl. 179-27)



1. In a switching system for establishing connections from originating circuits to other circuits, means in each of said originating circuits responsive to the receipt of a

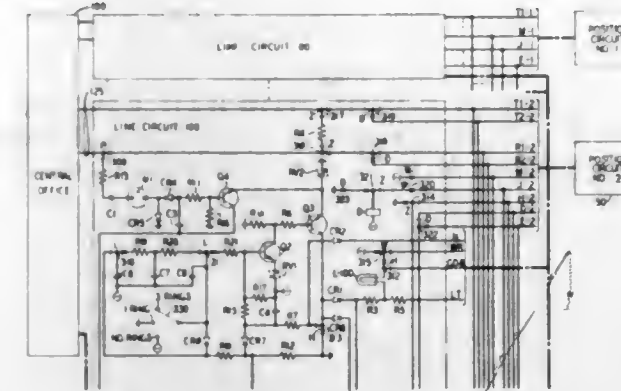


in each of said originating circuits operative subsequently for requesting a priority connection to one of said other circuits, and means including said switching means effective for establishing said last-mentioned connection on a priority basis.

3,341,663

TELEPHONE ANSWERING SYSTEM

Vincent R. De Stefano, Lincroft, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 29, 1964, Ser. No. 363,359
12 Claims. (Cl. 179-27)

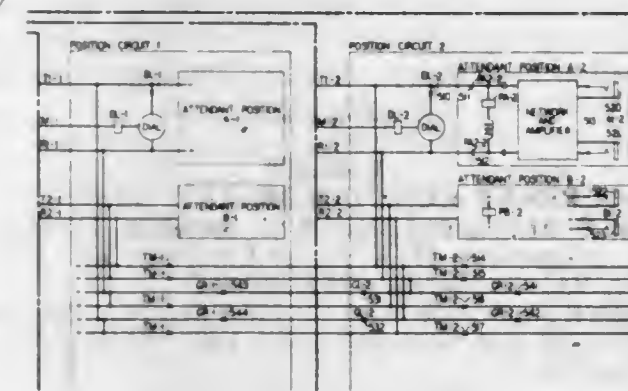


1. In a telephone system, in combination, apparatus responsive to cycles of ringing current applied to a telephone subscriber line, signal means, counting means comprising a plurality of capacitors, means responsive to a first cycle of ringing current applied to a telephone subscriber line to charge one of said capacitors, means responsive to succeeding cycles of ringing current applied to said telephone subscriber line to transfer a charge from said one capacitor to others of said capacitors in succession, and means responsive to a charge on one of said capacitors to actuate said signal means.

3,341,664

TELEPHONE ANSWERING SYSTEM

Ralph R. Leonard, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 29, 1964, Ser. No. 363,360
16 Claims. (Cl. 179-51)

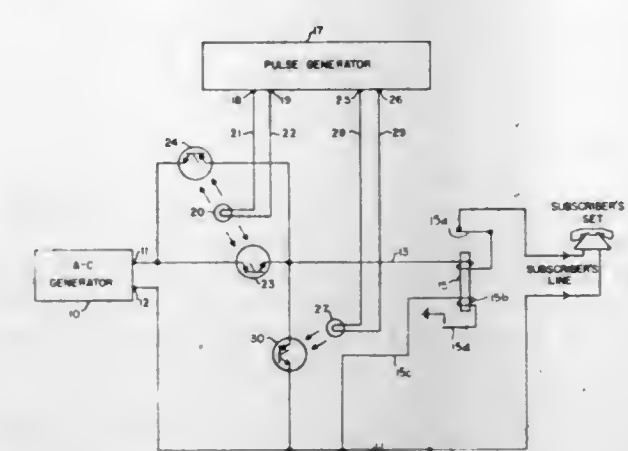


1. In combination in a telephone switching system, subscriber's lines connected thereto, a telephone answering bureau, means for extending said subscriber's lines to said answering bureau, a plurality of attendant positions at said answering bureau, attendants' headsets for said positions, position control circuits for said positions for connecting the attendant's headset with said lines, a manual switch connected to each of said control circuits, and means responsive to the operation of a single one of said switches at an occupied position for interconnecting said occupied position control circuit with the position control circuits of the positions between said occupied position and the next occupied position.

3,341,665

INTERRUPTER CIRCUIT FOR TELEPHONE SYSTEMS

Stephen L. Merkel and Jefferson T. Mitchell, Bay Village, Ohio, assignors to Lorain Products Corporation, a corporation of Ohio
Filed Mar. 23, 1964, Ser. No. 353,913
5 Claims. (Cl. 179-84)

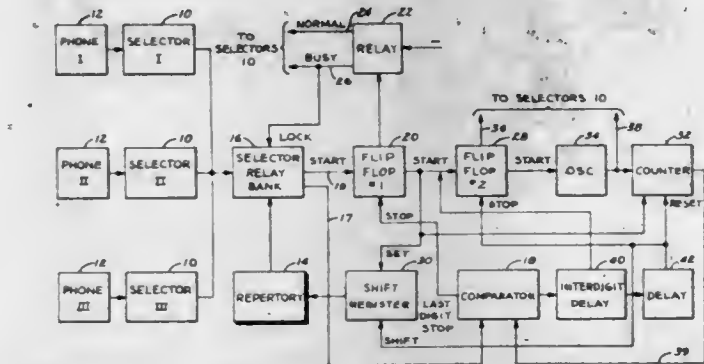


1. In a circuit adapted to conduct current between an A-C power source and a load, in combination, pulse generating means, light source means arranged to turn off and on in response to a predetermined change of conditions in said pulse generating means, light sensitive switch means between the A-C source and said load, a network for said light sensitive means arranged to be energized during both half cycles of an A-C cycle from the A-C source by a change in electrical characteristics in said light sensitive switch means responsive to change of light intensity from said light source in accordance with a predetermined change of conditions in said pulse generator means.

3,341,666

ELECTRONIC REPERTORY DIALING TRANSMITTING DEVICE USING D.C. PULSES

Jacob Lightsey Wallace, Jr., Springfield, Va., assignor to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia
Filed May 28, 1964, Ser. No. 370,780
14 Claims. (Cl. 179-90)

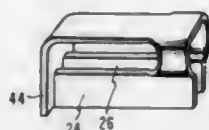


1. A repertory call-selecting apparatus for use with an automatic call-selecting telephone system having a plurality of individual telephone instruments and telephone lines, said apparatus comprising individual selector means associated with said telephone instruments for initiating call-selecting signals, a memory of encoded telephone addresses individually selectable by said selector means, and comparison means responsive both to said call-selecting signals and to the selected encoded address in said memory for controlling the issuance of said call-selecting signals, thereby to call the selected address.

3,341,667 MAGNETIC TRANSDUCER WITH SINGLE PIECE CORE

Edgar Alan Brown, Gilroy, and Gunter Heinz Schacht, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

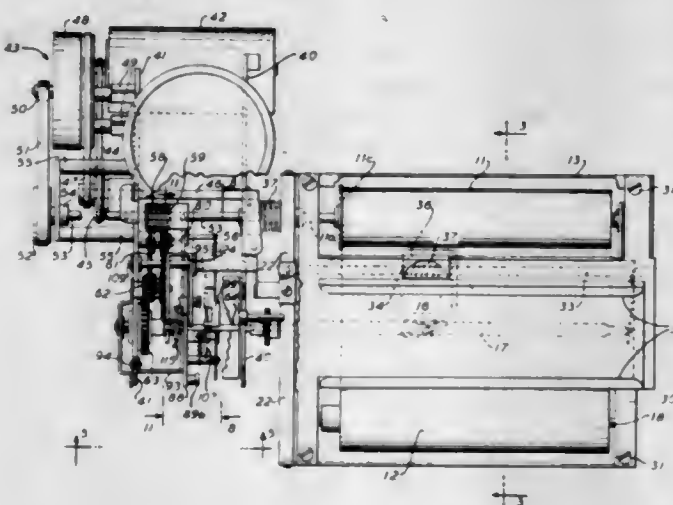
Filed Mar. 19, 1962, Ser. No. 180,746
4 Claims. (Cl. 179—100.2)



1. A transducer for association with a single information track on a magnetic record comprising:
 - a core formed from a single continuous piece of magnetic material having first and second closely spaced pole pieces separated by a non-magnetic gap across which said magnetic record is arranged to pass in a predetermined direction,
 - said first pole piece extending substantially transverse to said predetermined direction,
 - said second pole piece extending substantially parallel to said predetermined direction,
 - said second pole piece comprising spaced portions of said magnetic permeable material in planes substantially perpendicular to the plane of the record, and means positioned on said core member between said first and second pole pieces for establishing a magnetic flux which extends into said record along said single information track adjacent said non-magnetic gap.

3,341,668 DICTATING MACHINE WITH QUICK REVIEW APPARATUS

Richard K. Walker, Convent, N.J., assignor to McGraw-Edition Company, Elgin, Ill., a corporation of Delaware
Filed Apr. 17, 1964, Ser. No. 360,552
9 Claims. (Cl. 179—100.2)

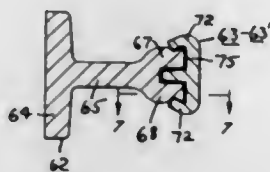


1. In a dictating machine including a rotatable record support, a record-reproduce head mounted for traveling movement relative to said support, and drive means for rotating said support and advancing said head: the combination of a manual scan control depressible to release said head from said drive means and shiftable while in a depressed position to backspace or advance said head across the record support, a record-reproduce control and means responsive thereto for conditioning said machine respectively for record and reproduce as said record-reproduce control is shifted into record and reproduce positions, spring means responsive to depressing said scan control while said machine is conditioned for recording

for shifting said machine into reproduce condition and concurrently biasing said record-reproduce control in reproduce position, other spring means rendered operative as said record-reproduce control is shifted to record position for biasing said control into record position, and means responsive to reciprocating said record-reproduce control from record to reproduce position and back again for backspacing said head by the pitch distance between successive track convolutions for each reciprocation.

3,341,669 CURRENT CONDUCTOR RAIL SYSTEM

Gerald E. Martin and Donald G. Sprigings, Lynchburg, Va., assignors to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware
Filed Mar. 11, 1964, Ser. No. 350,994
5 Claims. (Cl. 191—29)



1. A current conductor rail section for use in systems for supplying electrical energy to electrically energizable movable utilities carrying current collector devices engageable with such rail, comprising in combination:
 - (a) a main current-carrying member of high electrical conductivity formed in the shape of a structural member,
 - (b) an electrically conductive cap member of smaller cross-sectional area than said main member mechanically interfitted with and locked to said main member in good electrical contact therewith to provide a facing for the latter and which is to be engaged by the current collector devices of the aforesaid movable utilities, and cap member being formed from a material characterized by the ability to work harden on the surface, and
 - (c) a thermosetting conductive plastic material disposed between all of the non-contacting surfaces of the mechanically interfitted parts of said main member and cap members to fill any void spaces therebetween and function as a seal and conductive bond.

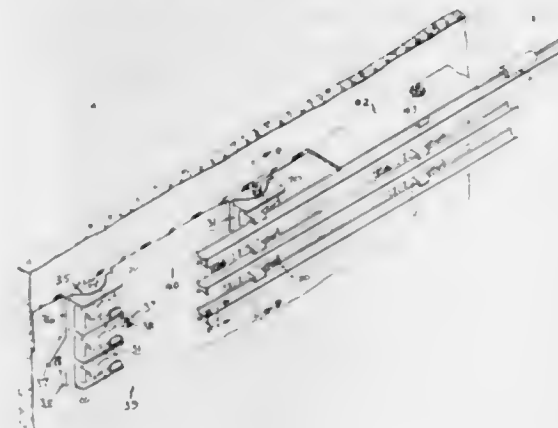
3,341,670 CURRENT CONDUCTOR RAIL SYSTEM

Gerald E. Martin and Donald G. Sprigings, Lynchburg, Va., assignors to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware
Original application Mar. 11, 1964, Ser. No. 350,994.
Divided and this application Aug. 15, 1966, Ser. No. 596,357

9 Claims. (Cl. 191—32)

1. In a current conductor rail system for supplying electrical energy to electrically energizable movable utilities which carry current collector devices engageable with the conductor rails of such a system,
 - (a) a plurality of insulator block assemblies spaced apart along the length of said conductor rails and supporting the rails in desired position by engagement with the base part thereof, each of said assemblies including
 - (1) a bracket having upper and lower spaced apart horizontal flanges, means for detachably securing a plurality of vertically stacked insulator blocks to and between said flanges in fixed position, and means for securing said bracket to a supporting structure,

- (2) a plurality of vertically stacked identical insulator blocks each having a pair of upper and lower parallel planar surfaces arranged with the lower surface of one block seated upon the upper surface of the block immediately therebelow, and with the stacked height of said insulator blocks substantially corresponding to the distance between the upper and lower horizontal flanges of said bracket, each of said insulator blocks being provided with a pair of laterally spaced support tabs extending forward from the front face of said insulator with a vertical spacing therebetween substantially equal to the vertical extent of said conductor rail base part, the upper and lower ones of said support tabs being turned respectively downward and upward at their forward ends with points of termination spaced vertically apart a distance substantially equal to the vertical extent of said conductor rail web and spaced forward from said front face by an amount substantially equal to the horizontal thickness of said rail base part, the lateral spacing of said support tabs being such that no part of the upper one directly overlies the lower one.

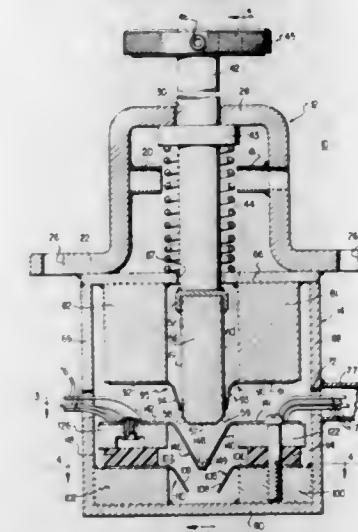


9. An insulator for supporting a conductor rail of the type having a longitudinally extending current-carrying head portion and a longitudinally extending substantially flat base portion for mounting the rail in position, said insulator comprising a main body portion of molded electrical insulation material having flat top and bottom surfaces disposed in parallel relation and a front face upon which are integrally formed a pair of rail engaging lugs which project forwardly of said front face and are each provided at its end with a lip lying in a plane spaced from and paralleling said front face, said lugs being respectively disposed adjacent the opposite vertically spaced ends of said insulator body portion in diagonally spaced relation and with the lips thereof respectively inturned to conjointly form with the front wall of the insulator a pair of opposed channels adapted to embrace opposite edges of the flat base portion of the rail to be supported by said insulator, the relative spacing of said lugs being such that upon rotation of the block through an angle of substantially 45 degrees relatively to the rail supported thereby said rail-embracing channels are freed of the rail whereby to permit the insulator to be bodily shifted rearwardly of the rail and out of engagement therewith, said insulator being of symmetrical shape with reference to both its vertical and horizontal median planes to thereby render it reversible top for bottom and having a bore extending therethrough with its axis extending perpendicularly to the flat top and bottom surfaces thereof and located in the vertical median plane of the insulator at a point spaced rearwardly of the front face of the insulator whereby a plurality of identical insulators may be vertically stacked flatwise one upon the

other for mounting in position by a single bolt projected through the vertically aligned bores of said stacked insulators.

3,341,671 MULTIPLE RADIO FREQUENCY SWITCH WITH IMPROVED SLIDABLE CONTACT STRUCTURE

Raymond J. Anater, Akron, and Bruce G. Steiner, Lancaster, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1966, Ser. No. 533,972
15 Claims. (Cl. 200—16)



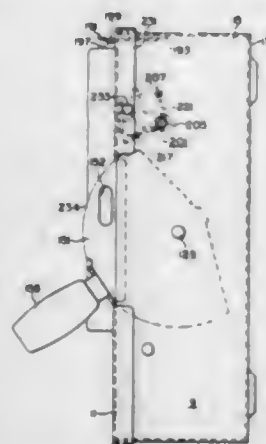
1. A switching device comprising a switch actuator mounted for reciprocal movement along a pre-determined path of travel between a normal first position and a second position, and a plurality of normally closed switching contacts operatively positioned along said pre-determined path of travel of said switch actuator, said normally closed contacts assuming an open circuit condition in response to movement of said switch actuator therebetween from its normal first position to its second position, a housing having an aperture for reciprocal mounting of said switch actuator, a spring normally biasing said switch actuator in a first position, said switch actuator being moved to its second position against said biasing spring, a conductor on said switch actuator, grounding means operatively positioned in continuous engagement with said switch actuator conductor providing a ground barrier to radio frequency signals, said normally closed contacts including resilient pairs of normally closed switch contact fingers fixedly positioned along the path of travel of said switch actuator, said switch actuator movable to a second position between said normally closed contact fingers to accordingly open the same, said normally closed switch contacts remaining in their open state for as long as said switch actuator remains in its second position, said switch returned to its first state by said biasing spring upon removal of the actuating force.

3,341,672 ENCLOSED CIRCUIT INTERRUPTING STRUCTURE WITH IMPROVED LATCHING MECHANISM

Stephen A. Mrenna and Howard E. Reichert, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Mar. 13, 1964, Ser. No. 351,725, now Patent No. 3,278,710, dated Oct. 11, 1966. Divided and this application Mar. 1, 1966, Ser. No. 530,922
8 Claims. (Cl. 200—50)

1. An enclosed control structure comprising an enclosure, said enclosure comprising a receptacle having a receptacle opening, an openable cover structure supported on said receptacle and movable to open and close said receptacle opening, a control device supported within

said receptacle and comprising a pair of cooperable contacts, an externally operable operating member operable to an "off" position to open said contacts and to an "on" position to close said contacts, a latch member pivotally supported on a fixed pivot on said receptacle, resilient means biasing said latch member in a first pivotal direction toward a first position, with said operating member in the "off" position and said cover structure in the open position, said resilient means maintaining said latch member in said first position wherein said latch member is in the path of movement of said operating member to engage said operating member to prevent operation of said operating member to the "on" position, when said operating member is in the "off" position and said cover structure is moved to the closed position, said cover structure engaging said latch member and pivoting said latch member against the bias of said resilient means in a second pivotal direction opposite said first pivotal direction to a second position, said latch member in said



second position being out of the path of movement of said operating member whereby said operating member can be freely moved to the "on" position when said cover structure is in the closed position. When said cover structure is in the closed position and said operating member is moved to the "on" position said operating member being in the path of movement of said latch member to engage said latch member to prevent movement of said latch member in said first pivotal direction to said first position, said latch member and said cover structure being constructed and arranged such that when said cover structure is moved toward the open position with said operating member in the "on" position said cover structure engages said latch member tending to pivot said latch member in said first pivotal direction toward said first position which pivotal movement of said latch member is restrained by the engagement of said latch member with said operating member whereby said engagement of said latch member with said cover structure prevents opening movement of said cover structure.

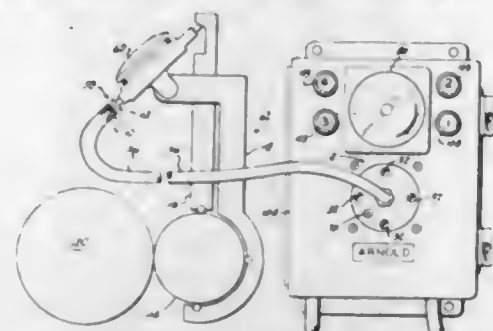
3,341,673

AIR SWITCH IN WHICH A FLEXIBLE DIAPHRAGM OPERATES A DUMP VALVE IN RESPONSE TO PRESSURE CHANGES

Kent B. Arnold, 3321 E. Court St.,
Flint, Mich. 48506
Filed Mar. 16, 1966, Ser. No. 541,442
7 Claims. (Cl. 200-83)

1. In an air switch including a housing, a chamber within said housing, a flexible diaphragm sealed within said housing and forming a surface of said chamber, a reference pressure system for supplying air to said chamber at a reference pressure, a gaging pressure system for supplying air against the surface of said diaphragm opposite from said chamber at a minimum pressure of less than said reference pressure, and means for varying the pressure within said gaging pressure system in response to external stimuli and to cause flexure of said diaphragm

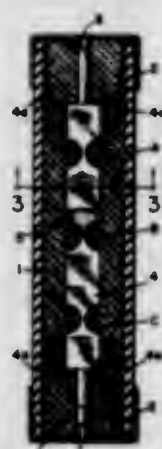
when said pressure within said gaging pressure system exceeds said reference pressure, means for increasing the differential pressure across said diaphragm and rapidly



amplifying the force of said flexure to actuate control means, comprising, a valve disposed to be opened by flexure of said diaphragm and arranged to rapidly exhaust air from said chamber.

3,341,674 ELECTRIC QUARTZ-SAND-FILLED FUSE ADAPTED TO INTERRUPT EFFECTIVELY PROTRACTED SMALL OVERLOAD CURRENTS

Philip C. Jacobs, Jr., Newtonville, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Oct. 21, 1965, Ser. No. 502,782
4 Claims. (Cl. 200-120)



1. An electric fuse comprising in combination:
 - (a) a tubular casing of insulating material;
 - (b) a pair of terminal elements closing the ends of said casing;
 - (c) an arc-quenching quartz-sand-filler inside said casing;
 - (d) a first fusible element having a relatively large current-carrying capacity inside said casing, conductively interconnecting said pair of terminal elements and submersed in said quartz-sand filler;
 - (e) a second fusible element having a relatively small current-carrying capacity shunting said first fusible element; and
 - (f) a woven sleeve of glass fibers enveloping said second fusible element and separating said second fusible element from said quartz-sand-filler.

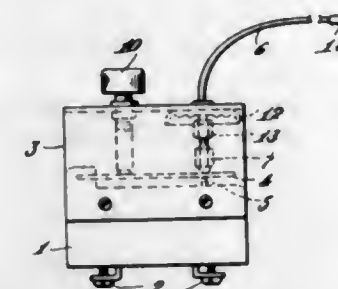
3,341,675

SPACE HEATER WITH TWO THERMAL SENSORS ACTING ON A CONTROLLER ACTUATOR ALONG APPROXIMATELY THE SAME LINE

Harley J. Orr, Bedford, N.H., assignor to Sola Basic Industries, Inc., a corporation of Wisconsin
Filed Aug. 26, 1965, Ser. No. 482,867
2 Claims. (Cl. 200-138)

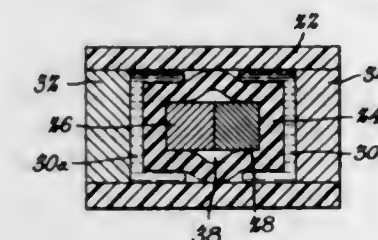
1. For heating air in a space, apparatus comprising a heater, a casing for the heater, the casing having a passageway for the air, the passageway having an inlet and

an outlet communicating with said space, the heater being disposed in heat-transfer relation to the passageway between the inlet and outlet, a controller for varying the heat produced by the heater having an actuator, and two thermal sensors for actuating the controller, one sensor



being in direct heat-transfer relation with the heater and the other sensor being responsive to the air to be heated, each sensor acting on the actuator along approximately the same line, and each sensor causing the controller to reduce said heat in response to increase of temperature.

3,341,676
FLUID SWITCH
Phillip L. Schwarz, Chicago, Ill., assignor to Beltone Electronics Corporation
Filed Dec. 29, 1965, Ser. No. 517,342
11 Claims. (Cl. 200-152)



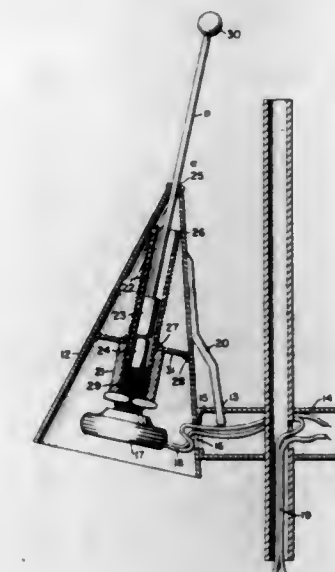
1. The improvement of a fluid switch construction comprising the combination of a sealed substantially non-deformable hollow container, a plurality of electrical terminals spaced from each other and extending into said container, an electrically conductive non-wetting fluid partially filling the interior hollow portion of said container and in contact with said electrical terminals so as to provide a closed electrical circuit path between said terminals, a barrier of deformable, electrically insulating material positioned within said hollow container, said barrier defining at least one aperture through which said fluid is positioned, and selectively operable means for deforming said barrier to cause said aperture to be altered for separating said fluid into separate, spaced-apart segments to thereby open said closed electrical circuit path between the electrical terminals.

3,341,677 LAMP ACTUATOR AND HOUSING ASSEMBLY IN THE FORM OF A CANDLE SNUFFER

Harold M. Goodman, 1519 Westwood Ave.,
Richmond, Va. 23227
Filed Feb. 18, 1966, Ser. No. 531,326
1 Claim. (Cl. 200-172)

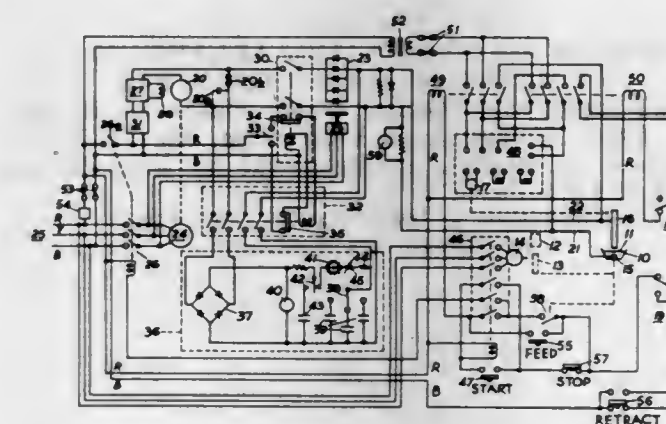
A lamp actuator and housing in the form of a candle snuffer comprising a sheet metal cone shaped housing concealing a pushbutton switch and its wiring, a stem freely movable vertically to actuate said pushbutton switch, said stem having an enlarged portion on its lower end for insuring stability and of a predetermined weight to provide constant contact with the pushbutton switch, and yet easily elevated from its depressed position by

the recoil force of the pushbutton switch and its upper and extending through an aperture in the apex of said housing and terminating in a ball tip, a tube secured within said housing along its central axis forming a chan-



nel for the stem and supporting the pushbutton switch by means of a coupling and a hook attached to the outside of said housing for securing said assembly to a lamp stand.

3,341,678
SPARK EROSION MACHINE
Sydney V. Divers, Bletchley, England, assignor to Linderfort Limited, Bletchley, England
Filed June 12, 1963, Ser. No. 287,426
3 Claims. (Cl. 219-69)



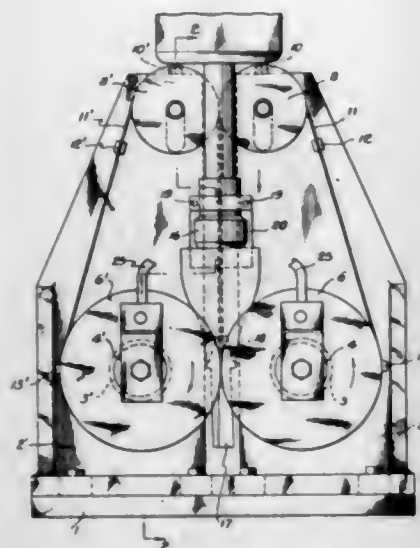
1. A spark erosion machine for erosion of workpiece comprising an alternator, a rectifier, an electrode, means operable to move said electrode relative to a workpiece in dependence upon a potential produced between said electrode and said workpiece by said alternator and said rectifier, means for closely stabilizing the current output of said alternator, an auxiliary relaxation capacitor circuit, switch means for selectively interposing said relaxation capacitor circuit between said alternator and said electrode in place of said rectifier, said auxiliary relaxation capacitor circuit including a plurality of capacitors of different capacitances, and secondary switch means for selectively including said capacitors into said auxiliary relaxation capacitor circuit, and safety means for preventing operation of said switch means while a workpiece is being eroded.

3,341,679 METHOD AND APPARATUS FOR SPARK ERODING CYLINDRICAL ROLLS

Fred K. Bender, New Isenburg, Hesse, and Georg Schlapp, Langen, Hesse, Germany, assignors to Nassovia Werkzeugmaschinenfabrik G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 24, 1964, Ser. No. 346,883
Claims priority, application Germany, Mar. 2, 1963,
N 22,835

6 Claims. (Cl. 219—69)

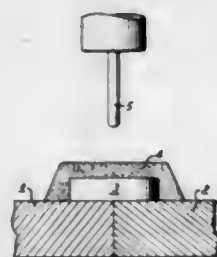


1. An apparatus for forming cylindrical rolls for use in rolling out shaped bodies comprising a pair of tangential cylindrical roll workpieces, a tool electrode mounted for movement between said rolls, a drive sheave joined to each roll workpiece in said workpieces, an endless pulley belt extending around each drive sheave and connected to said tool electrode, and a belt tensioning sheave in engagement with each belt, respectively.

3,341,680 METHOD OF WELD-JOINTING ALUMINUM AND ALUMINUM ALLOYS WITH STEEL

Vladimir Rafailovich Rjabov, Danil Markovich Rabkin, and Alitisa Valerjanovna Lozovskaja, Kiev, U.S.S.R., assignors to Institute Elektrosvarki im E.O. Patona, Kiev, U.S.S.R.

Filed Apr. 3, 1964, Ser. No. 357,202
11 Claims. (Cl. 219—73)



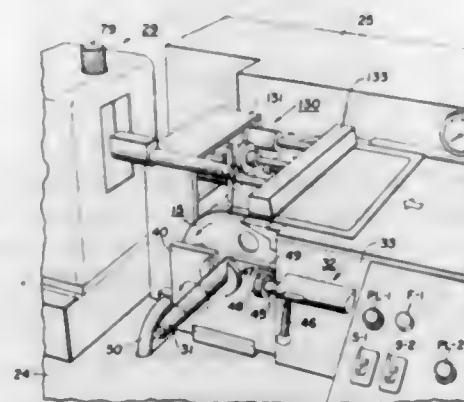
1. A method of welding steel to aluminum and aluminum alloys, said method comprising stripping portions of a steel member and an aluminum containing member, contacting said members at their thusly stripped portions in a configuration into which said members are to be welded, placing a cleaned zinc plate on the thusly contacted members, covering the contacted members and thereupon placed zinc plate with flux, subjecting said contacted members, zinc and flux to an electric arc from a consumable electrode comprising aluminum to first melt the zinc and then a portion of the electrode to form a

molten bath, said molten bath comprising a mixture of aluminum and zinc which mixture together with iron from the steel member forms a weld seam between the members.

3,341,681 XEROGRAPHIC PLATE FABRICATION

John J. Elchisak and William D. Hope, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 26, 1963, Ser. No. 311,872
8 Claims. (Cl. 219—78)



6. Apparatus for bonding a sheet-like member onto the surface of a drum blank comprising:

- a rotatable mandrel for supporting a drum blank along its axis and placing a portion of said drum blank surface coextensive with said axis in a work zone;
- a support platform adjacent said work zone for supporting a sheet-like member with the surface portion associated with one edge of said sheet-like member in contact with the surface of said drum blank in said work zone;
- a bonding apparatus which is movable in a path substantially parallel to and coextensive with said work zone for effecting selective bonds between said sheet-like member and said drum blank surface in contact at said work zone;
- drive means coupled to said mandrel for moving successive portions of the surface of said supported drum blank into said work zone;
- vacuum means intermediate said support platform and said work zone for restraining movement of said sheet-like member across said vacuum means; and,
- pressure clamp means movable into said work zone for urging said sheet-like member against said drum blank surface in said work zone when said sheet-like member leaves the restraint of said vacuum means.

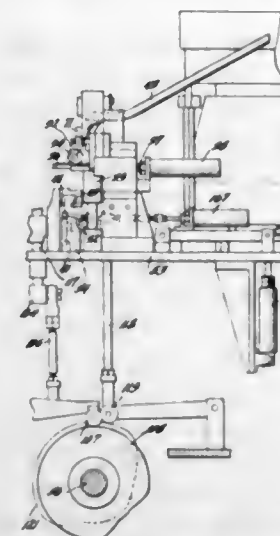
3,341,682 AUTOMATIC ASSEMBLING AND WELDING MACHINE

Charles R. Fegley, Laureldale, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 4, 1963, Ser. No. 327,971
7 Claims. (Cl. 219—78)

- In a machine for assembling a hollow article onto a second article supporting means for holding said second article, a carrier for supporting said hollow article with the open end in alignment with the second article, a pair of jaws mounted for movement toward and then along said second article, said jaws having upwardly projecting guide elements, means for moving said jaws into engagement with said second article and then moving said jaws along said article,

means for advancing said carrier to move said hollow article over said upwardly projecting guide elements, and

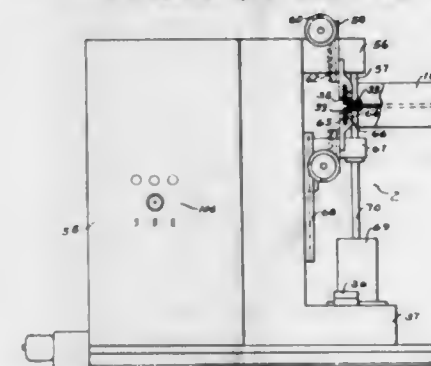


means for moving said jaws and guide elements relative to said advancing means to withdraw said guide elements from within said hollow article.

3,341,683 AUTOMATIC RESISTANCE WELDING MACHINE

John R. McConnell, 148 Woodside Ave., Ridgewood, N.J. 07450

Filed Apr. 3, 1964, Ser. No. 357,207
9 Claims. (Cl. 219—80)



1. A resistance welder comprising a transformer and controls, case with upper platen and vertically aligned lower platen elevatable by a powered piston, dual retractable angle-assembling grips and dual opposed bar electrodes on said platens, a mobile carrier with powered elevatable turntable and shape-clamping vise longitudinally adjustable by powered threaded shaft on an aligning track and electric current, whereby a shape length-centered and clamped in the vise is longitudinally moved and intermediately located between the platens and elevated as the platens converge the connection angles against opposite sides of the web of the shape, and electrodes effect multiple adjacent compound-chain spot welds by a series circuit through the assembled work pieces as the shape is slightly rotated, whereupon the carrier rotates the shape 180° and a similar operation is performed at the opposite end of the shape to completely lay out, assemble and fabricate a symmetrical beam.

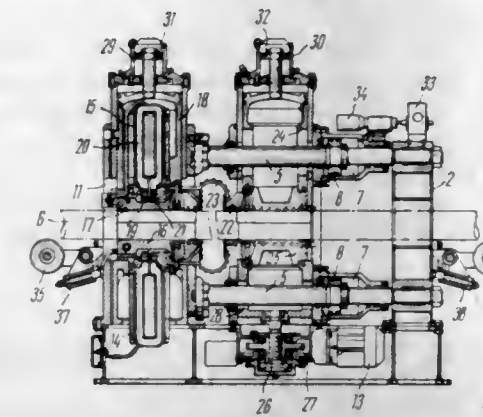
3,341,684 RESISTANCE BUTT WELDING MACHINE

Boris Evgenjevich Paton, Vasily Alexeevich Sakharov, Vladimir Konstantinovich Lebedev, Sergey Ivanovich Kuchuk-Jatsenko, and Boris Afanasjevich Galjan, Kiev, U.S.S.R., assignors to Institute Elektrosvarki im. E.O. Patona, Kiev, U.S.S.R.

Filed Apr. 17, 1964, Ser. No. 360,555
4 Claims. (Cl. 219—101)

1. A resistance butt-welding machine comprising a fixed column, a hydraulic press accommodated inside said

column and adapted for clamping one part of a workpiece to be welded; a movable column, and a further hydraulic press accommodated inside said movable column and adapted for fixing another part of the workpiece to be welded; welding transformers mounted in said fixed column and including a secondary winding; current carrying clamping jaws connected to the secondary winding of

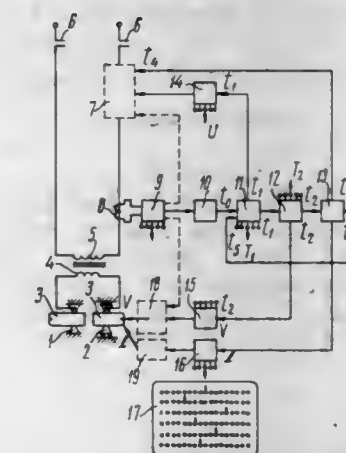


said welding transformers and also connected to said hydraulic presses; two rods mounted inside the fixed column symmetrically arranged with respect to and in the same vertical plane with the workpiece to be welded and also serving as guides for the movable column; and two hydro-cylinders including pistons positioned on said rods and mounted on the movable column.

3,341,685 METHOD AND DEVICE FOR AUTOMATIC CON- TROL OF RESISTANCE-BUTT WELDING

Boris Evgenjevich Paton, Ulitsa Kotsjubinskogo 9, Apt. 21; Oleg Vasiljevich Popovsky, Laboratorny pereulok 24, Apt. 22; and Sergei Ivanovich Kuchuk-Jatsenko, Ulitsa Vyshgorodskaja 4/1, Apt. 70, all of Kiev, U.S.S.R.

Filed May 15, 1964, Ser. No. 367,785
3 Claims. (Cl. 219—104)



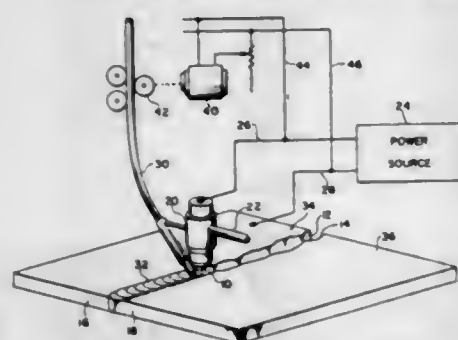
1. A method of automatic control of a straight flash-welding process wherein the welding cycle consists of the following consecutive stages:

- preparatory stage, during which the workpieces to be welded are moved together at a comparatively low constant speed while applying an alternating voltage of a magnitude sufficient to begin flashing of the cold ends of the workpieces to be welded and smooth out the irregularities thereon, the end of the preparatory stage being determined when a predetermined preset integral value of the welding current has flowed through the workpieces;
- first stage, whose duration commences from the beginning of the flashing over the entire end section area of the workpieces being welded, and wherein the same voltage and advancing speed are maintained, as during the previous preliminary stage, for a suf-

- ficient time, depending on the dimensions and configuration of the workpieces being welded, to insure uniform heating of the entire surface being flashed;
- (c) second stage, wherein the advancing speed is kept at the previous level, while the voltage is reduced by a value adequate for maintaining the intensity of the welding current not less than that during the said first stage, and for continuing stable flashing of the workpieces;
- (d) third stage, wherein to increase the intensity of flashing of the workpiece the advancing speed is increased and simultaneously the voltage is raised to a level close to the value of the voltage during the said preparatory and first stages;
- (e) fourth stage, wherein upsetting is performed with a preset upset travel and upset current time.

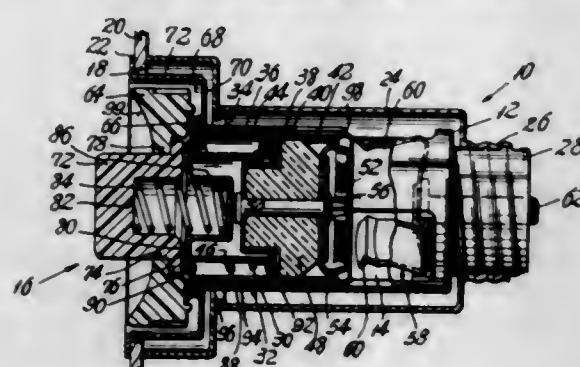
3,341,686 ELECTRICAL WELDING ARC GAP CONTROL METHOD AND MEANS

Paul R. Sidbeck, Torrance, Calif., assignor to North American Aviation, Inc.
Filed Dec. 9, 1966, Ser. No. 600,589
5 Claims. (Cl. 219-130)



1. A method of controlling amount of weld metal build-up in a weld puddle during progressive fusion arc welding, said method comprising:
- permitting minor variations of arc voltage due to non-uniformity in workpiece surface contour or puddle surface level at the location of the weld, and varying the feed rate of filler metal added to said weld puddle in response to said variations in arc voltage.

3,341,687
ELECTRIC CIGAR LIGHTER
Laurence G. Horwitt, New Haven, and Vincent G. Krenke, Fairfield, Conn., assignors to Casco Products Corporation, a corporation of Connecticut
Filed Oct. 23, 1964, Ser. No. 406,065
10 Claims. (Cl. 219-267)



1. A cigar lighter comprising
- (A) a tubular receptacle having an outer open end,
- (B) an igniting unit removably carried in the receptacle in a normal storage position, said igniting unit including a handling knob, a heating element carrier axially movable relative to the receptacle in opposite directions from said normal storage position, manually operable means accessible through the handling

knob for moving the heating element carrier from said storage position inwardly to an energizing position, and spring means for moving said heating element carrier outwardly from said energizing position,

- (C) said receptacle including means for substantially enclosing said handling knob therein when the igniting unit is in said normal storage position,
- (D) means engageable between the receptacle and the handling knob for preventing movement of the handling knob inwardly of the receptacle when the heating element carrier is moved by said manually operable means inwardly of the receptacle from said normal storage position, and
- (E) means engageable between said heating element carrier and said handling knob for moving the handling knob outwardly of said receptacle when the heating element carrier is moved by said spring means outwardly from said energizing position whereby the handling knob becomes accessible for removing the igniting unit from the receptacle.

3,341,688
OIL WELL HEATING APPARATUS
Joseph F. Scott, Chagrin Falls, Ohio, assignor to American Thermoelectric Corp., a corporation of Ohio
Filed May 12, 1964, Ser. No. 366,747
11 Claims. (Cl. 219-277)

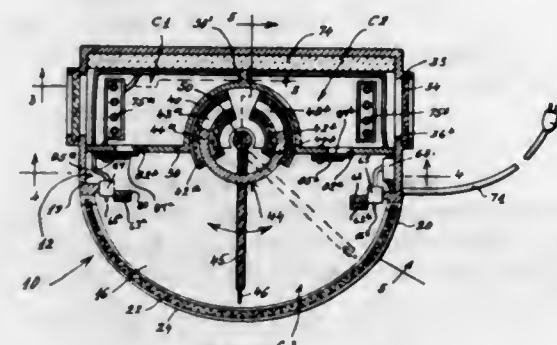


1. In a bore hole fluid heating apparatus, the combination comprising:
- a cylindrical pipe;
- resistive means on said pipe;
- electrical means connected to said resistive means for supplying electrical energy thereto;
- thermostat means adjacent said resistive means for accurately limiting the amount of power supplied to said resistive means; and
- sensor means mounted on said pipe remote from said resistive means for sensing the temperature of the bore hole fluid and for closely controlling the power supplied to said resistive means.

3,341,689
AIR HEATING AND CIRCULATING DEVICE HAVING AN OSCILLATING FAN BLADE
Bruno E. Reichenbach, 707 Park Ave., Lake Park, Fla. 33403
Filed Mar. 24, 1965, Ser. No. 442,278
15 Claims. (Cl. 219-371)

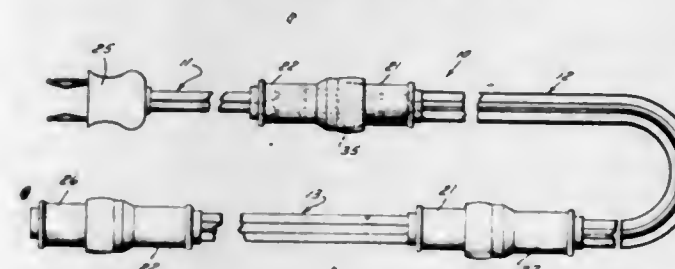
1. A filtered air circulation device, comprising an enclosure having a closed top wall, bottom wall, back wall, side walls, and an open front, a partition in said enclosure

dividing the interior thereof into a front compartment and two separated rear compartments, a vertically disposed blade in the front compartment, means mounting said blade in said front compartment so that the blade is oscillatable laterally on an axis at one edge thereof, said blade having a free edge located near the open front of the enclosure, said partition having openings therein providing communication between the front compartment and both rear compartments, diaphragm members on said partition at said openings for admitting air into the front compartment from the rear compartment when air pressure in the rear compartments is higher than in the front compartment, two solenoids having curved cavities



therein disposed on opposite sides of said blade, a cylindrically curved magnetic plate carried by said blade, said plate having curved sections extending laterally outward of said blade and terminating in said cavities, pushbutton type microswitches supported in the front compartment at opposite ends of travel of said blade for actuation alternately by the blade, electric circuit means interconnecting the microswitches and solenoids so that the solenoids are alternately energized, said side walls having air openings therein to admit air into the rear compartments for passage to the front compartments when the diaphragm members are opened at the first named openings in the partition.

3,341,690
HEATER CABLE ASSEMBLY
John Gray Commins, Glenview, Ill., assignor to Northern Electric Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 13, 1965, Ser. No. 425,184
5 Claims. (Cl. 219-528)

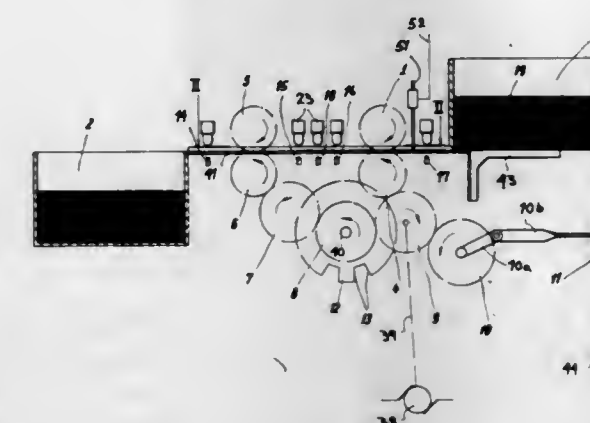


1. A heater cable assembly, comprising:
- (a) a cable segment having a pair of conductors;
- (b) a pair of waterproof connectors having bodies of plastic which plastic has the physical properties of vinyl, said connectors respectively disposed at the ends of said segment by which connectors the conductors of a similar segment may be joined to the connectors and conductors of said segment at either end of said segment;
- (c) a heating element extending between said connectors and connected across said conductors;
- (d) a power cord including a waterproof connector connectable to one of said pair of connectors; and

- (e) a watertight closure directly matable with the plastic body of the other of said pair of connectors in watertight relation.

3,341,691 FEEDING SYSTEM FOR PUNCH CARDS AND THE LIKE

Otto Modersohn, Volkmarode uder Braunschweig, and Hubertus Bettin, Braunschweig, Germany, assignors to Olympia Werke A.G., Wilhelmshaven, Germany, a corporation of Germany
Filed Apr. 30, 1963, Ser. No. 276,916
Claims priority, application Germany, May 2, 1962, O 8,718
4 Claims. (Cl. 235-61.11)



1. A system for correlating the advance of a succession of punch cards with the operation of a processing station for said cards, comprising frictional feed means for advancing said cards along a predetermined path; a generator of timing pulses including a plurality of cyclically energizable pulse sources synchronized with said feed means for producing a plurality of interleaved pulse trains during movement of a single card past a given location along said path; a plurality of sensing devices at spaced-apart locations along said path responsive to the passage of an edge of said card for producing each a corrective signal upon such passage, said sensing devices being disposed along a section of said path shorter than said card; circuit means connected to said generator and said sensing devices for deriving from said signals and said timing pulses a series of control pulses at a cadence related to that of said timing pulses but with a phasing determined by the occurrence of said signals; and output means connected to said circuit means for applying said control pulses to processing equipment at said station, thereby correlating the operation of said processing equipment with the positions of said card at successive stages of said operation; said circuit means comprising a plurality of first coincidence circuits connected in parallel to said sensing devices and individually to respective ones of said pulse sources, a like plurality of bistable electronic switches connected to the outputs of the respective ones of said coincidence circuits for changeover from a first to a second conductive state upon coincidence of a signal from any of said sensing devices with a timing pulse from the associated pulse source, a like plurality of second coincidence circuits each connected to the output of a respective one of said first bistable switches and to the associated pulse source for producing a control pulse only in response to a timing pulse from said associated pulse source with the corresponding bistable switch in its second conductive state, conductor means connected in parallel to the outputs of all said second coincidence circuits, and leads extending from the output of each bistable switch to the inputs of all other bistable switches for restoring any switch from its second to its first conductive state upon changeover of any other switch to its second conductive state.

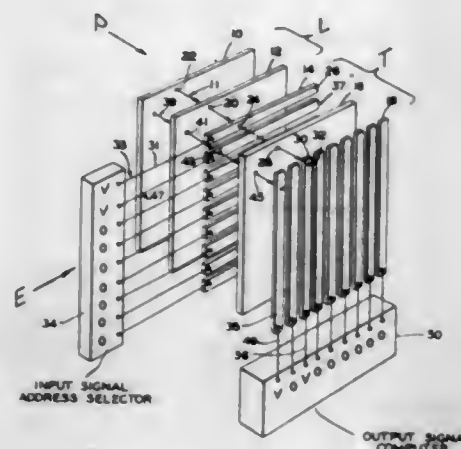
3,341,692

SOLID STATE NON-ERASABLE OPTICAL MEMORY SENSING SYSTEM

Walter W. Lee, Allendale, N.J., assignor to The Bendix Corporation, Eclipse-Pioneer Division, Teterboro, N.J., a corporation of Delaware

Filed Dec. 12, 1963, Ser. No. 330,098

3 Claims. (Cl. 235—61.11)



1. An optical high density memory system comprising a transparent electrical conductor extending in an X-axis direction, electrical conductors extending transversely to said transparent conductors along the Y-axis direction and placed in an adjacent spaced relation to said transparent conductors to form therewith a plurality of spaced intersections, a photoconductor panel interposed in an electrical contacting relation between said X-axis conductors and said Y-axis conductors and extending to cover substantially all of the spaced intersections of said X-axis and Y-axis conductors and physically contacting at opposite sides the X-axis and Y-axis conductors at said intersections, an electroluminescent panel adjacent said transparent conductors operable to supply a source of illumination, an information mask having micro-photographic transparent areas and opaque areas, denoting the binary system, said information mask being insertable between said electroluminescent panel and said transparent conductors, the transparent areas of said information mask selectively overlying intersections of said X-axis and Y-axis conductors according to a predetermined coded information matrix defined on said mask to permit light from said electroluminescent panel to be directed through said transparent areas to impinge onto said photoconductor panel to make said photoconductor panel electrically conductive at said areas to selectively connect said X-axis and Y-axis conductors, and a computer means operable to receive electrical signals applied to the Y-axis conductors through the selectively conductive areas at said intersections to thereby read the information of said mask.

3,341,693

PULSE COUNTER

Robert N. Hurst, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 21, 1963, Ser. No. 289,501

5 Claims. (Cl. 235—92)

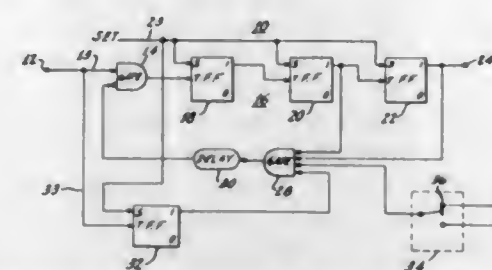
1. A pulse counter for counting input pulses comprising in combination:

a plurality of bistable devices serially connected from a first one to a last one to operate as a binary counter to count said input pulses,

an input gate coupled to said first one of said bistable devices,

means for applying all of said input pulses to said input gate,

first means coupled to said input gate for cancelling selected input pulses by selectively inhibiting said input gate to block said selected pulses from passing through said input gate, and



second means for deriving from said last one of said bistable devices an output that provides a nonbinary count of said input pulses and simultaneously provides a binary count of the pulses passed through said input gate.

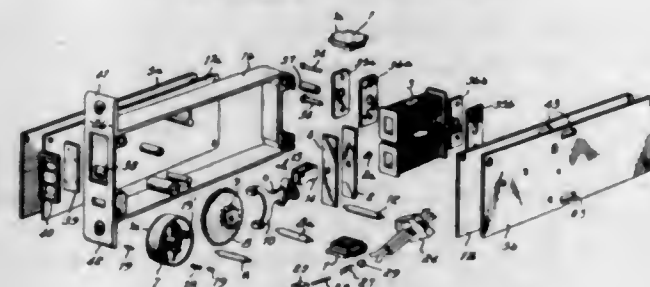
3,341,694

READOUT COUNTER

Helmut Heimberger, Nesselwang, and Hans Karl Heinz Köhler, Buckenhof, near Erlangen, Germany, assignors to J. Hengstler KG. (partnership corporation), a corporation of Germany

Filed Mar. 27, 1963, Ser. No. 293,220

18 Claims. (Cl. 235—92)



1. An impulse responsive stepping device comprising: a support element, a driven toothed wheel rotatably mounted on said support element, an electromagnetic device fixed to said support element and having an armature mounted for rectilinear motion in a first direction in response to electric impulses, a spring mounted to said support element in biasing relationship to said armature for biasing said armature in a direction opposite to said first direction, and a yoke having a crank stem pivotally mounted at different points to said spring and to said support for rocking said yoke in response to impulse-induced movement of said armature, said yoke also having a pair of arms extending from said crank stem into selective and alternative engagement with the teeth of said toothed wheel for positively incrementing said driven toothed wheel in response to rocking of said yoke, said spring including a resilient leaf member mounted at its ends to said support element and at a point intermediate its ends to said crank stem.

3,341,695

RATEMETERS

Charles Holmes Vincent and John Brian Rowles, Basingstoke, England, assignors to United Kingdom Atomic Energy Authority, London, England

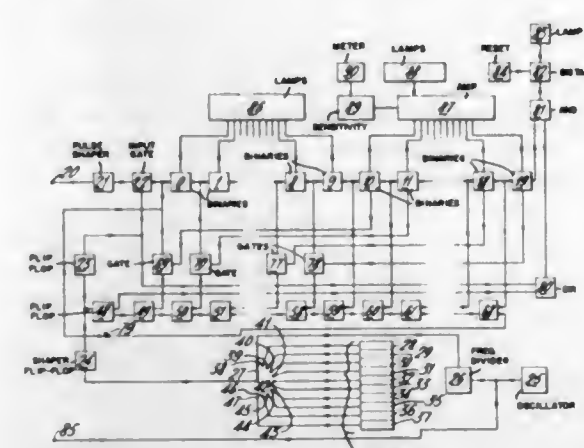
Filed Aug. 5, 1963, Ser. No. 299,831

Claims priority, application Great Britain, Aug. 16, 1962, 31,568/62

4 Claims. (Cl. 235—152)

1. An electrical pulse ratemeter comprising a digital register adapted to receive a train of electrical pulses and to add one unit to the number in the register for each

pulse received, means for successively subtracting at predetermined intervals of time a number forming a constant fraction of the number instantaneously present in the digital register, said subtraction being repeated sufficiently



to produce a substantially equilibrium value, and means for exhibiting a reading corresponding to the number forming the constant fraction so subtracted, said reading being a measure of the pulse arrival rate.

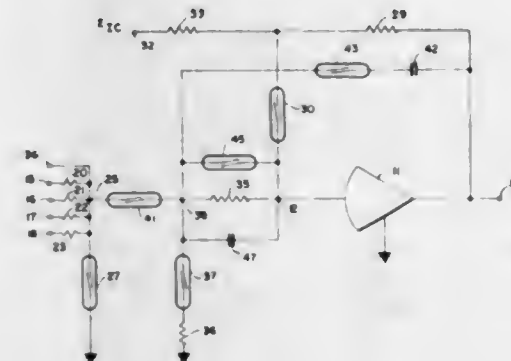
3,341,696

FAST RESET OF AN INTEGRATOR-AMPLIFIER USING REED SWITCHES

Per Thaulow, San Francisco, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed May 13, 1963, Ser. No. 279,821

7 Claims. (Cl. 235—183)



1. In an analog computer having the modes of COMPUTE, HOLD and INITIAL CONDITION, an electronic integrator having a reduced reset time period, the improvement comprising:

an amplifier having an input terminal, an output terminal and circuit ground;

a plurality of input impedances connected to form a summing junction;

first impedance means;

means connecting said summing junction to said input terminal through said first impedance means during said COMPUTE mode;

feedback impedance means connected to said output terminal;

an initial condition input terminal;

switch means connecting said feedback impedance means and said initial condition input terminal to the input terminal of said amplifier during said INITIAL CONDITION mode;

storage means connected to said output terminal and through said first impedance means to said input terminal during said COMPUTE and INITIAL CONDITION modes; and

means connecting said storage means to circuit ground during said INITIAL CONDITION mode.

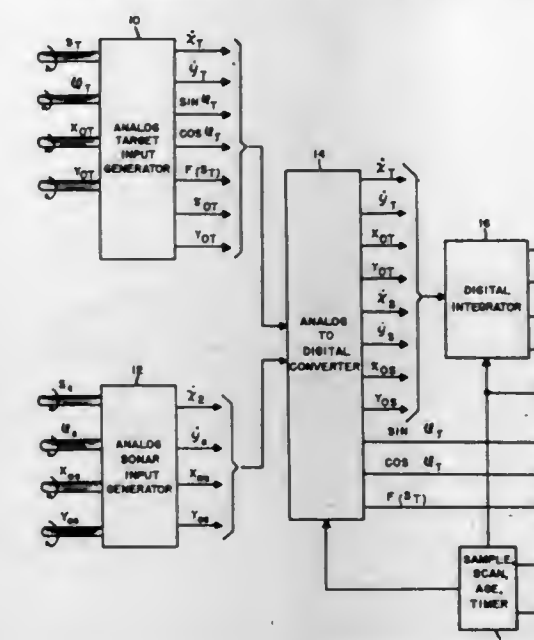
3,341,697

WAKE SIMULATOR UTILIZING DIGITAL STORAGE

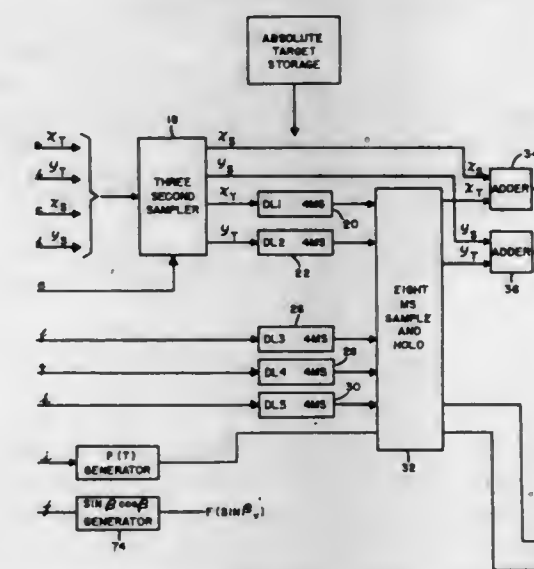
Myron Norman Kaufman, Massapequa, and Bernard Grand and Dominick Capuano, Plainview, N.Y., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 28, 1964, Ser. No. 348,924

9 Claims. (Cl. 235—184)

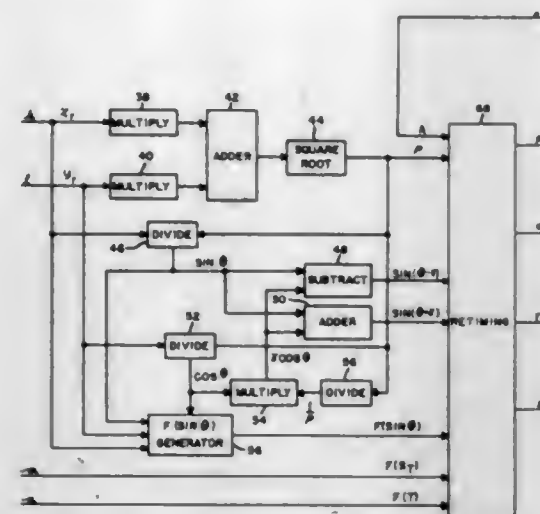


1. A simulator device for simulating the wakes of ships on sonar equipment comprising in combination, means for generating target speed, target heading and target position, means for generating own ship speed, own ship heading and own ship position, first digital converter means, said first digital converter means being connected to said target speed, target heading and target position generating means, for conversion of said target speed, target heading and target position signals to digital form,

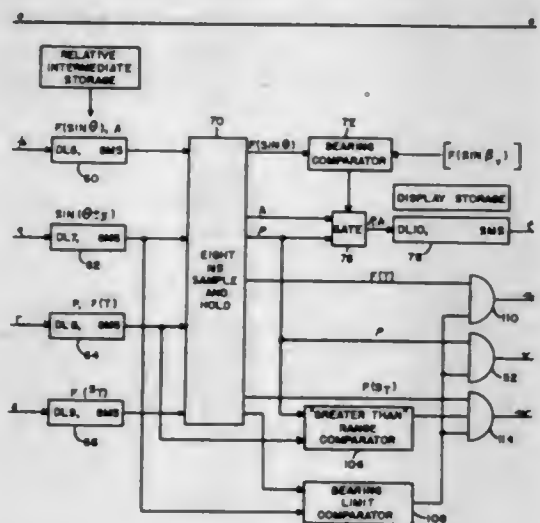


second digital converter means, said second digital converter means being operatively connected to said own ship speed, own ship heading and own ship position generating means for conversion of said own ship speed, own ship heading and own ship position signals to digital form, integration means, said integration means being operatively connected to said first and second digital conversion means for integration of said digital signals to produce dynamic ship position signals in digital form,

sampling means, said sampling means being operatively connected to said target position generating means, signal storage means, said signal storage means being operatively connected to said sampling means whereby said target position signals are periodically sampled and stored in said storage means as a digital number, timing control means, said timing control means being operatively connected to said sampling means for control thereof,

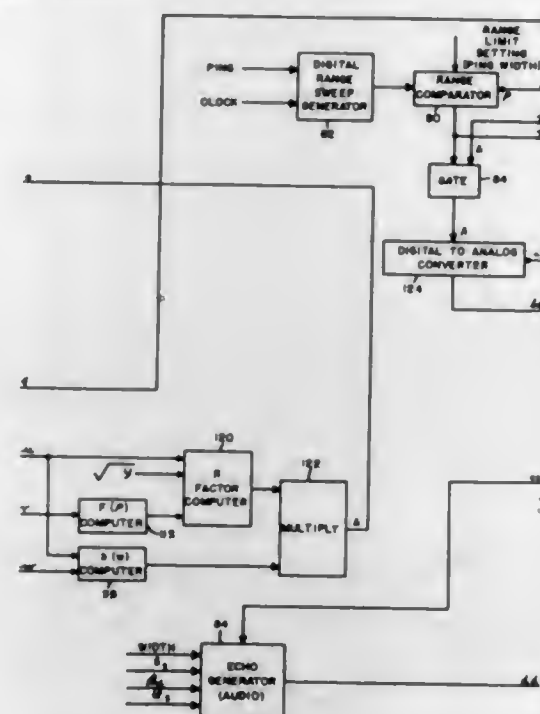


conversion means, said conversion means being operatively connected to said timing means and to said sampling means for converting said sampling information into relative rectangular coordinate information and polar coordinate information, intermediate storage means, said intermediate storage means being operatively connected to said converter means for storage of said relative rectangular coordinate and polar coordinate information,

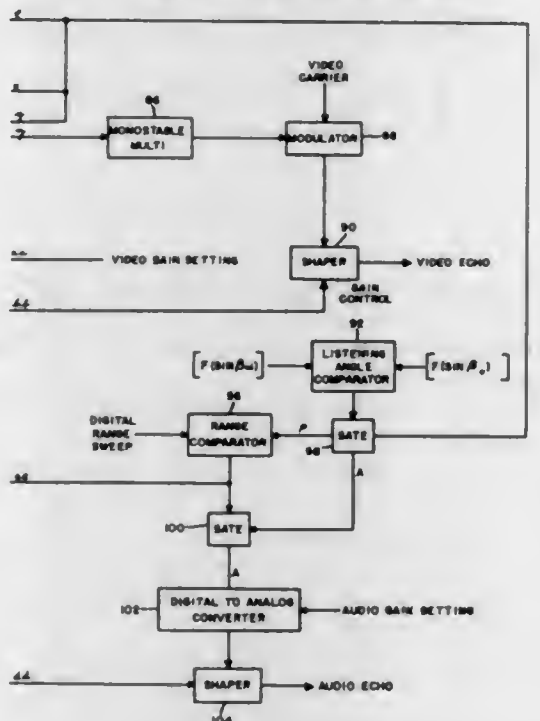


digital sweep means, said digital sweep means being operatively connected to said timing means, to said first storage means and to said intermediate storage means for position control of said stored information in accordance with age, spreading means, said spreading means being operatively connected to said intermediate storage means for spreading the discrete signals stored into a continuous track, attenuation function generating means, said attenuation function generating means being operatively connected to said intermediate storage means, said attenuation function generating means generating signals representative of the attenuation of each sample of information stored in said intermediate storage means,

bearing comparator means, said bearing comparator means being operatively connected to said intermediate storage means for comparing bearing information stored to sonar scanning angle, gating means, said gating means being operatively connected to said intermediate storage means for gating of the attenuation function information and the range information whereby whenever coincidence between bearing information and sonar scanning angle is made, the attenuation function signal and the range information are gated to a third signal storage means,



range comparator means, said range comparator means being operatively connected to said signal storage means for comparison of said stored range signals and an input digital range sweep signal,

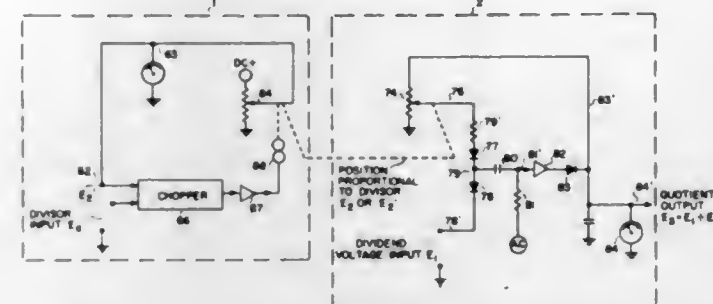


and gate means, said gate means being operatively connected to the output of said range comparator means whereby coincidence of range comparator signals with digital range sweep signals generates a pulse which opens the gate and passes attenuation factor signals through as a video type echo signal whose amplitude is controlled by the attenuation function signals.

3,341,698 COMPUTER FOR DIVIDING ONE VARIABLE QUANTITY BY ANOTHER

John L. Barker, Norwalk, Conn., assignor to Laboratory for Electronics, Inc., Waltham, Mass., a corporation of Delaware

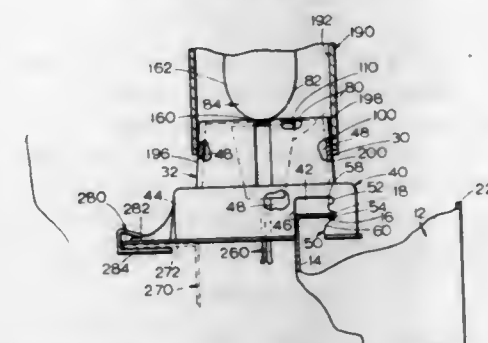
Original application Sept. 8, 1960, Ser. No. 57,864, now Patent No. 3,239,653, dated Mar. 8, 1966. Divided and this application June 7, 1965, Ser. No. 461,836
7 Claims. (Cl. 235-196)



1. A device for dividing two variable quantities including in combination:
a first input means for connection of a first electrical input representing the first of said quantities as a dividend,
a second input means for connection of a second electrical input representing the second of said quantities as a divisor,
a potentiometer having a resistance winding with one side connected to a reference point, and having a potentiometer arm,
a voltage comparison means having first and second inputs for connection of two input voltages to provide an output proportional to the difference between said two voltages,
means coupled between said second input means and said potentiometer arm to position said arm along said resistance winding relative to said reference point in proportion to said second electrical input,
an electrical connection coupling said arm of said potentiometer to the first input of said voltage comparison means,
a second electrical connection coupling said first input means to the second input of said voltage comparison means,
a high gain amplifier having an input coupled to said voltage comparison means output, said amplifier providing an output proportional to said difference signal, and
means including a rectifier for coupling the output of said amplifier to the other side of said resistance winding of said potentiometer to provide a voltage on said arm proportional to the product of said amplifier output voltage and said second electrical input as represented by the position of said arm of said potentiometer to reduce the difference between said voltage on said arm and said first electrical input to a low value, whereby the voltage across said potentiometer provides an electrical output proportional to a quotient.

3,341,699 LIGHT ASSEMBLY FOR ATTACHMENT TO A GUTTER

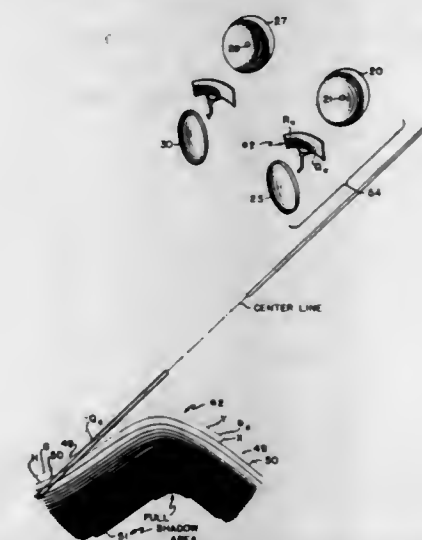
Harry J. Somermeyer, 405 E St., Hamburg, Iowa 51640
Filed Nov. 10, 1966, Ser. No. 601,265
11 Claims. (Cl. 240-2)



1. In combination, a horizontally elongated rain gutter having a forward wall, a rearwardly extending flange on said gutter attached to and extending approximately horizontally rearwardly from the upper end of said forward wall, said flange being elongated in the direction of the elongation of the said gutter and the rearward edge of said flange being spaced from the rearward wall of said gutter, the forward wall of said gutter extending downwardly from said flange, and a light fixture, said light fixture having a base, having a horizontally extending slot therethrough, said slot having a forward wall disposed in engagement with the forward side of the forward wall of said gutter, said slot having a rearward wall provided with notch means therein receiving the rearward edge of said flange, said notch means having wall surface means extending under the rearward edge of said flange a sufficient distance as to provide a hooking effect for gripping the rearward edge of said flange, the center of gravity of said light fixture being disposed above said flange and also a substantial distance above said flange whereby said hooking effect causes said fixture to be arrested from falling forwardly off of said gutter, a socket, an electrical lamp received in said socket providing a lamp and socket assembly, means on said base in cooperative engagement with said lamp and socket assembly for securing said assembly to said base.

3,341,700 VANE CONTROLLED HEADLIGHTING SYSTEM

Dan M. Finch, Berkeley, Calif., assignor to J. Page Hayden, Cincinnati, Ohio
Filed Oct. 19, 1964, Ser. No. 404,742
4 Claims. (Cl. 240-7.1)



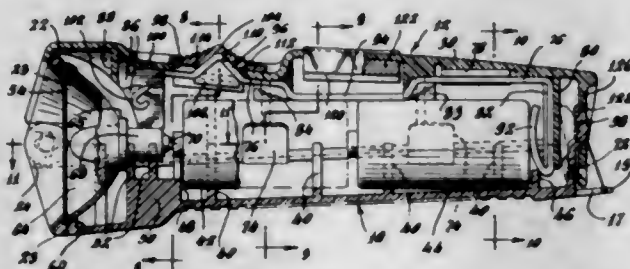
1. The combination of a first head lamp for projecting a beam pattern having a light area and a first shadow, a second head lamp for projecting a beam pattern having a light area and a second shadow,

the first head lamp comprising a first reflector and a first light source and a first lens relatively positioned to define a first image region which receives all light from the first source which is reflected by the first reflector, and the second head lamp comprising a second reflector and a second light source and a second lens relatively positioned to define a second image region which receives all light from the second source which is reflected by the second reflector, and graded density filters individually located in light intercepting position in said image regions, said filters having fully light transmissive portions and light intercepting portions and portions of intermediate transmissivities relatively so positioned that the shadows blend without sharp transitional boundaries.

3,341,701 FLASHLIGHT

Arthur H. Moore, Fairfield, and Joseph G. Bacevius, Bridgeport, Conn., assignors to The Bridgeport Metal Goods Manufacturing Company, Bridgeport, Conn., a corporation of Connecticut

Filed June 11, 1965, Ser. No. 463,262
7 Claims. (Cl. 240—10.65)



1. A flashlight which comprises: an elongated, dish shaped, nonconductive base member having a first and a second end, said first end being substantially open; an elongated, dish shaped, nonconductive top member having an open first end and a second end, and defining a longitudinal slot; hinge means interconnecting the first ends of said base and top members; latch means positioned to selectively interlock the second ends of said base and top members to form a substantially hollow housing; reflector means mounted in the first end of said base member, said reflector means defining a lamp-receiving opening; a lamp supporting cradle in said base member adjacent said lamp-receiving opening to support the base of a lamp extending through said lamp-receiving opening; lamp base gripping means in said top member positioned to bear against said lamp base to seat it securely in said cradle when said top and base members are closed; a switch button slidably mounted in said longitudinal slot and defining a recess therein bounded by a camming surface; elongated wire means carried by said top member having a resilient first end normally spaced from said lamp base, an angular offset portion adjacent its first end disposed within the switch button recess to be cammed inwardly by said camming surface upon sliding of the switch button in said slot, and a resilient second end arranged to bear against the base of a battery contained within said base member and in electrical contact with said lamp when said top and base members are closed.

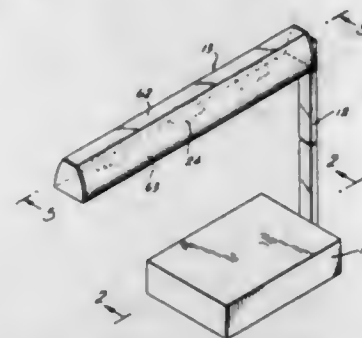
3,341,702 LIGHTING FIXTURE

Manfred Neumann, River Edge, N.J., assignor to Light-oller Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 11, 1964, Ser. No. 417,720
3 Claims. (Cl. 240—81)

3. A lighting fixture comprising a hollow support post, having a conducting strip extending therethrough, a reflector, a base comprising a housing, a transformer positioned

in said housing, a pair of fittings pivotally mounting respectively said reflector to one end of said support post, and the other end of said support post to said housing, means providing releasable telescopic connection between

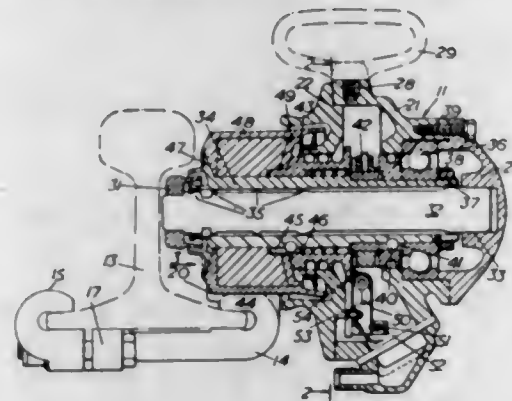


each end of said support post and the associated fitting, means in each of said fittings, to provide electrical connection between said reflector and said transformer when said associated fitting is telescoped into the associated end of said support post.

3,341,703 DEVICES FOR SIGNALLING THE PASSAGE OF MOVING OBJECTS

Montague James Ward, London, England, assignor to Corsemarts Electrical Engineers Limited, Basildon, England

Filed May 17, 1965, Ser. No. 456,103
8 Claims. (Cl. 246—247)



1. A device for counting the number in a series of objects of substantial weight passing in rapid succession, comprising a member displaceable in two directions and cooperating switch means, the switch means being operated to register a count in response to simultaneously occurring displacement of said member in both directions the one due to drive imparted to the displaceable member by frictional contact of an object as it passes and the other due to the weight of the object bearing on the displaceable member, and characterised in that the displaceable member is a resiliently deformable rotary member and switching to indicate a count results from the rotation of said member and simultaneous axial movement of at least a portion thereof under the effect of substantially radial squeezing.

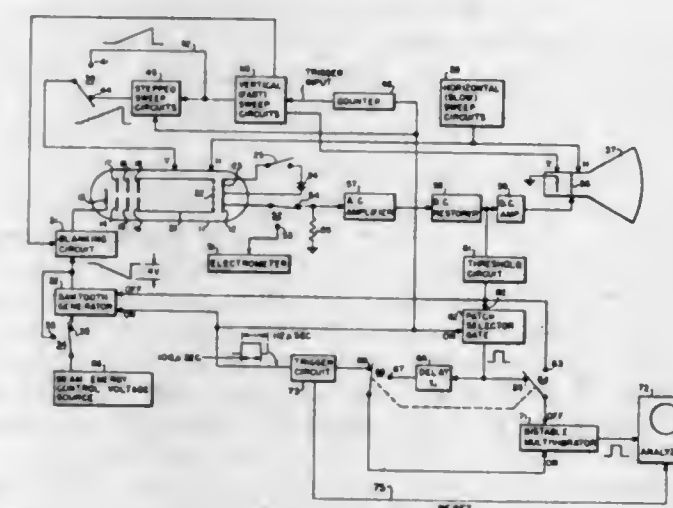
3,341,704 SYSTEM FOR INVESTIGATING WORK FUNCTION DISTRIBUTION AND FIELD DISTRIBUTION OF A SURFACE BY ELECTRON BEAM SCANNING

Richard E. Thomas, Riverdale, Md., and George A. Haas, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy

Filed Feb. 7, 1966, Ser. No. 525,787
19 Claims. (Cl. 250—49.5)

1. A system for investigating work function distribution of a surface comprising:
scanning means for scanning the surface to be investigated with an electron beam,

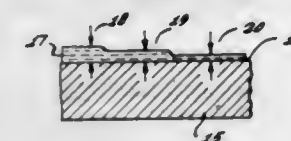
signal generator means coupled to said scanning means for periodically continuously increasing the energy of said electron beam,
variable biasing means operatively coupled to selectively bias said signal generator,
signal developing means coupled to said surface for developing a signal proportional to the amount of electrons received by said surface,
sweeping means for controlling said electron beam, stepping means coupled between said sweeping means and said scanning means for stopping the electron beam on successive regions of said surface for a predetermined time,
threshold means for monitoring the signal produced by said signal developing means and for producing a threshold pulse when a predetermined amplitude of said signal has been reached,



a bistable circuit having an ON condition and an OFF condition coupled to said threshold circuit for producing a gate pulse having a duration defined by the time said bistable circuit means is ON, wherein said bistable circuit turns OFF upon receipt of said threshold pulse,
trigger means for automatically energizing said signal generator, said sweeping means, and said stepping means, and for turning ON said bistable circuit, and
a plural channel analyzer coupled to said bistable circuit for receiving said gate pulse from said bistable circuit means and for automatically providing a plot of the work function distribution of the surface being investigated.

3,341,705 METHOD OF CONTROLLING THE THICKNESS OF APPLIED THIN LIQUID FILMS USING DYE TRACERS

James R. Alburger, 5007 Hillard Ave.,
La Canada, Calif. 91011
Filed Apr. 1, 1965, Ser. No. 444,659
9 Claims. (Cl. 250—71)



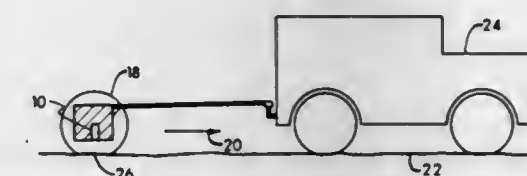
1. A method of controlling the thickness of an applied liquid film comprising the steps of
(a) tagging said liquid with a sensitizer dye and adjusting the concentration of said sensitizer dye to a point where the dimensional range, over which the transition of visibility response of said tagged liquid occurs, corresponds to the desired thickness of said liquid film, and

(b) applying said tagged liquid to a surface in an amount sufficient to bring the visibility response of the applied liquid film to a point within the transition region of the characteristic response curve of said tagged liquid.

3,341,706 APPARATUS FOR AND METHOD OF TERRESTRIAL SURVEYING

Gilbert Swift, Houston, Tex., and Ralph Monaghan, Dale E. Barkalow, and Charlie G. Denny, Tulsa, Okla., assignors to Dresser Industries, Inc., Tulsa, Okla., a corporation of Delaware

Filed May 4, 1962, Ser. No. 192,475
9 Claims. (Cl. 250—83.3)



1. A method for testing the materials forming a terrestrial surface area, which method comprises:
producing from a source within a testing apparatus nuclear radiations of a form which will interact with the materials of the area,
providing the testing apparatus with a detector of nuclear radiations, said detector being spaced from the source,
spacing the portion of the testing apparatus containing the source and detector of nuclear radiations a predetermined distance above the surface of the area to be tested and separated therefrom by an air space, traversing the surface of the test area with the testing apparatus, continuously detecting and recording the interaction of the materials forming the area with the nuclear radiations thereby providing a continuous log of the area being tested.

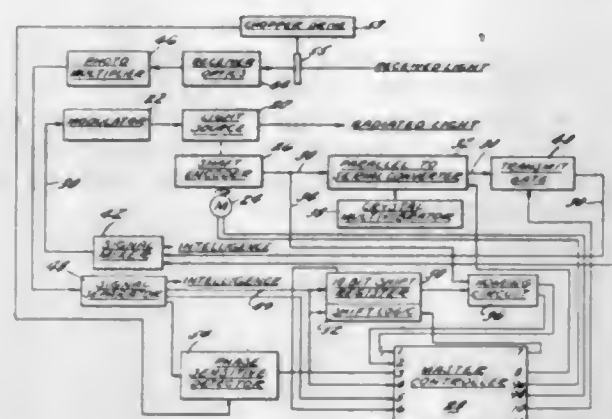
3,341,707 APPARATUS FOR AZIMUTH ACQUISITION AND TRACKING OF TRANSDUCERS IN A DIREC- TIONAL COMMUNICATION SYSTEM

Edward C. Wingfield, Wethersfield, and Louis J. Daigle, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,722
18 Claims. (Cl. 250—199)

1. A communication system including first means for transmitting signals, means for changing the azimuth transmitting direction of said first transmitting means, means coordinated with the transmitting direction of said first transmitting means for generating a plurality of signals, each of said signals being commensurate with a particular azimuth transmitting direction of said first transmitting means, means for delivering said signals to said first transmitting means, first means for receiving signals from said first transmitting means, said first receiving means being actuated upon receipt of a signal from said first transmitting means commensurate with a substantially straight line relationship between said first receiving means and the azimuth transmitting direction of said first transmitting means, second transmitting means at said first receiving means, means responsive to the actuation of said first receiving means for positioning said second transmitting means in accordance with said straight line relationship, means for gen-

erating a signal at said second transmitting means commensurate with the position of said second transmitting means for transmission by said second transmitting means, second receiving means at said first transmitting means to receive the signal from said second transmitting

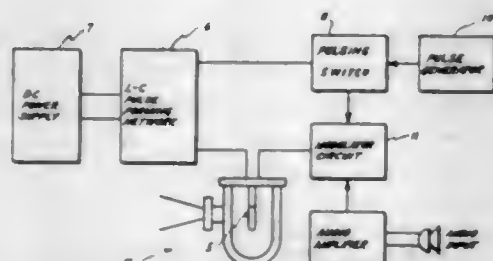


means, and means actuated by said second receiving means for positioning said first transmitting means in accordance with the signal generated by said second transmitting means to establish an essentially straight line relationship between said first transmitting means and said first receiving means.

3,341,708

AMPLITUDE MODULATED LASER TRANSMITTER
Robert R. Bilderback, Friendswood, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

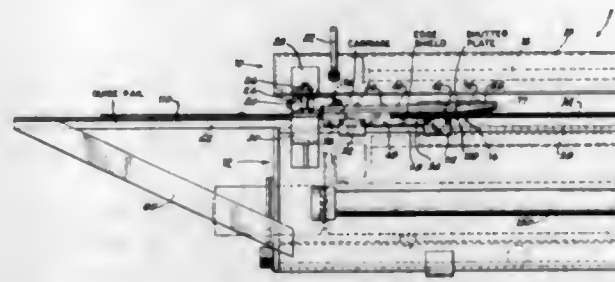
Filed Dec. 27, 1965, Ser. No. 516,793
4 Claims. (Cl. 250-199)



1. Apparatus for transmission of an amplitude modulated radiation beam of optical frequency produced by the stimulated emission of radiation, said apparatus comprising a lasing means for emitting a coherent radiation beam of electromagnetic wave energy of optical frequency when supplied with current pulses;

pulsing means for storing electrical energy and periodically delivering the energy in the form of current pulses to said lasing means to produce said radiation beam, said pulsing means comprising an electrical energy storage network and an intermittent switch means interposed in circuit between the storage network and the lasing means, said switch means being operative to periodically couple said energy storage network to said lasing means at regular intervals for the delivery of current pulses thereto; and modulating means interposed in series between said switch means and said lasing means for modulating the amplitude of current pulses delivered to the lasing means from said energy storage network in accordance with the amplitude variations of an audio voltage signal whereby said lasing means emits a series of amplitude-modulated radiation pulses at constant repetition rate.

3,341,709
YIELDABLE AND RELEASABLE PIN HOLE DETECTOR EDGE LIGHT SHIELD ASSEMBLY
Melvin J. Blinks, 4880 N. Marine, Chicago, Ill. 60640
Filed July 21, 1964, Ser. No. 384,206
8 Claims. (Cl. 250-237)



1. In a pinhole detector for a sheet of material traveling a path between transversely extending light source and sensor thereof, an improved assembly to prevent light transmittal around an edge of said material, comprising in combination therewith: a pair of spaced guide rails mounted on said detector at a level beneath said path and over said sensor, said rails defining transverse borders of a sensor window and having vertical grooves along said borders; a carriage riding along said rails for transverse guided travel to and from said edge; means to continuously position said carriage at said edge; a shutter plate affixed on top of said carriage to extend outward therefrom beyond said edge over said path, said shutter plate having an elongated aperture therethrough; a hollow elongated tail tube pending from under said carriage, below said path and between said rails to provide a movable end shade for said window, said tube having an enclosed light-tight end and an open end extending beyond said edge under said path, and including outward side arms with downward flanges received in said grooves to form a multi-turn labyrinth blocking light transmittal between said tube and rails, and said tube having vertically spaced upper and lower walls with elongated apertures therethrough at said open end, said shutter aperture and apertures aligned and spaced along a vertical plane, thereby admitting transmittal of only vertical light therethrough; and an edge shield hung from under said carriage to reach from said edge a substantial distance transversely outward therefrom, said shield of a vertical pile fabric extending above and below said path and bearing against said edge, said pile having free ends resting on an upper of said walls of said tube to prevent light transmittal around said edge, yet allowing sudden outward transverse movements of said sheet of material into said shield.

3,341,710

SCANNER APPARATUS

Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts

Filed Apr. 8, 1963, Ser. No. 271,418
8 Claims. (Cl. 250-239)



6. A reflex scanner for sensing self-generated radiation reflected from a point disposed at a substantial distance from said scanner comprising:
a housing,
a radiation source mounted in said housing,

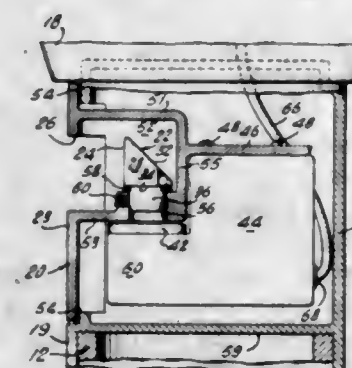
a tubular unit fixedly mounted in said housing including focusing means disposed in front of said radiation source and forming a parallel beam of rays from said source,
a sensing unit fixedly mounted in said tubular unit in front of said focusing means and coaxially therewith so that the radiation beam transmitted from said housing is annular in configuration,
said sensing unit including a tubular shield structure having a closed radiation tight end adjacent said focusing means, a radiation sensor in said shield structure, an apertured plate disposed immediately in front of said sensor in said shield structure and a lens at the open end of said shield structure for focusing radiation reflected from a point outside of said housing onto said radiation sensor so that the field of view of said radiation sensor is restricted to a solid angle of less than 10° coaxial with said parallel beam,
and means to adjust the position of said radiation source relative to said focusing means including a source support member having a first elongated slot,
a second elongated slot disposed at right angles to said first slot and a third elongated slot disposed parallel to said second slot,
first rotatable camming means engaging said first slot to produce movement of said radiation source in a direction generally parallel to said second slot,
second rotatable camming means engaging said second slot to produce movement of said radiation source in a direction generally parallel to said first slot,
and clamping means including a member extending through said third slot for securing said radiation source in an adjusted position as controlled by said first and second camming means.

3,341,711

PHOTOELECTRICALLY CONTROLLED LUMINAIRE WITH A PRISM HAVING A MOUNTING PORTION

William J. Shepard, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 14, 1963, Ser. No. 316,005
3 Claims. (Cl. 250-239)

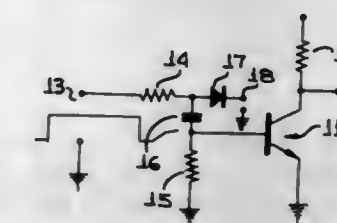


1. In photoelectric luminaire apparatus, a housing having window means in a sidewall portion thereof to receive ambient light, photoelectric means located within said housing for controlling the activation and deactivation of the luminaire light source in response to the amount of light received by the light-sensitive portion of said photoelectric means, said light-sensitive portion being disposed below the level of said window means, and light-directing means comprising a prism having a light-entering side facing said window means to receive the ambient light and having a light conducting portion forming the light-exit portion of said prism for directing the received ambient light downwardly to said light-sensitive portion of

said photoelectric means, said prism being rotatably adjustable about a fixed axis so that said light-entering side of said prism may be geographically oriented to a desired position.

3,341,712

CURRENT SENSING TIMING CIRCUITS
Peter Lefferts, Princeton, N.J., assignor to Fifth Dimension, Inc., Princeton, N.J., a corporation of New Jersey
Filed Jan. 23, 1963, Ser. No. 253,495
7 Claims. (Cl. 307-88.5)

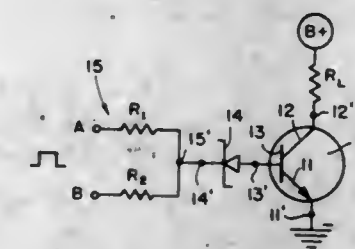


1. A timing circuit operative to generate a timing pulse of predetermined length in response to an input pulse of longer than said predetermined length comprising:
an input terminal to which said input pulse of longer length than said timing pulse is applied;
a current limiting resistance;
a clamping diode;
a source of clamping voltage;
means connecting said input terminal, said current limiting resistance, said clamping diode and said source of clamping voltage in a series circuit in the order stated, said diode being poled to be conductive of said input pulse, said source of clamping voltage being poled to bias said clamping diode into non-conductive state, and said input pulse having a greater amplitude than said clamping voltage;
a switching device having two stable states and a control terminal, said switching device being responsive to current flowing to said control terminal for changing its state;
a capacitor;
means connecting the junction of said current limiting resistance and said diode to said control terminal via said capacitor so that the state of said switching device is controlled by the current through said capacitor; and

3,341,713

"AND" GATE, "OR" GATE, OR "AT LEAST" GATE
Francis B. Shaffer, Palos Verdes Estates, and Jack B. Baker, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 15, 1963, Ser. No. 280,757
1 Claim. (Cl. 307-88.5)



An electronic switching circuit for providing an electronic output signal responsive to a plurality of input signals comprising:

- (a) a power source with two output connections;
- (b) a source of a plurality of input signals;
- (c) a plurality of substantially equally resistive input resistors with two electrodes each, one of said electrodes of each of said resistors coupled to a common

connection, the other one of said electrodes of each of said respective resistors coupled to one of said plurality of input signals;

- (d) a transistor having an emitter, base, and collector;
- (e) a load impedance connected between said collector and one of said power source connections, the other of said power source connections being connected to said emitter;
- (f) a Zener diode having two electrodes, one of which is connected to said base and the other of which is connected to said common connection of said input resistors, whereby said transistor changes conduction state upon achieving a predetermined condition of said input signals.

3,341,714

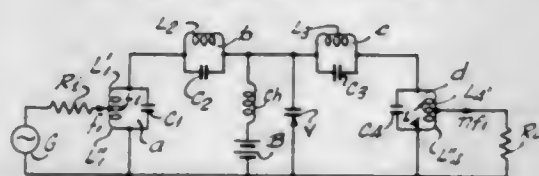
VARACTOR DIODE FREQUENCY MULTIPLIER

Alfred Käch, Nussbaumen, Switzerland, assignor to "Patelhold" Patentverwertungs- & Elektro-Holding A.G., Glarus, Switzerland

Filed Feb. 17, 1964, Ser. No. 345,361

Claims priority, application Switzerland, Feb. 22, 1963, 2,276/63

12 Claims. (Cl. 307—88.5)



1. A circuit for generating harmonic frequencies comprising in combination:

- (1) a capacitor having a capacitance varying in proportion to a voltage impressed thereon,
- (2) a source of alternating current of fundamental frequency,
- (3) a load impedance,
- (4) input coupling means connecting said source to said capacitor including
 - (a) a parallel-tuned input circuit resonant to said fundamental frequency and connected to said source,
 - (b) a coupling circuit comprising a reactance and said capacitor in series as coupling impedances and connected to said input circuit,
- (5) output coupling means including
 - (a) a parallel-tuned output circuit resonant to a desired harmonic of said fundamental frequency and feeding said load impedance, and
 - (b) means coupling said output circuit to one of said coupling impedances,
- (6) said reactance and input coupling circuit designed to combinedly form a series-tuned circuit resonant to an undesired harmonic of said fundamental frequency and short-circuiting said capacitor.

3,341,715

HIGH SPEED DIGITAL CIRCUITS

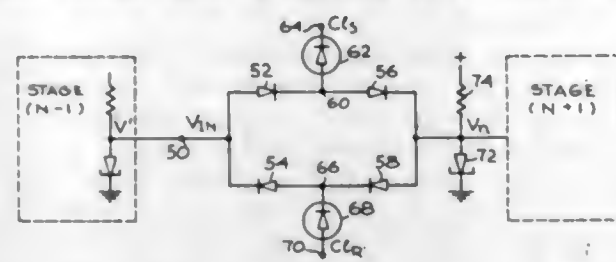
Brian E. Sear, Canoga Park, Los Angeles, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Oct. 28, 1964, Ser. No. 407,084

13 Claims. (Cl. 307—88.5)

- 1. A binary circuit arrangement including:
 - a tunnel diode biased for bistable operation;
 - first and second storage diodes;
 - means for initially driving a current in a forward direction through a selected one of said storage diodes;
 - means for subsequently simultaneously applying reverse potentials across said storage diodes to thus drive a reverse current through said selected storage diode; and

means coupling said first and second storage diodes to said tunnel diode, for increasing the current through said tunnel diode in response to a reverse current



through said first storage diode and for decreasing the current through said tunnel diode in response to a reverse current through said second storage diode.

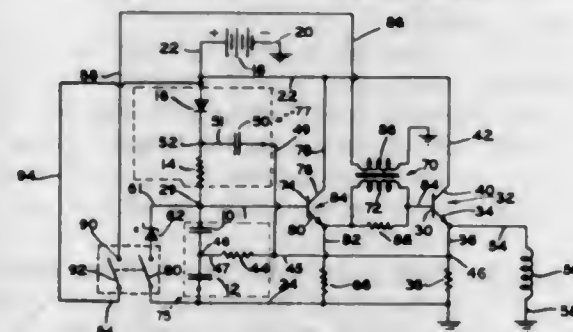
3,341,716

LINEAR SAWTOOTH CURRENT GENERATOR FOR GENERATING A TRAPEZOIDAL VOLTAGE WAVE FORM

Edward A. Chilton, Westwood, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Dec. 18, 1964, Ser. No. 419,528

16 Claims. (Cl. 307—88.5)



- 1. In a means for producing an output voltage having a sawtooth wave form of a type including a source of voltage, means for controlling the voltage applied from said source to an output inductive load, capacitor means for operating said control means, first means selectively operable to progressively charge said capacitor means from said source so as to render said control means effective to apply a linearly increasing voltage from said source to said load, and second means alternately operable to effect a periodic discharge of said capacitor means so as to cause said control means to effect a sharp decrease in the voltage applied from said source to said load upon the periodic discharge of said capacitor means; the improvement in which said discharge means includes means having a threshold potential below which it is non-conductive and above which it is conductive so as to limit the discharge of the capacitor means effected by said second means to a predetermined minimum voltage charge and thereby the voltage applied by said control means from the source to the load to a predetermined minimum value, and said minimum voltage charge of said capacitor means being such as to be effective to cause the control means to apply a minimum voltage from said source to said load at a start of the selective operation of said first charging means.

3,341,717

BINARY CIRCUIT

Robert Henry McCracken, Glen Cove, Md., assignor to the United States of America as represented by the Secretary of the Army

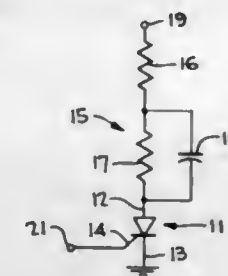
Filed Feb. 2, 1965, Ser. No. 429,933

5 Claims. (Cl. 307—88.5)

- 1. A bistable circuit comprising:
 - (a) a silicon controlled rectifier having an anode electrode, a cathode electrode, and a gate electrode, a

characteristic of said silicon controlled rectifier being that there is a difference between the minimum anode current necessary to latch said silicon controlled rectifier into conduction and the minimum anode current necessary to sustain conduction, and

- (b) load circuit means connected to said silicon controlled rectifier for permitting at least the minimum anode current to flow that is necessary to latch said silicon controlled rectifier into conduction when triggered by a pulse applied to said gate electrode and for thereafter after said pulse applied to said gate electrode has decayed, decreasing the anode current to less than the minimum required to latch said silicon controlled rectifier into conduction but greater than the minimum anode current necessary to sustain conduction after said silicon controlled rectifier has been triggered into conduction,



- (c) said gate electrode being capable of receiving a pulse having a duration less than the time required for said load circuit means to decrease said anode current to less than the minimum required to latch said silicon controlled rectifier whereby the next succeeding gate pulse will terminate conduction in the silicon controlled rectifier.

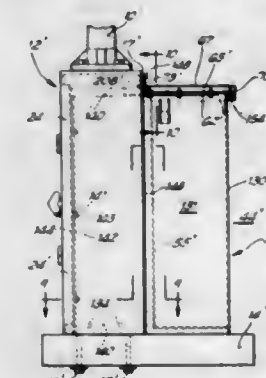
3,341,718

COMBINED STREET LIGHT AND RESIDENTIAL POWER CONSTRUCTION

Clarence R. Acker, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Apr. 19, 1965, Ser. No. 449,064

13 Claims. (Cl. 307—157)



- 1. In combination, a ground level housing having front, rear, side and top walls and said front and rear walls having openings therein, a hollow pole mounted on said top wall, a street light supported adjacent the upper end of said pole, a door normally closing said opening in said front wall and being movable relative to said housing to permit opening and closing thereof, a transformer casing disposed adjacent said housing and normally closing said opening in said rear wall and having an outwardly extending flange abutting against the portion of said rear wall surrounding the opening therein, means for releasably securing said flange to said rear wall and said means being releasable only from the interior of said housing, a transformer core and coil assembly including inductively linked primary and secondary windings within said casing,

primary and secondary insulating bushing means on said casing extending through said opening in said rear wall into the interior of said housing and having terminal means thereon electrically connected to said primary and secondary windings respectively, conductor means within said hollow pole for connecting said street light to said terminal means on said secondary bushing means, a secondary underground cable adapted to be connected to an adjacent electrical load extending into the interior of said housing and being electrically connected to said terminal means on said secondary bushing means, and a primary cable extending into the interior of said housing and being electrically connected to said terminal means on said primary bushing means.

3,341,719

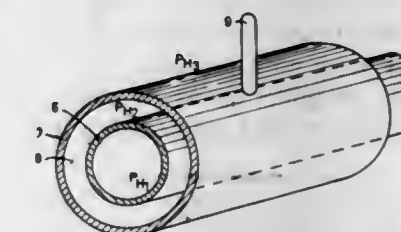
THERMIONIC CONVERTER HAVING A HYDROGEN PERMEABLE SURFACE ON THE ANODE

Friedrich Burhorn, Erlangen, Georg Kanzler, Nurnberg, and Hildegard Schaeffer, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, and Erlangen, Germany, a corporation of Germany

Continuation of application Ser. No. 280,499, May 10, 1963. This application July 13, 1966, Ser. No. 565,018

Claims priority, application Germany, May 12, 1962, S 79,425

4 Claims. (Cl. 310—4)



- 1. An evacuated and enclosed thermionic converter comprising cathode means having opposed surfaces, one of said surfaces being heated by hydrogen-bearing flame gas, and anode means having inner surface spaced from the other anode surface and an outer surface, said anode means being maintained at a temperature in the range of 300° to 600° C., and a boundary surface means located on said outer surface of said anode means exposed to the surrounding atmosphere, said boundary surface means consisting of material having a high specific permeability to hydrogen at temperatures ranging between 300° to 600° C. and being selected from the group of materials consisting of palladium and niobium, to allow for outward diffusion of hydrogen from the flame gas through said cathode means and anode means.

3,341,720

APPARATUS FOR PRODUCING A BEAM OF ACCELERATED LIQUID METAL DROPLETS

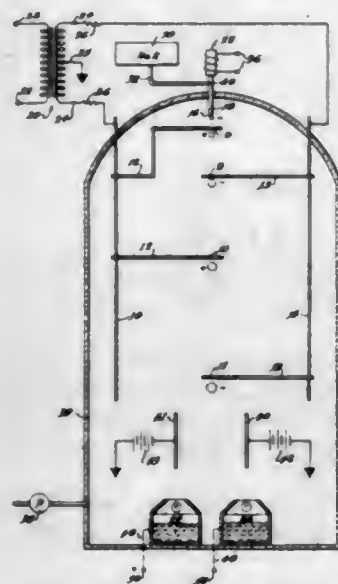
Edmund S. Sowa, Westmount, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 6, 1965, Ser. No. 446,136

6 Claims. (Cl. 310—5)

- 1. Apparatus for producing alternately charged groups of accelerated liquid metal droplets comprising: a contained mass of liquid metal; means for forming droplets of substantially uniform diameter at a location on a surface of said liquid metal; an alternating voltage power source having a first output terminal of one polarity connected to said liquid metal; and a plurality of accelerating electrodes fixed in increasing spatial relationship along a line which includes the location of droplet formation,

the first of said electrodes being connected to an output terminal of opposite polarity than said first output terminal and being located adjacent the location of droplet formation to induce a charge in said droplets as they are formed and to accelerate said droplets away from said location of formation and toward said first electrode, the

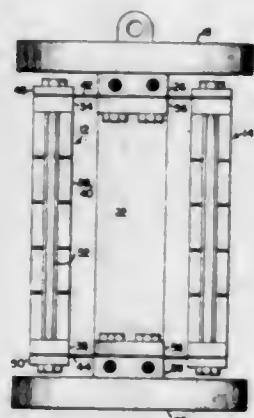


remaining electrodes being successively connected to alternate polarities of said power source, the spacing between successive electrodes being related to the frequency and amplitude of said power source and the charge-to-mass ratio of said droplets so as to cause said droplets to experience a unidirectional accelerating force.

3,341,721

TRANSDUCER HOUSING WITH FLEXIBLE SUPPORTS

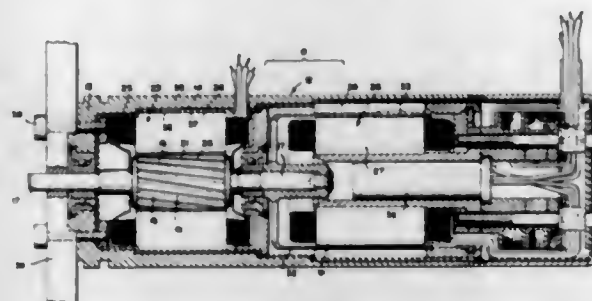
Gordon A. Vincent, Seattle, Wash., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 16, 1964, Ser. No. 418,828
5 Claims. (Cl. 310-8.6)



1. In a transducing device, the combination comprising: a housing; a transducer, flexible along an axis perpendicular to its longitudinal axis, having support points at first and second ends; and first and second hinge means flexible in one direction connected at their ends to said housing, and connected to the first and second support points of the transducer at first and second midpoints on the hinge means, respectively, the flexible direction of each hinge means being substantially parallel to the longitudinal axis of said transducer.

3,341,722 TEMPERATURE COMPENSATED ELECTRICAL DEVICE

Edward F. Hollander, Jr., Broomall, Pa., assignor to Litton Precision Products Inc., Clifton Heights, Pa., a corporation of Delaware
Filed Aug. 4, 1964, Ser. No. 387,338
4 Claims. (Cl. 310-64)

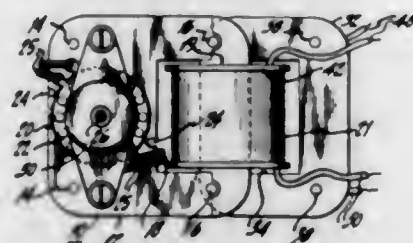


3. A temperature compensated housing for an electrical device having a hot spot comprising a casing made of corrosion-resistant metal which is a poor conductor of heat, a layer of heat conductive metal forming the inside of said housing for conducting the heat from said hot spot to spread the heat more uniformly within the housing and thereby lower the temperature of the hot spot, and thermally conductive screws in contact with said heat conductive layer and extending to the outside of said housing for transferring heat from said layer to the outside of said housing to thereby lower the temperature of said layer and the temperature within the housing.

3,341,723

ELECTRIC MOTOR

John A. Tourtellot, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 30, 1964, Ser. No. 400,493
4 Claims. (Cl. 310-68)

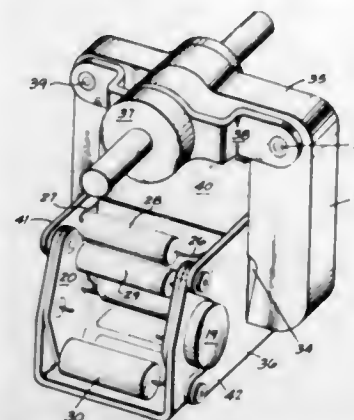


1. A combined motor-transformer comprising: a magnetic core having at least two parallel electromagnetic flux paths, said flux paths having a common portion; a first of said flux paths providing a plurality of pole pieces; a motor armature rotatably mounted between said pole pieces, first and second coil windings, said first winding surrounding said common flux path portion and being adapted to be connected to a source of alternating current to create a magnetic flux in said flux paths, said second winding surrounding said common flux paths to provide a source of output alternating current through transformer action with said first winding, and circuit means coupled to said second winding and responsive to said output alternating current voltage for causing a direct current to flow through said second winding.

3,341,724

BRUSHLESS D-C MOTOR

Seymour Saslow, Saratoga Springs, and Johannes Peter Knauth, Hurley, N.Y., assignors to Espey Mfg. & Electronics Corporation, Saratoga Springs, N.Y., a corporation of New York
Filed Nov. 16, 1964, Ser. No. 411,472
2 Claims. (Cl. 310-68)

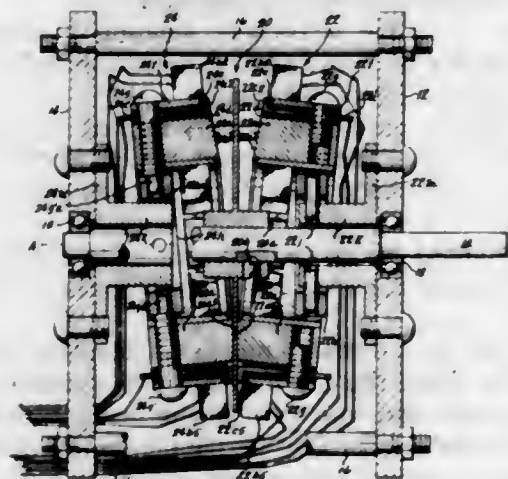


1. An arrangement for converting a conventional A-C motor for use with a D-C source, comprising in combination: a stator yoke core of generally horseshoe configuration, said core including two side legs and a top cross portion, an aperture in the center of said cross portion for receiving the rotor of said motor, an elongated core piece designed to fit and to be retained between said side legs adjacent the ends thereof, a stator winding around said elongated core piece including end terminals, a second winding set around said elongated core piece including end terminals, said second winding set being coaxial with said stator winding, parallel side plates disposed normal to said elongated core piece for holding sandwiched electronic circuit components therebetween including D-C input power terminals and a pair of power transistors, one mounted in each of said side plates, the stator winding end terminals being connected to the emitters thereof, the second winding set end terminals being connected to the bases thereof, the collectors being connected to said power terminals, and, windows in said side plates through which said elongated core piece is adapted to pass through.

3,341,725

ELECTRIC MOTOR HAVING A NUTATIVE ELEMENT

John F. Gifford, Sandoval, N. Mex.
(P.O. Box 117, Corrales, N. Mex. 87048)
Filed July 15, 1965, Ser. No. 472,197
20 Claims. (Cl. 310-80)



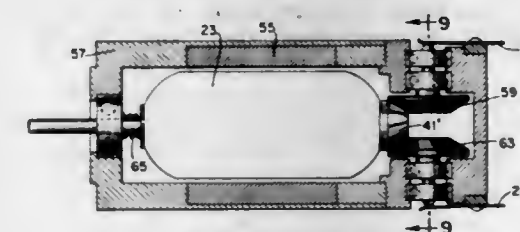
1. An electric motor comprising a rotor mounted to turn on an axis, stator means including mutually opposed stator members mounted on said axis, with the rotor

interposed between them to permit physical contact with both, both of said stator members being nutative in a universal sense and the rotor being cooperatively related thereto so as to permit pinching of the rotor between stator members at any of different points angularly distributed about the axis, said stator means further comprising a plurality of magnetic flux paths passing through the stator members serially and bridging between them to attract them together at any of different angularly spaced magnetic pole locations selectable in accordance with the selection of windings to be energized, thereby to permit pinching the rotor between stator members at any of different points corresponding in angular position to said pole locations, and electrical connection means for said windings permitting selective energization thereof to change the angular position of attraction between stator members and thereby of the point of pinching of the rotor therebetween.

3,341,726

ROTATING BEARING CONTACTS FOR ELECTRICAL COMMUTATORS

John F. Brinster, Princeton, and Charles J. Digney, Kendall Park, N.J.
Filed Mar. 29, 1965, Ser. No. 443,572
2 Claims. (Cl. 310-90)



1. In an electric motor the combination of an armature and a commutator in electrical connection with the windings thereof, a shaft mounting said two members for rotation about the axis thereof, said shaft having a bearing in direct contact therewith only at the end thereof remote from said commutator, said commutator being of conical form in coaxial relation with said shaft and having a peripheral surface comprising spaced electrically conductive segments, a plurality of conical members greater than two rotatable about the axes thereof and respectively positioned for rolling contact between the peripheral surfaces thereof and said commutator surface at equally spaced angular locations about the latter surface, thereby to form a rotative bearing for the commutator and armature in lieu of a second shaft bearing, the said peripheral surface of at least one of said contact members being continuously electrically conductive, and means for conducting electric current from a stationary source to said last-named surface of the further conduction thereof to the commutator and armature windings.

3,341,727

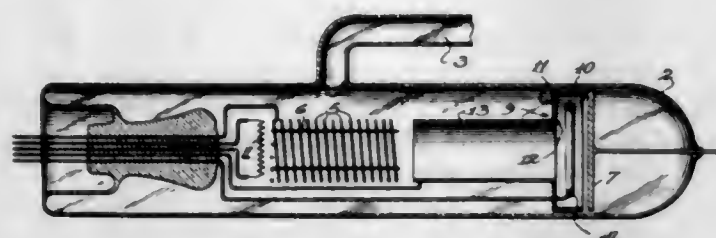
IONIZATION GAUGE HAVING A PHOTO-CURRENT SUPPRESSOR ELECTRODE

Wilfred C. Schuemann, Champaign, Ill., assignor to The University of Illinois Foundation, a non-profit corporation of Illinois

Filed Nov. 3, 1965, Ser. No. 514,735
7 Claims. (Cl. 313-7)

1. An ionization vacuum gauge comprising, a cathode to supply electrons, an acceleration electrode adjacent said cathode, an ion-collector electrode spaced from said cathode, a substantially cylindrical shield arranged between said acceleration electrode and said ion-collector electrode, said shield including a partition transverse to the vertical axis of said cylindrical shield and having

an opening therein, and including an elongated reduced portion extending from said partition toward said acceleration electrode and having an internal diameter substantially the same as the internal diameter of said opening.

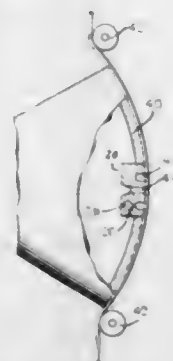


and an annular suppressor electrode interposed immediately adjacent said partition between said partition and said ion-collector electrode and arranged in the shadow of said shield as defined by X-rays emitted from said acceleration electrode and passing through said opening of said shield.

3,341,728

FILM-RECORDING CATHODE RAY TUBE WITH OPEN SLIT IN A FACE-PLATE MOUNTED FILM GUIDING VACUUM FRAME

Richard A. Fotland, Lyndhurst, Ohio, assignor to Horizons Incorporated, a corporation of New Jersey
Filed Aug. 4, 1966, Ser. No. 570,198
1 Claim. (Cl. 313-74)



In combination, a cathode ray tube including an evacuated envelope, a face plate at one end of said envelope, said face plate having a slit between about 0.25 and 100 mils in width, said slit extending through said face plate and extending from the interior of said envelope to the outer surface of said face plate; and a vacuum frame in said face plate surrounding said slit, said vacuum frame including a channel in the plane of said face plate and encircling said slit and spaced between about 0.5 inch and 1.5 inches from said slit, said channel being between 1/16 and 3/8 inches wide, and means connecting said channel to a source of vacuum.

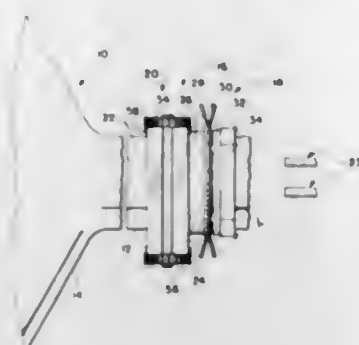
3,341,729

DEVICE FOR LATERALLY SHIFTING ONE OF A PLURALITY OF ELECTRON BEAMS RELATIVE TO THE REMAINDER IN A COLOR TELEVISION TUBE

Oliver E. Saari, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Jan. 26, 1966, Ser. No. 523,103
10 Claims. (Cl. 313-75)

1. A beam deflecting device for laterally and selectively shifting one of a plurality of generally longitudinally directed electron beams in a neck of a cathode ray tube, said beam deflecting device adapted to be mounted on the neck of said cathode ray tube and including opposite pairs of magnetic pole means positioned above and below a horizontal plane passing through the longitudinal axis of the tube neck and substantially equally spaced from the remainder of said plurality of electron beams and

being substantially symmetrically arranged with regard to a vertical plane passing through said longitudinal axis, like poles of each pair of magnetic pole means arranged on the same side of said horizontal plane facing each other in confronting relationship and being aligned with opposite poles of like character on the other side of said horizontal plane, said magnetic pole means being mounted



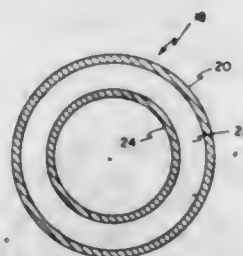
on said tube neck and being associated with means causing corresponding relative movement of like poles on the same side of said horizontal plane toward and away from each other for establishing a magnetic field substantially normal to said one electron beam and thereby effect transverse shifting thereof while maintaining the remainder of said electron beams in a region of substantially constant magnetic flux.

3,341,730

ELECTRON MULTIPLIER WITH MULTIPLYING PATH WALL MEANS HAVING A REDUCED REDUCIBLE METAL COMPOUND CONSTITUENT

George W. Goodrich, Oak Park, and James R. Ignatowski, Warren, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Continuation of abandoned application Ser. No. 117,651, June 16, 1961. This application Nov. 10, 1965, Ser. No. 537,575

23 Claims. (Cl. 313-103)

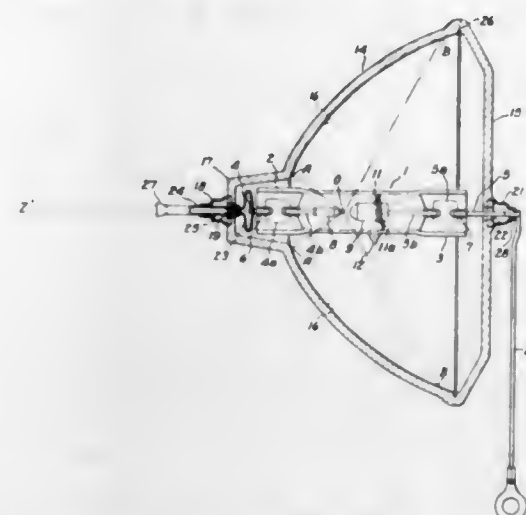


1. An electron multiplier for multiplying electrons by secondary electron emission comprising wall means having a surface defining a multiplying path having its longitudinal dimension substantially larger than its lateral dimension, the multiplying path being totally free of any electrode means for focussing electrons which would tend to reduce the number of electron impacts with the wall means, entrance means for receiving particles to be multiplied by secondary electron emission from the wall means surface, exit means for discharging the secondary emission particles from the multiplying path defined by said wall means and said exit means being spaced from said entrance means by said longitudinal dimension, said wall means comprising an insulative body having a reducible metal compound constituent therein, the surface of said wall means comprising chemically reduced reducible metal compound constituents to provide a resistive surface capable of secondary electron emission for said electron multiplication.

3,341,731

REFLECTOR ARC LAMP WITH ARC TUBE SUPPORT COMPRISING ARC TUBE INLEAD CONNECTORS FASTENED TO THE OUTER END OF FERRULES SEALED IN THE OUTER ENVELOPE

John Wilson, Mayfield Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1966, Ser. No. 602,436
10 Claims. (Cl. 313-113)



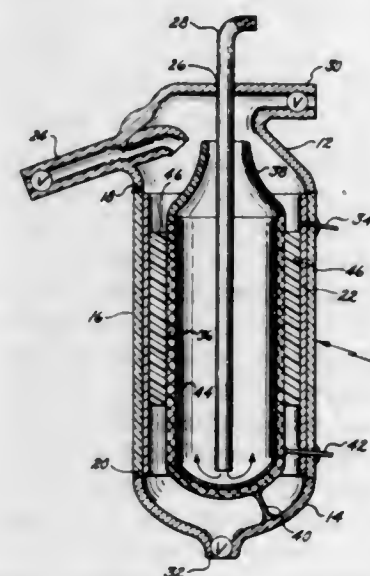
1. A reflector lamp comprising a vitreous outer envelope formed of a concave reflector and a light-transmitting cover peripherally sealed together, an arc tube mounted within said envelope with its longitudinal axis lying substantially in the optical axis of said reflector member and having an interelectrode gap located at the focus thereof, one ferrule centrally sealed to said reflector and another ferrule centrally sealed to said cover, said ferrules defining passageways into said envelope, said arc tube having inlead connectors at opposite ends extending through said ferrules and being fastened thereto at the outer ends thereof, said inleads providing the entire support for said arc tube.

3,341,732

CONTINUOUS FLOW GAS CHROMATOGRAPHY APPARATUS HAVING A WIRE MESH ELECTRODE

Harry H. Malvin, San Antonio, Tex. (1402 S. Post Oak Road, Apt. 69, Houston, Tex. 77027), and Marion J. Stansell, San Antonio, Tex.; said Stansell assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 16, 1965, Ser. No. 514,768
4 Claims. (Cl. 313-231)



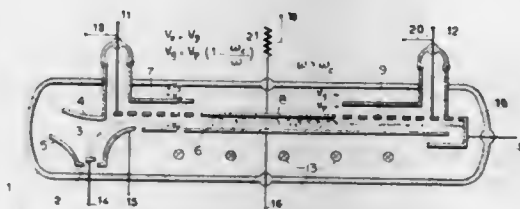
1. A continuous flow electrolytic apparatus comprising a closed, generally cylindrical casing,

a cylindrical electrode on the inner wall of said casing, a cup-shaped, mesh electrode concentric with and spaced from said cylindrical electrode, a gas permeable membrane lining the interior of said cup-shaped, mesh electrode, spacer means between said electrodes, support means for spacing the bottom of said cup-shaped electrode and said casing, solution inlet means connected with said casing, solution outlet means at the lowermost portion of and connected with said casing, gas outlet means at the upper end of and connected with said casing, and carrier gas inlet means connected with said casing for directing a carrier gas to the interior of said mesh electrode.

3,341,733

TRAVELING WAVE TUBE TIME DELAY DEVICE

Gerard Kantorowicz, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie sans Fil, Paris, France
Filed May 26, 1964, Ser. No. 370,258
Claims priority, application France, June 12, 1963, 937,794; Feb. 4, 1964, 962,556
12 Claims. (Cl. 315-3.6)



1. An electronic delay line which includes a vacuum tube having an evacuated enclosure comprising, within said enclosure: delayless wave guide means forming a drift space and provided with input and output means, means for establishing crossed transverse electric and magnetic fields within said wave guide means, means for producing an electron beam and directing said beam through said input means into said wave guide, collector means for said beam after emerging from said output means, a geometrically periodic delay line section having dispersive phase velocity characteristics extending at least along a portion of the path of said beam preceding said guide input means, and means for energizing said delay line section with a microwave signal, the velocity of said beam being adjusted substantially to the group velocity of the wave propagating in said delay line section.

3,341,734

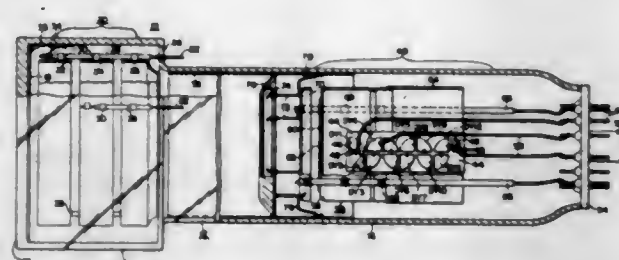
TELEVISION CAMERA DEVICES AND RELATED SYSTEMS

James F. Nicholson, Pine City, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 17, 1964, Ser. No. 383,316
10 Claims. (Cl. 315-12)

10. An image dissector comprising an evacuated envelope having a first and second portion, said first portion having a greater diameter than said second portion, a photocathode element disposed within said first portion for transforming a light image into an electron image, a surface having an aperture therein and disposed within

said second portion, an electron multiplier positioned remotely from said photocathode element and aligned with

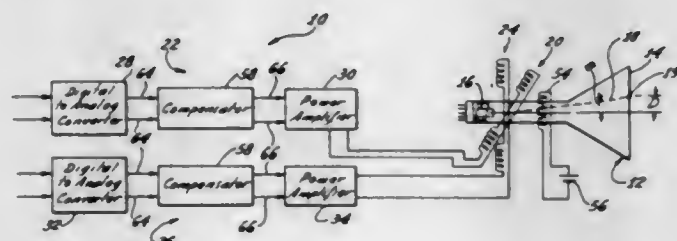


said aperture, and means for diverging said electron image to effect a change of the apparent size of said aperture.

3,341,735

DISPLAY SYSTEM UTILIZING CATHODE RAY TUBE DEFLECTION ERROR COMPENSATING MEANS

James B. Briggs, La Crescenta, Calif., assignor to Sargent Industries, Inc., a corporation of Delaware
Filed Jan. 31, 1964, Ser. No. 341,666
14 Claims. (Cl. 315-27)



3. In a display system,
 - a cathode ray tube having a fluorescent face and an electron gun for directing a beam of electrons toward the face,
 - a deflection yoke disposed between the gun and the face for deflecting the electron beam across the face in accordance with the introduction of a signal to the yoke,
 - a deflection channel interconnected with the yoke for introducing a signal to the yoke to obtain a deflection of the beam,
 - an input to said channel for receiving a deflection signal to provide a deflection of the beam through a distance that is a combination of a particular linear component and a particular non-linear higher order component of the signal, and
 - means including a non-linear compensator connected across the channel, said compensator being responsive to the amplitude of the deflection signal in the channel to provide for the deflection signal a compensation corresponding to the particular non-linear higher order function of the deflection signal.

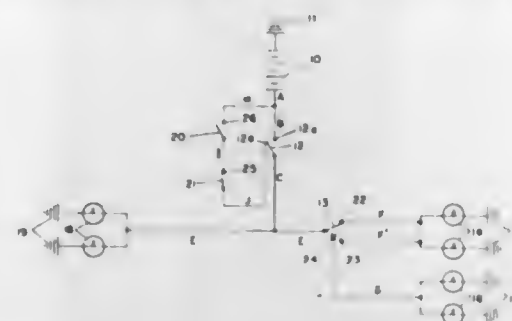
3,341,736

DAYTIME DRIVING SAFETY LIGHT SYSTEM FOR AUTOMOTIVE VEHICLES

Roger D. Fortney, 4725 Tokay Blvd.,
Madison, Wis. 53711
Filed May 7, 1965, Ser. No. 454,067
5 Claims. (Cl. 315-82)

1. A safety light system for a motor vehicle comprising:
 - (a) an ignition switch,
 - (b) a pair of high-beam headlights,
 - (c) a pair of low-beam headlights,
 - (d) a first manually operable double-throw headlight switch having first and second contact terminals,
 - (e) a battery for supplying power to said headlights,

- (f) a beam selector switch for selectively operating only the low-beam headlights or for operating the low-beam headlights and the high-beam headlights together,
- (g) a second manually operable light switch connected in series with said ignition switch and in parallel with the second contact terminal of said first headlight switch, whereby, when said first headlight switch is closed against its said second contact terminal and said second light switch is closed the opera-



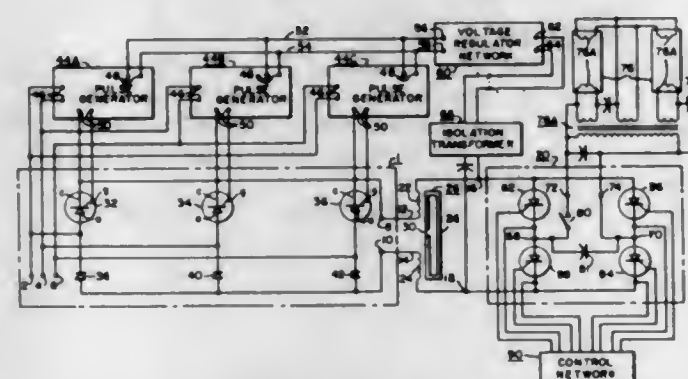
tion of said headlights may be controlled by said ignition switch,

- (h) a normally closed relay switch which is opened when energized by the closing of said second light switch for interrupting power to said high-beam headlights while said second light switch is closed regardless of the position of the beam selector switch, and
- (i) circuit connections between said battery, switches, and headlights.

3,341,737

CONSTANT CURRENT SUPPLY ESPECIALLY FOR FLUORESCENT LAMPS

John Rosa, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1964, Ser. No. 403,815
9 Claims. (Cl. 315-194)



1. In a lamp energizing network, a source of unidirectional electrical potential, potential regulating means connected to said source to control the magnitude of said unidirectional potential, an inductance, a polarity reversing switch having input and output terminals, circuit means connecting said source to said input terminals and including said inductance, a fluorescent lamp, a capacitor, circuit means connecting said lamp and said capacitor in series between said output terminals, said inductance having a sufficient magnitude relative to the magnitudes of said lamp and said capacitor to maintain a constant current flow therethrough, switch operating means connected to said polarity reversing switch and effective to actuate said switch to provide for energization of said output terminals from said input terminals in alternating polarity, a sensing network having input connections, means connecting said input connections to said input terminals,

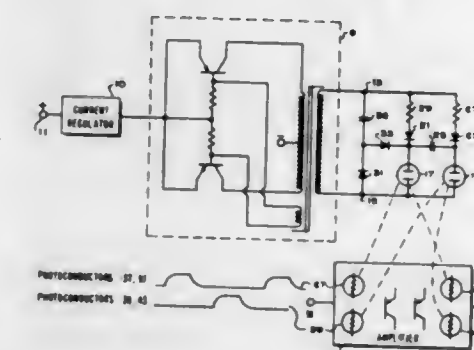
said sensing network being effective to provide a control potential proportional to the potential supplied to said input terminals, and control means interconnecting said sensing network and said potential regulating means, said control means being effective to actuate said potential regulating means to alter the magnitude of said unidirectional potential to maintain the peak value of the potential at said input terminals at a predetermined magnitude.

3,341,738

MODULATOR DRIVER CIRCUIT

Robert Elden Watson, Loveland, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Jan. 11, 1965, Ser. No. 424,616
2 Claims. (Cl. 315-201)



1. A modulating light source comprising:
 - a generator for producing oscillations having alternate positive and negative half cycles;
 - a plurality of series circuits connected to receive said oscillations, each of said series circuits including a gas discharge tube and a diode poled for conducting current during the same selected one of positive and negative half cycles of said oscillations;
 - a capacitor connected between a point intermediate a diode and tube in one of the series circuits and a point intermediate a diode and tube in another of said series circuits;
 - another series circuit connected to receive said oscillations and including a capacitor and a diode poled to conduct current during the other of said positive and negative half cycles of oscillations; and
 - a unidirectional conduction element connecting the common connection of said diode and capacitor in said other series circuit to said point in one of said plurality of series circuits.

3,341,739

ELECTRONIC FLASH CIRCUIT FOR A CAMERA

Erich Neureuter, Berlin, Germany, assignor to Robert Bosch Elektronik und Photokino GmbH, Berlin-Wilmersdorf, Germany

Filed Oct. 18, 1965, Ser. No. 497,224
Claims priority, application Germany, Dec. 14, 1964,
B 79,729

6 Claims. (Cl. 315-241)

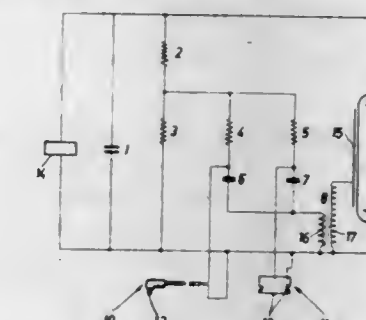
1. A flash circuit for a camera, comprising:
 - a flash bulb having a pair of spaced discharge electrodes and an ignition electrode;
 - a storage condenser connected across said discharge electrodes of said flash bulb;
 - a source of voltage connected in parallel with said storage condenser for charging said storage condenser, said storage condenser being discharged through said flash bulb when said flash bulb is ignited;
 - an ignition transformer having a primary winding and a secondary winding connected to the ignition electrode of said flash bulb;

a first ignition condenser connected to said primary winding;

first resistor means connecting said first ignition condenser to said source of voltage for charging via said primary winding, said first resistor means, said first ignition condenser and said primary winding being connected in series and across said source of voltage;

a second ignition condenser connected to said primary winding;

second resistor means connecting said second ignition condenser to said source of voltage for charging via said primary winding, said second resistor means, said second ignition condenser and said primary winding being connected in series and across said source of voltage, the series connection of said first condenser and said first resistor means being in parallel with the series connection of said second condenser and said second resistor means;



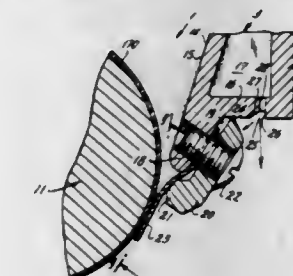
- first discharge contact means connected across said first ignition condenser and said primary winding for discharging said first ignition condenser through said primary winding by short-circuiting said first contact means and thereby igniting said flash bulb via said secondary winding and said ignition electrode in a first condition of operation; and
- second discharge contact means connected across said second ignition condenser and said primary winding for discharging said second ignition condenser through said primary winding by short-circuiting said second contact means and thereby igniting said flash bulb via said secondary winding and said ignition electrode in a second condition of operation, said first condition of operation preventing charging of said second ignition condenser and said second condition of operation preventing discharging of said first ignition condenser.

3,341,740

POWDER SPRAYER WITH FLEXIBLE BLADES

Warren G. Buhler, Westfield, N.J., assignor to Oxy-Dry Sprayer Corporation, New York, N.Y., a corporation of New York

Filed Aug. 15, 1966, Ser. No. 572,542
4 Claims. (Cl. 317-2)



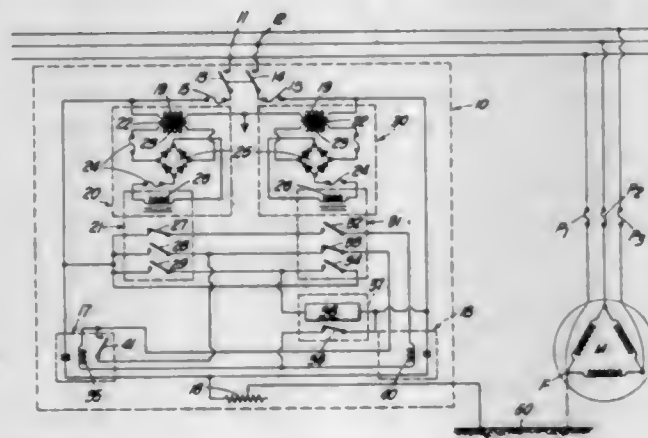
1. In an electrostatic powder sprayer, the combination of
 - a pair of spaced apart end members;
 - means located between said end members defining a receptacle for powder materials;

- a metering mechanism communicating with said receptacle for dispensing the powder material at a substantially uniform rate, including
- a cylindrical dispensing roller journaled between said end members within an opening beneath said receptacle, and
 - at least one wiping blade tangentially engaging said roller;
- means secured to said receptacle defining
- a plenum chamber,
 - a plurality of downwardly directed, jet forming apertures each communicating with said plenum chamber, said apertures being disposed along a line generally parallel to the axis of said dispensing roller, and
 - a longitudinal groove communicating with the lower end of each of said apertures so that jets formed by said apertures tend to spread in the direction of said groove.

3,341,741

APPARATUS AND METHOD FOR AUTOMATIC GROUND FAULT CLEARING

Edwin K. Swimmings, Ottawa, Ontario, Canada, assignor to Her Majesty in right of Canada, as represented by the Minister of Mines and Technical Surveys
Filed June 5, 1964, Ser. No. 372,989
4 Claims. (Cl. 317-18)



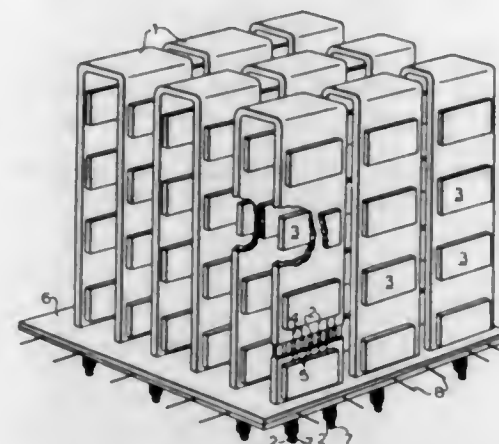
1. Apparatus for clearing ground faults occurring in a delta connected three-phase power distribution system which has a central panel feeding a plurality of branch circuits connected to power utilizing apparatus through overcurrent protective devices, said apparatus being adapted for connection between ground and first and second phases of said system at a point which is electrically adjacent said central panel and common to said branch circuits, said apparatus comprising:

- (a) first and second overvoltage detectors respectively connected between said first and second phases and ground, said detectors respectively including first and second switch means adapted for actuation upon the occurrence of overvoltage between the first and second phases and ground, respectively, and
- (b) a tripping current deriving circuit associated with said switch means adapted to be completed between either said first phase and ground or said second phase and ground upon actuation of said first or second detectors respectively for establishing between one of said phases and ground a current sufficient to actuate an overcurrent protective device, whereby there is also established through said ground fault between ground and one of the other phases a current which effects actuation of the overcurrent protective device electrically closest to said fault.

3,341,742

CIRCUIT ASSEMBLY

William G. Klehm, Jr., Farmington, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 18, 1965, Ser. No. 433,687
4 Claims. (Cl. 317-101)

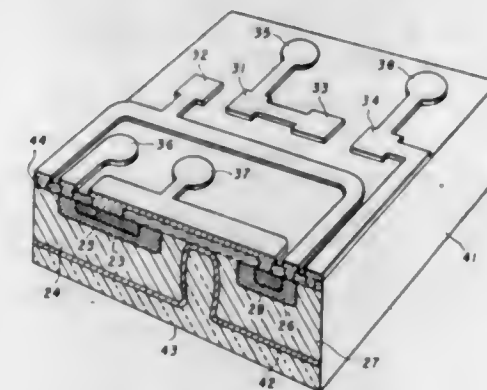


1. A circuit module comprising one or more insulated conductor strips, each strip containing a plurality of electrical conductors insulatingly embedded therein and having the insulation removed from said strip at predetermined regions, a plurality of component packages having leads extending therefrom, said packages having their leads connected to the strip at said predetermined regions, each strip being folded into a U-shape so that said packages are arranged in parallel relation to each other, said conductors extending beyond the ends of each strip, and the ends of said conductors lying in a common plane.

3,341,743

INTEGRATED CIRCUITRY HAVING DISCRETE REGIONS OF SEMICONDUCTOR MATERIAL ISOLATED BY AN INSULATING MATERIAL

Thomas H. Ramsey, Jr., Garland, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,529
5 Claims. (Cl. 317-101)



1. An improved integrated semiconductor circuit comprising:
- (a) a body having a plurality of separate regions of semiconductor material, said regions having semiconductor devices formed therein, each region having a face on one surface of said body;
 - (b) an integral insulating coating upon said one surface of said body, said coating having openings exposing selected portions of said devices for electrical connections;

- (c) an integral insulation medium, part of which comprises sodium silicate, between said separate regions of semiconductor material to thereby electrically isolate said regions from each other, said insulation medium being bonded to said semiconductor regions; and
- (d) connecting means on said coating electrically connecting said separated semiconductor devices together to form a circuit.

3,341,744

METER PEDESTAL

Le Roy E. Barwick, East Stroudsburg, Pa., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,762
2 Claims. (Cl. 317-106)



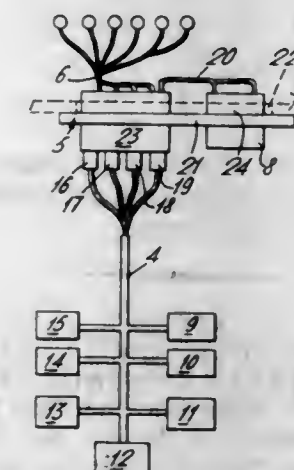
1. A metering pedestal for an underground power distribution system comprising a vertically extending stake member of generally U-shaped horizontal section having a lower end extending below the ground line to provide support for said pedestal; a plurality of apertures in the web portion of said stake member above said ground line; a plurality of meter sockets respectively mounted in said plurality of apertures each adapted to receive a meter projecting from said stake member in the direction opposite the direction in which the flange portions of said stake member project; a ground line cover having a lower end terminating below said ground line and an upper end above said ground line terminating below said stake member apertures with the vertical marginal edges of the flange portions of said ground line cover in closely telescoped relation with said flange portions of said stake member; an upper cover member of generally U-shaped horizontal section having a lower marginal edge portion in telescoped overlying relation to said ground line cover upper end portion and vertically extending marginal flange portions in telescoping relation with flange portions of said stake member; and a cap secured to one of said members and overlying the upper marginal edges of said members whereby said members, ground line cover and cap cooperate to form a substantially uninterrupted enclosure above said ground line, said ground line cover and said upper cover member each being releasably secured to said stake with said upper cover being interlocked with said ground line cover to prevent removal of said ground line cover from said stake when said upper cover member is secured to said stake and to prevent disconnection of said upper member from said ground line member without removal of said cap, and locking means

for preventing removal of said cap and to prevent unauthorized removal of said upper cover and said ground line cover.

3,341,745

CONNECTOR HOUSING

Geoffrey Hector James Munro, London, England, assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 13, 1964, Ser. No. 367,144
Claims priority, application Great Britain, May 20, 1963, 20,002/63
8 Claims. (Cl. 317-116)



1. A vehicle panel connector comprising, in combination, a dielectric housing and electrical terminal means, said dielectric housing including plate means mountable on a vehicle panel over an aperture thereof, said plate means having a first terminal-carrying section and a second terminal-carrying section adjacent each other, said first terminal-carrying section having first terminal means disposed therein, said first terminal means having first sections extending outwardly from one surface of said plate means for receiving fuse means therein and second sections extending outwardly from another surface of said plate means, said second terminal-carrying section having recess means therein, second terminal means disposed in alignment in said recess means, dielectric terminal block means mateable with said recess means, third terminal means in said terminal block means mateable with said second terminal means, and electrical conductor means connected to said second sections of said first terminal means and said second and third terminal means with some of said electrical conductor means of said second sections being connected to said second terminal means.

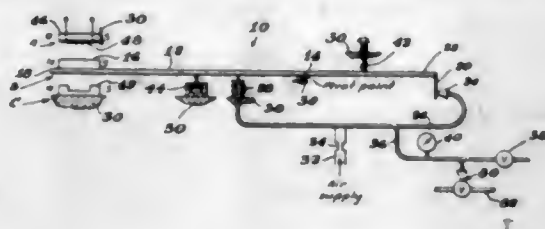
3,341,746

CONTROL METHOD AND APPARATUS

Alfred V. Baker, Freeport, Porter Hart, Lake Jackson, and Bernard F. Poetker, Huntsville, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 21, 1964, Ser. No. 361,509
9 Claims. (Cl. 317-123)

1. A method of setting to predetermined control levels individual control devices of a plurality of magnetically actuated control devices which each have a permanently magnetizable element including an electromagnetic coil which is magnetically coupled to a pivoted movable beam element whose movement is utilized in achieving the control function of the device, comprising sequentially determining for each device by means of external circuitry the degree of magnetization required for a requisite control function, pulsing the electromagnetic coil of each permanently magnetizable element by means of a single electrical pulse to a maximum degree of magnetization in one polarity and then pulsing said electromagnetic coil

by means of a single electrical pulse in an opposite polarity to a predetermined level which drives each said magnetiza-

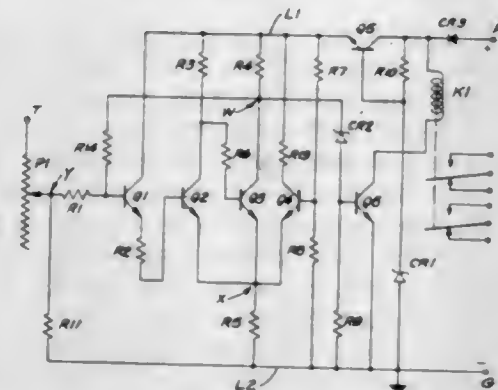


ble element to a level of permanent magnetization corresponding to the amount needed for providing the requisite control function for said device.

3,341,747

TEMPERATURE-STABILIZED VOLTAGE-SENSITIVE BISTABLE CONTROL CIRCUIT

Donald W. Halfhill, Riverside, and Paul L. Remy, Beaumont, Calif., assignors to Bourns, Inc., a corporation
Filed Mar. 22, 1965, Ser. No. 441,568
8 Claims. (Cl. 317-148.5)



1. A temperature-stabilized voltage-sensitive bistable control circuit adapted to receive a variable-potential input signal and in response thereto assume a first stable state when the input signal potential is above a predetermined potential and to switch to the second stable state when thereafter the input signal potential decreases to a potential below said predetermined potential, and to provide an output control signal corresponding to the current state of operation of the circuit, said circuit comprising:

first means, including lines supplying regulated power; second means, including a bistable trigger circuit connected to said lines to be energized therefrom, and means for supplying a variable potential input signal to said trigger circuit to control the state of operation thereof, said trigger circuit comprising first and second cross-connected transistors physically disposed to operate in the same environment and each subject to change of base-to-emitter voltage drop incident to change of temperature of said environment, and an output signal line connected to said trigger circuit to provide output signals corresponding to the respective states of operation of said bistable trigger circuit; and

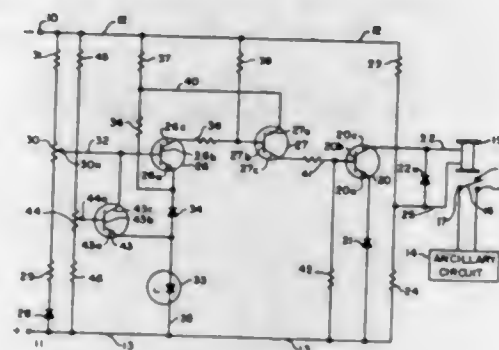
third means, connected to said first means and said second means and including semiconductor junction means responsive to said change of the ambient temperature, to variably bias said first and second transistors oppositely to the change of base-to-emitter voltage drop therein incident to such temperature change;

whereby the effects of variation of ambient temperature on said trigger circuit are substantially compensated by said third means.

3,341,748

HIGH-LOW VOLTAGE SENSITIVE SIGNALING CIRCUIT UTILIZING SEMICONDUCTORS

Nell A. Kammler, North Olmsted, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio
Filed May 13, 1964, Ser. No. 367,181
7 Claims. (Cl. 317-148.5)

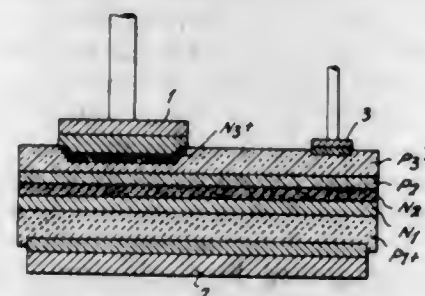


5. A voltage sensitive circuit having input terminals and including first input voltage proportioning means, means for connecting said first input voltage proportioning means between said terminals, a constant voltage source, variable conducting means having an input section and an output section, means for connecting said input section of said variable conducting means between one side of said constant voltage source and said first input voltage proportioning means, means for connecting the other side of said constant voltage source to one of said input terminals, a current energized switch serially connected with the output section of said variable conducting means, second input voltage proportioning means, means for connecting said second input voltage proportioning means between said terminals, second initiator means, means for connecting said second initiator means between said constant voltage source and said second input voltage proportioning means to compare the potential of said constant voltage source to the voltage of said second input voltage proportioning means and to render said variable conducting means nonconducting if the input voltage is greater than a predetermined maximum value.

3,341,749

FOUR LAYER SEMICONDUCTOR DEVICES WITH IMPROVED HIGH VOLTAGE CHARACTERISTICS

John Shields and Albert John Sadler, Rugby, England, assignors to Associated Electrical Industries Limited, London, England, a British company
Filed Aug. 10, 1964, Ser. No. 388,357
1 Claim. (Cl. 317-234)



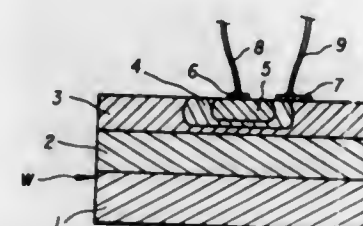
A semiconductor device comprising: a body of semiconductor material; a first face to that body; a second face to that body on the opposite side to the first face; a first surface region of that body of P-type conductivity and adjacent the first face; a second surface region of

that body of N-type conductivity and adjacent the second face; a first central region of that body of N-type conductivity and adjacent the first surface region; a second central region of that body of P-type conductivity and adjacent the second surface region; a first sub-region of N-type conductivity of the first central region, extending contiguous to the first surface region but spaced from the second central region; a second sub-region of the first central region, also of N-type conductivity but of greater conductivity than the first sub-region and the second central region but spaced from the first surface region; a third sub-region of P-type conductivity of the second central region, extending contiguous to the second surface region but spaced from the second surface region; a fourth sub-region of the second central region, also of P-type conductivity but of greater conductivity than the third sub-region, extending contiguous to both the third sub-region and the second surface region but spaced from the first central region; a first PN junction between the first surface region and the first sub-region; a second PN junction between the second sub-region and the third sub-region; a third PN junction between the fourth sub-region and the second surface region; a first electrode secured to and forming ohmic connection with the first surface region; and a second electrode secured to and forming ohmic connection with the second surface region; whereby, in use, the tendency for the space charge region of the second PN junction to expand to one of the other PN junctions and cause breakdown of the device when a bias voltage is applied to the device, is reduced.

3,341,750

LOW VOLTAGE SEMI-CONDUCTOR REFERENCE DIODE

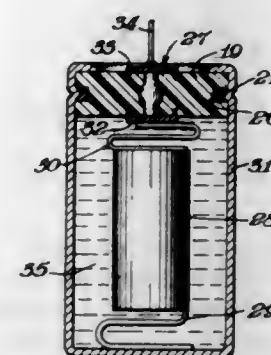
Albert Neal Lambert and Billy Bruce Williams, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 31, 1965, Ser. No. 444,316
2 Claims. (Cl. 317-234)



1. A semiconductor diode comprising a substrate having a P-type dopant concentration of about 10^{15} atoms per cubic centimeter; a first epitaxial layer on said substrate, said first layer being about 0.77 mil thick and having an N-type dopant concentration varying from about 10^{15} atoms per cubic centimeter at the substrate interface to a concentration between 10^{16} and 10^{17} atoms per cubic centimeter at the opposite face of said layer with a maximum concentration in excess of 10^{17} atoms per cubic centimeter within said layer; a second epitaxial layer on said first epitaxial layer, said second epitaxial layer being about 0.12 mil thick and having an initial N-type dopant concentration between 10^{16} and 10^{17} atoms per cubic centimeter; a first region formed in said second layer, said first region being about 0.11 mil thick and having a diffused P-type dopant concentration decreasing from a maximum value in excess of 10^{18} atoms per cubic centimeter; a second region formed in said first region, said second region being about 0.10 mil thick and having an N-type dopant concentration decreasing from a maximum value in excess of 10^{20} atoms per cubic centimeter; an ohmic contact to said second region; and an ohmic contact to said first region and said second layer.

3,341,751

ELECTRICAL COMPONENT END SEAL
Warren J. Clement, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Feb. 8, 1965, Ser. No. 431,126
10 Claims. (Cl. 317-230)

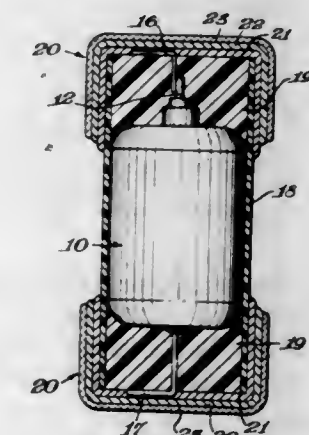


4. An end seal for electrical components comprising an electrical insulating plug having an orifice through and an electrical conducting terminal extending through said orifice, said terminal comprising a shank within said orifice and symmetrical discs pressed against the opposite surfaces of said plug in the areas around said orifice, said shank having a globular portion of enlarged diameter in substantially radial pressure engagement with the wall defining said orifice and sealing said terminal therewith.

3,341,752

SPRING CLAMP CONNECTOR MOUNTED CAPACITOR

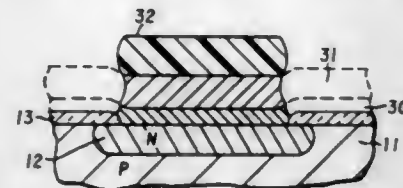
Lawrence E. Fournier, Penacook, N.H., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Feb. 24, 1965, Ser. No. 434,947
4 Claims. (Cl. 317-230)



1. A solid electrolyte capacitor comprising a capacitor section having a cathode and an anode of film-forming metal, a dielectric oxide film on the surface of said anode and a solid electrolyte disposed between and in contact with said film and said cathode, an insulating sleeve having said section disposed therein and insulating means sealing each end thereof, said anode and cathode having a terminal lead extending respective from opposite ends of said section through said insulating means, and a metallic terminal disposed about each end of said sleeve and on the surface of each insulating means, and each of said terminal leads electrically connected to a respective said metallic terminal.

3,341,753 METALLIC CONTACTS FOR SEMICONDUCTOR DEVICES

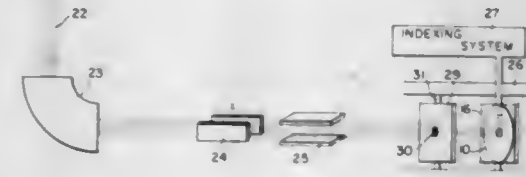
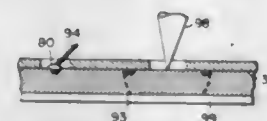
James A. Cunningham, Dallas, and Robert P. Williams, Plano, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1964, Ser. No. 405,461
13 Claims. (Cl. 317-234)



9. A semiconductor device comprising a semiconductor body and a multilayered contact consisting of a layer of molybdenum contacting said semiconductor body and a layer of aluminum overlying said layer of molybdenum.

3,341,754 SEMICONDUCTOR RESISTOR CONTAINING INTERSTITIAL AND SUBSTITUTIONAL IONS FORMED BY AN ION IMPLANTATION METHOD

Claud M. Kellett, Lexington, William J. King, Reading, and Frederick W. Martin, Boston, Mass., assignors to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware
Filed Jan. 20, 1966, Ser. No. 521,966
8 Claims. (Cl. 317-234)



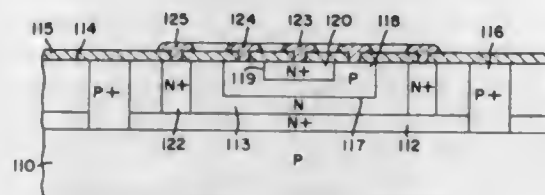
1. A passive semiconductor device comprising a body of crystalline semiconductor material of a first conductivity type and a known bulk resistivity, at least one region of implanted ions of given dimensions in said body, said region containing ions in both interstitial and substitutional positions, said region having a conductivity opposite to the conductivity of the body and a specified resistivity different from said bulk resistivity, said specified resistivity being determined by the number of ions in substitutional positions in said crystal and conductive leads connected to said region.

4. The method of producing a passive electrical component comprising the steps of depositing on the surface of a semiconductor body, of known conductivity and resistivity, a tenacious passivating layer, masking said tenacious layer to leave exposed selected portions thereof, implanting said layer and body with ions having the capacity to exist interstitially or substitutionally in said body, said ions being of a given energy in excess of 50 kev and conductivity to modify the conductivity and resistivity of the unmasked regions of said body, removing said mask,

remasking said layer to leave exposed different portions thereof, removing said exposed different portions of said layer to expose the surface of the body, coupling conductive leads to said exposed body surfaces and heat treating said body at a temperature below 800° C

3,341,755 SWITCHING TRANSISTOR STRUCTURE AND METHOD OF MAKING THE SAME

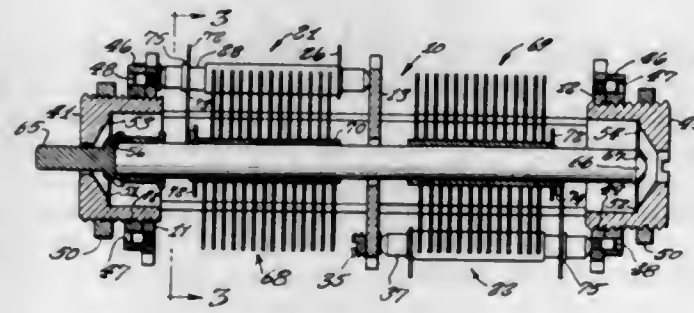
John D. Husher, Ellicott City, and Larry J. Pollock, Odenton, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 20, 1964, Ser. No. 353,524
3 Claims. (Cl. 317-235)



1. A switching transistor structure comprising: emitter, base and collector regions in a body of semiconductive material having a major surface; a base-collector junction between said base and collector regions that terminates at said major surface; said collector region having an impurity concentration that is greatest in a layer remote from said base-collector junction and from said major surface; a wall of semiconductive material of the same type as said collector spaced from said base region and extending from said major surface to said layer; said wall having an impurity concentration that is greater than that of said collector region immediately adjacent said P-N junction; said wall and said layer cooperating to enclose the remainder of said collector region.

3,341,756 ADJUSTABLE LOW-PASS CAPACITOR

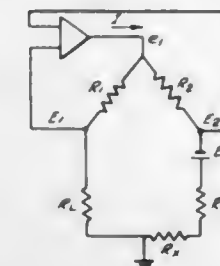
John E. Johanson, P.O. Box 329, Boonton, N.J. 07005
Filed June 16, 1966, Ser. No. 558,131
10 Claims. (Cl. 317-254)



1. A variable capacitor, comprising: an elongated frame; a group of stator plates carried by said frame; two axially aligned bearing bushing members threaded into opposite end portions of said frame; two confronting resilient disc members each disposed in one of said bearing bushing members, said disc members having axially aligned frusto-conical depressions formed therein the depression in each disc member being convergent away from the depression in the other disc member; elongated mounting means having complementary frusto-conical surfaces rotatably engaging said depressions; and a group of rotor plates carried by said mounting means and cooperating with stator plates.

3,341,757 BRIDGE CIRCUIT FOR DETERMINING THE INVERSE OF RESISTANCE

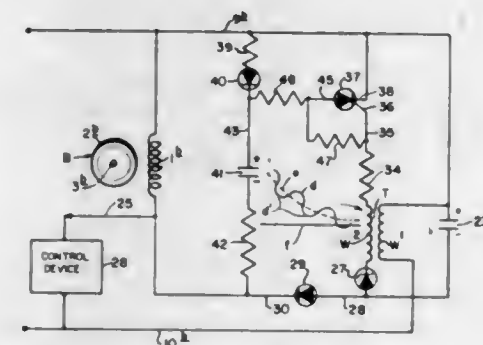
Dexter E. Cate, North Dartmouth, Mass., assignor to Buzzards Corporation, Marion, Mass., a corporation of Massachusetts
Filed July 11, 1966, Ser. No. 564,075
9 Claims. (Cl. 318-18)



1. In a servo system, a bridge circuit for providing a current flow which is a linear function of the inverse of a resistance, said bridge circuit comprising a plurality of bridge arms, connected to each other to form a null bridge, a resistor connected in one of said bridge arms and having a resistance, a source of reference voltage connected in series in one of said bridge arms, means connected to said bridge circuit for maintaining said bridge in a null condition, said null maintaining means comprising means connected to said bridge circuit for controlling the current in said bridge circuit, said bridge circuit thereby having a current flow therein which is substantially a linear function of the inverse of the resistance of said resistance.

3,341,758 MOTOR-BRAKING DEVICES

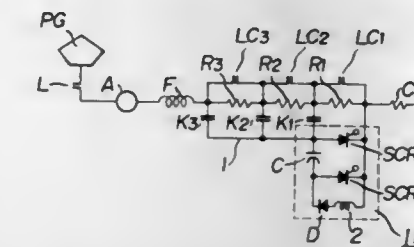
William Henry Plumpe, Jr., St. Louis, Mo., assignor to Biological Research, Inc., a corporation of Delaware
Filed Aug. 10, 1966, Ser. No. 571,586
13 Claims. (Cl. 318-212)



1. A braking circuit for use with an alternating current motor, comprising: a source of alternating current connected across the motor, means for interrupting the flow of alternating current from said source to said motor, a source of direct current, a switching device including first and second electrodes having conductive and nonconductive states therebetween under control of a signal at a control electrode, means connecting said direct current source and said first and second electrodes in series across said motor, bias means for producing said signal during the time the flow of alternating current is interrupted, and means connecting said control electrode to said bias means, said bias means including a capacitor charged to a direct current potential for biasing said device in its nonconductive state, and a discharge path effective when said interrupting means stops the flow of alternating current to said motor to discharge the direct current potential across said capacitor by a predetermined amount, the predetermined amount of discharge causing said signal to be produced, thereby switching said device.

3,341,759 CONTROL DEVICE FOR ELECTRIC CARS INCLUDING SCR SHORT CIRCUITING OF A STARTING RESISTANCE

Yasunosuke Torii, Musashino-shi, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, a corporation of Japan
Filed Dec. 7, 1964, Ser. No. 416,244
Claims priority, application Japan, Dec. 5, 1963, 38/65,626
2 Claims. (Cl. 318-422)



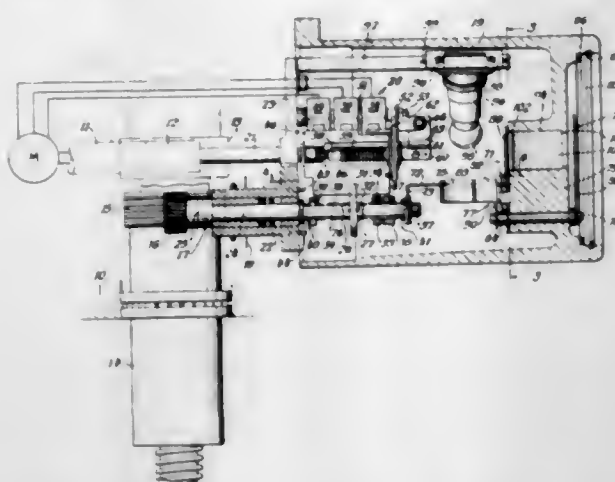
1. A control device for electric cars comprising, a driving DC motor, a resistor in series with said DC motor and having a plurality of series sections for power running and dynamic braking, a current regulator including a first silicon controlled rectifier element connected to pass current through said DC motor and a second silicon controlled rectifier element connected to cut off said first silicon controlled rectifier element for regulating the current through said DC motor by varying the conduction period of said first silicon controlled rectifier element, means to generate first gate pulses repeating at a predetermined frequency, supplied to said second silicon controlled rectifier element, and means to generate second gate pulses supplied to said first silicon controlled rectifier element between the repetitive first gate pulses to control the instance of occurrence of said repetitive gate pulses in accordance with the magnitude of the current through said DC motor, so that during power running, field-weakening control is effected and the current regulator is first connected in parallel with the first series section of said resistor thus increasing the conduction time of said first silicon controlled rectifier element to gradually shunt said first series section, and then upon completion of shunting of the first series section the regulator is connected across the next series section to repeat the shunting process to ultimately connect said current regulator in parallel with the field winding of said DC motor, while during dynamic braking said series sections are successively shunted in the same way as during the power running.

3,341,760 END POSITION INDICATING DEVICES FOR VALVE ACTUATORS

Jeremy Joseph Fry, Bath, Somerset, England, assignor to Rotork Engineering Company Limited, Somerset, England
Filed June 5, 1964, Ser. No. 372,998
Claims priority, application Great Britain, June 7, 1963, 22,843/63
12 Claims. (Cl. 318-469)

1. A valve actuator comprising an output shaft; power means operable to selectively rotate said output shaft to open or close a valve in response to rotation of said output shaft in one or other direction; a visual position indicating device; and a control unit for said power means, said control unit including a pair of position limit switches connected in circuit with said power means, a shaft rotatable in response to rotational movement of the output shaft, a threaded hollow spindle mounted on said shaft and frictionally rotatable therewith, a nut mounted on said threaded spindle and normally restrained against rotation, so as to travel along the spindle in accordance with the direction of rotation of the output shaft, said

nut being rotatable with said threaded spindle when said nut reaches one of two extreme positions of movement along said spindle, said extreme positions corresponding



to the end positions of said output shaft in the open and closed directions, means responsive to rotation of said nut to actuate said limit switches, and means responsive to rotation of said nut to actuate said indicating device.

3,341,761

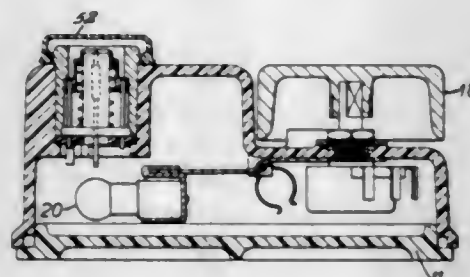
DOSIMETER CHARGING APPARATUS

Robert G. Bryer, Ruislip, England, assignor to R. A. Stephen & Company Limited, Mitcham, Surrey, England, a British company

Filed Oct. 7, 1963, Ser. No. 314,286

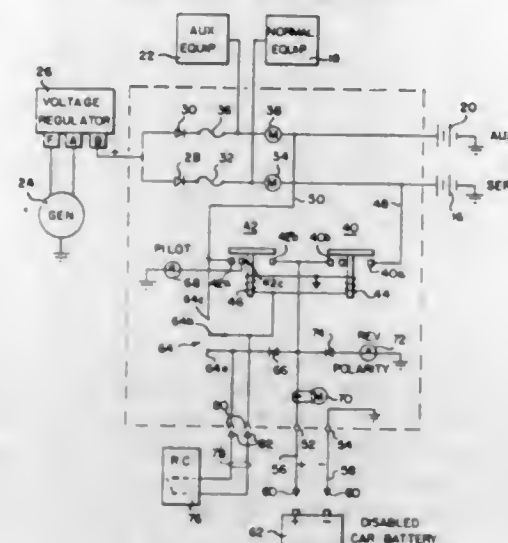
Claims priority, application Great Britain, Oct. 9, 1962, 38,158/62

10 Claims. (Cl. 320-1)



1. An electric connecting apparatus for connecting a dosimeter having an outer, generally cylindrical, contact and an inner contact within the outer contact and having an exposed contact surface spaced inwardly from the end edge of the outer contact to a voltage supply means for charging the dosimeter, said apparatus comprising in combination: connector means including a first contact means defining an inner contact surface for engaging the inner dosimeter contact; a second contact means surrounding, and being insulated from, said first contact means and defining outer contact surfaces for engaging the outer dosimeter contact, said outer contact surfaces being spaced in a direction radially of said inner contact surface and being arranged to accommodate dosimeter contacts of different dosimeters in which the spacing between the contact surface of the inner contact and the end edge of the outer contact is different; means for biasing said first and second contact means to a first relative position; and means adapted to operate, when said first and second contact means are moved toward a different relative position upon insertion of the dosimeter contacts into connector means for connecting said first and second contact means to a voltage supply means for supplying a charging voltage across said contact means.

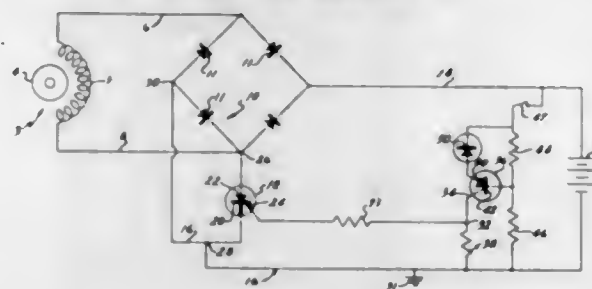
3,341,762
BOOST SUPPLY WITH POLARITY PROTECTION
Myer S. Rockoff, 38 Pine Hill Road,
Swampscott, Mass. 01907
Filed Mar. 15, 1965, Ser. No. 439,810
4 Claims. (Cl. 320-6)



1. An electrical apparatus for use in equipment having a service battery, an auxiliary battery and means for charging the batteries, said apparatus comprising: electrical means for preventing current flow between the batteries during discharging operations; selectively operable means for connecting said batteries in parallel with another circuit having a source of direct current potential, said means being energized by said direct current potential; reverse polarity indicator means; and polarity sensitive means for preventing the operation of said connecting means whenever the polarities of said batteries and said other circuit are reversed.

3,341,763
OUTPUT CONTROL FOR PERMANENT MAGNET ALTERNATORS

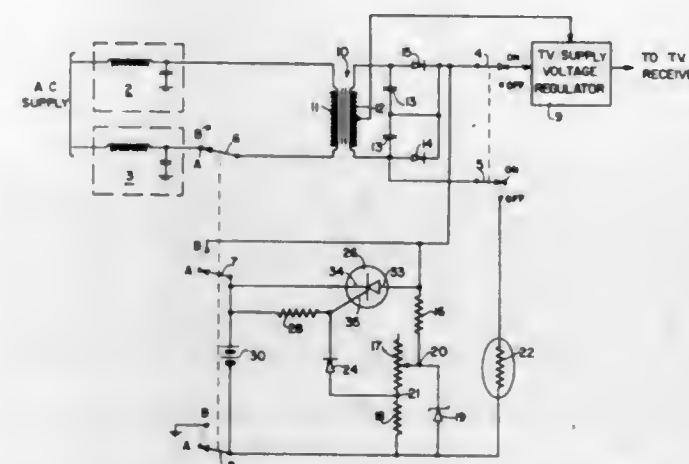
Ray C. Noddin, Chicopee, Mass., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,231
9 Claims. (Cl. 320-39)



1. Battery charging system comprising a permanent magnet alternator having a rotor and output winding, a bridge rectifier connected to the alternator output and changing the output to direct current, the battery of said system being connected to the direct current legs of said bridge rectifier, a voltage divider connected across said battery terminals, and in combination a Zener diode and transistor circuit conductive in response to a predetermined voltage developed across said voltage divider, and a silicon controlled rectifier having cathode and anode electrodes connected in circuit from an alternating current leg of said bridge rectifier to one of the direct current legs of said rectifier, said silicon controlled rectifier being normally in its non-conductive mode, and having a gate electrode electrically in circuit with the Zener diode and transistor circuit whereby conduction

of the latter circuit triggers break down of the silicon controlled rectifier causing a direct grounding of the output of the alternator whenever the battery voltage exceeds the predetermined value.

3,341,764
ELECTRONIC SYSTEM
Lowell S. Kongable, Prospect Heights, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 20, 1964, Ser. No. 383,843
2 Claims. (Cl. 320-59)



1. An electrical system for charging a storage battery from a pulsating direct current supply, including in combination, a silicon controlled rectifier having an input electrode for coupling to the direct current supply, an output electrode for coupling to one terminal of the storage battery and a control electrode, reference potential means for coupling to the other terminal of the storage battery, fixed resistance means coupled between said output electrode and said control electrode, regulating means for providing a regulated pulsating direct current voltage having a maximum peak value equal to a first predetermined magnitude and including further resistance means connected to the direct current supply, and zener diode means connected between said further resistance means and said reference potential means, adjustable voltage divider means coupled in parallel with said zener diode means and being responsive to said regulated pulsating direct current to develop a regulated control voltage having a peak value equal to a second predetermined magnitude, passive circuit means coupling said adjustable voltage divider means to said control electrode for applying said regulated control voltage thereto, said silicon controlled rectifier being responsive to said regulated control voltage at said input electrode thereof and a battery voltage at said output electrode less than second predetermined magnitude to provide a charging current for the battery.

3,341,765
VARIABLE PULSE WIDTH REGULATED POWER SUPPLY

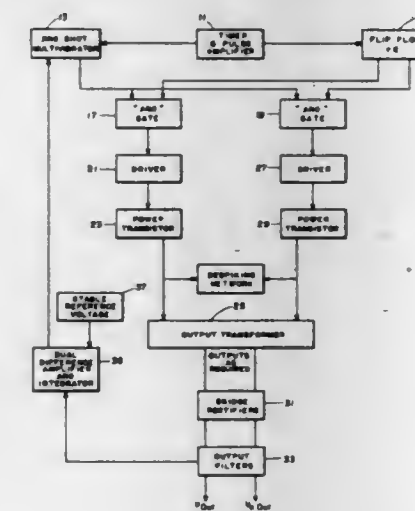
Clarence L. Rogers, Jr., Hartville, and Clarence A. Ripley, Jr., Akron, Ohio, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 31, 1964, Ser. No. 386,805

6 Claims. (Cl. 321-2)

1. A D.C. to D.C. variable width regulated power supply comprising
a plurality of regulated D.C. output voltage circuits, one of the said plurality of output voltage circuits providing a feedback voltage source,
a relaxation oscillator timer and pulse amplifier,

a one-shot multivibrator having a first input circuit, a second input circuit and an output circuit,
means connecting said relaxation oscillator timer and pulse amplifier to the first input circuit of said one-shot multivibrator,
a frequency dividing multivibrator having an input circuit and an output circuit,
a first AND gate having first and second input terminals and an output terminal,
a second AND gate having first and second input terminals and an output terminal,
means connecting the output circuit of said one-shot multivibrator to said first terminals of said first and second AND gates,
means connecting the output of said frequency dividing multivibrator to said second terminals of said first and second AND gates,
a first power transistor having a base, a collector, and an emitter,
a second power transistor having a base, a collector, and an emitter,
an output transformer having a primary winding and a plurality of second windings, said primary winding having a center tap connected to a D.C. voltage source,
means connecting a first end of said primary winding to the collector terminal of said first power transistor,



means connecting a second end of said primary winding to the collector terminal of said second power transistor,
first impedance means connecting the emitter of said first power transistor to a ground potential,
second impedance means connecting the emitter of said second power transistor to a ground potential,
first driving means including first switching means connected between said first AND gate and the base of said first power transistor,
second driving means including switching means connected between said second AND gates and the base of said second power transistor for applying a positive voltage to the base of said second power transistor when a pulse is applied to said second driving means from said AND gate, causing said second power transistor to conduct,
a plurality of bridge rectifier means,
a plurality of filter means,
means serially connecting each of said plurality of secondary windings to a respective bridge rectifier, a respective filter circuit, and a respective one of said output voltage circuits, whereby a plurality of regulated output voltages is provided,

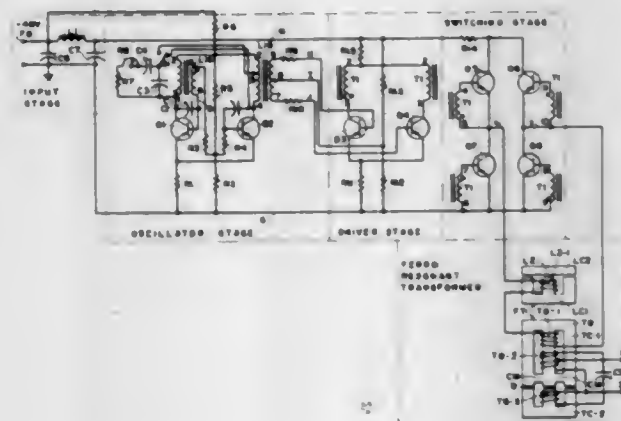
integrator means having an input circuit and an output circuit,
 difference voltage amplifier means having a first input circuit, a second input circuit and an output circuit, a stable reference voltage source,
 means connecting said feedback voltage source to the input circuit of said integrator means,
 means connecting the output circuit of said integrator means to the first input circuit of said difference voltage amplifier means,
 means connecting said stable reference voltage source to the second input circuit of said difference voltage amplifier means,
 means connecting the output circuit of said difference voltage amplifier to the second input of said one-shot multivibrator, the pulse width of said one-shot multivibrator being directly proportional to the magnitude of voltage applied thereto from the output circuit of said difference amplifier means.

3,341,766

CHOKED FERRORESONANT TRANSFORMER SYSTEM

Earl C. Rhyne, Jr., Millis, Mass., assignor to The Warren Manufacturing Company, a division of The Dielectric Products Engineering Company, Inc., Littleton, Mass., a corporation of Michigan

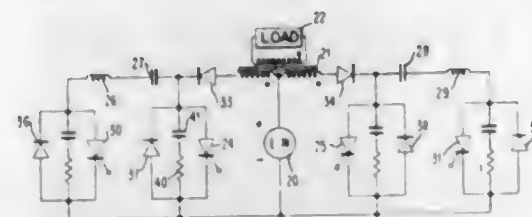
Filed June 18, 1963, Ser. No. 288,764
 9 Claims. (Cl. 321-9)



1. In an electric inverter including a pair of direct voltage input leads, a source of alternating voltage and switching means responsive to said source of alternating voltage and connected to said input leads for producing a substantially square-wave output voltage, a ferroresonant transformer comprising primary winding means, secondary winding means and auxiliary winding means, core means for said winding means forming a gap between said auxiliary and said other two winding means, said core means including a first core member, said primary and secondary winding means being wound on said first core member in the same magnetic path, capacitor means connected to said secondary and auxiliary winding means, said capacitor means and said secondary winding means resonating at the frequency of the square-wave output voltage of said switching means, and output means connected to said secondary winding means, said core means including a second core member for said auxiliary winding means, said first and second core members being spaced from each other to form said gap and being inductively interlinked, and choke means magnetically separate from said ferroresonant transformer and outside the flux path of said ferroresonant transformer, said choke means being connected between said switching means and said primary winding means.

3,341,767
POWER INVERTER UTILIZING CONTROLLED RESONANT COMMUTATION
 John R. Cielo, Hurley, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 1, 1964, Ser. No. 400,712
 6 Claims. (Cl. 321-45)

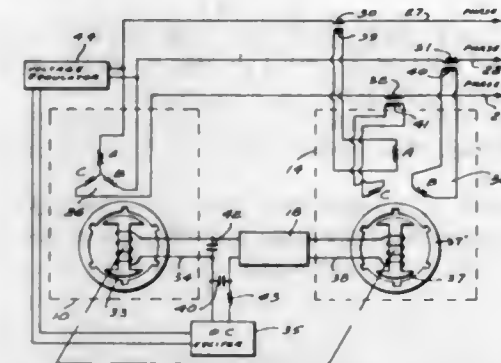


1. An inverter circuit comprising
 an output device having first and second impedance sections commonly connected on one side,
 a power source connected between said common connection and a circuit point,
 first and second diodes connected on one side to respective ones of the other side of said impedance sections,
 first and second controlled rectifiers commonly connected on one side to said circuit point and on the other side to the other sides of said first and second diodes, respectively,
 said diodes and said rectifiers being arranged for providing a pair of unidirectional conducting paths for said power source through the associated said impedance section,
 third and fourth controlled rectifiers having the same side connected to said circuit point as said first and second controlled rectifiers,
 a pair of series resonant circuits connected to the other side of respective said third and fourth controlled rectifiers for providing first and second commutating circuits, said commutating circuits being coupled in parallel with respective ones of said first and second controlled rectifiers,
 third and fourth diodes connected in parallel with said third and fourth controlled rectifiers, respectively, but in opposite current conduction relation with respect thereto, and
 control means for initiating circuit operation by introducing and removing the first conduction causing signal to at least one of said third and fourth controlled rectifiers and for, cyclically introducing and removing conduction causing signals to said controlled rectifiers thereafter, said unidirectional conducting paths and said control means being arranged for alternately producing oppositely directed pulses relative to said output device with said commutating circuits being responsive to said control means for introducing signals across said first and second controlled rectifiers for extinguishing current conduction therethrough.

3,341,768
ALTERNATOR PHASE VOLTAGE REGULATOR
 Robert A. Kelly, 78-52 74th St., Glendale, New York, N.Y. 11227
 Filed Mar. 10, 1967, Ser. No. 622,190
 7 Claims. (Cl. 322-24)

1. A phase voltage regulator for use in a polyphase voltage generating system of the type utilizing a prime mover, an alternator rotor, alternator poles, alternator stator windings, an alternator field winding, first means for supplying D.C. current to said alternator field winding, and regulator means for regulating said first means, said

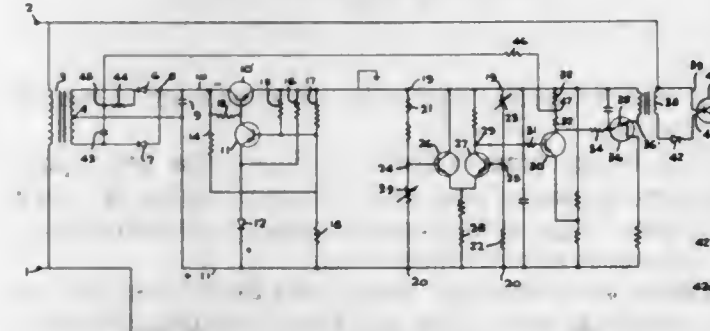
phase regulator including in combination a phase regulator magnetic field whose strength and orientation is a function of the phase angles and amplitudes of the current flowing in said alternator phases, a phase regulator rotor, means for rotating said phase regulator rotor in said phase regulator magnetic field in synchronism with said phase regulator magnetic field, a phase regulator field



winding on said phase regulator rotor, an alternating current developed in said phase regulator field winding by a variation in said phase regulator magnetic field, and said phase regulator field winding being coupled to said alternator field winding whereby the current flowing in the alternator field winding is varied by the presence of said alternating current in said phase regulator field winding.

3,341,769
CIRCUIT FOR CONTROLLING THE FIRING ANGLE OF A SEMICONDUCTOR A.C. CURRENT-CONTROLLING DEVICE
 Earl W. Grant, Los Angeles, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California

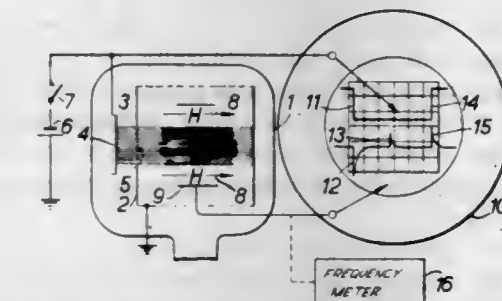
Filed Mar. 11, 1963, Ser. No. 264,414
 11 Claims. (Cl. 323-22)



9. A firing angle control circuit for a semiconductor current-regulating device, comprising a semiconductor having an anode and a cathode and an electrode for establishing the firing potential of said semiconductor device, means to apply an alternating current to be regulated to said anode, a pulse generator, means to apply said pulse to said electrode, said pulses having a peak potential at least as high as the said firing potential, and means to initiate said pulses at a selected phase angle of said regulated AC, said pulse generator being a relaxation oscillator including an RC circuit and a unijunction transistor, said unijunction transistor including an emitter, said RC circuit coupled to said emitter, means for applying a DC bias to the said emitter, means to apply an AC potential to the said emitter to modulate the said DC bias, said modulating AC having a selected phase relationship to said regulated AC, said DC bias being, in the absence of said AC potential, insufficient to bias the unijunction transistor in a forward direction, the peak value of said AC potential being, in the absence of said DC bias, insufficient to bias the unijunction transistor in a forward direction, said modulated DC being sufficient at a selected phase angle of said modulating AC and of said regulated AC to forward bias said unijunction transistor, to initiate

said pulses at said selected phase angle of said regulated AC, said modulated AC being a sawtooth wave voltage synchronous with said controlled AC, a heater resistor in series with the cathode of said regulator, a heated space heated by said heater, a Wheatstone bridge, one of whose legs is a temperature-sensitive resistor in said heated space, the output of said bridge coupled to the base of said junction transistor.

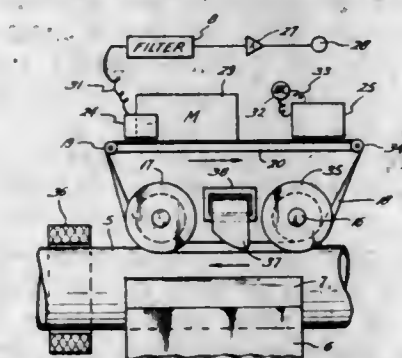
3,341,770
IONIZATION VACUUM GAUGE
 Owen Lloyd, Didcot, England, assignor to United Kingdom Atomic Energy Authority, London, England
 Filed Aug. 3, 1964, Ser. No. 387,068
 Claims priority, application Great Britain, Aug. 14, 1963, 32,209/63
 2 Claims. (Cl. 324-33)



1. A vacuum gauge for investigating the pressure of a gas comprising an electron gun, means to cause the gun to emit an electron beam, an electrically conducting chamber having an apertured end plate through which the electron beam passes into the chamber, means for immersing the chamber in a magnetic field which is parallel to the beam path and of such strength that the radius of gyration of the ions resulting from ionisation of the gas by the beam is less than the beam diameter, an electrostatic probe within the chamber adjacent to the beam path, and means to determine the time interval between voltage transients of the probe, the arrangement being such that each time a virtual cathode is created within the chamber one of said transient occurs, and after an interval which is dependent on the gas pressure the virtual cathode disappears and another of said transient occurs.

3,341,771
MAGNETIC FLAW DETECTOR UTILIZING A MAGNETIC RECORDING MEDIUM TO DETECT THE MAGNETIC FLAW PATTERN
 Alfred E. Crouch and Fenton M. Wood, Houston, Tex., assignors, by mesne assignments, to American Machine & Foundry Company
 Continuation of application Ser. No. 85,100, Jan. 26, 1961. This application Jan. 24, 1967, Ser. No. 611,467

14 Claims. (Cl. 324-37)



1. In apparatus for testing ferromagnetic pipe for defects, the combination of
 a pliable magnetizable medium defining a continuous loop,

a pair of rollers disposed against said medium within said loop to hold said medium against the pipe to be tested under each of said rollers simultaneously, said rollers and said magnetizable medium being capable of conforming to the contour of the surface of said pipe,

flux means for inducing magnetic flux over at least a portion of the ferromagnetic pipe under said medium while said portion is under said medium, said rollers and said magnetizable medium being disposed with respect to said flux means to progressively conformingly lay portions of said medium over progressive portions of the ferromagnetic pipe during inducement of said magnetic flux in said pipe from said flux means and subsequently to progressively remove said portions of said medium therefrom so that a flux pattern corresponding to at least a portion of the flux pattern over the ferromagnetic pipe is transferred to said magnetizable medium,

means for effecting relative movement between said medium and said pipe whereby said medium can progress over said pipe and accept a flux pattern indicative of defects in said pipe along a path thereon, means for converting said flux pattern transferred to said magnetizable medium into a corresponding electrical signal,

means for indicating said signal, and means for erasing said transferred flux pattern from portions of said medium after said conversion thereof and before said portions are relaid over said pipe.

3,341,772

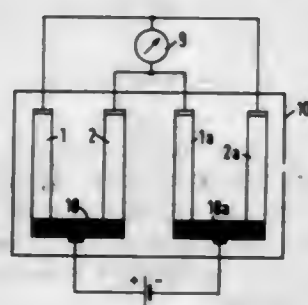
DEVICE FOR MEASURING LOCALLY DEPENDENT DIFFERENCES BETWEEN THE MAGNETIC FIELD GRADIENT AT DIFFERENT POINTS OF A MAGNETIC FIELD

Herbert Weiss, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a German corporation

Filed Oct. 21, 1964, Ser. No. 405,486

Claims priority, application Germany, Oct. 26, 1963, S 88,043

14 Claims. (Cl. 324-46)



1. A device for measuring the locality-dependent difference between the magnetic field gradient at different points of a magnetic field, said device comprising a rigid carrier, two pairs of galvanomagnetic probes fixedly mounted on said carrier in spaced relation to each other, each probe of each of said pairs of probes having two spaced opposite ends, each of said pairs of probes having connecting means of semiconductor material connecting one of the ends of each of the probes with the corresponding end of the other of the probes, said two probes and said connecting means of each of said pairs of probes being formed of the same semiconductor material and consisting of a single integral piece, and electrical meter having a pair of input terminals, one of said input terminals being electrically connected to the other of the ends of one of the probes of one pair of probes and to the other of the ends of one of the probes of the other

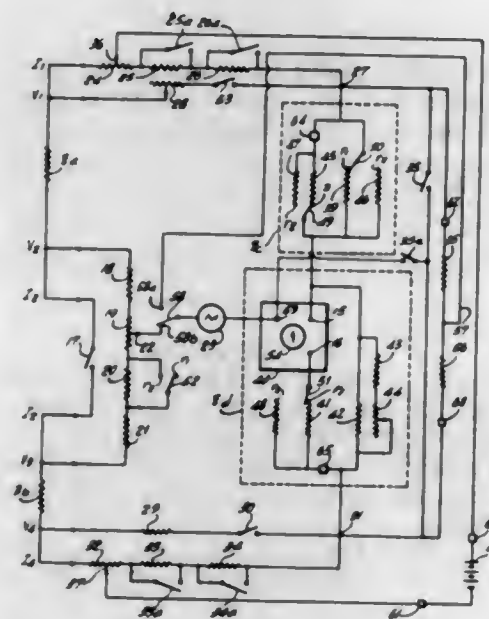
pair of probes, the other of said input terminals being electrically connected to the other of the ends of the other of the probes of said one pair of probes and to the other of the ends of the other of the probes of said other pair of probes, and voltage supply means electrically connected to the connecting means of each of said pairs of probes.

3,341,773

IMPEDANCE MEASURING BRIDGE UTILIZING DELTA BRIDGE NETWORKS FOR BALANCING OUT SPURIOUS EFFECTS

Loebe Julie, New York, N.Y., assignor to Julie Research Laboratories, Inc., New York, N.Y., a corporation of New York

Continuation of application Ser. No. 394,932, Sept. 8, 1964. This application June 22, 1966, Ser. No. 559,694 4 Claims. (Cl. 324-57)



1. The method of measuring an impedance in a bridge comprising:

four bridge arms, a pair of bridge cross arms, power source means and null indicator means in respective bridge cross arms, terminal ends connected to the ends of said bridge arms,

means including first, second and third impedance networks in delta array for providing respective bridge loop junctions, said first and second networks having respective equivalent Y impedances j and o and junctions for interconnecting correlated pairs of bridge arms and for connecting a correlated cross arm,

adjacent terminal ends of first and second of said bridge arms being interconnected by said first delta network, adjacent terminal ends of third and fourth of said bridge arms being interconnected by said second delta network, said first and second delta networks also being connected to a first of said cross arms, adjacent terminal ends of said first and third bridge arms being interconnected by said third delta network, one of said first and third bridge arms being an impedance under measurement,

the impedances of said second and fourth bridge arms being $c'-j$ and $d'-o$ respectively, the said second and fourth arms and the said Y impedances of their connected delta networks having the ratio parameters

$$H = \frac{j}{c'}, \text{ and } F = \frac{o}{d'}$$

means connecting adjacent terminal ends of said second and fourth bridge arms,

a voltage divider providing a substantially constant impedance and having a pair of input terminals connected across one of said second or fourth bridge arms, said voltage divider also having a variable transfer ratio and an output terminal,

means for connecting the other bridge cross arm between said voltage divider output and said third delta network,

switching means for applying temporarily a short circuit across said second and fourth bridge arms, and variable impedance means in at least one portion of said first and second delta networks for adjusting the balance of said temporary bridge so that the ratio parameters $(H-F)=0$;

including the steps of:

- (1) first balancing the bridge by varying the transfer ratio of said voltage divider until said null indicator means indicates a null, and
- (2) temporarily closing said switching means and adjusting the said variable impedance means of at least one of said first and second delta networks until a null is obtained and $H=F$.

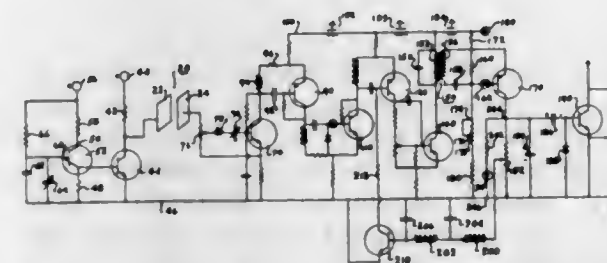
3,341,774

CAPACITANCE DETECTOR HAVING A TRANSMITTER CONNECTED TO ONE PLATE AND A RECEIVER CONNECTED TO ANOTHER PLATE

Jerry F. Dyben, South Bend, Ind., assignor to Communications Research, Inc., South Bend, Ind., a corporation of Indiana

Filed July 17, 1962, Ser. No. 210,326

8 Claims. (Cl. 324-61)



8. A detector utilizing a signal, comprising a capacitor, a transistor, a diode connected between said transistor and said capacitor, transistor means connected to said first mentioned transistor for modifying amplitude variations in said signal from said transistor into pulse width variations, means connected to said transistor means for modifying said pulse width variations from said transistor means into amplitude variations, a transistor connected to said last mentioned means, and a filter with a high time constant connected to said last mentioned transistor.

3,341,775

SURGE SUPPRESSOR FOR INSTRUMENT MONITORING CIRCUIT

Abraham Hyman, New Hyde Park, N.Y., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 12, 1963, Ser. No. 330,204

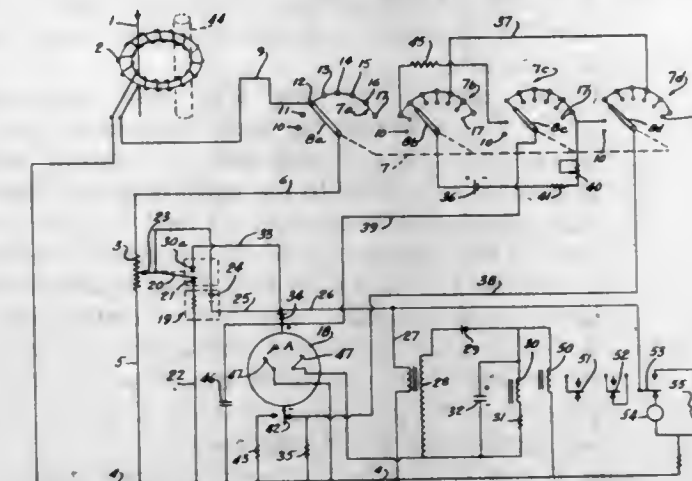
5 Claims. (Cl. 324-110)

1. A protected electrical circuit for measuring and monitoring alternating current in a primary conductor comprising:

- (a) a toroidal coil inductively coupled to the primary conductor;
- (b) a first potentiometer having an adjustable tap connected across said toroidal coil;
- (c) a branch circuit comprising a rectifying means, an electrical measuring instrumentality, and a resistor connected to one side of said toroidal coil and adapted to be connected to said adjustable tap;

(d) a transformer having its primary side connected in parallel with said branch circuit and its secondary side connected in a series circuit with a rectifying means and with a second relay means;

(e) a thermal relay separably connected to one side of said toroidal coil and to said adjustable tap;



(f) first separable conductor means responsive to said thermal relay for selectively connecting said adjustable tap and said branch circuit; and

(g) second separable conductor means responsive to said second relay means for selectively, simultaneously disconnecting said thermal relay and connecting said adjustable tap and said branch circuit.

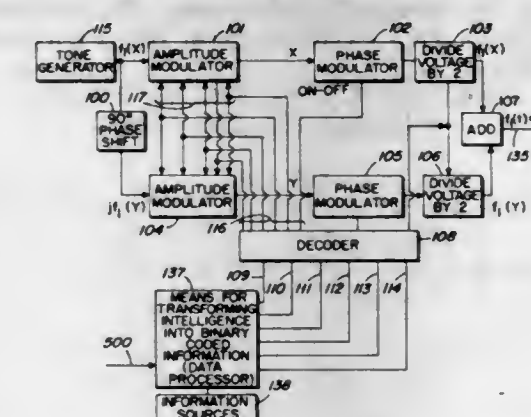
3,341,776

ERROR SENSITIVE BINARY TRANSMISSION SYSTEM WHEREIN FOUR CHANNELS ARE TRANSMITTED VIA ONE CARRIER WAVE

Melvin L. Doelz, Corona Del Mar, and Frank Secretan, Santa Ana, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 13, 1964, Ser. No. 337,427

16 Claims. (Cl. 325-30)



1. In a communication system employing tone signals divided into time synchronous segments with each segment constituting a phasor whose phase with respect to the phase of the preceding phasor is representative of the information encoded therein, and comprising:

receiver means for receiving said phasors and including an error rate detecting means constructed to produce coded signals indicative of the error rate of the received signal;

transmitter means for generating and transmitting said phasors, said transmitter means comprising:

signal tone generator means for producing an original tone signal of frequency f_1 ;

X and Y signal component generating means constructed to respond to time synchronous binary coded signals supplied thereto to produce X and Y quadrature phased signal components of predetermined combinations of magnitudes and

polarities from the output signal of said signal tone generator;

means for combining said X and Y signal components to produce a phasor of frequency f_1 but phased with respect to said original tone signal in accordance with the relative magnitudes of said X and Y signal components;

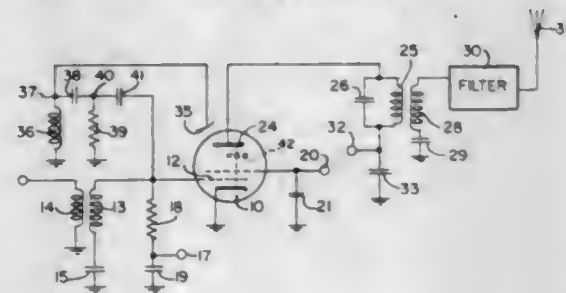
a plurality of information channels each constructed to produce an output signal consisting of data bits;

encoding means including first data processor means for receiving the data from said plurality of information channels and being programmed to respond to the various permutations and combinations of received data bits to produce at the output of said data processor means a continuing output of said time synchronous binary coded signals, one binary coded signal for each data bit interval and determinative of the relative magnitudes of the X and Y components to be generated by said X and Y signal component generating means;

said X and Y signal component generating means responsive to said time synchronous binary coded signals to produce phasors, each having a phase with respect to the phase of the immediately preceding phasor which phase is representative of all data bits supplied from all the information channels supplying data to said data processor during a given data bit time interval, said data processor means further being programmed to respond to the error rate signal from said error rate detecting means to increase or decrease the number of information channels supplying information thereto until said error rate lies within predetermined limits.

3,341,777
AMPLIFIER SYSTEM WITH CIRCUIT FOR REDUCING INTERMODULATION BETWEEN TRANSMITTERS
 Richard W. Dronsuth, Westchester, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Aug. 4, 1964, Ser. No. 387,446
 6 Claims. (Cl. 325-159)

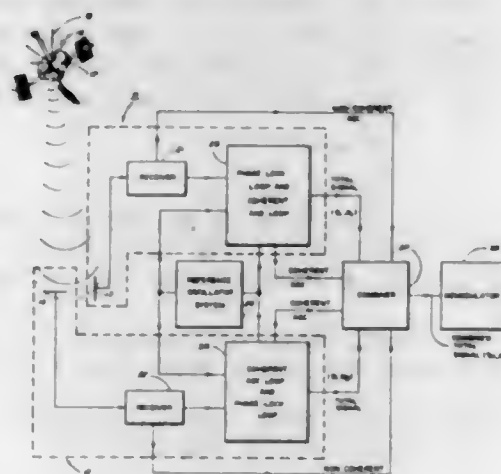


1. A class-C amplifier stage including in combination, an electron device having grid and plate electrodes, means applying an input signal to said grid electrode so that an amplified output signal of opposite phase and increased amplitude is developed at said plate electrode, output circuit means coupled to said plate electrode and including an over-coupled circuit portion, said output circuits means having interfering signals applied thereto which tend to produce intermodulation products at said plate electrode, said device having internal capacitance between said grid and plate electrodes whereby the signal at said plate electrode is coupled to said grid electrode, electrode means capacity coupled to said plate electrode for deriving said output signal therefrom, and phase shift means coupling said electrode means to said grid electrode, said electrode means and said phase shift means cooperating to provide a signal at said grid electrode

which has a first quadrature component of substantially the same amplitude and in phase opposition to the signal applied from said output electrode to said grid electrode through the internal capacitance of said electron device and a second quadrature component substantially in phase with the signal at said plate electrode to reduce intermodulation products developed at said plate electrode.

3,341,778
OPTIMUM PRE-DETECTION DIVERSITY RECEIVING SYSTEM
 Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Louis Katz, Anaheim, and Raymond W. Honey, Fullerton, Calif., and Victor R. Simas, Lanham, Md.

Filed Mar. 20, 1964, Ser. No. 353,644
 17 Claims. (Cl. 325-305)



13. In a diversity receiver having first and second receiving channels and wherein each of said receiving channels has means for generating an automatic gain control voltage proportional to the signal-to-noise ratio of the signal applied thereto and additional means for modifying said signal applied thereto such that the signals derived from said receiving channels are equal in amplitude and phase coherent, the improvement comprising: a combiner including first and second voltage controlled attenuators connected to receive said signals from said first and second receiving channels, respectively, said attenuators each having a control element; a weighting network connected to receive said automatic gain control voltages from said receiving channels for producing a control voltage, said control voltage being coupled to said control elements of said voltage controlled attenuators for varying the attenuation thereof; and a summing means for receiving the output signals from said voltage controlled attenuators, whereby in accordance with said control voltage applied to said attenuators the receiving channel signal having the higher signal-to-noise ratio is attenuated less than that having the lower signal-to-noise ratio, such that the output signal from said summing circuit is maintained constant and the signal-to-noise ratio thereof is at an optimum.

3,341,779
DEMODULATOR FOR REFERENCE POTENTIAL CROSSING DATA-MODULATED SIGNALS
 Leonard Kedson, Elberon, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed July 10, 1963, Ser. No. 293,942
 22 Claims. (Cl. 325-322)

4. A demodulator for rectangular-shaped wave data-modulated signals having clock reference potential crossings at regular intervals and a data reference potential

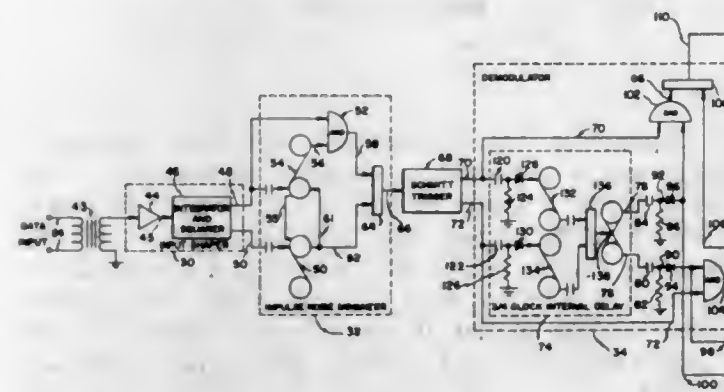
crossing during each of only certain clock intervals and none during other clock intervals to distinguish between binary "one" and binary "zero," including

means for deriving a series of pulses from the reference potential crossings of said signal including both clock and data pulses,

a first timed gate responsive to a first pulse of the series and closed during most of the ensuing clock interval but open in time to pass the next-following clock pulse,

another timed gate responsive to applied pulses of the series and closed during most of each clock interval but open during only an intermediate part of a clock interval to pass data pulses, and

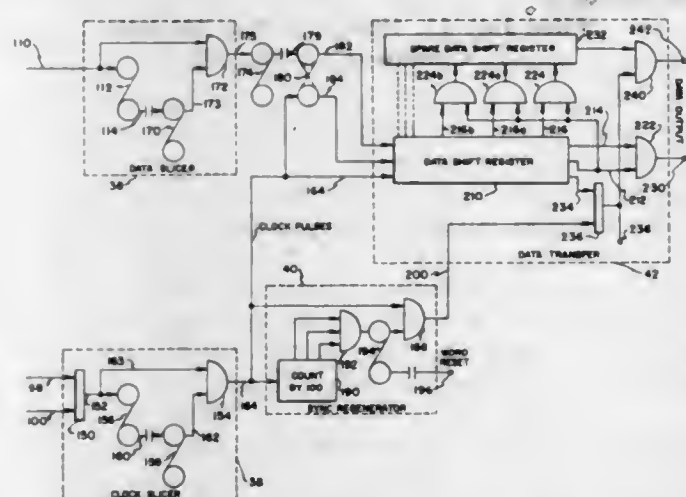
a bistable circuit responsive to pulses passed by said timing gates for providing a demodulated data signal.



14. The method of suppressing drop-out noise spikes in a received signal having squared signal pulses, including the steps of

generating a fill-in pulse in response to a sharp declining part of said received signal, said fill-in pulse being of short duration that is nevertheless longer than a drop-out noise spike, and

adding said fill-in pulse to the received signal to thereby eliminate drop-out gaps in squared signal pulses of the received signal.

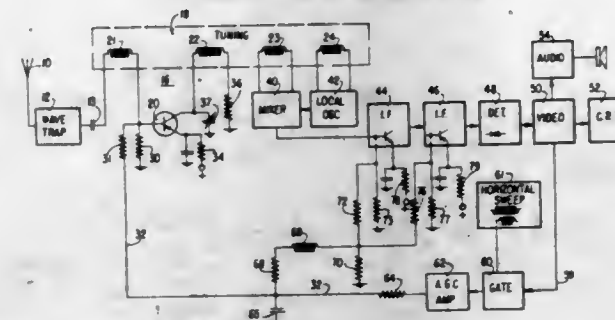


21. Apparatus for providing a substantially continuous sequence of signals representing progressively varying digital values received after transmission under conditions that tend to introduce errors, including

a data receiving circuit having temporary data storage means, spare data storage means, data utilization means, and

means controlled by said data receiving circuit in dependence upon whether an error is or is not present, to transfer stored data-representing signals from said spare data storage means to said utilization means or, selectively, to transfer stored data-representing signals from said temporary data storage means both to said utilization means and to said spare storage means.

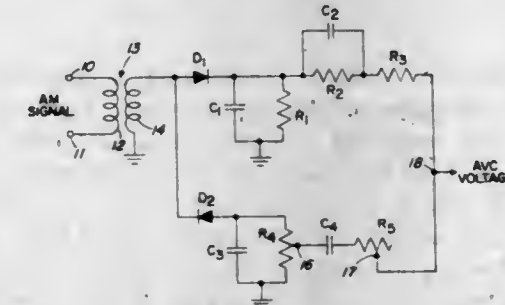
3,341,780
DELAYED AUTOMATIC GAIN CONTROL SYSTEM UTILIZING THE PLATEAU REGION OF AN AMPLIFIER TRANSISTOR
 Anil M. Sethna, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
 Filed Feb. 3, 1964, Ser. No. 342,061
 3 Claims. (Cl. 325-405)



1. An automatic gain control system for a wave signal receiver, the combination of first and second signal amplifiers each having a transistor, means coupling said first amplifier to said second amplifier, the transistor of said first amplifier having a current gain versus base current characteristic with a plateau region in which a given increase in base current results in substantially no change in current gain, and following which there is a decrease in current gain with increased base current, circuit means coupled to the transistor of said first amplifier to provide base current bias at a predetermined point on said plateau region, circuit means coupled to the transistor of said second amplifier to provide base current bias therefor such that current gain decreases substantially immediately with increased base current, and control circuit means coupled to said first and second amplifiers to supply thereto a control signal indicative of the level of an incoming signal applied to the receiver for concurrently increasing base current for said transistors with an increase in the level of the incoming signal to provide for forward bias current automatic gain control for said transistors, whereby gain control of the transistor of said amplifier is delayed a predetermined amount with respect to gain control of the transistor of said second amplifier.

3,341,781
METHOD OF REDUCING AVC TC IN AM MODULATED RADIOS
 Howard B. Rooks, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Aug. 10, 1964, Ser. No. 388,452
 5 Claims. (Cl. 325-414)



1. An automatic volume control circuit comprising a pair of detectors connected together such that one detector will pass a positive signal and the other detector will pass a negative signal, means for blocking a D-C signal in the output of one of the detectors and the output of the other detector connected to the output of the blocking means to produce an automatic volume control voltage.

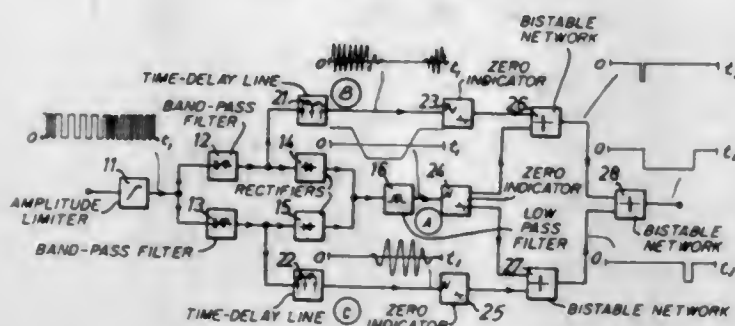
3,341,782

SYSTEM FOR NOISE REDUCTION IN F-M TELEGRAPH SIGNALS

Peter Aemmer, Zurich, Switzerland, assignor to Albiwerk Zurich A.G., Zurich, Switzerland, a corporation of Switzerland

Filed Aug. 15, 1963, Ser. No. 302,428
Claims priority, application Switzerland, Aug. 15, 1962, 9,771/62

16 Claims. (Cl. 329—112)



1. A system for reducing noise in a receiver for receiving two-tone frequency modulated signals, comprising first demodulator means for demodulating the received signals;
- second demodulator means connected to said first demodulator means, said second demodulator means including pulse forming means for deriving a pulse sequence from one of said received signal frequencies and time delay means for delaying said pulse sequence; and
- output means connected to the pulse forming means of said second demodulator means for determining by pulses from said pulse sequence alternating time points of frequency shifts of received signals from high to low and from low to high frequency.

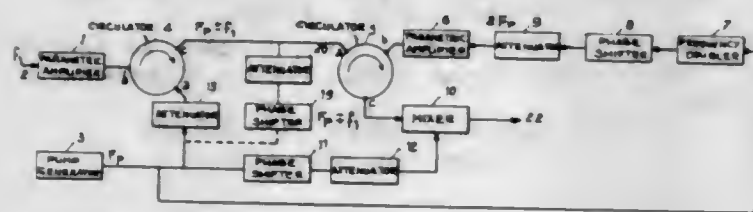
3,341,783

LOW NOISE PARAMETRIC SYSTEM

David J. Roulston, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie sans Fil, a corporation of France

Filed July 29, 1966, Ser. No. 568,909
Claims priority, application France, Aug. 5, 1965, 27,345, Patent 1,452,894

2 Claims. (Cl. 330—4.5)



1. An amplifier system, comprising a parametric amplifier, for example of the up-converter type, having a first input for receiving a signal at a first frequency f_1 and a second input for receiving a pump frequency power and through which the output signal is collected; a circulator having a first, a second and a third port; a pump generator having an output for delivering a signal at a pump frequency F_p , with F_p large with respect to f_1 , connected to said first port; said second port of said circulator being coupled to said second input of said amplifier; a mixer having a first input, a second input and an output; means for applying a local oscillator signal to said second input of said mixer; a second circulator having a fourth port connected to said third port, a fifth and a sixth port, a degenerate amplifier having a first input for receiving a pump frequency at a frequency $2F_p$, a second input connected to said fifth port, said first input

of said mixer being coupled to said sixth port, a frequency doubler, phase shifting means and attenuating means being connected in series between said second input of said degenerate amplifier and said pump generator.

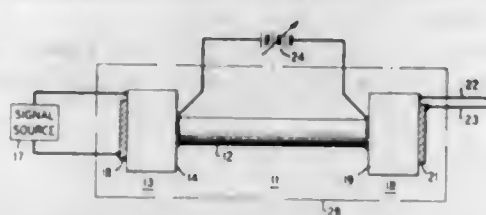
3,341,784

ACOUSTIC WAVE AMPLIFIER

Cecil A. Nanney, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 21, 1966, Ser. No. 536,051

3 Claims. (Cl. 330—5)



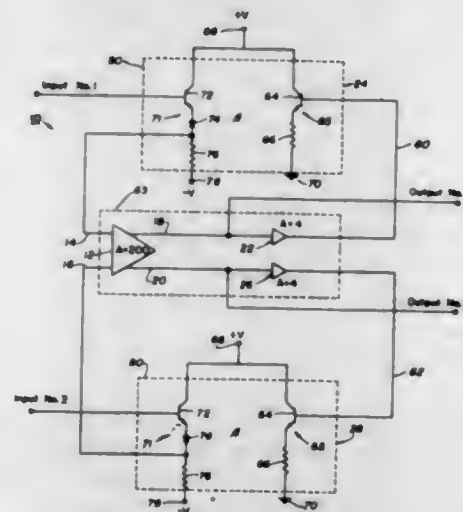
1. Apparatus for amplifying microwave frequency acoustic waves comprising a member of material of the lead salt group, a source of signals to be amplified, means for launching the signals onto said member in the form of acoustic waves, means for producing a carrier movement in said member, said member being characterized by three discrete modes of amplification depending upon the drift velocity of said carriers, said carrier movement producing means being adjustable for operation of said member in one of said modes, and means for converting amplified acoustic waves in said one mode into electrical signals.

3,341,785

INTEGRATED WIDE-BAND AMPLIFIER SYSTEM USING NEGATIVE FEEDBACK MEANS INCLUDING A THERMALLY-COUPLED LOW-PASS THERMAL FILTER

Jerry D. Merryman, Dallas, and Stephen P. Emmons and Walter T. Matzen, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 13, 1964, Ser. No. 381,998
27 Claims. (Cl. 330—28)



19. A wide-band amplifier system comprising: a direct-coupled differential amplifier having first and second inputs and corresponding first and second outputs, first negative feedback circuit means connecting the first output to the first input and second negative feedback means connecting the second output to the second input, each of said feedback circuit means comprising a phase inverter amplifier and a low-pass thermal filter means.

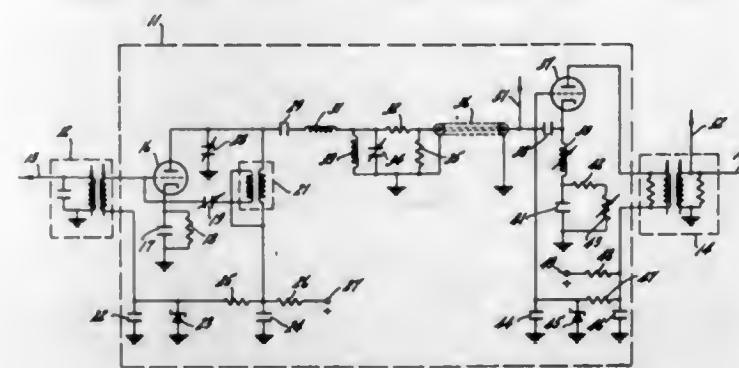
3,341,786

INTERMEDIATE FREQUENCY PREAMPLIFIER CIRCUIT

Keefer S. Stull, Jr., Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 17, 1964, Ser. No. 345,544

3 Claims. (Cl. 330—158)



1. A preamplifier circuit for use in a radar receiver employing a logarithmic postamplifier circuit comprising: a first triode vacuum tube having anode, grid, and cathode electrodes, said grid electrode being inductively coupled to a microwave mixer stage for receiving radar signal information therefrom, and said cathode electrode being coupled via an impedance means to ground potential;
- first adjustable impedance matching means having input means coupled to said anode electrode of said first tube, having feedback means coupled to said grid electrode of said first tube for neutralizing the grid-to-plate capacitance thereof, and having output means for providing said radar signal information thereat;
- a second triode vacuum tube having anode, grid, and cathode electrodes, said grid electrode being capacitively coupled to ground potential and said anode electrode being inductively coupled to said postamplifier circuit for providing said radar signal information thereto;
- a first relatively lossless electrical coupling means having one end thereof coupled to said output means of said first adjustable impedance matching means and having the other end capacitively coupled to said cathode electrode of said second tube, for coupling said radar signal information from said first tube to said second tube;
- second adjustable impedance matching means coupled between said cathode electrode of said second tube and ground potential in order to terminate said other end of said first coupling means in the proper impedance; and
- a second coupling means having one end thereof capacitively coupled to said cathode electrode of said second tube to provide a sample of said radar signal information to subsequent circuitry.

3,341,787

LASER SYSTEM WITH PUMPING BY SEMI-CONDUCTOR RADIANT DIODE

James R. Blard, Richardson, and Charles S. Williams, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 3, 1962, Ser. No. 241,743

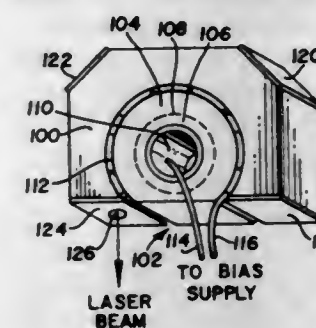
1 Claim. (Cl. 331—94.5)

A laser system comprising:

- (a) a unitary laser body having a circular aperture therethrough forming a generally U-shaped resonant cavity producing a laser beam along a generally U-shaped path within said body and about said

aperture when stimulated by electromagnetic energy having a wavelength within a discrete band of wavelengths, and

- (b) a semiconductor diode in said aperture for generating electromagnetic energy having a band of wavelengths coinciding with at least a portion of said discrete band of wavelengths when the junction thereof is forward-biased with a current source,



- (c) said junction defining a cylindrical surface coaxial with said circular aperture,
- (d) said laser body being optically coupled to said diode for absorbing electromagnetic energy generated by said diode.

3,341,788

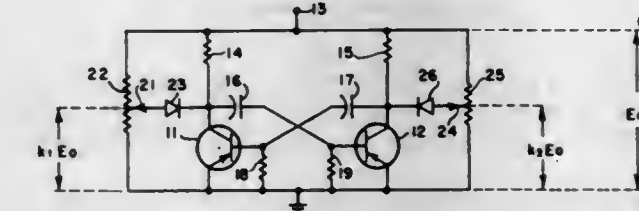
TRANSISTORIZED MULTIVIBRATOR HAVING VERY GOOD STABILITY

Hideya Nishioka, Kawasaki, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed July 30, 1964, Ser. No. 386,348

Claims priority, application Japan, July 30, 1963, 38/40,101

5 Claims. (Cl. 331—113)



1. A multivibrator circuit arrangement, comprising first and second electronic switching devices each adapted to be biased to operative conditions determining a conductive condition and a non-conductive condition;
- a source of supply voltage;
- a first time constant circuit comprising a first resistor connecting said first switching device across said source of supply voltage and a first capacitor coupling said first switching device to said second switching device in a manner whereby said first capacitor is alternately charged and discharged and determines the operative condition of said first and second switching devices;
- first control means connected across said source of supply voltage and coupled to said first capacitor, said first control means comprising a first potentiometer connected across said source of supply voltage and having a first tap determining from said supply voltage independently of the characteristics of said first and second switching devices a first substantially constant voltage ratio and a first diode coupling said first tap to said first capacitor, said first control means stopping the charging of said first capacitor when the voltage across the said first capacitor equals said first voltage ratio and switches said first diode to its conductive condition thereby reducing the charging current in said first capacitor, the voltage across said first capacitor remaining equal to said first voltage ratio;

a second time constant circuit comprising another resistor connecting said second switching device across said source of supply voltage and coupling said second switching device to said first switching device in a manner whereby said second capacitor is alternately charged and discharged and determines the operative condition of said first and second switching devices; and

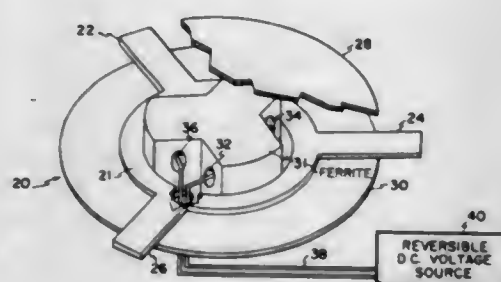
second control means connected across said source of supply voltage and coupled to said second capacitor; said second control means comprising a second potentiometer connected across said source of supply voltage and having a second tap determining from said supply voltage independently of the characteristics of said first and second switching devices a second substantially constant voltage ratio and a second diode coupling said second tap to said second capacitor, said second control means stopping the charging of said second capacitor when the voltage across the said second capacitor equals said second voltage ratio and switches said second diode to its conductive condition thereby reducing the charging current in said second capacitor, the voltage across said second capacitor remaining equal to said second voltage ratio and the operative condition of each of said first and second switching devices changing from one of its conductive and non-conductive conditions to the other of its conductive and non-conductive conditions, said multivibrator circuit arrangement having a period of oscillation determined by the conductivity condition of each of said first and second diodes and by the capacitance of said first and second capacitors, the resistance of said first and other resistors and the ratio of the voltages provided by said first and second control means.

3,341,789

LATCHING FERRITE CIRCULATOR HAVING THE FERRITE SYMMETRICALLY LOCATED WITH RESPECT TO EACH RF SIGNAL CARRYING ARM

Paul C. Goodman, Berkley, and Milford C. Horton, Birmingham, Mich., assignors to The Bendix Corporation, a corporation of Delaware

Filed Apr. 19, 1965, Ser. No. 449,161
25 Claims. (Cl. 333-1.1)



1. Apparatus comprising at least three R-F signal carrying members each having an electro-magnetic field in the space adjacent thereto when a signal is flowing therethrough, ferrimagnetic means being in the electromagnetic field of each of said signal carrying members, ground plane means being positioned externally of said ferrimagnetic means, said ferrimagnetic means when magnetized producing interacting field lines which interact with said fields of said signal carrying members so that each signal carrying member passes its signal only to one signal carrying member and receives only the signal being carried by another signal carrying member,

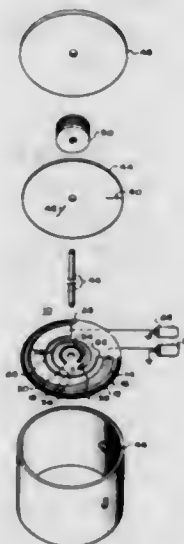
said ferrimagnetic means having a hole formation therein for receiving conductor means carrying a direct current signal for generating a magnetic field directly within said ferrimagnetic means to place said ferrimagnetic means in a state of magnetization whereby said magnetic field has an unbroken path thereby eliminating air gaps in the magnetic path and eddy currents in said ground plane means, said ferrimagnetic means having substantially the same configuration and disposition relative to each R-F signal carrying member so that each of the arms has ferrimagnetic material positioned relative thereto in the same way as every other arm, thereby improving electrical characteristics.

3,341,790

HIGH FREQUENCY ATTENUATOR

Emmanuel E. Candilis, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Dec. 9, 1963, Ser. No. 329,041
6 Claims. (Cl. 333-81)



1. An attenuator having an input and an output and comprising:
an insulating substrate having deposited thereon a first path having varying resistance therealong and a second path having uniform resistance therealong, means connecting the first and second paths between the input and output of said attenuator, a third path having varying resistance therealong deposited on said substrate, means connecting one end of said third path to the second path at a point intermediate said input and output, means connecting the other end of said third path to a point of reference potential, and means contacting said first and third paths and disposed for traversing the distance therealong to vary the attenuation provided by the attenuator.

3,341,791

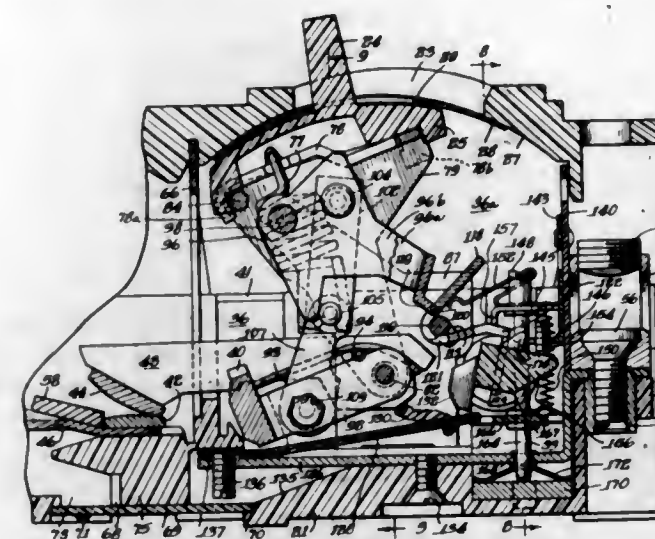
ELECTRIC CIRCUIT BREAKER WITH IMPROVED OPERATING MECHANISM

James H. Leonard, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed June 16, 1964, Ser. No. 375,571
14 Claims. (Cl. 335-35)

1. An electric circuit breaker comprising a stationary contact, a movable contact arm pivotally mounted adjacent one end, a movable contact carried by said contact arm adjacent the other end for cooperation with said stationary contact, a drive arm pivotally mounted adjacent

one end, a crossbar carried by said drive arm adjacent the other end and extending transversely of said contact arm generally parallel to the axis of pivotal movement thereof, means yieldably connecting said contact arm and cross-



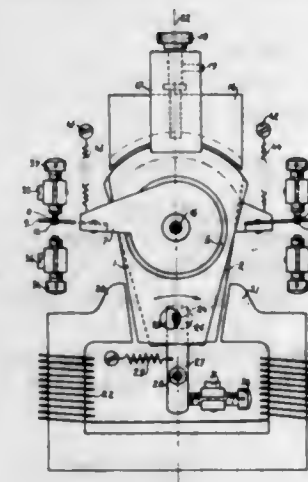
bar, a pivotally mounted operating handle, and an adjustable overcenter spring type toggle mechanism operatively connecting said operating handle and drive arm, the axes of pivotal movement of said contact arm, drive arm, and operating handle being collinear.

3,341,792

POLARIZED RELAY HAVING TWO ARMATURES OPPOSITELY MAGNETIZED

Václav Pfeffer, Prague, František Holeček, Kojovice, and Karel Gempř, Dobruška, Czechoslovakia, assignors to Laboratorní přístroje, národní podnik, Prague, Czechoslovakia

Filed Oct. 21, 1965, Ser. No. 499,797
Claims priority, application Czechoslovakia,
Nov. 16, 1964, 6,353/64
6 Claims. (Cl. 335-84)



1. In a polarized relay, in combination:
(a) a support;
(b) an electromagnet on said support, said electromagnet having two pole elements and coil means for magnetizing said pole elements with opposite polarity when said coil means is energized;
(c) two armatures mounted on said support for movement toward and away from respective pole elements;
(d) permanent magnet means mounted on said support in a magnetic circuit with said armatures for magnetizing said armatures with opposite polarity;
(e) a moveable contact on each of said armatures; and
(f) fixed contacts associated with said moveable contacts respectively, said fixed contacts being mounted

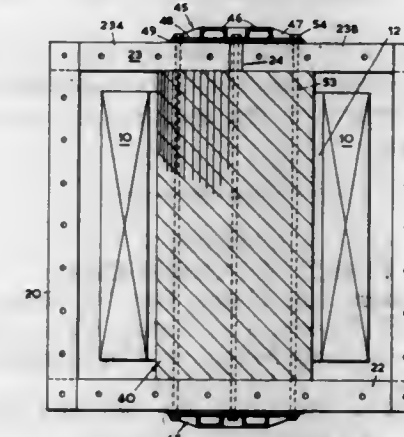
on said support for engagement and disengagement with the associated movable contacts during said movement of said armatures.

3,341,793

ELECTRICAL REACTORS

George David Wale, George Denis Antipka, and John Thomas Wilkins, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company

Filed May 19, 1965, Ser. No. 457,109
Claims priority, application Great Britain, May 25, 1964,
21,485/64
1 Claim. (Cl. 336-84)



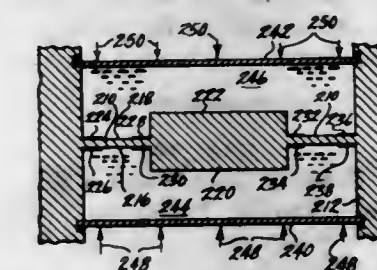
An electrical reactor comprising a generally rectangular laminated magnetic shield having two side members and first and second transverse members arranged to provide a closed magnetic circuit, at least the first transverse member being formed of at least two parts spaced end to end and defining a gap therebetween, a non-magnetic support member formed with two end surfaces and extending between the two transverse members, clamping means for causing the transverse members to abut against the end surfaces of the support member, the said gap being positioned adjacent the associated end of the support member and the clamping means being effective to clamp the support member firmly between the second transverse member and both the said parts of the first transverse member, and an electrical winding disposed about the support member.

3,341,794

TRANSDUCERS WITH SUBSTANTIALLY LINEAR RESPONSE CHARACTERISTICS

Cecil K. Stedman, Enumclaw, Wash., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California

Filed July 26, 1965, Ser. No. 474,590
14 Claims. (Cl. 338-4)



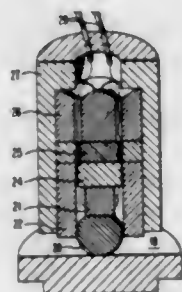
6. A diaphragm type transducer having substantially linear response characteristics over a wide range of fluid pressure loading, said transducer comprising:
(a) a diaphragm having opposed surfaces and an annular, relatively flexible area surrounding a relatively rigid, centrally disposed boss, the said boss being at

- least about twice the thickness of said flexible area and the radius of said boss being at least about 0.3 as large as the radius of said flexible area;
- (b) means restraining the outer edge of said flexible area;
- (c) strain gage means bonded to said diaphragm flexible area substantially at the outer edge of a surface thereof so as to be responsive to radial components of stress at such surface outer edge;
- (d) strain gage means bonded to said diaphragm flexible area substantially at the inner edge of a surface thereof so as to be responsive to radial components of stress at such surface inner edge;
- (e) conductor means electrically connecting such first-mentioned strain gage means and said second-mentioned strain gage means in a Wheatstone bridge circuit; and
- (f) means for uniformly pressure loading one surface of said diaphragm relative to the other surface thereof to effect flexure of the surfaces of the diaphragm flexible area.

3,341,795

FORCE TRANSDUCER

Ernest G. Newman, Los Gatos, Roy R. Smith, San Jose, and Konrad H. Stokes, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,799
4 Claims. (Cl. 338-5)



1. A force transducer comprising:
a right prism of a first conductivity type semiconductor material,
said prism having first and second bases and a plurality of lateral faces,
an elongate piezoresistive gauge element of a second conductivity type in one of said lateral faces,
said element being oriented with the longest dimension perpendicular to said bases,
support means adjacent said second base, force transmitting means adjacent said first base for applying a compressive load to said prism in a direction perpendicular to the plane of said second base, and
ohmic contact means at the extremities of said gauge element to provide therebetween a change in resistance proportional to the change in the applied compressive force.

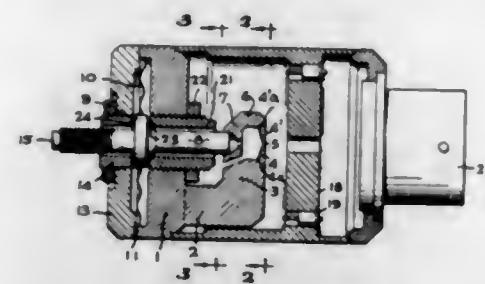
3,341,796

FORCE TRANSDUCER

Walter H. Eisele, Pacific Palisades, Calif., assignor to Satham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 23, 1966, Ser. No. 536,710
16 Claims. (Cl. 338-5)

11. A transducer comprising a flexure, said flexure comprising a beam, a support at one end of said beam, said beam at said end supported and being fixedly connected to said support, a force transmitting rod, a linkage connecting the other end of said beam to said force trans-

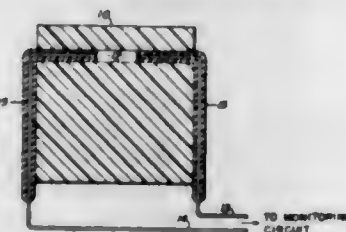
mitting rod, the axis of said force transmitting rod extending substantially perpendicular to the median plane of said beam, said beam undergoing a stress reversal at an intermediate region of said beam, said axis of said rod aligned to pass through said stress reversal region, one



3,341,797

DYNAMIC PRESSURE GAGE

Richard W. Watson, Pittsburgh, Pa., assignor to the United States of America as represented by the Secretary of the Interior
Filed May 5, 1965, Ser. No. 453,530
1 Claim. (Cl. 338-47)

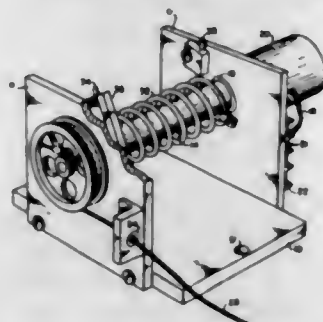


A dynamic pressure transducer having a pressure response time about 0.2 microsecond comprising a pressure sensitive, normally nondeformable, rigid, carbon resistor of the composition carbon type, said resistor being completely encapsulated within a rigid polyethylene block, said block having a mass and volume many times greater than said resistor, said resistor further having associated therewith electrical conducting leads extending from electrical connections therewith to the exterior of said block.

3,341,798

ELECTROMECHANICAL TRANSDUCER

John L. Bachman, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 2, 1966, Ser. No. 524,978
4 Claims. (Cl. 338-47)



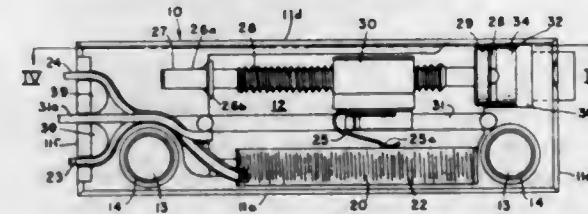
1. An electromechanical transducer for measuring relative movement between a test device and a desired point, which comprises:
a housing;
a shaft rotatably secured by said housing;
a drum;

said drum secured axially to said shaft and rotatable therewith;
an electrical signal-producing means;
said electrical signal-producing means secured relative to said rotatable shaft and operative thereby to produce an electrical signal output corresponding to any rotation of said rotatable shaft by rotation of said drum in either direction;
a helical spring means secured about said shaft coaxial therewith,
means interconnecting one end of said spring means to said shaft with the other end fixedly secured relative to said shaft whereby
said spring means applies a constant force on said shaft to provide a uniform rotational movement thereto in either direction.

3,341,799

VARIABLE RESISTANCE CONTROL

John D. Van Benthuysen and Wilbert H. Budd, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Feb. 24, 1965, Ser. No. 434,891
7 Claims. (Cl. 338-180)



1. In a variable resistance control having a housing, a resistance element disposed in the housing, a lead screw rotatably journaled in the housing, a contactor for making wiping contact with the resistance element, and means connecting the contactor to the lead screw for moving the contactor intermediate the ends of the resistance element as the lead screw is rotated the improvement comprising a pair of engaging members having clutch faces, one of the engaging members being drivingly connected to the lead screw, the other of the engaging members being rotatable externally of the housing, and electrically nonconducting resilient means biasing one of the engaging members into driving engagement with the other engaging member.

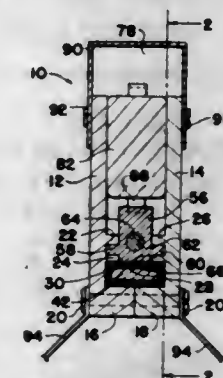
3,341,800

LINEAR RHEOSTAT

William P. Lear, Wichita, Kans., assignor to Lear Jet Industries, Inc., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,389
2 Claims. (Cl. 338-183)

1. A linear rheostat comprising, in combination, two elongated side members of like construction positioned in mirror image relation, said side members each having an elongated laterally projecting base portion at a longitudinal edge portion thereof, the outermost edges of said base portions of said side members being in engagement and the other portions of said side members being located in spaced relation, mounting means connecting said outermost edges of said base portions of said side members together, said side members each having two spaced longitudinally extending projections located in spaced relation to said base portions with said projections defining therebetween opposed guides and with said base portions of said side members and the adjacent ones of said projections defining therebetween a channel shaped recess, an insulator of soft plastic material positioned in said recess and substantially covering the walls of said recess, an elongated channel shaped electrical conductor mounted in said recess and within said insulator with said conductor having edge portions projecting inwardly toward each

other, a resistance member including an elongated form of rectangular cross section and a continuous length of wire having an insulated coating thereon with said wire being wound on said form from one end portion thereof to the other end portion thereof, said resistance member being positioned within and substantially filling the space within said conductor with said wire being insulated from said conductor by said coating on said wire, a portion of each convolution of said wire between said edge portions of said conductor having the insulation coating removed therefrom to form an elongated contact area, an elongated slide positioned between said side members and having

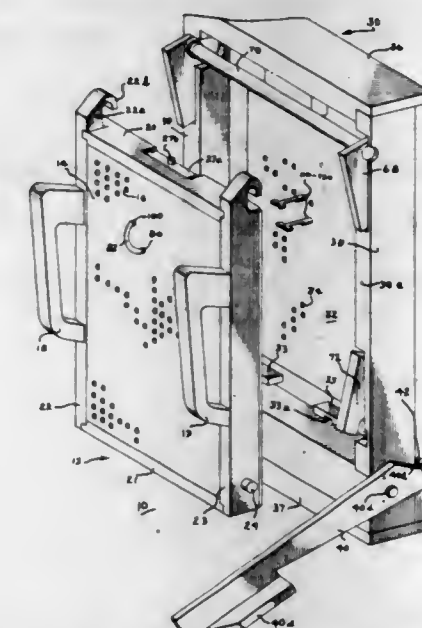


ribs projecting from each side thereof and slidably positioned in said guides of said side members to thereby movably mount said slide in said side members, an elongated rod attached with said slide and projecting from both ends thereof, said slide having a portion thereof positioned adjacent and in spaced relation to said conductor and said resistance member in said channel shaped recess, a contact member connected to said portion of said slide and having spaced finger like contacts slidably engaging portions of said conductor and said contact area of said resistance member in said channel shaped recess, and two end plates connected to said side members at opposite ends thereof, each of said end plates having an opening therethrough slidably receiving said rod.

3,341,801

MULTIPLE SWITCH ASSEMBLY

Ronald John Brookman, Lancaster, Lindsay Carlton Friend, Camp Hill, Dale Brice Mummey, Enola, and Cletus Talvin Smith, Highspire, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 24, 1965, Ser. No. 482,135
13 Claims. (Cl. 339-18)

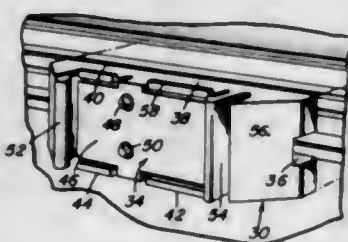


1. In a contactor system, first and second coaxial contactor assemblies a plug and receptacle for each assembly, each plug having inner and outer conductive portions

and each receptacle including means to receive and latch a plug therein, means for mounting said first and second assemblies axially parallel and in overlying relationship and means for driving said first and second assemblies together and apart to make or break contact, the receptacles of the plugs including oppositely oriented portions adapted to substantially surround and shield the inner conductive paths of the ends of both of the plugs when said assemblies are together, one of said receptacles including a portion flexible in the sense of movement of said assemblies together and apart and including an insulating insert carrying a spring contact member adapted to engage and common the inner conductive portions of the plugs during said movement of the assemblies together.

3,341,802

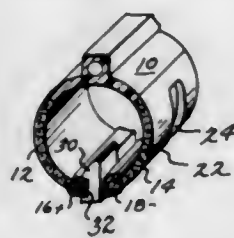
ADJUSTABLE MOUNTING FOR VEHICLE LIGHTS
George D. Baldwin, Jamestown, N.Y., and Daniel Sakuta, Erie, Pa., assignors to Truck-Lite Co., Inc., Jamestown, N.Y., a corporation of New York
Filed June 12, 1964, Ser. No. 374,799
17 Claims. (Cl. 339-21)



1. In combination with a channel formation on a vehicle body having parallel spaced leg portions interconnected by a web portion, a lamp holder mounted at any selected location in said channel formation in overlying relation to an insulated power cable extending through said channel formation and mounted on the web portion thereof, said lamp holder comprising; a non-conductive body insertable between the leg portions of said channel formation, a cable piercing element embedded in said body and projecting therefrom for piercing said power cable when the body is inserted between the leg portions, a grounding contact member embedded in said body and projecting therefrom spaced from the cable piercing element longitudinally of the body, and locking means mounted on the body in laterally spaced relation to the grounding contact member for locking the body between the leg portions upon insertion therebetween by a predetermined amount establishing electrical contact between the cable piercing element and the power cable and between the web portion and the grounding contact member.

3,341,803

COMBINATION ELECTRICAL CONDUIT AND BULB SOCKET
Carlos Roberto P. Bustamante, 4a C.P. 40, Santa Ana, El Salvador
Filed Oct. 28, 1964, Ser. No. 407,100
4 Claims. (Cl. 339-21)



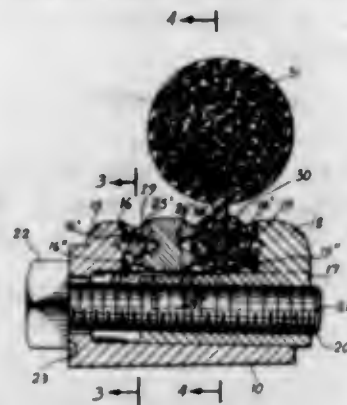
1. A continuous electrical outlet of tubular strip form comprising a strip of flexible insulating material having a longitudinal continuous slit through its surface, each edge

of the slit having a strip of electrically conductive sheet metal folded thereon to provide a continuous electrical contact, and each strip of electrically conductive sheet metal being in electrical contact with an electrically conductive web means disposed within said flexible insulating material.

3,341,804

CLAMP CONNECTOR

Henry R. Wengen, Poughkeepsie, N.Y., assignor to Fargo Mfg. Company, Inc., Poughkeepsie, N.Y., a corporation of New York
Filed May 25, 1964, Ser. No. 369,837
1 Claim. (Cl. 339-98)



In a connector for establishing electrical contact between an insulation covered cable and a ground cable without destroying the insulation, said connector being of the type having a channel-shaped body, a stationary jaw formed at one end of said body, a sliding jaw movable in said channel toward and away from said stationary jaw, a spacer bar slidable within said body between said jaws, a stationary jaw face of said stationary jaw facing said spacer bar, a movable jaw face of said sliding jaw facing said spacer bar, a first jaw face of said spacer bar facing said movable jaw face, a second jaw face of said spacer bar facing said stationary jaw face, said spacer bar being disposed between said cables in the operative position of said connector, that improvement consisting of providing first insulation piercing teeth on said first and second jaw faces, said first insulation piercing teeth and said spacer bar being formed of an electrically conductive material whereby in the operative position of said connector electrical contact between said cables is established by said spacer bar and said first insulation piercing teeth, and providing second insulation piercing teeth on said stationary and said sliding jaw faces, each of said teeth having a triangular cross section configuration in the vertical plane with the apex of the triangle defining a line in the horizontal plane, and the teeth of each of said jaw faces arranged in parallel upper and lower horizontal rows with the apex of facing teeth of each of said upper rows in the same horizontal plane and facing teeth of each of said lower rows in the same horizontal plane whereby upon movement of said sliding jaw toward said stationary jaw said teeth positively pierce insulation of an insulation covered cable encountered thereby in the absence of a wiping action so that in the operative position of said connector said first and second insulation piercing teeth mechanically support said cable.

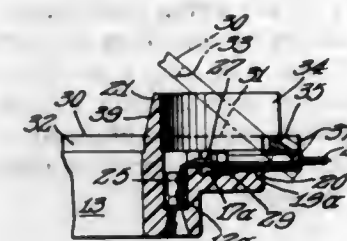
3,341,805

HIGH VOLTAGE TUBE SOCKET

Albert P. De Vito, Niles, Ill., assignor to Alcon Metal Products, Inc., Chicago, Ill., a corporation of Delaware
Filed May 27, 1965, Ser. No. 459,293
8 Claims. (Cl. 339-111)

7. In an electrical socket:
a body having a plurality of tube terminal pin receiving holes opening from one face of the body and

respective terminal recesses in the opposite face of the body aligned with said holes;
respective pin terminals in said holes and having integral electrical terminals in said recesses attached to electrical leads extending from the socket; and



an isolating barrier wall on and projecting from said opposite face about one of said holes and its recess to accommodate a high voltage lead and having interlock shoulder means thereon spaced from the plane of said opposite face approximately the thickness of to cover plate apertured to receive said barrier wall, to be engaged by said shoulder means and against said opposite face in closing relation to said recesses.

3,341,806

CONNECTOR DEVICE

Ordean C. Joachim, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 504,034
15 Claims. (Cl. 339-192)



10. A connector for receiving and maintaining an electrical juncture conductive leads from electrical circuit members comprising: a housing containing a plurality of rows of mutually insulated cavities each having a lead receiving opening at a bottom surface of said housing larger than said cavity opening at the upper surface of said housing and mounted therein an electrically conductive contact member, said housing including a central wall containing along predetermined portions of the length thereof, rib portions extending at right angles therefrom, said ribs and said wall forming a cavity therebetween, and an outer wall laterally surrounding said central wall and rib portions; said central wall further having a hip projection in each of said cavities near an upper surface of said central wall, said hip projections partially restricting the openings of the cavities at an upper surface; and each of said contact members conforming along a portion thereof to the central wall and hipped projection.

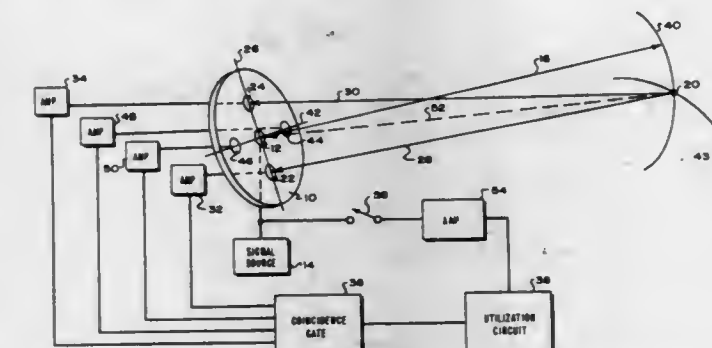
3,341,807

TRANSDUCER APPARATUS

Donn D. Loddell, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 11, 1965, Ser. No. 494,798
2 Claims. (Cl. 340-1)

1. An ultrasonic scanning system for locating the position of an echoing body relative to at least two intersecting axes, said system comprising:
a first transducer responsive to an electrical signal for

transmitting an ultrasonic signal toward the body to produce an ultrasonic echo signal therefrom;
a source of electrical signal connected to said first transducer for supplying the electrical signal thereto;
an array of at least four other transducers equidistantly spaced from said first transducer along the intersecting axes for detecting the ultrasonic echo signal from the body, each of said other transducers producing a corresponding electrical echo signal as it detects the ultrasonic echo signal from the body;
means for supporting all of said transducers in fixed relationship to one another;
a coincidence gating circuit;
circuit means connecting each of said other transducers to said coincidence gating circuit for applying the electrical echo signals from said other transducers to said coincidence gating circuit;

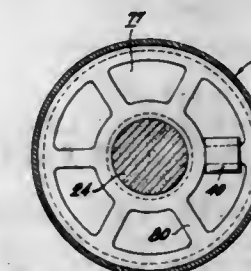


said coincidence gating circuit providing an electrical output signal whenever electrical echo signals are simultaneously applied thereto from each of said other transducers during a selected time interval beginning with and having a duration not longer than the first electrical echo signal in time, electrical echo signals being simultaneously applied to said coincidence circuit from each of said other transducers during said selected time interval only when the ultrasonic echo signal is detected substantially during the selected time interval by each of said other transducers, whereby said electrical output signal substantially indicates the position of the body relative to the intersecting axes;
a utilization circuit; and
circuit means connecting said coincidence gating circuit to said utilization circuit for applying the electrical output signal from said coincidence gating circuit to said utilization circuit.

3,341,808

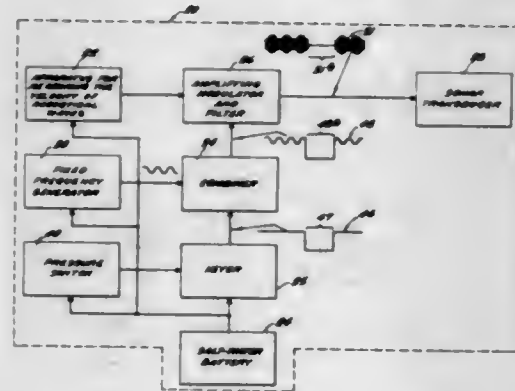
TELEMETERING APPARATUS

Morris Levin, Abington, and Raymond A. Stahl, Roslyn, Pa., assignors to American Bosch Arma Corporation, Philadelphia, Pa., a corporation of New York
Filed Oct. 12, 1965, Ser. No. 495,183
18 Claims. (Cl. 340-5)



1. Apparatus for transmitting indications of velocity of acoustical waves in a medium comprising:
means for measuring the velocity of acoustical waves in said medium and for producing a series of output signals at a frequency indicative of said velocity,

a fixed-frequency signal generator having an output signal of a known frequency, an amplitude modulator responsive to said velocity-indicating output signals and said fixed-frequency output signal for modulating the amplitude of said velocity-indicating output signals at the rate of said fixed-frequency output signal to provide a modulated signal, and transducer means responsive to said modulated signal for transmitting said modulated signal into said medium as an acoustical signal, whereby said acoustical signal provides a continuous indication of the velocity of acoustical waves in said medium and provides a continuous fixed-frequency signal for comparison and correction of the velocity of acoustical wave information for Doppler effect of said acoustical signal in traveling to a receiver.



12. Receiver apparatus for receiving an acoustical signal transmitted from different depths in water, said signal comprising a carrier wave indicative of the velocity of acoustical waves in said water and amplitude modulated by a nominally fixed-frequency signal, said acoustical signal being subject to Doppler shift in frequency, said apparatus comprising:

- electro-acoustical transducer means for receiving said acoustical signal and for converting said acoustical signal to an electrical signal;
- means for detecting said fixed-frequency modulation of said electrical signal and for providing an output signal representative of said fixed-frequency;
- first frequency discriminator means responsive to said fixed-frequency output signal for producing an output voltage related to changes in frequency of said fixed-frequency signal due to Doppler effect in said acoustical signal traveling through said water to said receiver;
- second frequency discriminator means responsive to said carrier wave component of said electrical signal for producing an output voltage varying in accordance with changes in the frequency of said carrier wave;
- means for modifying said output of said second discriminator in accordance with said output of said first discriminator to correct said output voltage of said second discriminator for Doppler error introduced in said acoustical signal.

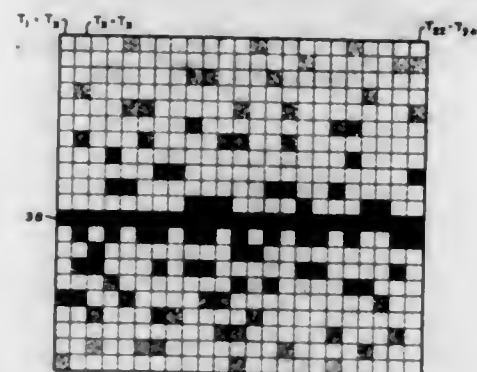
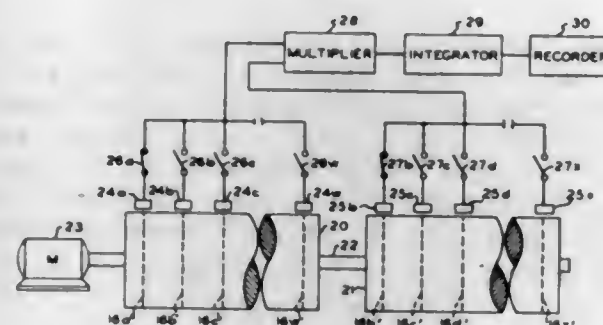
3,341,809

SEISMIC SIGNAL INTERPRETATION BY USE OF CROSS-CORRELATION AND PATTERN RECOGNITION MATRICES

Dan G. Sterry, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,184
4 Claims. (Cl. 340-15.5)

1. The method of seismic surveying which comprises: (1) imparting vibrations to the earth at a first point and recording the resulting vibrations which are received at a plurality of second points that are spaced from one another and from said first point,

- (2) multiplying by one another the recorded vibrations that are received at adjacent second points and integrating the resulting products to provide a plurality of integrated products,
- (3) repeating step 2 a plurality of times with progressively different time relationships between the recorded vibrations that are being multiplied,
- (4) forming a matrix by recording the integrated products of steps 2 and 3 in such a manner that the integrated products of step 2 form a first row on the recording medium and the plurality of integrated products of step 3 form respective adjacent rows on the recording medium.



- (5) repeating steps 1 to 4 a plurality of times wherein steps 1 are carried out at different locations on the earth wherein the slopes of subterranean reflecting beds are different and known so as to form a plurality of reference matrices, and
- (6) comparing the first formed matrix with the reference matrices to determine the slopes of the unknown subterranean reflecting beds.

3,341,810

GUNSHOT DETECTOR SYSTEM

James Wallen, Jr., Falls Church, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Apr. 27, 1965, Ser. No. 451,211
15 Claims. (Cl. 340-16)

1. A system for detecting the range of a wave source deriving approximately equal amplitudes, I_0 , at two different frequencies f_1 and f_2 , wherein waves from said source at frequencies f_1 and f_2 are attenuated as they propagate through a medium in accordance with:

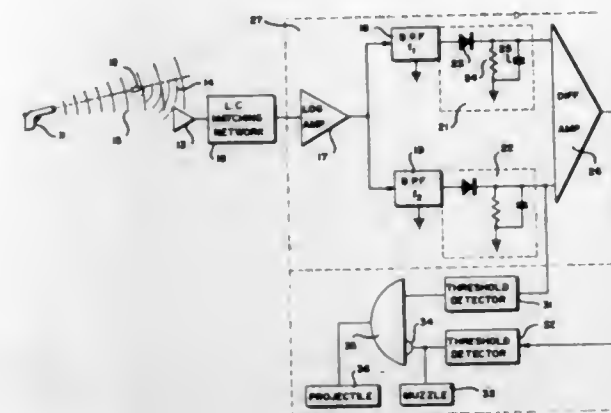
$$I = I_0 e^{-kx}$$

where

I = amplitude of a transduced component of the wave at frequency f at a distance x from the source;
 e = constant; and
 k = constant of propagation that is approximately equal for f_1 and f_2 ;

comprising receiving means for transducing waves of frequencies f_1 and f_2 into two separate signals that are predetermined functions of the amplitudes of the waves at

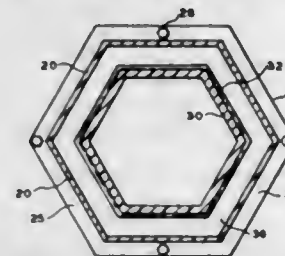
frequencies f_1 and f_2 , and means responsive to said two signals for effectively dividing one signal by the other signal to derive an output that is a predetermined function of $x(f_2 - f_1)$, wherein said means for transducing includes means for deriving said two signals in proportion to the



logarithms of the amplitudes of the f_1 and f_2 waves received at the means for transducing, and said means for effectively dividing comprises means for algebraically combining said two signals to derive said output as a signal level directly proportional to $(f_2 - f_1)x$.

3,341,811

ACOUSTICAL SIGNAL GENERATING
Raymond G. Plety, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,574
4 Claims. (Cl. 340-17)



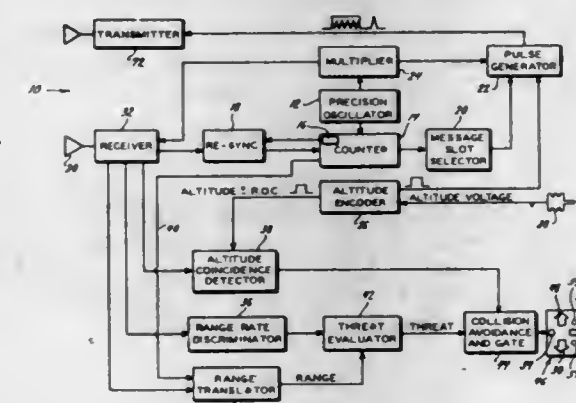
1. An acoustical signal generating device comprising: (a) an enclosed poly-sided prism shaped metal casing, (b) a coil, shaped to conform with the inner surface of said prism and positioned within said metal casing, the axis of said coil being substantially parallel to the axis of said prism, and (c) means to transmit a pulsed current through said coil such that a force is transmitted to the sides of said casing to cause said casing sides to periodically bow outwardly, the juncture of said sides serving as nodal points for said bowing sides, thus sending a compressional wave out perpendicular to the said sides of said casing and substantially perpendicular to the axis of said coil.

3,341,812

AIRBORNE COLLISION AVOIDANCE SYSTEM
Robert E. Perkinson, Wilbur H. Von Fange, Martin J. Borrok, and Frank E. Christofferson, St. Louis County, Mo., assignors to McDonnell Aircraft Corporation, St. Louis County, Mo., a corporation of Maryland
Filed Nov. 9, 1964, Ser. No. 409,697
13 Claims. (Cl. 340-23)

1. Collision avoidance means for use on relatively movable objects comprising a plurality of objects each of

which is provided with similar collision avoidance means, said collision avoidance means including transmitter and receiver means on each object, precision time keeping means on all cooperating objects including means for maintaining said time keeping means in accurate synchronism, means for establishing repeating time periods and for assigning a different transmission time in each period to each cooperating object, means on each object for producing a signal for transmission during every occurrence of its assigned transmission times including means for producing a first signal of a predetermined frequency and time duration, said first signals commencing at a precise time near the beginning of each occurrence of the associated transmission times, the duration of said first signals being long enough so that the receiving objects can accurately sense changes in the signal frequency due to relative movements between the sending and receiving objects, means for producing a second signal during each



transmission time at a time after the first signal by a time interval proportional to the altitude of the transmitting object, means at each object for receiving said first and second signals from the transmitting objects, said receiving means including means for comparing the time receipt of each signal received from another object with a predetermined time in the same transmission time at the receiving object to determine by the difference therebetween the range between the sending and receiving objects, means at each receiving object for comparing the altitude coded into said second signals received with the altitude of the receiving object, means for determining the range rate including the direction and rate of relative movement between the transmitting and receiving objects, and means to give a visual warning of a potential collision threat between two or more of said objects whenever the range, range rate and altitude determinations at an object are within established limitations.

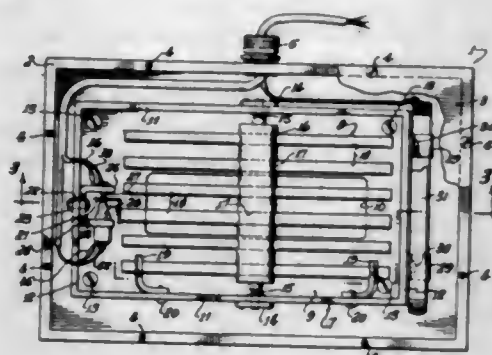
3,341,813

MAGNETIC SENSOR DEVICE

Franklin I. Fletcher and Russell J. O'Neill, Burbank, Calif., assignors to Security Controls, Inc., Burbank, Calif., a corporation of California
Filed May 25, 1964, Ser. No. 369,846
13 Claims. (Cl. 340-38)

1. A sensor in the proximity of a mass capable of distorting a magnetic field, said sensor comprising in combination, a non-magnetic supporting means, a first magnetic field creating means mounted on said supporting means in a condition of substantial static balance for oscillatory movement about a horizontal axis, a second magnetic field creating means fixedly mounted on said supporting means constantly operative to tend to maintain said first magnetic field creating means in a predetermined position of repose, and other means including interacting, non-contacting component parts associated respectively with said supporting means and with said

first magnetic field creating means, said interacting, non-contacting parts being effective, upon movement of said first magnetic field creating means in response to the

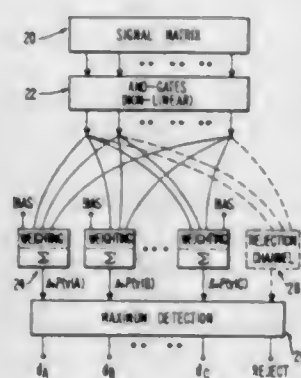


proximity of a mass capable of distorting the field created by said first magnetic field creating means while in said position of repose, to create an electric signal indicating the proximity of a field distorting mass.

3,341,814

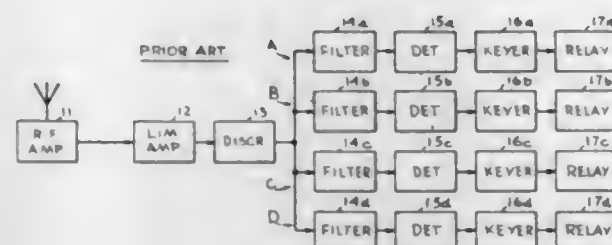
CHARACTER RECOGNITION

Chao Kong Chow, Wayne, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 11, 1962, Ser. No. 209,007
11 Claims. (Cl. 340-146.3)



6. Pattern recognition apparatus comprising: scanning means for scanning input character patterns to be recognized; quantizing means, electrically connected to said scanning means, for producing a binary "one" signal when said scanning means senses portions of said pattern and for generating binary "zero" signals when said scanning means does not sense a portion of said pattern at selected intervals; a plurality of AND gates; connecting means for connecting the output voltages from said quantizing means to said AND gates; the outputs from said connecting means forming a raster in which said binary "one" signals represent the portions of said raster containing said pattern; some of said AND gates having different ones of their inputs electrically connected to adjacent outputs of said connecting means; a plurality of weighting networks each representing a different character pattern being electrically connected to the outputs of said logical AND gates; and maximum-detection means, electrically connected to said weighting networks, for indicating which of said weighting networks has the largest output signal, whereby said character pattern being scanned may be identified.

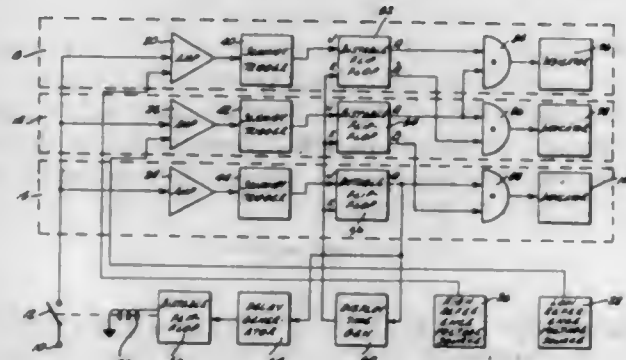
3,341,815
FREQUENCY RESPONSIVE RECEIVING SYSTEM
WITH NOISE PREVENTION
Joel H. Axe, Pacoima, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Dec. 31, 1962, Ser. No. 248,384
12 Claims. (Cl. 340-171)



1. A system for responding to a plurality of conditional electrical signals having different predetermined frequency characteristics, the system comprising: a plurality of signal detection means each responsive to a different frequency signal of said plurality of signals for providing an output signal, a plurality of rectifier means each providing both positive and negative direct current output signals in response to a signal applied thereto, means applying each of said signal detection means output signals to a different one of said rectifier means, output means for each said rectifier means, means for supplying output signals of one polarity from each said rectifier means to its corresponding output means, means for supplying the output signals of the other polarity from each rectifier means to the output means of another rectifier means, whereby each output means receives positive output signals from one rectifier means and negative output signals from another rectifier means, and actuable means connected to each said output means and responsive to signals appearing thereon.

3,341,816
AMPLITUDE RANGE SIGNAL MONITORING
DEVICE

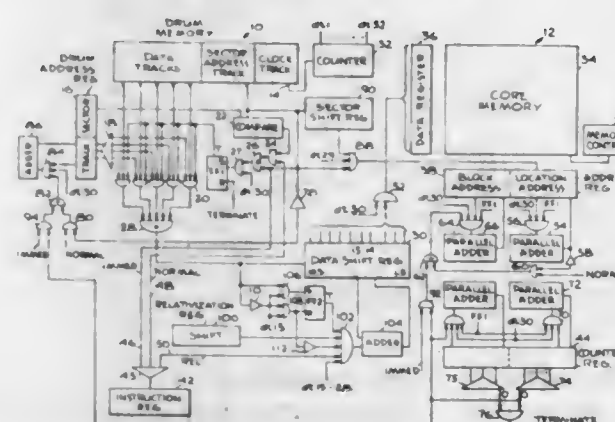
Jack T. Davis, San Diego, and William H. Hill, Carlsbad, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 20, 1964, Ser. No. 353,503
3 Claims. (Cl. 340-172)



1. An electronic signal monitoring device comprising: (1) a first reference voltage source adapted to develop a reference voltage of a predetermined controllable magnitude;

- (2) a second reference voltage source adapted to develop a reference voltage of a predetermined controllable magnitude; less than that of said first source;
- (3) first, second and third electrical signal amplifying means, each adapted to receive simultaneously an input signal of unknown magnitude, said first and second amplifying means being adapted to receive said first and second reference voltages said first amplifying means being adapted to develop an output signal when said input signal has a magnitude greater than the magnitude of said first reference voltage and said second amplifying means being adapted to develop an output signal when said input signal has a magnitude greater than the magnitude of said second reference voltage;
- (4) first, second and third trigger circuits coupled to said first, second and third amplifying means respectively and each adapted to develop a triggering pulse when the amplifying means coupled thereto develops an output signal of a predetermined magnitude;
- (5) a first bistable flip flop means coupled to said first trigger circuit, a second bistable flip flop means coupled to said second trigger circuit and a third bistable flip flop means coupled to third trigger circuit, each of said flip flop means being adapted to be in a first electrical state and to have a first output signal when a triggering pulse is supplied thereto by said trigger circuit and to be in a second electrical state and to have a second output signal during all other conditions;
- (6) first gating means coupled to receive the first output signal of said first flip flop means and the first output signal of said second flip flop means, second gating means coupled to receive the second output signal of said first flip flop means and the first output signal of said second flip flop means and a third gating means coupled to receive the second output signal of said second flip flop means and the first output signal of said third flip flop means; and
- (7) a plurality of indicator means each coupled to a different one of said gating means and each adapted to be operative when the signals applied to the corresponding gating means are of a predetermined magnitude.

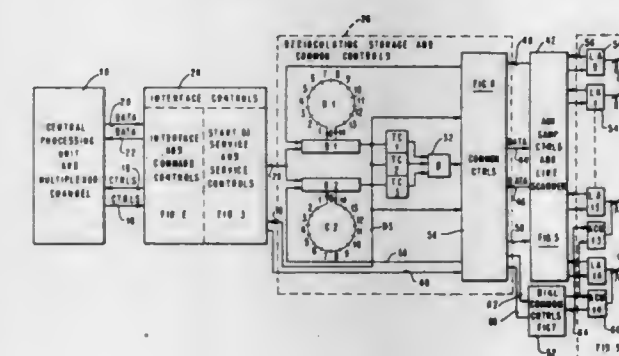
3,341,817
MEMORY TRANSFER APPARATUS
Jack C. Smeltzer, Woodland Hills, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Maryland
Filed June 12, 1964, Ser. No. 374,640
7 Claims. (Cl. 340-172.5)



1. In a data processing system including a first memory of the type in which the locations thereof are available in sequence for reading or writing and a second memory of the type in which the locations thereof can be randomly selected: means for generating a command signal;

means responsive to said command signal for reading the information stored in the next available location in said first memory; means for developing address signals identifying the next available location in said first memory from which said information is read; means responsive to said address signals for identifying a location in said second memory; and means for storing said read information in said location identified in said second memory.

3,341,818
PLURAL LINE SCANNER
David Mackie, Woodstock, Louis A. Mitta, Poughkeepsie, Leo T. O'Connor, Jr., Hyde Park, and William H. Richard, Barrytown, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1964, Ser. No. 379,177
10 Claims. (Cl. 340-172.5)

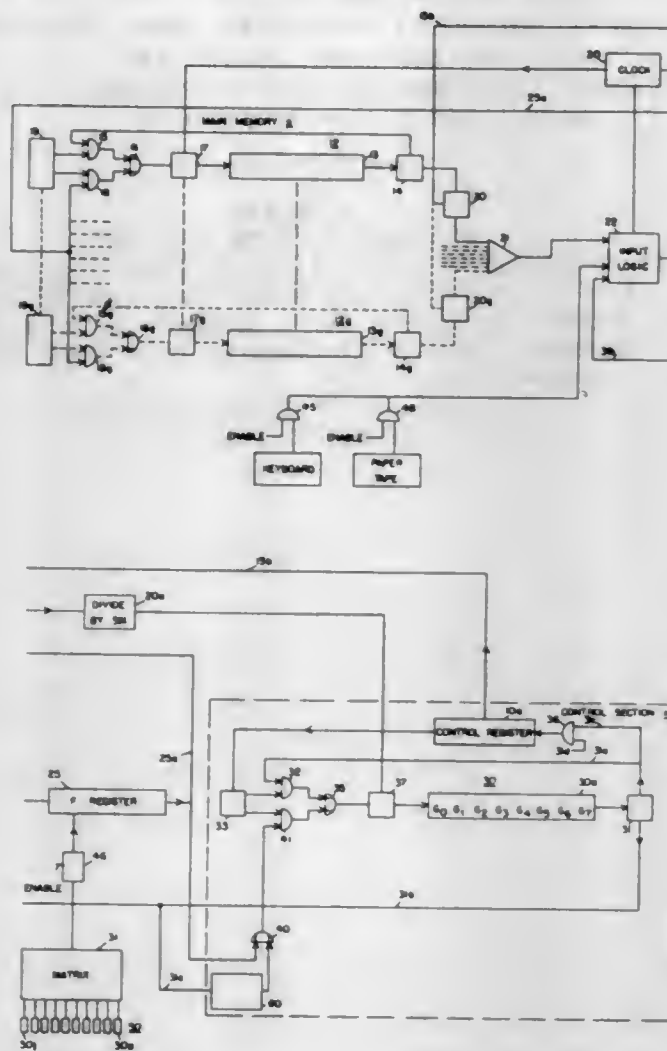


1. A transmission control unit for communicating with a plurality of communication terminal devices having control lines and data transfer lines, comprising: a first recirculating memory having line control words stored therein and assigned particular addresses corresponding to each of the plurality of communication terminal devices; first scanning means for scanning the control lines from said communication terminals in synchronism with said first recirculating store; a second recirculating memory having a plurality of line control words stored therein, each having a particular address corresponding to a particular one of said communication terminals, and positioned in said memory such that a matched scan occurs cyclically between control words having the same address in said first and second recirculating memories for permitting data transfer therebetween whenever a matched scan occurs; and second scanning means for scanning said data transfer lines in synchronism with said second recirculating memory, said scanning performed in the same order as the line control words are positioned in said second memory.

3,341,819
COMPUTER SYSTEM
Marvin R. Emerson, Tustin, Calif., assignor to Pacific Data Systems, Inc., Santa Ana, Calif., a corporation of California
Filed Aug. 18, 1964, Ser. No. 390,304
14 Claims. (Cl. 340-172.5)

1. In a digital computer having a memory in which there is stored a library of routines, a system for selecting a desired routine from said library comprising at least one register, a matrix adapted to generate selected pluralities of signals representing a first instruction,

a plurality of operable selection switches each having a connection to said matrix for operation thereof, means connecting said matrix to said register for producing in said register a first instruction corresponding to the actuation of one of said switches, and



means responsive to each of said first instructions to access the address specified by said first instruction in memory, whereby at that memory address a second instruction has been placed instructing the computer to begin a program routine.

3,341,820 ON-LINE BRANCH FOR DATA PROCESSING SYSTEMS

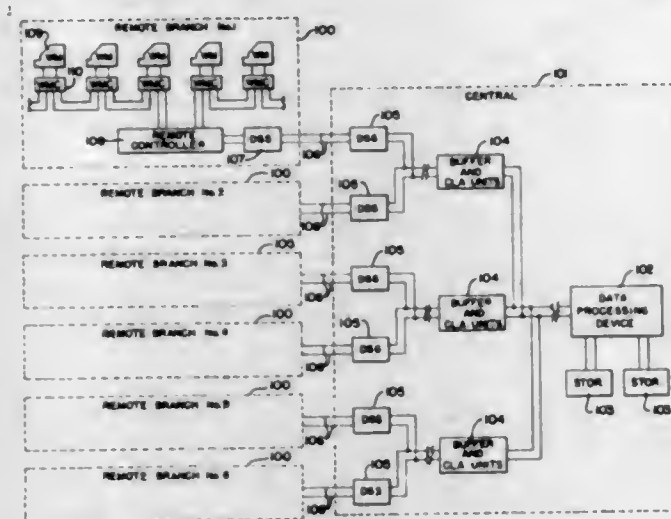
Earl J. Grillmeyer, Jr., George C. Beason, William J. Hale, and James D. Turner, Jr., Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 13, 1964, Ser. No. 403,528
31 Claims. (Cl. 340-172.5)

14. In a branch sub-system of an on-line system in which records maintained at a central data processing station may have additional entries made to any record at any one of a plurality of branch locations, the combination, in a branch, comprising

a plurality of multiple-row keyboard-operated input-output devices capable of having the keyboard set either remotely in response to electrical signals applied thereto or manually;
information transmitting means for transmitting input and output messages in serial form between the central data processing station and the selected input-output device;

scan counter means for sequentially scanning all of the input-output devices in a branch and operable to select a given input-output device by halting in the event that said given input-output device is conditioned to transmit an input message to the central data processing station, to enable communication

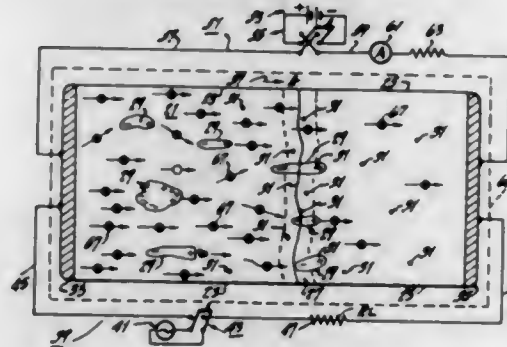
to take place between the given input-output device and the central data processing station;
gating means associated with each input-output device and operable to cause an input-output device selected by the scan counter means to be coupled to the central data processing station over the information transmitting means for the transmission of an input message thereto;



multiple-row storage means associated with each input-output device for storage of information manually input into the input-output device via the keyboard; read-out means for causing the information stored in the multiple-row storage means associated with a selected input-output device to be transmitted to the central data processing station via the information transmitting means; and

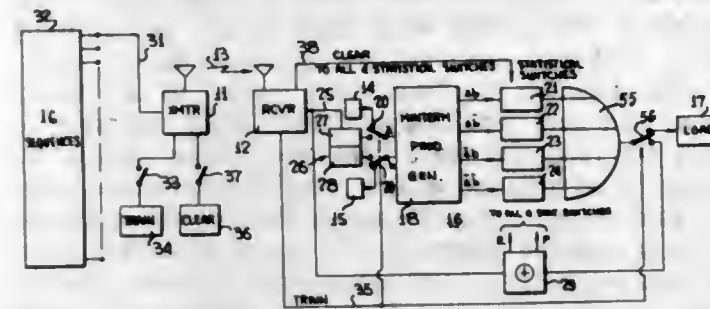
error responsive means energized in the event of failure to receive a proper answering signal from the central data processing station in reply to an input message transmitted to the central data processing station from the selected input-output device.

3,341,821
ADAPTIVE SEMICONDUCTOR DEVICE
John O. Kessler, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Original application Nov. 28, 1962, Ser. No. 240,600, now Patent No. 3,264,532, dated Aug. 2, 1966. Divided and this application Oct. 30, 1964, Ser. No. 407,801
17 Claims. (Cl. 340-172.5)



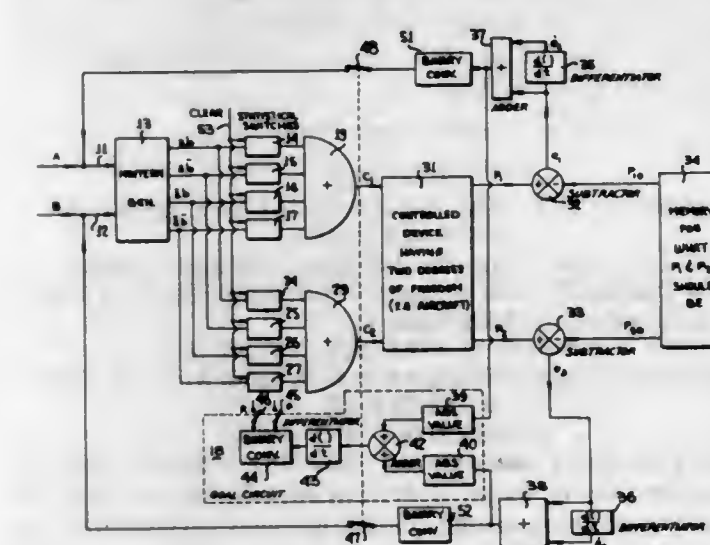
1. An adaption circuit comprising
 - (a) an adaptive semiconductor device having resistive and rectifying states,
 - (b) output means including an impedance element connected in series with said device,
 - (c) means for connecting said series connected device and element to a source of alternating current, and
 - (d) adaption means associated with said device for selectively setting said device in its rectifying and resistive states.

3,341,822
METHOD AND APPARATUS FOR TRAINING SELF-ORGANIZING NETWORKS
Richard E. Mirabelli, Arlington, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,550
14 Claims. (Cl. 340-172.5)



1. Apparatus for training a binary logic network to form a desired logical function in response to a predetermined sequence of binary bits, $a(t)$, $b(t)$, \dots , $i(t)$, \dots , $n(t)$, \dots , $w(t)$ such that $b(t) = a(t + t_1)$, \dots , $i(t) = a(t + t_i)$, $n(t) = a(t + t_n)$, \dots , $w(t) = a(t + t_w)$ where t_1 , \dots , t_i , \dots , t_n , \dots , t_w indicate bit positions removed from $a(t)$, said sequence being such that the binary value of $w(t)$ in the majority for repetitions of any particular $a(t)$, $b(t)$, \dots , $n(t)$ is the actual desired response of the network for the particular values of $a(t)$, $b(t)$, \dots , $n(t)$ and that a majority of $w(t)$ of one or the other binary value always exists, comprising n input terminals, means for sequentially applying every bit in said sequence to each of said n input terminals, where n is greater than one, such that at a given instant of time the sequence of bits $a(t)$, $b(t)$, \dots , $n(t)$ is concurrently applied to respective ones of all n of said input terminals, means responsive to the bits at said input terminals for deriving signals indicative of the canonical products thereof, switch means having a plurality of states of being closed or open, and responsive to said canonical products for passage or blockage thereof according to the respective present state of said switch means, and means for controlling the state of said switch means in response to a comparison between the binary value derived from the output of said switch means and the binary value of $w(t)$.

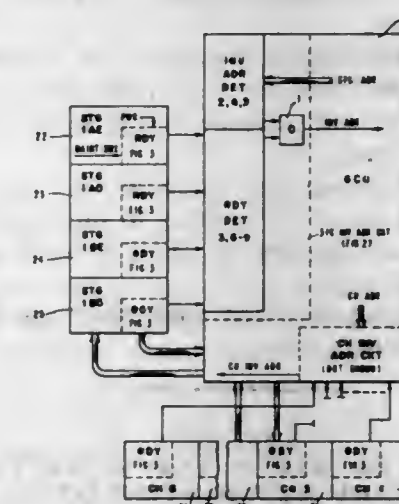
3,341,823
SIMPLIFIED STATISTICAL SWITCH
Edward M. Connelly, Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Jan. 7, 1965, Ser. No. 424,062
8 Claims. (Cl. 340-172.5)



1. A statistical switch for use in adaptive systems in which canonical product signals are derived and, in

response to the system output, reward and punish signals are derived, said switch comprising a gate responsive to a canonical product signal, and means responsive to said reward and punish signals for selectively always opening or closing said gate for said product signal as long as the number of punish signals does not exceed the number of reward signals for that canonical product once a reward signal is derived for that canonical product, said gate being open or closed on a statistical basis prior to derivation of any reward and punish signals.

3,341,824
UNIT UNAVAILABILITY DETECTOR FOR A DATA PROCESSING SYSTEM
William P. Wissick, Rhinebeck, and Olin L. MacSorley, Beacon, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 5, 1965, Ser. No. 445,318
6 Claims. (Cl. 340-172.5)

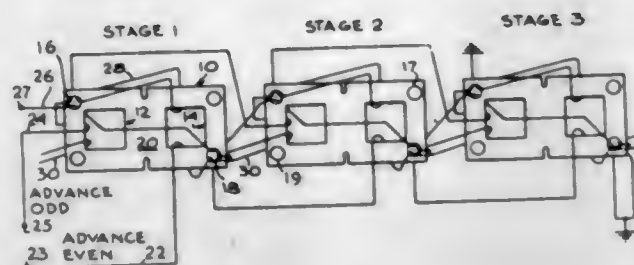


1. In a data processing system having storage means containing a plurality of addressable storage locations, said storage means being comprised of portions, said portions being distinguishable by address manifestations, said data processing system including addressing means capable of specifying addresses for portions of a storage means not included within the particular configuration of said system, said system also including means to generate a manifestation for application to individual storage portions to indicate the selection of that storage portion for operation, said data processing system further including address monitoring means to sense the presentation of address manifestations which specify storage portions not included within said system and invalid address manifestation generating means responsive thereto generate an invalid address manifestation, a storage monitoring device, comprising:

a plurality of circuit means, one for each of said storage portions, each of said circuit means normally at a potential of a first kind, said circuit means assuming a potential of a second kind in dependence upon the unavailability of that portion due to a power failure or maintenance action;
and means responsive to said circuit means and to said selection manifestations to generate an unavailable storage manifestation in dependence upon the concurrent presence of a signal of said second kind and a selection manifestation corresponding to the related storage portion, said means causing said invalid address manifestation generating means to generate an invalid address signal in response to said unavailable storage manifestation.

3,341,832

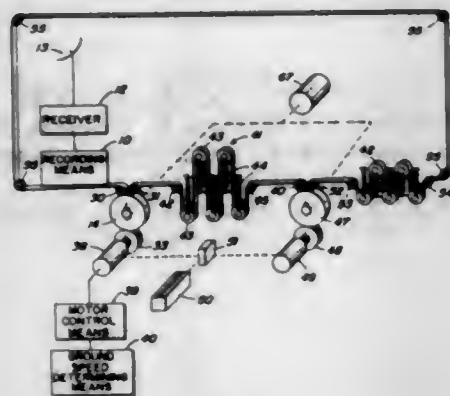
MAGNETIC CORE STRUCTURE AND CIRCUIT
David Nitzan, Palo Alto, Calif., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
Filed July 28, 1964, Ser. No. 385,742
6 Claims. (Cl. 340-174)



1. In a magnetic core circuit arrangement including a plurality of stages, each stage comprised of a magnetic core input section and a magnetic core output section; an internal loop coupling the input section of each stage to the output section of the same stage; an external loop coupling the output section of each stage to the input section of a succeeding stage; said internal and external loops having winding ratios respectively defining gains G_1 and G_2 where the product $G_1 G_2$ is substantially equal to unity.

3,341,833

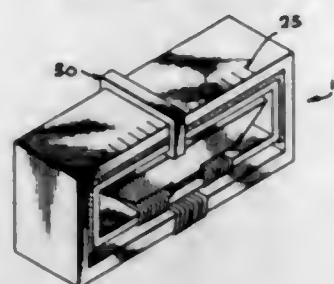
MAGNETIC TAPE RECORDING AND REPRODUCTION SYSTEM
Paul R. Jones, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 19, 1963, Ser. No. 331,836
11 Claims. (Cl. 340-174.1)



1. A system for storing, reading, and presenting data, said system comprising: recording tape having data recorded thereon; first tape reading means for receiving said tape and reading the data recorded on a portion thereof; tape storage means for receiving said tape from said first tape reading means and storing the same; first control means for governing the tape input rate to said first tape reading means and to said storage means; second tape reading means for receiving said tape from said storage means and reading the data recorded on a portion thereof other than that being read by said first tape reading means; second control means for governing the tape withdrawal rate from said storage means whereby the amount of tape between the portions being read by each said tape reading means is controlled, said withdrawal rate being capable of differing from said input rate, said second control means including means for causing withdrawal of tape from said storage means at least as fast as said tape input rate whenever said storage means is filled; and presentation means for presenting said data being read by at least one of said tape reading means.

3,341,834

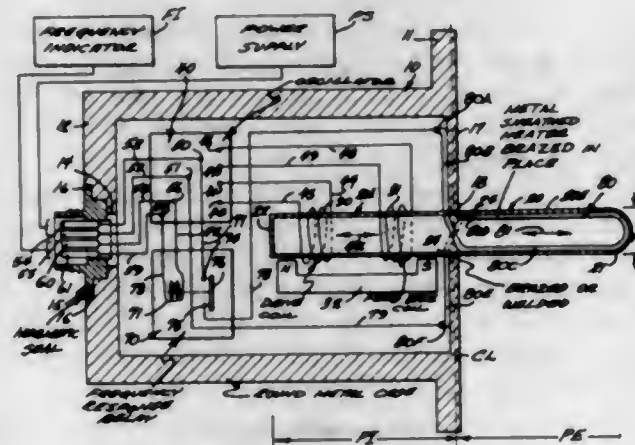
ALTERNATING CURRENT ELECTROMAGNETIC INSTRUMENT
Rodney K. Bogue, P.O. Box 2251, Edwards Air Force Base, Calif. 93523
Filed May 17, 1965, Ser. No. 456,582
8 Claims. (Cl. 340-199)



1. An electromagnetic device of the character described comprising:
(a) a first hollow magnetic core member,
(b) a second magnetic core member, mounted within said first magnetic core member,
(c) said second magnetic core member including spaced elements which provide an airgap,
(d) slideable means that includes a single turn of conductive material disposed around said first and second core members and extending through the airgap, and
(e) means electrically connected to said first and second core members for sensing the position of said slideable means and causing a force of a desired magnitude and direction to be exerted on said slideable means.

3,341,835

ICE DETECTOR
Frank D. Werner and Earl A. Grindheim, Minneapolis, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 5, 1964, Ser. No. 409,115
26 Claims. (Cl. 340-234)

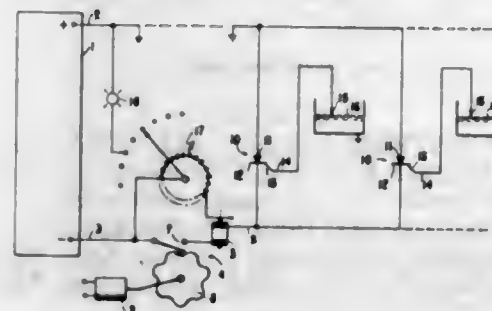


1. An ice detector comprising a nodal support forming a dividing surface, a vibrating element having a node of vibration when it is resonantly vibrated, the nodal support being attached to said vibrating element substantially at said node of vibration and forming at least substantially the entire support of said vibrating element, said vibrating element having rear and front portions, each portion extending away from said nodal support, said element being capable of being located by said support with at least a part of the front portion positioned in a zone wherein ice may accumulate thereon, vibrating means

mounted adjacent the rear portion for exciting the vibrating element into resonant vibration, and means for sensing a shift of the resonant frequency of vibration of said vibrating element resulting from a change of mass of said vibrating element due to ice accumulating thereon.

3,341,836

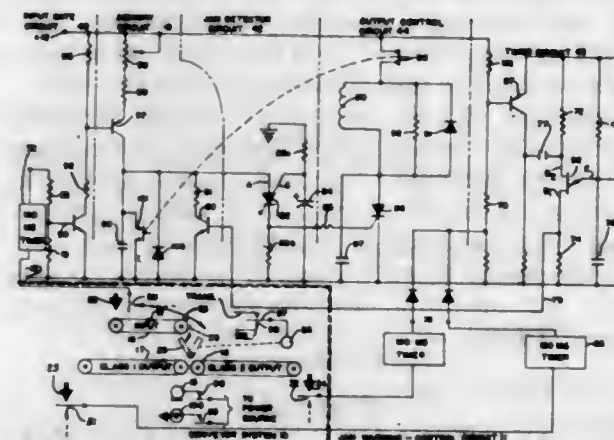
LIQUID LEVEL DETECTOR
Charles R. Marcum, Jeffersontown, Ky., assignor to General Equipment & Mfg. Co., Louisville, Ky., a corporation of Kentucky
Filed Aug. 6, 1964, Ser. No. 387,831
2 Claims. (Cl. 340-244)



1. A detector for detecting the level of a substance exhibiting some degree of electrical conductivity comprising, in combination, a first potential, conductive means establishing said potential as a reference potential corresponding to the potential of said substance to be detected, a second potential negative with respect to said first potential, a power lead, means for periodically energizing said power lead at said second potential, at least one semiconductor controlled rectifier having its anode connected to said first conductive means and its cathode connected to said power lead, a detector probe, said rectifier having a control electrode connected to said probe, current detecting means connected in series with said power lead and said cathode, and counting means connected to said detecting means to produce an output signal in response to a predetermined number of current pulses through said current detecting means.

3,341,837

JAM WARNING CONTROL CIRCUIT
Harold Washington, Broadview, Ill., assignor to Instrumentation and Control Systems, Inc., Villa Park, Ill.
Filed Feb. 1, 1965, Ser. No. 429,510
12 Claims. (Cl. 340-259)

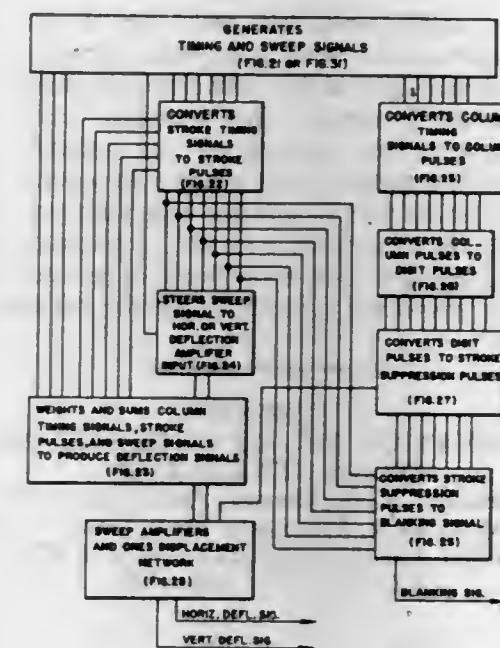


3. A jam warning system for monitoring the flow of work pieces through a machine, means responsive to an entrance of a work piece into said machine for storing a memory of said entrance, means responsive to an exit

of a work piece from said machine for canceling said memory, alarm means responsive to the memory storage of the entrance of a predetermined number of said work pieces without an exit of any pieces for giving an alarm, and means responsive to said alarm means for transferring said flow of work pieces from said machine to another machine.

3,341,838

SIGNAL GENERATING APPARATUS
Robert A. Ragen, Hayward, Calif., assignor to Friden, Inc., a corporation of Delaware
Filed Oct. 25, 1963, Ser. No. 322,549
5 Claims. (Cl. 340-324)



1. In a signal generator adapted to cooperate with a cathode-ray tube for displaying a multi-character, multi-row display on the face of the tube by generating a character raster in a plurality of diverse positions and selectively controlling the appearance of each stroke of each raster for displaying a selected character in each position,

(a) means generating deflection signals which are applied to the deflection means of a cathode-ray display device to cause the cathode-ray beam to trace a character raster, said means including:
(1) a timing chain generating two binary digital sets of timing signals and a sweep signal,
(2) gating means converting a first set of said timing signals into a set of commutated pulses,
(3) means responsive to the remaining timing signals, commutated pulses, and sweep signals to provide deflection signals,
(b) timing means connected to the timing chain for altering said deflection signals whereby a character raster is generated in a plurality of diverse positions on the screen of said cathode-ray display device, the raster positions being arranged on the face of the tube in a plurality of determinable registers;
(c) adjustable means connected to the timing means for determining the number of registers in which the character rasters appear, and
(d) blanking signal synthesizing means connected to the timing chain for receiving the second set of timing signals therefrom and operating in synchronism with said timing means for selectively blanking predetermined strokes of a character raster generated in a predetermined character position whereby a selected digit may be produced by the appearing strokes of the raster.

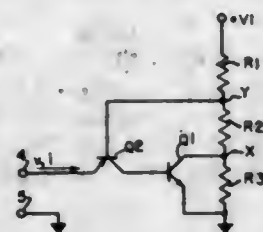
3,341,839

NEGATIVE RESISTANCE DEVICES

Franklin N. Selber, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed July 2, 1963, Ser. No. 292,789

3 Claims. (Cl. 340-347)



1. A two-terminal negative resistance device comprising first and second terminals; first, second and third resistors connected in series between a source of voltage and said second terminal, a first transistor with its collector connected to the junction of said second and third resistors and its emitter connected to said second terminal, a second transistor with its emitter-base junction connected between said first terminal and the junction of said first and second resistors, and a connection between the base of said first transistor and the collector of said second transistor.

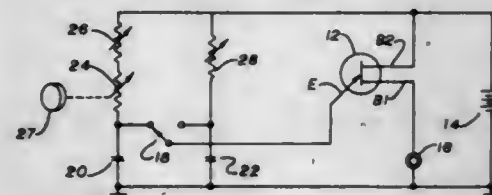
3,341,840

COMBINATION METRONOME AND PITCH TONE GENERATOR

Herschell A. Berkheiser, Palo Alto, Calif.
2275 Mora Way, Mountain View, Calif. 94040

Filed Apr. 22, 1964, Ser. No. 361,675

2 Claims. (Cl. 340-384)



1. A combination metronome and tone generator comprising an electronic circuit for selectively generating in a first mode of operation a series of repetitive pulses having a repetition rate adjustable in the range of about 40 to 208 pulses per minute and in a second mode of operation an alternating current signal having a pre-selected frequency within the audio range, a battery for energizing said circuit, means including a two terminal jack in series for connecting said battery to said circuit so that the connection is established only when a plug is in said jack, an earphone including a two terminal plug receivable in said jack for converting the signals generated by said electronic circuit to audible signals and for establishing connection from said battery to said electronic circuit, and a switch for effecting alternate selection between said first and second modes of operation.

3,341,841

ELECTRONIC BUZZER

Jean-Marcel Stampfli, Le Landeron, Switzerland, assignor to Fabrique d'Horlogerie de Fontanemelon SA, Le Landeron, Switzerland

Filed July 26, 1965, Ser. No. 474,747

Claims priority, application Switzerland, Aug. 18, 1964, 10,805/64

9 Claims. (Cl. 340-384)

1. An electric buzzer for time-keeping instruments, particularly alarm clocks and the like, comprising an electronic oscillator and an electro-acoustical transducer energized by said oscillator, a feed-back transformer in said oscillator, said feed-back transformer having a primary

and secondary feed-back winding series-connected in the same sense of winding in the circuit of said electro-



acoustical transducer, a timepiece and modulating means operable by said timepiece for modulation of the frequency of said oscillator.

3,341,842

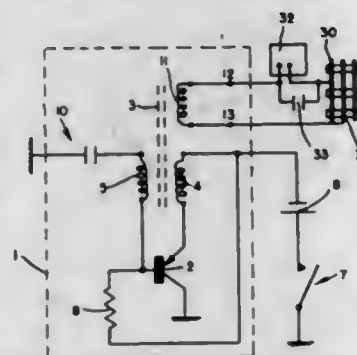
ACOUSTICAL SIGNAL GENERATOR

Jean F. Breguet, Le Locle, Switzerland, assignor to Angelus S.A., Le Locle, Switzerland

Filed Aug. 27, 1965, Ser. No. 483,130

Claims priority, application France, Aug. 28, 1964, 11,290/64; Oct. 19, 1964, 13,536/64; May 19, 1965, 6,997/65

9 Claims. (Cl. 340-384)



1. An acoustical generating circuit comprising: acoustical signal means; voltage supply means having opposite terminals; a transistor having a base electrode and two working electrodes comprising a collector and an emitter; a transformer having a primary with at least two terminals and a secondary with two secondary windings, and in which one of said secondary windings is connected between the base electrode and one working electrode of said transistor, and said signal means is connected with the other said secondary windings and having also at least two terminals; a primary circuit comprising means connecting one terminal of said primary with one terminal of said voltage supply means, means connecting another terminal of said primary with one working electrode of said transistor and means connecting the other working electrode of said transistor with the opposite terminal of said power supply means, and a secondary circuit comprising means including an impedance connecting one terminal of said secondary with one working electrode of said transistor and connecting another terminal of said secondary with said base electrode of said transistor; said acoustical signal means being connected in said secondary circuit for operation by secondary current of said transformer.

3,341,843

REMOTE INDICATING SYSTEMS FOR MINE ROOF SUPPORTS

Donald T. Walsh, Hindley, Wigan, England, assignor to Gullick Limited, Wigan, England, a British company

Filed Sept. 17, 1964, Ser. No. 397,099

2 Claims. (Cl. 340-421)

1. A mine roof support including hydraulic jack means and a member movable by said hydraulic jack means rel-

atively to a stationary part of the support, a casing fixed on said stationary part of the roof support at a position outside said jack means, an adjustable electrical potentiometer unit housed in said casing, means operative to adjusting said potentiometer including an extensible and retractable part which extends out of said casing, means on said extensible and retractable part connecting it to said member whereby said part of the potentiometer adjusting means is extended or retracted simultaneously with movement of said member, an electrical resistance bridge circuit which includes said potentiometer, whereby the electrical potential across the bridge circuit varies with the adjustment of said potentiometer, and a galvanometer instrument, at a remote station relatively to the support, connected across said bridge circuit so as to respond to said electrical potential and thereby indicate at said remote station the position of said member relatively to the stationary part of the support.

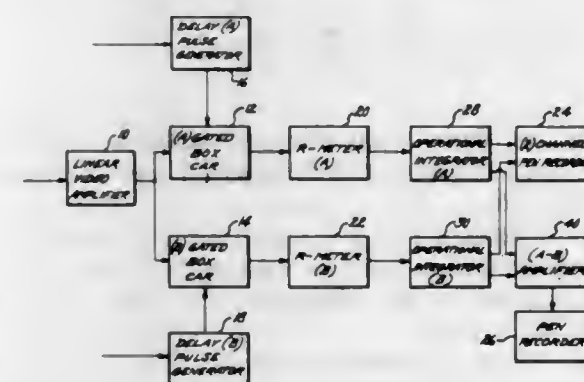
3,341,844

RADAR WIND GUST ANALYZER

Hugh J. Sweeney, 92 Pond St., Westwood, Mass. 02090

Filed Aug. 23, 1965, Ser. No. 481,988

4 Claims. (Cl. 343-5)



1. In a weather radar system wherein radar apparatus is employed to transmit signals to and receive echo signals from a given area aloft, means for determining the velocity of a gust of wind comprising means for responding only to echo signals received from two range sample regions along the radar beam, each of said sample regions having a predetermined azimuth, volume and altitude, means for measuring the echo amplitude fluctuations in units of zero-crossings of said echo signals per unit of time, received from the first of said two sample regions, means for measuring later in time the echo amplitude fluctuations received from the second of said range elements, and means for comparing simultaneously with each other the echo amplitude fluctuations from each range element.

3,341,845

SYSTEM FOR AUTOMATIC RADIO TRANSFER OF DIGITAL INFORMATION AND FOR DISTANCE COMPUTATION

Pierre Deman, Paris, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed Nov. 16, 1965, Ser. No. 508,007

17 Claims. (Cl. 343-6.5)

7. In a system for transferring digital information signals between a first and a second station, said information being coded in a split-phase transitional pulse modulation binary code wherein one binary numeration digit is represented by a first time interval between adjacent transitions, said time interval defining a prescribed keying rate of the information signals, and the other binary numeration digit is represented by a second and substantially shorter time interval between adjacent transitions;

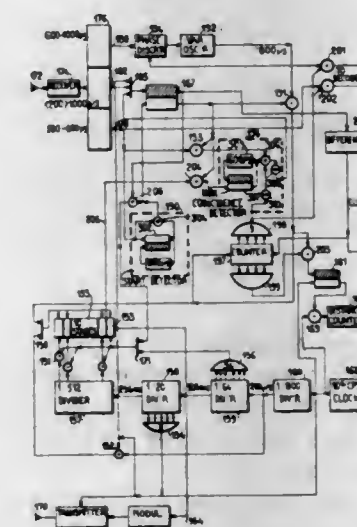
the provision in at least one of said first and second stations of the combination comprising:

radio receiver means for receiving coded information signals from the other station;

a digital filter unit having an input connected to the receiver means and having a first and a second output, said unit including:

means delivering a pulse at said first output in response to the appearance of consecutive transitions at its input separated by a time interval within a first prescribed range that includes said first time interval; and

means delivering a pulse at said second output in response to the appearance of consecutive transitions at its input separated by a time interval within a second prescribed range that includes said second time interval whereby said second output pulses are representative of said other binary digits in the received signals;



digital information processing means connected to said second digital filter output for operation by said pulses representative of said other binary digits in the received signals; synchronizable means having an input connected to said first output of the digital filter unit and including means producing an output pulse train synchronized with said first prescribed time interval; and means connecting said output pulse train to said digital information-processing means for synchronizing the operation thereof with the keying rate of said received signals.

3,341,846

TRANSPONDER SYSTEM

Irving McMurren, Los Angeles, and Kenneth Dalsing, Northridge, Calif., assignors, by mesne assignments, to The Bendix Corporation, Baltimore, Md., a corporation of Delaware

Filed Nov. 12, 1964, Ser. No. 410,604

6 Claims. (Cl. 343-6.8)

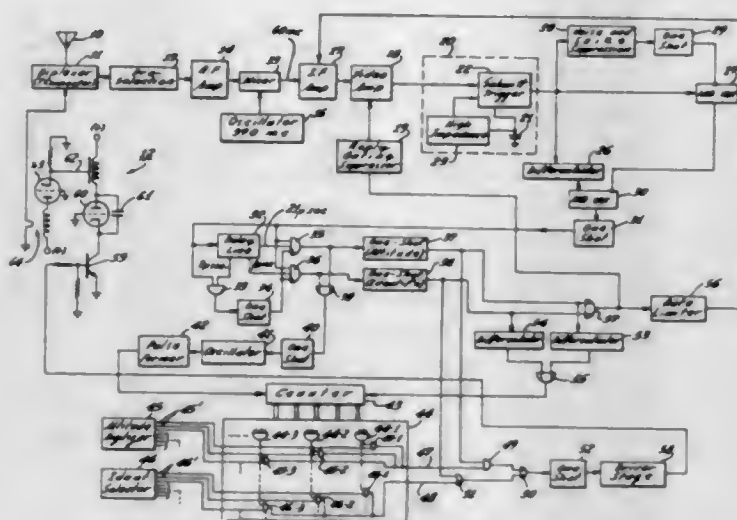
3. A transponder for transmitting coded information signals in response to coded interrogation signals received from a remote station, the combination comprising:

a receiving network converting an interrogation signal into pulses indicative of the particular coded interrogation signal received;

a gate connected to receive a signal representative of the trailing edge of any of said pulses;

means responsive to each of said pulses to provide a gating-open signal for said gate for the duration of the time interval commencing at a first predetermined time after occurrence of the leading edge of said pulse and terminating at a second predetermined time thereafter;

an interrogation decoder connected to receive signals permitted to pass through said gate and providing an individual signal defining the signal sequence permitted to pass through said gate;
 reply code formation means providing different types of binary coded information each in a parallel by bit format;
 an oscillator providing a train of pulses;
 a counter responsive to said pulse train sequentially shifting through different counting states upon receiving said pulses;



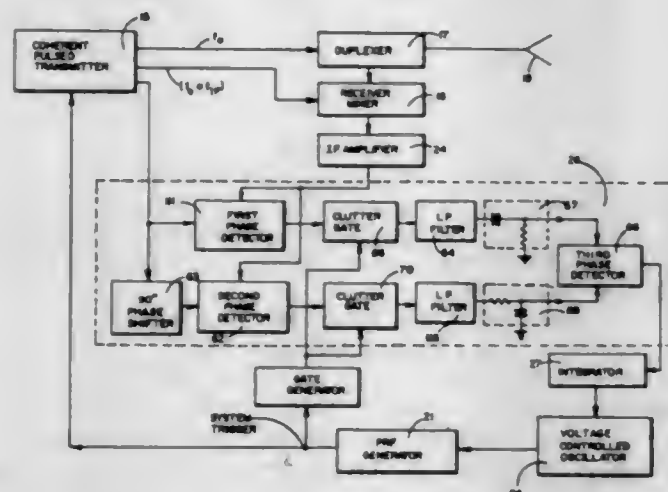
means for interconnecting said counter, said decoder and said reply code formation means to provide a serial by bit code signal representative of one said parallel by bit coded format of the type determined by said individual signal;
 and a transmitter including a carrier frequency oscillator keyed by said serial code signal.

3,341,847

PLATFORM MOTION COMPENSATION OF A COHERENT MTI SYSTEM

Walter R. Fried, Santa Ana, and Ted G. Sprague, Fullerton, Calif., assignors to North American Aviation, Inc.

Filed May 24, 1966, Ser. No. 552,556
 13 Claims. (Cl. 343-7.5)



1. In a directionally-ranging pulsed energy system, closed loop means for improving the indicated distinction between a clutter background and a detected target moving radially of said system relative to said clutter background and comprising

signal integrating means responsive to the centroid of the spectra of a sensed clutter background and to a pulse repetition frequency of the pulsed energy sys-

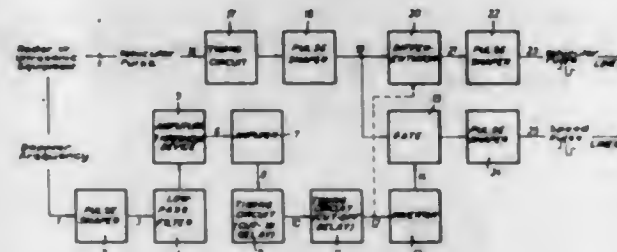
tem for providing an output signal indicative of the time integral of the frequency difference therebetween; and
 voltage-controlled periodic signalling means responsively coupled to an output of said signal integrating means for varying said pulse repetition interval of said pulsed energy system.

3,341,848

METHOD FOR THE COUNTING OF VEHICLES THE SPEED OF WHICH EITHER EXCEEDS OR FALLS SHORT OF A PREDETERMINED VALUE

Hans H. Nidiek, Stuttgart-Zuffenhausen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,410
 Claims priority, application Germany, Oct. 24, 1964, St 22,853
 5 Claims. (Cl. 343-8)



1. Apparatus for the counting of vehicles, the speed of which either exceeds or falls short of a predetermined value, comprising:

a source of vehicular pulses, one pulse for every vehicle passing through a radar or ultrasonic beam;
 means responsive to the Doppler frequency of said pulses including,

a first pulse shaper to convert the Doppler frequency into a train of discrete rectangular pulses with a defined amplitude,

filter means coupled between said first shaper and an amplitude threshold device which permits the passage of said rectangular pulses lying below a predetermined limit frequency,

first timing circuit means for converting said rectangular pulses into a continuous pulse which is applied to an inverter, and

a gating circuit coupled to the output of said inverter, whereby said gating circuit is blocked for the time of said continuous pulses;

second timing circuit means responsive to said vehicular pulses which, after a certain delay period transfers said pulses to a second pulse shaper, said second pulse shaper coupled to a subsequently arranged differentiating circuit and said gating circuit;

a third pulse shaper coupled to said differentiating circuit for producing the counting pulse output; and

a fourth pulse shaper coupled to said gating circuit, to produce speed pulses, whereby vehicular pulses can only pass through said gating circuit to produce said speed pulses if said Doppler frequency is higher than said limit frequency.

3,341,849

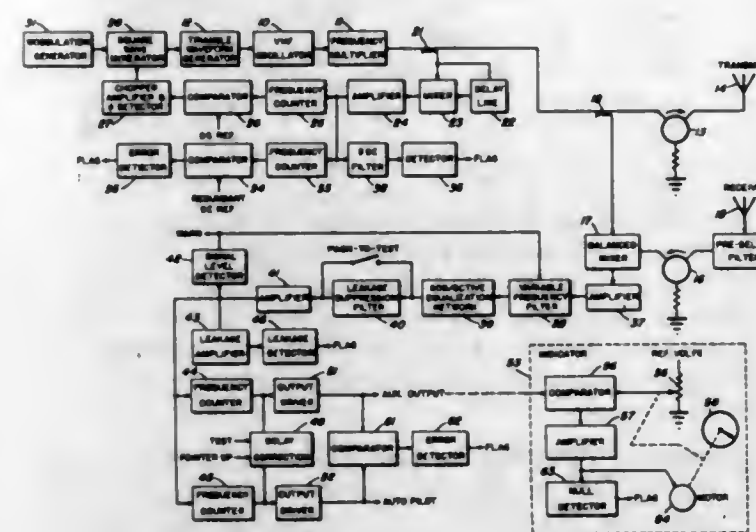
SELF-CALIBRATING, SELF-TESTING RADIO ALTIMETER

Burton L. Cordry, Glenarm, Roy Lopes Brandao, Baltimore, and Nicholas M. Papanicolaou, Lutherville, Md., assignors to The Bendix Corporation, Baltimore, Md., a corporation of Delaware

Filed Jan. 26, 1966, Ser. No. 523,201
 16 Claims. (Cl. 343-14)

1. In a self-calibrating radio altimeter of the FM-CW type an improvement comprising

means for generating a continuous radio frequency wave,
 means for frequency modulating said continuous wave, a delay line to which said modulated wave is applied, mixing means for producing a difference frequency between said modulated wave and delayed waves from said delay line,
 means for measuring the frequency of said difference frequency,



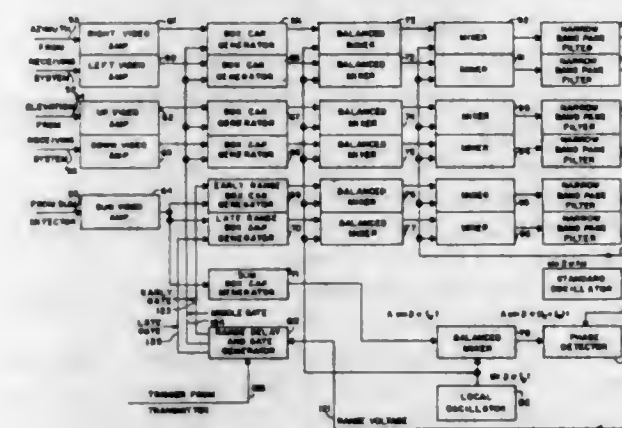
reference means providing an output analogous to the difference frequency obtained by mixing a continuous wave with a predetermined modulation characteristic and the same wave traveling a distance equivalent to the propagation delay of said delay line, means for comparing said measured difference frequency with said reference means output to provide an error signal; and
 means responsive to said error signal for controlling said frequency modulating means to cause reduction of said error signal.

3,341,850

MONOPULSE RADAR SYSTEM FOR TRACKING A COHERENTLY SCINTILLATING TARGET IN THE PRESENCE OF RADAR COUNTERMEASURES

Leonard Kings and Donald Reiser, Alexandria, Va., assignors, by mesne assignments, to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Feb. 19, 1959, Ser. No. 794,445
 18 Claims. (Cl. 343-16)



1. A radar system comprising means for transmitting radiant energy pulses to a target, directive means for receiving echo pulses from said target, said echo pulses deriving by reflection from said target, said target having a periodically varying reflective area for said radiant energy pulses such that said radiant energy pulses include

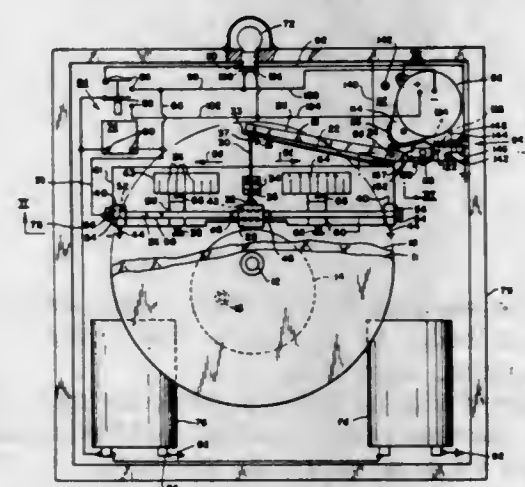
a component of modulation at frequency f_w , where $1/f_w$ is the periodicity of variation of said reflective area, means for deriving a frequency f_s and f_w in response only to said component of modulation at frequency f_w , where f_s is a constant frequency, means for deriving said frequency f_s in response only to said frequency f_s and f_w , and means responsive to said frequency f_s for directing said directive means toward said target.

3,341,851

DECELERATION RECORDER AND/OR SIGNALER

Burke A. Tracey, Wheaton, Ill., and John H. Royston, 107 Hillcrest Road, Pittsburgh, Pa. 15238; said Tracey assignor to said Royston

Filed Aug. 11, 1965, Ser. No. 478,896
 20 Claims. (Cl. 346-7)



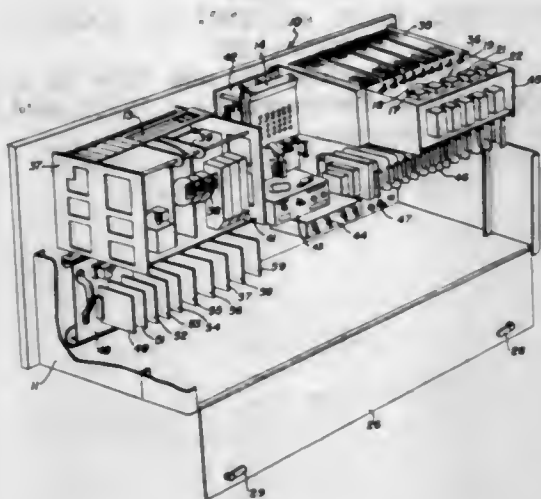
1. In a recording decelerometer, the combination comprising a slideway mounted generally parallel to the path of decelerating movement, an inertial member slidably mounted on said slideway, a recording member, means for mounting said recording member at a position adjacent said slideway for recording movement relative to a chart, a flexible cord connected at its ends to said inertial member and to said recording member means supporting said cord for flexing movement thereof adjacent a neutral position of said inertial member so that movement of said inertial member in either direction along said slideway induces corresponding movements of the adjacent portions of said recording member, and means for biasing said recording member portion to a base position thereof corresponding to said neutral position of the inertial member so that said inertial member is returned to its neutral position following deceleration induced movement thereof, said recording member is a pivoted arm having a recording stylus thereon, the pivot mounting of said recording arm being disposed such that the stylus bearing portion thereof moves substantially transversely of said slideway.

5. An alarm circuit for use with a signalling decelerometer, said circuit comprising a holding type relay, a relay coil for said relay connected for receiving electric pulses, a pair of supply buses, said relay having a first pair of normally open contacts connected respectively to one of said supply buses and to the positive terminals of alarm indicia and a timer motor, said relay having a second pair of normally open holding contacts connected respectively to the other of said supply buses through a grounding switch and to the negative terminals of said relay coil and said alarm indicia and said timer motor, said timer motor when energized actuating clock mechanism to open said grounding switch after a predetermined time interval to de-energize said holding relay and said alarm indicia and said timer motor.

3,341,852

**TIME RECORDER WITH IDENTIFICATION
BADGE SCANNER AND READOUT LAMP**

Roger G. Kramer, Gardner, and Edward B. Hildum, Petersham, Mass., and William F. Bowin, Concord, N.H., assignors to Simplex Time Recorder Company, Gardner, Mass., a corporation of Massachusetts
Filed July 21, 1965, Ser. No. 473,734
3 Claims. (Cl. 346-14)



1. A time recorder for use with a time card and an identification badge to produce a tape record for computer accounting, comprising
 - (a) a time stamp including a clock, having a slot into which the time card is inserted, and having means to stamp a visual record on the time card,
 - (b) a time-date unit receiving electrical pulses from the clock and converting them to signals indicative of time,
 - (c) a badge reader having a slot into which the identification badge is inserted and producing coded signals indicative of identification,
 - (d) a decoder to which the badge reader is connected to convert the said coded signals to signals having the same nature as the said signals indicative of time,
 - (e) a first means producing a signal indicative of start or finish of a time period,
 - (f) a second means producing a signal indicative of shift,
 - (g) a tape punching mechanism,
 - (h) a motor-driven scanner receiving signals from the time-date unit, the decoder, the first means, and the second means,
 - (i) an encoder connected between the scanner and the tape punching mechanism, the scanner presenting the signals sequentially to the encoder, and
 - (j) means to insure that no signals are passed by the scanner unless both the time card and the identification badge have been inserted in their respective slots.

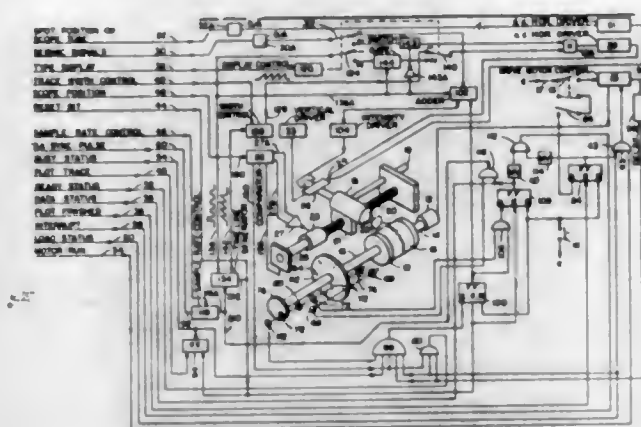
3,341,853

HIGH SPEED PLOTTER

Charles F. Hadley, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,575
10 Claims. (Cl. 346-33)

1. A display means for use with a computer which has a plurality of output and input channels including an information signal output channel, an oscilloscope position channel, and an oscilloscope spot position channel which comprises:
 - a recording drum for supporting a recording medium thereon;
 - drive means for rotating said drum;

an oscilloscope means having an electron beam and including means for moving said oscilloscope laterally along a line parallel to the axis of said recording drum so that light from said electron beam is directed on to the recording medium of said drum;
means to modulate the electron beam of said oscilloscope means according to a signal from said information signal channel;

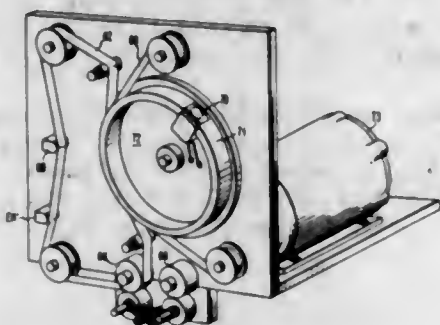


means for directing the position of said electron beam on the face of said oscilloscope means in accordance with the output of said oscilloscope spot position terminal;
a comparator means for comparing the lateral position of said oscilloscope with the information on said oscilloscope position channel;
drive means controlled by said comparator means for positioning said oscilloscope.

3,341,854

**MODULATING MAGNETIC RECORD
TRANSFER MEANS**

Edward J. Supernowicz, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 30, 1963, Ser. No. 276,953
4 Claims. (Cl. 346-74)

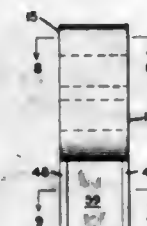


1. A magnetic transfer system of the transfer modulation type comprising:
 - a first magnetic recording medium;
 - a second magnetic recording medium arranged to pass into magnetically-coupled relation to said first recording medium at a transfer station;
 - said first and said second recording medium having a common tangent line at said transfer station;
 - movable transducer means in close proximity and supplying transfer flux normal to said first and said second recording medium at said transfer station to effect magnetic transfer from said first to said second recording medium; and
 - differential means for imparting a speed differential between said first recording medium and said transducer means and for additionally imparting a second speed differential, different from said first differential, between said second recording medium and said transducer means.

3,341,855

**LIGHT VALVE RECORDER WITH LIQUID
MEDIUM-CONTAINING TAPE ROLL**

Carlyle S. Herrick, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 25, 1963, Ser. No. 318,946
5 Claims. (Cl. 346-74)



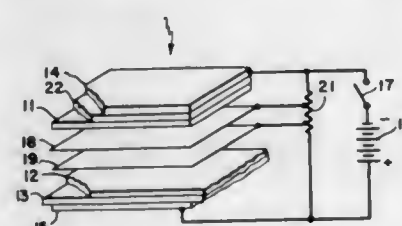
5. In a light valve apparatus having an electron discharge device including an output window and means for generating and directing an electron beam toward a deformable medium which is positioned between the electron beam generating means and an internal surface of said output window, an arrangement for replenishing the deformable medium in the path of said electron beam and reducing optical interferences comprising:
 - tape transport means including an elongated strip of tape having on a surface thereof first and second protuberances extending outwardly from said surface, said surface and protuberances arranged to form an elongated channel, the outward extensions of said protuberances being small in relation to the width of said channel,

a deformable viscous medium substantially filling said channel,
said tape formed into an annular roll of overlapping turns,
said surface of said tape and the opposed surface of said tape being constituted of a material which is wetted by said medium, whereby said medium is uniformly retained in said channel of said roll by capillary forces,
means for drawing said tape from said supply roll between said output window and said electron beam with said one surface facing said electron beam and the opposite surface of said tape abutting said window,
whereby as said tape is unwound from said roll a portion of said medium adheres to said opposed surface and fills the space between said tape and said window and concurrently a desired depth of medium is provided in said channel.

3,341,856

**PHOTOEMISSIVE-THERMOPLASTIC
INFORMATION RECORDER**

John E. Bigelow, Hales Corners, Wis., assignor to General Electric Company, a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,601
10 Claims. (Cl. 346-74)



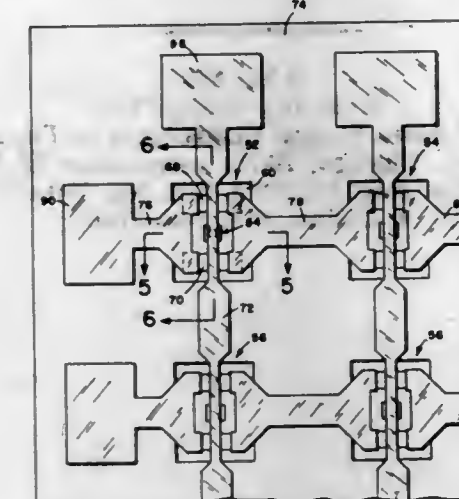
1. A system for recording information on a thermoplastic medium comprising a photoemissive surface in close proximity to said thermoplastic recording medium, means for generating an electric field and disposing said

photoemissive surface and thermoplastic recording medium therein, and means for irradiating said photoemissive surface with light modulated in accordance with the information to be recorded.

3,341,857

SEMICONDUCTOR LIGHT SOURCE

Louis J. Kabell, Palo Alto, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,492
17 Claims. (Cl. 346-107)

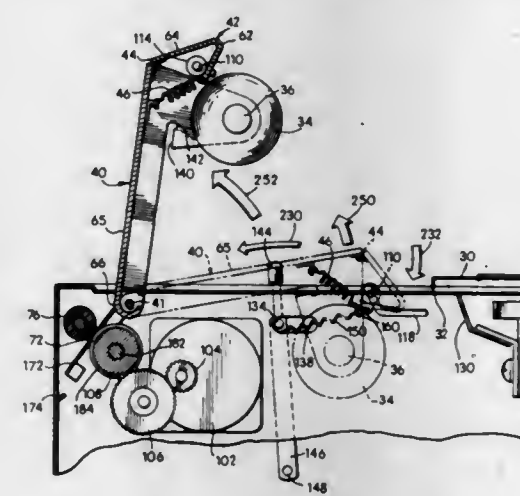


1. In a semiconductor light source, the combination comprising a silicon body of a first conductivity type having a surface, a first region of opposite conductivity type to said body formed within said body and extending to said surface, and a second region of the same conductivity type as said body formed within said first region and extending to said surface, said first region having a dopant concentration highest near said surface, whereby a maximum amount of light is emitted when said device is operated in an avalanche mode.

3,341,858

**RECORDER WITH ARTICULATED ARM
FOR RECEIVER REMOVAL**

Robert J. Loubier, Fort Wayne, Ind., assignor to The Magnavox Co., Fort Wayne, Ind., a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 495,898
9 Claims. (Cl. 346-136)



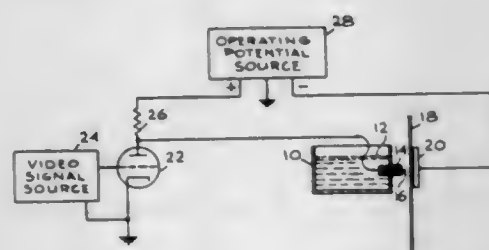
1. In a recording apparatus, a mounting and dispensing device for paper or other media on which a recording is effected by a stylus or other tracing element, comprising: a support arm having a pivot providing that the support

arm can be both raised and lowered, journal means for mounting a quantity of paper, or other media, which is dispensed by unrolling movement thereon, an articulated section of said support arm having spring means biasing said section toward the under-surface of said support arm, cam-and-cam follower means for effecting straightening of said section during pivoting of said support arm into operative position wherein said articulated section is moved from below said stylus into operative engagement with said stylus during lowering of said arm, means for releasably locking said arm in its lowered operative position, said paper being drawn between said stylus and articulated section and thereafter passed over the surface of said arm.

3,341,859

INK JET PRINTER

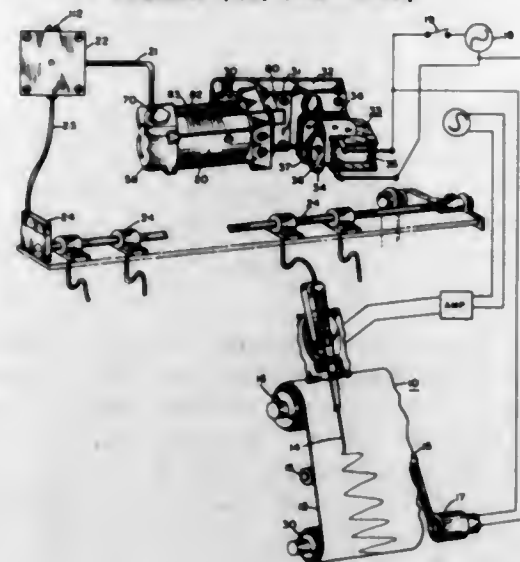
Roman A. Adams, Skokie, Ill., assignor to The A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 19, 1964, Ser. No. 390,697
6 Claims. (Cl. 346—140)



1. Apparatus for reproducing with ink the information contained in video signals comprising walls forming a container for ink, a capillary tube extending through one wall of said container, a conductive wire in said capillary tube having one end substantially coextensive with the end of the capillary tube which is outside of the container, a conductive back plate positioned opposite said one end of said conductive wire, and means for applying a voltage between said one end of said wire and said back plate to move a drop of ink from said one end of said wire toward said back plate.

3,341,860 INK PRESSURIZING AND RELIEVING SYSTEM FOR A RECORDER

Earl O. Schweitzer, Wickliffe, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Nov. 4, 1964, Ser. No. 408,910
7 Claims. (Cl. 346—140)



1. An ink writing system for an instrument which writes on a record medium, comprising in combination, a reservoir having a given volume to contain said ink, a pen for writing on said record medium, an ink supply circuit connected to said reservoir and to said pen to supply ink to said pen, means for driving said record medium past said pen including a drive motor, pressure means for applying pressure to the outside of said reservoir thereby to tend to reduce its given volume and increase the pressure on the ink therein, circuit means connected to said drive motor and to said pressure means to energize same, and a time delay valve located in said ink supply circuit between said reservoir and said pen to relieve the pressure in said pen by permitting a small quantity of ink to run back toward said reservoir yet to maintain said ink supply circuit virtually full of ink upon termination of the energization of said pressure means.

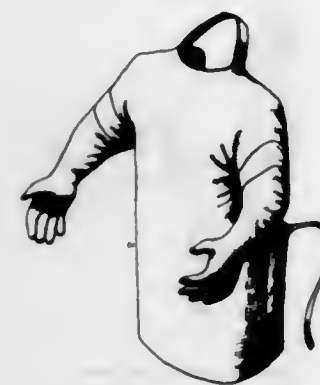
DESIGNS

SEPTEMBER 12, 1967

208,527

COMBINED APRON AND GLOVES

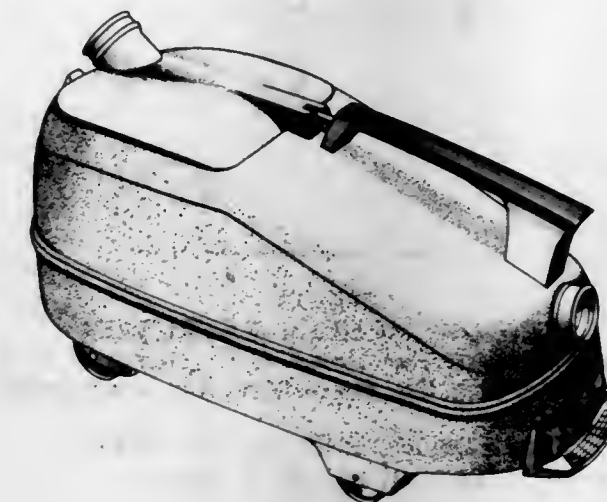
Walter M. Grengg, 4605 W. Beltline Highway,
Madison, Wis. 53711
Filed July 5, 1966, Ser. No. 2,948
Term of patent 14 years
(Cl. D2—27)



208,529

VACUUM CLEANER

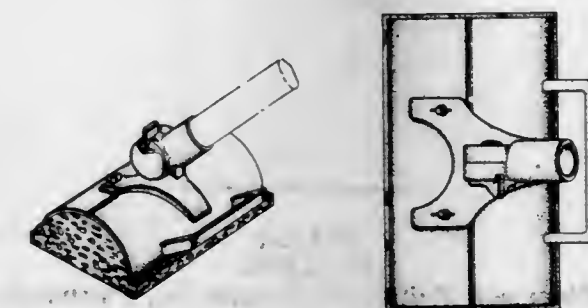
Harold J. Schoettler, Newport Beach, Calif.
(3303 W. Beverly Blvd., Montebello, Calif. 90640)
Filed Nov. 14, 1966, Ser. No. 4,643
Term of patent 14 years
(Cl. D9—2)



208,530

SPONGE MOP

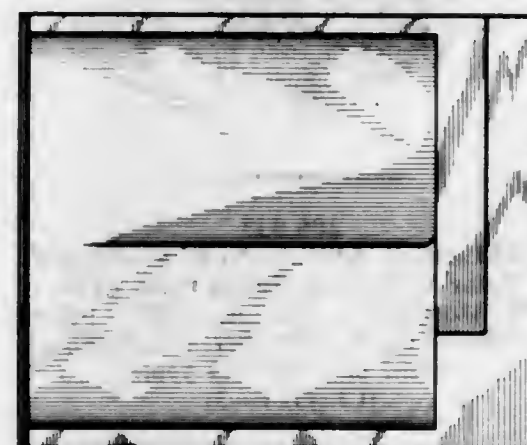
Hyman Hoffman, Los Angeles County, Calif.
(14333 Addison St., Sherman Oaks, Calif. 91403)
Filed Jan. 23, 1967, Ser. No. 5,516
Term of patent 14 years
(Cl. D9—2)



208,528

COMBINATION BATHTUB AND SHOWER STALL

James A. Osika, Urbana, Ill., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 1,829
Term of patent 14 years
(Cl. D4—4)

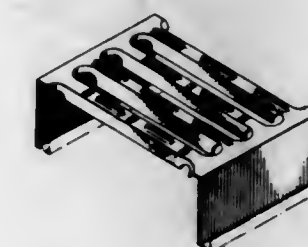


208,531

INTERLOCKING FLOORING PANEL

George A. Douglass, Trenton, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

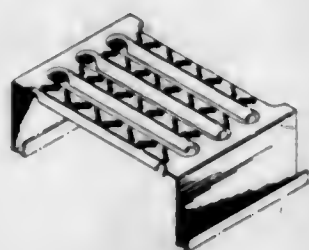
Filed June 5, 1964, Ser. No. 80,293
Term of patent 14 years
(Cl. D13—1)



208,532
FLOORING PANEL

George A. Douglass, Trenton, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

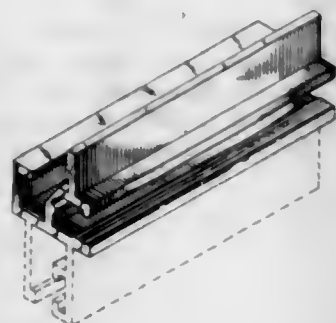
Filed Apr. 3, 1967, Ser. No. 6,479
Term of patent 14 years
(Cl. D13-1)



208,533
WINDOW MEMBER EXTRUSION

Richard N. Anderson, Rome, Ga., assignor to V. E. Anderson Mfg. Co., Owensboro, Ky., a corporation of Kentucky

Filed Sept. 13, 1965, Ser. No. 86,979
Term of patent 14 years
(Cl. D13-6)



208,534
RAILING

Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm

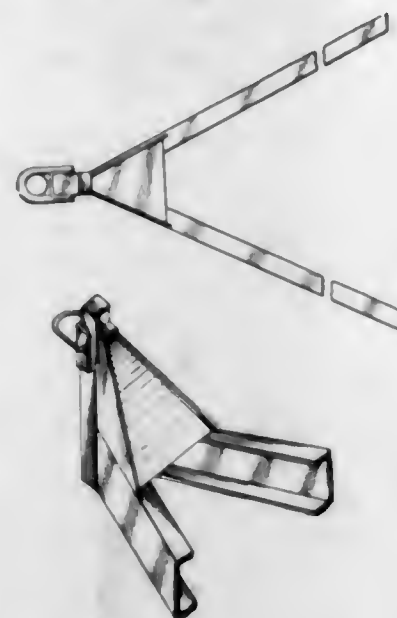
Filed July 28, 1965, Ser. No. 86,318
Term of patent 14 years
(Cl. D13-7)



208,535
TRAILER HITCH

Jack E. Moll, New Berlin, Wis., assignor to Miller Tilt-Top Trailer, Inc., Milwaukee, Wis., a corporation of Wisconsin

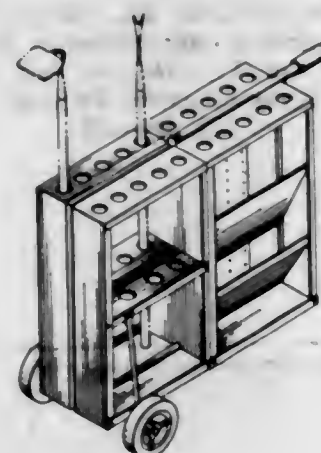
Filed July 29, 1965, Ser. No. 86,360
Term of patent 14 years
(Cl. D14-3)



208,536
MOBILE VEHICLE FOR STORAGE OF GARDEN TOOLS AND SIMILAR ARTICLES

William S. Clark, 1348 Pacific St., Santa Monica, Calif. 90405, and Daniel C. Clark, 1949 Las Tunas Road, Santa Barbara, Calif. 93103

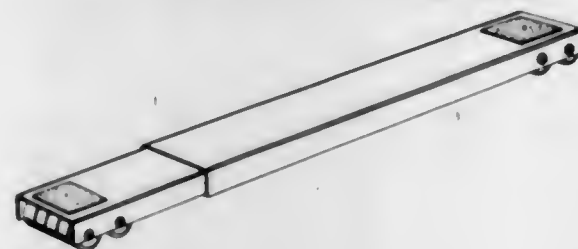
Filed July 26, 1966, Ser. No. 3,210
Term of patent 14 years
(Cl. D14-3)



208,537
ROLLABLE APPLIANCE SUPPORT

Victor V. Nyssen, Buena Park, Calif. (8101 Monroe St., Stanton, Calif. 90680)

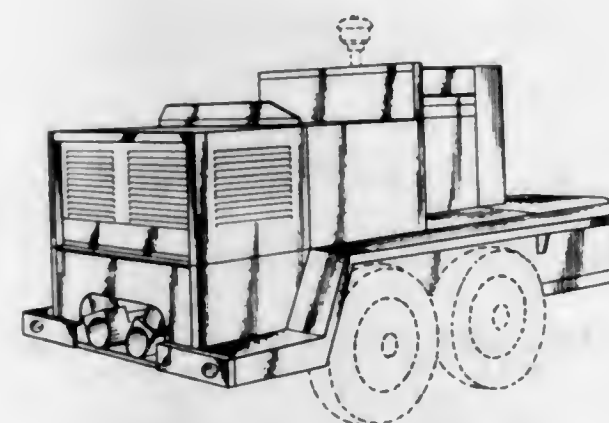
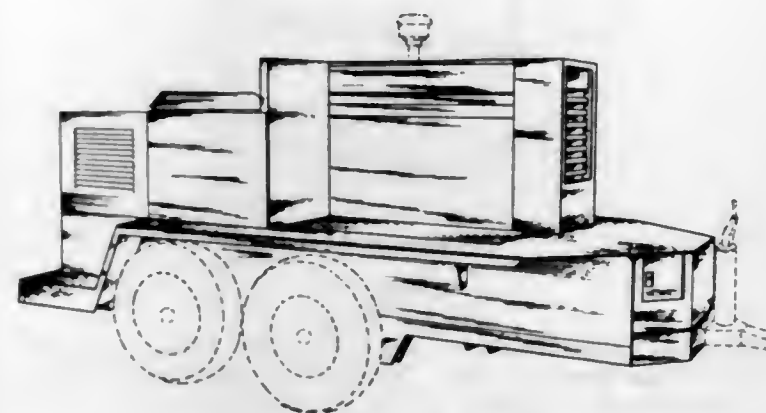
Filed Aug. 9, 1966, Ser. No. 3,398
Term of patent 14 years
(Cl. D14-3)



208,538
CONCRETE PLACER

Salvatore F. Aiello, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

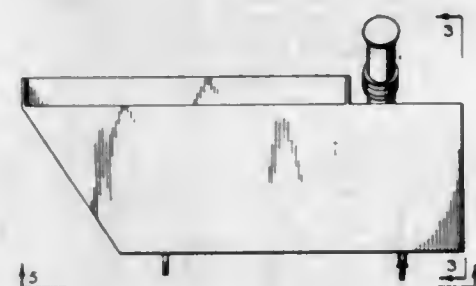
Filed Sept. 15, 1966, Ser. No. 3,875
Term of patent 7 years
(Cl. D14-3)



208,539
AUXILIARY FUEL TANK FOR VEHICLES

Robert F. Miller, Winberry Ranch, Fall Creek, Oreg. 97438

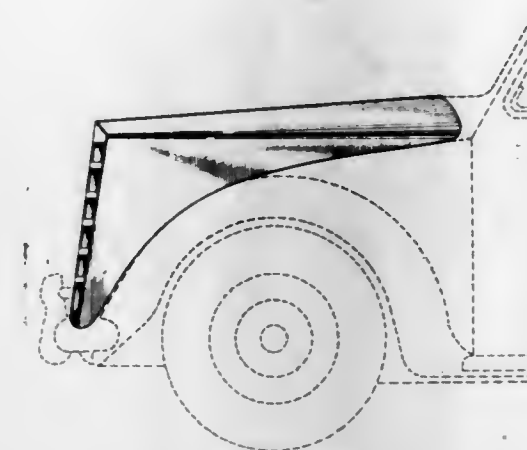
Filed Oct. 13, 1966, Ser. No. 4,263
Term of patent 14 years
(Cl. D14-3)



208,540
AUXILIARY AUTOMOBILE HOOD

Eric H. Joelson, 132 Castile St., Venice, Fla. 33595, and Julian A. Brown, Loreta Court, East Nokomis, Fla. 33555

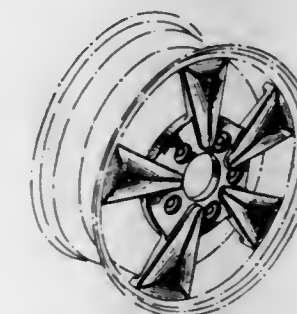
Filed Oct. 14, 1966, Ser. No. 4,281
Term of patent 7 years
(Cl. D14-18)



208,541
WHEEL

Richard L. Rader, 325 Termino, Long Beach, Calif. 90814

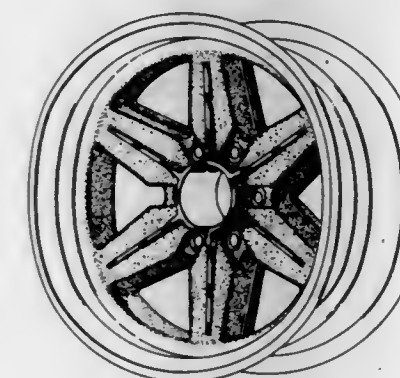
Filed Oct. 9, 1964, Ser. No. 82,123
Term of patent 7 years
(Cl. D14-30)



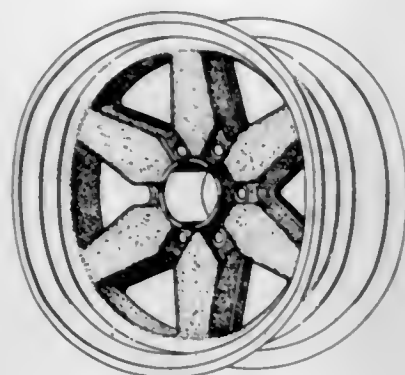
208,542
RACING WHEEL

Henry T. Hallbrand, 6469 Nancy St., Los Angeles, Calif. 90045

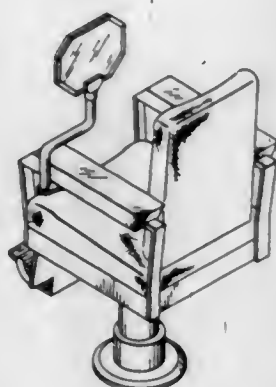
Filed Mar. 6, 1967, Ser. No. 6,065
Term of patent 14 years
(Cl. D14-30)



208,543
RACING WHEEL
 Henry T. Hallbrand, 6469 Nancy St.,
 Los Angeles, Calif. 90045
 Filed Mar. 6, 1967, Ser. No. 6,094
 Term of patent 14 years
 (Cl. D14—30)



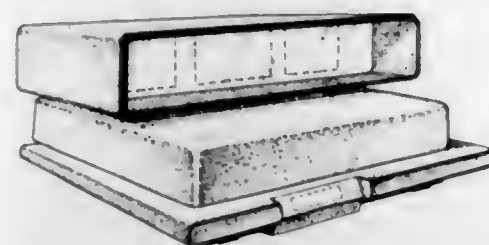
208,544
**COMBINED BARBER CHAIR AND MIRROR OR
 SIMILAR ARTICLE**
 Waddell Goodwin, 326 E. Franklin St.,
 Monroe, N.C. 28110
 Filed July 30, 1965, Ser. No. 86,363
 Term of patent 14 years
 (Cl. D15—3)



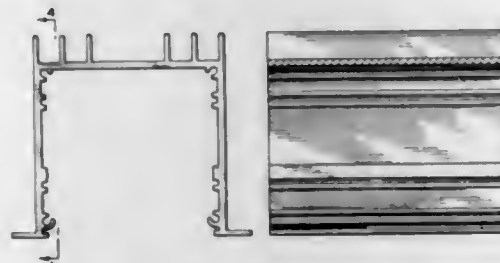
208,545
HANGER FOR DECORATIVE SCREEN ELEMENT
 Joseph D. Sohn, 712 Fernwood, Apt. 7,
 West Covina, Calif. 91790
 Filed July 8, 1966, Ser. No. 3,000
 Term of patent 14 years
 (Cl. D21—1)



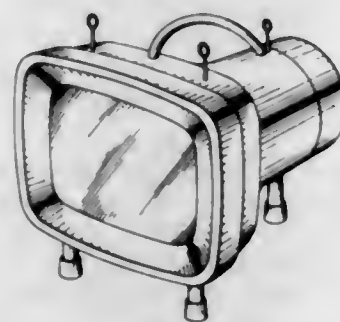
208,546
CASING FOR A TEACHING MACHINE
 John C. L. Leslie, Albuquerque, N. Mex., assignor to Edu-
 cational Research Associates, Inc., Albuquerque,
 N. Mex., a corporation of New Mexico
 Filed Sept. 30, 1965, Ser. No. 87,236
 Term of patent 3½ years
 (Cl. D25—1)



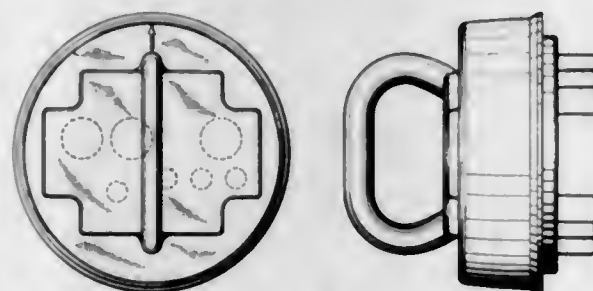
208,547
HEAT SINK
 Robert G. Van Houten, Grand Junction, Colo., assignor
 to Delta Products, Inc., Grand Junction, Colo., a cor-
 poration of Colorado
 Filed Mar. 9, 1965, Ser. No. 84,166
 Term of patent 14 years
 (Cl. D26—1)



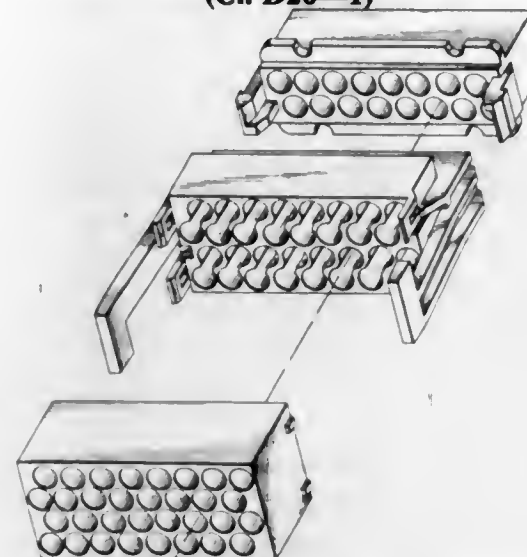
208,548
PORTABLE TEST APPARATUS FOR TELEVISION
 Cecil L. Marshall, 406 Brewer Drive,
 Greenwood, Ind. 46142
 Filed Oct. 7, 1965, Ser. No. 87,356
 Term of patent 3½ years
 (Cl. D26—1)



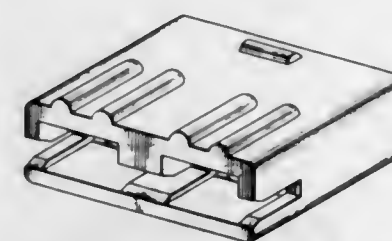
208,549
TESTER FOR ELECTRIC METER SOCKETS
 William L. Hoss, 3016 Lunds Lane,
 West Palm Beach, Fla. 33405
 Filed Mar. 28, 1966, Ser. No. 1,647
 Term of patent 14 years
 (Cl. D26—1)



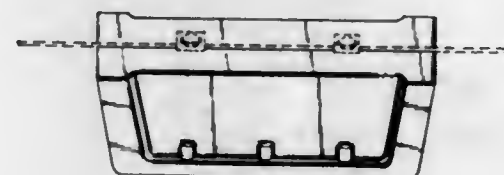
208,550
**SEPARABLE ELECTRICAL CONNECTOR
 HOUSING**
 William Ludlow Schumacher, Camp Hill, Pa., assignor to
 AMP Incorporated, Harrisburg, Pa.
 Filed Apr. 21, 1966, Ser. No. 1,970
 Term of patent 14 years
 (Cl. D26—1)



208,551
**CONNECTION DEVICE TO MAINTAIN STACKED
 TAB MEMBERS IN ELECTRICAL ENGAGEMENT**
 John Hammond Gels, Jr., Harrisburg, Pa., assignor to
 AMP Incorporated, Harrisburg, Pa.
 Filed Jan. 6, 1966, Ser. No. 493
 Term of patent 14 years
 (Cl. D26—1)



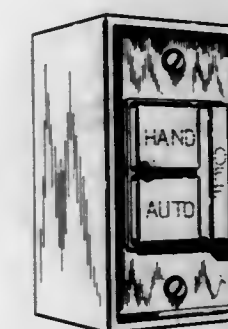
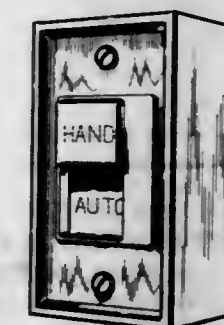
208,552
HOUSING FOR ELECTRICAL EQUIPMENT
 John J. Lehner, Lanham, Md., assignor to Entron Incor-
 porated, Silver Spring, Md., a corporation of Delaware
 Filed Aug. 26, 1965, Ser. No. 86,725
 Term of patent 14 years
 (Cl. D26—5)



208,553
ELECTRIC LAMP
 Martin M. Siegal, Englewood Cliffs, N.J.
 (% Marvel Lamp Co., Fort Lee, N.J. 07024)
 Filed Apr. 12, 1966, Ser. No. 1,861
 Term of patent 3½ years
 (Cl. D26—8)



208,554
PUSHBUTTON ELECTRIC SWITCH
 Charles C. Davis, Aurora, Ill., and Raymond L. Erickson,
 Brookfield, Wis., assignors to Cutler-Hammer, Inc., Mil-
 waukee, Wis., a corporation of Delaware
 Continuation of design applications Ser. No. 86,536 and
 Ser. No. 86,541, Aug. 11, 1965. This application Aug.
 1, 1966, Ser. No. 3,899
 Term of patent 14 years
 (Cl. D26—13)



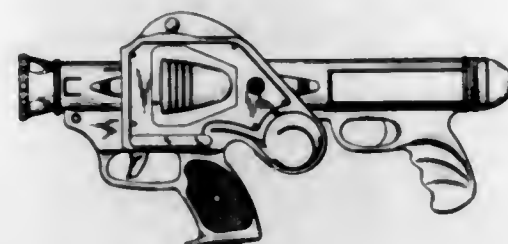
208,555

RADIATION MONITORING BADGE
Eric L. Geiger, Santa Fe, N. Mex., assignor to Eberline Instrument Corporation, Santa Fe, N. Mex.
Filed Mar. 17, 1966, Ser. No. 1,507
Term of patent 14 years
(Cl. D29-2)



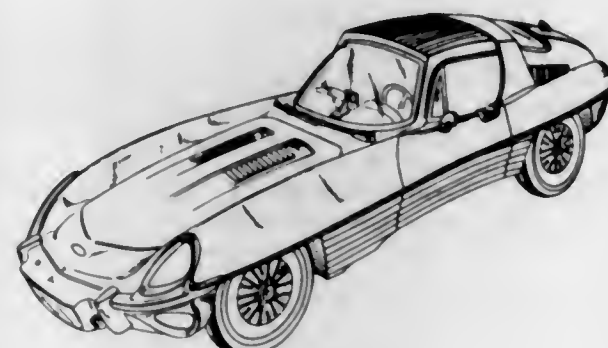
208,558

FILM PROJECTOR TOY
Laurie J. Campbell, Erie, Pa., assignor to Louis Marx & Co., Inc.
Filed Dec. 14, 1965, Ser. No. 173
Term of patent 14 years
(Cl. D34-15)



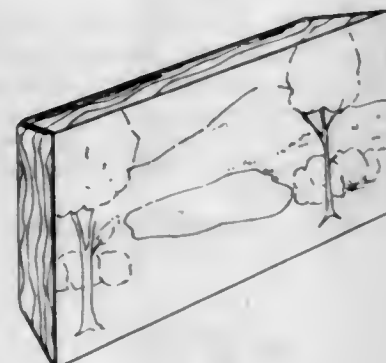
208,559

TOY AUTOMOBILE
Jesse D. Horowitz, New York, N.Y., assignor to De Luxe Reading Corp., a corporation of New Jersey
Filed Apr. 13, 1966, Ser. No. 1,869
Term of patent 7 years
(Cl. D34-15)



208,556

PLAQUE FOR SUPPORT OF A WORK OF ART
Emanuel C. Ebner, 24 Ruthellen Road, Chelmsford, Mass. 01824
Filed Jan. 27, 1965, Ser. No. 83,597
Term of patent 14 years
(Cl. D29-23)



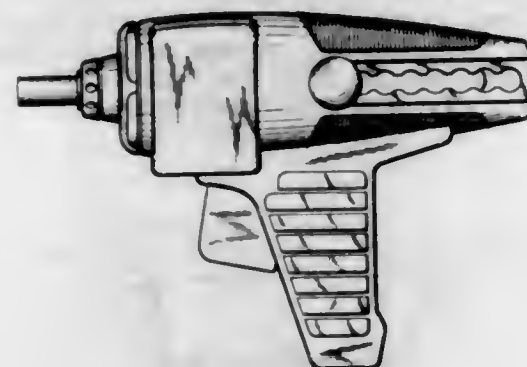
208,557

PORTABLE ROTATABLE FOOD SERVER
Maurice Joseph Van Horn, Jr., Rte. 2, Box 236, Church Road, Reisterstown, Md. 21136
Filed June 14, 1966, Ser. No. 2,673
Term of patent 14 years
(Cl. D33-3)



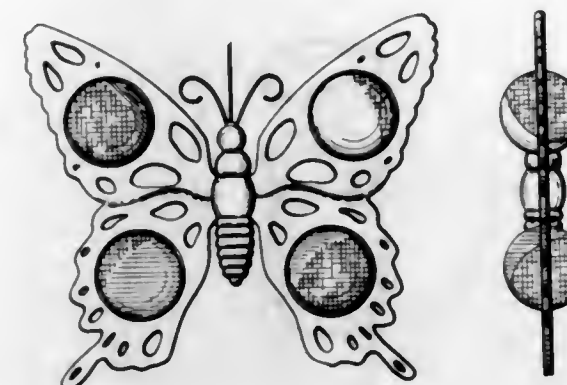
208,560

TOY POWER TOOL
Joseph J. Wetherell, 210 W. 89th St., New York, N.Y. 10024
Filed Aug. 19, 1966, Ser. No. 3,534
Term of patent 14 years
(Cl. D34-15)



208,561

BUTTERFLY PULL TOY
George W. Dunbar, Nashville, Tenn., assignor to Kusan, Inc., Nashville, Tenn., a corporation of Kentucky
Filed Sept. 2, 1966, Ser. No. 3,722
Term of patent 14 years
(Cl. D34-15)



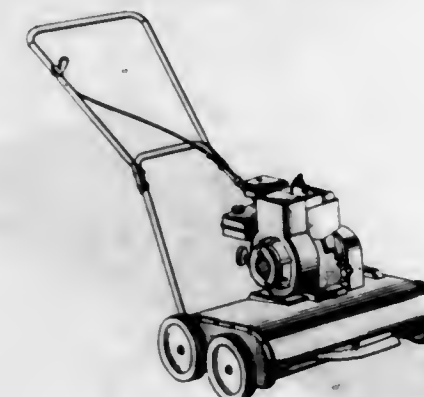
208,562

GRASS EDGING KNIFE
Edward A. Rogers, London, England, assignor to Wilkinson Sword Limited, London, England, a British company
Filed Jan. 10, 1966, Ser. No. 557
Claims priority, application Great Britain July 14, 1965
Term of patent 14 years
(Cl. D40-1)

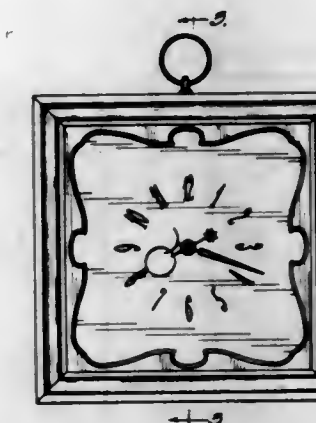


208,563

POWER LAWN MOWER
Ingemar Svenningsson, Anderstorp, Sweden
Filed Jan. 20, 1966, Ser. No. 687
Claims priority, application Sweden July 21, 1965
Term of patent 14 years
(Cl. D40-1)

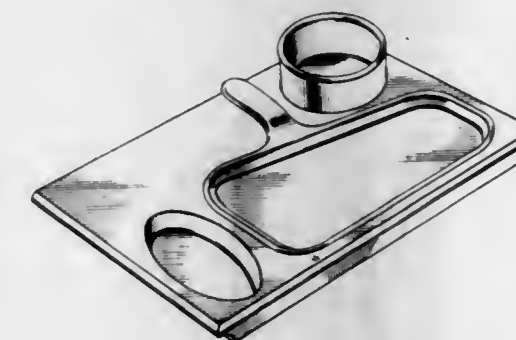
208,564
CLOCK

Walter B. Herbst, Evanston, Ralph M. La Zar, Skokie, and Charles A. McLeod, Oak Park, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1966, Ser. No. 4,997
Term of patent 14 years
(Cl. D42-7)



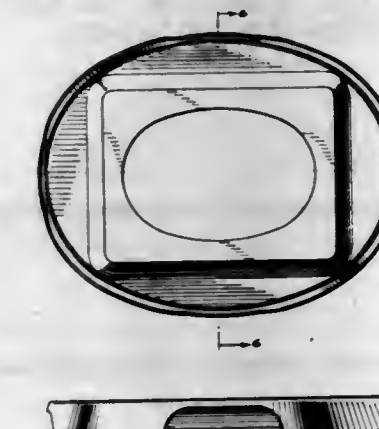
208,565

MEAL SERVING UNIT
Rudolph Leonardo, McKeesport, Pa., assignor to Beef-Eater's Steak-on-a-Skillet, Inc., a corporation of Pennsylvania
Filed Nov. 23, 1966, Ser. No. 4,784
Term of patent 14 years
(Cl. D44-10)



208,566

SERVICE PLATE
Joseph F. Lawler, 44 Butler Place, Brooklyn, N.Y. 11238
Filed Dec. 21, 1966, Ser. No. 5,140
Term of patent 14 years
(Cl. D44-10)



**208,567
PITCHER**

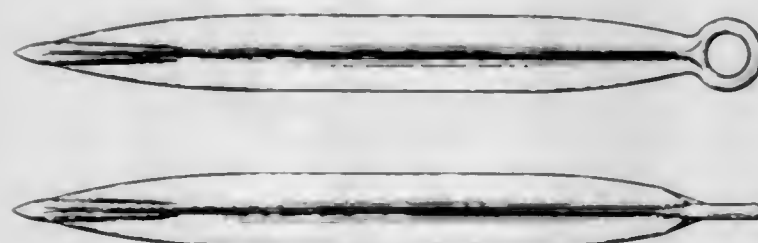
Robert M. Mitchell, South Norwalk, Conn., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 87,706
Term of patent 14 years
(Cl. D44-21)

**208,568
COFFEE PERCOLATOR**

Dominic J. De Fano, Palatine, and Robert I. Kallman, Elburn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 3, 1966, Ser. No. 4,148
Term of patent 14 years
(Cl. D44-26)



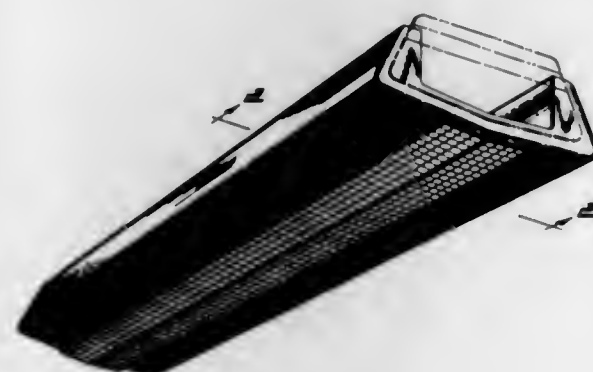
**208,569
SKEWER FOR ROASTING MEAT**
Walter M. Novak, 222 SW. Birdhill Road, Portland, Oreg. 97219
Filed July 15, 1966, Ser. No. 3,087
Term of patent 14 years
(Cl. D44-29)

**208,570**

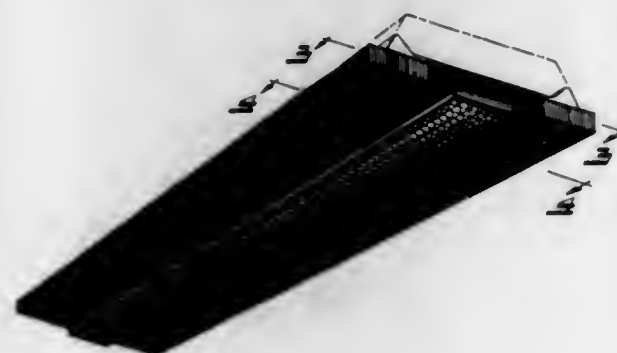
HOLDER FOR CORDS AND THE LIKE
Henry J. Marien, Warwick, and James B. Swett, Barrington, R.I., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 84,191
Term of patent 14 years
(Cl. D44-30)

**208,571**

LUMINAIRE REFRACTOR
George P. Wakefield, Vermillion, Ohio, assignor to Wakefield Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 26, 1966, Ser. No. 777
Term of patent 14 years
(Cl. D48-16)

**208,572**

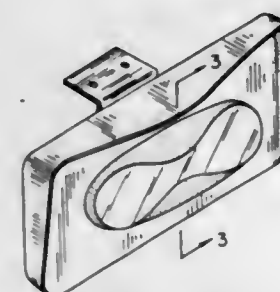
LUMINAIRE
George P. Wakefield, Vermillion, Ohio, assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed May 31, 1966, Ser. No. 2,462
Term of patent 14 years
(Cl. D48-23)

**208,573
CIGARETTE LIGHTER**

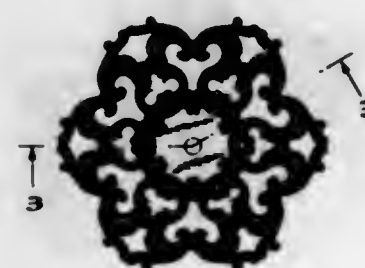
Seymour Rappoport, Rumson, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Sept. 8, 1966, Ser. No. 3,780
Term of patent 14 years
(Cl. D48-27)



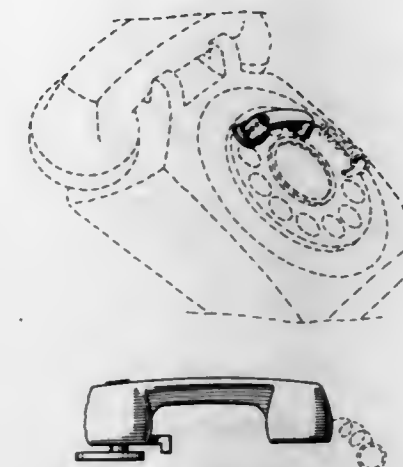
**208,574
VEHICLE SIGNAL LIGHT**
Joseph Nagy, 1513 Sherwood Court, Dearborn, Mich. 48124
Filed Nov. 7, 1966, Ser. No. 4,566
Term of patent 14 years
(Cl. D48-32)



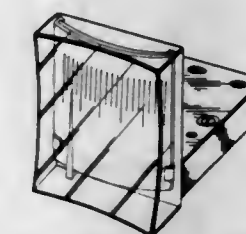
**208,575
ROSE PLATE FOR KNOBS OR THE LIKE**
Morris Loeb, New York, N.Y., assignor to Liberty Hardware Mfg. Corp., Long Island City, N.Y., a corporation of New York
Filed Jan. 30, 1967, Ser. No. 5,609
Term of patent 14 years
(Cl. D50-6)

**208,576
TELEPHONE DIAL LOCK**

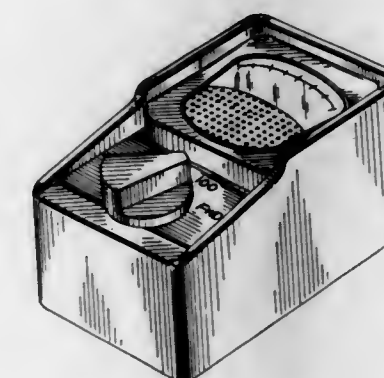
Sam Reisner, Santa Monica, Calif., assignor to Osco Corporation, a corporation of California
Filed Aug. 17, 1966, Ser. No. 3,498
Term of patent 14 years
(Cl. D50-7)



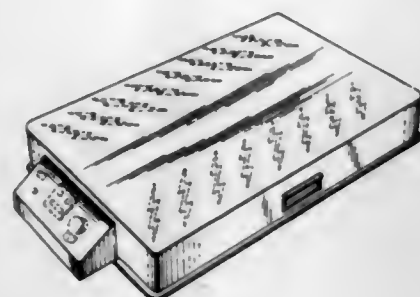
**208,577
METER FOR INDICATING VOLTAGE**
Leon E. Thomas, Fairfield, Conn., assignor to International Instruments, Incorporated, Orange, Conn., a corporation of Connecticut
Filed Mar. 31, 1966, Ser. No. 1,713
Term of patent 14 years
(Cl. D52-6)



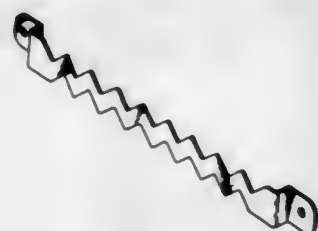
**208,578
COAXIAL LINE METER**
Phillip F. Puljer, Parma, Ohio, assignor to Bird Electronic Corporation, Solon, Ohio, a corporation of Ohio
Filed Nov. 18, 1966, Ser. No. 4,735
Term of patent 14 years
(Cl. D52-6)



208,579
PORTABLE ELECTRONIC WHEEL LOAD SCALE
 Wilson Wayne Raligh, Baltimore, Md., assignor to
 Loadometer Corporation, Baltimore, Md., a cor-
 poration of Maryland
 Filed Mar. 10, 1966, Ser. No. 1,393
 Term of patent 14 years
 (Cl. D52-10)



208,580
PICTURE HANGER
 Joseph M. Margulis, % Jiffy Enterprises, Inc.,
 146-50 N. 13th St., Philadelphia, Pa. 19107
 Filed Nov. 4, 1964, Ser. No. 82,461
 Term of patent 14 years
 (Cl. D54-1)



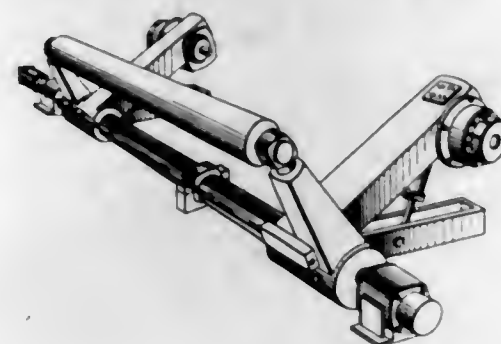
208,581
SPOON OR SIMILAR ARTICLE
 Ellen B. Manderfield, Syracuse, N.Y., assignor to Onelda
 Ltd., Onelda, N.Y., a corporation of New York
 Filed Mar. 19, 1963, Ser. No. 74,039
 Term of patent 14 years
 (Cl. D54-12)



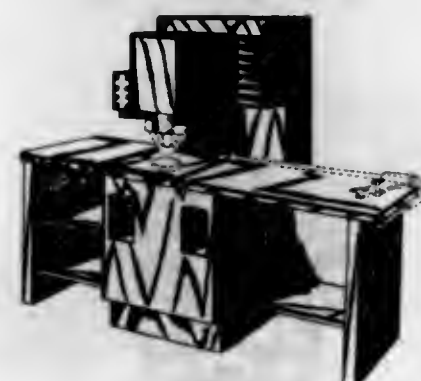
208,582
SPOON OR SIMILAR ARTICLE
 Ellen B. Manderfield, Syracuse, N.Y., assignor to Onelda
 Ltd., Onelda, N.Y., a corporation of New York
 Filed Aug. 14, 1963, Ser. No. 76,210
 Term of patent 14 years
 (Cl. D54-12)



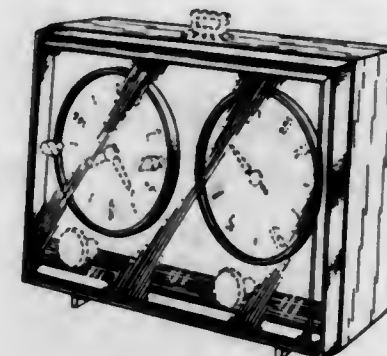
208,583
SHAFTLESS UNWINDER
 Lawrence A. Moore, King of Prussia, Pa., assignor to
 Beloit Eastern Corporation, Downingtown, Pa., a cor-
 poration of Delaware
 Filed Apr. 18, 1966, Ser. No. 1,923
 Term of patent 14 years
 (Cl. D55-1)



208,584
PUNCHING MACHINE OR SIMILAR ARTICLE
 Irwin Susskind, Brooklyn, N.Y., assignor, by mesne as-
 signments, to Houdaille Industries, Inc., Buffalo, N.Y.,
 a corporation of Michigan
 Filed June 8, 1966, Ser. No. 2,612
 Term of patent 14 years
 (Cl. D55-1)



208,585
CLOCK RADIO OR SIMILAR ARTICLE
 Keith D. Kitts, Glenview, Ill., assignor to Admiral Cor-
 poration, Chicago, Ill., a corporation of Delaware
 Filed Oct. 13, 1965, Ser. No. 87,454
 Term of patent 7 years
 (Cl. D56-4)



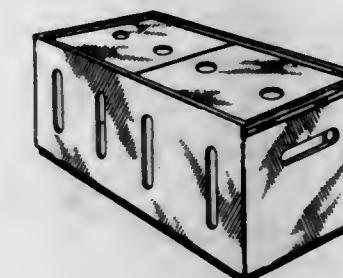
208,586
EYEGLASS CASE
 Joseph M. Gindl, 984 E. 8th St.,
 Brooklyn, N.Y. 11230
 Filed Apr. 5, 1966, Ser. No. 1,785
 Term of patent 14 years
 (Cl. D57-1)



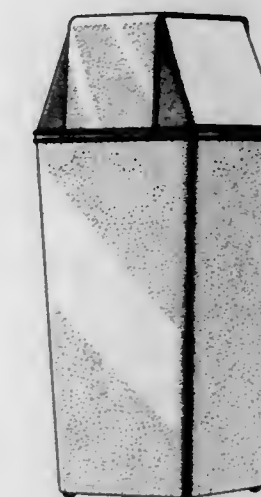
208,587
OPERA GLASS
 Willy Herold, Munich, Germany, assignor to Optische
 Werke G. Rodenstock, Munich, Germany
 Filed Dec. 28, 1966, Ser. No. 5,206
 Term of patent 14 years
 (Cl. D57-1)



208,588
SHIPPING BOX OR SIMILAR ARTICLE
 Arthur E. Hanson, Laurens, Iowa 50554
 Filed Aug. 25, 1965, Ser. No. 86,706
 Term of patent 3 1/2 years
 (Cl. D58-12.6)



208,589
WASTE RECEPTACLE
 Phillip L. Brookshire, Cincinnati, Ohio, assignor to The
 Witt Company, Cincinnati, Ohio, a corporation of Ohio
 Filed June 14, 1965, Ser. No. 85,724
 Term of patent 14 years
 (Cl. D58-17)



208,590
WASTE RECEPTACLE OR SIMILAR ARTICLE
 Christopher B. Wright, P.O. Box 1331,
 Chapel Hill, N.C. 27514
 Substituted for abandoned design application Ser. No.
 78,960, Mar. 11, 1964. This application Aug. 3, 1965,
 Ser. No. 86,422
 Term of patent 14 years
 (Cl. D58-17)

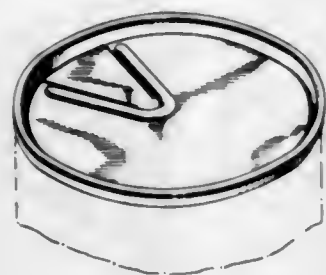


208,591

CONTAINER END

John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed July 24, 1964, Ser. No. 81,001
Term of patent 14 years
(Cl. D58—26)

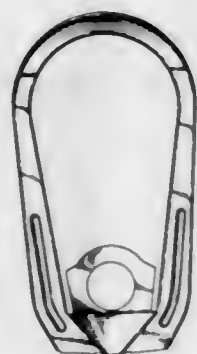


208,592

PULL TAB FOR TEAR STRIP OPENER

Donald V. Hanlon, Webster Groves, and James M. Kilpatrick, St. Louis, Mo., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Mar. 14, 1967, Ser. No. 6,218
Term of patent 14 years
(Cl. D58—26)

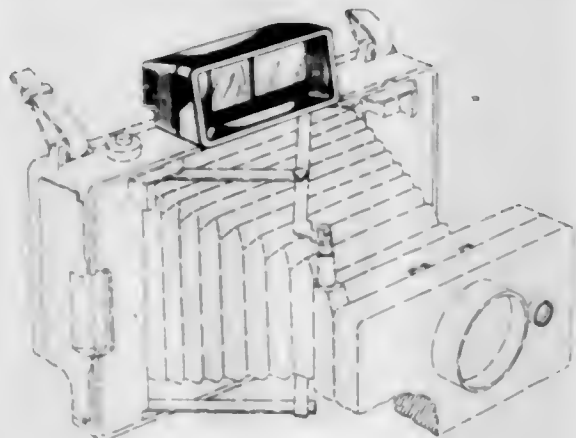


208,593

RANGEFINDER-VIEWFINDER OR SIMILAR ARTICLE

James M. Conner, Glendale, Calif., and Bruce K. Johnson, Andover, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 87,864
Term of patent 14 years
(Cl. D61—1)

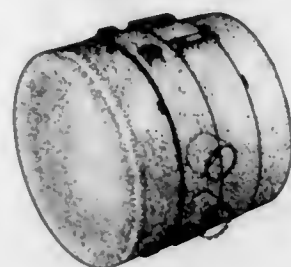


208,594

AIR PUMP

Gunther Zoehfeld, West Hurley, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York

Filed Mar. 21, 1966, Ser. No. 1,561
Term of patent 14 years
(Cl. D65—1)

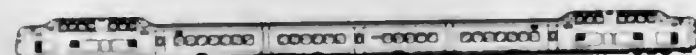


208,595

TRAIN

Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Jan. 13, 1966, Ser. No. 596
Term of patent 14 years
(Cl. D66—1)

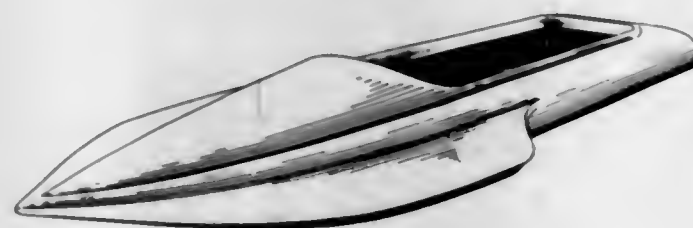
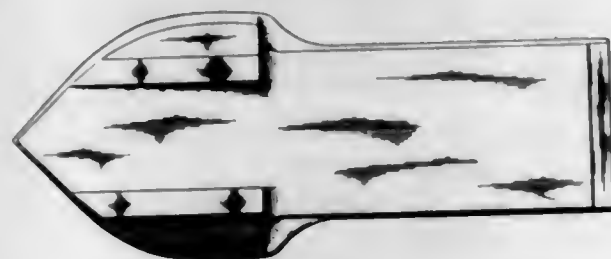


208,596

BOAT

Jack Davidson, 1722 De Witt, Sanger, Calif. 93657

Filed Oct. 28, 1966, Ser. No. 4,457
Term of patent 14 years
(Cl. D71—1)

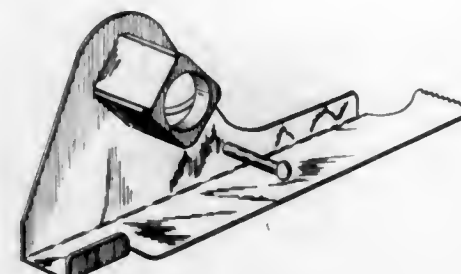


208,597

WRITE-ON TAPE DISPENSER

Edward Waltz, Grand Rapids, Mich., assignor to The E. O. Bulman Manufacturing Company, Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Nov. 10, 1966, Ser. No. 4,627
Term of patent 14 years
(Cl. D74—1)



208,598

ILLUMINABLE PEN OR SIMILAR ARTICLE

Charles E. Cornwell, 1105 Marlan Drive, Alexandria, Va. 22307

Filed Feb. 18, 1965, Ser. No. 83,857
Term of patent 14 years
(Cl. D74—17)



208,599

BALLOT MARKER OR THE LIKE

Larry W. Lind, La Mesa, Calif., assignor to Cubic Corporation, San Diego, Calif.

Filed Oct. 4, 1965, Ser. No. 87,293
Term of patent 14 years
(Cl. D74—17)

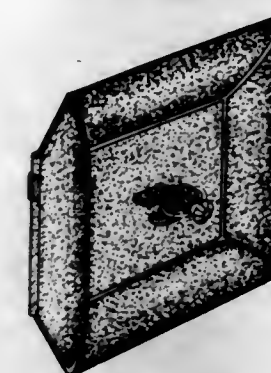


208,600

JEWELRY DISPLAY TRAY

Samuel M. Rosen, 333 N. Michigan Ave., Chicago, Ill. 60601

Filed May 23, 1966, Ser. No. 2,387
Term of patent 14 years
(Cl. D80—9)



208,601

COOKER FOR FROZEN PRECOOKED FOOD

Karl Hugo Lindstrom, Sollentuna, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Continuation of design applications Ser. No. 78,886 and Ser. No. 78,889, Mar. 5, 1964. This application Nov. 5, 1964, Ser. No. 82,485

Term of patent 14 years
(Cl. D81—10)



208,602

COMBINED FAN AND LIGHTING FLUID DISPENSER FOR A BARBECUE APPARATUS

Arnold A. Dedoes, 2070 W. Eleven Mile Road, Berkley, Mich. 48072

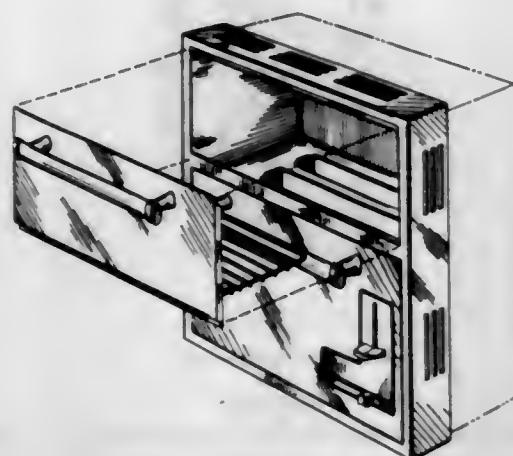
Filed Sept. 10, 1965, Ser. No. 86,937
Term of patent 3½ years
(Cl. D81—10)



208,603

BUILT-IN TOASTER AND WARMER COMBINATION

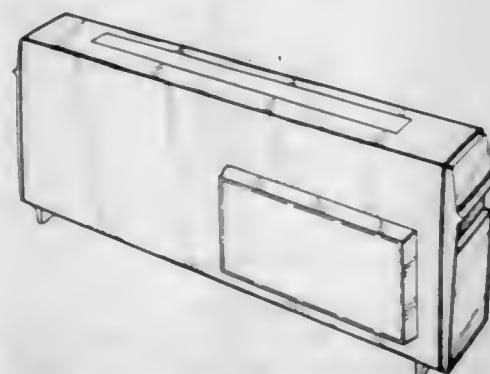
Edward D. Gidseg, 14 Cricket Lane, Kings Point, Great Neck, N.Y. 11024
Filed Dec. 5, 1966, Ser. No. 4,915
Term of patent 14 years
(Cl. D81-10)



208,604

TOASTER

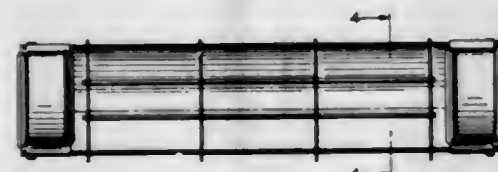
Donald E. Leman, Glen Ellyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 16, 1967, Ser. No. 5,420
Term of patent 14 years
(Cl. D81-10)



208,605

COMBINED SPACE HEATER AND SNAP-ON GRILL

Carmine G. Stumpo, Belmar, N.J., assignor to N. J. Thermex Company, Incorporated, Harrison, N.J., a corporation of New Jersey
Filed Mar. 29, 1966, Ser. No. 1,704
Term of patent 14 years
(Cl. D81-14)



208,606

HEATER CABINET

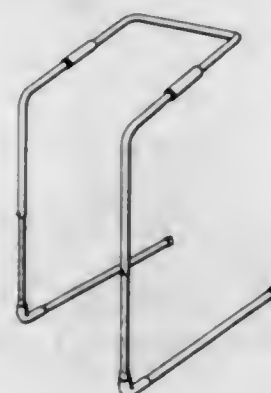
Judkins E. Wilkinson, Birmingham, Ala., and David K. Walz, Doraville, Ga., assignors to Atlanta Stove Works, Inc., a corporation of Georgia
Continuation of design applications Ser. No. 84,702 and Ser. No. 87,388, Oct. 11, 1965. This application June 8, 1966, Ser. No. 4,227
Term of patent 14 years
(Cl. D81-19)



208,607

COMBINATION WALKING AID AND INVALID SUPPORTER

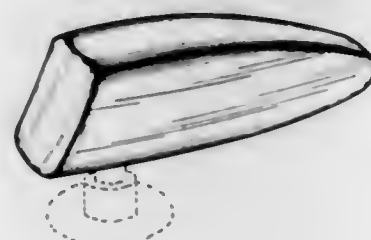
Charles R. Williams, P.O. Box 415, Kosciusko, Miss. 39090
Filed Feb. 11, 1966, Ser. No. 1,012
Term of patent 14 years
(Cl. D83-1)



208,608

MASSAGER HOUSING

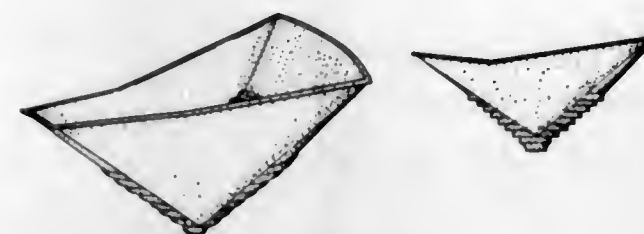
Alfred W. Madl, Mequon, and Ronald D. Raitnen, Milwaukee, Wis., assignors to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 1, 1966, Ser. No. 3,283
Term of patent 14 years
(Cl. D83-1)



208,609

COLLECTOR FUNNEL FOR USE IN TAKING FEMALE URINE SPECIMENS

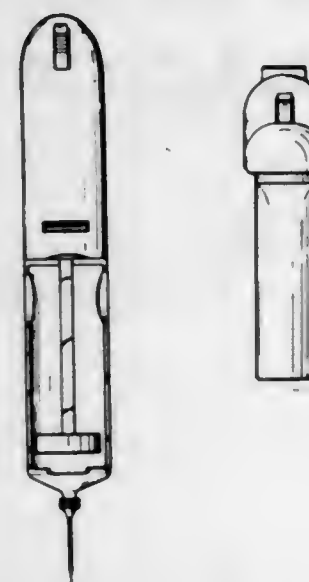
Thomas N. Garland, 55 S. Washington St., Denver, Colo. 80209
Filed Nov. 7, 1966, Ser. No. 4,567
Term of patent 14 years
(Cl. D83-1)



208,610

INJECTION GUN

Fred G. Parisi, New Haven, Conn., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed June 28, 1966, Ser. No. 2,843
Term of patent 14 years
(Cl. D83-12)



208,611

DISPOSABLE INFUSION SET

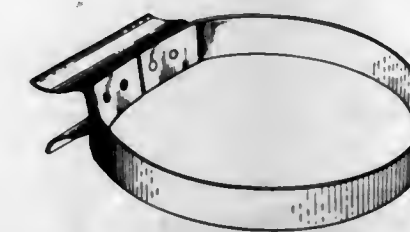
Silas S. Smith, Jr., Bountiful, Utah, assignor to Desert Pharmaceutical Company, Inc.
Filed Feb. 6, 1967, Ser. No. 5,706
Term of patent 14 years
(Cl. D83-12)



208,612

HOLDER FOR AN ASH TRAY OR SIMILAR ARTICLE

Simon Heslov, Youngstown, Ohio, assignor to Heslov & Associates, Inc., Youngstown, Ohio
Filed Apr. 25, 1966, Ser. No. 1,996
Term of patent 14 years
(Cl. D85-2)



208,613

PIPE CLEANING IMPLEMENT

Leo Schwartz, 111 E. 56th St., New York, N.Y. 10022
Filed Aug. 12, 1966, Ser. No. 3,453
Term of patent 14 years
(Cl. D85-7)



208,614

COMBINED WALLET AND CARD CASE

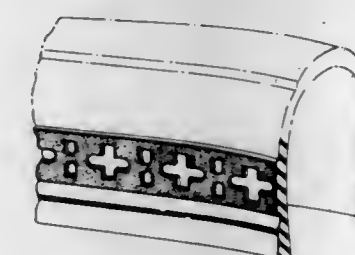
Jerome F. Coniker, Highland Park, Ill., assignor to Coniker Enterprises, Inc., Chicago, Ill., a corporation of Delaware
Filed July 28, 1965, Ser. No. 86,862
Term of patent 14 years
(Cl. D87-3)



208,615

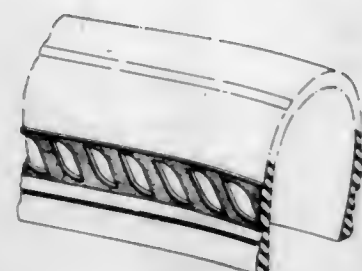
TIRE

Yukio Ueno, Osaka, Japan, assignor to Kyowa Rubber Industry Co., Ltd., Osaka, Japan
Filed Dec. 14, 1966, Ser. No. 5,028
Term of patent 14 years
Claims priority, application Japan July 12, 1966
(Cl. D90-20)

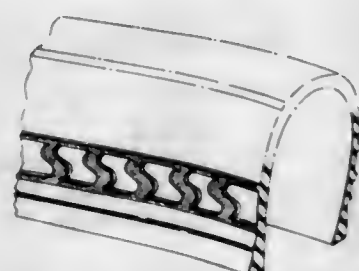


208,616
TIRE

Yukio Ueno, Osaka, Japan, assignor to Kyowa Rubber Industry Co., Ltd., Osaka, Japan
Filed Dec. 14, 1966, Ser. No. 5,030
Term of patent 14 years
Claims priority, application Japan July 12, 1966
(Cl. D90—20)

208,617
TIRE

Yukio Ueno, Osaka, Japan, assignor to Kyowa Rubber Industry Co., Ltd., Osaka, Japan
Filed Jan. 3, 1967, Ser. No. 5,294
Term of patent 14 years
Claims priority, application Japan July 12, 1966
(Cl. D90—20)

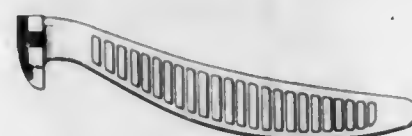
208,618
PUMPS FOR AERATING MINNOW BUCKETS

Earl L. Munch, 2639 Wilton Ave.,
Dallas, Tex. 75211
Filed July 13, 1966, Ser. No. 3,069
Term of patent 14 years
(Cl. D91—1)

208,619
DISPOSABLE RAZOR

Hugh W. B. Baker, Beaconsfield, and Edward E. Pomfret,
Hampton Hill, Middlesex, England, assignors to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 3,642
Term of patent 14 years
(Cl. D95—3)



LIST OF REISSUE PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF SEPTEMBER, 1967

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Beach, Paul H. Silo, Re. 26,264, 9-12-67, Cl. 99—235.
Canada Lighter & Plastics Ltd.: See—
Farkas, Francis, Re. 26,265.
Farkas, Francis, to Canada Lighter & Plastics Ltd. Plastic molding apparatus. Re. 26,265, 9-12-67, Cl. 18—5.

Leeds & Northrop Co.: See—
Phillips, William E. Re. 26,266.
Phillips, William E., to Leeds & Northrop Co. Load control systems for generating units. Re. 26,266, 9-12-67, Cl. 307—57.

LIST OF PLANT PATENTEEES

Amling-Devor Nurseries, Inc.: See—
Lammerts, Walter E. 2,766.
Kim Bros.: See—
Maeda, Samuel Y. 2,767.

Lammerts, Walter E., to Amling-Devor Nurseries, Inc. Rose plant. 2,766, 9-12-67, Cl. 22.
Maeda, Samuel Y., to Kim Bros. Nectarine tree. 2,767, 9-12-67, Cl. 41.

LIST OF DESIGN PATENTEEES

AMP Inc.: See—
Gels, John H., Jr. 208,551.
Schumacher, William L. 208,550.
Admiral Corp.: See—
Kitts, Keith D. 208,585.
Aiello, Salvatore F., to J. I. Case Co. Concrete placer. 208,538, 9-12-67, Cl. D14—3.
Aktiebolaget Electrolux: See—
Lindstrom, Karl H. 208,601.
Anderson, Richard N., to V. E. Anderson Mfg. Co. Window extrusion. 208,533, 9-12-67, Cl. D13—6.
Anderson, V. E. Mfg. Co.: See—
Anderson, Richard N. 208,533.
Armco Steel Corp.: See—
Douglass, George A. 208,531.
Douglass, George A. 208,532.
Atlanta Stove Works, Inc.: See—
Wilkinson, Judkins E., and Walz. 208,606.
Baker, Hugh W. B., and E. E. Pomfret, to The Gillette Co. Disposable razor. 208,619, 9-12-67, Cl. D95—3.
Beef-Eater's Steak-on-a-Skillet, Inc.: See—
Leonardo, Rudolph. 208,566.
Beloit Eastern Corp.: See—
Moore, Lawrence A. 208,583.
Bird Electronic Corp.: See—
Puljer, Philip F. 208,578.
Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Railing. 208,534, 9-12-67, Cl. D13—7.
Blumcraft of Pittsburgh: See—
Blum, Louis, and Horgan. 208,534.
Bozek, John S., to Continental Can Co., Inc. Container end. 208,591, 9-12-67, Cl. D58—26.
Brookshire, Phillip L., to The Witt Co. Waste receptacle. 208,589, 9-12-67, Cl. D58—17.
Brown, Julian A.: See—
Joelson, Eric H., and Brown. 208,540.
Bulman, E. O., Mfg. Co. Inc., The: See—
Waltz, Edward. 208,597.
Campbell, Laurie J., to Louis Marx & Co., Inc. Film projector toy. 208,558, 9-12-67, Cl. D34—15.
Case, J. I., Co.: See—
Aiello, Salvatore F. 208,538.
Clark, Daniel C.: See—
Clark, William S. and D. C. 208,536.
Clark, William S. and D. C. Mobile vehicle for storage of garden tools and similar articles. 208,536, 9-12-67, Cl. D14—3.
Coniker Enterprises, Inc.: See—
Coniker, Jerome F. 208,614.
Coniker, Jerome F., to Coniker Enterprises, Inc. Combined wallet and card case. 208,614, 9-12-67, Cl. D87—3.
Conner, James M., and B. K. Johnson, to Polaroid Corp. Rangefinder-viewfinder or similar article. 208,593, 9-12-67, Cl. D61—1.
Container Corp. of America: See—
Hanlon, Donald V., and Kilpatrick. 208,592.
Continental Can Co., Inc.: See—
Bozek, John S. 208,591.
Cornwell, Charles E. Illuminable pen or similar article. 208,598, 9-12-67, Cl. D74—17.
Cripe, Alan R., to United Aircraft Corp. Train. 208,595, 9-12-67, Cl. D66—1.
Cubic Corp.: See—
Lind, Larry W. 208,599.
Cutler-Hammer, Inc.: See—
Davis, Charles C., and Erickson. 208,554.
Davidson, Jack. Boat. 208,596, 9-12-67, Cl. D71—1.

Davis, Charles C., and R. L. Erickson, to Cutler-Hammer, Inc. Pushbutton electric switch. 208,554, 9-12-67, Cl. D26—13.
Dedoes, Arnold A. Combined fan and lighting fluid dispenser for a barbecue apparatus. 208,602, 9-12-67, Cl. D81—10.
De Fano, Dominic J., and R. I. Kallman, to Sunbeam Corp. Coffee percolator. 208,568, 9-12-67, Cl. D44—26.
Delta Products, Inc.: See—
Van Houten, Robert G. 208,547.
De Luxe Reading Corp.: See—
Horowitz, Jesse D. 208,559.
Deseret Pharmaceutical Co., Inc.: See—
Smith, Silas S., Jr. 208,611.
Douglass, George A., to Armco Steel Corp. Interlocking flooring panel. 208,531, 9-12-67, Cl. D13—1.
Douglass, George A., to Armco Steel Corp. Flooring panel. 208,532, 9-12-67, Cl. D13—1.
Dunbar, George W., to Kusan, Inc. Butterfly pull toy. 208,561, 9-12-67, Cl. D34—15.
Eberline Instrument Corp.: See—
Geiger, Eric L. 208,555.
Ebner, Emanuel C. Plaque for support of a work of art. 208,556, 9-12-67, Cl. D26—23.
Educational Research Associates, Inc.: See—
Leslie, John C. L. 208,546.
Entron Inc.: See—
Lehner, John J. 208,552.
Erickson, Raymond L.: See—
Davis, Charles C., and Erickson. 208,554.
Garland, Thomas N. Collector funnel for use in taking female urine specimens. 208,609, 9-12-67, Cl. D83—1.
Geiger, Eric L., to Eberline Instrument Corp. Radiation monitoring badge. 208,555, 9-12-67, Cl. D29—2.
Gels, John H., Jr., to AMP Inc. Connection device to maintain stacked tab members in electrical engagement. 208,551, 9-12-67, Cl. D26—1.
General Foods Corp.: See—
Mitchell, Robert M. 208,567.
Gidseg, Edward D. Built-in toaster and warmer combination. 208,603, 9-12-67, Cl. D81—10.
Gillette Co., The: See—
Baker, Hugh W. B., and Pomfret. 208,619.
Gindi, Joseph M. Eyeglass case. 208,586, 9-12-67, Cl. D57—1.
Grengg, Walter M. Combined apron and gloves. 208,527, 9-12-67, Cl. D2—27.
Goodwin, Waddell. Combined barber chair and mirror or similar article. 208,544, 9-12-67, Cl. D15—3.
Hallbrand, Henry T. Racing wheel. 208,542, 9-12-67, Cl. D14—30.
Hallbrand, Henry T. Racing wheel. 208,543, 9-12-67, Cl. D14—30.
Hanlon, Donald V., and J. M. Kilpatrick, to Container Corporation of America. Pull tab for tear strip opener. 208,592, 9-12-67, Cl. D58—26.
Hanson, Arthur E. Shipping box or similar article. 208,588, 9-12-67, Cl. D58—12.6.
Herbat, Walter B., R. M. La Zar, and C. A. McLeod, to Sunbeam Corp. Clock. 208,564, 9-12-67, Cl. D42—7.
Herold, Willy, to Optische Werke G. Rodenstock. Opera glass. 208,587, 9-12-67, Cl. D57—1.
Heslov & Associates, Inc.: See—
Heslov, Simon. 208,612.
Heslov, Simon, to Heslov & Associates, Inc. Holder for an ash tray or similar article. 208,612, 9-12-67, Cl. D85—2.
Hoffman, Hyman. Sponge mop. 208,530, 9-12-67, Cl. D9—2.
Horgan, William J., Jr.: See—
Blum, Louis, and Horgan. 208,534.

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Horowitz, Jesse D., to De Luxe Reading Corp. Toy automobile. 208,559, 9-12-67, Cl. D34-15.
Hosa, William L. Tester for electric meter sockets. 208,549, 9-12-67, Cl. D26-1.
Houdaille Industries, Inc.: See—
Suskind, Irwin. 208,584.
International Instruments, Inc.: See—
Thomas, Leon E. 208,577.
International Telephone and Telegraph Corp.: See—
Wakefield, George P. 208,572.
Joelson, Eric H., and J. A. Brown. Auxiliary automobile hood. 208,540, 9-12-67, Cl. D14-18.
Johnson, Bruce K.: See—
Conner, James M., and Johnson. 208,593.
Kallman, Robert I.: See—
De Fano, Dominic J., and Kallman. 208,568.
Kilpatrick, James M.: See—
Hanlon, Donald V., and Kilpatrick. 208,592.
Kitts, Keith D., to Admiral Corp. Clock radio or similar article. 208,585, 9-12-67, Cl. D56-4.
Kusan, Inc.: See—
Dunbar, George W. 208,561.
Kyowa Rubber Industry Co., Ltd.: See—
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Ueno, Yukio. 208,616.
Ueno, Yukio. 208,617.
Lawler, Joseph F. Service plate. 208,566, 9-12-67, Cl. 44-10.
La Zar, Ralph M.: See—
Herbst, Walter B., La Zar, and McLeod. 208,564.
Lehner, John J., to Entron Inc. Housing for electrical equipment. 208,552, 9-12-67, Cl. D26-5.
Leman, Donald E., to Sunbeam Corp. Toaster. 208,604, 9-12-67, Cl. D81-10.
Leonardo, Rudolph, to Beef-Eater's Steak-on-a-Skillet, Inc. Meal serving unit. 208,565, 9-12-67, Cl. D44-10.
Leslie, John C. L., to Educational Research Associates, Inc. Casing for a teaching machine. 208,546, 9-12-67, Cl. D25-1.
Liberty Hardware Mfg. Corp.: See—
Loeb, Morris. 208,575.
Lind, Larry W., to Cubic Corp. Ballot marker or the like. 208,599, 9-12-67, Cl. D74-17.
Lindstrom, Karl H., to Aktiebolaget Electrolux. Cooker for frozen precooked food. 208,601, 9-12-67, Cl. D81-10.
Loadometer Corp.: See—
Rairigh, Wilson W. 208,579.
Loeb, Morris, to Liberty Hardware Mfg. Corp. Rose plate for knobs or the like. 208,575, 9-12-67, Cl. D50-8.
Madl, Alfred W., and R. D. Raitnen, to John Oster Mfg. Co. Massager housing. 208,608, 9-12-67, Cl. D83-1.
Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 208,581, 9-12-67, Cl. D54-12.
Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 208,582, 9-12-67, Cl. D54-12.
Margulis, Joseph M. Picture hanger. 208,580, 9-12-67, Cl. D54-1.
Marien, Henry J., and J. B. Swett, to Rexall Drug and Chemical Co. Holder for cords and the like. 208,570, 9-12-67, Cl. D44-30.
Marshall, Cecil L. Portable test apparatus for television. 208,548, 9-12-67, Cl. D26-1.
Marx, Louis, & Co., Inc.: See—
Campbell, Laurie J. 208,558.
McLeod, Charles A.: See—
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Miller, Robert F. Auxiliary fuel tank for vehicles. 208,539, 9-12-67, Cl. D14-3.
Miller Tilt-Top Trailer, Inc.: See—
Moll, Jack E. 208,535.
Mitchell, Robert M., to General Foods Corp. Pitcher. 208,567, 9-12-67, Cl. D44-21.
Moll, Jack E., to Miller Tilt-Top Trailer, Inc. Trailer hitch. 208,535, 9-12-67, Cl. D14-3.
Moore, Lawrence A., to Beloit Eastern Corp. Shaftless unwinder. 208,583, 9-12-67, Cl. D55-1.
Munch, Earl L. Pump for aerating minnow buckets. 208,618, 9-12-67, Cl. D91-1.
Nagy, Joseph. Vehicle signal light. 208,574, 9-12-67, Cl. D48-32.
Novak, Walter M. Skewer for roasting meat. 208,569, 9-12-67, Cl. D44-29.
Nyssen, Victor V. Rollable appliance support. 208,537, 9-12-67, Cl. D14-3.
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Manderfield, Ellen B. 208,582.
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Herold, Willy. 208,587.
Osco Corp.: See—
Reisner, Sam. 208,576.
Osika, James A., to Whirlpool Corp. Combination bathtub and shower stall. 208,528, 9-12-67, Cl. D4-4.
Oster, John, Mfg. Co.: See—
Madl, Alfred W., and Raitnen. 208,608.
Parisi, Fred G., to E. R. Squibb & Sons, Inc. Injection gun. 208,610, 9-12-67, Cl. D83-12.
Polaroid Corp.: See—
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Pomfret, Edward E.: See—
Baker, Hugh W. B., and Pomfret. 208,619.
Puljer, Philip F., to Bird Electronic Corp. Coaxial line meter. 208,578, 9-12-67, Cl. D52-8.
Rader, Richard L. Wheel. 208,541, 9-12-67, Cl. D14-30.
Rairigh, Wilson W., to Loadometer Corp. Portable electronic wheel load scale. 208,579, 9-12-67, Cl. D52-10.
Raitnen, Ronald D.: See—
Madl, Alfred W., and Raitnen. 208,608.
Rappoport, Seymour, to Ronson Corp. Cigarette lighter. 208,573, 9-12-67, Cl. 48-27.
Reisner, Sam, to Osco Corp. Telephone dial lock. 208,576, 9-12-67, Cl. D50-7.
Rexall Drug and Chemical Co.: See—
Marien, Henry J., and Swett. 208,570.
Rogers, Edward A., to Wilkinson Sword Ltd. Grass edging knife. 208,562, 9-12-67, Cl. D40-1.
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Rappoport, Seymour. 208,573.
Rosen, Samuel M. Jewelry display tray. 208,600, 9-12-67, Cl. D80-9.
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Schoettler, Harold J. Vacuum cleaner. 208,529, 9-12-67, Cl. D9-2.
Schumacher, William L., to AMP Inc. Separable electrical connector housing. 208,550, 9-12-67, Cl. D26-1.
Schwartz, Leo. Pipe cleaning implement. 208,613, 9-12-67, Cl. D85-7.
Siegal, Martin M. Electric lamp. 208,553, 9-12-67, Cl. D26-8.
Smith, Silas S., Jr., to Deseret Pharmaceutical Co., Inc. Disposable infusion set. 208,611, 9-12-67, Cl. D83-12.
Sohn, Joseph D. Hanger for decorative screen element. 208,545, 9-12-67, Cl. D21-1.
Squibb, E. R., & Sons, Inc.: See—
Parisi, Fred G. 208,610.
Stumpo, Carmine G., to N. J. Thermex Co., Inc. Combined space heater and snap-on grill. 208,605, 9-12-67, Cl. D81-14.
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Herbst, Walter B., La Zar, and McLeod. 208,564.
Leman, Donald E. 208,604.
Suskind, Irwin, to Houdaille Industries, Inc. Punching machine, or similar article. 208,584, 9-12-67, Cl. D55-1.
Svensingson, Ingemar. Power lawn mower. 208,563, 9-12-67, Cl. D40-1.
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Ueno, Yukio, to Kyowa Rubber Industry Co., Ltd. Tire. 208,616, 9-12-67, Cl. D90-20.
Ueno, Yukio, to Kyowa Rubber Industry Co., Ltd. Tire. 208,617, 9-12-67, Cl. D90-20.
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Wakefield, George P., to International Telephone and Telegraph Corp. Luminaire. 208,572, 9-12-67, Cl. D48-23.
Waltz, Edward, to The E. O. Bulman Mfg. Co. Inc. Write-on tape dispenser. 208,597, 9-12-67, Cl. D74-1.
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- Anderson, Philip D., P. R. Coronado, and L. M. Berry, to United States of America, Atomic Energy Commission. Method of preparing a uranium article for a protective coating. 3,341,350, 9-12-67, Cl. 117-50.
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- Bergson, Gustav. Color measuring system using a light biased photocell. 3,340,704, 9-12-67, Cl. 88-14.
- Hergstrom, Bertil M., W. W. Edens, and E. Revollinsky, to Allis-Chalmers Mfg. Co. Batch blender. 3,341,183, 9-12-67, Cl. 259-89.
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- Champ, Antony E., and H. W. Steinmann, to Celanese Corp. Polyamides stabilized with iodine and/or bromine substituted phenols. 3,341,492, 9-12-67, Cl. 260-45.65.
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- Charles, Charles W., to General Electric Co. Electrolytic capacitor mounting apparatus and method. 3,340,608, 9-12-67, Cl. 29-155.5.
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- Chilton, John E., to Arizona Agrochemical Corp. Agricultural mulch and herbicidal composition and method. 3,341,318, 9-12-67, Cl. 71-96.
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196- 46 : 3,341,428	237 : 3,341,023	566 : 3,341,092	520 : 3,341,473	454 : 3,341,588	457 : 3,341,227
197- 1 : 3,340,982	237 : 3,341,023	566 : 3,341,092	520 : 3,341,473	454 : 3,341,589	86 : 3,341,228
3,340,983	237 : 3,341,023	566 : 3,341,092	520 : 3,341,473	454 : 3,341,590	184 : 3,341,229
3,340,984	237 : 3,341,023	566 : 3,341,092	520 : 3,341,473	454 : 3,341,591	266 : 3,341,230
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50 : 3,341,672	237 : 3,341,023	566 : 3,341,092	520 : 3,341,473	454 : 3,341,605	75 : 3,341,244
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3,340,691	3,340,989	3,341,442	3,341,880	3,341,480	3,340,914
3,340,732	3,340,994	3,341,443	3,341,102	3,340,925	3,340,925
3,341,166	3,340,997	3,341,457	3,341,289	3,340,933	3,340,933
3,341,187	3,341,001	3,341,472	3,341,347	3,340,934	3,340,934
3,341,244	3,341,024	3,341,474	3,341,738	3,340,956	3,340,956
3,341,636	3,341,042	3,341,477	3,340,565	3,340,962	3,340,962
2 : 3,340,642	3,341,060	3,341,478	3,340,589	3,340,966	3,340,966
4 : 3,340,690	3,341,062	3,341,495	3,340,595	3,341,129	3,340,975
3,340,759	3,341,064	3,341,509	3,340,606	3,341,169	3,340,985
3,341,063	3,341,070	3,341,549	3,340,660	3,341,266	3,341,005
3,341,190	3,341,074	3,341,553	3,340,672	3,341,778	3,341,007
3,341,318	3,341,083	3,341,576	3,340,729	3,340,562	3,341,012
5 : 3,341,026	3,341,097	3,341,612	3,340,734	3,340,592	3,341,016
6 : 3,340,548	3,341,098	3,341,630	3,340,770	3,340,641	3,341,018
3,340,558	3,341,105	3,341,631	3,340,787	3,340,743	3,341,021
3,340,598	3,341,110	3,341,639	3,340,789	3,340,766	3,341,027
3,340,605	3,341,115	3,341,647	3,340,790	3,340,794	3,341,033
3,340,610	3,341,117	3,341,649	3,340,795	3,340,841	3,341,041
3,340,627	3,341,122	3,341,653	3,340,830	3,340,843	3,341,047
3,340,630	3,341,126	3,341,667	3,340,894	3,340,893	3,341,057
3,340,632	3,341,133	3,341,686	3,340,913	3,341,079	3,341,059
3,340,637	3,341,135	3,341,696	3,340,927	3,341,160	3,341,086
3,340,652	3,341,135	3,341,698	3,340,982	3,341,249	3,341,107
3,340,671	3,341,140	3,341,700	3,340,983	3,341,689	3,341,108
3,340,676	3,341,155	3,341,705	3,340,984	3,340,615	3,341,153
3,340,739	3,341,184	3,341,713	3,341,078	3,340,620	3,341,157
3,340,767	3,341,210	3,341,715	3,341,082	3,340,682	3,341,161
3,340,772	3,341,212	3,341,735	3,341,088	3,341,881	3,341,181
3,340,776	3,341,229	3,341,747	3,341,101	3,340,912	3,341,186
3,340,777	3,341,233	3,341,769	3,341,118	3,340,919	3,341,188
3,340,786	3,341,250	3,341,776	3,341,156	3,341,156	3,341,203
3,340,793	3,341,253	3,341,790	3,341,174	3,341,174	3,341,216
3,340,802	3,341,267	3,341,795	3,341,196	3,341,196	3,341,217
3,340,803	3,341,268	3,341,796	3,341,199	3,340,625	3,341,220
3,340,829	3,341,269	3,341,807	3,341,348	3,340,626	3,341,235
3,340,833	3,341,280	3,341,813	3,341,355	3,340,646	3,341,251
3,340,842	3,341,284	3,341,815	3,341,369	3,340,647	3,341,254
3,340,851	3,341,335	3,341,816	3,341,370	3,340,664	3,341,255
3,340,852	3,341,342	3,341,817	3,341,456	3,340,666	3,341,258
3,340,854	3,341,350	3,341,819	3,341,499	3,340,667	3,341,262
3,340,859	3,341,352	3,341,829	3,341,503	3,340,668	3,341,336
3,340,871	3,341,358	3,341,831	3,341,564	3,340,679	3,341,388
3,340,882	3,341,364	3,341,832	3,341,582	3,340,755	3,341,390
3,340,891	3,341,371	3,341,834	3,341,624	3,340,773	3,341,395
3,340,907	3,341,377	3,341,838	3,341,687	3,340,784	3,341,399
3,340,932	3,341,389	3,341,840	3,341,701	3,340,797	3,341,417
3,340,935	3,341,391	3,341,846	3,341,707	3,340,813	3,341,450
3,340,947	3,341,398	3,341,847	3,341,847	3,340,818	3,341,454
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3,341,571	3,340,979	3,340,888	3,341,595	3,341,338	3,341,245
3,341,575	3,341,011	3,341,159	3,341,596	3,341,346	3,341,264
3,341,610	3,341,025	3,341,459	3,341,597	3,341,363	3,341,265
3,341,644	3,341,068	3,341,718	3,341,598	3,341,375	3,341,296
3,341,676	3,341,069	3,341,728	3,341,602	3,341,380	3,341,307
3,341,690	3,341,077	32 : 3,340,602	3,341,603	3,341,383	3,341,314
3,341,709	3,341,152	33 : 3,340,706	3,341,604	3,341,384	3,341,325
3,341,720	3,341,193	3,340,707	3,341,606	3,341,405	3,341,330
3,341,727	3,341,228	3,340,895	3,341,619	3,341,407	3,341,353
3,341,729	3,341,237	3,341,675	3,341,625	3,341,413	3,341,356
3,341,764	3,341,285	3,341,752	3,341,629	3,341,425	3,341,361
3,341,777	3,341,366	34 : 3,340,572	3,341,641	3,341,440	3,341,416
3,341,780	3,341,418	3,340,584	3,341,642	3,341,455	3,341,455
3,341,805	3,341,441	3,340,593	3,341,655	3,341,468	3,341,466
3,341,837	3,341,506	3,340,670	3,341,663	3,341,469	3,341,471
3,341,851	3,341,534	3,340,675	3,341,664	3,341,473	3,341,482
3,341,859	3,341,552	3,340,683	3,341,668	3,341,479	3,341,487
18 : 3,340,554	3,341,577	3,340,684	3,341,683	3,341,486	3,341,580
3,340,555	3,341,643	3,340,714	3,341,692	3,341,488	3,341,633
3,340,774	3,341,674	3,340,718	3,341,693	3,341,489	3,341,661
3,340,805	3,341,710	3,340,748	3,341,702	3,341,498	3,341,665
3,340,811	3,341,751	3,340,758	3,341,712	3,341,520	3,341,688
3,340,846	3,341,754	3,340,760	3,341,716	3,341,530	3,341,711
3,340,957	3,341,757	3,340,763	3,341,726	3,341,531	3,341,731
3,341,052	3,341,762	3,340,765	3,341,740	3,341,532	3,341,748
3,341,104	3,341,763	3,340,780	3,341,756	3,341,538	3,341,765
3,341,197	3,341,766	3,340,801	3,341,779	3,341,545	3,341,820
3,341,200	3,341,827	3,340,807	3,341,784	3,341,546	3,341,860
3,341,470	3,341,842	3,340,831	3,341,821	3,341,555	40 : 3,340,553
3,341,558	3,341,844	3,340,835	3,341,826	3,341,585	3,340,731
3,341,584	3,341,852	3,340,836	3,341,839	3,341,586	3,340,930
3,341,588	26 : Re. 26,264	3,340,837	3,340,844	3,341,587	3,341,009
3,341,589	3,340,845	3,340,839	3,340,845	3,341,651	3,341,053
3,341,590	3,340,874	3,340,861	3,340,908	3,341,656	3,341,242
3,341,723	3,340,726	3,340,874	3,341,039	3,341,657	3,341,271
3,341,774	3,340,735	3,340,887	3,341,273	3,341,662	3,341,354
3,341,799	3,340,746	3,340,906	3,341,725	3,341,681	3,341,561
3,341,858	3,340,751	3,340,918	3,340,543	3,341,697	3,341,613
19 : 3,340,581	3,340,876	3,340,944	3,340,544	3,341,724	3,341,616
3,340,798	3,340,910	3,340,959	3,340,557	3,341,734	3,341,620
3,340,936	3,340,916	3,340,960	3,340,561	3,341,767	3,341,809
3,340,942	3,340,922	3,340,976	3,340,563	3,341,768	3,341,811
3,340,972	3,340,937	3,340,986	3,340,578	3,341,773	3,341,853
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3,341,171	3,341,019	3,341,049	3,340,622	3,341,804	3,340,817
3,341,699	3,341,048	3,341,050	3,340,623	3,341,818	3,341,028
3,341,781	3,341,096	3,341,051	3,340,624	3,341,824	3,341,034
3,341,791	3,341,185	3,341,066	3,340,634	3,341,855	3,341,081
3,341,833	3,341,191	3,341,080	3,340,636	3,340,577	42 : Re. 26,266
20 : 3,340,753	3,341,241	3,341,125	3,340,649	3,340,600	3,340,542
3,341,440	3,341,281	3,341,206	3,340,662	3,340,838	3,340,587
3,341,447	3,341,319	3,341,207	3,340,686	3,341,198	3,340,617
3,341,800	3,341,411	3,341,219	3,340,697	3,341,202	3,340,618
21 : 3,340,566	3,341,433	3,341,231	3,340,752	3,341,293	3,340,701
3,340,661	3,341,434	3,341,239	3,340,804	3,341,396	3,340,705
3,341,004	3,341,490	3,341,261	3,340,806	3,341,452	3,340,710
3,341,106	3,341,516	3,341,272	3,340,828	3,341,500	3,340,719
3,341,132	3,341,557	3,341,277	3,340,855	3,341,175	3,340,723
3,341,836	3,341,560	3,341,292	3,340,856	3,341,256	3,340,738
22 : 3,340,654	3,341,591	3,341,295	3,340,857	3,340,547	3,340,764
3,340,733	3,341,673	3,341,306	3,340,865	3,340,556	3,340,779
3,341,007	3,341,730	3,341,311	3,340,873	3,340,568	3,340,832
3,341,008	3,341,742	3,341,315	3,340,901	3,340,583	3,340,847
3,341,179	3,341,789	3,341,316	3,340,915	3,340,608	3,340,863
3,341,205	27 : 3,340,665	3,341,334	3,340,923	3,340,609	3,340,875
3,341,282	3,340,737	3,341,339	3,340,949	3,340,611	3,340,920
3,341,322	3,340,740	3,341,340	3,340,966	3,340,621	3,340,950
3,341,550	3,340,750	3,341,345	3,340,987	3,340,631	3,340,951
3,341,601	3,340,792	3,341,372	3,340,991	3,340,639	3,340,963
3,341,648	3,340,867	3,341,401	3,340,993	3,340,640	3,340,970
23 : 3,340,712	3,340,939	3,341,402	3,340,999	3,340,653	3,340,971
24 : 3,340,567	3,341,065	3,341,409	3,341,003	3,340,659	3,341,030
3,340,650	3,341,103	3,341,415	3,341,006	3,340,692	3,341,037
3,340,769	3,341,143	3,341,419	3,341,022	3,340,709	3,341,067
3,340,808	3,341,275	3,341,427	3,341,055	3,340,756	3,341,091
3,340,810	3,341,305	3,341,428	3,341,089	3,340,778	3,341,092
3,340,885	3,341,497	3,341,431	3,341,109	3,340,799	3,341,111
3,340,890	3,341,806	3,341,444	3,341,136	3,340,800	3,341,119
3,341,076	3,341,835	3,341,458	3,341,146	3,340,816	3,341,127
3,341,150	28 : 3,340,681	3,341,460	3,341,162	3,340,819	3,341,128
3,341,151	3,340,696	3,341,464	3,341,168	3,340,844	3,341,148
3,341,176	3,341,485	3,341,465	3,341,189	3,340,897	3,341,167
3,341,349	29 : 3,340,559	3,341,492	3,341,192	3,340,899	3,341,178
3,341,410	3,340,613	3,341,493	3,341,208	3,340,904	3,341,180
3,341,449	3,340,680	3,341,505	3,341,211	3,340,921	3,341,182
3,341,704	3,340,788	3,341,519	3,341,230	3,340,926	3,341,194
3,341,717	3,340,980	3,341,521	3,341,238	3,340,952	3,341,223
3,341,755	3,340,981	3,341,525	3,341,240	3,340,998	3,341,236
3,341,786	3,341,061	3,341,528	3,341,270	3,341,010	3,341,257
3,341,849	3,341,071	3,341,529	3,341,274	3,341,043	3,341,279
25 : 3,340,591	3,341,209	3,341,533	3,341,276	3,341,056	3,341,294
3,340,601	3,341,408	3,341,541	3,341,278	3,341,075	3,341,298
3,340,638	3,341,501	3,341,543	3,341,288	3,341,113	3,341,313
3,340,699	3,341,605	3,341,544	3,341,299	3,341,114	3,341,321
3,340,722	3,341,758	3,341,548	3,341,302	3,341,131	3,341,323
3,340,724	3,341,812	3,341,554	3,341,326	3,341,139	3,341,341
3,340,745	30 : 3,341,038	3,341,559	3,341,327	3,341,158	3,341,343
3,340,815	31 : 3,340,648	3,341,573	3,341,328	3,341,195	
3,340,902	3,340,862	3,341,578	3,341,333		

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

42 : 3,341,344	42 : 3,341,722	48 : 3,340,663	48 : 3,341,569	51 : 3,341,035	54 : 3,341,646
3,341,386	3,341,737	3,340,700	3,341,574	3,341,058	3,340,612
3,341,393	3,341,743	3,340,728	3,341,583	3,341,095	3,340,658
3,341,394	3,341,744	3,340,782	3,341,600	3,341,362	3,340,673
3,341,406	3,341,797	3,340,864	3,341,621	3,341,404	3,340,796
3,341,414	3,341,801	3,340,892	3,341,622	3,341,627	3,340,823
3,341,429	3,341,808	3,340,928	3,341,623	3,341,666	3,340,849
3,341,430	3,341,814	3,340,931	3,341,706	3,341,669	3,340,853
3,341,445	3,341,825	3,340,938	3,341,708	3,341,670	3,340,868
3,341,453	3,341,830	3,340,940	3,341,732	3,341,677	3,340,870
3,341,461	44 : 3,340,552	3,340,941	3,341,746	3,341,798	3,340,886
3,341,463	3,341,164	3,340,953	3,341,750	3,341,810	3,340,905
3,341,487	45 : 3,341,000	3,340,955	3,341,753	3,341,822	3,340,917
3,341,540	3,341,201	3,341,013	3,341,771	3,341,823	3,340,995
3,341,547	46 : 3,340,546	3,341,020	3,341,785	3,341,850	3,341,023
3,341,570	3,341,149	3,341,031	3,341,787	53 : 3,340,643	3,341,073
3,341,607	3,341,247	3,341,116	49 : 3,341,029	3,340,911	3,341,099
3,341,608	47 : 3,340,575	3,341,163	3,341,382	3,341,204	3,341,121
3,341,609	3,340,576	3,341,170	51 : 3,340,571	3,341,222	3,341,134
3,341,611	3,340,872	3,341,227	3,340,597	3,341,412	3,341,138
3,341,626	3,341,165	3,341,290	3,340,607	3,341,721	3,341,147
3,341,650	3,341,232	3,341,297	3,340,711	3,341,794	3,341,183
3,341,659	3,341,320	3,341,381	3,340,727	54 : 3,340,716	3,341,329
3,341,671	3,341,387	3,341,476	3,340,754	3,341,252	3,341,351
3,341,672	48 : 3,340,580	3,341,556	3,340,826	3,341,484	3,341,736
3,341,682	3,340,614	3,341,568	3,340,884	3,341,632	3,341,856

DESIGN PATENTS

1 : 208,606	9 : 208,567	17 : 208,614	34 : 208,605	37 : 208,544	42 : 208,558
6 : 208,529	208,577	18 : 208,548	35 : 208,546	208,590	208,565
208,530	208,610	19 : 208,588	208,555	39 : 208,531	208,580
208,536	12 : 208,540	24 : 208,552	208,559	208,532	208,583
208,537	208,549	208,557	208,560	208,571	44 : 208,570
208,541	13 : 208,533	208,579	208,566	208,572	47 : 208,561
208,542	17 : 208,528	25 : 208,556	208,575	208,578	48 : 208,618
208,543	208,554	26 : 208,574	208,581	208,589	49 : 208,611
208,545	208,564	208,597	208,582	208,612	51 : 208,595
208,576	208,568	208,602	208,584	41 : 208,539	208,598
208,593	208,585	28 : 208,607	208,586	208,569	55 : 208,527
208,596	208,591	29 : 208,592	208,594	42 : 208,534	208,535
208,599	208,600	34 : 208,553	208,603	208,550	208,538
8 : 208,547	208,604	208,573	208,613	208,551	208,608

PLANT PATENTS

6 : 2,766	6 : 2,767				
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 12, 1967

Volume 842

Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 165,014 (BEN HUR), W. Warren Thread Works, Inc., Spool cotton; **Reg. No. 166,342** (DINTY MOORE), Virden Packing Company, Cooked corned beef, filed Feb. 13, 1967, Doc. C.A.-340-67, *Agricultural Transportation Association of Texas v. ATA Foundation, Inc.*

Reg. No. 166,342. (See Reg. No. 165,014.)

Reg. No. 433,967 (SHIP-SHAPE), Maurice King, doing business as King Products Company, Chemical detergents and soaps for cleaning walls, floors, metals, fabrics and the like, filed June 26, 1967, D.C., S.D.N.Y., Doc. 67-C-2474, *King Research, Inc. v. Shulton, Inc.*

Reg. No. 529,080. (See Reg. No. 536,276.)

Reg. No. 536,272 (ORLON), E. I. du Pont de Nemours and Company, Yarns of synthetic fibers; **Reg. No. 529,080**, same, Synthetic fiber-forming polymers and copolymers of acrylic acid or its derivatives produced in the form of fibers for further use in the industrial arts, filed July 12, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67-C-667, *E. I. du Pont de Nemours and Company v. Cameo Fashion Knits, Inc.*

Reg. No. 538,768 (HUSKIE PUPS), Hussco Shoe Company, Moccasins; **Reg. No. 573,792** (HUSKIES), same, Foot-wear—namely, shoes, moccasins, and slippers for men, women, and

children, filed June 28, 1967, D.C., S.D.N.Y., Doc. 67-C-2515, *Huskies Footwear, Inc. v. Wolverine World Wide Inc.*

Reg. No. 539,856 (IMPERIAL), Imperial Knife Company, Inc., Pocket knives, paring knives, and hunting knives; **Reg. No. 674,832** (IMPERIAL), Imperial Knife Associated Companies, Inc., Stainless steel hollow ware—namely, creamers, pitchers, sugar bowls, and coffee pots; **Reg. No. 678,838** (IMPERIAL), same, Scissors, shears, knives, forks, and spoons of all kinds; kitchen tools—namely, ladles, spatulas, pancake turnovers, potato mashers, egg beaters, slicers, serving sets and wooden salad forks and spoons; **Reg. No. 714,604** (IMPERIAL AND DESIGN), same; **Reg. No. 715,392** (IMPERIAL—NEVER A DULL MOMENT), same, Scissors, shears, stainless steel flatware, including knives, forks, and spoons, kitchen knives, pocket knives, hunting knives, bread knives, butcher knives, carving forks and knives, chef's knives and forks, French cook's knives and forks, paring knives, pot forks, steak knives, utility knives, kitchen tools, including ladles, spatulas, pancake turnovers, potato mashers, egg beaters, slicers, barbecue sets, platters, and stainless steel cookware; **Reg. No. 727,221** (IMPERIAL CROWN), same, Pocket knives; **Reg. No. 742,317** (IMPERIAL-WARE AND DESIGN), same, Stainless steel flatware, tableware and kitchen cutlery, utensils, and tools; **Reg. No. 754,562** (IMPERIAL TRIPLE CROWN), same; **Reg. No. 764,620** (IMPERIAL DOUBLE CROWN), same; **Reg. No. 764,621** (IMPERIAL SINGLE CROWN), same, filed Apr. 27, 1967, D.C., E.D. Pa.

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]..... 16,777
Date of oldest new application..... Sept. 2, 1966
Date of oldest amended application (filing date)..... Oct. 2, 1961

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		9-2-66	10-15-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		10-25-66	10-2-61
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....		10-3-66	4-16-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		10-17-66	10-30-64
Renewals (All Classes).....		6-30-67	
Sec. 12(c) Publications (All Classes).....		7-12-67	

Applications filed during the month of July 1967—2,166

Registrations Issued 396—No. 834,911 to No. 835,306
Renewals Issued 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

(Philadelphia), Doc. C.A.-42,607, *Imperial Knife Associated Co., Inc. v. William M. Dalton*.

Reg. No. 573,792. (See Reg. No. 538,768.)

Reg. No. 591,021 (HOLIDAY), Roth Schlenger Incorporated, Motor oils and oil additives; Reg. No. 784,271, same, Erickson Petroleum Corporation, Gasoline; Reg. No. 784,272, same; Reg. No. 785,751, same, Automobile service station services; Reg. No. 785,752 (SPECTACULARS), Botany Industries, Inc., Ophthalmic mountings and lenses and parts thereof, filed Oct. 13, 1965, D.C.N.J. (Newark), Doc. C-1092-85, *Erickson Petroleum Corp. v. Diamond Head Oil Refining Co., Inc.* Stipulation of dismissal of action Jan. 16, 1967.

Reg. No. 592,331. (See Reg. No. 672,305.)

Reg. No. 592,518 (SUTTON), Sutton Cosmetics, Inc., Lipsticks, eyebrow pencils, face powder, rouge, deodorant in liquid, powder, and stick form, perfume, skin creams, filed June 21, 1967, D.C.P.R. (San Juan), Doc. 416-67, *White Laboratories, Inc. et al. v. Wallace Torres Corporation and Wallace Torres Canel*.

Reg. No. 593,787 (NOVAHISTINE), Allied Laboratories, Inc., Preparation useful for nasal congestion, allergic rhinitis, and allergic bronchial coughs, filed Mar. 15, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 87C-245, *Dow Chemical Co. v. Generic Formulae, Inc. et al.*

Reg. No. 593,892 (COLORFOLD), The Martin Cantine Company, Dull-furnished paper suitable for use with water-color inks and for cover stock, filed May 20, 1966, D.C., S.D.N.Y., Doc. 66-C-1471, *Sauter Laboratories, Inc. v. Ronder Laboratories, Inc. et al.* Consent judgment—defendants enjoined July 5, 1966.

Reg. No. 594,928. (See Reg. No. 672,305.)

Reg. No. 630,211 (SARDO), Sardeau (firm), Bath oils, filed Feb. 2, 1966, D.C., S.D.N.Y., Doc. 66-C-305, *Sardeau, Inc. v. Marrud, Inc. et al.*

Reg. No. 645,435 (CASUAL CORNER), Casual Corner, Inc., Women's apparel—namely, dresses, shorts, slacks, sport jackets, and beach bags, filed June 29, 1967, D.C.N.J. (Newark), Doc. 693-67, *Casual Corner Associates, Inc. v. Gertrude Leidner*.

Reg. No. 672,305 (MANPOWER), Manpower Inc., Business service—namely, furnishing of its employees on a contract basis to persons or places or business requiring part-time or temporary help, including stenographers, typists, office and factory workers, salespeople, clerks, car unloaders and others; Reg. No. 592,331, same; Reg. No. 594,928, same; Reg. No. 749,437, same, Newsletter, filed Mar. 1, 1967, D.C., S.D.N.Y., Doc. 67-C-859, *Manpower Inc. v. Manpower Survey and Research Inc.*

Reg. No. 674,832. (See Reg. No. 539,856.)

Reg. No. 678,838. (See Reg. No. 539,856.)

Reg. No. 714,604. (See Reg. No. 539,856.)

Reg. No. 714,761 (MCMULLEN), J. R. McMullen Company, Inc., Women's blouses, women's sweaters, dresses, shirts, women's slacks, and shorts, filed June 30, 1967, D.C., S.D.N.Y., Doc. 67-C-61, *J. R. McMullen Co., Inc. v. McGregor-Doniger, Inc.* Judgment enjoining defendant from using name "McMullen," July 10, 1967.

Reg. No. 715,392. (See Reg. No. 539,856.)

Reg. No. 717,224 (LADYBUG), Ladybug Inc., Women's dresses, shirts, smocks, blouses, slacks, shorts, raincoats, and belts, filed June 29, 1967, D.C., S.D.N.Y., Doc. 67-C-2527, *The Villager, Inc. v. Lady Bug Shop, Inc.*

Reg. No. 718,016 (7 ELEVEN), The Southland Corporation, Retail grocery services, filed July 11, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-976-JWC, *The Southland Corporation v. Andrew F. Schubert and Frank L. Bennen*.

Reg. No. 727,221. (See Reg. No. 539,856.)

Reg. No. 732,843 (DIAMOND JIM'S), Diamond Jim Brady, Inc., Cocktail lounge and restaurant services, filed May 28,

1965, D.C. Nev. (Las Vegas), Doc. 791-C, *Diamond Jim Brady, Inc. v. 105 Casino Corporation, et al.* Judgment—plaintiffs have any and all rights in and to the name "Diamond Jim's," etc. Further ordered that defendants' interest to certain applications for filing for record in State of Nevada etc. recorded May 23, 1963 in vol. 11-A, page 131 of Trademarks, be transferred to plaintiff, etc., June 29, 1967.

Reg. No. 742,317. (See Reg. No. 539,856.)

Reg. No. 744,992 (INK SPOTS), Paul Kalet, Title of an act adapted for television and radio—namely, vocal and variety entertainment, filed Mar. 16, 1967, D.C., Nebr. (Omaha), Doc. C-1205, *Paul Kalet v. Jack Stuetzer et al.*

Reg. No. 749,437. (See Reg. No. 672,305.)

Reg. No. 754,562. (See Reg. No. 539,856.)

Reg. No. 761,665 (RED BALLOON), John R. Thompson Co., Restaurant services, filed July 12, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 87-977-FW, *John R. Thompson Co. et al. v. Tater Corporation et al.*

Reg. No. 764,543 (CITCO), Cities Service Oil Company, Gasoline; Reg. No. 798,036, same, Lubricating oils, filed June 15, 1967, D.C., N.D. Ohio (Cleveland), Doc. C-67-415, *Citco, Inc. v. Cities Service Oil Company*.

Reg. No. 764,620. (See Reg. No. 539,856.)

Reg. No. 764,621. (See Reg. No. 539,856.)

Reg. No. 771,750 (MICRO SHIELD), Arnold Chemical Corp., Automobile finish preserve used as a foundation coat to cleanse and remove waxes, dirt, and other foreign material from the finish, and as automobile sealer coat to preserve the finish, filed Nov. 9, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c2043, *Arnold Chemical Corporation v. American Cyanamid Company*.

Reg. No. 774,288 (THRIFTY RENT-A-CAR), Stemmons, Inc., Automobile rental; Reg. No. 816,350 (THRIFTY), same, filed May 3, 1967, D.C., N.D. Calif. (San Francisco), Doc. 46997, *Stemmons, Inc. v. R & J Investors, Inc.*

Reg. No. 780,141 (TRANS-X), Xpelo Products Co., Automatic transmission fluid additive being a decontaminate, gum and varnish disperser, and sealer, filed May 22, 1967, D.C., M.D. Fla. (Jacksonville), Doc. 67-416-C-J, *K & W Products, Inc. v. Haynes Chemicals, Inc.*

Reg. No. 780,937 (VIBERMITE), Viber Company, Mechanical vibratory machines for insertion in unset concrete, filed June 8, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-807-JWC, *The Renner Company v. Viber Company*.

Reg. No. 784,271. (See Reg. No. 591,021.)

Reg. No. 784,782. (See Reg. No. 591,021.)

Reg. No. 784,934 (JADE EAST), Swank, Inc., Cologne, aftershave lotion and deodorant, filed June 29, 1967, D.C., S.D.N.Y., Doc. 67-C-2520, *Swank, Inc. v. The Louangel Corporation*.

Reg. No. 785,751. (See Reg. No. 591,021.)

Reg. No. 785,752. (See Reg. No. 591,021.)

Reg. No. 787,500 (MISCELLANEOUS DESIGN), The Clothes Horse, Women's dresses, suits, coats, slacks, shorts, and shirts, filed Mar. 1, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C-170, *The Clothes Horse v. JSP Inc. et al.* Order of dismissal, June 19, 1967.

Reg. No. 788,447. (See Reg. No. 830,200.)

Reg. No. 798,036. (See Reg. No. 764,543.)

Reg. No. 816,350. (See Reg. No. 774,288.)

Reg. No. 830,200 (KWARTAALBOEKJE VAN DE CHRISTELIJKE WETENSCHAP), The Christian Science Publishing Society, Magazine of Bible lessons published every three months in English and Dutch; Reg. No. 788,447 (SUNALOY), Sunnen Products Company, Parts for honing machines and the like—namely, guide shoes for use thereon, filed June 20, 1967, D.C., S.D. Ohio (Columbus), Doc. 67-169, *Continental Can Co., Inc. v. Anchor Hocking Glass Corp.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 234,016. Alberto-Culver Company, Melrose Park, Ill. SN 240,821. Mil-Star, Inc., Pittsburgh, Pa. Filed Mar. 14, 1966. Filed Dec. 15, 1965.

REVIVE

Class 4—Abrasives and Polishing Materials

For Furniture Polish.

Class 6—Chemicals and Chemical Compositions

For Spray Starch for Textiles.

First use Nov. 5, 1965.

SN 234,617. Alberto-Culver Company, Melrose Park, Ill. Filed Dec. 15, 1965.

WHITE GLOVE

Class 4—Abrasives and Polishing Materials

For Furniture Polish.

Class 6—Chemicals and Chemical Compositions

For Spray Starch for Textiles.

First use Nov. 5, 1965.

SN 239,022. Crown Industrial Products Company, Hebron, Ill. Filed Feb. 17, 1966.

MR. PLAID

Class 5—Adhesives

For General-Purpose Adhesives and Pressure-Sensitive Adhesives, in Pressurized Spray Cans.

Class 6—Chemicals and Chemical Compositions

For Paint Brush Softener, Rust Inhibitor, Water Repellant, and Fire Extinguishing Composition, in Pressurized Spray Cans, and Pressurized Gas Power Pack for Cordless Portable Sprayers.

Class 15—Oils and Greases

For Lubricating Oil, Penetrating Oil, All-Purpose Grease, and Silicon Lubricant, in Pressurized Spray Cans.

Class 16—Protective and Decorative Coatings

For Clear Frosting for Glass, Clear Acrylic Spray Coating To Protect Leather and Vinyl, and Colored Glass Coating, in Pressurized Spray Cans.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Portable Sprayers, and Spray Handles for Pressurized Spray Cans.

Class 52—Detergents and Soaps

For Degreasers, All-Purpose Cleaner, Spot Remover, and Foaming Hand Cleaner, in Pressurized Spray Cans.

First use Jan. 27, 1966.

STARCO

Class 45—Soft Drinks and Carbonated Waters

For Soft Drink Bases for Use in Making Soft Drinks Including Low Calory Beverage Bases and Fruit Flavored Crystals for Use in Making Soft Drinks.

Class 46—Foods and Ingredients of Foods

For Non-Frozen Concentrated Citrus and Fruit Juices, Food Release Made from Vegetable Oil for Use To Keep Food From Sticking to Cooking Utensils, and Anti-Oxidants To Preserve Fruits and Vegetables.

First use Jan. 1, 1960.

SN 242,290. S.A.S. Balma, Capoduri & Co., Voghera, Italy. Filed Mar. 30, 1966.



Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Staples.

First use Sept. 25, 1924; in commerce May 4, 1927.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Desk-Type Hand Operated Stapling Machines and Staple Removers.

First use June 18, 1949; in commerce July 24, 1949.

SN 244,145. Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy. Filed Apr. 22, 1966.

VELICREN

Priority claimed under Sec. 44(d) on Italian application filed Jan. 26, 1966; Reg. No. 177,366 dated Apr. 18, 1966. Owner of U.S. Reg. No. 728,559.

Class 39—Clothing

For Articles of Clothing—Namely, Overcoats, Mantles, Raincoats, Dresses, Skirts, Jackets, Coats, Trousers, Shirts, Hosiery, Swimsuits, Overalls, Aprons, Dressing Gowns, Pyjamas, Articles of Underclothing, Stockings and Socks, Neckties, Scarves, Shawls, Gloves, Suspenders, Girdles, Caps and hats, and Kerchiefs.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor SN 254,009. Thomas Industries Inc., Louisville, Ky. Filed Sept. 8, 1966.

For Textile Fabrics—Namely, Blankets, Curtains, Furniture Covers; and Textile Fabrics for Making Into These Goods, Into Filters for Paper Mills, Into Apparel and for Industrial Purposes.

SN 244,441. Val-Pak Manufacturing Corporation, St. Louis, Mo. Filed Apr. 27, 1966.

VAL-PAK

Class 2—Receptacles

For Refuse Containers, Water Tanks, and Sludge Tanks.

Class 19—Vehicles

For Truck Bodies.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Truck Holsts.

First use April 1959.

SN 253,236. The Orchard Corporation of America, St. Louis, Mo. Filed Aug. 26, 1966.



Class 20—Linoleum and Oiled Cloth

For Printed Plastic Films for Wall Paneling and the Like.

Class 37—Paper and Stationery

For Printed Saturating Papers for Impregnation and Lamination, Papers Impregnated With Corrosion Inhibiting Agents, and Stencil Board.

First use Aug. 10, 1966.

THOMAS

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Door Chimes and Electric Transformers.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Range Hoods.

First use on or about Apr. 18, 1966.

SN 256,580. National Periodical Publications, Inc., New York, N.Y. Filed Oct. 17, 1966.

Owner of Reg. Nos. 378,913, 382,770, and 804,709.

BATMAN

Class 26—Measuring and Scientific Appliances

For Paper Patterns for Making Clothing.

First use Apr. 15, 1966.

Class 37—Paper and Stationery

For Paper and Stationery Products—Namely, Wrapping Paper, Gift Wrap Paper, Memo Pads, Party Napkins, Table Covers, Place Mats, and Loose-Leaf Binders.

First use Mar. 8, 1966.

Class 38—Prints and Publications

For Greeting Cards, Post Cards, Invitations, Place Cards, and Press-Out Books.

First use June 8, 1966.

SN 266,275. The Villager, Inc., Philadelphia, Pa. Filed Mar. 9, 1967.

THE VILLAGER

Owner of Reg. Nos. 537,381, 702,965, and 763,997.

Class 51—Cosmetics and Toilet Preparations

For Cosmetics—Namely, Hair Spray, Eye Cream, Moisture Make-Up, Lipstick, Cologne, and Nail Polish.

Class 52—Detergents and Soaps

For Bath Soap.

First use Feb. 21, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 246,666. Drago Operating Corp., New York, N.Y. Filed May 26, 1966.



For Materials for Shoe Findings.
First use Apr. 19, 1961.

SN 249,448. Scientific Pet Products Co., Rocky River, Ohio. Filed July 1, 1966.

KITTY-KARTON

For Animal Litter Sold in Carton That Converts to a Sanitary Tray for Cat.

First use Oct. 28, 1965.

SN 253,110. Armour and Company, Chicago, Ill. Filed Aug. 25, 1966.

CADET

For Leather.

First use on or prior to Apr. 21, 1966.

SN 253,851. Cornell Seed Company, St. Louis, Mo. Filed Sept. 6, 1966. SN 257,273. Gus Dettelbach, d.b.a. Georgia-Tennessee Mining & Chemical Co., Atlanta, Ga. Filed Oct. 27, 1966.



Owner of Reg. Nos. 505,069, 724,042, and others.
For Vegetable Seed.
First use July 15, 1966.

SN 254,145. Fusecolor Corporation, Middlesex, N.J. Filed Sept. 9, 1966.

MISTER CHIPS

The word "Chips" is disclaimed apart from the mark as shown.

For Plastic Compounds and Material in the Form of Beads, Granules, Flakes, Chips, and Other Shapes Used for Protective and Decorative Purposes on Floor, Wall, and Like Surfaces.
First use Aug. 1, 1966.

SN 255,998. Oregon Bulb Farms, Inc., Gresham, Ore. Filed Oct. 7, 1966.



JAGRA

Owner of Reg. No. 751,871.
For Flower Bulbs of All Kinds.
First use Aug. 19, 1966.

SN 256,556. Hi-Life Packing Company, Chicago, Ill. Filed Oct. 17, 1966.

KITTY PLEASE

Applicant disclaims the term "Kitty" apart from the mark as shown.
For Absorbent Cat Litter.
First use Aug. 18, 1966.



Applicant disclaims the term "Kitti" apart from the mark as shown.
For Absorbent Cat Litter.
First use July 20, 1966.

SN 257,648. Poco Graphite, Inc., Garland, Tex. Filed Oct. 31, 1966.



The word "Poco" is derived from the initials of applicant's former parent organization, i.e., Pure Oil Company.
For Graphite in the Form of Rods, Billets, and the Like for General Use in the Industrial Arts.
First use Sept. 7, 1966.

SN 260,159. International Paper Company, New York, N.Y. Filed Dec. 6, 1966.

SPINCELL

For Wood Pulp.
First use Oct. 6, 1966.

SN 260,196. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 6, 1966.

VISTRON

For Synthetic Fiber.
First use Nov. 3, 1966.

SN 260,248. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 7, 1966.

THUNDA-LITE

For Shoe Soling Material.
First use Oct. 21, 1966.

SN 260,742. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 14, 1966.

PLIOFORM

Owner of Reg. No. 307,106.
For Sponge and/or Cellular Cushioning Material.
First use Oct. 24, 1966.

SN 268,928. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1967.

GENDRIV

For Chemically Modified Natural Gums.
First use Mar. 23, 1967.

Class 2—Receptades

SN 258,008. Vision Wrap Industries, Inc., Schiller Park, Ill. Filed Nov. 4, 1966.

VISION-WRAP

For Flexible Packaging Products, Particularly Bags.
First use in or about May 1962.

SN 259,131. Master-Craft Corporation, Kalamazoo, Mich. Filed Nov. 21, 1966.

LITE-PAC

For Record Card Holders That Have Foldable Sides and Legs That Fold to Compact Position for Storage and Carrying and Extend to Desk Supported Position With the Upper Portions of the Cards Exposed in Inclined Position.
First use May 18, 1966.

SN 259,221. Certipak Corporation, New York, N.Y. Filed Nov. 22, 1966.

CERTIPAK

For Boxes, Cases, Containers and Receptacle Carriers, and Blanks Therefor Made Principally of Paper Box Board, Laminated Paper Board, Fiber Board, Cardboard, Box Board, or Other Like Material.
First use Oct. 24, 1966.

SN 249,240. Geuder, Paeschke & Frey Co., Milwaukee, Wis. Filed Nov. 22, 1966.

GPF

Owner of Reg. Nos. 542,216 and 558,284.
For Metal Drums, Pails and Cans for Shipping, Storage, and Similar Purposes.
First use March 1966.



For Trash Disposal Bag and Holder for Use in Automobiles.
First use June 17, 1957.

SN 260,283. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 7, 1966.

VISTRON

For Housewares Made of Plastic—Namely, Trash Cans, Cannister Sets, Bread Boxes, Baby Baths and Baskets.
First use Nov. 4, 1966.

SN 260,369. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 8, 1966.

VISTRON

For Plastic Dinnerware.
First use Nov. 15, 1966.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 238,335. Beach Precision Parts Company, Glen Rock, Pa. Filed Feb. 8, 1966.

SPIDERWEB

For Racing Harness for Horses.
First use Jan. 5, 1965.

SN 246,033. Blue Ribbon Leather Company, Inc., Shelbyville, Tenn. Filed May 19, 1966.

BLUE RIBBON

For Harness and Riding Equipment—Namely, Saddles, Tail Sets, and Bridles.
First use 1951.

Class 4—Abrasives and Polishing Materials

SN 247,785. The Drackett Company, Cincinnati, Ohio. Filed June 10, 1966.

ENCHANT

For Abrasives and Polishing Materials—Namely, Furniture Polish.
First use Dec. 28, 1965.

SN 252,286. Sheila Shine, Inc., Miami, Fla. Filed Aug. 12, 1966.



No claim is made to the word "Shine" apart from the mark.
For Combined Polish and Surface Preservative for Stainless Steel, Plastic, Wood, and Porcelain.
First use on or about Mar. 1, 1955.

SN 259,005. Kurts & Wolfe Chemical Co., Inc., Bronx, N.Y. Filed Nov. 18, 1966.

MUNNING & MUNNING

For Compounds for Buffing and Polishing Metals, Plastics, and Similar Materials.
First use Jan. 2, 1938.

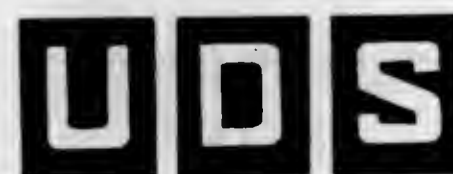
Class 5—Adhesives

SN 239,734. Continental Oil Company, Ponca City, Okla. Filed Feb. 28, 1966.

CARLON

Owner of Reg. No. 532,098.
For Plastic Cement.
First use December 1957.

SN 253,365. United Distributors Service, Inc., Roanoke, Va. Filed Aug. 29, 1966.



For Adhesive Cement for the Repair of Automobile Tires and Tubes.
First use Jan. 3, 1963.

SN 263,288. Philadelphia Quartz Company, Philadelphia, Pa. Filed Jan. 25, 1967.

STIXSO 100

For Binders for Molds and Cores.
First use on or about Nov. 30, 1966.

SN 275,017. Imperial Adhesives Inc., Cincinnati, Ohio. Filed June 29, 1967.

THERM-O-LOK

For Synthetic Resinous Adhesives.
First use at least as early as May 11, 1967.

Class 6—Chemicals and Chemical Compositions

SN 234,487. United States Plywood Corporation, New York, N.Y. Filed Dec. 13, 1965.

CONVOY

Owner of Reg. Nos. 795,139 and 830,030.
For Preservatives, and Water Repellent Preparations, and Colorant Concentrates for Adding Thereto, for Coating and/or Impregnating Wood and Wood Fiber Products—Namely, Lumber, Veneers, Plywoods, Hardboards, and Particle Boards, To Protect Against Warping, Checking, Stain, Mold, and Mildew; and for Coating and/or Impregnating Fabrics, and for Coating Metals.
First use Oct. 15, 1964.

SN 241,493. Miles Laboratories, Inc., Elkhart, Ind. Filed Mar. 21, 1966.

UGENSTIX

Owner of Reg. No. 668,184.
For Laboratory Reagent Test for Urine Status.
First use on or before Mar. 3, 1966.

SN 246,936. The Ottawa Chemical Company, Toledo, Ohio. Filed May 31, 1966.

HIOTROL BOTTOMSIDE

No claim is made to the word "Bottomside" apart from the mark.
For Industrial Deodorant for Latrine Odor Control.
First use Mar. 22, 1966.

SN 246,937. The Ottawa Chemical Company, Toledo, Ohio. Filed May 31, 1966.

HIOTROL TOPSIDE

No claim is made to the word "Topside" apart from the mark.
For Industrial Deodorant for Latrine Odor Control.
First use Mar. 22, 1966.

SN 247,426. The Walpamur Company Limited, Darwen, England. Filed June 6, 1966.

IFCA

Owner of British Reg. No. 860,431, dated Feb. 19, 1964.
For Chemical and Chemical Compositions for Killing, Repelling, or Deterring Insects or Vermin and Dyestuffs and Mordants.

SN 249,907. Stauffer Chemical Company, New York, N.Y. SN 252,747. Österreichische Stickstoffwerke AG, Linz, Austria. Filed Aug. 19, 1966.



No claim is made to the word "Chemicals" other than as shown in the mark. Owner of Reg. Nos. 503,418, 677,195, and 817,213.

For Acaricides, Antifoam Agents, Catalysts, Chelating Agents, Defoliants, Dispersing Agents, Drying Agents, Elastomers, Emulsifiers, Flame Retardants, Fumigants, Fungicides, Heat Transfer Fluids, Herbicides, Hydraulic Fluids, Inhibitors, Insecticides, Miticides, Paper-Release Coatings, Pesticides, Plasticizers, Polymers, Sequestering Agents, Solvents, Stabilizers, and Wetting Agents.
First use May 20, 1966.

SN 250,458. Dawson Chemical Company, Houston, Tex. Filed July 18, 1966.

SPERLOX

For Dispersing Agents Containing One or More Salts of Lignosulfonic Acid.
First use May 11, 1962.

SN 250,969. International Equipment Co., Needham Heights, Mass. Filed July 25, 1966.

CRYOKWIK

For Freon Mixture for Rapid Freezing of Fresh Tissue Prior to Sectioning Procedures.
First use May 31, 1966.

SN 251,410. Ferguson Fumigants, Inc., Hazelwood, Mo. Filed Aug. 1, 1966.

WE SELL RESULTS

For Fumigants.
First use July 22, 1966.

SN 252,291. Standard International Corporation, Andover, Mass. Filed Aug. 12, 1966.

SAVE

For Chemical Preparation Used as a Laundry Brightener and Softener To Brighten and Soften Fabrics.
First use July 19, 1966.

SN 252,292. Standard International Corporation, Andover, Mass. Filed Aug. 12, 1966.

SOLAZONE

For Ingredient for a Fabric Conditioner.
First use July 19, 1966.

ACHOLEST

Owner of Austrian Reg. No. 38,393, dated Mar. 4, 1958.
For Cholinesterase Test Papers for Use in Laboratories.

SN 255,172. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Sept. 27, 1966.

SYSTEM A-09

For Imaging Powder.
First use Aug. 10, 1966.

SN 255,985. Johnson Chemical Industries, Inc., Baltimore, Md. Filed Oct. 7, 1966.

ROYAL BLUE

For Dry Powder Commercial Laundry Bleach.
First use Aug. 1, 1966.

SN 257,788. Lyon Chemicals, Inc., St. Paul, Minn. Filed Nov. 2, 1966.



Exclusive use of the word "Ice" is disclaimed apart from the mark.
For Ice and Snow Melting Pellets.
First use Oct. 5, 1966.

SN 261,113. Stiles-Kem Sales Corporation, Waukegan, Ill. Filed Dec. 19, 1966.

SKIFF

For Liquid Chemical Compositions Combining Sequestering Agents for Conditioning the Treatment of Water, and Water Circulating Systems.
First use Nov. 7, 1966.

SN 261,196. Ciba Limited, Basel, Switzerland. Filed Dec. 21, 1966.

PERGAPRINT

Owner of Swiss Reg. No. 216,910, dated Mar. 30, 1966.
For Dyestuffs, Colouring Matters, Chemical Compositions Preparations or Compounds for Use as Auxiliary Agents in the Paper Industry.

SN 261,296. Goldschmidt Chemical Corporation, New York, N.Y. Filed Dec. 22, 1966.

TEGOBETAINE

Owner of Reg. Nos. 382,000, 768,985, and others.
For Anti-Microbial Surface Active Agent.
First use Apr. 8, 1965.

SN 262,601. Merck & Co., Inc., Rahway, N.J. Filed Jan. 16, 1967.

LDIO

For Aliphatic Diisocyanate for Use in the Manufacture of Polyurethanes and Polyureas.
First use Nov. 18, 1966.

SN 262,603. Morningstar-Paisley, Inc., New York, N.Y. Filed Jan. 16, 1967.

STARFLOC

For Natural and/or Synthetic Polymers Used as Flocculating Agents and/or Retention Aids in the Mining Industry and in the Manufacture of Paper.
First use on or about May 7, 1963.

SN 262,635. Sterling Drug Inc., New York, N.Y. Filed Jan. 16, 1967.

LIFEBOND

For Line of Pigments for Printing Colors on Textiles.
First use Aug. 17, 1966.

SN 262,771. Devco, Inc., Detroit, Mich. Filed Jan. 18, 1967.

HEMOMATIC OPTISTAIN

For Stain Used in Hematologic Staining Techniques.
First use Dec. 10, 1966.

SN 265,022. Halo Sales Corporation, d.b.a. The Party People, San Francisco, Calif. Filed Feb. 20, 1967.



No claim is made to the word "Fly" apart from the mark as shown. Owner of Reg. No. 301,940.
For Canned Insect Repellent Aid Candles.
First use Dec. 21, 1966.

SN 266,129. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics, Raritan, N.J. Filed Mar. 7, 1967.

HYPOGAM

For Diagnostic Reagent for Blood Determination for Laboratory Use, To Detect Immunoglobulin Deficiency.
First use Nov. 2, 1966.

SN 270,644. Organon Inc., West Orange, N.J. Filed May 4, 1967.

HEMACLEAR

For Blood Lysing Agent for Use With Diagnostic Blood Tests in the Laboratory.
First use Feb. 28, 1967.

SN 275,091. Virginia Chemicals Inc., West Norfolk, Va. Filed June 29, 1967.

VAIRGO

For Defoamers.
First use June 15, 1967.

Class 7 - Cordage

SN 237,240. Milton L. Mintzer, Inc., New York, N.Y. Filed Jan. 25, 1966.



For Baler, Binder, and Roto Baler Twine, Rope, and Tying Twines.
First use Dec. 10, 1965.
Subj. to Intf. with SN 242,510.

SN 260,467. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 9, 1966.

VISTRON

For Plastic Clotheslines.
First use Nov. 18, 1966.

Class 8 - Smokers' Articles, Not Including Tobacco Products

SN 237,010. Metallwaren AG Birrwil, Birrwil, Aargau, Switzerland. Filed Jan. 21, 1966.

DIPLOMAT

Owner of Swiss Reg. No. 203,815, dated Mar. 2, 1964.
For Cigarette Lighters.

Class 10 - Fertilizers

SN 258,338. Utah Cooperative Association, Salt Lake City, Utah. Filed Nov. 9, 1966.



The drawing is lined for the color red.
For Fertilizers Combined With Insecticides and Weed Killers.
First use Oct. 22, 1965.
Subj. to Intf. with SN 249,822.

SN 260,466. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 9, 1966.

VISTRON

For Fertilizers.
First use Nov. 23, 1966.

SN 262,476. Combined Paper Mills, Inc., Combined Locks, Wis. Filed Jan. 13, 1967.

VERDA-GRO

For Soil Conditioner.
First use Nov. 7, 1966.

SN 262,477. Combined Paper Mills, Inc., Combined Locks, Wis. Filed Jan. 13, 1967.

VERDA-MULCH

For Soil Conditioner.
First use Nov. 7, 1966.

SN 263,435. Agway, Inc., Dewitt, N.Y. Filed Jan. 27, 1967.

TATERBEST

For Fertilizer.
First use Mar. 25, 1965.

SN 275,199. International Minerals & Chemical Corporation, Skokie, Ill. Filed July 3, 1967.

MATCHMATE

For Fertilizer and Fertilizer Ingredients.
First use May 15, 1967.

Class 12 — Construction Materials

SN 232,276. Robert T. Bogan, Jr., d.b.a. Customwood Manufacturing Company, Albuquerque, N. Mex. Filed Nov. 8, 1965.

Filiwood

For Decorative Grilles Made From Plywood Panels.
First use February 1960.

SN 243,156. Monarch Pool Corp., White Plains, N.Y. Filed Apr. 11, 1966.



For Permanent On-Ground Swimming Pools.
First use May 1965.

SN 247,888. Birma Products Corporation, Sayreville, N.J. Filed June 13, 1966.

CRYO-MASTIC

For Elastomeric Based Mastic Vapor Barrier Coating for Use Over Substrates Such as All Types of Thermal Insulation, Metal, Masonry, and Wood for Providing Low Water-Vapor Permeance, Fire-Resistivity, Color, Durability, Weather-Resistance and/or Chemical Resistivity.
First use November 1965.

SN 255,446. Kerry-Fab Inc., Pittsburgh, Pa. Filed Sept. 29, 1966.

K-THANE-15

For Rigid Polyurethane Foam Pipe Insulation and Sheets.
First use November 1965.

SN 275,016. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed June 29, 1967.

ARTISAN

For Lumber, Wood, and Allied Products, i.e., Plywood.
First use on or about Apr. 5, 1967.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 250,787. W. S. Tyler, Incorporated, Mentor, Ohio. Filed July 21, 1966.

TYCLEEN

For Woven Wire Cloth.
First use Apr. 15, 1964.

SN 251,392. Copco, Inc., New York, N.Y. Filed Aug. 1, 1966.

NACCO

For Porcelain Enamel Cast-Iron Casseroles, Skillets, Grill Pans, Sauce Pans, Fondue Set and Porcelain Enamel Steel Tea Kettles and the Parts Thereof.
First use Aug. 14, 1963.

SN 254,953. Union Carbide Corporation, New York, N.Y. Filed Sept. 22, 1966.

PRESTONE

Owner of Reg. Nos. 598,269, 643,395, and others.
For Hose Clamps and Flushing Tees for Automotive Cooling Systems.
First use Aug. 19, 1966.

SN 259,253. Waldes Kohinoor, Inc., Long Island City, N.Y. Filed Nov. 22, 1966.

LO-LOK

For Slide Fasteners and Parts Thereof, Particularly Sliders.
First use Nov. 4, 1965.

SN 259,427. Illinois Tool Works Inc., Chicago, Ill. Filed Nov. 25, 1966.

FASTALL

For Construction Fasteners, Screw Threaded Fasteners, Sheet Metal Fasteners, and Plastic Fasteners.
First use Nov. 14, 1966.

SN 260,053. Ken-Ray Brass Products, Inc., Vermont, Ill. Filed Dec. 5, 1966.

VARI-TEMP

For Hydrants and Wall Faucets.
First use Mar. 3, 1964.

SN 260,092. Speakman Company, Wilmington, Del. Filed Dec. 5, 1966.

COSMOPOLITAN

For Shower Heads and Plumbing Fixture Fittings.
First use Nov. 17, 1966.

SN 275,205. Herculoc Corporation, Brooklyn, N.Y. Filed July 3, 1967.

HERCULOC

For Wire Splices and Wire Rope Clamps.
First use Apr. 30, 1956.

Class 14 — Metals and Metal Castings and Forgings

SN 253,020. Cyclops Corporation, Bridgeville, Pa. Filed Aug. 24, 1966.

PLUS FINISH

For Semi-Finished Steel Bar Products Which Are Free From Decarbonization.
First use June 23, 1960.

Class 15 — Oils and Greases

SN 250,470. Fosco International Limited, Birmingham, England. Filed July 18, 1966.

POWAX

For Dry, Water Soluble Powder for Coating and Lubricating Steel Strips and Sheets, for Use in Rolling Mills.
First use May 6, 1965; in commerce Feb. 9, 1966.

SN 253,137. Fleet-Wing Corporation, Cleveland, Ohio. Filed Aug. 25, 1966.

piston seal

Owner of Reg. No. 558,826.
For Motor Oil.
First use May 31, 1966; Feb. 22, 1946, in another style of lettering.

Class 16 — Protective and Decorative Coatings

SN 243,349. Pratt & Lambert, Incorporated, Buffalo, N.Y. Filed Apr. 13, 1966.

FORECAST COLORS

Applicant disclaims the word "Colors" apart from the mark as shown.
For Selected Range of House Paints.
First use Apr. 4, 1966.

SN 246,690. Home-Craft Products Co., d.b.a. Home-Craft Products, Tampa, Fla. Filed May 26, 1966.

SPRA-GLO

For Fluorescent Paint for Indoor and Outdoor Use.
First use in or about May 1965.

GALATONE

For Resinous Based Architectural Coatings for Spray Type Application.
First use Feb. 3, 1966; in commerce Feb. 3, 1966.

SN 246,700. Macnaughton-Brooks Limited, Weston, Toronto, Ontario, Canada. Filed May 26, 1966.

GALATEX

For Resinous Based Architectural Coatings for Spray Type Application.
First use Feb. 3, 1966; in commerce Feb. 3, 1966.

SN 246,702. Macnaughton-Brooks Limited, Weston, Toronto, Ontario, Canada. Filed May 26, 1966.

KELMAR

For Resinous Based Architectural Coatings for Spray Type Application.
First use Feb. 3, 1966; in commerce Feb. 3, 1966.

SN 247,037. D. V. Lavasseur, Inc., d.b.a. Holmes-Hemphill Company, Minneapolis, Minn. Filed June 1, 1966.



Applicant disclaims the wording "Town and Country Service."
For Whitewash Spray Mix.
First use Apr. 11, 1966.

SN 248,271. The Walpamur Company Limited, Darwen, England. Filed June 16, 1966.

IFCA

Owner of British Reg. No. 806,430, dated Feb. 19, 1964.
For Gloss Paints and Emulsion Paints Containing Agents for Killing, Repelling, or Deterring Insects or Vermin; and Coloring Matters.

SN 258,967. American Light Alloys, Inc., Little Falls, N.J. Filed Nov. 18, 1966.

WIL-COAT

For Paint-Like Corrosion Protective Coating.
First use Nov. 3, 1966.

SN 261,366. Dow Corning Corporation, Midland, Mich. Filed Dec. 23, 1966.

DOW CORNING

Owner of Reg. No. 804,469 and others.
For Heat Resistant Paints, Weather Resistant Paints, Varnish, Paint Resin Intermediates, Vehicles for Formulating Paints, Antifloating Agents for Use in Paints, Hammer-Finish Additives for Paints.
First use Prior to October 1965.

SN 262,949. The Martin-Senour Company, Chicago, Ill. Filed Jan. 20, 1967.

MAGIC-VAR

For Varnish.
First use June 13, 1966.

SN 264,221. The Martin-Senour Company, Chicago, Ill. Filed Feb. 8, 1967.

POLY-SATIN

For Interior Enamel.
First use Jan. 10, 1967.

SN 268,853. Frank A. Hoppe, Inc., Philadelphia, Pa. Filed Apr. 11, 1967.

HOPPE'S

Owner of Reg. No. 634,741 and others.
For Gun Stock Stain.
First use Mar. 22, 1967.

SN 274,838. Scientific Advances, Incorporated, Columbus, Ohio. Filed June 27, 1967.

MAGNOGUARD

For Protective, Decorative, Corrosion-Resistant, and Skid-Resistant Paints for Exposed Surfaces, Particularly Metal and Concrete Surfaces.
First use May 16, 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 235,109. Landry Pharmaceuticals, Inc., Houston, Tex. Filed Dec. 22, 1965.

FEBRIDYNE

Owner of Reg. No. 230,787.
For Analgesic Preparation.
First use at least as early as Oct. 28, 1963.

SN 259,349. Sterling Drug Inc., New York, N.Y. Filed Nov. 23, 1966.

WINTHROCAINE

Owner of Reg. No. 708,017.
For Anesthetic.
First use Oct. 21, 1966.

Nutri-Made

For Animal Feed Supplements Containing Vitamins and Minerals.
First use June 22, 1966.

SN 259,969. Schering Aktiengesellschaft, Berlin, Germany. Filed Dec. 2, 1966.

ULTRALANUM

Priority claimed under Sec. 44(d) on German application filed July 7, 1966; Reg. No. 822,545, dated Aug. 2, 1966.
For Preparation for Systemic and Topical Use in Corticoid Therapy.

SN 259,977. Snyder's Drug Stores, Inc., Hopkins, Minn. Filed Dec. 2, 1966.

METHAHIST

For Cold Remedies—Namely, Cough Mixture; Cough Syrup; Decongestant Capsules and Tablets; and Throat Troches.
First use Nov. 1, 1966.

SN 260,289. United Co-operatives, Inc., Alliance, Ohio. Filed Dec. 7, 1966.

SKOURSTOP

For Medical Preparation for Treatment of Diarrhea in Farm Animals.
First use on or about Dec. 2, 1958.

SN 260,707. Abbott Laboratories, North Chicago, Ill. Filed Dec. 14, 1966.

VERCYTE

For Antineoplastic Preparation.
First use Apr. 26, 1965.

SN 260,727. Charles P. Coleman, d.b.a. Coleman Enterprises, Buffalo, N.Y. Filed Dec. 14, 1966.

BURN-EZE

For Medicated Skin Ointment.
First use Oct. 26, 1966.

SN 260,784. Meryl L. Stoddard, Flint, Mich. Filed Dec. 14, 1966.

THROBBIN' NOGGIN' STOPPIN'

For Aspirin Tablets.
First use Sept. 6, 1966.

SN 260,837. The Fielding Pharmaceutical Company, d.b.a. The Fielding Company, Webster Groves, Mo. Filed Dec. 15, 1966.

GERIMED

For Ethical Drug Preparation Consisting of a Mixture of Anabolic Hormones, Vitamins, and Minerals Useful in Geriatric Therapy and in the Treatment of Osteoporosis.
First use Oct. 31, 1959.

Class 19—Vehicles

SN 230,348. American Motors Corporation, Detroit, Mich. Filed Oct. 18, 1965.



For Automobiles and Structural Parts Thereof.
First use in or before 1955.

SN 237,759. Suzuki Motor Co., Ltd., Hamana-gun, Shizuoka-ken, Japan. Filed Feb. 1, 1966.

POSI-FORCE

For Lubrication System for Two-Cycle Engines Sold as a Component of a Motorcycle.
First use Dec. 29, 1965; in commerce Dec. 29, 1965.

SN 246,694. Kawasaki Aircraft Co., Ltd., Ikuta-ku, Kobe, Japan. Filed May 26, 1966.

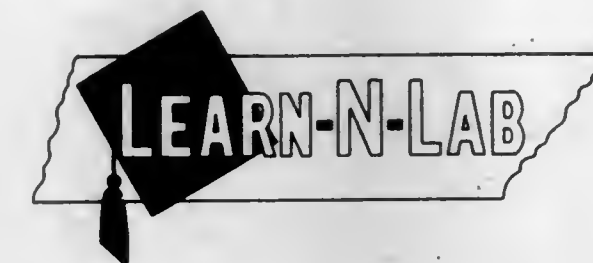


The design within the flag device is a Japanese (Kanji) language character in modified style meaning "river."
For Motorcycles and Their Parts.
First use Aug. 4, 1961; in commerce April 1962.

SN 248,011. Barcap Incorporated, Cleveland, Ohio. Filed June 14, 1966.

BARCAP

For Steering and Suspension Parts for Vehicles.
First use Mar. 14, 1966.



For Motorized Truck Vehicles Containing Specialized Teaching Equipment, Sold as a Unit.
First use May 24, 1966.

SN 252,047. Yamaha International Corporation, Montebello, Calif. Filed Aug. 8, 1966.

CAMPUS 60

The numeral "60" is specifically disclaimed apart from the mark as shown.
For Motorcycles.
First use Mar. 2, 1966.

SN 252,905. Stutz Industries, Elkhart, Ind. Filed Aug. 22, 1966.

BEARCAT

For Pick-Up Truck Covers.
First use Aug. 11, 1966.

256,424. Barcraft Homes, Inc., Laurens, S.C. Filed Oct. 14, 1966.

BARCRAFT

For Mobile Homes.
First use June 4, 1962.

SN 256,835. American Motors Corporation, Kenosha, Wis. Filed Oct. 18, 1966.

ROGUE

For Automobiles and Parts Thereof.
First use in or before June 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 248,140. Huggins Laboratories, Inc., Sunnyvale, Calif. Filed June 15, 1966.

HUGGINS

Richard A. Huggins, the founder of applicant corporation, is a living individual, whose consent is of record, to use his surname.

For Microwave Tubes—Namely, Traveling Wave Tubes and Backward Wave Oscillators; Microwave Tube Instruments—Namely, Amplifiers, Levelers, Phase Shifters and Noise Generators; Microwave Ferrite Devices—Namely, Isolators, Circulators, Modulators and Duplexers; and Nanosecond Pulse Generators; Transient Detectors; and Diode Detectors.
First use 1953, on traveling wave tubes.

SN 248,933. Vacap Corporation, Union City, N.J. Filed May 23, 1967. SN 216,123. Hobart L. Alter, d.b.a. Hobie-Surfboard Shop, Dana Point, Calif. Filed Apr. 9, 1965.

VACAP

For Capacitors, Vacuum Dielectric, Both Fixed and Variable.
First use Aug. 20, 1956.

SN 251,341. Telemation, Incorporated, Salt Lake City, Utah. Filed July 29, 1966.

SAV-A-CHANNEL

For Electromechanical Programming and Video Switching Equipment, Including Circuitry, Which Automatically Interperse the Outputs of Two or More Program Sources, Including Automatic News and Weather Televising Equipment.
First use June 20, 1966.

SN 251,342. Telemation, Incorporated, Salt Lake City, Utah. Filed July 29, 1966.

CHROMA-CHANNEL

For Color Origination Television Circuitry Used To Add Color Information to Monochrome Television Transmission.
First use June 20, 1966.

SN 257,755. Anzac Industries, Inc., Cleveland, Ohio. Filed Nov. 2, 1966.

SUPER MAGNUM

For Citizens Band Antennas.
First use Dec. 6, 1963.

SN 257,757. Anzac Industries, Inc., Cleveland, Ohio. Filed Nov. 2, 1966.

MAGNUM

For Citizens Band Antennas.
First use September 1961.

Class 22 — Games, Toys, and Sporting Goods

SN 164,902. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 14, 1963.

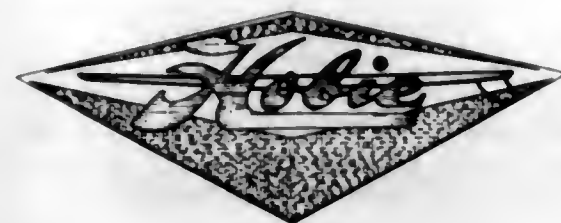
SOAKY

Owner of Reg. Nos. 759,806 and 764,826.
For Toy Figures and Bath Toys.
First use Dec. 26, 1961.

SN 198,521. American Machine & Foundry Company, New York, N.Y. Filed July 27, 1964.

CLASSIC

Owner of Reg. No. 626,158.
For Bowling Balls.
First use January 1963.



The drawing is lined for the colors blue and gold, but color is not claimed as a feature of the mark. Owner of Reg. No. 745,750.
For Surfboards, Belly Boards, and Skate Boards.
First use Feb. 1, 1954.

SN 226,310. U.S. Divers Co., Inc., Santa Ana, Calif. Filed Aug. 23, 1965.

CONSHELF VI

For Underwater Breathing Apparatus, Such as Air Regulators, Hoses, Tanks, and Associated Components.
First use Feb. 15, 1965.

SN 242,772. Products, Services, and Sales Inc., Tulsa, Okla. Filed Mar. 24, 1966.

TWIRL-A-ROPE

For Lariats.
First use June 25, 1957.

SN 242,773. Products, Services, and Sales Inc., Tulsa, Okla. Filed Mar. 24, 1966.

Sampan
TWIRL-A-ROPE

For Lariats.
First use Sept. 13, 1957.

SN 255,607. William A. Feuerer, Santa Monica, Calif. Filed Oct. 3, 1966.



For Pitons, Piton Hammers, and Hammer Holsters.
First use July 11, 1966.

SN 255,638. N.S. Mfg. Company, Fresh Meadows, N.Y. Filed Oct. 3, 1966.

PA-KA

For Equipment Sold as a Unit for Playing an Amusement-Type Parlor Game.
First use Sept. 12, 1966.

SN 256,126. Old Pal, Inc., Little, Pa. Filed Oct. 10, 1966. SN 274,153. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

REEL-LECTRIC

For Fishing Reels.
First use Feb. 11, 1966.

SN 259,780. Viscount Products, Inc., New York, N.Y. Filed Nov. 30, 1966.

GALAXIE

For Playing Cards.
First use Oct. 20, 1966.

SN 267,789. Schaper Manufacturing Company, Inc., Minneapolis, Minn. Filed Mar. 29, 1967.

DOG 'B' GONE

For Equipment Sold as a Unit for Playing a Parlor Game.
First use Feb. 24, 1967.

SN 274,145. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

SHIRLEY

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,146. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

TELLY VIDDLE

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,147. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

SWINGY SWIDDLE

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,150. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

OLGA

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,151. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

CLEO

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,152. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

CARMEN

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

LAFFY

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,155. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

OLIVIA

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 274,156. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1967.

PETSY PLIDDLE

For Dolls, Doll Clothing, and Doll Accessories.
First use May 29, 1967.

SN 275,112. White Stag Manufacturing Co., Portland, Ore. Filed June 30, 1967.

Hirsch-Weis

The English translation of the German words "Hirsch-Weis" is "white stag." Owner of Reg. No. 675,949.
For Sleeping Bags.
First use 1912.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 227,025. Georg Ganss, Werkzeug- und Maschinenbau GmbH, Leinfelden-Stuttgart, Germany. Filed Sept. 2, 1965.

GEORG GANSS

"Georg Ganss" identifies a living individual, whose consent is of record. Owner of German Reg. No. 805,860, dated June 24, 1965.

For Machines and Apparatus for Working With and Without Cutting—Namely, Machine Tools and Parts Thereof, Particularly Boring, Drilling, Milling, Grinding and Thread Producing Machines, Lathes, Turret Machines, Dies, Punching and Stamping Machines, Spindle Heads, Feeding Devices; Rotary Tables for the Angular Positioning of Workpieces for Machining; Transfer Machines, and Gears.

SN 237,350. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Jan. 26, 1966.

ROSE TEXTURE

The word "Rose" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 729,388 and 759,178.
For Stainless Steel Knives, Forks, and Spoons.
First use Jan. 11, 1966.

SN 238,991. American Chain & Cable Company, Inc., New York, N.Y. Filed Feb. 17, 1966.

WRIGHT SAFEWAY

Owner of Reg. Nos. 546,613, 790,317, and others.
For Electric Chain Hoists and Parts Thereof.
First use in or about March 1950.

SN 240,100. Landbouwwerktuigen en Machinefabriek H. Vlassers N.V., Nieuw-Vennep, Netherlands. Filed Mar. 3, 1966.

ROTASPA

For Rotating Spading Machines.
First use Mar. 18, 1959; in commerce October 1962.

SN 240,568. Air Reduction Company, Incorporated, New York, N.Y. Filed Mar. 10, 1966.

LECTRAN

For Cryogenic Pumping System.
First use Aug. 30, 1963.

SN 240,793. Scovill Manufacturing Company, Racine, Wis. Filed Mar. 11, 1966.

CONVERTIBLE

For Electric Carving Knives.
First use Nov. 12, 1965.

SN 242,547. Barton Corporation, Towanda, Ill. Filed Apr. 4, 1966.

BARTCURE

For Spraying and Related Equipment for Processing Concrete Subsequent to Pouring, for Use in the Construction of Roads and the Like.
First use February 1965.

SN 242,548. Barton Corporation, Towanda, Ill. Filed Apr. 4, 1966.

BARTCUT

For Masonry and Pavement-Cutting Saws, for Use in the Construction of Roads and the Like.
First use February 1965.

SN 242,549. Barton Corporation, Towanda, Ill. Filed Apr. 4, 1966.

BARTPULL

For Pin Pullers, for Use in the Construction of Roads and the Like.
First use February 1965.

SN 243,103. Diebold, Incorporated, Canton, Ohio. Filed Apr. 11, 1966.

SELECTO-TUBE

For Pneumatic Tube Systems Comprising Tubes Interconnecting a Plurality of Sending and Receiving Stations, and Including Means for Directing an Article Carrier Through the Tubes From Any One Station to Any Selected Station.
First use Nov. 22, 1965.

SN 243,549. DoAll Company, Des Plaines, Ill. Filed Apr. 15, 1966.



The word "Slicer" is disclaimed apart from the mark as a whole. Owner of Reg. No. 718,904.
For Diamond Edged Slicing Wheels Used for Slicing and Dicing Hard, Friable Materials.
First use July 22, 1962.

SN 244,031. Retreading Products, Inc., Lodi, Calif. Filed Apr. 21, 1966.



For Machinery, Equipment, and Supplies Used in the Automotive Tire and Recapping Business—Namely, Matrix Selectors and Accessories, Tire Trimmers, Tire Changers, Vulcanizers and Accessories, Rubber Slitters, and White and Colored Side Wall Cleaning, Grooving, Inlaying Striping and Buffing Machines and Accessories.
First use June 3, 1964.

SN 245,099. Rowe A. Plunk, d.b.a. Aeromotive Service Co., Midland, Tex. Filed May 6, 1966.

HYDROCHRON

For Tools for Setting Instruments and Equipment in Oil and Gas Wells.
First use Feb. 3, 1966.

SN 250,193. United-Greenfield Corporation, Northbrook, Ill. Filed July 13, 1966.

COOL-FLO

For Metal Boring Drills With Holes for the Passage of Oil Running From Shank Through Barrel Down to Point Designed for Use With All Methods of Pressure Coolant Applications (Air Mist, Pulsating, Constant Pressure, etc.).
First use Feb. 24, 1966.

SN 250,318. Wascon Systems, Incorporated, Hatboro, Pa. Filed July 14, 1966.

WASCON

For Waste Handling Equipment Comprising Waste Disintegrating Machines, Liquid Waste Dewatering Machines, Liquid Waste Slurry Pumps, and Parts Thereof, for Disposal of Solid Wastes and Other Materials.
First use Mar. 21, 1966.

SN 250,840. General Kinematics Corporation, Barrington, Ill. Filed July 22, 1966.

SYNCO-COIL

For Vibrating Apparatus—Namely, Vibrating Conveyors, Vibrating Screens, and Similar Vibrating Apparatus.
First use May 4, 1965.

SN 250,885. White Cross Stores, Inc., Monroeville, Pa. Filed July 22, 1966.

HEALTHCROSS

Owner of Reg. Nos. 725,249 and 763,260.
For Cutlery—Namely, Razor Blades.
First use Mar. 27, 1964.

SN 250,975. John Oster Manufacturing Co., Milwaukee, Wis. Filed July 25, 1966.

OSTERONIC

Owner of Reg. Nos. 207,269 and 515,517.
For Electric Hair Clippers and Parts Thereof.
First use Feb. 14, 1966.

SN 252,120. Newaygo Engineering Company, Newaygo, Mich. Filed Aug. 10, 1966.

DRI-VEYOR

Owner of Reg. No. 813,938.
For Foundry Equipment, Particularly Sand Conveying Apparatus.
First use Sept. 10, 1965.

SN 253,310. Guild Metal Joining Equipment Company, Bedford, Ohio. Filed Aug. 29, 1966.

ZIPWELDER

For Metal Coil Strip Processing Machinery and Equipment—Namely, Combination Shear and End Welders for Joining Metal Strips Into Continuous Lengths.
First use at least as early as January 1966.

SN 253,904. The Paul-Monroe Company, Pico Rivera, Calif. Filed Sept. 6, 1966.



Owner of Reg. Nos. 643,224 and 745,116.
For Hydraulic Transmission Equipment and Systems for Development, Transmission, and Utilization of Hydraulic Energy.
First use at least as early as November 1963.

TEMPO

Owner of Reg. Nos. 621,666, 664,885, and others.
For Electrical Outboard Motors.
First use Aug. 18, 1966.

SN 254,280. Daniel C. Hanna, d.b.a. Hanna Construction Company, Portland, Ore. Filed Sept. 12, 1966.

RUB A DUB

For Car Washing Apparatus.
First use Oct. 31, 1957.

SN 254,365. Allied Steel & Tractor Products, Inc., Cleveland, Ohio. Filed Sept. 13, 1966.

HO-RAM

For Pneumatic Impact Hammers.
First use Jan. 13, 1966.

SN 254,479. Turbo Machine Company, Lansdale, Pa. Filed Sept. 14, 1966.

DUOTWIST

For Texturing Machine for Use in the Textile Industry.
First use Aug. 9, 1966.

SN 254,543. Kensol-Olsenmark, Inc., Melville, N.Y. Filed Sept. 15, 1966.

KENSOL

For Roll Leaf Stamp Machines and Parts Thereof.
First use Dec. 31, 1924.

SN 254,573. Shelley Manufacturing Company, Miami, Fla. Filed Sept. 16, 1966.

SHELLEYMATIC

For Spring Actuated, Self-Leveling Dispensers for Trays, Dishes, Cups, Glasses, and Bread.
First use 1948.

SN 255,524. Fibreboard Corporation, San Francisco, Calif. Filed Sept. 30, 1966.

BARRIERMATIC

For Machines for Forming, Filling, and Sealing Paperboard Cartons.
First use June 20, 1966.

SN 255,706. Hurd Custom Machinery Co., Harrisburg, Ore. Filed Oct. 4, 1966.

APPLI-GATOR

For Flotation Tired Tractors Used in Agriculture for Applying Chemical Fertilizer.
First use Jan. 10, 1966.

SN 256,352. Everywhere Specialties, Inc., Bronx, N.Y. Filed Oct. 13, 1966. SN 259,020. Product Development Laboratories, Inc., West Hartford, Conn. Filed Nov. 18, 1966.

MINI-MARK

For Rubber Stamp.
First use July 11, 1966.

SN 257,101. Stanley Home Products, Inc., Westfield, Mass. Filed Oct. 24, 1966.

ROSEGAY

For Stainless Steel Flatware.
First use June 11, 1965.

SN 258,193. Lamb-Grays Harbor Co., Inc., Hoquiam, Wash. Filed Nov. 7, 1966.

DUOWRAP

For Machines for Stacking, Conveying and Wrapping Sheets of Pulp and Paper.
First use Sept. 16, 1966.

SN 258,556. Keystone Services, Inc., Arvada, Colo. Filed Nov. 14, 1966.



Applicant claims no exclusive rights in "Triangle Tandem Travelers" as a name of the goods.
For Tandem Sheave Block for Stringing Cables and the Like.
First use Feb. 16, 1959.

SN 258,677. Jos. Dyson & Sons, Inc., Eastlake, Ohio. Filed Nov. 15, 1966.

PORTA-BOOM

For Boom Attachments for Lift Trucks, Including Storage Stands and Parts Thereof.
First use in or about October 1966.

SN 258,688. Loyd R. Fulton, Seattle, Wash. Filed Nov. 15, 1966.

PORTA-DUMP

For Portable Dump Structure Attachment for Trucks and Trailers.
First use on or about Oct. 1, 1966.

SN 259,018. Product Development Laboratories, Inc., West Hartford, Conn. Filed Nov. 18, 1966.



The drawing is lined for the color red.
For Tool Posts and Tool Holders.
First use Aug. 25, 1966.

The drawing is lined for the color red. The mark consists of the symmetric representation of the Letters "PD."
For Tool Posts and Tool Holders.
First use Aug. 25, 1966.

SN 259,193. Westoak Machine Corporation, Oakland, Calif. Filed Nov. 21, 1966.

WESTOAK

For Machines for Applying Pressure Sensitive Tape to Metal Surfaces, Machines for Oiling Steel Surfaces, Metal Grinding Machines, Car Wheel Grinding Machines, Continuous Strip Weld Grinding Machines, Rail Grinding Machines, and Rail Ball Side Grinding Machines.
First use Jan. 16, 1963, on machines for applying pressure sensitive tape to metal surfaces.

SN 259,417. Gallmeyer & Livingston Company, Grand Rapids, Mich. Filed Nov. 23, 1966.

VISAMATIC

For Grinding Machines.
First use on or about Sept. 20, 1965.

SN 265,770. Sani-Clean Products, Inc., Denver, Colo. Filed Mar. 2, 1967.

STEAM WAY

The word "Steam" is disclaimed apart from the mark as shown.
For Heavy-Duty, Industrial-Type Saturated Steam and Suction Vacuums for Cleaning Rugs, Carpeting, Upholstered Furnishings and the Like, and Component Parts Thereof.
First use on or about Nov. 24, 1966.

SN 270,735. SI Handling Systems, Inc., Easton, Pa. Filed May 5, 1967.

LO-TOW

For Floor Supported Material Handling Chain Conveyors.
First use Mar. 30, 1965.

SN 273,556. Multifax Company, Easton, Md. Filed June 12, 1967.

MULTIPAX

For Machines for Case Packing and Tray Loading of Cups, Cans, Jars, Bottles, and the Like.
First use May 5, 1967.

Class 26—Measuring and Scientific Appliances

SN 244,959. American Rule & Block Company, Menominee, Mich. Filed May 5, 1966.

SLIDE-STIK

For Yardsticks.
First use Feb. 8, 1966.

SN 245,835. Dr. H. David Markman, Yonkers, N.Y. Filed May 17, 1966.

TUTORSCOPE

For Slide Viewer.
First use Apr. 7, 1966.

SN 246,284. Del Mar Engineering Laboratories, Los Angeles, Calif. Filed May 23, 1966.

ACOUSTISCOPE

For Electronic Scorer Consisting of a Central Signal Conditioner, Transmission Unit and a Data Reception and Display Unit for Indicating Miss-Distance Data of Armament Fired at a Target.
First use Jan. 17, 1966.

SN 246,850. General Time Corporation, Stamford, Conn., assignee of Astrosonics, Incorporated, Syosset, N.Y. Filed May 31, 1966.

MAGNETAC

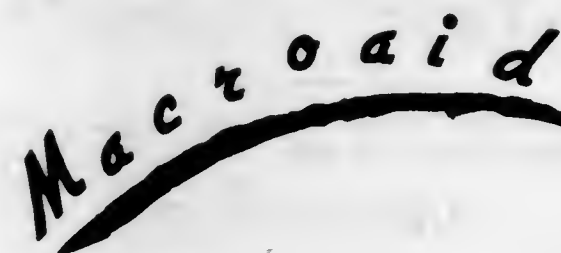
For Electromagnetic Transducer.
First use Dec. 1, 1961.

SN 248,504. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 20, 1966.

SYSTEM A-09

For Copying Machine.
First use Dec. 30, 1965.

SN 248,729. Neefe Optical Lab., Big Spring, Tex. Filed June 23, 1966.



For Eyeglass Lenses.
First use Mar. 16, 1966.

SN 251,343. Textron Inc., Rochester, N.Y. Filed July 29, 1966.

CENTAUR

For Spectacle Cases.
First use June 2, 1966.

SN 254,377. Da-Lite Screen Company, Inc., Warsaw, Ind. Filed Sept. 13, 1966.

CLASS-RITE

For Motion Picture Screens.
First use May 1960.

SN 262,521. Toledo Scale Corporation, Toledo, Ohio. Filed Jan. 13, 1967.

PRICE RITE

For Computing, Printing, Weighing Scales, and Parts Thereof.
First use Dec. 12, 1966.

Class 28—Jewelry and Precious-Metal Ware

SN 258,565. McGrath-Hamin, Inc., Providence, R.I. Filed Nov. 14, 1966.

Smart Creations

Applicant disclaims the term "Creations" separate and apart from the mark as shown. Owner of Reg. No. 774,509.
For Jewelry.
First use on or about Oct. 14, 1966.

SN 273,573. Uncas Manufacturing Company, Providence, R.I. Filed June 12, 1967.

UNICITE

For Jewelry for Personal Wear and Adornment, Not Including Watches.
First use June 1, 1967.

SN 274,690. Royal of Pittsburgh, Inc., Pittsburgh, Pa. Filed June 26, 1967.

Luvbugs

For Jewelry.
First use July 1, 1966.

Class 29—Brooms, Brushes, and Dusters

SN 253,899. Milwaukee Dustless Brush Co., Milwaukee, Wis. Filed Sept. 6, 1966.

SPEEDY-MOP

For Floor Mops.
First use at least as early as Nov. 10, 1965.

SN 259,394. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966. SN 258,379. R. M. Hollingshead Corporation, Camden, N.J. Filed Nov. 10, 1966.



Owner of Reg. Nos. 612,244, 765,989, and others.
For Electric Toothbrushes.
First use May 1, 1966.

SN 260,022. Communication Mfg. Co., Huntington Park, Calif. Filed Dec. 5, 1966.

DUST - A - GO GO

For Dust Collector on the End of a Paddle.
First use on or about Oct. 26, 1966.

SN 274,692. Art & Sign Brush Manufacturing Corporation, Long Island City, N.Y. Filed June 26, 1967.

GOODPOINT

Owner of Reg. No. 432,166.
For Artists' Paint Brushes.
First use Mar. 19, 1942.

Class 30—Crockery, Earthenware, and Porcelain

SN 273,578. Lau Sum, d.b.a. The Ying Company, San Francisco, Calif. Filed June 12, 1967.



'RED DRAGON'

For Chinaware.
First use Oct. 5, 1954.

Class 31—Filters and Refrigerators

SN 258,229. R. M. Hollingshead Corporation, Camden, N.J. Filed Nov. 8, 1966.

PERRY

For Cooling System Filters and Parts for Cooling System Filters.
First use August 1948.



For Cooling System Filters and Parts for Cooling System Filters.
First use Oct. 15, 1965.

Class 32—Furniture and Upholstery

SN 237,012. Modern Clock Advertising Co. Inc., Brooklyn, N.Y. Filed Jan. 21, 1966.

HOLD-EVERYTHING

For Rack for Attachment to Any Convenient Surface, Such as a Wall, Counter, etc., and Having Fixtures for Hanging Articles of Varying Sizes and Shapes.
First use Nov. 3, 1965.

SN 251,565. Robert Thompson's Craftsmen Limited, Kilburn, York, England. Filed Aug. 2, 1966.



Owner of British Reg. No. 525,938, dated Sept. 25, 1961.
For Furniture Specifically Designed for Churches—Namely, Font Covers, Carved Organ Casings, Library Desks and Chairs, Wood Paneling; Custom Furniture for the Home—Namely, Tables, Chairs and Library Fittings; and School Furniture—Namely, Tables, Desks, Chairs, and Library Fittings.
First use Feb. 1, 1929; in commerce Nov. 20, 1943.

SN 257,831. Comfort Lines, Inc., Chicago, Ill. Filed Nov. 3, 1966.

COMFORTLINE

For Stools, Chairs, Carts, Tables; Baby, Youth and Juvenile Furniture—Namely, Baby Bouncers and Baby Walkers.
First use Jan. 30, 1961.

SN 260,331. The General Fireproofing Company, Youngstown, Ohio. Filed Dec. 8, 1966.

DRAW-TILT

For Chairs.
First use Aug. 11, 1966.

SN 260,775. Simmons Company, New York, N.Y. Filed Dec. 14, 1966.

SIMFLEX

Owner of Reg. No. 740,633.
For Mattress Padding Sold as Part of the Mattress.
First use Dec. 5, 1966.

SN 269,602. Penland Distributors, Inc., Dallas, Tex. Filed Apr. 20, 1967. SN 253,861. Temco, Inc., Nashville, Tenn. Filed Aug. 29, 1966.

VINO VENDOR

Without waiver of any of its common law rights, applicant disclaims exclusive right to use of the word "Vino" apart from the combination shown.
For Wine Bottle Display or Storage Rack.
First use Nov. 21, 1966.

Class 33—Glassware

SN 231,974. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Nov. 2, 1965.

SORRENTO

For Glass Tableware—Namely, Tumblers and the Like.
First use on or about Jan. 9, 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 247,771. Champion Heater Company, Inc., St. Louis, Mo. Filed June 10, 1966.



The word "Heater" is disclaimed apart from the mark as shown.

For Oil Burning Portable Space Heater.
First use Aug. 15, 1965; August 1962 as to "Job Makers."

SN 248,089. Admiral Corporation, Chicago, Ill. Filed June 15, 1966.

Comfort-Stat

For Automatic Control Unit for Operating Air Conditioners, and Sold as a Part Thereof.
First use Oct. 21, 1965.

SN 250,699. Arthur J. Tickell, Woodbridge, Conn. Filed July 20, 1966.

NEW ENGLANDER

For Steel and Cast Iron Boilers, Domestic Water Heaters, Residential and Commercial Warm Air Furnaces, Remote and Self-Contained Air Conditioning Units, and Ventilating Fans and Blower Units.
First use June 15, 1958.



For Gas Heaters, Air Conditioners, Combination Gas Heaters and Air Conditioners, and Parts Thereof.
First use Apr. 18, 1966.

SN 254,083. Winnen Incinerator Company, Bedford, Ohio. Filed Sept. 8, 1966.

WINNEN

For Waste Disposal Apparatus—Namely, Incinerators.
First use 1950.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 212,630. Aldens, Inc., Chicago, Ill. Filed Feb. 24, 1965.
For Automobile Tires.

VANGUARD

First use June 28, 1959.
Subj. to Intf. with SN 190,688.

SN 251,252. The Toyo Rubber Industry Company Limited, Nishi-ku, Osaka, Japan. Filed July 28, 1966.



The word "Toyo" when translated into the English language, may vary in meaning, according to pronunciation; "Toyo" may mean "plentiful," "full harvest," "adherents," "orient," "appoint," or "work in hand." Owner of Japanese Reg. No. 508,724, dated Oct. 14, 1957.
For Automobile Tires and Tubes.

SN 254,290. Industrial Gasket & Shim Company, Inc., Meadows, Pa. Filed Sept. 12, 1966.



No claim is made to the representation of the goods appearing on the drawing apart from the mark as shown.
For Gaskets and Shims.
First use on or about June 1, 1966.

SN 258,297. Dodge Cork Company, Incorporated, Lancaster, Pa. Filed Nov. 9, 1966.

CORPLAST

For Flexible Gasket Materials.
First use Jan. 14, 1966.

Class 36—Musical Instruments and Supplies

SN 245,407. MCA Inc., Universal City, Calif. Filed May 11, 1966.



The term "Records" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 625,414, 680,002, and others. For Phonograph Records. First use Feb. 12, 1962.

SN 250,609. Universal Records, Inc., Chicago, Ill. Filed July 19, 1966.

INTONATOR

For Phonograph Disc Records Impressed With Series of Electronically Produced Tones. First use Nov. 10, 1965.

SN 254,050. Gordon H. Halverson, d.b.a. Milwaukee Suburban Sales Co., New Berlin, Wis. Filed Sept. 8, 1966.

TOTE'M POLE

For Phonograph Record Carriers. First use on or about Sept. 3, 1965.

SN 255,809. Mercury Record Productions, Inc., Chicago, Ill. Filed Oct. 5, 1966.



For Phonograph Records. First use Aug. 4, 1966.

SN 255,810. Metro-Goldwyn-Mayer Inc., New York, N.Y. Filed Oct. 5, 1966.

VSP

For Mechanically Grooved Phonograph Records of the Disc Type. First use Feb. 25, 1966.

SN 255,967. Data Packaging Corp., Cambridge, Mass. Filed Oct. 7, 1966.



For Magnetic Tape Reels and Cases. First use on or about Jan. 1, 1966.

SN 258,225. Grammy, Inc., Los Angeles, Calif. Filed Nov. 8, 1966.

SUNBURST

For Phonograph Records. First use Oct. 7, 1966.

SN 259,393. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966.



Owner of Reg. Nos. 612,244, 765,989, and others. For Electric Phonographs and Stereos. First use Oct. 1, 1966.

SN 271,889. Restaurant Associates, Inc., New York, N.Y. Filed May 19, 1967.



For Phonograph Records. First use February 1967.

SN 271,891. Dictaphone Corporation, Rye, N.Y. Filed May 19, 1967.

DICTAMITE

Owner of Reg. No. 716,407. For Sound Recording and Reproducing Machines—Namely, Dictating Machines. First use on or before Apr. 1, 1959.

SN 272,240. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 24, 1967.



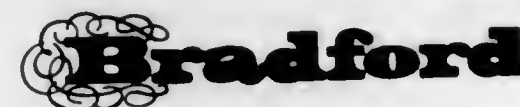
Owner of Reg. Nos. 413,806, 769,912, and others. For Magnetic Tape. First use Apr. 26, 1967.

SN 272,333. Paul Von Beroldingen, San Francisco, Calif. Filed May 25, 1967.

BREAKTHROUGH

For Phonograph Records. First use Apr. 10, 1967.

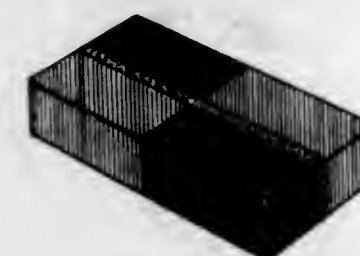
SN 274,685. W. T. Grant Company, New York, N.Y. Filed June 26, 1967.



Owner of Reg. Nos. 768,746, 775,673, and others. For Organs. First use Oct. 1, 1966.

Class 37—Paper and Stationery

SN 222,849. Kimberly-Clark Corporation, Neenah, Wis. Filed July 7, 1965.



The drawing is lined for the colors red and gold. The colors, as indicated by the lining appearing in the drawing, are claimed as an integral feature of the mark. Owner of Reg. Nos. 774,081, 789,675, and 793,652. For Cleaning Tissue Suitable for Hygienic, Cosmetic, or Cleaning Purposes. First use Nov. 4, 1963.

SN 243,334. The Mead Corporation, Dayton, Ohio. Filed Apr. 13, 1966.

MEAD PAN-L BOARD

Owner of Reg. Nos. 404,980, 443,716, and 444,538. For Dimensionally Stable Paperboard. First use December 1959.

SN 251,740. Paper Converting Corporation, Chicago, Ill. Filed Aug. 4, 1966.

HI-TEAR

For Paper Having a Heat Sealable Coating To Allow Paper To Be Formed Into Bags, Envelopes and the Like by a Heat Sealing Process. First use May 15, 1965.

SN 255,173. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Sept. 27, 1966.

SYSTEM A-09

For Copy Paper. First use Aug. 10, 1966.

SN 255,811. Millen Industries, Inc., New York, N.Y. Filed Oct. 5, 1966.



For Shelf Paper and Drawer Lining Paper. First use Aug. 30, 1966.

SN 258,627. Wallace Pencil Company, Maplewood, Mo. Filed Nov. 14, 1966.

GLIDERITER

Owner of Reg. Nos. 775,376 and 829,478. For Ball Point Pens and Felt and Fibre Tip Marking Pens. First use July 18, 1960, on ball point pens.

Class 38—Prints and Publications

SN 237,797. Archway Press, Inc., New York, N.Y. Filed Feb. 2, 1966.



Applicant makes no claim to the right to the exclusive use of the words "Plan" and "Books," apart from the mark in its entirety.

For Books on Architectural Plans and Architecture. First use about Dec. 23, 1965, at least as early as 1946 as to the word "Archway" and design.

SN 253,019. Davis Publications, Inc., New York, N.Y. Filed Aug. 24, 1966.

MOBILE HOME JOURNAL AND MOBILE LIFE

For Periodical Magazine Relating to Travel by Trailers and the Like. First use Aug. 9, 1966.

SN 254,803. Red Devil Inc., Union, N.J. Filed Sept. 20, 1966.
 SN 265,775. Twin Circle Publishing Co., Inc., New York, N.Y. Filed Mar. 2, 1967.

RED DEVIL'S ADVOCATE

For Company Newsletter.
 First use February 1966.

SN 254,820. Universal Decalcomania Corp., Chicago, Ill. Filed Sept. 20, 1966.

HERCULAC

For Printed Pressure Sensitive Transfers and Decals.
 First use Mar. 11, 1966.

SN 255,306. Farmers Market Service, Inc., Indianola, Iowa. Filed Sept. 28, 1966.



Applicant disclaims the words "Farm Market News Letter" apart from the mark as shown. The color red is represented by the lining in the mark on the drawing.
 For Periodical Newsletter.
 First use June 17, 1966.

SN 256,437. EG & G, Inc., Bedford, Mass. Filed Oct. 14, 1966.



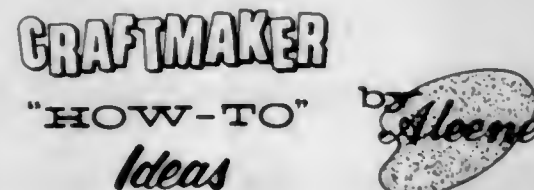
Owner of Reg. Nos. 615,232 and 807,209.
 For Employee Information Magazine.
 First use in or about October 1956.

SN 260,749. IRC, Inc., Philadelphia, Pa. Filed Dec. 14, 1966.

IRC

For Electronics Reference Books—Namely, Manuals, Handbooks, and Guide Books.
 First use August 1966.

SN 262,379. Aleene's Fibre & Floral Supply Company, d.b.a. Aleene's Inc., Temple City, Calif. Filed Jan. 12, 1967.



The words "How-To" and "Ideas" are disclaimed apart from the mark as shown.
 For Handcraft Instruction Booklets.
 First use July 25, 1966.



For Leaflets, Pamphlets, and Books Published From Time to Time.
 First use Jan. 30, 1967.

SN 265,776. Twin Circle Publishing Co., Inc., New York, N.Y. Filed Mar. 2, 1967.

TWIN CIRCLE

For Leaflets, Pamphlets, and Books Published From Time to Time.
 First use Jan. 30, 1967.

Class 39—Clothing

SN 240,043. Kay Windsor, Inc., New Bedford, Mass. Filed Mar. 2, 1966.

ROUTE ONE

For Junior Misses' and Women's Dresses.
 First use Dec. 14, 1964.

SN 245,025. Mary Louise Smith, d.b.a. Korkers, Grants Pass, Oreg. Filed May 5, 1966.

KORKERS

For Safety Sandals.
 First use on or about Sept. 10, 1959.

SN 248,246. Nina Foodwear Co., Inc., Long Island City, N.Y. Filed June 16, 1966.



The representation of the shoes is disclaimed apart from the mark as shown.
 For Women's Shoes.
 First use June 1, 1966.

SN 250,843. Helen of Memphis, Inc., Memphis, Tenn. Filed July 22, 1966.

MISS HELEN

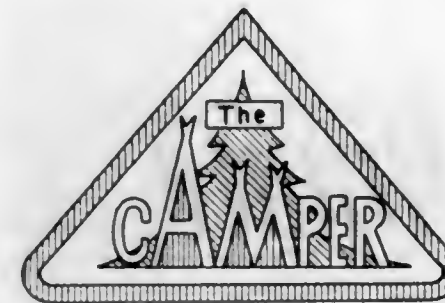
For Women's Coats, Dresses, Suits, and Shoes.
 First use Feb. 17, 1966.

SN 251,738. Neiman-Marcus Company, Dallas, Tex. Filed Aug. 4, 1966.
 SN 258,744. Scott Paper Company, Delaware County, Pa. Filed Nov. 16, 1966.

SILVER KEY

For Women's Coats, Suits, Dresses, Skirts, and Blouses.
 First use Oct. 1, 1961.

SN 252,691. The Status Shoe Corp., New York, N.Y. Filed Aug. 18, 1966.



The drawing is lined for red and green.
 For Shoes.
 First use Aug. 1, 1966.

SN 254,174. Mitsui & Co. Ltd., Kita-ku, Osaka, Japan. Filed Sept. 9, 1966.

RIVERLOFT

For Fabric Made Up Into the Finished Material—Namely, Women's Blouses.
 First use Mar. 22, 1965; in commerce Apr. 15, 1966.

SN 254,300. Mars Manufacturing Company, Inc. of Asheville N.C. Asheville, N.C. Filed Sept. 12, 1966.

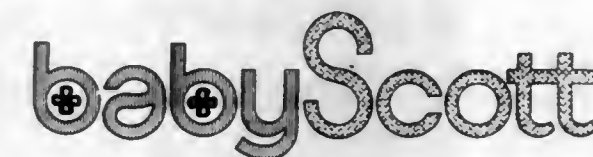
WASTE BASKET BOUTIQUE

For Disposable Dresses, Aprons, Undershorts, Football Jerseys, Headwear, Bibs, Cosmetic Capes, Swim Suits, Caps and Hats.
 First use May 12, 1966.

SN 255,203. Gun Club Sportswear, Des Moines, Iowa. Filed Sept. 27, 1966.



The mark consists of a fanciful presentation of the letters "BA" in the form of a gun sight.
 For Sportswear—Namely, Shooting Vests, Gloves, Sweaters, Coats, Caps, Cover-alls, Underwear, Rainwear, Belts, Trousers, Slacks, Shoes, Hosiery, etc.
 First use July 20, 1966.



The drawing is lined for red and orange. Owner of Reg. No. 669,919.
 For Paper Diapers and Diaper Pants.
 First use on or about Mar. 25, 1966.

SN 259,206. Rosenbaum & Hochberg, Inc., New York, N.Y. Filed Nov. 22, 1966.

BLACK CRYSTAL

For Fur Coats, Jackets, Stoles, and Hats of the Dark Mink Variety.
 First use Nov. 1, 1966.

SN 259,272. Stewart Sportswear Inc., d.b.a. Elisabeth Stewart Swimwear, Bell Gardens, Calif. Filed Nov. 22, 1966.



For Swimwear—Namely, Bathing Suits and Beach Dresses.
 First use Oct. 21, 1966.

SN 260,790. Louis Walter & Company, Inc., Kansas City, Mo. Filed Dec. 14, 1966.

WHEELS

For Men's and Women's Suits and Coats.
 First use Nov. 22, 1966.

SN 260,968. Ship 'N Shore, Inc., Upland, Pa. Filed Dec. 16, 1966.

SHELLIBLE

For Women's and Misses' Blouses and Knitted Tops.
 First use Aug. 4, 1966.

SN 261,073. Griffin-Jaco Mills, Inc., Griffin, Ga. Filed Dec. 19, 1966.

HMC

For Men's and Boys' Underwear—Namely, T-Shirts and Shorts, and Athletic Shirts.
 First use June 20, 1966.

SN 262,289. Ragan Knitting Company, Inc., Thomasville, N.C. Filed Jan. 10, 1967.

MENDPROOF

For Hosiery.
 First use Dec. 20, 1928.

SN 262,629. Sears, Roebuck and Co., Chicago, Ill. Filed Jan. 18, 1967.

MARVELIFT

Owner of Reg. No. 701,867.
For Women's Corsetry—Namely, Brassieres.
First use on or about Nov. 26, 1957.

SN 262,849. Rolf Brauchill Inc. Chicago, Ill. Filed Jan. 19, 1967.

STYLE-KEEP

For Hair Training Nets.
First use Nov. 21, 1966.

SN 262,921. Byer-Rolnick Corporation, Garland, Tex. Filed Jan. 20, 1967.

747

For Men's Hats.
First use on or about Jan. 13, 1967.

SN 262,935. Morton D. Goldman, New York, N.Y. Filed Jan. 20, 1967.

GUY *D.*

Owner of Reg. No. 709,094.
For Women's and Misses' Dresses, Suits, Skirts, Blouses, and Coats.
First use Dec. 15, 1959.

SN 262,947. Macshore Classics, Inc., New York, N.Y. Filed Jan. 20, 1967.

URBANTRY

For Blouses, Skirts, Outer Shirts and Shorts, Trousers of Assorted Lengths, Sweaters and Dresses for Women and Young Women.
First use Dec. 14, 1966.

SN 262,948. Macshore Classics, Inc., New York, N.Y. Filed Jan. 20, 1967.

THE URBAN TREE

For Blouses, Skirts, Outer Shirts and Shorts, Trousers of Assorted Lengths, Sweaters and Dresses for Women and Young Women.
First use Dec. 14, 1966.

SN 263,404. Julius Schmid, Inc., New York, N.Y. Filed Jan. 26, 1967.

CROWN JEWEL

For Household Rubber Gloves.
First use Dec. 28, 1966.

SN 263,989. Electronic Crystals Corporation, New York, N.Y. Filed Feb. 6, 1967.

FEATHERKNITS

For Women's and Misses' Knitted Dresses and Sweaters.
First use Jan. 14, 1937.

Class 40—Fancy Goods, Furnishings, and Notions

SN 233,259. Fashion Tress, Inc., Miami Beach, Fla. Filed Nov. 24, 1965.

CROWN JEWELS

For Wigs and Hairpieces.
First use Nov. 2, 1965.

SN 257,574. Baca Industries Inc., New York, N.Y. Filed Oct. 31, 1966.

Minute Set

For Hair Rollers.
First use Oct. 26, 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 272,335. Deering Milliken, Inc., New York, N.Y. Filed May 25, 1967.

HY-PER-NIT

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers, and Combinations Thereof.
First use on or about May 17, 1967.

SN 272,791. Loomskill, Inc., New York, N.Y. Filed June 1, 1967.

Loomskill

Owner of Reg. No. 502,592.
For Piece Goods of Rayon, Cotton, Wool, Silk, Synthetics, and Combinations Thereof.
First use Mar. 14, 1947.

SN 272,885. Cone Mills Corporation, Greensboro, N.C. Filed June 2, 1967.

POLYSPORT

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combination Thereof.
First use Jan. 30, 1967.

SN 272,886. Cone Mills Corporation, Greensboro, N.C. Filed June 2, 1967.

POLYFORE

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combination Thereof.
First use Dec. 6, 1966.

SN 275,206. Deering Milliken, Inc., New York, N.Y. Filed July 3, 1967.

MILLICOTT

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers, and Combinations Thereof.
First use on or about May 18, 1967.

Class 43—Thread and Yarn

SN 253,958. Compagnie Francaise de Bonneterie, Paris, France. Filed Sept. 7, 1966.

ACCORD PARFAIT

The mark "Accord Parfait" may be translated to mean "perfect agreement" or "perfect harmony." Owner of French Reg. No. 424,261, dated Dec. 11, 1952 (Paris); Natl. Inst. No. 2,757.
For Woolen Yarns.

SN 272,993. Deering Milliken, Inc., New York, N.Y. Filed June 5, 1967.

MILLIPACA

For Yarns.
First use May 22, 1967.

Class 44—Dental, Medical, and Surgical Appliances

SN 254,319. Pulpdent Corporation of America, Boston, Mass. Filed Sept. 12, 1966.

STERISTAT

For Electric Sterilizer for Dental and Medical Instruments.
First use Aug. 29, 1966.

SN 271,676. Spincraft, Inc., Milwaukee, Wis. Filed May 17, 1967.

UNI-CELL

For Urinalysis Filter Units and Pressure Units.
First use Dec. 12, 1962.

SN 274,570. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed June 23, 1967.

PACS

For Pre-Portioned Disposable Amalgam Cartridge System for Dental Restorations.
First use Mar. 29, 1967.

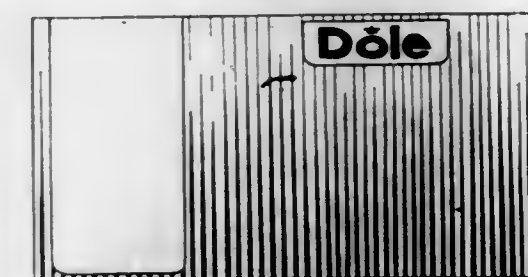
Class 45—Soft Drinks and Carbonated Waters

SN 237,834. The Glacier Company, Cincinnati, Ohio. Filed Feb. 2, 1966.

*Chocolat
royale*

The word "Chocolat" is disclaimed apart from the mark as shown.
For Chocolate Flavored Soft Drink.
First use Nov. 10, 1965.

SN 243,774. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Apr. 19, 1966.



The drawing is lined to indicate light and dark pink. Owner of Reg. Nos. 387,468, 649,040, and others.
For Canned Fruit Juice Drink Containing Water.
First use Feb. 15, 1966.

SN 258,260. Staff Supermarket Associates, Inc., Jericho, N.Y. Filed Nov. 8, 1966.

STAFF

For Carbonated Soft Drinks.
First use January 1959.

SN 268,651. Ozarka Water Company, Los Angeles, Calif. Filed Apr. 10, 1967.

EUREKA SPRINGS



The drawing is lined for yellow and red, but no particular color is claimed. The words "Eureka Springs" and the outline of the map of the State of Arkansas are disclaimed apart from the mark as shown.
For Drinking Water.
First use May 3, 1905.

SN 270,742. Lucky Stores, Inc., San Leandro, Calif. Filed May 5, 1967.

HARVEST DAY

For Canned Fruit Juice Drinks and Canned Fruit Punch, Both Containing Water.
First use Dec. 22, 1966.

Class 46—Foods and Ingredients of Foods

SN 215,658. Manhattan Coffee Company, St. Louis, Mo., assignee, by mesne assignment, of Star Coffee Company, St. Louis, Mo. Filed Apr. 2, 1965.

STAR'S

For Decaffeinated Instant Coffee, and Coffee Other Than Espresso Coffee, for Sale Only to Restaurants, Hotels and Institutions.
First use Oct. 17, 1932.

SN 216,290. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1965.

CORNETS

For Cereal Derived Ready-To-Eat Snacks.
First use Feb. 26, 1965.

SN 240,445. Kentucky Fried Chicken Corporation, Nashville, Tenn. Filed Mar. 8, 1966.



The portrait on the drawing is that of "Harlan Sanders," whose consent is of record. Owner of Reg. Nos. 637,305, 810,835, and others.
For Table Syrup.
First use in or about October 1960.

SN 245,335. Mutnal Foods, Inc., Renton, Wash. Filed May 10, 1966.

SEA SAUSAGE

The word "Sausage" is disclaimed apart from the mark as shown.
For Smoked Sea Food Products—Namely, Smoked Fish and Smoked Oysters.
First use Mar. 1, 1966.

SN 246,774. General Mills, Inc., Minneapolis, Minn. Filed May 27, 1966.

BONGOS

For Cereal Derived Ready To Eat Snacks.
First use Apr. 25, 1966.

SN 246,776. General Mills, Inc., Minneapolis, Minn. Filed May 27, 1966.

BANJOS

For Cereal Derived Ready To Eat Snacks.
First use Apr. 25, 1966.

SN 247,392. Nordica Candy Company, Inc., Jackson, Minn. Filed June 6, 1966.

LYDIA DARRAH

The name "Lydia Darrah" does not represent a particular living individual.
For Candy.
First use May 16, 1966.

SN 247,825. McCormick & Company, Incorporated, Baltimore, Md. Filed June 10, 1966.

HAMBURGER SUPREME

No claim is made to the word "Hamburger" apart from the mark as shown, applicant reserving all of its rights at common law.
For Mix of Seasoning Materials and Other Ingredients Used as a Flavor Improver and Extender for Hamburgers.
First use May 25, 1966.

SN 248,239. Li'l General Stores, Inc., Tampa, Fla. Filed June 16, 1966.



Applicant disclaims the word "Bread" apart from the mark as shown.
For Bread.
First use January 1965.

SN 249,362. Trebor Limited, Woodford Green, Essex, England. Filed June 30, 1966.

GLITTER

For Candy.
First use October 1963; in commerce September 1965.

SN 249,439. Old Judge Coffee Company, St. Louis, Mo. Filed July 1, 1966.

OLD JUDGE

Owner of Reg. Nos. 49,002 and 127,639.
For Coffee.
First use Sept. 13, 1899.

SN 253,766. Keebler Company, Elmhurst, Ill. Filed Sept. 2, 1966.

JELLY PETITES

Applicant disclaims the word "Jelly" apart from the mark as shown.
For Cookies.
First use July 7, 1966.

SN 253,857. The Dob Corporation, Los Angeles, Calif. Filed Sept. 6, 1966.

GINO'S

For Frozen Pizza.
First use October 1962.

SN 253,961. Driscoll Strawberry Associates, Inc., Salinas, Calif. Filed Sept. 7, 1966.



For Fresh Strawberries.
First use May 1, 1966.

SN 254,532. G.C.R. Bakery Corporation, Astoria, N.Y. Filed Sept. 15, 1966.

PIZZIOLA

The word "Pizziola" is fanciful.
For Frozen Pizza.
First use Apr. 27, 1966.

SN 254,977. R. L. Albert & Son, Inc., Bronx, N.Y. Filed Sept. 23, 1966.

ICE CUBES

For Candy.
First use Nov. 30, 1959.

SN 255,491. Zevo, Inc., Los Angeles, Calif. Filed Sept. 29, 1966.



Owner of Reg. No. 798,868.
For Vegetable-Derived Food Dips and Vegetable-Derived Liquid Cream.
First use July 1, 1965.

SN 257,185. Hartz Mountain Products Corp., New York, N.Y. Filed Oct. 25, 1966.

CANARY CHARM

The word "Canary" is disclaimed apart from the mark as shown.
For Canary Food.
First use Apr. 11, 1966.

SN 258,676. Duffy-Mott Company, Inc., New York, N.Y. Filed Nov. 15, 1966.

RUBYETTE

For Canned Seedless Grapes.
First use Oct. 19, 1966.

SN 258,684. Fisher Flouring Mills Co., Seattle, Wash. Filed Nov. 15, 1966.

LIBRA

For Wheat Flour.
First use Sept. 22, 1966.

SN 258,958. G. W. Hume Company, Turlock, Calif. Filed Nov. 18, 1966.

HARVEST RIPE

Without waiver of its common law rights, applicant disclaims the word "Ripe" apart from the association shown.
For Canned Fruits and Canned Vegetables.
First use Sept. 19, 1966.

SN 259,022. Ralston Purina Company, St. Louis, Mo. Filed Nov. 18, 1966.

COUNTRY DINNER

For Cat Food.
First use March 1966.

ELL VEE DEE

Owner of Reg. No. 533,722.
For Fresh and Frozen Fish Fillets and Fresh and Frozen Scallops.
First use June 17, 1949.

SN 259,419. General Foods Corporation, White Plains, N.Y. Filed Nov. 25, 1966.

POST EXTRA

Owner of Reg. Nos. 69,283, 815,557, and others.
For Cereal Breakfast Food.
First use Oct. 11, 1966.

SN 259,438. Lamb-Weston, Inc., Portland, Oreg. Filed Nov. 25, 1966.



For French Fried Shoestring Potatoes.
First use Aug. 23, 1966.

SN 259,475. Shimizu Shokuhin Kabushiki Kaisha, d.b.a. Shimizu Shokuhin Kaisha, Ltd., Shimizu-shi, Shizuoka-ken, Japan. Filed Nov. 25, 1966.



For Canned or Bottled Fish, Shellfish, Meat, Poultry, Fruits, Vegetables; Canned or Bottled Fruit Juice (Non-Alcoholic); Sauce for Steak and Cutlets; Worcester Sauce; and Mayonnaise.
First use December 1931; in commerce January 1935.

SN 259,584. Salada Foods Ltd., Don Mills, Ontario, Canada. Filed Nov. 28, 1966.

SALADA

For Soda Biscuits.
First use Nov. 2, 1966; in commerce Nov. 2, 1966.

SN 260,015. California Almond Growers Exchange, Sacramento, Calif. Filed Dec. 5, 1966.



Owner of Reg. Nos. 141,883, 813,577, and others.
For Shelled and Unshelled Edible Nuts, Kernel Paste, Being a Paste Product Principally of Apricot Kernels and Sugar, and Macaroon Paste, Being a Paste Product Principally of Apricot Kernels, Almonds and Cane Sugar.
First use on or about May 30, 1910.

SN 261,036. L. M. Becker & Co., Appleton, Wis. Filed Dec. 19, 1966.



For Gum Adapted To Be Dispensed From Vending Machines.
First use June 22, 1965.

SN 266,488. Bird-In-Hand Poultry Co., Bird-In-Hand, Pa. Filed Mar. 13, 1967.

BIRD-IN-HAND

For Fresh and Frozen Poultry and Fowl, i.e., Chickens, Capons, Turkeys, Ducks, Geese, Squabs, Pheasants, Rock Cornish Fowl, and Parts Thereof.
First use in or about June 1954.

SN 266,490. Bird-In-Hand Poultry Co., Bird-In-Hand, Pa. Filed Mar. 13, 1967.



For Fresh and Frozen Poultry and Fowl, i.e., Chickens, Capons, Turkeys, Ducks, Geese, Squabs, Pheasants, Rock Cornish Fowl, and Parts Thereof.
First use in or about June 1954.

SN 274,683. Kellogg Company, Battle Creek, Mich. Filed June 26, 1967.

IN

For Cereal-Derived Food Product To Be Used as a Breakfast Food, Snack Food and Confection.
First use June 19, 1967.

Class 47 — Wines

SN 232,856. Heinz P. Hofer, Upper Grand View, N.Y., assignee of Provins Federation de Producteurs de Vins du Valais, d.b.a. Provins, Sion, Valais, Switzerland. Filed Nov. 17, 1965.

CHALET SUISSE

Applicant disclaims the word "Suisse" apart from the mark as shown.
For Wines.
First use March 1964; in commerce April 1964.

SN 236,206. Thallon Wines & Spirits Imports, Inc., New York, N.Y. Filed Jan. 11, 1966.

SCAMPI

For Wines.
First use on or about Sept. 13, 1965.

SN 236,207. Thallon Wines & Spirits Imports, Inc., New York, N.Y. Filed Jan. 11, 1966.

TROVADOR

The word "Trovador" in English means "a poet or singer."
For Wines.
First use on or about Mar. 3, 1965.

SN 264,885. Tosti Giuseppe di Bosca Fratelli e Torlasco S.n.c., Caneili, Asti, Italy. Filed Feb. 17, 1967.

TOSTI

For Wines and Vermouth.
First use July 17, 1958; in commerce July 17, 1958.

SN 275,108. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed June 30, 1967.

Flambeau

For Wines.
First use June 16, 1967.

Class 49 — Distilled Alcoholic Liquors

SN 232,281. John Brown Distilling Company, Inc., d.b.a. John Brown Distilling Company, Harpers Ferry, W. Va. Filed Nov. 8, 1965.

OLD KINDERHOOK

For Bourbons.
First use Oct. 11, 1965.

SN 233,963. H. Underberg-Albrecht, Rheinberg, Germany. Filed Dec. 3, 1965.



All wording, except "Underberg," and the physical conformations of the containers are disclaimed apart from the mark as shown. Owner of U.S. Reg. Nos. 624,157, 632,009, and 701,148.
For Alcoholic Bitters.
First use Jan. 1, 1952; in commerce March 1952.

SN 248,901. Distillerie Konig GmbH, Steinhäusen, Zug, Switzerland. Filed S.R. 6-24-66; Am. P.R. 7-21-67.



The portrait is not the portrait of any living individual, but is a fanciful representation of a connoisseur of quality. Owner of Swiss Reg. No. 215,573, dated Dec. 6, 1965; and U.S. Reg. Nos. 780,476 and 784,126.
For Vodka, Gin, Whisky, Brandy, Liqueurs, Premixed Alcoholic Cocktails, and Alcoholic Bitters.

SN 254,190. William Sanderson & Son Limited, Leith, Edinburgh, Scotland. Filed Sept. 9, 1966.

GOLD 69

Owner of U.S. Reg. Nos. 303,999 and 332,808.
For Scotch Whisky.
First use June 29, 1966; in commerce Aug. 9, 1966.

SN 254,908. Angostura Bitters (Dr. J. G. B. Siegert & Sons) Limited, Port-of-Spain, Trinidad. Filed Sept. 22, 1966.

ANGOSTURA

Owner of Trinidad Reg. No. 58/1933, dated Nov. 13, 1961; and U.S. Reg. Nos. 340,780, 734,672, and others.
For Alcoholic Beverages—namely, Liqueurs and Rum.
First use 1957 on rum; in commerce Nov. 1, 1960.



Applicant disclaims the Russian equivalent of the word "Vodka" (which appears as the second word in Russian below the word "Mule" in the drawing) apart from the balance of the mark as shown therein. A transliteration of the Russian words appearing beneath the word "Mule" is "Mul Vodka."
For Vodka.
First use June 24, 1966.

SN 267,494. Almaden Vineyards, Inc., d.b.a. Almaden Brandy, San Francisco, Calif. Filed Mar. 24, 1967.

ALMADÉN

Owner of Reg. Nos. 602,208, 632,819, and others.
For Brandy.
First use Mar. 28, 1956.

SN 273,002. Simon Levi Company, Ltd., Los Angeles, Calif. Filed June 5, 1967.

ISLANDIA

For Rum.
First use May 26, 1967.

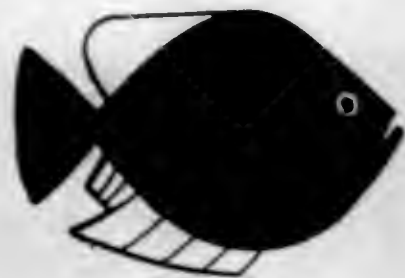
Class 50 — Merchandise Not Otherwise Classified

SN 244,333. Christine Lynch Pty. Limited, Chippendale, New South Wales, Australia. Filed Apr. 26, 1966.

Christine Lynch

"Christine Lynch" is the name of a living individual, Christine Vera Lynch, managing director of Christine Lynch Pty. Limited, whose consent is of record.
For Ornaments, Being Miniature Authentic Antique Furniture Constructed From Metal.
First use in or about July 1965; in commerce July 1965.

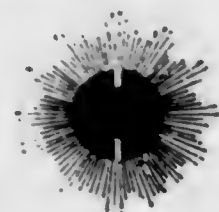
SN 257,534. Sternco Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736.
For Aquarium Accessories—Namely, Ornaments, Planters for Aquarium Tanks, and Decorated Aquarium Plants.
First use Sept. 4, 1962.

Class 51—Cosmetics and Toilet Preparations

SN 227,924. Caron Corporation, New York, N.Y. Filed Sept. 16, 1965.



Owner of Reg. No. 514,245.
For Perfumes, Cosmetics, Toilet Water, and Talcum Powder.
First use Aug. 26, 1965.

SN 248,849. Royall Lyme (Bermuda) Limited, Hamilton, Bermuda. Filed June 23, 1966.

ROYALL BAY RHUM

Applicant disclaims the words "Bay Rhum," apart from the mark as shown, without waiving any of its common law rights therein. Owner of U.S. Reg. Nos. 691,405 and 803,207.
For Cologne and After-Shave Lotion.
First use May 4, 1966; in commerce May 4, 1966.

SN 250,269. Helena Rubinstein, Inc., New York, N.Y. Filed July 14, 1966.

HERBESSENCE

Owner of Reg. Nos. 770,134 and 795,798.
For Facial Mask; Face Cream; Moisturizing Facial Liquid Preparation; Bath Oil; Facial Freshener; Facial Cleansing Cream; and Treated Pads for Application to the Eye Area.
First use July 22, 1959.

SN 255,250. Yardley of London, Inc., Totowa, N.J. Filed Sept. 27, 1966.

NOW BROW

Applicant disclaims the word "Brow" apart from the mark as shown. Owner of Reg. No. 824,187.
For Eyebrow Make-Up.
First use Jan. 13, 1966.

SN 255,339. Noxell Corporation, Baltimore, Md. Filed Sept. 28, 1966.

SHEER SUCCESS

For Dry Skin Liquid Make-Up.
First use May 11, 1966.

SN 258,743. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Nov. 16, 1966.

RIBBONS 'N' THINGS

For Bubble Bath and Cologne.
First use Oct. 18, 1966.

SN 259,511. A. Sulka & Company, New York, N.Y. Filed Nov. 28, 1966.

A. SULKA & COMPANY

Owner of Reg. Nos. 431,996, 827,154, and others.
For Cologne and After Shave Lotion.
First use September 1964.

SN 261,363. Clairol Incorporated, New York, N.Y. Filed Dec. 23, 1966.

LITTLE GIRL BLONDE

Applicant disclaims "Blonde" apart from the mark as shown.
For Hair Lightener.
First use Sept. 26, 1966.

SN 261,973. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 5, 1967.

ZEFF

For Hair Dressing.
First use Nov. 30, 1966.

SN 262,316. Clairol Incorporated, New York, N.Y. Filed Jan. 11, 1967.

SATINESSENCE

For Developing Lotion for Use on Hair.
First use Sept. 26, 1966.

SN 262,661. Legrain, Paris, France. Filed Jan. 17, 1967.

MOUSSEL

For Foaming and Non-Foaming Bath Salts, Effervescent and Non-Effervescent Bath Salt, Foaming Gel for Bath and Shower-Bath.
First use 1957; in commerce 1961.

SN 263,089. L. T. York Company, Brookfield, Mo. Filed Jan. 23, 1967.

GOLDEN TIGER

Owner of Reg. Nos. 321,154, 356,346, and 419,775.
For Hair Tonic, After Shave, and Cologne.
First use Dec. 30, 1966.

SN 269,018. Dep Corporation, Los Angeles, Calif. Filed Apr. 13, 1967.

**SUPER
DEP**

Without relinquishing any common law rights, applicant disclaims the word "Super" apart from the mark as shown. Owner of Reg. Nos. 651,002, 796,115, and 823,066.
For Preparation Used in the Styling, Training and Control of Hard-To-Hold Hair.
First use at least as early as June 20, 1961; May 10, 1956, as to "Dep."

SN 269,019. Dep Corporation, Los Angeles, Calif. Filed Apr. 13, 1967.

**DEP
FOR MEN**

Without relinquishing any common law rights, applicant disclaims the words "For Men" apart from the mark as shown. Owner of Reg. Nos. 651,002, 796,115, and 823,066.
For Preparation Used in the Styling, Training and Control of the Hair.
First use on or about Sept. 15, 1964; May 10, 1956, as to "Dep."

SN 269,020. Dep Corporation, Los Angeles, Calif. Filed Apr. 13, 1967.

**SILVERBLU
DEP**

Without relinquishing any common law rights, applicant disclaims the word "Silverblu" apart from the mark as shown.
For Preparation Used in the Styling, Training and Control of Gray, White or Silver Blonde Hair.
First use at least as early as June 20, 1961; May 10, 1956, as to "Dep."

SN 269,021. Dep Corporation, Los Angeles, Calif. Filed Apr. 13, 1967.

**CRYSTALPINK
DEP**

Without relinquishing any common law rights, applicant disclaims the word "Crystallpink" apart from the mark as shown. Owner of Reg. Nos. 651,002, 796,115, and 823,066.
For Preparation Used in the Styling, Training and Control of the Hair.
First use at least as early as June 20, 1961; May 10, 1956, as to "Dep."

Class 52—Detergents and Soaps

SN 243,987. M.J.M. International, Inc., Brooklyn, N.Y., assignee of J. Hershkowitz, Inc., Brooklyn, N.Y. Filed Apr. 21, 1966.

**GONE
G NE**

For Spot Remover.
First use Mar. 25, 1966.

TM 842 O.G.—4

Basic
-L

Owner of Reg. No. 772,022.
For Cleaning Composition for Laundering.
First use Mar. 10, 1964.

SN 247,261. Shaklee Products, Hayward, Calif. Filed June 3, 1966.

Basic
-i

Owner of Reg. No. 772,022.
For Cleaning Composition for Industrial Purposes.
First use July 3, 1963.

SN 247,262. Shaklee Products, Hayward, Calif. Filed June 3, 1966.

Basic
-R

Owner of Reg. No. 772,022.
For Cleaning Composition for Colorfast Fabrics—Namely, Rugs and Upholstery.
First use Oct. 5, 1962.

SN 249,291. Almo Laboratories Co. Inc., Cedar Grove, N.J. Filed June 30, 1966.



For Laundry Detergents for Industrial Use.
First use 1955.

SN 251,328. Plasti-Kote, Inc., Medina, Ohio. Filed July 29, 1966.
 SN 261,174. Wasatch Chemical Company, Salt Lake City, Utah. Filed Dec. 20, 1966.

SPRA-CON

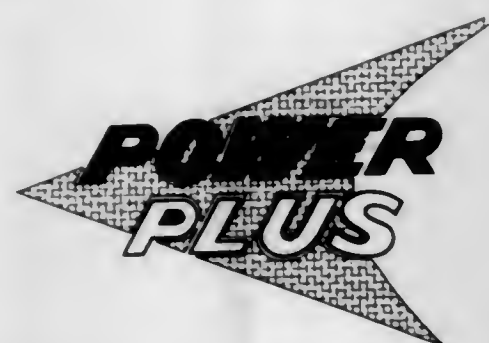
For Electrical Contact Cleaner and Lubricant.
 First use Nov. 15, 1965.

SN 254,127. Clairol Incorporated, New York, N.Y. Filed Sept. 9, 1966.

TOUCH O' SUN

For Hair Shampoo.
 First use July 8, 1966.

SN 256,823. Calgon Corporation, Pittsburgh, Pa. Filed Oct. 20, 1966.



The drawing is lined for the color yellow.
 For Detergent for Use in Cleaning Automobiles and Other Vehicles With Spray Equipment in Commercial Vehicle-Cleaning Facilities.
 First use Aug. 16, 1966.

SN 257,263. Fairway Foods, Inc., St. Paul, Minn. Filed Oct. 26, 1966.

FAIRWAY

Owner of Reg. Nos. 197,673, 804,952, and others.
 For Detergent for Laundry and General Household Use.
 First use Aug. 1, 1966.

SN 257,303. Oakite Products, Inc., New York, N.Y. Filed Oct. 26, 1966.

VERSADET

For Biodegradable Cleaning Preparation for Industrial Use.
 First use Mar. 17, 1965.

SN 258,244. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Nov. 8, 1966.

PIPE DREME

For Drain Cleaner.
 First use Jan. 14, 1966.

SN 258,609. Stiles-Kem Sales Corporation, Waukegan, Ill. Filed Nov. 14, 1966.

TORPEDO

For Liquid Scale Remover Chemical Composition.
 First use Aug. 15, 1966.



For Laundry Detergent in Powdered Form.
 First use Sept. 28, 1965.

SN 262,227. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

M-2

For Enema Soap.
 First use Nov. 18, 1959.

SN 266,801. Texize Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

SPRAYTEX

For Spray Cleaner for Industrial Use.
 First use July 12, 1966.
 Subj. to Intf. with SN 273,711.

SN 268,287. Caron Corporation, New York, N.Y. Filed Apr. 4, 1967.

CARON

Owner of Reg. No. 164,476.
 For Hand, Bath, and Facial Soap.
 First use Aug. 1, 1923.

SN 271,415. The Solarine Company, Baltimore, Md. Filed May 15, 1967.

HI-PINE

For Pine Scrub Soap Having Deodorizing Properties for Use on Floors, Woodwork, and Painted Surfaces.
 First use January 1953.

SN 272,329. Skasol Incorporated, San Francisco, Calif. Filed May 25, 1967.

SKACETROL

Owner of Reg. No. 722,366.
 For Scale Solvent for Use in Plumbing Fixtures, Sterilizers, Coffee Urns, Tile Work, Boilers, Water Heaters, Cooling Towers, and Other Water Bearing Equipment.
 First use July 8, 1959.

SN 273,711. Sanitek Products, Inc., Los Angeles, Calif. Filed June 14, 1967.

SPRAYTEK

For Cleaner and Degreaser for Use on Floors, Walls, Glass, Machinery, Tools, and Equipment.
 First use at least as early as 1962.
 Subj. to Intf. with SN 266,801.

SERVICE MARKS**Class 100 — Miscellaneous**

SN 251,416. Foodland, Inc., Cleveland, Ohio. Filed Aug. 1, 1966.

SN 233,543. Howard E. Unrue, Jr., d.b.a. Taco Lita, Pomona, Calif. Filed Nov. 29, 1965.

TACO LITA

The word "Taco" is disclaimed apart from the mark as shown.
 For Restaurant Services.
 First use Feb. 1, 1956.

SN 245,359. Urban Land Institute, Washington, D.C. Filed May 10, 1966.



For Association Services—Namely, Promoting the Better Planning and Development of Urban Areas.
 First use June 4, 1959.

SN 248,762. A-Rock Copy Service Ltd., Melrose Park, Ill. Filed June 23, 1966.

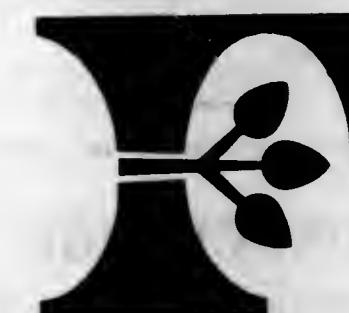


For Copying Printing and Reproducing Advertising for Others.
 First use on or about Mar. 17, 1963.

SN 249,546. Mai-Kai, Inc., d.b.a. Mai-Kai Restaurant, Fort Lauderdale, Fla. Filed July 5, 1966.

MAI-KAI

Owner of Reg. No. 764,025.
 For Providing Meals, Refreshments, Beverages, and Restaurant and Catering Services.
 First use Dec. 28, 1956.



For Advisory and Consultation Services in Connection With the Management, Organization, Construction, and Operation of Wholesale and Retail Food Establishments.
 First use Apr. 28, 1964.
 Subj. to Intf. with SN 250,468.

SN 260,225. American Printed Fabrics Council, Inc., New York, N.Y. Filed Dec. 7, 1966.



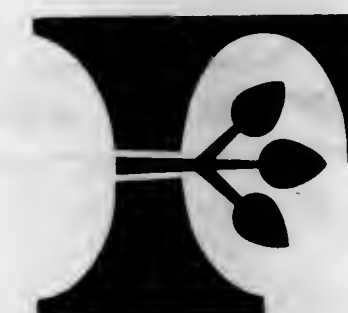
Applicant disclaims exclusive right to the term "Member-1966" apart from the mark as shown.

For Association Services in the Field of Printed Fabrics, Such as Focusing Industry, Press and Other Communication Media, and Consumer Attention on Printed Fabrics, and Educating the Press, Radio, Television, and Consumers on Proper Use of Prints; Building and Sustaining Long-Range Consumer Interest in and Demand for Fashion Prints; Encouraging and Stimulating Design Creativity; and Acting as a Clearing House for Business and Fashion Information on Printed Textiles.

First use on or about Apr. 21, 1966.

Class 101 — Advertising and Business

SN 243,313. Foodland, Inc., Cleveland, Ohio. Filed Apr. 13, 1966.



For Supermarket and Food Store Services.
 First use Nov. 18, 1964.
 Subj. to Intf. with SN 250,468.

SN 244,323. W. T. Grant Company, New York, N.Y. Filed Apr. 26, 1966.

GRANT CITY

Owner of Reg. No. 806,112.
For General Merchandise Department Store Services and the Leasing of Food Supermarket Facilities.
First use Aug. 6, 1964.

SN 249,192. Uni-Charge Systems, Inc., Springfield, Mass. Filed June 28, 1966.

UNI-CHARGE

For Leasing of Tabulating Equipment and Electronic Data Processing Equipment and Also Lease-Time on Electronic Data Processing Equipment.
First use Jan. 5, 1966.

SN 250,468. The Fleming Co. Incorporated, Topeka, Kans. Filed July 18, 1966.



For Distribution, Operational and Merchandising Services Supplied to Owner-Operator Stores of the Supermarket Type.
First use October 1962.
Subj. to Intf. with SN 243,313 and SN 251,416.

SN 252,838. Fleming-Potter Company, Incorporated, Peoria, Ill. Filed Aug. 22, 1966.



For Printing Services.
First use 1938.

SN 253,833. Atlantic Company, Atlanta, Ga. Filed Sept. 6, 1966.



Applicant disclaims exclusive right in "Food Shops" apart from the mark as shown, but waives no common law rights therein.

For Providing Food Shopping Facilities.
First use on or about June 10, 1965.

SN 255,094. Income Tax Service Company, Flint, Mich. Filed Sept. 26, 1966.

**LOOK FOR
THE GREEN OVAL**

For Preparing Income Tax Statements.
First use Dec. 1, 1965.

SN 258,146. Ralston Purina Company, St. Louis, Mo. Filed Nov. 7, 1966.

CHECK-R-BOARD

Owner of Reg. Nos. 269,158, 773,299, and others.
For Feed Store Services.
First use July 1, 1929.

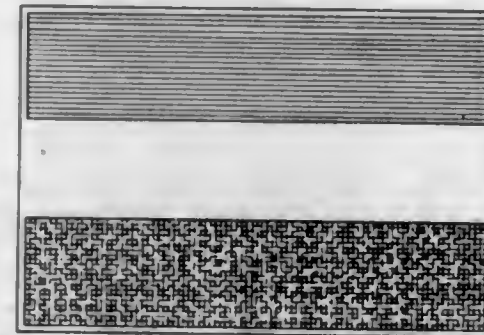
SN 270,389. Job-Line, Inc., Boston, Mass. Filed May 1, 1967.

JOB-LINE

For Listing Employment Opportunities at a Telephone Number That Can Be Dialed by Anyone.
First use at least as early as Apr. 15, 1967.

Class 102 — Insurance and Financial

SN 238,600. Bankamerica Service Corporation, San Francisco, Calif., assignee of Bank of America National Trust and Savings Association, San Francisco, Calif. Filed Feb. 11, 1966.



The drawing is lined for blue and gold. The drawing constitutes three colored bands—blue, white, and gold.
For Credit Financing Services, Including Administering Consumer Credit Plans and Collecting Through Central Billing Systems.
First use during or before March 1960.

SN 250,559. Carte Blanche Corporation, Los Angeles, Calif. Filed July 19, 1966.

BANKER'S CLUB

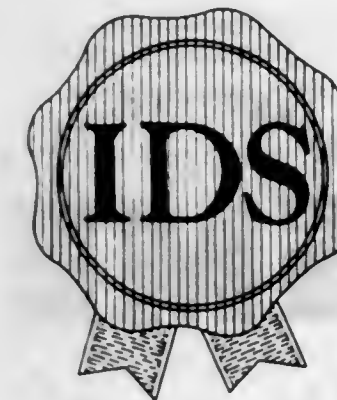
For Extension of Credit to Customers Who Purchase at Subscribing Retail Establishments, and Making Collections From Such Customers Through a Central Billing System.
First use July 1, 1966.

SN 255,097. Creditthrift Financial Management Corporation, Evansville, Ind., by change of name from Interstate Management Corporation. Filed Sept. 26, 1966.

**CREDITWAY
OF AMERICA**

For Consumer Financing Services.
First use during August 1964.

SN 267,527. Investors Diversified Services, Inc., Minneapolis, Minn. Filed Mar. 24, 1967.



The seal on the drawing is lined for red; the ribbon represents no particular color. Owner of Reg. No. 818,859; applicant's related company owner of Reg. No. 814,697.

For Investment Services—Namely, Advising Investment Companies, and the Brokerage of Investment Securities.
First use Jan. 23, 1967.

Class 103 — Construction and Repair

SN 211,323. Lee Turzillo Contracting Company, Brecksville, Ohio. Filed Feb. 3, 1965.

BAGPIPE

For Engineering and Grouting Services in Stabilizing, Fluid Sealing, Bracing, or Reinforcing Foundations, Bulkheads, Dams, and Other Substructures in Situ To Prevent Future Settlement or Lateral Movement of the Same.
First use Feb. 15, 1964.

SN 252,553. The Dow Chemical Company, Midland, Mich. Filed Aug. 17, 1966.

ZONELOCK

For Chemical Treatment of Wells and Underground Earth Formations.
First use at least as early as Apr. 14, 1966.

SN 267,781. Simoniz Company, Chicago, Ill. Filed Mar. 29, 1967.

CUSTOMATIC

For Automobile Washing and Polishing.
First use Mar. 2, 1967.

Class 104 — Communication

SN 258,833. Newsday, Inc., Garden City, N.Y. Filed Nov. 16, 1966.

TELSTOCK

For Service Relating to Stock Quotations by Telephone.
First use Oct. 28, 1966.

Class 105 — Transportation and Storage

SN 236,457. D. L. Bergman, d.b.a. See & Sea Underwater Holidays, Berkeley, Calif. Filed Jan. 14, 1966.



For the purpose of registration, no claim is made to the exclusive right to use the words "Underwater Holidays," but applicant waives none of his common law rights therein.

For Travel Service, Including Arranging for Tours Featuring the Availability of Underwater Sports and Instruction Therein.
First use October 1965.

SN 244,484. Global Travel, Inc., Rosslyn, Va. Filed Apr. 28, 1966.

**GLOBAL TRAVEL INC.**

For Travel Agency Services.
First use Nov. 15, 1965.

SN 255,796. Gogo Corp., New York, N.Y. Filed Oct. 5, 1966.

PARTY RICO

For Travel Services—Namely, Operating Tours Including Transportation, Accommodations, and All Incidentals Relating to the Performance of Such Services.
First use June 1965.

SN 255,797. Gogo Corp., New York, N.Y. Filed Oct. 5, 1966.

DINE-A-RICO

For Travel Services—Namely, Operating Tours Including Transportation, Accommodations, and All Incidentals Relating to the Performance of Such Services.
First use June 15, 1965.

SN 260,744. The Greyhound Corporation, Chicago, Ill. Filed Dec. 14, 1966.



Owner of Reg. Nos. 541,197, 797,619, and others.
For Preplanned Tour Services for Groups and Individuals.
First use on or about Mar. 1, 1930.

Class 107 — Education and Entertainment

SN 265,010. George Carlson, d.b.a. George Carlson and Associates, Seattle, Wash. Filed Feb. 20, 1967.

THE TRAVELER

For Entertainment Services—Namely, the Presentation of Documentary Television Programs Concerning Landmarks of Historical Significance.
First use Feb. 7, 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 257,070. National Association of Dealers in Antiques, Inc., Whitewater, Wis. Filed Oct. 24, 1966.



For Indicating Membership in Applicant Association.
First use June 1961.

SN 257,094. Sales and Marketing Executives-International, Inc., New York, N.Y. Filed Oct. 24, 1966.



For Indicating Membership in Applicant.
First use during October 1961.

SN 260,644. Boating Industry Association, Chicago, Ill. Filed Dec. 13, 1966.



Owner of Reg. Nos. 672,639, 750,694, and others.
For Indicating Membership in a National Organization of Boat Owners, Established To Protect and To Promote the Interests of Boatmen and Their Sport.
First use on or about Feb. 13, 1966.

CERTIFICATION MARKS

Class A — Goods

SN 259,948. The Maryland Asphalt Association, Inc., Baltimore, Md. Filed Dec. 2, 1966.

SMOOTH SEAL

The mark certifies that the material to which the mark is applied has been produced by a member of the applicant association and conforms to minimum standard specifications of quality adopted by the association.
For Asphalt Preparation To Be Used for a Special Type of Road Resurfacing.
First use 1960.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

- 834,911. AKWASEAL. Ashland Oil & Refining Company, assignee of Archer-Daniels-Midland Company. SN 226,992. Pub. 6-6-67. Filed 9-2-65.
834,912. HOSTAPHAN. Canadian Hoechst Limited, assignee of American Hoechst Corporation. SN 229,044. Pub. 6-27-67. Filed 10-1-65.
834,913. ACRA-SEALZ. Uniroyal (1966) Ltd., by change of name from Dominion Rubber Company, Limited. SN 238,186. Pub. 6-27-67. Filed 2-7-66.
834,914. STA-GREEN. Parker Fertilizer Company. SN 241,075. Pub. 6-27-67. Filed 3-15-66.
834,915. BFI. Bedford Farms, Inc. SN 241,735. Pub. 5-16-67. Filed 3-24-66.
834,916. PAKON. Louis S. Besso, d.b.a. Pakon Manufacturing Company. SN 244,390. Pub. 6-27-67. Filed 4-27-66.
834,917. BEULAH PRODUCTS. Trapp and Sons. SN 246,967. Pub. 6-27-67. Filed 5-31-66.
834,918. GATAK. G and A Laboratories, Inc. SN 248,695. Pub. 3-28-67. Filed 6-22-66.
834,919. ENCRON. American Enka Corporation. SN 253,950. Pub. 4-4-67. Filed 9-7-66.

Class 2 — Receptacles

- 834,920. VIKING. The American Furniture Co. MULTIPLE CLASS (Classes 2, 3, 21, and 32). SN 259,367. Pub. 6-27-67. Filed 11-25-66.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 834,920. (See Class 2 for this trademark.)
834,921. PICO. Brecher Brothers, Inc. MULTIPLE CLASS (Classes 3 and 39). SN 193,446. Pub. 6-27-67. Filed 5-14-64.
834,922. PET-PALACE AND DESIGN. R. G. Barry Corporation, d.b.a. The House of Foam. SN 256,192. Pub. 6-27-67. Filed 10-11-66.

Class 4 — Abrasives and Polishing Materials

- 834,923. KING LUSTRE AND DESIGN. Johnson Chemical Co., Inc. SN 243,246. Pub. 6-27-67. Filed 4-12-66.
834,924. KAO. Yadro Chemical Company. MULTIPLE CLASS (Classes 4, 6, and 52). SN 244,052. Pub. 6-27-67. Filed 4-21-66.
834,925. TUFF-GLOW. Multi-Clean Products, Incorporated. SN 251,450. Pub. 6-27-67. Filed 8-1-66.

Class 6 — Chemicals and Chemical Compositions

- 834,924. (See Class 4 for this trademark.)
834,926. SUN-FRESH. The Calvert Chemical Company. SN 198,715. Pub. 10-19-65. Filed 7-29-64.

- 834,927. IMMERSIT. American Gas & Chemicals, Inc. SN 227,808. Pub. 6-27-67. Filed 9-15-65.
834,928. PROSYLVEX. Societe Nationale des Petroles d'Aquitaine. SN 245,649. Pub. 6-27-67. Filed 2-15-66.
834,929. JPS. Joiner Positive Seals, Inc. SN 246,315. Pub. 6-27-67. Filed 5-23-66.
834,930. NEGOMEL. Imperial Chemical Industries Limited. SN 246,513. Pub. 6-27-67. Filed 5-11-66.
834,931. FOAMGARD. W. R. Grace & Co. SN 247,224. Pub. 6-27-67. Filed 6-3-66.
834,932. MISCELLANEOUS DESIGN. The Anslu Company. SN 255,954. Pub. 6-27-67. Filed 10-7-66.
834,933. SURE-STOP AND DESIGN. Pittsburgh-Penn Oil Company. SN 256,680. Pub. 6-27-67. Filed 10-18-66.
834,934. CCI. Catalysts and Chemicals, Inc. SN 259,405. Pub. 6-27-67. Filed 11-25-66.
834,935. SALSBURY LABORATORIES. Salsbury Laboratories. SN 259,472. Pub. 6-27-67. Filed 11-25-66.
834,936. S AND DESIGN. Salsbury Laboratories. SN 259,473. Pub. 6-27-67. Filed 11-25-66.
834,937. CROMYLITE. The Udyllite Corporation. SN 259,489. Pub. 6-27-67. Filed 11-25-66.
834,938. ROPLATE. R. O. Hull & Company, Inc. SN 259,549. Pub. 6-27-67. Filed 11-28-66.
834,939. CYTHION. American Cyanamid Company. SN 264,786. Pub. 6-27-67. Filed 2-16-67.
834,940. RHEUMANOSTICON. Organon Inc. SN 268,004. Pub. 6-27-67. Filed 3-31-67.
834,941. LASTICHEM. The Procter & Gamble Company. SN 268,547. Pub. 6-27-67. Filed 4-7-67.
834,942. GLOBINTROL. Chas. Pfizer & Co., Inc. SN 268,760. Pub. 6-27-67. Filed 4-10-67.
834,943. BAKCAR. E. I. du Pont de Nemours and Company. SN 268,851. Pub. 6-27-67. Filed 4-11-67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

- 834,944. MARXMAN AND DESIGN. Mastercraft Pipes, Inc. SN 252,673. Pub. 6-27-67. Filed 8-18-66.
834,945. JACK OF CLUBS. Gessner Products Company, Inc. SN 252,844. Pub. 6-27-67. Filed 8-22-66.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

- 834,946. PROTECTO KADDY AND DESIGN. Protecto Plastics, Inc. SN 224,330. Pub. 11-8-66. Filed 7-27-65.
834,947. STAGECOACH. Colt's Inc. SN 246,160. Pub. 3-21-67. Filed 5-20-66.
834,948. DIAMONDBACK. Colt's Inc. SN 250,244. Pub. 6-27-67. Filed 7-14-66.

Class 10 — Fertilizers

- 834,949. SUBURBAN. Emhart Corporation, assignee of Plymouth Cordage Company. SN 219,604. Pub. 6-27-67. Filed 5-24-65.

- 834,950. SONICO AND DESIGN. Kaiser Aluminum & Chemical Corporation, assignee of Southern Nitrogen Company, Inc. SN 222,304. Pub. 6-27-67. Filed 6-29-65.
- 834,951. ANGEL CITY. Los Angeles Seed Co., Inc. SN 234,442. Pub. 12-13-66. Filed 12-13-65.
- 834,952. KEY-EL. Kaiser Aluminum & Chemical Corporation, assignee of Southern Nitrogen Company, Inc. SN 255,649. Pub. 6-27-67. Filed 10-3-66.
- 834,953. UNIPHOS. Chevron Chemical Company. SN 261,717. Pub. 6-27-67. Filed 12-30-66.

Class 12—Construction Materials

- 834,954. AQUA-SHIELD. The Camp Company, Inc. SN 246,263. Pub. 6-27-67. Filed 5-23-66.
- 834,955. LAMITEX. Franklin Fibre-Lamitex Corp. SN 249,523. Pub. 6-27-67. Filed 7-5-66.
- 834,956. LUSTRE-COTE. M. E. Joyner, d.b.a. M. E. Joyner Manufacturing Company. SN 263,238. Pub. 6-27-67. Filed 1-25-67.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 834,957. HH (DESIGN). Hünnebeck G.m.b.H. MULTIPLE CLASS (Classes 13, 14, and 23). SN 232,785. Pub. 6-27-67. Filed 11-16-65.
- 834,958. HERSEY ETC. AND DESIGN. Hersey-Sparling Meter Company. MULTIPLE CLASS (Classes 13 and 26). SN 237,449. Pub. 6-27-67. Filed 1-27-66.
- 834,959. DELTA AND DESIGN. Sterno Industries, Inc. SN 245,523. Pub. 6-27-67. Filed 5-12-66.
- 834,960. VIBRESIST. Russell, Burdall & Ward Bolt and Nut Company. SN 264,705. Pub. 6-27-67. Filed 2-15-67.

Class 14—Metals and Metal Castings and Forgings

- 834,957. (See Class 13 for this trademark.)
- 834,961. REYMET. Reynolds Metals Company. SN 246,947. Pub. 6-27-67. Filed 5-31-66.
- 834,962. BAXTRON. E. I. du Pont de Nemours and Company. SN 268,449. Pub. 6-27-67. Filed 4-6-67.

Class 15—Oils and Greases

- 834,963. UP TUNE. Estes Corporation. MULTIPLE CLASS (Classes 15 and 52). SN 250,327. Pub. 6-27-67. Filed 6-29-66.
- 834,964. SI-O-FREE. Stauffer Chemical Company. SN 254,949. Pub. 6-27-67. Filed 9-22-66.
- 834,965. TRANSDRAULIC. Tracto Products, Inc. SN 258,172. Pub. 6-20-67. Filed 11-7-66.
- 834,966. ORANGE DISC (DESIGN). Gulf Oil Corporation. SN 261,612. Pub. 6-27-67. Filed 12-29-66.

Class 16—Protective and Decorative Coatings

- 834,967. DURAVIN. The Thermoclad Company. SN 219,083. Pub. 1-17-67. Filed 5-17-65.
- 834,968. TRAFFIC TOP. Quikrete Company. SN 250,025. Pub. 5-2-67. Filed 7-11-66.

- 834,969. SPRA-TEX. Industrial Aerosol Specialties Corp. SN 252,007. Pub. 6-27-67. Filed 8-9-66.

Class 17—Tobacco Products

- 834,970. F.A.C. Armstead B. Hudnell. SN 221,930. Pub. 1-11-66. Filed 6-24-65.
- 834,971. EVENING HOURS. Lane Limited. SN 243,680. Pub. 1-3-67. Filed 4-18-66.
- 834,972. BRASS BUTTONS. Wilson and Acree Cargill, Inc., assignee of Larus & Brother Company. SN 256,362. Pub. 6-27-67. Filed 10-12-66.
- 834,973. IDLEWILD. Rembrandt Tobacco Corporation (Overseas) Limited. SN 257,083. Pub. 6-27-67. Filed 10-24-66.
- 834,974. THORA. Universal Cigar Corporation. SN 267,493. Pub. 6-27-67. Filed 3-24-67.
- 834,975. DELMONICO. Universal Cigar Corporation. SN 267,579. Pub. 6-27-67. Filed 3-27-67.
- 834,976. PAR 5 AND DESIGN. Philip Morris Incorporated. SN 268,557. Pub. 6-27-67. Filed 4-7-67.
- 834,977. COMBO. Philip Morris Incorporated. SN 268,558. Pub. 6-27-67. Filed 4-7-67.

Class 18—Medicines and Pharmaceutical Preparations

- 834,978. PURAPEN. Beecham Group Limited, d.b.a. Beecham Research Laboratories. SN 236,556. Pub. 6-27-67. Filed 1-17-66.
- 834,979. TEGRA-TABS. The Kendall Company. SN 238,542. Pub. 6-27-67. Filed 2-10-66.
- 834,980. MEAD JOHNSON LABORATORIES RESEARCH FOR LIFE. Mead Johnson & Company. SN 244,602. Pub. 6-27-67. Filed 4-29-66.
- 834,981. KAVAFORM. Spezialchemie Gesellschaft mit beschränkter Haftung & Co. Arzneimittelwerk. SN 245,027. Pub. 6-27-67. Filed 5-13-66.
- 834,982. DELFA. Aktieselskabet Lagerman, Junr. MULTIPLE CLASS (Classes 18 and 46). SN 246,219. Pub. 6-27-67. Filed 5-6-66.
- 834,983. GLAUCOSTAT. Laboratoires Chibret, Societe Anonyme. SN 247,370. Pub. 6-27-67. Filed 6-6-66.
- 834,984. RUMATONE. The National Laboratories Corporation. SN 248,509. Pub. 4-4-67. Filed 6-20-66.
- 834,985. SO-BA. Laurice of London, Limited. SN 248,920. Pub. 6-27-67. Filed 6-24-66.
- 834,986. NEOSPECT. Lemmon Pharmacal Company. SN 249,169. Pub. 6-27-67. Filed 6-28-66.
- 834,987. LYTEERS-Z. Barnes-Hind Ophthalmic Products, Inc. SN 249,493. Pub. 6-27-67. Filed 7-5-66.
- 834,988. NORDEN LABORATORIES AND DESIGN. Norden Laboratories, Inc. SN 250,018. Pub. 6-27-67. Filed 7-11-66.
- 834,989. REDUCASE. F.L.N., Incorporated. SN 252,058. Pub. 5-30-67. Filed 8-10-66.
- 834,990. TRUCE. Menley & James Laboratories, Ltd. SN 253,154. Pub. 6-27-67. Filed 8-25-66.
- 834,991. DALMANE. Hoffmann-La Roche Inc. SN 254,541. Pub. 6-27-67. Filed 9-15-66.
- 834,992. NEOCLOX. American Home Products Corporation. SN 263,315. Pub. 6-27-67. Filed 1-26-67.
- 834,993. ASCUMIST. Astra Pharmaceutical Products, Inc. SN 268,274. Pub. 6-27-67. Filed 4-4-67.
- 834,994. ASCOMIST. Astra Pharmaceutical Products, Inc. SN 268,275. Pub. 6-27-67. Filed 4-4-67.

- 834,995. SANGUATINIC. Vitamins, Inc. SN 268,658. Pub. 6-27-67. Filed 4-10-67.
- 834,996. MEGACE. Mead Johnson & Company. SN 268,848. Pub. 6-27-67. Filed 4-11-67.

Class 19—Vehicles

- 834,997. ZUNDAPP. Zundapp-Werke, GmbH. MULTIPLE CLASS (Classes 19 and 23). SN 238,029. Pub. 6-27-67. Filed 2-3-66.
- 834,998. GLASSHOPPER. Submerautics Ltd. SN 250,695. Pub. 6-27-67. Filed 7-20-66.
- 834,999. CARIBEE. Velocidad, Inc., d.b.a. Fiberfab. SN 250,789. Pub. 6-27-67. Filed 7-21-66.
- 835,000. COBRA. Southern Fiber Glass Products, Inc. SN 251,659. Pub. 6-27-67. Filed 8-3-66.
- 835,001. TRAVEL QUEEN. Travel Queen Coaches, Inc. SN 252,043. Pub. 6-27-67. Filed 8-9-66.
- 835,002. TRAIL-ET AND DESIGN. Trail-Et, Inc. SN 252,221. Pub. 6-27-67. Filed 8-11-66.
- 835,003. AP. AP Parts Corporation. SN 252,631. Pub. 6-27-67. Filed 8-18-66.

Class 21—Electrical Apparatus, Machines, and Supplies

- 834,920. (See Class 2 for this trademark.)
- 835,004. MARTEL. Martel Electronics Sales, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 223,428. Pub. 6-27-67. Filed 7-15-65.
- 835,005. KUTHE. International Telephone and Telegraph Corporation. SN 238,354. Pub. 6-27-67. Filed 2-8-66.
- 835,006. TRANS COM AND DESIGN. Communications Company, Inc. SN 238,713. Pub. 6-27-67. Filed 2-14-66.
- 835,007. TITAN. General Battery and Ceramic Corp. SN 241,891. Pub. 6-27-67. Filed 3-25-66.
- 835,008. BLACKSTONE. Blackstone Corporation. SN 243,217. Pub. 6-27-67. Filed 4-12-66.
- 835,009. TEENIE-BEENIE. Spacetrone, Inc. SN 244,534. Pub. 6-27-67. Filed 4-28-66.
- 835,010. DELTA AND DESIGN. Sterno Industries, Inc. SN 245,524. Pub. 6-27-67. Filed 5-12-66.
- 835,011. FRANKLIN PLASTICS. Franklin Fibre-Lamitex Corp. SN 247,217. Pub. 6-27-67. Filed 6-3-66.
- 835,012. TRUAC. Stevens-Arnold Inc. SN 248,859. Pub. 6-27-67. Filed 6-23-66.
- 835,013. FRANPLAS. Franklin Fibre-Lamitex Corp. SN 249,154. Pub. 6-27-67. Filed 6-28-66.
- 835,014. KLI AND DESIGN. Kenbert Lighting Industries, Inc. SN 249,336. Pub. 6-27-67. Filed 6-30-66.
- 835,015. LAMITEX. Franklin Fibre-Lamitex Corp. SN 249,522. Pub. 6-27-67. Filed 7-5-66.
- 835,016. CONSAARMATIC. Consarc Corporation. SN 263,512. Pub. 6-27-67. Filed 1-30-67.
- 835,017. BRONCO. Regency Electronics, Inc. SN 264,102. Pub. 6-27-67. Filed 2-6-67.
- 835,018. NATVAR AND DESIGN. Natvar Corporation. MULTIPLE CLASS (Classes 21 and 44). SN 268,446. Pub. 6-27-67. Filed 4-6-67.

Class 22—Games, Toys, and Sporting Goods

- 835,019. TYKE BIKE. Playskool Manufacturing Company. SN 217,135. Pub. 6-27-67. Filed 4-22-65.
- 835,020. PLASTILITE AND DESIGN. Plastilite Corporation. SN 232,230. Pub. 6-27-67. Filed 11-5-65.

- 835,021. MARK FORE. Brandell Products Corporation. SN 235,158. Pub. 5-16-67. Filed 12-23-65.
- 835,022. SCHNITZELBANK. Harrison Factors Corporation, d.b.a. Hammacher-Schlemmer. SN 236,994. Pub. 6-27-67. Filed 1-21-66.
- 835,023. IZZAT SO AND DESIGN. Warren Paper Products Co., assignee of Robert Worgul. SN 237,901. Pub. 6-27-67. Filed 2-2-66.
- 835,024. PIE. Ed-U-Cards Mfg. Corp. SN 240,280. Pub. 6-27-67. Filed 3-7-66.
- 835,025. NYLON RHODIA AND DESIGN. Societe Rhodifaceta. SN 242,754. Pub. 6-27-67. Filed 4-5-66.
- 835,026. MINI MONKEY. Charles Gregor Creations Incorporated. SN 243,867. Pub. 6-27-67. Filed 4-20-66.
- 835,027. FANGO. Jay International Corp. SN 246,574. Pub. 6-27-67. Filed 5-25-66.
- 835,028. SLAP HAPPY AND DESIGN. Dave Dickerson Tackle Company, Inc. SN 246,761. Pub. 6-27-67. Filed 5-27-66.
- 835,029. EGGSTERS. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 247,254. Pub. 6-27-67. Filed 6-3-66.
- 835,030. WONDER BALL. Eagle Rubber Co., Inc. SN 247,904. Pub. 6-27-67. Filed 6-13-66.
- 835,031. CORSARIO. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 248,543. Pub. 6-27-67. Filed 6-20-66.
- 835,032. JET. American Greetings Corporation. SN 251,694. Pub. 6-27-67. Filed 8-4-66.
- 835,033. HEADS UP. E. S. Lowe Company, Inc. SN 252,113. Pub. 6-27-67. Filed 8-10-66.
- 835,034. PRINCESS PLAYTIME AND DESIGN. Playtime Products, Inc. SN 252,586. Pub. 6-27-67. Filed 8-17-66.
- 835,035. PEGGIE PLAYTIME AND DESIGN. Playtime Products, Inc. SN 252,587. Pub. 6-27-67. Filed 8-17-66.
- 835,036. UNI-CORE. A. G. Spalding & Bros. Inc. SN 252,598. Pub. 6-27-67. Filed 8-17-66.
- 835,037. JEANETTE. Mattel, Inc. SN 269,037. Pub. 6-27-67. Filed 4-13-67.
- 835,038. JANET. Mattel, Inc. SN 269,038. Pub. 6-27-67. Filed 4-13-67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 834,957. (See Class 13 for this trademark.)
- 834,997. (See Class 19 for this trademark.)
- 835,039. ROSETTE. Hitco. SN 222,937. Pub. 6-27-67. Filed 7-8-65.
- 835,040. CONE-TROL. Michigan Tool Company. SN 235,116. Pub. 6-27-67. Filed 12-22-65.
- 835,041. SNOWDRIFT. Imperial Knife Associated Companies, Inc. SN 237,349. Pub. 6-27-67. Filed 1-26-66.
- 835,042. INSTANT ELEVATORING. Otis Elevator Company. SN 241,176. Pub. 6-27-67. Filed 3-16-66.
- 835,043. RAYMOND AND DESIGN. The Raymond Corporation. SN 242,663. Pub. 6-27-67. Filed 4-4-66.
- 835,044. RAYMOND AND DESIGN. The Raymond Corporation. SN 242,665. Pub. 6-27-67. Filed 4-4-66.
- 835,045. PUNCHMATIC. The Cincinnati Shaper Company. SN 242,964. Pub. 6-27-67. Filed 4-8-66.
- 835,046. BILLY GOAT AND DESIGN. Clipper Manufacturing Company, Inc. SN 243,097. Pub. 6-27-67. Filed 4-11-66.
- 835,047. UTILITY. The New Home Sewing Machine Company. SN 249,781. Pub. 6-27-67. Filed 7-7-66.
- 835,048. COMMANDER. The New Home Sewing Machine Company. SN 249,782. Pub. 6-27-67. Filed 7-7-66.
- 835,049. HYDRODDER. W. H. Stewart Inc. SN 252,217. Pub. 6-27-67. Filed 8-11-66.

- 835,050. AUTOMAGIC. The Auto-Soler Company. SN 252,241. Pub. 6-27-67. Filed 8-12-66.
- 835,051. CONSTRUCTALL. International Harvester Company. SN 252,387. Pub. 6-27-67. Filed 8-15-66.
- 835,052. HYPO-HATCHET. The Ansul Company. SN 252,534. Pub. 6-27-67. Filed 8-17-66.
- 835,053. HEDGEALL. FMC Corporation. SN 252,557. Pub. 6-27-67. Filed 8-17-66.
- 835,054. AQUANEERING. Aquaneering, Inc. SN 261,029. Pub. 6-27-67. Filed 12-19-66.

Class 24 — Laundry Appliances and Machines

- 835,055. WONDERTOP. Southern Mills, Inc. SN 245,252. Pub. 6-27-67. Filed 5-9-66.
- 835,056. PARA-MATIC. Ametek, Inc. SN 245,282. Pub. 6-27-67. Filed 5-10-66.
- 835,057. N-11. Whitehouse Products, Inc. SN 245,784. Pub. 6-27-67. Filed 5-16-66.
- 835,058. EXTRACT-O-MATIC. Bermil Sales Corporation. SN 245,806. Pub. 6-27-67. Filed 5-17-66.
- 835,059. PIN-O-MATIC. Federico Santiago Mora. SN 247,386. Pub. 6-27-67. Filed 6-6-66.

Class 26 — Measuring and Scientific Appliances

- 834,958. (See Class 13 for this trademark.)
- 835,060. KINEMAR. Optische Werke G. Rodenstock. SN 235,422. Pub. 6-27-67. Filed 12-28-65.
- 835,061. ARISTO-AIRE AND DESIGN. Delbert C. Hewitt. SN 236,601. Pub. 6-27-67. Filed 1-17-66.
- 835,062. MIRACODE. Eastman Kodak Company. SN 237,096. Pub. 6-27-67. Filed 1-24-66.
- 835,063. PLAYTEST. Western Reserve University. SN 237,417. Pub. 6-27-67. Filed 11-10-65.
- 835,064. DATAPORT. DASA Corporation, assignee of Anelex Corporation. SN 237,912. Pub. 6-27-67. Filed 2-3-66.
- 835,065. DATAGUARD. DASA Corporation, assignee of Anelex Corporation. SN 237,913. Pub. 6-27-67. Filed 2-3-66.
- 835,066. ROTOCUBE. Eastman Kodak Company. SN 238,201. Pub. 6-27-67. Filed 2-7-66.
- 835,067. MICULE. Microspheres, Inc. SN 241,262. Pub. 6-27-67. Filed 3-17-66.
- 835,068. RODAGON. Optische Werke G. Rodenstock. SN 241,927. Pub. 6-27-67. Filed 3-25-66.
- 835,069. DIRECT-O-LOG. Soss Manufacturing Company. SN 243,593. Pub. 6-27-67. Filed 4-15-66.
- 835,070. E. LEITZ ETC. AND DESIGN. E. Leitz, Inc. SN 244,229. Pub. 6-27-67. Filed 4-25-66.
- 835,071. TEMP-VU. Virginia K. McDaniel, d.b.a. Temp-Vu Company. SN 245,086. Pub. 6-27-67. Filed 5-6-66.
- 835,072. STA-PUT. Michael Einhorn. SN 245,177. Pub. 6-27-67. Filed 5-9-66.
- 835,073. STEELMASTER. Toledo Scale Corporation. SN 245,528. Pub. 6-27-67. Filed 5-12-66.
- 835,074. CHECK-MATE SENTINEL. Foto-Tronics, Inc. SN 248,458. Pub. 6-27-67. Filed 6-20-66.
- 835,075. CM AND DESIGN. Foto-Tronics, Inc. SN 248,459. Pub. 6-27-67. Filed 6-20-66.
- 835,076. MAGIC ARROW. Crossbow Incorporated. SN 248,683. Pub. 6-27-67. Filed 6-22-66.
- 835,077. ELTIGRAPH. Kurt Honigsmann, d.b.a. Industrielle Elektronik. SN 249,541. Pub. 6-27-67. Filed 7-5-66.
- 835,078. MELABS AND DESIGN. Melabs. SN 250,285. Pub. 6-27-67. Filed 7-14-66.

- 835,079. MELABS. Melabs. SN 250,286. Pub. 6-27-67. Filed 7-14-66.
- 835,080. M AND DESIGN. Q. H. Meiser & Co. SN 251,940. Pub. 6-27-67. Filed 8-8-66.
- 835,081. AUTO-SPENSER. Warner-Lambert Pharmaceutical Company. SN 252,239. Pub. 6-27-67. Filed 8-12-66.

Class 28 — Jewelry and Precious-Metal Ware

- 835,082. SCOTSMAN. British Sportswear, Ltd. SN 231,884. Pub. 6-27-67. Filed 11-1-65.
- 835,083. BACHELOR BUTTON. Milton Industries Incorporated. SN 236,795. Pub. 6-27-67. Filed 1-12-66.
- 835,084. JEWELRY BY SUZANNE AND DESIGN. Marie Creations, Inc. SN 246,703. Pub. 6-27-67. Filed 5-26-66.
- 835,085. SS AND DESIGN. Sam Shafran, Inc. SN 247,414. Pub. 6-27-67. Filed 6-6-66.
- 835,086. AFTER 5. Hamilton Watch Company. SN 247,506. Pub. 6-27-67. Filed 6-7-66.
- 835,087. TV. Stuckey & Speer, Inc. SN 257,663. Pub. 6-27-67. Filed 10-31-66.
- 835,088. CHO. Chopard Jewelry Mfg. Corp. SN 258,213. Pub. 6-27-67. Filed 11-8-66.
- 835,089. BRIDAL LACE. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Sterling. SN 258,725. Pub. 6-27-67. Filed 11-15-66.
- 835,090. BELLE MEADE. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silversmiths. SN 259,265. Pub. 6-27-67. Filed 11-22-66.

Class 29 — Brooms, Brushes, and Dusters

- 835,091. RONSON AUTOMATICALLY BETTER AND DESIGN. Ronson Corporation. MULTIPLE CLASS (Classes 29 and 44). SN 238,572. Pub. 6-27-67. Filed 2-10-66.
- 835,092. WHIZ-AWAY. Arden Corporation. SN 246,143. Pub. 6-27-67. Filed 5-20-66.
- 835,093. HOLE IN THE HEAD. Amsterdam Brush Corp., d.b.a. Edy Brush Company. SN 259,632. Pub. 6-27-67. Filed 11-29-66.
- 835,094. PRO-SPECT. Pro-phy-lac-tic Brush Company. SN 261,229. Pub. 6-27-67. Filed 12-21-66.
- 835,095. PROBE. Pro-phy-lac-tic Brush Company. SN 261,399. Pub. 6-27-67. Filed 12-23-66.
- 835,096. N-T-N. Araco Paint Rollers, Inc. SN 261,912. Pub. 6-27-67. Filed 1-4-67.

Class 30 — Crockery, Earthenware, and Porcelain

- 835,097. 70 (DESIGN). The Taylor Smith & Taylor Company. SN 244,767. Pub. 6-27-67. Filed 5-2-66.
- 835,098. LETIZIA. Luciano Mancioi. SN 248,044. Pub. 6-27-67. Filed 6-14-66.

Class 32 — Furniture and Upholstery

- 834,920. (See Class 2 for this trademark.)
- 835,099. TRAFFIC-EYE AND DESIGN. Add Sales Company, Inc. SN 243,618. Pub. 6-27-67. Filed 4-18-66.
- 835,100. KEY DESIGN (WITH CIRCLE ON RIGHT SIDE OF KEY). Key Enterprises, Inc. SN 251,545. Pub. 6-27-67. Filed 8-2-66.
- 835,101. DAYDREAMER. Howard Parlor Furniture Co. SN 259,827. Pub. 6-27-67. Filed 12-1-66.

Class 33 — Glassware

- 835,102. K (DESIGN). The New York Air Brake Company. SN 245,007. Pub. 6-27-67. Filed 5-5-66.
- 835,103. ULTRASORB. Owens-Illinois, Inc. SN 247,050. Pub. 6-27-67. Filed 6-1-66.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 835,104. UNA-DYN AND DESIGN. Universal Dynamics Corporation. SN 244,159. Pub. 6-27-67. Filed 4-22-66.
- 835,105. DYNA JET. Waltham Products, Inc. SN 251,671. Pub. 6-27-67. Filed 8-3-66.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 835,106. MCCREARY SELECT. McCreary Tire & Rubber Company. SN 227,596. Pub. 6-27-67. Filed 9-10-65.
- 835,107. MCCREARY PREMIUM. McCreary Tire & Rubber Company. SN 227,597. Pub. 6-27-67. Filed 9-10-65.
- 835,108. MCCREARY CUSTOM. McCreary Tire & Rubber Company. SN 227,598. Pub. 6-27-67. Filed 9-10-65.
- 835,109. CADET. Eliminator Tire & Rubber Co., Inc. SN 246,294. Pub. 6-27-67. Filed 5-23-66.
- 835,110. USLITE. United States Rubber Company. SN 246,502. Pub. 6-27-67. Filed 5-24-66.
- 835,111. TERRA-GRIP. The Goodyear Tire & Rubber Company. SN 246,559. Pub. 6-27-67. Filed 5-25-66.
- 835,112. WORK HORSE. The Goodyear Tire & Rubber Company. SN 246,560. Pub. 6-27-67. Filed 5-25-66.
- 835,113. MONTE CARLO. MAC Distributors, Inc. SN 246,797. Pub. 6-27-67. Filed 5-27-66.
- 835,114. SCENIC. Big Bear, Inc. SN 247,672. Pub. 6-27-67. Filed 6-9-66.
- 835,115. TERRA-RIB. The Goodyear Tire & Rubber Company. SN 247,913. Pub. 6-27-67. Filed 6-13-66.

Class 36 — Musical Instruments and Supplies

- 835,004. (See Class 21 for this trademark.)
- 835,116. ORIEL. Petrucci and Atwell, Inc. SN 237,870. Pub. 6-27-67. Filed 2-2-66.
- 835,117. POP-SIDE. Textile Banking Company, Inc. SN 244,270. Pub. 6-27-67. Filed 4-25-66.
- 835,118. JAZZLAND. Textile Banking Company, Inc. SN 244,271. Pub. 6-27-67. Filed 4-25-66.
- 835,119. SUPERCORDER. DeJur-Amsco Corporation. SN 244,808. Pub. 6-27-67. Filed 5-3-66.

Class 37 — Paper and Stationery

- 835,120. POLYTRACE. General Aniline & Film Corporation. SN 238,514. Pub. 6-27-67. Filed 2-10-66.
- 835,121. SPEEDMAILER. Moore Business Forms, Inc. SN 256,761. Pub. 6-27-67. Filed 10-18-66.

Class 38 — Prints and Publications

- 835,122. BERNIE BUG AND DESIGN. City Offset Services, Inc. SN 229,412. Pub. 6-27-67. Filed 10-6-65.
- 835,123. A AND DESIGN. Howard M. Allen, d.b.a. A Square. SN 248,402. Pub. 6-27-67. Filed 6-20-66.
- 835,124. ADVERSE AND DESIGN. Leah Leva, d.b.a. Adverse. SN 248,921. Pub. 6-27-67. Filed 6-24-66.
- 835,125. MISCELLANEOUS DESIGN. Cargill, Incorporated. MULTIPLE CLASS (Classes 38 and 46). SN 249,385. Pub. 6-27-67. Filed 7-1-66.
- 835,126. PROFITABLE PLANS AND DESIGN. The Pursé Company. SN 251,464. Pub. 6-27-67. Filed 8-1-66.
- 835,127. DIAL-A-CROWN. Feurer Bros., Inc. SN 251,809. Pub. 6-27-67. Filed 8-5-66.
- 835,128. DXTRA DOUGH. Spot-O-Gold Corporation. SN 268,124. Pub. 6-27-67. Filed 4-3-67.
- 835,129. "LET ME BE." Robert I. Schattner, d.b.a. The R. Schattner Company. SN 268,370. Pub. 6-27-67. Filed 4-5-67.

Class 39 — Clothing

- 834,921. (See Class 3 for this trademark.)
- 835,130. SCOTSMAN. British Sportswear, Ltd. SN 231,885. Pub. 6-27-67. Filed 11-1-65.
- 835,131. X-WEST. West Garment Company, Inc. SN 244,044. Pub. 6-27-67. Filed 4-21-66.
- 835,132. ENG'S MODELL. Fe Chun Eng. SN 247,684. Pub. 6-27-67. Filed 6-9-66.
- 835,133. FUME. Carillon Furs, Inc. SN 248,018. Pub. 6-27-67. Filed 6-14-66.
- 835,134. SMOCKAROO. Patricia La Gai. SN 251,998. Pub. 6-27-67. Filed 8-9-66.
- 835,135. LEHRER HAND MADE AND DESIGN. Sport Imports, Inc. SN 253,568. Pub. 6-27-67. Filed 8-31-66.
- 835,136. WOLVERINE (DESIGN). Wolverine World Wide, Inc. SN 255,145. Pub. 6-27-67. Filed 9-26-66.
- 835,137. LORILACE. S. Augstein & Co., Inc. SN 255,278. Pub. 6-27-67. Filed 9-28-66.
- 835,138. BJE AND DESIGN. Ernst, Inc. SN 259,652. Pub. 6-27-67. Filed 11-29-66.
- 835,139. BALCLUB. Balcort Shirt Co., Inc. SN 261,790. Pub. 6-27-67. Filed 1-3-67.
- 835,140. THE LADY IN RED AND DESIGN. Chadbourn Gotham, Inc. SN 267,895. Pub. 6-27-67. Filed 3-30-67.
- 835,141. BEAUTY-CLING. Leath, McCarthy & Maynard, Inc. SN 268,006. Pub. 6-27-67. Filed 3-31-67.

Class 40 — Fancy Goods, Furnishings, and Notions

- 835,142. COMB-AIR. The Comair Corp. SN 250,450. Pub. 6-27-67. Filed 7-18-66.
- 835,143. TRIM-TUF. Western Textile Products Company. SN 261,340. Pub. 6-27-67. Filed 12-22-66.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 835,144. GRIFFIN (DESIGN). West Point-Pepperell, Inc. SN 259,612. Pub. 6-27-67. Filed 11-28-66.
- 835,145. STATE PRIDE. Belk Stores Services, Inc. SN 259,636. Pub. 6-27-67. Filed 11-29-66.

- 835,146. WOND-A-GORE. Maynard H. Moore, Jr. Inc. SN 260,348. Pub. 6-27-67. Filed 12-8-66.
835,147. TROPALINE. Airpak Limited. SN 260,397. Pub. 6-27-67. Filed 12-9-66.

Class 43—Thread and Yarn

- 835,148. SCHEEPJESWOL AND SHIP (DESIGN). N.V. Koninklijke Veenendaalsche Sijet- en Vlijfschacht-Fabriek Voorheen Weduwe D.S. Van Schuppen en Zoon. SN 250,505. Pub. 6-27-67. Filed 7-18-66.
835,149. ENCRON. American Enka Corporation. SN 252,704. Pub. 4-4-67. Filed 8-5-66.

Class 44—Dental, Medical, and Surgical Appliances

- 835,018. (See Class 21 for this trademark.)
835,091. (See Class 29 for this trademark.)
835,150. JANUS. Ulrich K. Henschke. SN 240,608. Pub. 6-27-67. Filed 3-10-66.
835,151. SHIELD. Roberts Dental Manufacturing Co., Inc. SN 246,948. Pub. 5-16-67. Filed 5-31-66.
835,152. STREAMLINER. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 252,759. Pub. 6-27-67. Filed 8-19-66.
835,153. TUPZ. Cederroth International S.A. SN 254,372. Pub. 6-27-67. Filed 9-13-66.
835,154. PORTA SAUNA. Shepell Incorporated. SN 254,562. Pub. 6-27-67. Filed 9-15-66.
835,155. GUIDE SEAL. Akron Catheter, Inc. SN 255,952. Pub. 6-27-67. Filed 10-7-66.
835,156. ULTRAFLEX. The Hard Manufacturing Company. SN 256,555. Pub. 6-27-67. Filed 10-17-66.
835,157. WHITEHALL. American Home Products Corporation. SN 267,471. Pub. 6-27-67. Filed 3-22-67.
835,158. VARI-JECT. Ciba Corporation. SN 268,548. Pub. 6-27-67. Filed 4-7-67.

Class 45—Soft Drinks and Carbonated Waters

- 835,159. PITCHER POP. Needs Corporation. SN 265,145. Pub. 6-27-67. Filed 2-21-67.
835,160. BIG EIGHT. Needs Corporation. SN 265,146. Pub. 6-27-67. Filed 2-21-67.

Class 46—Foods and Ingredients of Foods

- 834,982. (See Class 18 for this trademark.)
835,125. (See Class 38 for this trademark.)
835,161. ORNAMENTAL FACE (DESIGN). E & H Corporation. SN 208,177. Pub. 6-27-67. Filed 12-15-64.
835,162. ESKIMO PIE MINIATURES AND DESIGN. Eskimo Pie Corporation. SN 212,662. Pub. 6-27-67. Filed 2-24-65.
835,163. CHATEAU AND DESIGN. Chateau Food Products, Inc. SN 222,659. Pub. 12-13-66. Filed 7-6-65.
835,164. MENTOS ETC. AND DESIGN. Van Melle N.V. SN 226,183. Pub. 6-27-67. Filed 8-20-65.
835,165. DIAL A FREEZE. Nimco Incorporated. SN 226,460. Pub. 6-27-67. Filed 8-25-65.
835,166. TASTEFULL AND DESIGN. National Fruit Canning Company. SN 228,065. Pub. 6-27-67. Filed 9-17-65.

- 835,167. SURFER. Gili J. Kuhn, d.b.a. G. J. Kuhn. SN 228,373. Pub. 6-27-67. Filed 9-22-65.
835,168. TOMASCIO. Metro Marketing, Inc. SN 232,576. Pub. 6-27-67. Filed 11-12-65.
835,169. COMSTOCK. The Borden Company. SN 232,896. Pub. 6-27-67. Filed 11-18-65.
835,170. MOENCH'S ETC. AND DESIGN. R. G. Moench & Co., Inc. SN 236,199. Pub. 6-27-67. Filed 1-11-66.
835,171. CHOC-OLA. Choc-Ola Bottlers, Inc. SN 236,879. Pub. 1-3-67. Filed 1-20-66.
835,172. WHIP-MATE. Carnation Company. SN 237,303. Pub. 6-27-67. Filed 1-26-67.
835,173. SER-X. Service Industries. SN 237,389. Pub. 6-27-67. Filed 1-26-66.
835,174. BONAY CANDY FRUITS AND DESIGN. Baronet Confections, Inc. SN 237,649. Pub. 6-27-67. Filed 2-1-66.
835,175. HELLAS. Huhtamaki-Yhtymä Oy. SN 238,138. Pub. 6-27-67. Filed 12-14-65.
835,176. BUGLE (DESIGN). International Minerals & Chemical Corporation, d.b.a. Ac'cent International. SN 238,533. Pub. 6-27-67. Filed 2-10-66.
835,177. CATTLE HEAD (DESIGN). International Minerals & Chemical Corporation, d.b.a. Ac'cent International. SN 238,534. Pub. 6-27-67. Filed 2-10-66.
835,178. RIB-TICKLING. Stanley J. Demos, d.b.a. Stanley Demos. SN 239,882. Pub. 6-27-67. Filed 3-1-66.
835,179. WILFORD. Harvey M. Wilford, d.b.a. Wilford Hatchery. SN 240,560. Pub. 6-27-67. Filed 3-9-66.
835,180. WILFORD OVEN READY TURKEY AND DESIGN. Harvey M. Wilford, d.b.a. Wilford Hatchery. SN 240,561. Pub. 6-27-67. Filed 3-9-66.
835,181. SUPER FLEX. The Hidden Company, d.b.a. Durkee Famous Foods. SN 240,731. Pub. 6-27-67. Filed 3-11-66.
835,182. SWELL BRAND AND DESIGN. Philadelphia Chewing Gum Corporation. SN 240,776. Pub. 6-27-67. Filed 3-11-66.
835,183. NESTLE'S BUTTER CRISP. The Nestlé Company, Inc. SN 241,072. Pub. 6-27-67. Filed 3-15-66.
835,184. SUPERIOR. DiCecco, Inc. SN 241,242. Pub. 6-27-67. Filed 3-17-66.
835,185. YIPES! STRIPES!! SOUR BITES. Beech-Nut Life Savers, Inc. SN 242,789. Pub. 6-27-67. Filed 4-6-66.
835,186. HALTER/S. Frito-Lay, Inc. SN 243,123. Pub. 6-27-67. Filed 4-11-66.
835,187. DEEP SEA. Wards Cove Packing Co., Inc. SN 243,203. Pub. 6-27-67. Filed 4-11-66.
835,188. SPICE-ETS. Beatrice Foods Co. SN 243,399. Pub. 6-27-67. Filed 4-14-66.
835,189. MEAD JOHNSON. Mead Johnson & Company. SN 244,599. Pub. 6-27-67. Filed 4-29-66.
835,190. CARNIVAL TIME. Martinez Food Canners, Ltd. SN 244,834. Pub. 6-27-67. Filed 5-3-66.
835,191. INSPIRATION. General Mills, Inc. SN 245,304. Pub. 6-27-67. Filed 5-10-66.
835,192. RECHARGE. American Home Products Corporation. SN 245,453. Pub. 6-27-67. Filed 5-12-66.
835,193. PROMOTE. U.S. Health Club, Inc. SN 246,115. Pub. 6-27-67. Filed 5-19-66.
835,194. WIGGLES. General Mills, Inc. SN 246,771. Pub. 6-27-67. Filed 5-27-66.
835,195. SPINNERS. General Mills, Inc. SN 246,772. Pub. 6-27-67. Filed 5-27-66.
835,196. REUBEN. Feinberg Distributing Company, Inc., assignee of Feinberg Distributing Company. SN 247,114. Pub. 6-27-67. Filed 6-2-66.
835,197. JENNY LEE. Jenny Lee, Incorporated. SN 249,860. Pub. 5-16-67. Filed 7-8-66.
835,198. MISCELLANEOUS DESIGN. Moru Candy Company. SN 259,016. Pub. 6-27-67. Filed 7-11-66.
835,199. LIVER-UP. Doggy-Cola, Inc. SN 250,081. Pub. 6-27-67. Filed 7-12-66.

- 835,200. FSW ETC. AND DESIGN. I. Feldman & Co., Inc. SN 250,143. Pub. 6-27-67. Filed 7-13-66.
835,201. PINEAPPLETS. Liberty Orchards Company, Inc. SN 250,981. Pub. 6-27-67. Filed 7-25-66.
835,202. WRANGLER. Anderson, Clayton & Co. SN 251,179. Pub. 6-27-67. Filed 7-28-66.
835,203. FROST & FILL. The Pillsbury Company. SN 251,230. Pub. 6-27-67. Filed 7-28-66.
835,204. FRENCH KITCHEN. The Pillsbury Company. SN 251,232. Pub. 6-27-67. Filed 7-28-66.
835,205. LICKETY QUICK. The Pillsbury Company. SN 251,233. Pub. 6-27-67. Filed 7-28-66.
835,206. PANJACKS. The Pillsbury Company. SN 251,234. Pub. 6-27-67. Filed 7-28-66.
835,207. ALPO AND ONE CAT (DESIGN). Allen Products Company, Inc., d.b.a. Allen Products Co., Inc. SN 251,262. Pub. 6-27-67. Filed 7-29-66.
835,208. ALPO AND TEN CATS (DESIGN). Allen Products Company, Inc., d.b.a. Allen Products Co., Inc. SN 251,263. Pub. 6-27-67. Filed 7-29-66.
835,209. MAR-JET. Osceola Foods, Inc. SN 251,739. Pub. 6-27-67. Filed 8-4-66.
835,210. FROCON. Meyer-Blanke Company. SN 252,199. Pub. 6-27-67. Filed 8-11-66.
835,211. ADEENA. Randall Wine Vinegar Co., Inc. SN 252,281. Pub. 6-27-67. Filed 8-12-66.
835,212. SUPRO. Ralston Purina Company. SN 252,592. Pub. 6-27-67. Filed 8-17-66.
835,213. BALNAD. The Dow Chemical Company. SN 259,527. Pub. 6-27-67. Filed 11-28-66.
835,214. KEDLOR. The Dow Chemical Company. SN 259,528. Pub. 6-27-67. Filed 11-28-66.
835,215. MOCKETTS. Harvest Home Foods, Inc. SN 263,568. Pub. 6-27-67. Filed 1-30-67.
835,216. CHERRY-BANANA TWINS. Philadelphia Chewing Gum Corporation. SN 263,649. Pub. 6-27-67. Filed 1-31-67.
835,217. RICE KERIYAKI. General Mills, Inc. SN 263,987. Pub. 6-27-67. Filed 2-6-67.
835,218. DUMPLINGS HOLANDER. General Mills, Inc. SN 263,994. Pub. 6-27-67. Filed 2-6-67.
835,219. NOODLES CANTONG. General Mills, Inc. SN 263,997. Pub. 6-27-67. Filed 2-6-67.
835,220. TANJEES. Superior Provisions, Inc. SN 267,495. Pub. 6-27-67. Filed 3-24-67.
835,221. RED RAIDER AND DESIGN. S. E. Cone, Jr., d.b.a. Sunshine Farms. SN 268,277. Pub. 6-27-67. Filed 4-4-67.
835,222. BEGIN. Mead Johnson & Company. SN 268,846. Pub. 6-27-67. Filed 4-11-67.

Class 48—Malt Beverages and Liquors

- 835,223. YACHT CLUB. The Erie Brewing Company. SN 150,864. Pub. 6-27-67. Filed 8-9-62.
835,224. ROYAL DUTCH ETC. AND DESIGN. N.V. Brouwerij "De Posthoorn." SN 243,816. Pub. 6-27-67. Filed 4-6-66.
835,225. MALTA REINA. Metropolis Brewery of N.J., Inc. SN 249,031. Pub. 6-27-67. Filed 6-27-66.
835,226. KOEHLER'S ERIE BEER AND DESIGN. The Erie Brewing Company. SN 251,803. Pub. 6-27-67. Filed 8-5-66.
835,227. WUNDERBRAU ETC. AND DESIGN. The Erie Brewing Company. SN 251,804. Pub. 6-27-67. Filed 8-5-66.
835,228. PRINCESA MALTA. Metropolis Brewery of N.J., Inc. SN 253,896. Pub. 6-27-67. Filed 9-6-66.
835,229. KARLSBRAU. G. Helleman Brewing Company, Inc. SN 254,931. Pub. 6-27-67. Filed 9-22-66.

Class 49—Distilled Alcoholic Liquors

- 835,230. CHERRISTOCK. Distillerie Stock U.S.A., Ltd. SN 226,835. Pub. 6-27-67. Filed 8-31-65.
835,231. BOODLES. Joseph E. Seagram & Sons, Inc. SN 252,897. Pub. 6-27-67. Filed 8-22-66.
835,232. BOODLE. Joseph E. Seagram & Sons, Inc. SN 252,898. Pub. 6-27-67. Filed 8-22-66.

Class 50—Merchandise Not Otherwise Classified

- 835,233. NU-CON. Nu-Con Products Company, Inc. SN 240,327. Pub. 6-27-67. Filed 3-7-66.
835,234. SCULPT-O-FAB. Ben Walters, Inc. SN 244,042. Pub. 6-27-67. Filed 4-21-66.
835,235. SEAL-EZE. Plastic Enterprises, Incorporated. SN 245,446. Pub. 6-27-67. Filed 5-9-66.
835,236. FLORATIQUE. Andrew J. Wood, d.b.a. Floratique. SN 246,977. Pub. 6-27-67. Filed 5-31-66.
835,237. ANTICIPATION PACK. Associated Baby Services, Inc. SN 246,993. Pub. 6-27-67. Filed 6-1-66.
835,238. KEENO. Hartford Textile Corporation. SN 248,616. Pub. 6-27-67. Filed 6-21-66.
835,239. DECORATIVE ADVENTURES. Suburban Management Company. SN 251,248. Pub. 6-27-67. Filed 7-28-66.
835,240. BARPAD. H. Barkow Company. SN 251,876. Pub. 6-27-67. Filed 8-8-66.
835,241. TEEN AWARD. The Art Award Co., Inc. SN 259,798. Pub. 6-27-67. Filed 12-1-66.
835,242. STACER. Ametek, Inc. SN 260,226. Pub. 6-27-67. Filed 12-7-66.
835,243. FIVE AND TEN FOR NAMEPLATES AND DESIGN. Anodyne, Inc. SN 268,554. Pub. 6-27-67. Filed 4-7-67.

Class 51—Cosmetics and Toilet Preparations

- 835,244. SERENDIPITY 3 AND DESIGN. Serendipity 3, Inc. SN 213,722. Pub. 6-27-67. Filed 3-9-65.
835,245. CREMESTICK. Chas. Pfizer & Co., Inc. SN 239,307. Pub. 6-27-67. Filed 2-21-66.
835,246. ARROW. Cluett, Peabody & Co., Inc., assignee of Wm. Peck Sales Co., Inc. SN 240,945. Pub. 5-2-67. Filed 3-14-66.
835,247. SOFT 'N COLOR. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 247,447. Pub. 6-27-67. Filed 6-7-66.
835,248. J-11. A. C. Johnson, d.b.a. Johnson's Enterprises. SN 249,163. Pub. 5-16-67. Filed 6-28-66.
835,249. LAYLA. Emanuele Rossetti, d.b.a. Layla di Emanuele Rossetti. SN 249,631. Pub. 6-27-67. Filed 7-6-66.
835,250. MERMAID (DESIGN). Cool-It, Inc. SN 257,370. Pub. 6-27-67. Filed 10-27-66.
835,251. WINNER TAKE ALL. Carter-Wallace, Inc. SN 257,689. Pub. 6-27-67. Filed 11-1-66.
835,252. WINNER TAKE ALL. Carter-Wallace, Inc. SN 259,084. Pub. 6-27-67. Filed 11-21-66.

Class 52—Detergents and Soaps

- 834,924. (See Class 4 for this trademark.)
834,963. (See Class 15 for this trademark.)
835,247. (See Class 51 for this trademark.)

- 835,253. ODT. Stanbio Laboratory, Inc. SN 242,759. Pub. 6-27-67. Filed 4-5-66.
- 835,254. CENTURION. The Hewitt Soap Company, Inc. SN 242,900. Pub. 6-27-67. Filed 4-7-66.
- 835,255. 1-STROKE VES-PHENE. W. R. Grace & Co. SN 249,384. Pub. 6-27-67. Filed 7-1-66.
- 835,256. SHAKEY POO. Todd Chemical Company, Inc. SN 252,601. Pub. 5-16-67. Filed 8-17-66.
- 835,257. PLATE MATE. Mona Industries, Inc. SN 252,874. Pub. 6-27-67. Filed 8-22-66.

Service Marks

Class 100 — Miscellaneous

- 835,258. SKYDECK. Skydeck International Ltd. MULTIPLE CLASS (Classes 100 and 107). SN 221,308. Pub. 6-27-67. Filed 6-16-65.
- 835,259. BLOCK AND CIRCLE (DESIGN). Skydeck International Ltd. MULTIPLE CLASS (Classes 100 and 107). SN 221,309. Pub. 6-27-67. Filed 6-16-65.
- 835,260. ENCRETE. Encrete, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 226,631. Pub. 6-27-67. Filed 8-27-65.
- 835,261. MID-WEST METALLIC AND DESIGN. Rubbermaid Incorporated. MULTIPLE CLASS (Classes 100 and 103). SN 227,446. Pub. 6-27-67. Filed 9-8-65.
- 835,262. ENRICO CARUSO. Enrico Caruso Hairstylists, Inc. SN 234,268. Pub. 6-27-67. Filed 12-9-65.
- 835,263. NOT THE RUN OF THE MILL. Dutch Inns of America, Inc. SN 241,128. Pub. 6-27-67. Filed 3-16-66.
- 835,264. ATRA ETC. AND DESIGN. Automatic Transmission Rebuilders Association. SN 248,106. Pub. 6-27-67. Filed 6-15-66.
- 835,265. RED RAM. The Georgetown Corporation. SN 258,093. Pub. 6-27-67. Filed 11-7-66.

Class 101 — Advertising and Business

- 835,266. ECONOMAIL. Daniel J. Hushek, d.b.a. Economail. SN 231,685. Pub. 6-27-67. Filed 10-27-65.
- 835,267. MARC MARKETING AND RESEARCH COUNSELORS, INC. AND DESIGN. Marketing and Research Counselors, Inc. SN 237,722. Pub. 6-27-67. Filed 2-1-66.
- 835,268. NRAC. National Research and Appraisal Company. SN 238,101. Pub. 6-27-67. Filed 2-4-66.
- 835,269. THOUGHT LEADERS. Adelphi University. SN 239,196. Pub. 6-27-67. Filed 2-21-66.
- 835,270. AMP AND DESIGN. Ridgewood News, Inc., d.b.a. The Ridgewood Newspapers. SN 239,318. Pub. 6-27-67. Filed 2-21-66.
- 835,271. G & T AND DESIGN. Giles & Thomas, Inc. SN 240,430. Pub. 6-27-67. Filed 3-8-66.
- 835,272. PHOTOKINA. Messe- und Ausstellungs-Gesellschaft m.b.H. Köln. SN 240,633. Pub. 6-27-67. Filed 3-10-66.
- 835,273. AUCTION! ETC. AND DESIGN. William P. Gross, d.b.a. Gross Auction Company. SN 248,470. Pub. 6-27-67. Filed 6-20-66.
- 835,274. MISCELLANEOUS DESIGN. J. J. Newberry Co. SN 250,507. Pub. 6-27-67. Filed 7-18-66.

Class 102 — Insurance and Financial

- 835,275. UNITED FACTORS. United Merchants and Manufacturers, Inc. SN 239,179. Pub. 6-27-67. Filed 2-18-66.

Class 103 — Construction and Repair

- 835,260. (See Class 100 for this trademark.)
- 835,261. (See Class 100 for this trademark.)

Class 104 — Communication

- 835,276. THE MID WEST FAMILY AND DESIGN. Heart O'Wisconsin Broadcasters, Inc. SN 232,554. Pub. 6-27-67. Filed 11-12-65.
- 835,277. GS GARDEN STATE ETC. (DESIGN). Garden State Television Cable Corporation. SN 237,213. Pub. 6-27-67. Filed 1-25-66.

Class 105 — Transportation and Storage

- 835,278. AIRWAYS RENT-A-CAR. Airways Rent-A-Car System, Inc. SN 242,176. Pub. 6-27-67. Filed 3-30-66.

Class 106 — Material Treatment

- 835,279. SPACE LUBRICATION. Ronald W. Vogel & Associates, assignee of Microseal Products Inc. SN 197,412. Pub. 6-27-67. Filed 7-8-64.
- 835,280. IRGA-PAD. Gelgy Chemical Corporation (New York corporation), assignee of Gelgy Chemical Corporation (Delaware corporation). SN 236,984. Pub. 6-27-67. Filed 1-21-66.

Class 107 — Education and Entertainment

- 835,258. (See Class 100 for this trademark.)
- 835,259. (See Class 100 for this trademark.)
- 835,281. PINK PUSSYCAT. Albar Enterprises, Inc. SN 224,147. Pub. 6-27-67. Filed 7-26-65.
- 835,282. TRYON PALACE RESTORATION AND DESIGN. The State of North Carolina. SN 247,974. Pub. 6-27-67. Filed 6-13-66.
- 835,283. SIR GOONY AND DESIGN. Golf Players, Inc. SN 264,410. Pub. 6-27-67. Filed 2-10-67.
- 835,284. MADISON SQUARE GARDEN. Madison Square Garden Corporation. SN 269,147. Pub. 6-27-67. Filed 4-14-67.

Certification Marks

Class A — Goods

- 835,285. TMMB ETC. AND DESIGN. Truck Mixer Manufacturers Bureau, Assn. SN 251,864. Pub. 6-27-67. Filed 8-8-66.
- 835,286. USTER ANALIZZATO. Zellweger Ltd. SN 256,172. Pub. 6-27-67. Filed 10-10-66.
- 835,287. USTER ANALIZADO. Zellweger Ltd. SN 256,173. Pub. 6-27-67. Filed 10-10-66.
- 835,288. USTER ANALYZED. Zellweger Ltd. SN 256,174. Pub. 6-27-67. Filed 10-10-66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

- 835,289. W. R. Brimacombe, d.b.a. Southwest Carton Co., Kansas City, Mo. SN 233,778. Filed P.R. 12-2-65; Am. S.R. 7-7-67.

EGG TOTE

For Egg Cartons and Egg Cases.
First use Oct. 27, 1965.

- 835,290. C-Thru Products Inc., Brooklyn, N.Y. SN 241,746. Filed P.R. 3-24-66; Am. S.R. 6-26-67.

HOOK-N-HANG

For Polyethylene Display Bags.
First use Mar. 4, 1966.

Class 15 — Oils and Greases

- 835,291. Product Research and Development Corporation, Blue Bell, Pa. SN 236,414. Filed P.R. 1-13-66; Am. S.R. 7-20-67.

SLOT LUBE

For Lubricants—Namely, Petroleum Based Oils for Miniature Racing Cars.
First use Dec. 27, 1965.

- 835,292. Oil Center Research, Inc., Lafayette, La. SN 253,046. Filed P.R. 8-24-66; Am. S.R. 7-19-67.

Self-Mold

For Lubricant and Sealant for Oil Well Drilling Equipment.
First use Sept. 28, 1964.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 835,293. Dominion Auto Accessories Limited, Toronto, Ontario, Canada. SN 233,549. Filed P.R. 10-25-65; Am. S.R. 1-24-67.

SAFOTORAY

Priority claimed under Sec. 44(d) on Canadian application filed June 17, 1965, Reg. No. 151,653, dated June 23, 1967.
For Motor Vehicle Protective Lighting Equipment—Namely, Direction Signal Lamps, Clearance Lamps, Warning Lamps, Headlights and Fog Lamps.
First use Dec. 30, 1965; in commerce Dec. 30, 1965.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 835,294. American Factors Associates, Limited, Denver, Colo. SN 257,345. Filed 10-27-66.

SILVER THIN LAYER

For Continuous Centrifugal Separators of the Type Which Separate Crystals Formed in Chemical Processing From Associated Solution and Discharge Separated Crystals as a Substantially Dry Product.
First use June 4, 1964.

Class 26 — Measuring and Scientific Appliances

- 835,295. Luft Instruments, Inc., Lincoln, Mass. SN 250,498. Filed P.R. 7-18-66; Am. S.R. 7-21-67.

LUFT

For Electromechanical Controller and Accessories Therefor, for Controlling and Programming Operations.
First use May 21, 1964.

Class 28 — Jewelry and Precious-Metal Ware

- 835,296. Hamilton Watch Company, Lancaster, Pa. SN 241,338. Filed P.R. 3-18-66; Am. S.R. 7-19-67.

COLOR-CLAD

For Silver Plated Hollow Ware Internally Coated With Plastic.
First use Mar. 25, 1963.

Class 29 — Brooms, Brushes, and Dusters

- 835,297. Glamorene Products Corporation, Clifton, N.J., by assignment and change of name from Glamorene, Incorporated, Clifton, N.J. SN 240,901. Filed P.R. 3-14-66; Am. S.R. 7-6-67.

ROLL-A-BRUSH

For Applicator for Dry-Cleaning Rugs and the Like.
First use Feb. 3, 1966.

Class 38 — Prints and Publications

- 835,298. Jasper S. Annunziata, Westchester, Ill. SN 246,142. Filed P.R. 5-20-66; Am. S.R. 6-1-67.

DOSECONTROLABEL

For Printed Druggist Prescription Label.
First use on or about Apr. 15, 1966.

835,299. Geigy Chemical Corporation (New York corporation), Ardsley, N.Y., by merger from Geigy Chemical Corporation (Delaware corporation), Ardsley, N.Y. SN 246,679. Filed P.R. 5-26-66; Am. S.R. 5-10-67.

NURSING ARTS

For Series of Booklets Issued From Time to Time.
First use Apr. 25, 1966.

835,300. The New Yorker Magazine, Inc., New York, N.Y. SN 252,272. Filed P.R. 8-12-66; Am. S.R. 7-17-67.

PROSE PASSAGES WE HATED TO COME TO THE END OF

For Magazine Column.
First use Feb. 17, 1962.

Class 39—Clothing

835,301. The Warner Brothers Company, Bridgeport, Conn. SN 245,634. Filed P.R. 5-13-66; Am. S.R. 7-6-67.



For Foundation Garments and Lingerie.
First use May 2, 1966.

835,302. The Morley Company, Portsmouth, N.H. SN 249,660. Filed P.R. 7-6-66; Am. S.R. 7-12-67.

QUIK-COVER

For Boots.
First use June 15, 1966.

835,303. Rudin & Roth Inc., New York, N.Y. SN 250,120. Filed P.R. 7-13-66; Am. S.R. 7-20-67.

YOU NEVER HAD IT SO WARM

For Men's Socks.
First use June 30, 1966.

TRADEMARK REGISTRATIONS RENEWED

60,595. COLGATE. Cl. 51. 2-12-07.	221,671. LAKESHIRE. Cl. 46. 12-7-26.
62,586. BRADES. Cl. 23. 5-14-07.	226,165. "SPORTOWN." Cl. 39. 4-5-27.
64,006. GIANT. Cl. 23. 7-16-07.	226,787. RAINBOW. Cl. 46. 4-19-27.
64,123. QUAKER. Cl. 46. 7-23-07.	228,991. PACIFIC ECONOMY. Cl. 6. 6-14-27.
64,151. QUAKER. Cl. 46. 7-23-07.	229,360. HICKORY. Cl. 52. 6-28-27.
64,320. PEARS AND DESIGN. Cl. 52. 7-30-07.	229,537. PREVENTINA. Cl. 18. 6-28-27.
64,511. PEARS. Cl. 52. 8-13-07.	230,235. PICOETTA. Cl. 23. 7-19-27.
64,722. BORDEN'S EAGLE BRAND AND DESIGN. Cl. 46. 8-20-07.	230,252. COLGATE. Cl. 52. 7-19-27.
64,723. BORDEN'S. Cl. 46. 8-20-07.	230,488. BURKSBOCK. Cl. 46. 7-26-27.
64,783. TECLA. Cl. 28. 8-20-07.	230,960. HUMPTY DUMPTY AND DESIGN. Cl. 46. 8-9-27.
65,141. GOLDEN GLORY. Cl. 46. 9-10-07.	231,162. 40 FATHOM FISH AND DESIGN. Cl. 46. 8-16-27.
65,576. JICKY. Cl. 51. 10-8-07.	231,651. FANNIE MAY HOME MADE CANDIES AND DESIGN. Cl. 46. 8-23-27.
200,180. "BETHLEHEM" ENCLOSED BY RECTANGULAR DESIGN. Cl. 19. 6-23-25.	231,921. "DRANO" ETC. AND DESIGN. Cl. 6. 8-30-27.
220,441. SAIA. Cl. 21. 11-9-26.	

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

835,304. The General Tire & Rubber Company, Akron, Ohio. SN 247,657. Filed P.R. 6-9-66; Am. S.R. 7-10-67.



For Synthetic Sponge Rubber Cushion in Roll Form.
First use Jan. 28, 1966.

Class 46—Foods and Ingredients of Foods

835,305. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. SN 236,411. Filed 1-13-66.



For Frozen Precooked Chicken and Chicken Parts.
First use on or about Feb. 14, 1963; Nov. 25, 1957 as to "Honey-Dipt" in a different form.

Class 52—Detergents and Soaps

835,306. Hunter-Penn Products, Inc., Sacramento, Calif. SN 248,232. Filed P.R. 6-16-66; Am. S.R. 7-11-67.

CYMBAL-BRITE

For Metal Cleaning Compounds.
First use May 12, 1966.

231,945. VIKING. Cl. 22. 8-30-27.	431,849. DEL AND DESIGN. Cl. 52. 8-12-47.
232,585. NOMAR. Cl. 13. 9-13-27.	432,420. SCL. Cl. 6. 9-2-47.
233,267. DURO. Cl. 16. 9-27-27.	432,457. ANTISTINE. Cl. 18. 9-2-47.
234,955. RR AND DESIGN. Cl. 23. 11-8-27.	432,458. ELKOSIN. Cl. 18. 9-2-47.
235,034. BOND. Cl. 19. 11-8-27.	432,465. MYERS. Cl. 6. 9-2-47.
235,949. SIMMONS CO. AND DESIGN. Cl. 32. 11-29-27.	432,549. HOUSE OF LONTAY, INC. Cl. 51. 9-2-47.
236,685. MISS CALIFORNIA. Cl. 46. 12-20-27.	432,571. PARAKEM. Cl. 52. 9-9-47.
236,705. "SPRAYIT" ETC. AND DESIGN LINED FOR RED. Cl. 21. 12-20-27.	432,579. OUT OF THIS WORLD. Cl. 51. 9-9-47.
236,761. AUNT JANE'S. Cl. 46. 12-20-27.	432,693. SHILLCRAFT. Cl. 43. 9-9-47.
237,442. "SOLUTION S.T. 37" AND RECTANGULAR BACKGROUND. Cl. 18. 1-10-28.	433,005. PB AND DESIGN. Cl. 23. 9-23-47.
427,936. SUN BLEST SEED AND DESIGN. Cl. 1. 3-4-47.	433,671. STRIPED DESIGN. Cl. 46. 10-28-47.
429,847. TABLE JOY. Cl. 46. 5-20-47.	433,764. LADY MELBA. Cl. 46. 10-28-47.
430,038. SEALCREST. Cl. 32. 6-3-47.	433,934. DECOLLETE. Cl. 51. 11-4-47.
430,157. GRACEFLO. Cl. 42. 6-10-47.	434,042. WAYNO. Cl. 46. 11-4-47.
430,562. SCL AND DESIGN. Cl. 15. 6-17-47.	434,068. LAXOID. Cl. 18. 11-4-47.
430,946. NOSET AND DESIGN. Cl. 6. 7-1-47.	434,158. WEYMOLITE. Cl. 50. 11-11-47.
430,991. DRENCH AND DESIGN. Cl. 6. 7-1-47.	434,279. GUDE THYNGES. Cl. 46. 11-18-47.
431,195. BLACKOUT. Cl. 46. 7-15-47.	434,824. ORTHO AND DESIGN. Cl. 44. 12-9-47.
431,208. CRAMORE'S. Cl. 46. 7-15-47.	434,908. AGRILUBE. Cl. 15. 12-9-47.
431,423. PREVUE JEWELS. Cl. 28. 7-22-47.	434,976. CHEVRON. Cl. 6. 12-9-47.
431,560. SOUTHERN DAIRIES AND DESIGN. Cl. 46. 7-29-47.	435,042. SOCAL. Cl. 6. 12-9-47.
431,562. SOUTHERN DAIRIES. Cl. 46. 7-29-47.	435,046. WAYFARER. Cl. 51. 12-9-47.
431,594. HOLOCATOR. Cl. 23. 7-29-47.	435,120. SUPERDAYVITE. Cl. 18. 12-9-47.
431,728. TROPIC KING. Cl. 42. 8-5-47.	435,126. PRIORITY. Cl. 51. 12-9-47.
431,843. ISOCARBONATE. Cl. 18. 8-12-47.	435,285. SEA NYMPH. Cl. 39. 12-16-47.
	435,303. GLIDE-O-MATIC. Cl. 37. 12-16-47.
	435,789. PY-CO-TIP. Cl. 44. 1-6-48.
	436,182. MAYGOLD AND DESIGN. Cl. 1. 1-27-48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

674,743. REPRESENTATION OF LITTLE BOY. Cl. 104. 2-24-59.

The following registrations issued July 25, 1961

718,760. RILTUBE. Cl. 2.	718,916. SUPER SIGHT AND DESIGN. Cl. 26.
718,761. HITCH-HIKER. Cl. 2.	718,917. MICRO-BAR. Cl. 26.
718,763. PLADS. Cl. 4.	718,918. BAI AND DESIGN. Cl. 26.
718,771. SLIDE. Cl. 6.	718,920. Q AND DESIGN. Cl. 26.
718,773. SUMMIT. Cl. 6.	718,921. READY W. Cl. 26.
718,784. TERMIBAR. Cl. 6.	718,922. SP AND DESIGN. Cl. 26.
718,786. NUOSEPT PW. Cl. 6.	718,924. BULOVA AND DESIGN. Cl. 27.
718,787. MEX. Cl. 6.	718,930. STEMPER HERMETIC AND DESIGN. Cl. 31.
718,791. GASOLITE. Cl. 6.	718,931. AMBERLITE. Cl. 31.
718,792. BRONOCO TOL-U-LENE. Cl. 6.	718,934. UMBROILER. Cl. 34.
718,797. STAFCO AND DESIGN. Cl. 8.	718,941. WALL TO WALL STEREO AND DESIGN. Cl. 36.
718,799. TROUND. Cl. 9.	718,942. RECO-GRIP. Cl. 36.
718,800. HYDROFLO. Cl. 9.	718,951. BUSINESS RITE SYSTEMS AND DESIGN. Cl. 37.
718,802. NEUTRAMON. Cl. 10.	718,955. THE GREENACRE WORKSHOP AND DESIGN. Cl. 38.
718,813. A-X. Cl. 13.	718,958. ELECTRONIC PRODUCTS MAGAZINE ETC. AND DESIGN. Cl. 38.
718,817. TIN SWIPE. Cl. 14.	718,965. 12-WAY WARDROBE AND DESIGN. Cl. 39.
718,818. DU PONT AND DESIGN. Cl. 14.	718,972. GREETING CARD SWEATER BY JANIE. Cl. 39.
718,819. AMERLOY. Cl. 14.	718,975. HAIR MATE. Cl. 39.
718,825. INGRAM. Cl. 15.	718,980. O.G. ULTRAFLEX. Cl. 39.
718,832. POYLBRITE. Cl. 16.	718,983. DERMAFIN. Cl. 42.
718,838. POCHLORIN. Cl. 18.	718,984. N'EM BRACE AND DESIGN. Cl. 42.
718,845. AMPHOLOID. Cl. 18.	718,987. FABRICS ARE THE SOUL OF A ROOM. Cl. 42.
718,855. BEANIES. Cl. 18.	718,988. NOME. Cl. 42.
718,860. SYNTONIKUM. Cl. 18.	718,997. DO NUT DANDY. Cl. 46.
718,862. DAIRY DAN. Cl. 19.	719,003. NICKY'S AND DESIGN. Cl. 46.
718,866. MARVYL. Cl. 20.	719,004. EFFE. Cl. 46.
718,869. H LAB AND DESIGN. Cl. 21.	719,012. BIGELOW ADVENTURES IN TEA. Cl. 46.
718,872. DUO-MATIC. Cl. 21.	719,019. ARCTIC PRIDE. Cl. 46.
718,876. SPACIALITE. Cl. 21.	719,027. BINSTAT. Cl. 46.
718,877. TOUCH-TAPE. Cl. 21.	719,033. CLOSTER ETC. AND DESIGN. Cl. 47.
718,878. AUTOAIRE AND DESIGN. Cl. 21.	719,038. GLITTER PINE. Cl. 50.
718,879. CRYSPARK. Cl. 21.	719,040. TREASURE PINE. Cl. 50.
718,889. THE INVESTOR. Cl. 22.	719,048. CATHY CURL. Cl. 51.
718,897. POLY-BRAID. Cl. 22.	719,050. PRINCESS HELENA. Cl. 51.
718,899. CITOGRAF MEKATRON AND DESIGN. Cl. 23.	719,054. EASY OPEN. Cl. 52.
718,901. L GRASS EDGER AND DESIGN. Cl. 23.	719,508. PROTAM. Cl. 52.
718,908. MOTEX. Cl. 23.	719,062. MPI AND DESIGN. Cl. 101.
718,910. PRIDE. Cl. 23.	719,068. TELE-TRIP INSURANCE. Cl. 102.
718,912. CHAMPAGNE. Cl. 24.	719,070. FANCIFUL DESIGN. Cl. 105.
	719,071. ADMIRAL AND DESIGN. Cl. 105.
	719,072. ADMIRAL. Cl. 105.
	719,073. CUSTOM AIR TRAVEL. Cl. 105.
	719,075. LANSEAIR. Cl. 105.
	719,080. EVER-SET. Cl. 39.

INDEX OF REGISTRANTS

SEPTEMBER 12, 1967

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- A Square: See—
Allen, Howard M.
AP Parts Corp., Toledo, Ohio. 835,003, pub. 6-27-67. Cl. 19.
Ac'cent International: See—
International Minerals & Chemical Corp.
Add Sales Co., Inc., Manitowoc, Wis. 835,009, pub. 6-27-67. Cl. 32.
Adelphi University, Garden City, N.Y. 835,269, pub. 6-27-67. Cl. 101.
Admiral Transit, Inc., St. Paul, Minn. 719,071-2, canc. Cl. 105.
Adverse: See—
Leva, Leah.
Ainsworth Lighting, Inc., Long Island City, N.Y. 718,876, canc. Cl. 21.
Aitpak, Ltd., London, England. 835,147, pub. 6-27-67. Cl. 42.
Airways Rent-A-Car System, Inc., Los Angeles, Calif. 835,278, pub. 6-27-67. Cl. 105.
Akron Catheter, Inc., Akron, Ohio. 835,155, pub. 6-27-67. Cl. 44.
Aktiengesellschaft fur Schaltapparate, Bern, to Sala A.G., Murten, Switzerland. 220,441, ren. 9-12-67. Cl. 21.
Aktieselskabet Lagerman, Junr., Copenhagen, Denmark. 834,982, pub. 6-27-67. Multiple Class (Classes 18 and 46).
Alaska Airlines, Inc., Seattle, Wash. 719,070, canc. Cl. 105.
Alhar Enterprises, Inc., Los Angeles, Calif. 835,281, pub. 6-27-67. Cl. 107.
Allen, Howard M., d.b.a. A Square, Seattle, Wash. 835,123, pub. 6-27-67. Cl. 38.
Allen Products Co., Inc., d.b.a. Allen Products Co., Inc., Allentown, Pa. 835,207-8, pub. 6-27-67. Cl. 46.
American Brass Co., The: See—
Anaconda American Brass Co., The.
American Cereal Co., The, assor. to The Quaker Co., Akron, Ohio, to The Quaker Oats Co., Chicago, Ill. 64,123, ren. 9-12-67. Cl. 46.
American Cyanamid Co., Wayne, N.J. 834,939, pub. 6-27-67. Cl. 6.
American Enka Corp., Enka, N.C. 834,919, pub. 4-4-67. Cl. 1.
American Enka Corp., Enka, N.C. 835,149, pub. 4-4-67. Cl. 43.
American Factors Associates, Ltd., Denver, Colo. 835,294, Cl. 23.
American Furniture Co., The, Batesville, Ind. 834,920, pub. 6-27-67. Multiple Class (Classes 2, 3, 21, and 32).
American Gas & Chemicals, Inc., New York, N.Y. 834,927, pub. 6-27-67. Cl. 6.
American Greetings Corp., Cleveland, Ohio. 835,032, pub. 6-27-67. Cl. 22.
American Hoechst Corp.: See—
Canadian Hoechst, Ltd.
American Home Products Corp., New York, N.Y. 834,992, pub. 6-27-67. Cl. 18.
American Home Products Corp., New York, N.Y. 835,157, pub. 6-27-67. Cl. 44.
American Home Products Corp., New York, N.Y. 835,192, pub. 6-27-67. Cl. 46.
Ametek, Inc., New York, N.Y. 835,056, pub. 6-27-67. Cl. 24.
Ametek, Inc., New York, N.Y. 835,242, pub. 6-27-67. Cl. 50.
Amsterdam Brush Corp., d.b.a. Edy Brush Co., Amsterdam, N.Y. 835,093, pub. 6-27-67. Cl. 29.
Anaconda American Brass Co., The, from The American Brass Co., Waterbury, Conn. 718,813, canc. Cl. 13.
Anderson, Clayton & Co., Houston, Tex. 835,202, pub. 6-27-67. Cl. 46.
Anelox Corp.: See—
DASA Corp.
Annunziata, Jasper S., Westchester, Ill. 835,298, Cl. 38.
Anodyne, Inc., North Miami Beach, Fla. 835,243, pub. 6-27-67. Cl. 50.
Ansul Co., The, Marinette, Wis. 834,932, pub. 6-27-67. Cl. 6.
Ansul Co., The, Marinette, Wis. 835,052, pub. 6-27-67. Cl. 23.
Aquaneering, Inc., Cleveland, Ohio. 835,054, pub. 6-27-67. Cl. 23.
Archer-Daniels-Midland Co.: See—
Ashland Oil & Refining Co.
Arden Corp., Detroit, Mich. 835,092, pub. 6-27-67. Cl. 29.
Arnold, Hoffman & Co., Inc., Providence, R.I., to National Foam System, Inc., West Chester, Pa. 430,991, ren. 9-12-67. Cl. 6.
Arso Paint Rollers, Inc., Hialeah, Fla. 835,096, pub. 6-27-67. Cl. 29.
Art Award Co., Inc., The, North Bergen, N.J. 835,241, pub. 6-27-67. Cl. 50.
Ashland Oil & Refining Co., Ashland, Ky., from Archer-Daniels-Midland Co., Minneapolis, Minn. 834,911, pub. 6-27-67. Cl. 1.
Associated Baby Services, Inc., New York, N.Y. 835,237, pub. 6-27-67. Cl. 50.
Astra Pharmaceutical Products, Inc., Worcester, Mass. 834,993-4, pub. 6-27-67. Cl. 18.
Augstein, S., & Co., Inc., New York, N.Y. 835,137, pub. 6-27-67. Cl. 39.
Automatic Transmission Rebuilders Assn., Los Angeles, Calif. 835,264, pub. 6-27-67. Cl. 100.
Auto-Soler Co., The, Atlanta, Ga. 835,050, pub. 6-27-67. Cl. 23.
Balcort Shirt Co., Inc., New York, N.Y. 835,139, pub. 6-27-67. Cl. 39.
Barkow, H., Co., Milwaukee, Wis. 835,240, pub. 6-27-67. Cl. 50.
Barnes-Hind Ophthalmic Products, Inc., Sunnyvale, Calif. 834,987, pub. 6-27-67. Cl. 18.
Baronet Confections, Inc., East Farmingdale, N.Y. 835,174, pub. 6-27-67. Cl. 46.
Baronio Fabrics, Inc., New York, N.Y. 718,987, canc. Cl. 42.
Barry, R. G., Corp., d.b.a. The House of Foam, Columbus, Ohio. 834,922, pub. 6-27-67. Cl. 3.
Bay State Fishing Co., Boston, Mass., to 40-Fathom Fisheries, Inc., Rockland, Maine. 231,162, ren. 9-12-67. Cl. 46.
Beacon Mfg. Co., Swannanoa, N.C. 718,988, canc. Cl. 42.
Beatrice Foods Co., Chicago, Ill. 835,188, pub. 6-27-67. Cl. 46.
Bedford Farms, Inc., Shelbyville, Tenn. 834,915, pub. 5-16-67. Cl. 1.
Beecham Group, Ltd., d.b.a. Beecham Research Laboratories, Middlesex, England. 834,978, pub. 6-27-67. Cl. 18.
Beecham Products, Inc.: See—
Scott & Bowne.
Beecham Research Laboratories: See—
Beecham Group, Ltd.
Beech-Nut Life Savers, Inc., New York, N.Y. 835,185, pub. 6-27-67. Cl. 46.
Belk Stores Services, Inc., Charlotte, N.C. 835,145, pub. 6-27-67. Cl. 42.
Bentex Pharmaceutical Co., Houston, Tex. 718,838, canc. Cl. 18.
Bermil Sales Corp., Flushing, N.Y. 835,058, pub. 6-27-67. Cl. 24.
Besso, Louis S., d.b.a. Pakon Mfg. Co., Oakland, Calif. 834,916, pub. 6-27-67. Cl. 1.
Bethlehem Shipbuilding Corp., Ltd., to Bethlehem Steel Co., Bethlehem, Pa. 200,180, ren. 9-12-67. Cl. 19.
Bethlehem Steel Co.: See—
Bethlehem Shipbuilding Corp., Ltd.
Big Bear, Inc., St. Cloud, Minn. 835,114, pub. 6-27-67. Cl. 35.
Bigelow, R. C., Inc., Norwalk, Conn. 719,012, canc. Cl. 46.
Bird & Son, Inc., East Walpole, Mass. 718,784, canc. Cl. 6.
Biro Mfg. Co., The, Marblehead, Ohio. 718,872, canc. Cl. 21.
Blackstone Corp., Jamestown, N.Y. 835,008, pub. 6-27-67. Cl. 21.
Blair Laboratories, Inc.: See—
Luyties Pharmacal Co.
Block Drug Co., Inc.: See—
Pyclope, Inc.
Boehringer, C. H., Sohn, Ingelheim, Rhine, Germany. 718,860, canc. Cl. 18.
Bond Foundry & Machine Co., Manheim, Pa. 235,034, ren. 9-12-67. Cl. 19.
Borden Co., The: See—
Borden's Condensed Milk Co.
Glelow, J. J., & Sons.
King Kone Corp.
Lakeshire Cheese Co.
Thompson's Malted Food Co.
Borden Co., The, New York, N.Y. 835,169, pub. 6-27-67. Cl. 46.
Borden's Condensed Milk Co., Jersey City, N.J., and New York, N.Y., to The Borden Co., New York, N.Y. 64,722-3, ren. 9-12-67. Cl. 46.
Brandell Products Corp., Rosemont, Ill. 835,021, pub. 5-16-67. Cl. 22.
Brecher Bros., Inc., New York, N.Y. 834,921, pub. 6-27-67. Multiple Class (Classes 3 and 39).
Briggs Associates, Inc., Norristown, Pa. 718,918, canc. Cl. 26.
Brimacombe, W. R., d.b.a. Southwest Carton Co., Kansas City, Mo. 835,289, Cl. 2.
British Sportswear, Ltd., New York, N.Y. 835,082, pub. 6-27-67. Cl. 28.
British Sportswear, Ltd., New York, N.Y. 835,130, pub. 6-27-67. Cl. 39.
Brockton Footwear, Inc., Brockton, Mass. 718,980, canc. Cl. 39.
Brown, R. J., Co., The, St. Louis, Mo. 718,792, canc. Cl. 6.
Bullard Co., The, Bridgeport, Conn. 431,594, ren. 9-12-67. Cl. 23.
Bulldog Marine Products, Inc., Chicago, Ill. 718,897, canc. Cl. 22.
Bulova Watch Co., Inc., Flushing, N.Y. 718,924, canc. Cl. 27.
Bunte Candles, Inc.: See—
Clinton Industries, Inc.
Burk, Louis, Inc., to Seller's, Inc., Philadelphia, Pa. 230,488, ren. 9-12-67. Cl. 46.
Calvert Chemical Co., The, Cincinnati, Ohio. 834,926, pub. 10-19-65. Cl. 6.
Camp Co., Inc., The, Chicago, Ill. 834,954, pub. 6-27-67. Cl. 12.
Canadian Hoechst, Ltd., Montreal, Quebec, Canada, from American Hoechst Corp., New York, N.Y. 834,912, pub. 6-27-67. Cl. 1.
Cargill, Inc., Minneapolis, Minn. 835,125, pub. 6-27-67. Multiple Class (Classes 38 and 46).
Cargill, Willson and Acree, Inc., from Larus & Bro. Co., Richmond, Va. 834,972, pub. 6-27-67. Cl. 17.

Carillon Furs, Inc., New York, N.Y. 835,133, pub. 6-27-67. Cl. 39.
 Carnation Co., Los Angeles, Calif. 835,172, pub. 6-27-67. Cl. 46.
 Carter-Wallace, Inc., New York, N.Y. 835,251-2, pub. 6-27-67. Cl. 51.
 Caruso, Enrico, Hairstylists, Inc., New York, N.Y. 835,262, pub. 6-27-67. Cl. 100.
 Catalysts and Chemicals, Inc., Louisville, Ky. 834,934, pub. 6-27-67. Cl. 6.
 Cederroth International S.A., Geneva, Switzerland. 835,153, pub. 6-27-67. Cl. 44.
 Century Laboratories, Inc., Brooklyn, to Texaco Inc., New York, N.Y. 835,571, ren. 9-12-67. Cl. 52.
 Chadbourn Gotham, Inc., Charlotte, N.C. 835,140, pub. 6-27-67. Cl. 39.
 Chain Shirt Shops, Inc., to Phillips-Van Heusen Corp., New York, N.Y. 226,165, ren. 9-12-67. Cl. 39.
 Chateau Food Products, Inc., Cicero, Ill. 835,163, pub. 12-13-66. Cl. 46.
 Chetanian, Edward, d.b.a. Mex Co., Anaheim, Calif. 718,787, can. Cl. 6.
 Chevron Chemical Co., San Francisco, Calif. 834,953, pub. 6-27-67. Cl. 10.
 Choc-Ola Bottlers, Inc., Indianapolis, Ind. 835,171, pub. 1-3-67. Cl. 46.
 Chopard Jewelry Mfg. Corp., New York, N.Y. 835,088, pub. 6-27-67. Cl. 28.
 Ciba Corp.: See—
 Ciba, Ltd.
 Ciba Corp., New York, N.Y. 835,158, pub. 6-27-67. Cl. 44.
 Ciba, Ltd., Basle, Switzerland, to Ciba Corp., New York, N.Y. 432,457-8, ren. 9-12-67. Cl. 18.
 Cincinnati Shaper Co., The, Cincinnati, Ohio. 835,045, pub. 6-27-67. Cl. 23.
 Citograf Aktiebolag, Jamjostatt, Sweden. 718,899, can. Cl. 23.
 City Offset Services, Inc., New York, N.Y. 835,122, pub. 6-27-67. Cl. 38.
 Claiborn, Inc., New York, N.Y. 835,247, pub. 6-27-67. Multiple Class (Classes 51 and 52).
 Clinton Engines Corp., Clinton, Mich. 718,879, can. Cl. 21.
 Clinton Industries, Inc., d.b.a. Verbrite Factory, assor. to Chase Candy Co., Chicago, Ill., to Bunte Candies, Inc., Oklahoma City, Okla. 431,195, ren. 9-12-67. Cl. 46.
 Clinton Industries, Inc., assor. to Candy Co., Chicago, Ill., to Bunte Candies, Inc., Oklahoma City, Okla. 434,279, ren. 9-12-67. Cl. 46.
 Clipper Mfg. Co., Inc., Grandview, Mo. 835,046, pub. 6-27-67. Cl. 23.
 Cluett, Peabody & Co., Inc., Troy, from Wm Peck Sales Co., Inc., New York, N.Y. 835,246, pub. 5-2-67. Cl. 51.
 Colgate & Co., to Colgate-Palmolive Co., New York, N.Y. 60,595, ren. 9-12-67. Cl. 51.
 Colgate & Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 230,252, ren. 9-12-67. Cl. 52.
 Colgate-Palmolive Co.: See—
 Colgate & Co.
 Colt's, Inc., Hartford, Conn. 834,947-8, pub. 3-21-67. Cl. 9.
 Comair Corp., The, Miami, Fla. 835,142, pub. 6-27-67. Cl. 40.
 Communications Co., Inc., Coral Gables, Fla. 835,006, pub. 6-27-67. Cl. 21.
 Comptometer Corp., Chicago, Ill. 718,951, can. Cl. 37.
 Cone, S. E., Jr., d.b.a. Sunshine Farms, Lubbock, Tex. 835,221, pub. 6-27-67. Cl. 46.
 Consarc Corp., Rancocas, N.J. 835,016, pub. 6-27-67. Cl. 21.
 Cool-It, Inc., Chicago, Ill. 835,250, pub. 6-27-67. Cl. 51.
 Cramore Products, Inc.: See—
 Kilmer & Co., Inc.
 Cross Country Clothes, Inc.: See—
 Tyan & Evans, Inc.
 Crossbow, Inc., Cincinnati, Ohio. 835,076, pub. 6-27-67. Cl. 26.
 C-Thru Products, Inc., Brooklyn, N.Y. 835,290, Cl. 2.
 DASA Corp., Andover, from Anex Corp., Boston, Mass. 835,084-5, pub. 6-27-67. Cl. 26.
 D & O Machine Co., Inc., Downey, Calif. 718,942, can. Cl. 36.
 Dairy Dan, Inc., Wilkes-Barre, Pa. 718,862, can. Cl. 19.
 Dardick Corp., New York, N.Y. 718,799, can. Cl. 9.
 De Jur-Amsco Corp., Long Island City, N.Y. 835,119, pub. 6-27-67. Cl. 36.
 Del Greco, F., Sales, Inc., Akron, Ohio. 719,054, can. Cl. 52.
 Demos, Stanley: See—
 Demos, Stanley J.
 Demos, Stanley J., d.b.a. Stanley Demos, Lexington, Ky. 835,178, pub. 6-27-67. Cl. 46.
 Dessert Seed Co., to Dessert Seed Co., El Centro, Calif. 427,936, ren. 9-12-67. Cl. 1.
 Dicecco, Inc., Avondale, Pa. 835,184, pub. 6-27-67. Cl. 46.
 Dickerson, Dave, Tackle Co., Inc., Shelbyville, Tenn. 835,028, pub. 6-27-67. Cl. 22.
 Distillerie Stock U.S.A., Ltd., Woodside, N.Y. 835,230, pub. 6-27-67. Cl. 49.
 Doggy-Cola, Inc., Miami, Fla. 835,199, pub. 6-27-67. Cl. 46.
 Dominion Auto Accessories, Ltd., Toronto, Ontario, Canada. 835,293, Cl. 21.
 Dominion Rubber Co., Ltd.: See—
 Uniroyal (1966), Ltd.
 Dow Chemical Co., The, Midland, Mich. 835,213-4, pub. 6-27-67. Cl. 46.
 Drackett Chemical Co., The, to The Drackett Co., Cincinnati, Ohio. 231,921, ren. 9-12-67. Cl. 6.
 Drackett Co., The: See—
 Drackett Chemical Co., The.

Drug Industries Co.: See—
 Totzka, Jerry C.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 718,818, can. Cl. 14.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 834,943, pub. 6-27-67. Cl. 6.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 834,962, pub. 6-27-67. Cl. 14.
 Durkee Famous Foods: See—
 Glidden Co., The.
 Duro, O'Neil, Co., Milwaukee, Wis. 233,267, ren. 9-12-67. Cl. 16.
 Dutch Inns of America, Inc., Miami, Fla. 835,263, pub. 6-27-67. Cl. 100.
 E & H Corp., Tulsa, Okla. 835,161, pub. 6-27-67. Cl. 46.
 Eagle Rubber Co., Inc., Ashland, Ohio. 835,030, pub. 6-27-67. Cl. 22.
 Eastman Kodak Co., Rochester, N.Y. 835,062, pub. 6-27-67. Cl. 26.
 Eastman Kodak Co., Rochester, N.Y. 835,066, pub. 6-27-67. Cl. 26.
 Economall: See—
 Hushek, Daniel J.
 Ed-U-Cards Mfg. Corp., Long Island City, N.Y. 835,024, pub. 6-27-67. Cl. 22.
 Edy Brush Co.: See—
 Amsterdam Brush Corp.
 Eflo Banana Sales Corp., New Orleans, La. 719,004, can. Cl. 46.
 Elmhorn, Michael, Franklin, Ohio. 835,072, pub. 6-27-67. Cl. 26.
 Elco Corp., The: See—
 Elco Lubricant Corp., The.
 Elco Lubricant Corp., The, to The Elco Corp., Cleveland, Ohio. 432,420, ren. 9-12-67. Cl. 6.
 Elco Lubricant Corp., The, to The Elco Corp., Cleveland, Ohio. 430,562, ren. 9-12-67. Cl. 15.
 Electric Spraylit Co., Detroit, Mich., to Thomas Industries, Inc., Louisville, Ky. 236,705, ren. 9-12-67. Cl. 21.
 Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. 835,109, pub. 6-27-67. Cl. 35.
 Emhart Corp., Bloomfield, Conn., from Plymouth Cordage Co., Plymouth, Mass. 834,949, pub. 6-27-67. Cl. 10.
 Encrete, Inc., Dayton, Ohio. 835,260, pub. 6-27-67. Multiple Class (Classes 100 and 103).
 Eng, Fe C., Seattle, Wash. 835,132, pub. 6-27-67. Cl. 39.
 Erie Brewing Co., The, Erie, Pa. 835,223, pub. 6-27-67. Cl. 48.
 Erie Brewing Co., The, Erie, Pa. 835,226-7, pub. 6-27-67. Cl. 48.
 Ernst, Inc., San Francisco, Calif. 835,138, pub. 6-27-67. Cl. 39.
 Eskimo Pie Corp., Richmond, Va. 835,162, pub. 6-27-67. Cl. 46.
 Estes Corp., Danville, Calif. 834,963, pub. 6-27-67. Multiple Class (Classes 15 and 52).
 F.L.N., Inc., Youngstown, Ohio. 834,980, pub. 5-30-67. Cl. 18.
 FMC Corp., San Jose, Calif. 835,053, pub. 6-27-67. Cl. 23.
 Fannie May Candy Co.: See—
 Fannie May Candy Co., Inc.
 Fannie May Candy Co., Inc., Washington, D.C., to Illinois Fannie May Candy Co., Chicago, Ill. 231,651, ren. 9-12-67. Cl. 46.
 Feinberg Distributing Co.: See—
 Feinberg Distributing Co., Inc.
 Feinberg Distributing Co., Inc., from Feinberg Distributing Co., Golden Valley, Minn. 835,196, pub. 6-27-67. Cl. 46.
 Feldman, L. & Co., Inc., Washington, D.C. 835,200, pub. 6-27-67. Cl. 46.
 Feuer Bros., Inc., North White Plains, N.Y. 835,127, pub. 6-27-67. Cl. 38.
 Fibertab: See—
 Velocidad, Inc.
 Fillmore Lemon Association, Fillmore, to Satcoy Lemon Association, Satcoy, Calif. 434,042, ren. 9-12-67. Cl. 46.
 Floratigue: See—
 Wood, Andrew J.
 Foote, Pierson & Co., Inc., New York, N.Y., to Stewart-Warner Corp., Chicago, Ill. 232,585, ren. 9-12-67. Cl. 13.
 40-Fathom Fisheries, Inc.: See—
 Bay State Fishing Co.
 Foto-Tronics, Inc., Detroit, Mich. 835,074-5, pub. 6-27-67. Cl. 26.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 834,955, pub. 6-27-67. Cl. 12.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 835,011, pub. 6-27-67. Cl. 21.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 835,013, pub. 6-27-67. Cl. 21.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 835,015, pub. 6-27-67. Cl. 21.
 Frito-Lay, Inc., Dallas, Tex. 835,186, pub. 6-27-67. Cl. 46.
 Fruitvale Canning Co.: See—
 Pacific Coast Cannery, Inc.
 G & A Laboratories, Inc., Savannah, Ga. 834,918, pub. 3-28-67. Cl. 1.
 Garden State Television Cable Corp., Vineland, N.J. 835,277, pub. 6-27-67. Cl. 104.
 Gardiner Electronics: See—
 Gardiner, Robert F.
 Gardiner, Robert F., d.b.a. Gardiner Electronics, Phoenix, Ariz. 718,877, can. Cl. 21.
 Gelgy Chemical Corp., from Gelgy Chemical Corp., Ardsley, N.Y. 835,280, pub. 6-27-67. Cl. 106.
 Gelgy Chemical Corp., from Gelgy Chemical Corp., Ardsley, N.Y. 835,299, Cl. 38.
 General Aniline & Film Corp., New York, N.Y. 835,120, pub. 6-27-67. Cl. 37.

General Battery and Ceramic Corp., Reading, Pa. 835,007, pub. 6-27-67. Cl. 21.
 General Foods Corp.: See—
 Parke, L. H., Co.
 General Foods Corp., White Plains, N.Y. 718,763, can. Cl. 4.
 General Mills, Inc., Minneapolis, Minn. 835,191, pub. 6-27-67. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 835,194-5, pub. 6-27-67. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 835,217-19, pub. 6-27-67. Cl. 46.
 General Solids Associates: See—
 Spunt, Shepard A.
 General Tire & Rubber Co., The, Akron, Ohio. 835,304, Cl. 42.
 Georgetown Corp., The, Georgetown, Colo. 835,265, pub. 6-27-67. Cl. 100.
 Gessner Products Co., Inc., Ambler, Pa. 834,945, pub. 6-27-67. Cl. 8.
 Gielow, J. J., & Sons, to J. J. Gielow & Sons, Highland Park, Mich., to The Borden Co., New York, N.Y. 236,761, ren. 9-12-67. Cl. 46.
 Giles & Thomas, Inc., Washington, D.C. 835,271, pub. 6-27-67. Cl. 101.
 Glamorene, Inc.: See—
 Glamorene Products Corp.
 Glamorene Products Corp., from Glamorene, Inc., Clifton, N.J. 835,297, Cl. 29.
 Glidden Co., The, d.b.a. Durkee Famous Foods, Cleveland, Ohio. 835,181, pub. 6-27-67. Cl. 46.
 Goldsoll, Frank J., to Tecla, Inc., New York, N.Y. 64,783, ren. 9-12-67. Cl. 28.
 Golf Players, Inc., Chattanooga, Tenn. 835,283, pub. 6-27-67. Cl. 107.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 835,111-2, pub. 6-27-67. Cl. 35.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 835,115, pub. 6-27-67. Cl. 35.
 Grace, W. R., & Co., New York, N.Y. 834,931, pub. 6-27-67. Cl. 6.
 Grace, W. R., & Co., New York, N.Y. 835,255, pub. 6-27-67. Cl. 52.
 Gregor, Charles, Creations, Inc., Metairie, La. 835,026, pub. 6-27-67. Cl. 22.
 Grodins of Calif., Inc., Oakland, Calif. 718,965, can. Cl. 39.
 Gross Auction Co.: See—
 Gross, William P.
 Gross, William P., d.b.a. Gross Auction Co., Kansas City, Mo. 835,273, pub. 6-27-67. Cl. 101.
 Guerlain, Inc.: See—
 Societe Guerlain.
 Gulf Oil Corp., Pittsburgh, Pa. 834,966, pub. 6-27-67. Cl. 15.
 Hamilton Watch Co., Lancaster, Pa. 835,086, pub. 6-27-67. Cl. 28.
 Hamilton Watch Co., Lancaster, Pa. 835,296, Cl. 28.
 Hammacher-Schlemmer: See—
 Harrison Factors Corp.
 Hard Mfg. Co., The, Buffalo, N.Y. 835,156, pub. 6-27-67. Cl. 44.
 Harms, Perc. E., Co.: See—
 Harms, Percy E.
 Harms, Percy E., d.b.a. Perc. E. Harms Co., Northfield, Ill. 718,771, can. Cl. 6.
 Harrison Factors Corp., d.b.a. Hammacher-Schlemmer, New York, N.Y. 835,022, pub. 6-27-67. Cl. 22.
 Harrison Laboratories, Inc., Berkeley Heights, N.J. 718,869, can. Cl. 21.
 Hartford Textile Corp., New York, N.Y. 835,238, pub. 6-27-67. Cl. 50.
 Harvest Home Foods, Inc., Roan Mountain, Tenn. 835,215, pub. 6-27-67. Cl. 46.
 Heart O'Wisconsin Broadcasters, Inc., Madison, Wis. 835,276, pub. 6-27-67. Cl. 104.
 Helleman, G., Brewing Co., Inc., La Crosse, Wis. 835,229, pub. 6-27-67. Cl. 48.
 Henschke, Ulrich K., New York, N.Y. 835,150, pub. 6-27-67. Cl. 44.
 Hersey-Sparling Meter Co., Dedham, Mass. 834,958, pub. 6-27-67. Multiple Class (Classes 13 and 26).
 Hewitt, Delbert C., Portland, Ore. 835,061, pub. 6-27-67. Cl. 26.
 Hewitt Soap Co., Inc., The, Dayton, Ohio. 835,254, pub. 6-27-67. Cl. 52.
 Heyden Newport Chemical Corp., New York, N.Y. 718,786, can. Cl. 6.
 Hitco Calif. Corp., Gardena, Calif. 835,039, pub. 6-27-67. Cl. 23.
 Hoffmann-La Roche, Inc., Nutley, N.J. 834,991, pub. 6-27-67. Cl. 18.
 Honigsmann, Kurt, d.b.a. Industrielle Elektronik, Wuppertal-Barmen, Germany. 835,077, pub. 6-27-67. Cl. 26.
 Hondaille Industries, Inc., Buffalo, N.Y. 718,917, can. Cl. 26.
 House of Foam, The: See—
 Barry, R. G., Corp.
 House of Lontay, Inc., New York, to House of Lontay, Inc., Plainview, L.I., N.Y. 432,549, ren. 9-12-67. Cl. 51.
 Howard Parlor Furniture Co., Chicago, Ill. 835,101, pub. 6-27-67. Cl. 32.
 Hudnell, Armstead B., Winston-Salem, N.C. 834,970, pub. 1-11-66. Cl. 17.
 Huhtamaki Yhtyma Oy, Turku, Finland. 835,175, pub. 6-27-67. Cl. 46.
 Hull, R. O., & Co., Inc., Cleveland, Ohio. 834,938, pub. 6-27-67. Cl. 6.
 Hunnebeck, G.m.b.H., Dusseldorf, Germany. 834,957, pub. 6-27-67. Multiple Class (Classes 13, 14 and 23).
 Hunt, William, & Sons, The Brades, Ltd., Birmingham, England. 62,586, ren. 9-12-67. Cl. 23.
 Hunter-Penn Products, Inc., Sacramento, Calif. 835,306, Cl. 52.
 Hushek, Daniel J., d.b.a. Economall, Chicago, Ill. 835,266, pub. 6-27-67. Cl. 101.
 Imperial Chemical Industries, Ltd., London, England. 834,930, pub. 6-27-67. Cl. 6.
 Imperial Knife Associated Companies, Inc., Providence, R.I. 835,041, pub. 6-27-67. Cl. 23.
 Industrial Aerosol Specialties Corp., New York, N.Y. 834,969, pub. 6-27-67. Cl. 16.
 Industrielle Elektronik: See—
 Honigsmann, Kurt.
 Ingram Oil & Refining Co., New Orleans, La., from Murphy Corp., El Dorado, Ark. 718,825, can. Cl. 15.
 Inkograph Co., Inc., New York, N.Y., to Koh-I-Noor, Inc., Bloomsbury, N.J. 435,303, ren. 9-12-67. Cl. 37.
 International Harvester Co., Chicago, Ill. 835,051, pub. 6-27-67. Cl. 23.
 International Minerals & Chemical Corp., d.b.a. Ac'Cent International, Skokie, Ill. 835,176-7, pub. 6-27-67. Cl. 46.
 International Telephone and Telegraph Corp., New York, N.Y. 835,005, pub. 6-27-67. Cl. 21.
 Janle Originals, Inc., New York, N.Y. 718,972, can. Cl. 39.
 Jay International Corp., Chicago, Ill. 835,027, pub. 6-27-67. Cl. 22.
 Jewel-Smiths, Inc., to Jewelsmiths, Inc., Boston, Mass. 431,423, ren. 9-12-67. Cl. 28.
 Jewelsmiths, Inc.: See—
 Jewel-Smiths, Inc.
 Johnson, A. C., d.b.a. Johnson's Enterprises, San Francisco, Calif. 835,248, pub. 5-16-67. Cl. 51.
 Johnson Chemical Co., Inc., Brooklyn, N.Y. 834,923, pub. 6-27-67. Cl. 4.
 Johnson's Enterprises: See—
 Johnson, A. C.
 Joiner Positive Seals, Inc., Houston, Tex. 834,929, pub. 6-27-67. Cl. 6.
 Jordan Mfg. Corp., New York, N.Y. 435,285, ren. 9-12-67. Cl. 39.
 Joyner, M. E., d.b.a. Joyner Mfg. Co., Louisburg, N.C. 834,956, pub. 6-27-67. Cl. 12.
 Joyner Mfg. Co.: See—
 Joyner, M. E.
 Kaiser Aluminum & Chemical Corp., Oakland, Calif., from Southern Nitrogen Co., Inc., Savannah, Ga. 834,950, pub. 6-27-67. Cl. 10.
 Kaiser Aluminum & Chemical Corp., Oakland, Calif., from Southern Nitrogen Co., Inc., Savannah, Ga. 834,952, pub. 6-27-67. Cl. 10.
 Kaufman, Wynne, d.b.a. Wynne Kaufman Co., New York, N.Y. 718,997, can. Cl. 46.
 Kaufman, Wynne, Co.: See—
 Kaufman, Wynne.
 Kenbert Lighting Industries, Inc., New York, N.Y. 835,014, pub. 6-27-67. Cl. 21.
 Kendall Co., The, Walpole, Mass. 834,979, pub. 6-27-67. Cl. 18.
 Key Enterprises, Inc., Miami, Fla. 835,100, pub. 6-27-67. Cl. 32.
 Kilmer & Co., Inc., Stamford, Conn., to Cramore Products, Inc., Elmhurst, N.Y. 431,208, ren. 9-12-67. Cl. 46.
 King Kong Corp., to The Borden Co., New York, N.Y. 433,764, ren. 9-12-67. Cl. 46.
 Klosterbrenner A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. 719,033, can. Cl. 47.
 Koh-I-Noor, Inc.: See—
 Inkograph Co., Inc.
 Kuhn, G. J.: See—
 Kuhn, Gil J.
 Kuhn, Gil J., d.b.a. G. J. Kuhn, San Diego, Calif. 835,167, pub. 6-27-67. Cl. 46.
 L. & S. Packing Co., Inc., Flushing, N.Y. 429,847, ren. 9-12-67. Cl. 46.
 La Gal, Patricia, Clarendon Hills, Ill. 835,134, pub. 6-27-67. Cl. 39.
 Laboratoires Chibret, Societe Anonyme, Clermont-Ferrant, Puy-De-Dome, France. 834,983, pub. 6-27-67. Cl. 18.
 Lakeshire Cheese Co., Plymouth, Wis., to The Borden Co., New York, N.Y. 221,671, ren. 9-12-67. Cl. 46.
 Lane, Ltd., New York, N.Y. 834,971, pub. 1-3-67. Cl. 17.
 Lanseair Travel Service, Inc., Washington, D.C. 719,075, can. Cl. 105.
 Larus & Bro. Co.: See—
 Cargill, Wilson & Acree, Inc.
 Laurice of London, Ltd., London, England. 834,985, pub. 6-27-67. Cl. 18.
 Le Cottier, Yves Marie, and Andre Gerard Marie-Joseph Trenteaux, Lille, Nord, France. 718,984, can. Cl. 42.
 Leath, McCarthy & Maynard, Inc., Burlington, N.C. 835,141, pub. 6-27-67. Cl. 39.
 Lee, Jenny, Inc., St. Paul, Minn. 835,197, pub. 5-16-67. Cl. 46.
 Leitz, E., Inc., New York, N.Y. 835,070, pub. 6-27-67. Cl. 26.
 Lemmon Pharmacal Co., Sellersville, Pa. 834,986, pub. 6-27-67. Cl. 18.
 Les Parfums de Dana, Inc.: See—
 Smith, Olive.
 Les Parfums de Dana, Inc., New York, N.Y. 435,126, ren. 9-12-67. Cl. 51.
 Leva, Leah, d.b.a. Adverse, Kansas City, Mo. 835,124, pub. 6-27-67. Cl. 38.
 Liberty Orchards Co., Inc., Cashmere, Wash. 835,201, pub. 6-27-67. Cl. 46.
 London, J., & Co., Philadelphia, Pa. 430,157, ren. 9-12-67. Cl. 42.

Los Angeles Seed Co., Inc., Los Angeles, Calif. 834,951, pub. 12-13-66. Cl. 10.
 Los Angeles Soap Co., Los Angeles, Calif. 228,991, ren. 9-12-67. Cl. 6.
 Los Angeles Soap Co., Los Angeles, Calif. 229,360, ren. 9-12-67. Cl. 52.
 Lowe, E. S., Co., Inc., New York, N.Y. 835,033, pub. 6-27-67. Cl. 22.
 Luft Instruments, Inc., Lincoln, Mass. 835,295. Cl. 26.
 Lunt Sterling: See—
 Rogers, Lunt & Bowlen Co.
 Luyties Pharmacal Co., St. Louis, Mo., to Blair Laboratories, Inc., Yonkers, N.Y. 434,068, ren. 9-12-67. Cl. 18.
 Lyle, Halsie M., Fort Worth, Tex. 718,901, can. Cl. 23.
 MAC Distributors, Inc., West Hartford, Conn. 835,113, pub. 6-27-67. Cl. 35.
 Madison Square Garden Corp., New York, N.Y. 835,284, pub. 6-27-67. Cl. 107.
 Mancioni, Luciano, Florence, Italy. 835,098, pub. 6-27-67. Cl. 30.
 Mansions Car Radio, Ltd., Montreal, Quebec, Canada. 718,878, can. Cl. 21.
 Marketing and Research Counselors, Inc., Dallas, Tex. 835,267, pub. 6-27-67. Cl. 101.
 Marie Creations, Inc., Philadelphia, Pa. 835,084, pub. 6-27-67. Cl. 28.
 Martel Electronics Sales, Inc., Los Angeles, Calif. 835,004, pub. 6-27-67. Multiple Class (Classes 21 and 36).
 Martinez Food Canners, Ltd., Martinez, Calif. 835,190, pub. 6-27-67. Cl. 46.
 Mastercraft Pipes, Inc., New York, N.Y. 834,944, pub. 6-27-67. Cl. 8.
 Mattel, Inc., Hawthorne, Calif. 835,037-8, pub. 6-27-67. Cl. 22.
 May, Earl E., Seed Co.: See—
 May Seed & Nursery Co.
 May Seed & Nursery Co., d.b.a. Earl E. May Seed Co., Shenandoah, Iowa. 436,132, ren. 9-12-67. Cl. 1.
 Mayfair Industries, Inc., Lafayette, La. 718,806, can. Cl. 20.
 McCreary Tire & Rubber Co., Indiana, Pa. 835,106-8, pub. 6-27-67. Cl. 35.
 McDaniel, Virginia K., d.b.a. Temp-Vu Co., Fort Wayne, Ind. 835,071, pub. 6-27-67. Cl. 26.
 McKee, Arthur G., & Co.: See—
 Taylor, Stiles & Co.
 Mead Johnson & Co., Evansville, Ind. 835,189, pub. 6-27-67. Cl. 48.
 Mead Johnson & Co., Evansville, Ind. 835,222, pub. 6-27-67. Cl. 46.
 Mead Johnson & Co., Evansville, Ind. 834,980, pub. 6-27-67. Cl. 18.
 Mead Johnson & Co., Evansville, Ind. 834,996, pub. 6-27-67. Cl. 18.
 Meiser, G. H., & Co., Blue Island, Ill. 835,080, pub. 6-27-67. Cl. 26.
 Melabs, Palo Alto, Calif. 835,078-9, pub. 6-27-67. Cl. 26.
 Menley & James Laboratories, Ltd., Philadelphia, Pa. 834,990, pub. 6-27-67. Cl. 18.
 Merck & Co., Inc.: See—
 Sharp & Dohme, Inc.
 Messe- und Ausstellungs-Gesellschaft m.b.H. Köln, Cologne, Germany. 835,272, pub. 6-27-67. Cl. 101.
 Metal Trees Corp., Chicago, Ill. 719,038, can. Cl. 50.
 Metal Trees Corp., Chicago, Ill. 719,040, can. Cl. 50.
 Metro Marketing, Inc., Hillside, N.J. 835,168, pub. 6-27-67. Cl. 46.
 Metropolis Brewery of N.J., Inc., Trenton, N.J. 835,225, pub. 6-27-67. Cl. 48.
 Metropolis Brewery of N.J., Inc., Trenton, N.J. 835,228, pub. 6-27-67. Cl. 48.
 Mex Co.: See—
 Chetakian, Edward.
 Meyer-Blanke Co., St. Louis, Mo. 835,210, pub. 6-27-67. Cl. 46.
 Michigan Tool Co., Detroit, Mich. 835,040, pub. 6-27-67. Cl. 23.
 Microseal Products, Inc.: See—
 Vogel, Ronald W., & Associates.
 Microspheres, Inc., Palo Alto, Calif. 835,067, pub. 6-27-67. Cl. 26.
 Milton Industries, Inc., Milton, Mass. 835,083, pub. 6-27-67. Cl. 28.
 Minneapolis-Moline Co., Hopkins, Minn., from Motex Mfg. Co., Kansas City, Mo. 718,908, can. Cl. 23.
 Moench, R. G., & Co., Inc., Clark, N.J. 835,170, pub. 6-27-67. Cl. 46.
 Mona Industries, Inc., Paterson, N.J. 835,257, pub. 6-27-67. Cl. 52.
 Monsanto Chemical Co., St. Louis, Mo. 719,027, can. Cl. 46.
 Moore Business Forms, Inc., Niagara Falls, N.Y. 835,121, pub. 6-27-67. Cl. 37.
 Moore, Maynard H., Jr., Inc., Stoneham, Mass. 835,146, pub. 6-27-67. Cl. 42.
 Mora, Federico S., San Juan, Puerto Rico. 835,059, pub. 6-27-67. Cl. 24.
 Morley Co., The, Portsmouth, N.H. 835,302, Cl. 39.
 Morris, Philip, Inc., New York, N.Y. 834,976-7, pub. 6-27-67. Cl. 17.
 Moru Candy Co., Roselle, N.J. 835,198, pub. 6-27-67. Cl. 46.
 Motex Mfg. Co.: See—
 Minneapolis-Moline Co.
 Motion Pictures, Inc., Dallas, Tex. 719,062, can. Cl. 101.
 Multi-Clean Products, Inc., St. Paul, Minn. 834,925, pub. 6-27-67. Cl. 4.
 Murphy Corp.: See—
 Ingram Oil & Refining Co.
 Mustad, O., & Sons, Oslo, Norway. 231,945, ren. 9-12-67. Cl. 22.
 Myers, E., Lye Corp., St. Louis, Mo., to Pennsalt Chemicals Corp., Philadelphia, Pa. 432,465, ren. 9-12-67. Cl. 6.
 N.V. Brouwerij "De Posthoorn," Breda, Netherlands. 835,224, pub. 6-27-67. Cl. 48.
 N.V. Koninklijke Veenendaalse Sijet-En Vlijfschacht-Fabriek Voorheen Weduwe D.S. Van Schuppen En Zoon, Veenendaal, Netherlands. 835,148, pub. 6-27-67. Cl. 43.
 National Assn. of Flight Services, Inc., Edina, Minn. 719,073, can. Cl. 105.
 National Biscuit Co., New York, N.Y. 65,141, ren. 9-12-67. Cl. 46.
 National Dairy Products Corp.: See—
 Southern Dairies, Inc.
 National Foam System, Inc.: See—
 Arnold, Hoffman & Co., Inc.
 National Fruit Canning Co., Seattle, Wash. 835,166, pub. 6-27-67. Cl. 46.
 National Laboratories Corp., The, Kansas City, Mo. 834,984, pub. 4-4-67. Cl. 18.
 National Research and Appraisal Co., Palo Alto, Calif. 835,268, pub. 6-27-67. Cl. 101.
 Natvar Corp., Woodbridge, N.J. 835,018, pub. 6-27-67. Multiple Class (Classes 21 and 44).
 Needs Corp., Jackson, Mich. 835,159-60, pub. 6-27-67. Cl. 45.
 Nestle Co., Inc., The, White Plains, N.Y. 835,183, pub. 6-27-67. Cl. 46.
 New Home Sewing Machine Co., The, Los Angeles, Calif. 835,047-8, pub. 6-27-67. Cl. 23.
 New York Air Brake Co., The, New York, N.Y. 835,102, pub. 6-27-67. Cl. 33.
 New Yorker Magazine, Inc., The, New York, N.Y. 835,300. Cl. 38.
 Newberry, J. J., Co., New York, N.Y. 835,274, pub. 6-27-67. Cl. 101.
 Nickey's Frozen Pizza Co., Chicago, Ill. 719,003, can. Cl. 46.
 Nimco, Inc., Spring Valley, Ill. 835,165, pub. 6-27-67. Cl. 46.
 Norden Laboratories, Inc., Lincoln, Nebr. 834,088, pub. 6-27-67. Cl. 18.
 Nu-Con Products Co., Inc., Hartford, Conn. 835,233, pub. 6-27-67. Cl. 50.
 Oil Center Research, Inc., Lafayette, La. 835,292. Cl. 15.
 Olin Mathieson Chemical Corp., East Alton, Ill. 718,800, can. Cl. 9.
 Optische Werke G. Rodenstock, Munich, Germany. 835,060, pub. 6-27-67. Cl. 26.
 Optische Werke G. Rodenstock, Munich, Germany. 835,068, pub. 6-27-67. Cl. 26.
 Organico, Societe Anonyme, Paris, France. 718,760, can. Cl. 2.
 Organon, Inc., West Orange, N.J. 834,940, pub. 6-27-67. Cl. 6.
 Ortho Pharmaceutical Corp., Raritan, N.J. 434,824, ren. 9-12-67. Cl. 44.
 Osceola Foods, Inc., Osceola, Ark. 835,209, pub. 6-27-67. Cl. 46.
 Otis Elevator Co., New York, N.Y. 835,042, pub. 6-27-67. Cl. 23.
 Owens-Illinois, Inc., Toledo, Ohio. 835,103, pub. 6-27-67. Cl. 33.
 Pacific Coast Canners, Inc., to Fruitvale Canning Co., Oakland, Calif. 236,685, ren. 9-12-67. Cl. 46.
 Pakon Mfg. Co.: See—
 Besso, Louis S.
 Parke, L. H., Co., Philadelphia, Pa., to General Foods Corp., White Plains, N.Y. 226,787, ren. 9-12-67. Cl. 46.
 Parker Fertilizer Co., Sylacauga, Ala. 834,914, pub. 6-27-67. Cl. 1.
 Pears, A. & F., Ltd., London, England. 64,320, ren. 9-12-67. Cl. 52.
 Pears, A. & F., Ltd., London, England. 64,511, ren. 9-12-67. Cl. 52.
 Peck, Wm., Sales Co., Inc.: See—
 Cluett, Peabody & Co., Inc.
 Pennsalt Chemicals Corp.: See—
 Myers, E., Lye Corp.
 Petrucci & Atwell, Inc., Newton Highlands, Mass. 835,116, pub. 6-27-67. Cl. 36.
 Pfizer, Chas. & Co., Inc., New York, N.Y. 834,942, pub. 6-27-67. Cl. 6.
 Pfizer, Chas. & Co., Inc., New York, N.Y. 835,245, pub. 6-27-67. Cl. 51.
 Philadelphia Chewing Gum Corp., Havertown, Pa. 835,182, pub. 6-27-67. Cl. 46.
 Philadelphia Chewing Gum Corp., Havertown, Pa. 835,210, pub. 6-27-67. Cl. 46.
 Phillips-Van Heusen Corp.: See—
 Chain Shirt Shops, Inc.
 Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. 835,305. Cl. 46.
 Pillsbury Co., The, Minneapolis, Minn. 835,203-6, pub. 6-27-67. Cl. 46.
 Pitney-Bowes, Inc., Stamford, Conn. 433,005, ren. 9-12-67. Cl. 23.
 Pittsburgh-Penn Oil Co., Pittsburgh, Pa. 834,933, pub. 6-27-67. Cl. 6.
 Plastic Enterprises, Inc., Independence, Mo. 835,235, pub. 6-27-67. Cl. 50.
 Plastilite Corp., Omaha, Nebr. 835,020, pub. 6-27-67. Cl. 22.
 Playkool Mfg. Co., Chicago, Ill. 835,019, pub. 6-27-67. Cl. 22.
 Playtime Products, Inc., Warsaw, Ind. 835,034-5, pub. 6-27-67. Cl. 22.
 Plymouth Cordage Co.: See—
 Emhart Corp.
 Polyventures, Inc., Washington, D.C. 718,832, can. Cl. 16.

Procter & Gamble Co., The, Cincinnati, Ohio. 834,941, pub. 6-27-67. Cl. 6.
 Product Research and Development Corp., Blue Bell, Pa. 835,291. Cl. 15.
 Propyl-lac-tic Brush Co., Florence, Mass. 835,094-5, pub. 6-27-67. Cl. 29.
 Protam Processes, Inc., New York, N.Y. 719,058, can. Cl. 52.
 Protecto Plastics, Inc., Wind Gap, Pa. 834,946, pub. 11-8-66. Cl. 9.
 Pure Oil Co., The, Chicago, Ill. 718,791, can. Cl. 6.
 Purulor Products, Inc., Rahway, N.J. 718,910, can. Cl. 23.
 Purse Co., The, Chattanooga, Tenn. 835,126, pub. 6-27-67. Cl. 38.
 Pycope, Inc., to Block Drug Co., Inc., Jersey City, N.J. 435,789, ren. 9-12-67. Cl. 44.
 Quaker Mill Co., to The Quaker Oats Co., Manchester, Iowa, to The Quaker Oats Co., Chicago, Ill. 64,161, ren. 9-12-67. Cl. 46.
 Quaker Oats Co., The: See—
 American Cereal Co.
 Quaker Mill Co.
 Quick-Set, Inc., Skokie, Ill. 718,920, can. Cl. 26.
 Quikrete Co., Columbus, Ohio. 834,968, pub. 5-2-67. Cl. 16.
 Ralston Purina Co., St. Louis, Mo. 835,212, pub. 6-27-67. Cl. 46.
 Randall Wine Vinegar Co., Inc., Bronx, N.Y. 835,211, pub. 6-27-67. Cl. 46.
 Raymond Corp., The, Greene, N.Y. 835,043-4, pub. 6-27-67. Cl. 23.
 Red Farm Studio, Inc., Providence, R.I. 718,955, can. Cl. 38.
 Regency Electronics, Inc., Indianapolis, Ind. 835,017, pub. 6-27-67. Cl. 21.
 Reiner, Robert, Inc., Weehawken, N.J. 234,955, ren. 9-12-67. Cl. 23.
 Rembrandt Tobacco Corp. (Overseas), Ltd., Zurich, Switzerland. 834,973, pub. 6-27-67. Cl. 17.
 Rexall Drug & Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 835,029, pub. 6-27-67. Cl. 22.
 Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 835,031, pub. 6-27-67. Cl. 22.
 Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 835,152, pub. 6-27-67. Cl. 44.
 Reynolds Metals Co., Richmond, Va. 834,961, pub. 6-27-67. Cl. 14.
 Ridgewood News, Inc., d.b.a. The Ridgewood Newspapers, Ridgewood, N.J. 835,270, pub. 6-27-67. Cl. 101.
 Ridgewood Newspapers, The: See—
 Ridgewood News, Inc.
 Roberts Dental Mfg. Co., Inc., Buffalo, N.Y. 835,151, pub. 6-16-67. Cl. 44.
 Rogers, Lunt & Bowlen Co., d.b.a. Lunt Sterling, Greenfield, Mass. 835,088-90, pub. 6-27-67. Cl. 28.
 Rohm & Haas Co., Philadelphia, Pa. 718,931, can. Cl. 31.
 Rolley, Inc., to Sea & Ski Corp., San Francisco, Calif. 433,934, ren. 9-12-67. Cl. 51.
 Ronson Corp., Woodbridge, N.J. 835,091, pub. 6-27-67. Multiple Class (Classes 29 and 44).
 Rossetti, Emanuele, d.b.a. Layla Di Emanuele Rossetti, Milan, Italy. 835,248, pub. 6-27-67. Cl. 51.
 Rossetti, Layla Di Emanuele: See—
 Rossetti, Emanuele.
 Rubbermaid, Inc., Wooster, Ohio. 835,261, pub. 6-27-67. Multiple Class (Classes 100 and 103).
 Rubinstein, Helena, Inc., New York, N.Y. 719,050, can. Cl. 51.
 Rudin & Roth, Inc., New York, N.Y. 835,303. Cl. 39.
 Ruhr-Stickstoff Aktiengesellschaft, Bochum, Germany. 718,802, can. Cl. 10.
 Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N.Y. 834,960, pub. 6-27-67. Cl. 13.
 Sala A.G.: See—
 Aktiengesellschaft fur Schaltapparate.
 Salsbury Laboratories, Charles City, Iowa. 834,935-6, pub. 6-27-67. Cl. 6.
 Saticoy Lemon Assn.: See—
 Fillmore Lemon Assn.
 Schattner, R. Co.: See—
 Schattner, Robert I.
 Schattner, Robert I., d.b.a. The R. Schattner Co., Washington, D.C. 835,129, pub. 6-27-67. Cl. 38.
 Schultz, Jack, Inc., St. Louis, Mo. 719,080, can. Cl. 39.
 Scott & Bowne, Bloomfield, to Beecham Products, Inc., Clifton, N.J. 229,537, ren. 9-12-67. Cl. 18.
 Sea & Ski Corp.: See—
 Rolley, Inc.
 Seagram, Joseph E., & Sons, Inc., New York, N.Y. 835,231-2, pub. 6-27-67. Cl. 49.
 Sealy, Inc., Chicago, Ill. 430,038, ren. 9-12-67. Cl. 32.
 Seamless Rubber Co., The: See—
 Rexall Drug & Chemical Co.
 Seller's, Inc.: See—
 Burk, Louis, Inc.
 Serendipity 3, Inc., New York, N.Y. 835,244, pub. 6-27-67. Cl. 51.
 Service Industries, Philadelphia, Pa. 835,173, pub. 6-27-67. Cl. 46.
 Seward Seafoods, Inc., Seward, Alaska. 719,019, can. Cl. 46.
 Shafran, Sam, Inc., New York, N.Y. 835,085, pub. 6-27-67. Cl. 28.
 Shapiro, Harry, Brooklyn, N.Y. 430,946, ren. 9-12-67. Cl. 6.
 Shapiro, Harry, Brooklyn, N.Y. 431,849, ren. 9-12-67. Cl. 52.
 Sharp & Dohme, Inc., Baltimore, Md., to Merck & Co., Inc., Rahway, N.J. 237,442, ren. 9-12-67. Cl. 18.
 Shepell, Inc., Grand Rapids, Mich. 835,154, pub. 6-27-67. Cl. 44.
 Shillman, A. & H., Co., Inc., Baltimore, Md. 432,693, ren. 9-12-67. Cl. 43.
 Simmonds Precision Products, Inc., Tarrytown, N.Y. 718,922, can. Cl. 26.
 Simmons Co., New York, N.Y. 235,949, ren. 9-12-67. Cl. 32.
 Skydeck International, Ltd., Toronto, Ontario, Canada. 835,258-9, pub. 6-27-67. Multiple Class (Classes 100 and 107).
 Smith, Olive, assor. to Consolidated Cosmetics, Chicago, Ill., to Les Parfumes de Dana, Inc., New York, N.Y. 435,046, ren. 9-12-67. Cl. 51.
 Smith, Taylor & Taylor Co., The, East Liverpool, Ohio. 835,097, pub. 6-27-67. Cl. 30.
 Societe Guerlain, Paris, France. 65,576, ren. 9-12-67. Cl. 51.
 Societe Nationale des Petroles d'Aquitaine, Paris, France. 834,928, pub. 6-27-67. Cl. 6.
 Societe Rhodiacta, Paris, France. 835,025, pub. 6-27-67. Cl. 22.
 Soas Mfg. Co., Detroit, Mich. 835,069, pub. 6-27-67. Cl. 26.
 Southern Dairies, Inc., Washington, D.C., to National Dairy Products Corp., New York, N.Y. 431,562, ren. 9-12-67. Cl. 46.
 Southern Dairies, Inc., Washington, D.C., to National Dairy Products Corp., New York, N.Y. 433,671, ren. 9-12-67. Cl. 46.
 Southern Fiber Glass Products, Inc., Sanford, Fla. 835,000, pub. 6-27-67. Cl. 19.
 Southern Mills, Inc., Atlanta, Ga. 835,055, pub. 6-27-67. Cl. 24.
 Southern Nitrogen Co., Inc.: See—
 Kaiser Aluminum & Chemical Corp.
 Southwest Carton Co.: See—
 Brimacombe, W. R.
 Sovereign Oil Co., Inc.: See—
 Stevens Co.
 Space Structures, Inc., Chanhassen, Minn. 718,761, can. Cl. 2.
 Spacetrone, Inc., Broadview, Ill. 835,009, pub. 6-27-67. Cl. 21.
 Spalding, A. G., & Bros., Inc., Chicopee, Mass. 835,036, pub. 6-27-67. Cl. 22.
 Spezialchemie Gesellschaft mit Beschränkter Haftung & Co. Arzneimittel-fabrik, Munich, Germany. 834,981, pub. 6-27-67. Cl. 18.
 Splieshofer & Braun, Heubach-Württemberg, Germany. 718,983, can. Cl. 42.
 Sport Imports, Inc., New York, N.Y. 835,135, pub. 6-27-67. Cl. 39.
 Spot-O-Gold Corp., Philadelphia, Pa. 835,128, pub. 6-27-67. Cl. 38.
 Spunt, Shepard A., d.b.a. General Solids Associates, Brookline, Mass. 718,889, can. Cl. 22.
 Stafco, Inc., San Antonio, Tex. 718,797, can. Cl. 8.
 Stanbio Laboratory, Inc., San Antonio, Tex. 835,253, pub. 6-27-67. Cl. 52.
 Standard Oil Co. of Calif., San Francisco, Calif. 434,976, ren. 9-12-67. Cl. 6.
 Standard Oil Co. of Calif., San Francisco, Calif. 435,042, ren. 9-12-67. Cl. 6.
 Starr Pharmacal Co., Los Angeles, Calif. 718,845, can. Cl. 18.
 State of North Carolina, The, New Bern, N.C. 835,282, pub. 6-27-67. Cl. 107.
 Stauffer Chemical Co., New York, N.Y. 834,964, pub. 6-27-67. Cl. 15.
 Stempel-Hermetik G.m.b.H., Frankfurt Main, Germany. 718,930, can. Cl. 31.
 Sterneo Industries, Inc., Allendale, N.J. 834,959, pub. 6-27-67. Cl. 13.
 Sterneo Industries, Inc., Allendale, N.J. 835,010, pub. 6-27-67. Cl. 21.
 Stevens-Arnold, Inc., Boston, Mass. 835,012, pub. 6-27-67. Cl. 21.
 Stevens Co., South Bend, Ind., from Sovereign Oil Co., Inc., Chicago, Ill. 718,773, can. Cl. 6.
 Stewart, W. H., Inc., Syracuse, N.Y. 835,049, pub. 6-27-67. Cl. 25.
 Stewart-Warner Corp.: See—
 Foote, Plerson & Co., Inc.
 Stuckey & Speer, Inc., Houston, Tex. 835,087, pub. 6-27-67. Cl. 28.
 Submaria, Ltd., Charlotte, N.C. 834,998, pub. 6-27-67. Cl. 19.
 Suburban Management Co., King of Prussia, Pa. 835,239, pub. 6-27-67. Cl. 50.
 Successories, Inc., New York, N.Y. 718,975, can. Cl. 39.
 Sunshine Farms: See—
 Cone, S. E., Jr.
 Superior Provisions, Inc., Philadelphia, Pa. 835,220, pub. 6-27-67. Cl. 46.
 Taylor, Stiles & Co., Riegelsville, N.J., to Arthur G. McKee & Co., Cleveland, Ohio. 64,006, ren. 9-12-67. Cl. 23.
 Tech Publishers, Inc., Hempstead, N.Y. 718,958, can. Cl. 38.
 Tecla, Inc.: See—
 Goldsoll, Frank J.
 Tele-Trip Co., Inc., Washington, D.C. 719,068, can. Cl. 102.
 Temp-Vu Co.: See—
 McDaniel, Virginia K.
 Texaco Inc.: See—
 Century Laboratories, Inc.
 Texas Co., The.
 Texas Co., The, to Texaco Inc., New York, N.Y. 434,908, ren. 9-12-67. Cl. 15.
 Textile Banking Co., Inc., New York, N.Y. 835,117-18, pub. 6-27-67. Cl. 36.

- Thermoclad Co., The, Erie, Pa. 834,967, pub. 1-17-67. Cl. 16.
 Thomas Industries, Inc.: *See*—
 Electric Sprayit Co.
 Thompson's Malted Food Co., Waukesha, Wis., to The Borden Co., New York, N.Y. 230,960, ren. 9-12-67. Cl. 46.
 Tingle, Brown & Co., New York, N.Y. 718,912, canc. Cl. 24.
 Todd Chemical Co., Inc., Great Neck, N.Y. 835,256, pub. 5-16-67. Cl. 52.
 Toledo Scale Corp., Toledo, Ohio. 835,073, pub. 6-27-67. Cl. 26.
 Totzka, Jerry C., d.b.a. Drug Industries Co., Detroit, to Drug Industries Co., Highland Park, Mich. 435,120, ren. 9-12-67. Cl. 18.
 Tracto Products, Inc., Omaha, Nebr. 834,965, pub. 6-20-67. Cl. 15.
 Trail-Et, Inc., Manawa, Wis. 835,002, pub. 6-27-67. Cl. 19.
 Trapp & Sons, Beulah, Mich. 834,917, pub. 6-27-67. Cl. 1.
 Travel Queen Coaches, Inc., Riverside, Calif. 835,001, pub. 6-27-67. Cl. 19.
 Truck Mixer Manufacturers Bureau Association, Silver Spring, Md. 835,285, pub. 6-27-67. Cl. A.
 Tupperware: *See*—
 Rexall Drug & Chemical Co.
 Tynan & Evans, Inc., New York, N.Y., to Cross Country Clothes, Inc., Northampton, Pa. 431,728, ren. 9-12-67. Cl. 42.
 Udyllite Corp., The, Warren, Mich. 834,937, pub. 6-27-67. Cl. 6.
 Umbroller Co., Denver, Colo. 718,934, canc. Cl. 34.
 Union Special Machine Co., Chicago, Ill. 230,235, ren. 9-12-67. Cl. 23.
 Uniroyal (1966), Ltd., from Dominion Rubber Co., Ltd., Montreal, Quebec, Canada. 834,913, pub. 6-27-67. Cl. 1.
 United Artists Records, Inc., New York, N.Y. 718,941, canc. Cl. 36.
 United Merchants & Manufacturers, Inc., New York, N.Y. 835,275, pub. 6-27-67. Cl. 102.
 U.S. Health Club, Inc., Yonkers, N.Y. 835,193, pub. 6-27-67. Cl. 46.
 United States Rubber Co., New York, N.Y. 835,110, pub. 6-27-67. Cl. 35.
 United States Servateria Corp., Los Angeles, Calif. 719,048, canc. Cl. 51.
 United States Steel Corp., Pittsburgh, Pa. 718,819, canc. Cl. 14.
 Universal Cigar Corp., New York, N.Y. 834,974-5, pub. 6-27-67. Cl. 17.
 Universal Dynamics Corp., Alexandria, Va. 835,104, pub. 6-27-67. Cl. 34.
 Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 431,843, ren. 9-12-67. Cl. 18.
 Van Melle N.V., Rotterdam, Netherlands. 835,164, pub. 6-27-67. Cl. 46.
 Velocidad, Inc., d.b.a. Fiberfab, Sunnyvale, Calif. 834,999, pub. 6-27-67. Cl. 19.
 Verbrite Factory: *See*—
 Clinton Industries, Inc.
 Vitaminerals, Inc., Glendale, Calif. 834,995, pub. 6-27-67. Cl. 18.
 Vogel, Ronald W., & Associates, San Francisco, from Micro-seal Products, Inc., Santa Ana, Calif. 835,279, pub. 6-27-67. Cl. 106.
 Wagner, Walter, & Co.: *See*—
 Wagner, Walter M.
 Wagner, Walter M., d.b.a. Walter Wagner & Co., Ypsilanti, Mich. 718,855, canc. Cl. 18.
 Walters, Ben, Inc., Hialeah, Fla. 835,234, pub. 6-27-67. Cl. 50.
 Waltham Products, Inc., East Boston, Mass. 835,105, pub. 6-27-67. Cl. 34.
 Wards Cove Packing Co., Inc., Seattle, Wash. 835,187, pub. 6-27-67. Cl. 46.
 Warner Bros. Co., The, Bridgeport, Conn. 835,301, Cl. 39.
 Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 835,081, pub. 6-27-67. Cl. 26.
 Warren Paper Products Co., Lafayette, Ind., from R. Worgul, Lansing, Mich. 835,023, pub. 6-27-67. Cl. 22.
 West Garment Co., Inc., San Antonio, Tex. 835,131, pub. 6-27-67. Cl. 39.
 West Point-Pepperell, Inc., West Point, Ga. 835,144, pub. 6-27-67. Cl. 42.
 Western Reserve University, Cleveland, Ohio. 835,063, pub. 6-27-67. Cl. 26.
 Western Textile Products Co., St. Louis, Mo. 835,143, pub. 6-27-67. Cl. 40.
 Westinghouse Broadcasting Co., Inc., New York, N.Y. 674,743, canc. Cl. 104.
 Wetherholt's Perfume Co., to Franth Wetherholdts, Chicago, Ill. 432,579, ren. 9-12-67. Cl. 51.
 Wetherholts, Franth: *See*—
 Wetherholt's Perfume Co.
 Weymouth Art Leather Co., South Braintree, Mass. 434,158, ren. 9-12-67. Cl. 50.
 White Sewing Machine Corp., Lakewood, Ohio. 718,910, canc. Cl. 26.
 Whitehouse Products, Inc., Brooklyn, N.Y. 835,057, pub. 6-27-67. Cl. 24.
 Wilford, Harvey M., d.b.a. Wilford Hatchery, Elyria, Ohio. 835,179-80, pub. 6-27-67. Cl. 40.
 Wilford Hatchery: *See*—
 Wilford, Harvey M.
 Wolverine World Wide, Inc., Rockford, Mich. 835,136, pub. 6-27-67. Cl. 39.
 Wood, Andrew J., d.b.a. Floratigue, Whittier, Calif. 835,236, pub. 6-27-67. Cl. 50.
 Worgul, Robert: *See*—
 Warren Paper Products Co.
 Wright, Franklin E., Minnetto, N.Y. 718,921, canc. Cl. 26.
 Wright Mfg. Co., The, Cleveland, Ohio. 718,817, canc. Cl. 14.
 Yadro Chemical Co., Milwaukee, Wis. 834,924, pub. 6-27-67. Multiple Class (Classes 4, 6, and 52).
 Zellweger, Ltd., Uster, Switzerland. 835,286-8, pub. 6-27-67. Cl. A.
 Zundapp-Werke, G.m.b.H., Munich, Germany. 834,997, pub. 6-27-67. Multiple Class (Classes 19 and 23).

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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Number 3

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of
August 1967

Examiner affirmed	145
Examiner affirmed in part	17
Examiner reversed	31
Total	193

Patents Available for Licensing or Sale

D. 178,524. CONDIMENT DISPENSER. Raymond C. Lange, Cedarburg, Wis. Correspondence to: Sherman Levy, Suite 602, Victor Bldg., 724 9th St. NW., Washington, D.C., 20001.

D. 200,486. DUST PAN. Fred Stark, 2925 Touhy Ave., Chicago, Ill., 60645.

D. 208,087. HOLDER FOR KNITTING NEEDLES AND ACCESSORIES. Clara S. Funk, Rte. 1, Box 191, Madras, Oreg., 97741.

3,132,450. MACHINES FOR GRINDING THE POINTS OF DRILLS. E. P. Boddaert, 4 Apple Orchard Path, Thornhill, Ontario, Canada.

3,164,280. CONTAINER VALVULAR CAP. Clancy B. Ford, 16901 Schoolcraft, Van Nuys, Calif., 91406.

3,252,108. LINEARIZED FREQUENCY MODULATED CRYSTAL OSCILLATORS. Nicholas Gregory, 40 Haggetts Pond Road, Andover, Mass., 01810.

3,262,084. CONNECTOR. Proteus, Inc., Box 72, Denville, N.J., 07836.

3,307,565. INSECT PROOF CANOPY FOR PICNIC TABLES. Vincent Luccarelli, 4502 Gage Road, Alexandria, Va., 22309.

3,311,299. COUNTER WITH ZERO-SETTING DEVICE. Alfred Engelmann, Bissendorf, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,319,805. GRIPPING APPARATUS FOR TRANSPORTING PIPES. Th. Kleserling & Albrecht, Solingen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,328,915. SUPPORT RACK FOR TOMATOES AND PEAS. Otto C. Elbert, Box 35, Whittemore, Iowa, 50598.

3,331,515. CONDIMENT HOLDER. R. C. Lange, Cedarburg, Wis. Correspondence to: Sherman Levy, Suite 602, Victor Building, 724 9th St. NW., Washington, D.C., 20001.

3,332,177. INFLATABLE STRUCTURES. M. Steintal & Co., Inc., New York, N.Y. Correspondence to: Milton R. Kestenbaum, 41 W. 72nd St., New York, N.Y., 10023.

The following 2 patents are offered by: Nelson Berman, 39 Birch Lane, Valley Stream, N.Y., 11581.

3,230,333. CAPILLARY MERCURY SWITCHES.

3,253,274. CHARACTER DISPLAY DEVICE.

The following 2 patents are offered by: Dr. Beck & Co. GmbH, Hamburg, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,313,781. HIGH MOLECULAR WEIGHT POLYESTER SUITABLE FOR USE AS ELECTRICALLY INSULATING MATERIAL, AND METHOD OF MAKING THE SAME.

3,320,193. HARDENING OF EPOXY COMPOUNDS WITH TRISUBSTITUTED TRIETHANOL-AMINE TITANATES.

The Procter & Gamble Company is willing to grant non-exclusive licenses under the following patent upon reasonable terms. Inquiries should be addressed to: Patent Division, T. F. Waters, Director, The Procter & Gamble Company, Ivorydale Technical Center, Cincinnati, Ohio, 45217.

3,202,276. PACKAGE FOR CYLINDRICAL ARTICLES OR OBJECTS.

General Electric Company is prepared to grant non-exclusive licenses under the following 27 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 2 patents should be addressed to: Department Patent Counsel, Apollo Support Department, General Electric Company, P.O. Box 2500, Daytona Beach, Fla., 32015.

2,859,385. VISUAL DISPLAY APPARATUS.

3,243,703. INTERPOLATIVE SCANNING.

Applications for license under the following 6 patents should be addressed to: Patent Counsel, Power Generation Division, General Electric Company, 1 River Road, Bldg. #53, Schenectady, N.Y., 12305.

2,625,789. REGULATOR FOR VARIABLE NOZZLE GAS TURBINE POWER PLANT.

2,912,824. GOVERNING APPARATUS FOR MARINE GAS TURBINE POWERPLANT.

3,014,980. INSULATION SYSTEMS.

3,137,478. COVER PLATE ASSEMBLY FOR SEALING SPACES BETWEEN TURBINE BUCKETS.

3,141,651. TURBINE SHROUD STRUCTURE.

3,322,153. MULTIPLE PRESSURE CONTROL VALVE.

Applications for license under the following 19 patents should be addressed to: General Electric Company, Power Distribution Division, 100 Woodlawn Ave., Pittsfield, Mass., 01201. Attn: Division Patent Counsel.

D.205,719. STREET LIGHTING FIXTURE.

2,605,457. CURRENT REGULATOR.

2,644,116. AIR GAP CONSTRUCTION.

2,658,805. REPULSION TYPE MAGNETIC SUSPENSION.

2,757,360. CIRCUIT BREAKER.

2,834,855. LOAD BREAK DEVICE.

2,834,856. LOAD BREAK DEVICE.

2,858,360. SUPPORT OF TRANSMISSION LINES HAVING MULTIPLE CONDUCTORS PER PHASE.

2,890,389. LIGHTNING ARRESTER IMPROVEMENT.

2,894,146. IMPULSE GENERATING DEVICE.

2,922,863. LOAD BREAK DEVICE.

New Applications Received During July 1967

Patents	6871
Designs	410
Plant Patents	10
Reissues	27
Total	7318

Issue—September 19, 1967

Patents.....	1315—No. 3,341,861 to No. 3,343,175, incl.
Designs.....	67—No. 208,620 to No. 208,686, incl.
Plant Patents...	2—No. 2,768 to No. 2,769, incl.
Total.....	1384

- 2,924,636. GLASS COMPONENT FOR ELECTRICAL APPARATUS.
 3,025,432. FACTORY ASSEMBLED ELECTRICAL SERVICE PACKAGE.
 3,075,392. MECHANISM FOR RESETTING ROTATABLE SHAFTS.
 3,075,399. GEAR ASSEMBLIES WITH PHASED TOOTH DISPLACEMENT.
 3,092,071. INDICATOR.
 3,276,923. REDUCTION IN MAGNETIC LOSSES IN ELECTRICAL INDUCTION APPARATUS.
 3,315,046. COMBINATION LINE INSULATOR AND CABLE POTHEAD.
 3,317,659. HV INSULATOR WITH INTERNAL CORONA SHIELD.

The Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 91 patents. Inquiries respecting licenses under these patents should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

- 3,307,810. IRROTATIONAL LOAD MOUNT.
 3,307,851. AUTOMATIC RECORD CHANGER.
 3,307,852. RECORD PLAYER APPARATUS.
 3,308,285. LOGIC NETWORKS FOR REALIZING ASSOCIATIVE LOGIC FUNCTIONS.
 3,308,324. ELECTRON MULTIPLIER AND METHOD OF MANUFACTURING DYNODES.
 3,308,327. CATHODE RAY TUBE.
 3,308,382. TUNING CONTROL SYSTEM FOR RADIO RECEIVERS.
 3,308,384. ONE-OUT-OF-N STORAGE CIRCUIT EMPLOYING AT LEAST 2N GATES FOR N INPUT SIGNALS.
 3,308,433. SWITCHING MATRIX.
 3,308,441. INFORMATION PROCESSING APPARATUS.
 3,308,445. MAGNETIC STORAGE DEVICES.
 3,308,446. FERRITE SHEET MEMORY WITH READ AND WRITE BY ANGULAR DEFLECTION OF FLUX LOOPS.
 3,308,448. MAGNETIC MEMORY MATRIX HAVING NOISE CANCELLATION WORD CONDUCTOR.
 3,308,731. ELECTROSTATIC PRINTING.
 3,309,176. LOW TEMPERATURE SYNTHESIS OF COMPOUND SEMICONDUCTORS.
 3,309,469. PHONOGRAPH PICKUP.
 3,309,574. PROTECTIVE COOLING SYSTEM.
 3,309,679. DATA PROCESSING SYSTEM.
 3,310,401. ELECTROPHOTOGRAPHIC MEMBER AND PROCESS UTILIZING POLYARYLMETHANE DYE INTERMEDIATES.
 3,310,425. METHOD OF DEPOSITING EPITAXIAL LAYERS OF GALLIUM ARSENIDE.
 3,310,625. COLOR TELEVISION PHASE TEST APPARATUS.
 3,310,686. FLIP FLIP CIRCUITS UTILIZING SET-RESET DOMINATE TECHNIQUES.
 3,310,688. ELECTRICAL CIRCUITS.
 3,310,700. PHOTOCONDUCTIVE DEVICE INCORPORATING STABILIZING LAYERS ON THE FACE OF THE SELENIUM LAYER.
 3,310,705. LINEARITY CORRECTION CIRCUIT.
 3,310,731. VOLTAGE REFERENCE CIRCUIT.
 3,310,751. SIGNAL DISTORTION CORRECTION CIRCUIT EMPLOYING MEANS FOR STORING SIGNAL SAMPLES AND INITIATING CORRECTION WHEN THE PATTERN OF STORED SAMPLES INDICATES THE PRESENCE OF DISTORTION.
 3,310,763. DEFLECTION YOKE COIL.
 3,310,783. NEURON INFORMATION PROCESSING APPARATUS.
 3,310,784. INFORMATION PROCESSING APPARATUS.
 3,312,780. PHASE DETECTOR FOR COMPARING A FIXED FREQUENCY AND A VARIABLE PHASE-FREQUENCY SIGNAL.
 3,312,838. SEMICONDUCTOR RECTIFYING DEVICE WITH A PLURALITY OF JUNCTIONS.
 3,312,905. HIGH POWER LASER INCORPORATING PLURAL TUNABLE AMPLIFIER STAGES.

- 3,312,912. FREQUENCY STABILIZING OF TUNNEL DIODE INVERTERS BY MOMENTARILY OVERLOADING THE INVERTER.
 3,312,941. SWITCHING NETWORK.
 3,312,950. BUFFER SYSTEM WITH EACH CHANNEL TRANSFERRING TO A SPECIFIED MEMORY LOCATION, SAID LOCATION STORING INDICATION OF NEXT CHANNEL TO BE SERVICED.
 3,312,961. COINCIDENT CURRENT MAGNETIC PLATE MEMORY.
 3,312,970. PULSE ECHO RECOGNITION SYSTEMS.
 3,313,643. METHOD OF MAKING PHOSPHOR SCREENS.
 3,314,739. CARRYING CASE.
 3,315,030. OPTICAL SYSTEM FOR COLOR TELEVISION CAMERAS.
 3,315,096. ELECTRICAL CIRCUIT INCLUDING AN INSULATED-GATE FIELD EFFECT TRANSISTOR HAVING AN EPITAXIAL LAYER OF RELATIVELY LIGHTLY DOPED SEMICONDUCTOR MATERIAL ON A BASE LAYER OF MORE HIGHLY DOPED SEMICONDUCTOR MATERIAL FOR IMPROVED OPERATION AT ULTRA-HIGH FREQUENCIES.
 3,315,100. ELECTRICAL CIRCUITS USING NEGATIVE RESISTANCE DIODE-TRANSISTOR COMBINATION.
 3,315,107. COOLING MEANS FOR POWER TUBES.
 3,315,108. HIGH LAG, HIGH SENSITIVITY TARGET HAVING SOLID ANTIMONY OXYSULPHIDE AND POROUS ANTIMONY TRISULPHIDE LAYERS.
 3,315,109. TARGET SUPPORT STRUCTURE FOR PICKUP TUBES.
 3,316,445. TRANSISTORIZED POWER SUPPLY FOR A STORAGE CAPACITOR WITH A REGULATING FEEDBACK CONTROL.
 3,316,483. BRIDGE TYPE PHASE CORRECTOR FOR WAVE TRANSMISSION NETWORKS.
 3,316,618. METHOD OF MAKING CONNECTION TO STACKED PRINTED CIRCUIT BOARDS.
 3,316,619. METHOD OF MAKING CONNECTIONS TO STACKED PRINTED CIRCUIT BOARDS.
 3,317,017. PRINTER WITH ROLLING ANVIL MEMBER.
 3,317,313. ELECTROSTATIC PRINTING METHOD AND ELEMENT.
 3,317,319. METHOD OF DEPOSITING PARTICULATE LAYERS.
 3,317,337. METHOD OF METALIZING LUMINESCENT SCREENS.
 3,317,661. COLOR TELEVISION MODULATING SYSTEM.
 3,317,712. INTEGRATED LIGHT SENSING DEVICE.
 3,317,753. THRESHOLD GATE.
 3,317,781. TELEVISION DEGAUSSING APPARATUS.
 3,318,993. INTERCONNECTION OF MULTILAYER CIRCUITS AND METHOD.
 3,319,004. TUNING INDICATOR SYSTEM FOR MULTIPLEX RADIO RECEIVERS.
 3,319,080. ELECTRO-OPTICAL DIGITAL SYSTEM.
 3,319,085. TUNNEL DIODE SWITCHING CIRCUIT TRIGGERABLE BY SINGLE POLARITY INPUT.
 3,319,103. STORAGE TUBE TARGET STRUCTURE HAVING ATTACHED SHIELD RING.
 3,319,111. LINEARITY CORRECTION CIRCUIT.
 3,319,112. LINEARITY CORRECTION CIRCUIT.
 3,319,113. EFFICIENCY CIRCUIT.
 3,319,233. MIDPOINT CONDUCTOR DRIVE AND SENSE IN A MAGNETIC MEMORY.
 3,319,310. MANUFACTURE OF GRID ELECTRODES.
 3,319,546. ELECTROSTATIC PRINTING APPARATUS.
 3,319,668. WIRE STRAIGHTENER.
 3,320,013. SELECTIVELY CONTROLLABLE LIGHT GUIDE APPARATUS.
 3,320,504. PLURAL MOTOR SEQUENTIAL TUNING CONTROL SYSTEM FOR TELEVISION RECEIVERS.
 3,320,539. PULSE GENERATOR EMPLOYING A CONTROLLED OSCILLATOR DRIVING A SERIES OF GATES AND EACH BEING CONTROLLED BY EXTERNAL TIMING SIGNALS.
 3,320,612. DME WITH STEPPER TYPE SERVO MOTOR.
 3,321,637. CHECK CIRCUIT FOR OPTICAL READER EMPLOYING THRESHOLD AMPLIFIER.

- 3,321,640. ELECTRICAL CIRCUIT.
 3,321,660. ELECTRON MULTIPLIER HAVING RESISTIVE SECONDARY EMISSIVE SURFACE WHICH IS ADAPTED TO SUSTAIN A POTENTIAL GRADIENT, WHEREBY SUCCESSIVE MULTIPLICATION IS POSSIBLE.
 3,321,682. GROUP III-V COMPOUND TRANSISTOR.
 3,321,724. DEFLECTION YOKE CORE SLOTTED FOR VERTICAL TOROIDAL COILS.
 3,321,757. DME WITH GROUND SPEED AND TIME-TO-STATION INDICATOR.
 3,322,252. SIDE MEMBER STRUCTURE FOR PRINT HEAD.
 3,322,360. ENDLESS TAPE CARTRIDGE.
 3,322,485. ELECTRO-OPTICAL ELEMENTS UTILIZING AN ORGANIC NEMATIC COMPOUND.
 3,322,537. ELECTROPHOTOGRAPHIC REPRODUCTION PROCESS INCLUDING REMOVAL OF ELECTROSCOPIC PARTICLES FROM DEVELOPED ELECTROSTATIC IMAGE.
 3,322,540. ELECTROPHOTOGRAPHIC DEVELOPING METHOD UTILIZING A THERMOPLASTIC PHOTOCONDUCTIVE LAYER HAVING ENTRAPPED SOLVENT THEREIN.
 3,322,653. METHOD OF MAKING A TWO SIDED STORAGE ELECTRODE.
 3,322,681. PROCESS FOR PREPARING LANTHANUM YTTRIUM OR LUTETIUM PHOSPHATE PHOSPHORS.
 3,322,871. METHOD OF FORMING A PATTERN.
 3,322,974. FLIP-FLOP ADAPTABLE FOR COUNTER COMPRISING INVERTERS AND INHIBITABLE GATES AND IN COOPERATION WITH OVERLAPPING CLOCKS FOR TEMPORARILY MAINTAINING COMPLEMENTARY OUTPUTS AT SAME DIGITAL LEVEL.
 3,322,998. COLOR PURITY CORRECTING APPARATUS FOR COLORED TELEVISION PICTURE TUBES.
 3,323,027. SEMICONDUCTOR DEVICES WITH LAYER OF SILICON MONOXIDE AND GERMANIUM MIXTURE AND METHODS OF FABRICATING THEM.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 31, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-4-64	5-23-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3-2-64	3-1-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	7-20-64	4-6-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-17-64	5-16-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-6-64	12-12-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-1-64	3-19-63
SECURITY, GROUP 220—S. BOYD, Manager..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	2-21-66	12-20-63
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	11-12-63	11-29-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	2-10-64	1-8-62
PHYSICS, GROUP 260—R. L. EVANS, Manager..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-4-64	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager..... Industrial Arts; Household, Personal and Fine Arts.	1-14-66	8-25-65
Total number of pending applications (excluding Designs).....	185,005	
Total number of Design applications pending.....	4,509	
Total number of applications awaiting action (excluding Designs).....	135,702	
Total number of Design applications awaiting action.....	2,361	
Date of oldest new application awaiting action.....	Nov. 12, 1963	
Date of oldest amended application awaiting action.....	Nov. 29, 1961	

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during September 1967, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents.....	Numbers 2,520,900 to 2,524,025, inclusive
Plant Patents.....	Numbers 978 to 981, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.

	New	Amended
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid, Flexible and Special Receptacles and Packages.	1-3-66	9-3-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Wood-working; Tools; Cutlery; Jacks; Fasteners.	6-3-65	2-7-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Tolley; Printing; Type-writers; Stationery; Information Dissemination.	2-4-65	1-22-63
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	1-7-66	12-2-64
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9-15-65	4-30-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager..... Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	8-17-65	9-4-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

ROCKWOOD CHOCOLATE CO., INC. v. HOFFMAN CANDY COMPANY

No. 7712. Decided February 16, 1967

[54 CCPA —; 372 F.2d 552; 152 USPQ 599]

1. TRADEMARK—PRIOR USE—EVIDENCE—EARLIER USE THAN ALLEGED IN APPLICATION MAY BE ESTABLISHED.

"While Rockwood asserted 1957 as the date of first use of the mark in its application for registration, we agree with the Board that factor alone does not preclude it from establishing an earlier date."

2. SAME—SAME—SAME—SAME.

"Rockwood's assertion of a 1957 date [in its application for registration] for first use places an added burden on it to prove its later asserted date of priority. Thus, while a party is entitled to carry its date of first use back of one so asserted, proof of such earlier date must be clear and convincing and oral testimony given long after the date sought to be proved must be carefully scrutinized."

3. SAME—CONFUSING SIMILARITY—"BAG-O-GOLD" AND "CUP-O-GOLD" FOR CANDY.

"Considering the marks 'BAG-O-GOLD' and 'CUP-O-GOLD,' in their entreties, we agree with the Board that their use on candy would create likelihood of confusion, particularly since the only difference lies in different three letter words used as a prefix suggestive of a type of container in which the 'O-GOLD' candy may be sold."

4. SAME—CANCELLATION—BURDEN OF PROOF.

"The existence of Rockwood's registration thus placed on Hoffman, inter alia, the burden of proving that Rockwood did not have the exclusive right to use the registered mark 'ROCKWOOD BAG-O-GOLD' on candy."

5. SAME—SAME—CONFUSING SIMILARITY—COMPANY OR "HOUSE MARK" IN ASSOCIATION WITH CONFUSINGLY SIMILAR MARK.

"Hoffman sought to avoid the legal effect of section 7(b) by asserting 'it is well established that, if two product marks are confusingly similar, the likelihood of confusion is not removed by the use of a company or 'house mark' in association with the product mark,' citing *Celanese Corp. of America v. E. I. du Pont de Nemours & Co.*, 33 CCPA 857, 154 F.2d 143, 69 USPQ 69, and two decisions of the Trademark Trial and Appeal Board. Our review of the cited authorities does not persuade us that there is any such arbitrary rule of law."

6. SAME—SAME—SAME—SAME.

Upon considering a contention in a cancellation proceeding that "... if two product marks are confusingly similar, the likelihood of confusion is not removed by the use of a company or 'house mark,'" Held that "... we do not think that this case, or any of the decisions cited therein, stand for so broad a proposition as that advanced by Hoffman"; and that "Rather, it seems clear the authorities emphasize that each case requires consideration of the effect of the entire mark including any term in addition to that which closely resembles the opposing mark."

7. SAME—SAME—SAME—"ROCKWOOD BAG-O-GOLD" AND "CUP-O-GOLD" FOR CANDY.

"... taking into account these marks in their entreties ['ROCKWOOD BAG-O-GOLD' and 'CUP-O-GOLD' for candy] we think the totality of differences between them is such that when considered with the prima facie rights in Rockwood arising from its registration of the mark, Hoffman has not established on the present record such likelihood of confusion between the two marks as to discharge its burden of proof in the cancellation proceeding."

APPEAL from the Patent Office. Opposition No. 40,877; Cancellation No. 7,903.

SEPTEMBER 19, 1967

U. S. PATENT OFFICE

817

MODIFIED.

A. D. Caesar, Alan H. Bernstein, Stanley H. Cohen for appellant.
G. Cabell Busick, Henry W. Leeds for appellee.

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND, Associate Judges, and Judge WILLIAM H. KIRKPATRICK¹
SMITH, J., delivered the opinion of the court.

This appeal is from the decision of the Trademark Trial and Appeal Board in consolidated opposition and cancellation proceedings, 145 USPQ 91. Appellant, hereinafter designated Rockwood, sought to register "BAG-O-GOLD" as a mark for candy,² asserting ownership of a registration of the mark "ROCKWOOD BAG-O-GOLD" for candy.³ Appellee, hereinafter Hoffman, brought an opposition against the application for registration of the mark "BAG-O-GOLD" and also a petition for cancellation against the registration of the mark "ROCKWOOD BAG-O-GOLD." In both actions Hoffman's position is based on its asserted prior and continuous use of "CUP-O-GOLD" as a mark for candy. The Board sustained the opposition and granted the petition to cancel.

The issue is whether the Board erred in finding that Hoffman proved prior and continuous use of its "CUP-O-GOLD" mark and in finding a likelihood of confusion between that mark and Rockwood's marks "BAG-O-GOLD" and "ROCKWOOD BAG-O-GOLD."

Our review of the record establishes that there was an adequate basis for the Board's finding that Hoffman used its mark "CUP-O-GOLD" prior to any date proven by Rockwood as the date of first use of its marks. The relevant testimony and exhibits are adequately set forth in the Board's opinion and support the Board's conclusion, with which we agree, "that Hoffman is, as between the parties, the prior user." We would add, however, that our agreement with this conclusion is predicated very largely on the weaknesses of the record on behalf of Rockwood.

The record on behalf of Hoffman cannot be characterized as establishing a strong case of its use of the mark "CUP-O-GOLD" by December 2, 1935. As the Board stated:

It is true that the oral testimony in behalf of Hoffman as to first use can be characterized as "hazy" but there is of record an invoice which indicates a shipment of one box of "CUP-O-GOLD" on December 2, 1935. This invoice was taken from the business records of Hoffman albeit the witness identifying the document was not with the company at the time said invoice was made. Under the "shop-book" rule (Title 28, sec. 1732) a record made in the regular course of business is admissible, the question is really one of weight. We are persuaded that said invoice is corroborative of testimony that Hoffman, through a predecessor, used "CUP-O-GOLD" as a mark for candy at least as early as December 2, 1935.

Hoffman's case is, however, sufficiently strong for shifting to Rockwood the burden of proving an earlier date. [1] While Rockwood asserted 1957 as the date of first use of the mark in its application for registration, we agree with the Board that factor alone does not preclude it from establishing an earlier date. When we examine the record on behalf of Rockwood, we agree with the Board that the oral testimony as to Rockwood's use prior to 1936 does not carry sufficient conviction to establish a date of use early enough to overcome the case made by Hoffman. The only documentary corroboration of Rockwood's early use of the mark is a price list dated July 25, 1936. This

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² Trademark application Ser. No. 100,864, filed July 14, 1960.

³ Registration No. 694,327, issued Mar. 8, 1960, on the basis of an application filed May 6, 1959.

date, however, is later than the date of first use proven by Hoffman. It therefore requires no further consideration.

[2] Rockwood's assertion of a 1957 date for first use places an added burden on it to prove its later asserted date of priority. Thus, while a party is entitled to carry its date of first use back of one so asserted, proof of such earlier date must be clear and convincing and oral testimony given long after the date sought to be proved must be carefully scrutinized. *Elder Manufacturing Co. v. International Shoe Co.*, 39 CCPA 817, 194 F.2d 114, 92 USPQ 330.

Rockwood has placed particular emphasis on the testimony of Misroch, a candy wholesaler. He stated that he remembered purchasing "BAGS-O-GOLD" in the early 1930's. This recollection was based on his having joked that he still had gold when the banks were closed in 1932. Such testimony deserves consideration despite the fact that he mistakenly placed in 1932 an event that actually took place in 1933. However, it is significant that this testimony was given over thirty years after the event and that the record shows that "gold coins" were a form of candy sold by Rockwood under the mark "Gold Coins" in the "early thirties." Misroch's statement that he still had "gold" does not establish that this was "BAGS-O-GOLD" candy.

We shall now consider the question of alleged confusing similarity of the marks. On this question, Rockwood introduced evidence showing that the term "Gold" appeared as part of the others' marks for candy. It also presented testimony of professional buyers that confusion was not likely to result from concurrent use of the marks involved. However, these buyers conceded that because of their long experience in the field they could not be regarded as average purchasers. They also stated that they did not know of other trademarks for candy which ended in "O-GOLD."

Under these circumstances, we think the Board correctly found:

While it appears that the designation "GOLD" is somewhat lacking in distinctiveness as applied to candy, it does not appear that "O-GOLD" is afflicted with the same infirmity. The similarity between the marks thus goes beyond merely the common use of "GOLD."

[3] Considering the marks "BAG-O-GOLD" and "CUP-O-GOLD," in their entirety, we agree with the Board that their use on candy would create likelihood of confusion, particularly since the only difference lies in different three letter words used as a prefix suggestive of a type of container in which the "O-GOLD" candy may be sold.

However, there are such differences between the marks "ROCKWOOD BAG-O-GOLD" and "CUP-O-GOLD" that further and separate consideration must be given to this issue. Our first consideration is that "ROCKWOOD BAG-O-GOLD" is and has been registered as appellant's trademark since March 8, 1960.

The Trademark Act of 1946, section 7(b) (15 U.S.C. 1057(b)) states:

A certificate of registration of a mark upon the principal register provided by this act shall be prima facie evidence of the validity of the registration, registrant's ownership of the mark, and of registrant's exclusive right to use the mark in commerce in connection with the goods or services specified in the certificate, subject to any conditions and limitations stated therein.

This prima facie presumption in favor of a registration has been recognized by the courts in many cases.⁴ Moreover, as we stated in

⁴ Among these are *DeWalt, Inc. v. Magna Power Tool Corp.*, 48 CCPA 909, 917, 289 F.2d 656, 661, 129 USPQ 275, 280; *In re Deister Concentrator Co., Inc.*, 48 CCPA 952, 962, 289 F.2d 496, 501, 129 USPQ 314, 319; *Maternally Yours, Inc. v. Your Maternity Shop, Inc.* (CA 2, 1956), 234 F.2d 538, 542, 110 USPQ 462, 465; and *Aluminum Fabricating Co. v. Season-All Window Corp.* (CA 2, 1958), 259 F.2d 314, 316, 119 USPQ 61, 63.

Prince Dog & Cat Food Co. v. Central Nebraska Packing Co., 49 CCPA 1328, 305 F.2d 904, 134 USPQ 366:

* * * Cancellation of a valuable registration around which a large and valuable business good will have been built should be granted only with "due caution and after a most careful study of all the facts." *Sleepmaster Products Co., Inc. v. American Auto-Felt Corp.*, 44 CCPA 784, 241 F.2d 738, 113 USPQ 63. Petitioner, to sustain its burden of proof, must leave nothing to conjecture.

[4] The existence of Rockwood's registration thus placed on Hoffman, inter alia, the burden of proving that Rockwood did not have the exclusive right to use the registered mark "ROCKWOOD BAG-O-GOLD" on candy. [5] Hoffman sought to avoid the legal effect of section 7(b) by asserting "it is well established that, if two product marks are confusingly similar, the likelihood of confusion is not removed by the use of a company or 'house mark' in association with the product mark," citing *Celanese Corp. of America v. E. I. du Pont de Nemours & Co.*, 33 CCPA 857, 154 F.2d 143, 69 USPQ 69, and two decisions of the Trademark Trial and Appeal Board.⁵ Our review of the cited authorities does not persuade us that there is any such arbitrary rule of law.

In the *Celanese* case, *Du Pont* had opposed Celanese's application for registration of the word "Clarifoil" on the basis of prior use on substantially the same goods of a composite mark consisting of the word "Du Pont" arranged in an oval, below which oval was the notation "Clar-apel." In that decision the majority of the court commented:

The Examiner of Trademark Interferences and the First Assistant Commissioner of Patents both correctly held, in accordance with the rule of law laid down and followed by this court, that the addition of the surname "Du Pont" to one of two otherwise confusingly similar marks is not of itself sufficient to avoid the likelihood of confusion. *Richard Hellman, Inc. v. Oakford & Fahnestock*, 19 CCPA (Patents) 816, 54 F.2d 423, 12 USPQ 31; *California Prune & Apricot Growers Association v. Dobry Flour Mills, Inc.*, 26 CCPA (Patents) 910, 101 F.2d 838, 40 USPQ 616. See also *Menendez v. Holt*, 128 U.S. 514; *The Firestone Tire & Rubber Co. v. Montgomery Ward & Co., Inc.*, 32 CCPA (Patents) 1074, 150 F.2d 439, 66 USPQ 111.

[6] However, we do not think that this case, or any of the decisions cited therein, stand for so broad a proposition as that advanced by Hoffman. Rather, it seems clear the authorities emphasize that each case requires consideration of the effect of the entire mark including any term in addition to that which closely resembles the opposing mark. Thus the majority in the *Celanese* case based its conclusion on the following:

It is our opinion that notwithstanding appellee's use of the surname "Du Pont," the two marks, respectively considered as a whole, so nearly resemble one another in sound, meaning, and appearance as to be likely to cause confusion when concurrently used in the sale of identical merchandise or merchandise of the same descriptive properties. * * *

That the decisions cited in the passage from *Celanese* quoted above do not constitute a basis for Hoffman's broad proposition or controlling precedents here is apparent from a brief consideration of their facts. Thus, in *Richard Hellman* the word portion of the competing marks included the identical term "Blue Ribbon." In *California Prune* the marks included the identical dominant term "Sunsweet." In *Menendez* the identical term "La Favorita" dominated both marks. The *Firestone Tire* case gives no support to Hoffman's contention regarding "ROCKWOOD BAG-O-GOLD" since the majority's finding of no likelihood of confusion between a mark including "Firestone

⁵ *The Nestle Co. v. The Wilson Spice Co.*, 130 USPQ 175, and *Scholl Mfg. Co. v. W. E. Bassett Co.*, 147 USPQ 499.

Air Chief" and a prior user's mark including "Airline" was based on the differences between "Air Chief" and "Airline" alone.

Even though in finding likelihood of confusion between the marks "BAG-O-GOLD" and "CUP-O-GOLD," we emphasized the identity of the "O-GOLD" suffixes, the controlling factor is that the entire marks were considered on the basic question of confusing similarity. Applying the same test to the marks "ROCKWOOD BAG-O-GOLD" and "CUP-O-GOLD" we are faced with a situation comparable to that before the court in *Price Candy Co. v. Gold Metal Candy Co.*, 42 CCPA 831, 220 F.2d 759, 105 USPQ 266. There the court viewed the mark "Bonomo's TURKISH TAFFY" in its entirety in determining the issue of confusing similarity with the mark "TURKS" and decided there was no confusing similarity.

While we have found such similarities between "BAG-O-GOLD" and "CUP-O-GOLD" as to permit Hoffman to successfully oppose the application for registration, the obvious differences between them when added to the difference apparent in the registered mark "ROCKWOOD BAG-O-GOLD," are such that they must be given weight.

[7] Thus, taking into account these marks in their entireties we think the totality of differences between them is such that when considered with the prima facie rights in Rockwood arising from its registration of the mark, Hoffman has not established on the present record such likelihood of confusion between the two marks as to discharge its burden of proof in the cancellation proceeding.

For these reasons, the decision sustaining the opposition is affirmed and that granting the petition for cancellation is reversed.

MODIFIED.

WORLEY, Chief Judge, would affirm.

U.S. Court of Customs and Patent Appeals

IN RE JOHN O. HRUBY, JR.

Nos. 7652, 7653, 7654, 7655. Decided March 16, 1967

[54 CCPA —; 373 F.2d 997; 153 USPQ 61]

1. DESIGN—PATENTABILITY—ARTICLE OF MANUFACTURE—WATER FOUNTAIN.

"We fail to find in the opinion of the Board majority any sufficient reason for holding the fountains are not 'articles of manufacture.' If, per chance, the Board was attempting a distinction between 'manufactures,' which it seemed to think the fountains are, and articles of manufacture, we think that supposed distinction was fully disposed of by our predecessor court, with respect to appeals from the Patent Office * * * in *In re Hadden*, 27 App. D.C. 259, 20 F.2d 275, 1927 CD 160."

2. SAME—SAME—SAME—SAME—35 U.S.C. 171.

"The majority Board opinion concludes with the view that 'the present design is not drawn to subject matter coming within the terms or spirit of 35 U.S.C. 171.' We find in the opinion, however, no citation of authority other than the statute itself, no indication that the *terms* mean anything other than what they say, no reason why the fountain is not 'an article of manufacture' other than the Board majority's inability to conceive that it could be, and certainly no discussion of what the *spirit* of the statute is. We think its spirit is as stated by the Supreme Court in *Gorham v. White*, to encourage the decorative arts, over and beyond those classically known as 'the fine arts.' We think the appellant has contributed to the decorative arts."

3. SAME—SAME—SAME—SAME.

"It is perfectly clear that these designs are of the three-dimensional or configuration-of-goods type. The 'goods' in this instance are fountains, so they are made of the only substance fountains can be made of—water. We see no

necessary relation between the dependence of these designs made of water upon the means for producing them and their being articles of manufacture."

APPEAL from the Patent Office. Serial Nos. 70,815, 70,816, 70,827, and 70,828.

REVERSED.

Vernon D. Beehler, Francis D. Thomas, Jr., for appellant.

Joseph Schimmel (George C. Roeming, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Associate Judges

RICH, J., delivered the opinion of the court.

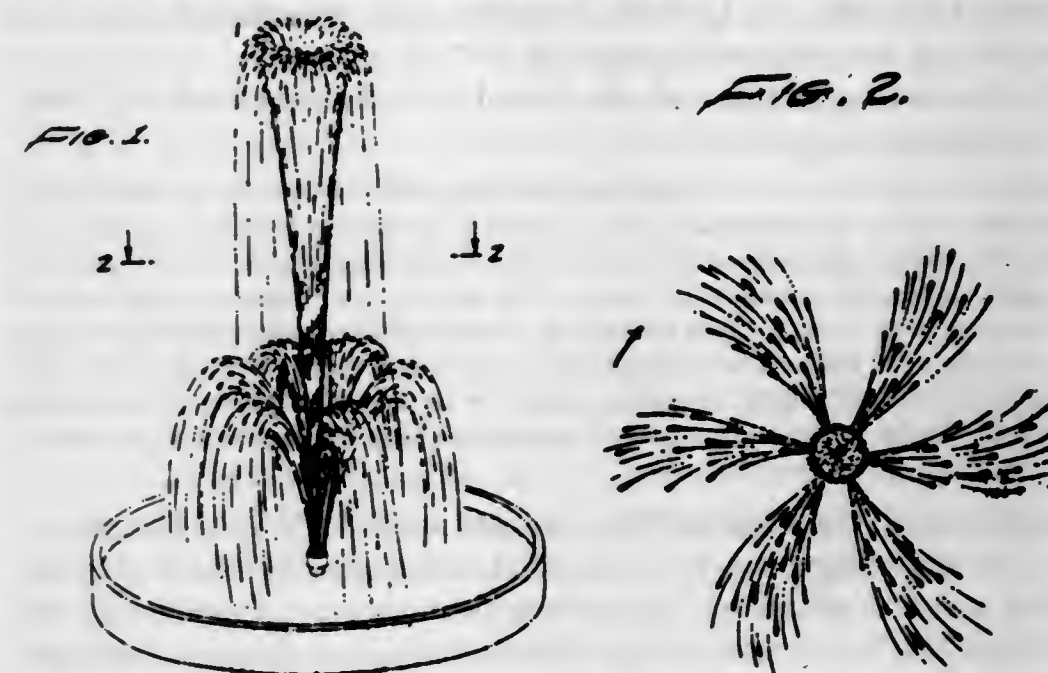
These appeals are from split decisions of the Patent Office Board of Appeals wherein the majority affirmed the rejection of appellant's claims in four design patent applications, Serial Nos. 70,815, 70,816, 70,827, 70,828, all filed July 6, 1962, each entitled "Water Fountain."

The appeals of the four applications were argued as one, before both the Board and this court, and the single issue in each is the same: is the subject matter sought to be patented within the statutory subject matter designated in 35 U.S.C. 171, namely, "an article of manufacture"?

The single claim in each application reads:

The ornamental design for a water fountain as shown and described.

As illustrative of the nature of the designs it will suffice to reproduce the drawings from one of the cases as typical, Serial No. 70,816:



The full description, referred to in the claim, consisted, when filed, of the drawings and the following:

FIG. 1 is a perspective view of a water fountain showing my new design and showing in broken lines a catch basin and a fountain producing device; and

FIG. 2 is a cross section through the water fountain taken upon a plane indicated on FIG. 1 by line 2—2, and including a directional arrow which shows that the water fountain rotates.

In an office action the Examiner said:

The arrow on FIG. 2 indicating that the instant subject matter rotates should be removed as superfluous. * * *

In view of the above proposed correction to the drawing, and for brevity, it is suggested that the description of FIG. 2 be revised to read FIG. 2 is a cross-sectional view thereof taken on line 2—2 of FIG. 1.

Appellant obligingly so amended his applications which, we assume, did not change the fact that the water fountain rotates.

No references are relied on.

The sole rejection was that the claim in each case does not define an article of manufacture. The precise question before us, therefore, is whether that portion of a water fountain which is composed entirely of water in motion is within the statutory term "article of manufacture." This appears to be a question of first impression without any closely analogous case.

The Board majority disposed of the precedents cited by the Examiner¹ with the statement that it did "not find therein such analogy to the present issues as to be considered controlling." We agree with that appraisal. It said, "we appreciate that the forms created in water by fountains are a well recognized and much used decorative device" and that it "is evident as urged by appellant that the shape created in a specific fountain is manufactured by man in the sense that water as a raw material is put into planned patterns of motion for accomplishment of a decorative purpose." The majority further expressed disagreement with the Examiner's objection that the water of which the designs are produced is a "natural" product, and wisely so as that argument would apply to every article made of wood or stone. Nor did it think much of the argument that the water droplets constantly changed position. Nevertheless the Board majority concluded that the water display itself is not "an article of manufacture." The only reasons we can perceive for this conclusion in the Board's opinion are that "the pattern created is wholly a fleeting product of nozzle arrangements and control of operating pressure or pressures" and that "the pattern exists only as a product or 'effect' of the mechanical organizations during its continued operation * * *."

The dissenting member of the Board soundly answered the "fleeting" argument as follows:

Although appellant did not disclose the particular means for producing the fountain effect, it is recognized that if certain parameters such as orifice configuration, water pressure and freedom from disturbing atmospheric conditions are maintained, the ornamental shape of the fountain will remain substantially constant and will at such times present an over-all appearance virtually the same from day to day. Under these conditions, I am not influenced by the statement of the majority "However, it seems to us to be inescapable that the pattern created is wholly a fleeting product of nozzle arrangement and control of operating pressure or pressures."

We agree with the dissenter on that and would add that the permanence of any design is a function of the materials in which it is embodied and the effects of the environment thereon. Considering the fact that the Romans and the French built now famous fountains hundreds of years ago which still produce the same water designs today, the notion that a fountain is "fleeting" is not one which will "hold water." See the Columbia Encyclopedia under "fountain," for example. The dissenting member continued:

It is true that a particular droplet or droplets may be "a fleeting product" but the fountain itself is not. The fountain in its entirety under proper conditions presents a product of constant appearance rather than a fleeting product. I assume that the majority would find no objection if a design effect would be produced in the form of frozen water. Is it logical or reasonable to find objection to a related design effect also having a constant appearance merely because of continuous movement of water droplets? I am unable to find any logical or legal basis for such a distinction. It must be remembered that in a design it is the over-all appearance due to the form or shape of the product that is determinative of patentability and not the minutia of the details that form the design.

¹ *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 8 USPQ 131 (1931); *American Meri-Lei Corp. v. F. W. Woolworth Co.*, 2 USPQ 288 (E.D.N.Y. 1929); *Ex parte Sweeney*, 123 USPQ 506 (Bd. Apis. 1959).

Again we agree. The physicists and philosophers teach us that what we think we see is not really there at all; that the very concept of "solid" is something of an illusion and objects are mostly empty space, "substance" consisting of nuclei with electrons orbiting about them. In common parlance, however, what we see here are fountains, not droplets of water moving in space, any more than we see nuclei and electrons or atoms or molecules in solid objects.

Fountains are what appellant (or someone connected with him) sells. At oral argument, counsel presented us with a stereoscopic film-slide card, a sales device showing fountains like those here involved in three-dimensional pictures as offered for sale.² There is no doubt in our minds that prospective buyers of these fountains would select them for the decoration of buildings or grounds according to specific, reproducible³ designs, intending to use them as permanent decoration. The fountains are certainly made by man (manufactured) for sale to and use by such buyers. They certainly carry into effect the plain intent of the design patent statute, which is to give encouragement to the decorative arts. *Gorham Co. v. White*, 81 U.S. 511, 524 (1871).

[1] We fail to find in the opinion of the Board majority any sufficient reason for holding the fountains are not "articles of manufacture." If, per chance, the Board was attempting a distinction between "manufactures," which it seemed to think the fountains are, and articles of manufacture, we think that supposed distinction was fully disposed of by our predecessor court, with respect to appeals from the Patent Office, the Court of Appeals for the District of Columbia, in *In re Hadden*, 27 App. D.C. 259, 20 F.2d 275, 1927 CD 160. The object there in question for which a design patent was sought was a grandstand. The Patent Office thought that, though it was a "manufacture," it was not "an article of manufacture" and refused to patent. The court in unanimously reversing, said:

It is difficult to perceive how a thing may be a manufacture, without producing an article of manufacture. The Commissioner, with commendable frankness, said: "It is difficult to attempt a definition of an article of manufacture. Curiously enough, if the grandstand as made by appellant were of a toy character, one that could be picked up and carried around, purchased in a store and carried home, or delivered by the use of a delivery vehicle, the device would be an article of manufacture." But, as pointed out by the court in the *Riter-Conley Mfg. Co.* case, size and immobility do not determine the question.

Riter-Conley Mfg. Co. v. Aiken, 203 Fed. 699 (3d. Cir. 1913), contains an extensive discussion of the meaning of "manufacture" and was quoted from at length by the dissenting Board member. It cites numerous authorities, legal and otherwise. The gist of it is, as one can determine from dictionaries, that a manufacture is anything made "by the hands of man" from raw materials, whether literally by hand or by machinery or by art. Certainly the fountains are so made.

[2] The majority Board opinion concludes with the view that "the present design is not drawn to subject matter coming within the terms

² The advertising copy thereon reads: "Only Rain Jet's patented, rotating turbo-jet power-action nozzles can discharge individual droplets which give the 'shower of diamonds' effect. An entirely new concept of fountain patterns results! One, two or three tiers of droplets form a beautiful water sculptured design."

³ We use the term "reproducible" in the practical sense of making another thing which has the same appearance to the average viewer. The Examiner was concerned about the obvious fact that "the exact arrangement and configuration of droplets" could not be reproduced by a person skilled in the art. We do not think this important. The same problem exists to some degree with most everything made of such variable materials as wood, cloth, clay and many others which minutely vary from piece to piece. What matters with an ornamental design is only the ultimate over-all appearance of the article which embodies it. Technically, "exact" reproduction is an impossibility. It is always an approximation. We see no reason why design law—law being one of the greatest approximations of all—should be any more concerned with the "exact arrangement" of water droplets than it is with the exact arrangement of molecules, grains of sand, or even grosser building blocks so long as the general appearance is not affected.

or spirit of 35 U.S.C. 171." We find in the opinion, however, no citation of authority other than the statute itself, no indication that the *terms* mean anything other than what they say, no reason why the fountain is not "an article of manufacture" other than the Board majority's inability to conceive that it could be, and certainly no discussion of what the *spirit* of the statute is. We think its spirit is as stated by the Supreme Court in *Gorham v. White*, to encourage the decorative arts, over and beyond those classically known as "the fine arts." We think the appellant has contributed to the decorative arts. Surely, if he is told he cannot have protection by design patent, he and his like will be discouraged.

It is most interesting that the brief for the Patent Office contains only 4 pages of "argument," devotes two of them to stating the evolution of the statute from 1842 to 1902, when it took its present form, cites no authority to support the rejection but does cite the *Hadden* case for the proposition we cited it for above, and makes but a single argument in support of the contention the fountains *should* not be considered to be "an article of manufacture." It is, as the Examiner contended, that water sprays "cannot exist of themselves," being dependent on the existence of the nozzles and the water under pressure. Only because of this *dependence* are we asked to affirm the rejection.

We fail to see any force in this argument. It is not denied that *designs* exist. [3] It is perfectly clear that these designs are of the three-dimensional or configuration-of-goods type. The "goods" in this instance are fountains, so they are made of the only substance fountains can be made of—water.⁴ We see no necessary relation between the dependence of these designs made of water upon the means for producing them and their being articles of manufacture. A majority of this court recently held patentable a grille for a radio cabinet with a circularly brushed *appearance* which also had evenly-spaced, small perforations. The peculiarity of this grille was that "*with variations in viewing angle and ambient lighting*" (emphasis added) a varying moiré effect was produced and the majority felt that this effect made the ornamental appearance unobvious and patentable. The design was thus *dependent*, insofar as the feature which made it patentable was concerned, on something outside itself, it did not exist alone, because without the proper angles of ambient lighting and viewing there was no moiré effect. *In re Boldt*, 52 CCPA 1283, 344 F.2d 990, 145 USPQ 414 (1965). For an older moiré effect case in a serrated rubber door-mat, see *New York Belting & Packing Co. v. New Jersey Car Spring & Rubber Co.*, 137 U.S. 445 (1890). We do not see that the dependence of the existence of a design on something outside itself is a reason for holding it is not a design "for an article of manufacture." Many such designs depend upon outside factors for the production of the appearance which the beholder observes. The design of a lampshade may not be apparent unless the lamp is lighted. The design of a woman's hosiery is not apparent unless it is in place on her legs. The designs of inflated articles such as toy balloons, water toys, air mattresses, and now even buildings are not apparent in the absence of the compressed air which gives them form, as the water pressure here gives shape to the fountain. Even the design of wall paper is not always fully apparent in the commodity as it is sold and requires a wall and the services of a paperhanger to put it into condition for enjoy-

⁴ We are aware that fountains of sorts have been made of other fluids such as Martinis and Manhattans, on a small scale; but speaking practically, decorative fountains of the type we are discussing must be made of water.

ment by the beholder, which is the ultimate purpose of all ornamental design.

Finding, as we do, that the Examiner, the majority of the Board, and the Solicitor for the Patent Office have produced no argument of substance or any authority in support of their view, that the dissenting member of the Board has made cogent arguments in opposition to it, and believing that the primary objectives of the design patent statute will be carried out by protecting these designs for water fountains, if they otherwise meet the requirements of the statutes, we hold they meet the "article of manufacture" requirement of 35 U.S.C. 171.

The decisions of the Board are reversed.

REVERSED.

MARTIN, J., participated in the hearing of this case but died before a decision was reached.

WORLEY, Chief Judge, dissenting.

It is inconceivable that Congress could possibly have intended sec. 171, in letter or spirit, to allow an individual to remove from the public domain and monopolize mere sprays of water.⁵ To do so, one must necessarily rely on strained semantics at the expense of common sense. The instant sprays, so evanescent and fugitive in nature, presumably subject to the whims of wind and weather, incapable of existing in and of themselves, are merely the *effect* flowing from articles of manufacture, but certainly are no more articles of manufacture per se than are the vapor trails of jets, wakes of ships or steam from engines.

It appears that appellant presently enjoys patent protection on the mechanical elements of the fountains, but apparently not satisfied with that, now seeks to monopolize certain configurations of moving water, whether produced by a garden hose or otherwise. It is not difficult to imagine the potential harassment that could result from such a monopoly.

I would affirm.

U.S. Court of Customs and Patent Appeals

IN RE WESLEY L. ARCHER

No. 7777. Decided April 6, 1967

[54 CCPA —; 374 F.2d 104; 153 USPQ 186]

1. PATENTABILITY—COMPOSITION—OBVIOUSNESS—ADDITIVES FOR LUBRICANTS.

"... we note that Parker specifically lists only eight lubricant additives, including cobalt naphthenate. Also, appellant has neither alleged, nor offered any evidence to prove, that any or all of the other seven metal naphthenates of Parker, or for that matter any of the Prutton additives, is either inoperable as a stabilizer of polyphenyl ether lubricants, or even substantially less effective than cobalt naphthenate for that purpose. The conclusion which we think properly should be drawn from the references before us is that cobalt salts, disclosed to be useful stabilizers for petroleum lubricants, should reasonably be expected to be useful stabilizers for other types of lubricants, including polyphenyl ethers, in the absence of substantial evidence to the contrary."

2. SAME—COMBINING REFERENCES—COMPOSITIONS—OBVIOUSNESS.

"While it may be true that effective stabilizers for petroleum or hydrocarbon lubricants are not necessarily effective stabilizers for synthetic lubricants such

⁵ Appellant concedes that "Each application here under consideration is a design formed by continually moving droplets of water in a fountain. The design is formed by the droplets as they move, first upwardly, then arcing over and finally falling downwardly in a very special form, thereby to constitute an invariable configuration and visual appearance. Although there is a spray head and a catch basin, these mechanical appurtenances do not form a part of the design." [Emphasis supplied.]

as polyphenyl ethers, we do not construe the *general* teachings to that effect of Diamond and Bataafsche to lead one away from the use of the cobalt salts of Parker and Prutton as stabilizing additives for polyphenyl ether lubricants. We think it would be obvious to substitute the cobalt salts of the secondary references for the stabilizing additives of the primary references."

3. SAME—PARTICULAR SUBJECT MATTER—"POLYPHENYL ETHER STABILIZER."

The refusal of certain claims in an application entitled "Polyphenyl Ether Stabilizer," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 135,720.

AFFIRMED.

The Dow Chemical Company (Glwynn R. Baker, of counsel) for appellant.

Joseph Schimmel (Jack E. Armore, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, SMITH, ALMOND, Associate Judges, and WILLIAM H. KIRKPATRICK *

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the prior art rejection of claims 1 to 4 of appellant's application Serial No. 135,720, filed September 5, 1961, for "Polyphenyl Ether Stabilizer." No claims have been allowed.

The invention relates to a high-pressure, high-temperature synthetic lubricant composition comprising a polyphenyl ether as the major lubricant and, as the essential antioxidant and viscosity improver, a compound selected from the group consisting of the cobalt salts of naphthenic, benzoic, and alkylbenzoic acids.

Claim 1 is illustrative and reads as follows:

1. A high-pressure, high-temperature lubricant composition comprising a polyphenyl ether as the major lubricant, said ether having the following generic formula:



wherein n represents an integer from 2 to about 6, and, as the essential antioxidant and viscosity improver, from about 0.005 to about 0.5% by weight, based on the total composition, of a compound selected from the group consisting of the cobalt salts of naphthenic, benzoic and alkylbenzoic acids said alkyl radical having from 1 to 18 carbon atoms, inclusive.

The references relied on are:

Parker, 2,001,108, May 14, 1935.

Prutton, 2,223,129, November 26, 1940.

Diamond, 2,940,929, June 14, 1960.

Bataafsche (British), 851,651, October 19, 1960.

The earlier references, Parker and Prutton, primarily relate to the stabilization of hydrocarbon or petroleum lubricants. The later references, Diamond and Bataafsche, relate to stabilization of polyphenyl ether, a type of synthetic lubricant.

Parker states that his invention provides "a petroleum oil containing a metallic salt of a naturally occurring acid in quantity sufficient to stabilize the oil against deterioration caused by exposure of the oil to light and/or air without materially affecting the viscosity of the oil." Parker's specifically mentioned stabilizers are the naphthenic acid salts of eight metals, namely, calcium, manganese, lead, zinc, copper, cobalt, sodium, and potassium.

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

Prutton discloses lubricating compositions to which are added stabilizers "particularly effective in rendering the lubricants suitable for use under conditions of extreme stress as imposed by high temperatures, high loads, etc." Prutton states that the base of his lubricating compositions "may consist either entirely or in part of synthetic oils * * *." The stabilizing additives of this reference are salts of aromatic acids. Among the many addition agents disclosed in the patent are the cobalt salts of benzoic acid and alkylated benzoic acids. As does Parker, Prutton discloses that the acid salts of several other metals, for example calcium and zinc, are also useful stabilizers of lubricating compositions.

Diamond discloses lubricating compositions useful "at elevated temperatures and under oxidizing conditions" comprising "a major proportion of polyphenyl ethers" and minor amounts of additives "sufficient to stabilize said ethers against oxidation at temperatures in excess of about 450° F., said additive material being basic and neutral indium salts of fatty acids, thiafatty acids, and of alkylated benzoic acids * * *."

Bataafsche teaches the addition, "to polyphenyl ether compositions useful as synthetic lubricants," of salts of aromatic carboxylic acids such as benzoic acid with metals from Group II of the Periodic Table, especially zinc and calcium, in order to "increase the oxidation and thermal stability of the compositions under high temperature conditions * * *."

The Examiner rejected claims 1 to 4 as unpatentable over Diamond and Bataafsche in view of Prutton or Parker under 35 U.S.C. 103. His position is stated to be that:

* * * it would involve no more than routine experimentation within the art to determine the applicability of cobalt salts of the instant acids for polyphenyl ether stabilization in view of the secondary references which disclose such salts as useful for the same purpose [stabilization] in other lubricating media. The substitution of the cobalt salts of Parker or Prutton for the various salts of the same acids disclosed by the primary references is thus deemed obvious and unpatentable.

In affirming the Examiner's decision, the Board stated that "in spite of some distinctions between the two types of lubricants [hydrocarbon oils and polyphenyl ethers], the art nevertheless provides the suggestion for interchanging cobalt for calcium or zinc in these salts."

Appellant's argument here is principally based on two propositions, (1) that selection of the cobalt salts from the numerous additives disclosed in the secondary references to be effective stabilizers for petroleum lubricants is unobvious, and (2) that the primary references teach away from the use of petroleum lubricant additives as stabilizers for polyphenyl ether lubricants.

[1] With regard to the first proposition, we note that Parker specifically lists only eight lubricant additives, including cobalt naphthenate. Also, appellant has neither alleged, nor offered any evidence to prove, that any or all of the other seven metal naphthenates of Parker, or for that matter any of the Prutton additives, is either inoperable as a stabilizer of polyphenyl ether lubricants, or even substantially less effective than cobalt naphthenate for that purpose. The conclusion which we think properly should be drawn from the references before us is that cobalt salts, disclosed to be useful stabilizers for petroleum lubricants, should reasonably be expected to be useful stabilizers for other types of lubricants, including polyphenyl ethers, in the absence of substantial evidence to the contrary.

[2] While it may be true that effective stabilizers for petroleum or hydrocarbon lubricants are *not necessarily* effective stabilizers for synthetic lubricants such as polyphenyl ethers, we do not construe the *general* teachings to that effect of Diamond and Bataafsche to lead one away from the use of the cobalt salts of Parker and Prutton as stabilizing additives for polyphenyl ether lubricants. We think it would be obvious to substitute the cobalt salts of the secondary references for the stabilizing additives of the primary references. As the Examiner pointed out in his answer before the Board:

* * * an antioxidant in a lubricating system is preferentially oxidized so as to allow the base oil to remain free from the deleterious effects of oxidation and, thus, the medium [lubricant] in which such an inhibitor functions should not vary the effectiveness of the additive.

[3] For the reasons stated above, the decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

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3,245,595. (See 3,157,193.)

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PLANT PATENTS

GRANTED SEPTEMBER 19, 1967

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,768

POINSETTIA PLANT

Paul Ecke, P.O. Box 488, Encinitas, Calif. 92024
Filed Aug. 8, 1966, Ser. No. 571,373

1 Claim. (Cl. Plt.—86)

A new and distinct variety of poinsettia plant, as illustrated and described, and more particularly characterized by

an involucre of flexible bracts which have a color of subdued reddish-pink, rose-tinted with mauve, the bracts being numerically plentiful and varying in shape and planar size, the bracts of largest size being oblate, bracts of intermediate size being generally ovally oblate, and bracts of still smaller size being generally prolate, the length of the petioles of the bracts being of respective lengths in the same order of the said sizes of the bracts, the bracts of intermediate and smaller sizes being predominant in number and the relatively shorter petioles thereof providing an opening centrally of the involucre wherein there grows a luxuriant and closely clustered inflorescence, the plant being a relatively fast-growing tall variety which is naturally an early bloomer, and having

exceptionally long-keeping bracts, inflorescence and foliage leaves at optimum condition, the peduncle being stiff and strong and having internodes closely spaced for ovally acuminate ivy green foliage leaves.

2,769

ROSE PLANT

Patrick Dickson, Newtownards, Ireland, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Aug. 29, 1966, Ser. No. 575,910

1 Claim. (Cl. Plt.—11)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous habit of plant growth attaining an average height of about 3½ feet, a large flower size, a high-centered flower form, and a distinctive and attractive flower color corresponding to Maize Yellow, with the upper half of the flower petals being lightly overcast with Straw Yellow, and with the edge of the petals being overcast with Shell Pink.

830

PATENTS

GRANTED SEPTEMBER 19, 1967

GENERAL AND MECHANICAL

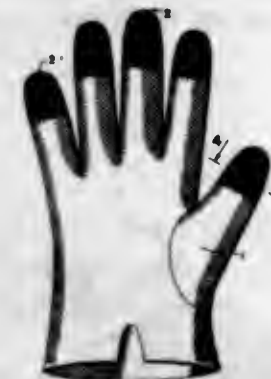
3,341,861

OPEN WEAVE ANTI-SLIP GLOVE

Beulah M. Robbins, 1818 Q St. SE., Washington, D.C. 20020

Filed Dec. 12, 1966, Ser. No. 600,952

1 Claim. (Cl. 2—163)



A porous hand covering for paper office work comprising a relatively open and loose weave glove formed of yarn of synthetic resinous material, said material comprising a stretch fabric having a hard surface, said open evenly spaced weave providing substantially evenly spaced pores throughout said glove, the ends of the finger portions up to the first finger joint being coated with a rubber-like, non-slip material, said material covering only the said yarn and not penetrating nor filling said pores, said finger portions forming anti-slip surfaces, and said open weave permitting cooling of the hands of the wearer, including the said coated finger portions thereof, the said hard surface of said material being resistant to spalling and said anti-slip surfaces providing porous paper-engaging surfaces.

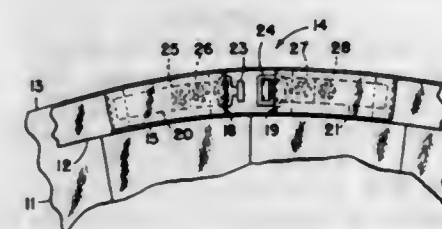
3,341,862

ADJUSTABLE ATTACHMENT FOR TROUSERS, SLACKS, SKIRTS OR THE LIKE

Leo Wiesner, 24 Taylor St., Millburn, N.J. 07041

Filed Oct. 19, 1966, Ser. No. 587,853

5 Claims. (Cl. 2—221)



1. Elastically extensible attachment for a waist band of trousers, slacks, skirt or the like garment, comprising: an inelastic backing tape, two inelastic upper tapes, the length of each of said upper tapes being substantially less than half the length of said backing tape, said upper tapes being connected to said backing tape with their facing front ends in spaced relation, providing an open space therebetween, said upper tapes forming sleeves with said backing tape, elastic members secured within said sleeves, said elastic members extending freely in said sleeves with their front ends toward said front ends of said upper tapes, respectively, leaving a space between the front ends of said elastic members, and a coupling element connected to each of said front ends of said elastic members,

said elements being spaced apart when said elastic members are in an unstressed condition and being adapted to lockingly engage under tension of said elastic members.

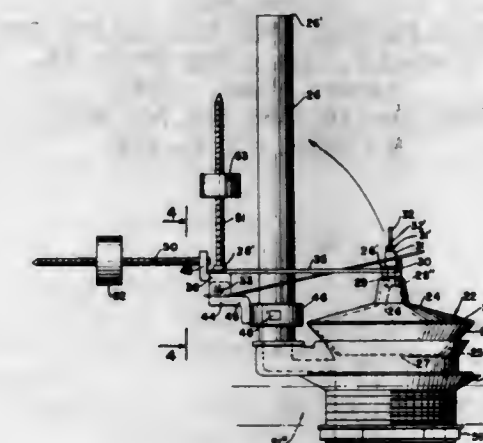
3,341,863

FLUSH VALVE DEVICE

Robert L. Schultz, Carrington, N. Dak. 58421, and Harold F. Larson, 798 1st St. S., Carrington, N. Dak. 58421

Filed July 29, 1965, Ser. No. 475,831

3 Claims. (Cl. 4—63)



1. In a toilet tank, a flush valve comprising a pivotally mounted tank ball, a flush pipe having an opening at its top, said tank ball being adapted to pivot into said opening to close said opening, spring means on said tank ball urging said tank ball into a closed position, a plurality of adjustable weights in diverging relation to one another with one of said weights at least approaching a vertical position above the pivotal mounting of the tank ball whenever the tank ball is in its seated position.

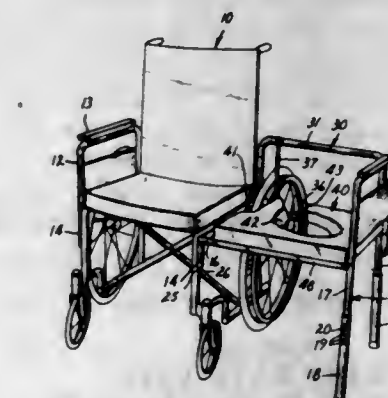
3,341,864

PORTABLE TOILET FOR ATTACHMENT TO A WHEELCHAIR

Leon G. Wichmann, 322 Mulberry St., Mankato, Minn. 56001

Filed Sept. 3, 1965, Ser. No. 484,956

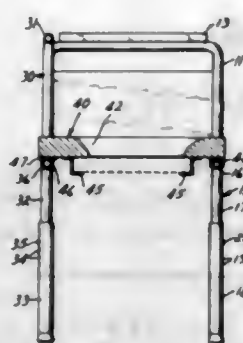
6 Claims. (Cl. 4—134)



1. A portable toilet for use by invalid persons with a wheelchair having removable arms comprising:
(a) front and back frame members each having a leg at one end thereof and means at the other end for attaching said frame members to one side of the

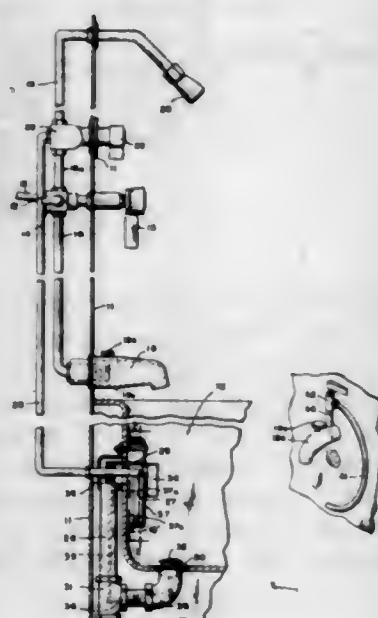
831

wheelchair upon removal of an arm therefrom; and (b) a toilet seat having a radial opening in communication with the central opening and means thereon



for attaching said seat to said frame members in substantially horizontal position approximately at the same height as the wheelchair seat.

3,341,865
BATH TUB PIPING AND VALVE EQUIPMENT
Vincent F. Vance, 720 7th St. SE.,
Auburn, Wash. 98002
Filed June 10, 1965, Ser. No. 462,911
4 Claims. (Cl. 4-148)

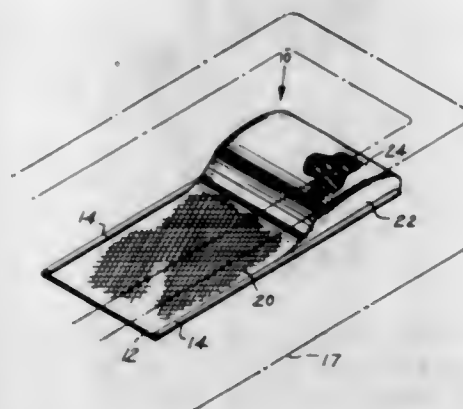


1. In combination, a bath tub, a shower head supported for discharge into said tub, a tub faucet, a mixing valve supplied by hot and cold water lines, a water mixture discharge pipe leading from said mixing valve for applying mixture therefrom to the tub faucet, a diversion valve remote from said mixing valve and inter-connected thereto, a pipe connection from the diversion valve to the shower head, a pipe line leading from said diversion to said tub and equipped at its end with a nozzle so directed as to discharge water therefrom into the tub water to create circulation of water in the tub, a valve member in the tub faucet that is adjustable to stop flow of mixture from the faucet, and force it either to the shower head, under control of the diverter valve or to allow it to flow through said nozzle into said tub.

3,341,866
BABY BATH PAD
Alice Maude Wright, Chicago, Ill.
(6589 Duke St., Riverside, Calif. 92506)
Filed Nov. 19, 1964, Ser. No. 412,387
2 Claims. (Cl. 4-185)

1. A baby bath pad, comprising in combination, a rectangular flexible rubber member providing a resting surface for an infant, a plurality of equally spaced apart

suction cups moulded upon the underside of said rectangular rubber member providing a means for securing the pad within a bathtub or other device, a pillow moulded with said rubber member to provide a comfortable head support for said infant, the upper surface of said rectangular rubber member being moulded with a plurality of raised serrations to prevent said infant from sliding upon said surface, the elongated parallel side edges of said rectangular rubber member being provided with an upwardly rolled bead to aid in preventing said infant's arms or legs from striking the cold surfaces of said tub, said rectangular rubber member of said pad being provided with a grommet which is secured in one end of said rubber member, said grommet providing a means for receiving a nail or other support means to allow said pad to be hung up when not in use, said grommet

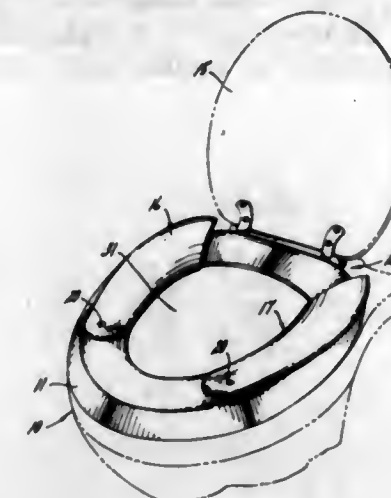


further providing a means for air to circulate on all surfaces of said pad in order that it may quickly dry when suspended by said grommet, said pillow being moulded to the upper surface of said pad adjacent one end of said serrated surface and providing a means for raising the head of said infant comfortably, said pillow comprising a solid rubber covering enclosing a foam rubber mass to cushion the head of said infant, said pillow extending between said rolled beads of said edges and being arcuately curved for maximum comfort, the upper surface of said pillow flaring downwardly at the back flush with said one end of said rubber member to provide a neat and attractive appearance and flaring downwardly at the front and joining the serrated surface at a sharp angle to permit the bath pad to be easily rolled up when not in use.

3,341,867
ADJUSTABLE TOILET SEAT
Roy Norman Keen, Gaston, Ind.
(Rte. 5, Portland, Ind. 47371)
Filed May 24, 1965, Ser. No. 458,012
1 Claim. (Cl. 4-239)

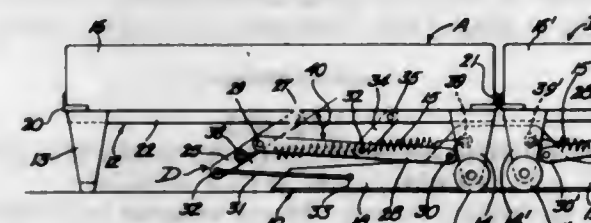
In a toilet seat arrangement including a toilet bowl and a ring shaped seat hingedly connected to the rearward portion of said toilet bowl, the improvement which comprises: a pair of adapter members each pivotally connected to an opposite side of said seat toward the forward portion of said seat, each of said adapter members projecting rearwardly and curving inwardly toward one another so as to overlap said seat, said adapter members being swingable inwardly to various positions wherein said adapter members substantially reduce the size of the opening through said ring shaped seat particularly at the rearward portion thereof, a pair of suction cups each mounted on the lower outward surface of the distal portion of said adapter members, said suction cups engaging and securing the adapter members to said seat when said adapter members are in said various positions, said adapter members being swingable outwardly to a posi-

tion wherein the opening through said ring is completely unobstructed, said adapter members lower surfaces be-



ing curved in a concave shape complementary to the shape of said ring shaped seat.

3,341,868
SPRING BED SUPPORT
Sven Ingildsen, 1042 Pomeroy Ave.,
Santa Clara, Calif. 95051
Filed Feb. 1, 1966, Ser. No. 524,105
7 Claims. (Cl. 5-317)



1. A tilt-up support for a bed to facilitate cleaning thereunder comprising:

- a rigid bed frame,
- legs supporting the bed frame in a normal, lowered position thereof,
- a pair of cantilever base members for resting on a floor beneath the bed frame, one thereof near the foot and one near the head of the bed frame, and extending in parallel relation from beneath one edge of the bed transversely thereof to a point beyond the longitudinal center line of such bed,
- a first link pivotally connected to each cantilever base member beneath said one edge of the bed and extending laterally of the bed therefrom,
- a generally upright lever pivotally connected at its upper end to the bed frame and at a point spaced upwardly from its lower end to the outer end of the first link,
- a second laterally extending link, shorter than the first, pivotally connected at one end thereof to the lower end of the lever and at the other end thereof to its associated cantilever base member at a point spaced outwardly from the pivotal connection of the first link thereto,
- a generally upright third link pivotally connected at its lower end to a medial portion of the first link and at its upper end to the bed frame, and
- spring means connected in tension from the lever at a point between its pivotal connections to the first and second links to its associated base member at a point above the pivotal connection of the first link thereto.

3,341,869
DOUBLE COMPARTMENT SLEEPING BAG WITH BUILT IN MATTRESS
Willard S. Whitman, St. Louis, Mo., assignor to H. Wenzel Tent & Duck Co., St. Louis, Mo., a corporation of Missouri
Filed Oct. 22, 1965, Ser. No. 501,886
3 Claims. (Cl. 5-343)



1. A reversible sleeping bag for selective use in warm weather and cold weather, said bag having a warm weather insulation cover on one side of the bag and a cold weather insulation cover on an opposite side of the bag, a mattress attached to the bag in an intermediate position between the warm weather and cold weather covers to define separate sleeping compartments on either side of the mattress, said bag being reversible such that each of the aforementioned covers can be selectively employed with the cover in the bottom position also providing additional insulation and resiliency for the human body.

3,341,870
PORTABLE SPLICING TOOL
Robert G. Nystrom, Glastonbury, Conn., assignor to Loctite Corporation, Newington, Conn., a corporation of Connecticut
Filed Nov. 12, 1965, Ser. No. 507,477
2 Claims. (Cl. 7-17)



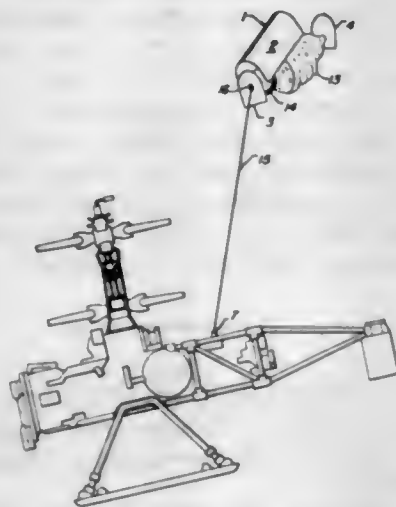
1. A portable rod splicing hand tool suitable for use in construction and repair of O-rings, comprising a thin, elongated central body member having a rod severing station and at least one rod bonding station integral therewith, said severing station having as support means a plurality of guide holes of progressively different sizes extending therethrough for receiving rod material corresponding to the size of the hole and a narrow slot extending from one edge of said central body member and bisecting each of said holes, said slot being of sufficient width to permit the insertion therein of a cutting blade for severing the rod material within the guide hole, and each rod bonding station containing a V-shaped groove, said groove being substantially straight to permit the aligned end-to-end placement of the rod material therein during the joining thereof.

3,341,871
FLOTATION GEAR FOR THE RECOVERY OF A SUBMERGED CRAFT
John V. Olyeau, Greenwich, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,393
13 Claims. (Cl. 9-9)

1. A flotation type recovery kit for marking and holding a craft that has submerged into the sea, which comprises in combination:

- (1) a disintegrating form of housing for storage of the recovery kit adapted for removable mounting on the structure of the craft to be recovered;

- (2) movable release latch means holding said housing to said craft;
- (3) a pressure sensitive member connecting with said release latch means operative responsive to a predetermined hydraulic pressure acting thereon when the craft with said housing becomes submerged to a predetermined depth;
- (4) a float assembly including an inflatable form of float with an attached high pressure gas container sized and adapted for storage within said housing;
- (5) cable means connecting said float assembly to said craft;
- (6) gas release means positioned between said inflatable float and said gas container for filling the float upon its release and unfolding from said housing, whereby to hold said craft from further submergence, said gas release means comprising:



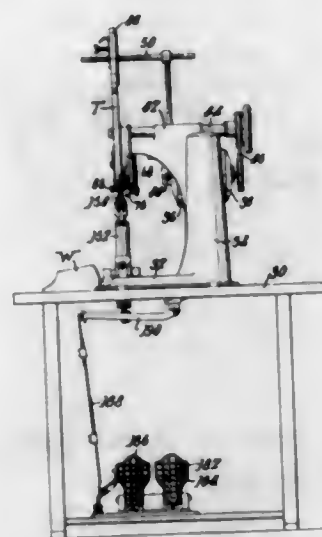
- (a) a body section extending between and connecting said gas container with said inflatable float;
- (b) a rupture disc mounted across said body section;
- (c) a movable spring-loaded piercing member mounted within said body section in a position permitting such member to be urged against and pierce said rupture disc;
- (d) a movable latch pin having at least a portion extending within said body section and into engagement with a portion of said piercing member to hold it against compressed spring means in turn engaging the latter; and
- (e) pin moving means connective with said latch pin providing for the movement thereof to release said piercing member when said float assembly is in turn released from said housing.

3,341,872
TAPING AND SEAM PRESSING MACHINE
 George W. Heiseler, Saugus, Mass., assignor to Boston Machine Works Company, Lynn, Mass., a corporation of Massachusetts

Filed Aug. 24, 1965, Ser. No. 482,124
 6 Claims. (Cl. 12—59.5)

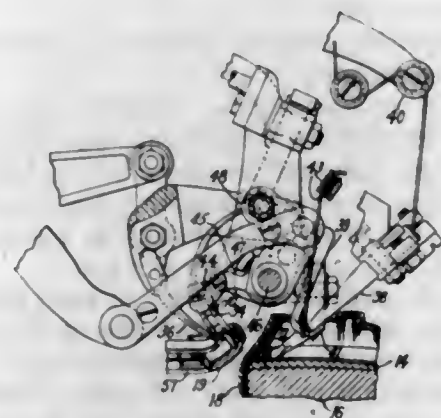
1. In a tape-applying machine comprising a frame, an anvil mounted on said frame, a knife carried by said frame above said anvil, a tape-guide mounted on said frame and rockable between a position in which the tape guided thereby is brought to proximity to said anvil and a position in which the tape is lifted into severing relation to said knife, a solenoid, connecting means operable by energization of said solenoid to rock said guide to one of said positions, and spring means for returning said guide to the other position when the solenoid is deenergized; control means for said solenoid including a switch with an element movable for opening and closing the switch, an

actuator pivotally mounted on said frame, said actuator having one end near said anvil in a position to be rocked by a workpiece brought to the anvil, spring means for reversely rocking said actuator when the workpiece passes from under the actuator, said switch element being engaged by said actuator at another point thereof to be



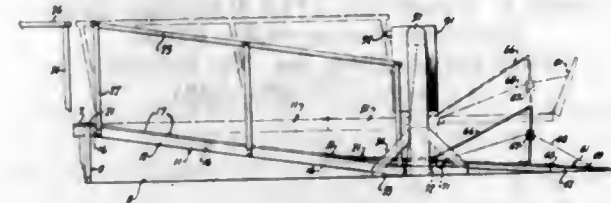
opened and closed by rocking movement of the actuator, and power-driven means for pressing the tape on the workpiece and feeding the tape and workpiece on the anvil, said connecting means including a link the length of which is adjustable to vary the point at which the leading end of the tape is applied to a workpiece advancing on the anvil.

3,341,873
METHODS AND MACHINES FOR MAKING GOODYEAR WELT SHOES
 Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
 Filed June 3, 1965, Ser. No. 461,057
 10 Claims. (Cl. 12—145)



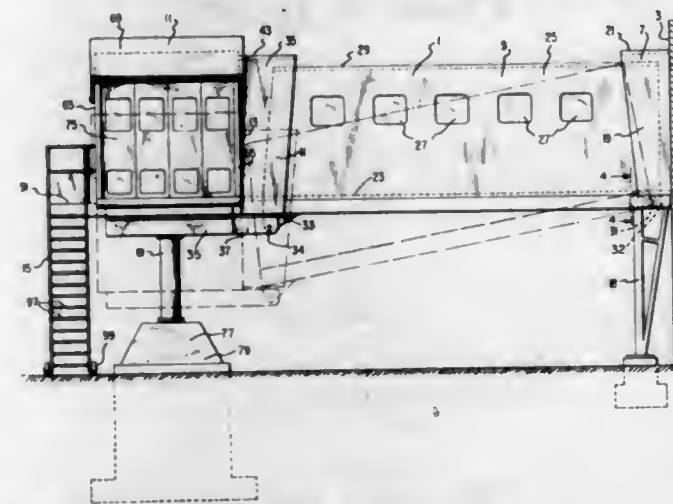
1. A method of making shoes, comprising the steps of providing a last with an insole secured to its bottom, assembling an upper on the last with the marginal portions stretched lengthwise of the last bottom, forming the marginal portions of the upper at the toe end by gathering them together and securing them while leaving portions of the upper free at the sides of the last, sewing the free sides and the toe end portions to the insole with a continuous thread in seam and while sewing the free sides imparting to the upper a pull directed heightwise of the last applied twice during each sewing cycle and exerted at points on the upper between stitch holes.

3,341,874
WHEELCHAIR RAMP
 Charles Leo Jarvis, 4165 Pine St., Rocklin, Calif. 95677
 Filed Oct. 1, 1965, Ser. No. 492,194
 5 Claims. (Cl. 14—71)



2. A wheelchair ramp comprising a platform elevated above the ground, a pair of posts upstanding from the ground and spaced from said platform, a bridge extending from said platform and toward said posts, said bridge including a pair of projecting support beams, a winch mounted on one of said posts, pulleys on said support beams, a cable connected to the other of said posts and reeved over said pulleys and fastened to said winch, a deck disposed in part to overlie said beams, one group of hinges connecting one end of said deck to said bridge, an apron, another group of hinges connecting one end of said apron to the other end of said deck, a cable, and means for engaging said cable with one of said posts and with said deck and with said apron to rotate said apron on said other group of hinges with respect to said deck when said deck is raised and lowered with respect to said posts.

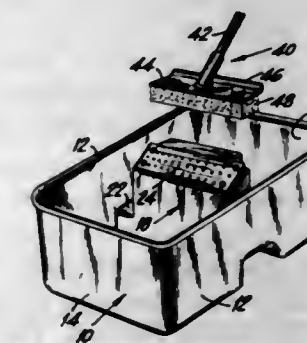
3,341,875
CONVEYANCE GANGWAY
 Joseph C. Wollard, Miami Springs, John S. Slaney, Opa-Locka, and Lester L. Preiss, Miami, Fla., assignors to Wollard Aircraft Service Equipment Inc., a corporation of Florida
 Continuation of abandoned application Ser. No. 357,358, Apr. 6, 1964. This application Feb. 28, 1967, Ser. No. 619,483
 3 Claims. (Cl. 14—71)



2. A conveyance gangway comprising:
 (a) a fixed terminal end portion,
 (b) an elongated midportion,
 (c) an outer end portion including a conveyance engaging portion, the outer end portion further including base means and floor means,
 (d) first pivot means including a first pivot element associated with the midportion and a second pivot element associated with the terminal end portion, the first and second pivot elements cooperating to mount the midportion and the terminal end portion for vertical swinging movement,

- (e) second pivot means including a third pivot element associated with the midportion and a fourth pivot element associated with the outer end portion, the third and fourth pivot elements cooperating to mount the midportion and the outer end portion for vertical swinging movement relative to each other,
- (f) means associated with one of the pivot means for allowing movement of the pivot elements of said one of the pivot means relative to one another in a substantially horizontal plane,
- (g) ground-engaging support means for the outer end portion rigidly connected to the base means of the outer end portion,
- (h) the support means for the outer end portion including means for raising and lowering the outer end portion,
- (i) means constraining the outer end portion support means to movement in a straight vertical line,
- (j) means associated with at least one of pivot means (d) and pivot means (e) for resisting rotation of the midportion around a longitudinal axis passing through the midportion caused by lateral forces directed against the midportion,
- (k) means associated with the outer end portion support means maintaining the floor means of the outer end portion horizontal at all times,
- (l) means associated with the outer end portion constraining the conveyance engaging portion of the outer end portion to horizontal movement toward and away from a conveyance in a straight line path which is fixed relative to the outer end portion base means, and
- (m) means mounting the vestibule for horizontal swinging movement relative to the remainder of the outer end portion about a vertical axis, the vestibule being horizontally swingable between extreme positions in which the vestibule is disposed at negative and positive acute angles to a vertical plane passing through said upright axis and perpendicular to the length of the midportion.

3,341,876
COMBINATION MOP AND BUCKET
 James W. Campbell, 151 Lincoln Ave., Rockville Centre, N.Y. 11570
 Filed June 14, 1965, Ser. No. 463,699
 16 Claims. (Cl. 15—1)



1. A mop and bucket combination comprising:
 (a) a molded, nestable bucket having a base wall, spacedly opposed side walls and spacedly opposed end walls, said side walls and said end walls being integral with and upwardly depending from said base wall;
 (b) a substantially vertically disposed baffle member secured to said bucket intermediate said end walls, the upper end of said baffle member extending only partially across said bucket in a plane substantially parallel to said end walls, the ends of said baffle member

being spaced from said bucket side walls to define channels and two compartments in communication with each other by means of said channels, said baffle member having a vertical dimension substantially equal to the height of said side and end walls;

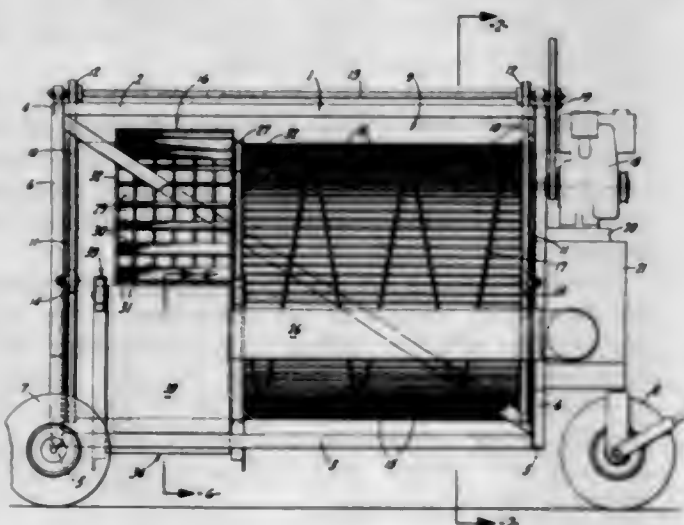
(c) a fulcrum secured to the top of said baffle member and integral therewith;

(d) a mop having a handle and a water absorbent member; and

(e) a lever member secured to said mop intermediate said handle and said water absorbent portion, said lever member being adapted to releasably engage said fulcrum whereby an arcuate movement of said handle will compress said water absorbent member against the top of said baffle member to thereby express the water from said mop into said bucket.

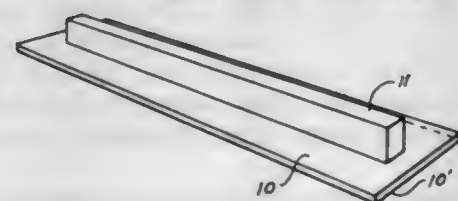
3,341,877 TROMMEL-TYPE PRODUCE CLEANING MACHINE

Charles C. Ingalls, 3042 Washington Road,
Ceres, Calif. 95307
Filed Oct. 18, 1965, Ser. No. 497,261
7 Claims. (Cl. 15-3.11)



1. In a produce cleaning machine which includes a rotary trommel, and means to induce a produce cleaning air blast through the trommel; a separator unit, adapted to receive and subsequently discharge cleaned produce from the trommel, comprising means forming a multiplicity of produce-receiving pockets in one circumferential section of the trommel, said pockets being initially open both to the inside and outside of the trommel, and means temporarily closing said pockets at the outside and for a distance extending from the bottom of the trommel upwardly to an elevated point on the upturning side thereof, the produce delivering from said pockets upon reopening thereof at such point.

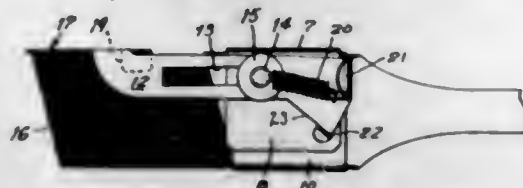
3,341,878
HAND FINISHING TOOL
Joel D. Hubbard, Fairfax, Va., assignor of one-fourth to Robert M. Melth, Fairfax, Va.
Filed June 14, 1965, Ser. No. 463,761
17 Claims. (Cl. 15-235.4)



16. In a hand finishing tool, a flexible blade having a face side and a back side, a flexible rib formed of resilient material attached to the back of the blade and normally

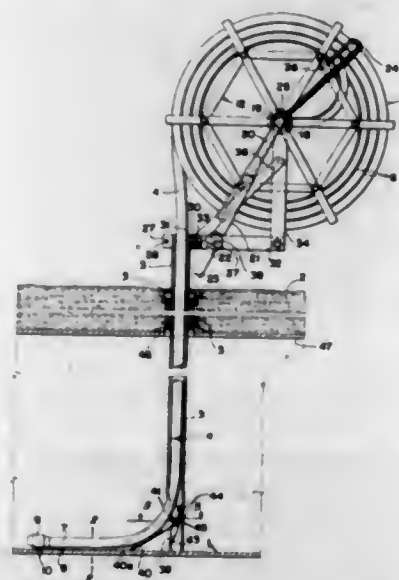
supporting the blade face in a predetermined position, said rib providing a finger grip whereby the user's hands may act together in unison to flex the blade face simultaneously along its transverse and longitudinal axes.

3,341,879
PAINT BRUSH EDGING ATTACHMENT
Daniel F. Kumpman, 151A Randolph Ave.,
Mine Hill, Dover, N.J. 07801
Filed July 6, 1966, Ser. No. 563,241
4 Claims. (Cl. 15-248)



1. An edging attachment for paint brushes comprising an inverted U-form base arched to fit over one edge and extend over opposite sides of the head of a paint brush, a clamp on one side of said base in position for holding engagement with a brush to which the attachment is applied, a stud projecting from the opposite side of said arched base, a longitudinally slotted blade in pivotal sliding engagement over said stud, a spring connected between said stud and blade for projecting said blade over the bristles of the brush, said blade having an angularly projecting lining extension at the free end of the same projecting across the body of the bristles and having a lining edge curved to ride over the surface painted by the brush.

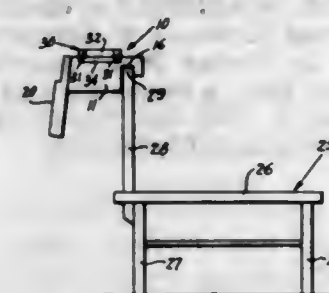
3,341,880
TANK CLEANING APPARATUS
Einar T. Young, Newtown Square, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 18, 1965, Ser. No. 480,608
8 Claims. (Cl. 15-257)



1. In apparatus for cleaning a tank through an opening near the top thereof, a substantially rigid standpipe adapted to be lowered through said opening into contact with the bottom of the tank, an elongated hose guiding member having one end thereof pivotally connected to said pipe within the same at a location near the lower end

thereof, said guiding member being constructed and arranged to swing outwardly with respect to said pipe beyond the confines thereof and to extend downwardly from its pivot at an arcuate angle to the axis of said pipe when the free end of said member and the lower end of said pipe are in contact with the tank bottom; and means for resiliently biasing said member to swing outwardly about its pivot, away from said pipe.

3,341,881
COMBINATION SHOE-SHINE DEVICE
AND SUPPORTING RACK
James A. Coon, 929 Drever St., West Sacramento,
Calif. 95691
Filed Jan. 4, 1965, Ser. No. 422,896
3 Claims. (Cl. 15-265)



1. A combination shoe-shine device and rack, comprising:

a normally upright supporting plate having a top edge, a bottom edge, a front edge and a rear edge and two sides;

a first flange formed by an extension of the front edge beyond the bottom edge;

a second flange substantially parallel to the bottom edge on the first flange spaced to form a notch which is adapted to engage securely over the top of a vertical support for supporting the plate horizontally with the front side facing upwardly;

a shoe plate on the top edge;

a rack removably supported on the front edge when the plate is horizontally disposed, said rack including a receptacle for a bottle and supporting bars for cloths and including,

a first pair of bars transversely disposed on said front edge and extending substantially equally on each side thereof,

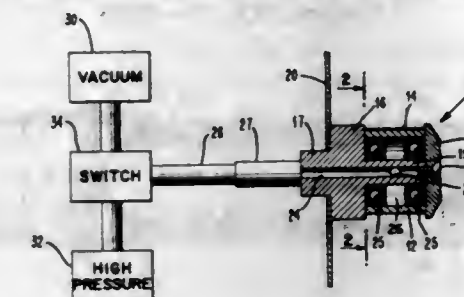
a second pair of bars extending between spaced intermediate points of the first bars to define the bottle receptacle substantially centrally of the rack, and

a pair of side engaging members disposed on the bottom of the rack for laterally positioning the rack on the plate, the rack being held vertically on the plate by gravity.

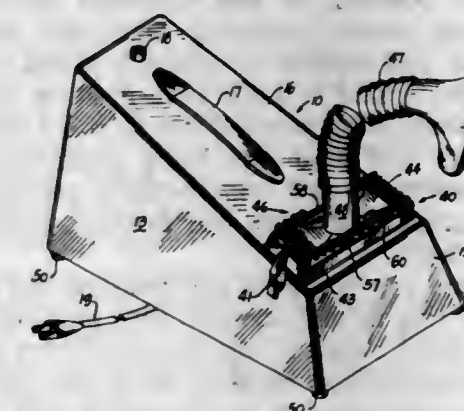
3,341,882
TAPE ACTUATED VALVE MECHANISM
Herbert Morello, Utica, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 30, 1965, Ser. No. 468,497
7 Claims. (Cl. 15-306)

1. In a tape handler, the combination comprising; a shaft, a cylindrical tape guide member mounted for rotation on said shaft, a tape threaded over said guide member in frictional driving engagement therewith, said tape operating to rotate said guide member in one direction or the other in dependence upon the direction of movement of said tape, means limiting the degree of angular rotation of said guide member to an angle less

than 180 degrees, a series of slits formed in the surface of said guide member over an angle approximately corresponding to its angle of rotation, said slits being disposed to contact the tape during movement of the tape

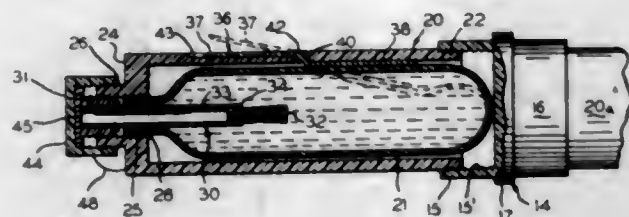


3,341,883
VACUUM CLEANER FOR SHOES
Ernest Kraly, 643 E. 142nd St.,
Cleveland, Ohio 44110
Filed Mar. 2, 1967, Ser. No. 620,135
2 Claims. (Cl. 15-310)



1. A vacuum cleaner for shoes, comprising in combination, a sheet material housing adapted to be positioned on the floor, having top, bottom, side, front and rear walls; the top wall being inclined upwardly, at an angle, from the front to the rear wall; a baffle wall mounted cross-wise in the housing, between the front and rear walls, to define a forward, suction, compartment and a rear, exhaust, compartment, joined through an opening in the baffle; the top wall having an opening therethrough into the forward compartment and a continuous ledge bounding said opening; a dirt collecting filter bag, having a flanged mouth adapted to seat on the top wall opening ledge and be suspended therefrom in the forward compartment; a brush having a back adapted to seat on top of the filter bag flange, the brush back having a circular throat opening centered therethrough, open to both the atmosphere and the interior of the filter bag; a plurality of upstanding bristle tufts mounted on the brush back, surrounding the throat opening on three sides; the throat opening being adapted to releasably receive the end of a flexible suction hose therein, in suction-tight engagement; clamp means mounted on the housing, engageable with the brush back to draw same firmly down upon the filter bag flange, to seat same in the top wall opening over the mouth of the filter bag; and, suction means mounted in the rear compartment with the intake opening thereof mounted through the baffle wall opening, in sealed connection; the rear wall of the compartment having a vent through which air drawn, by the suction means, from the forward compartment may be exhausted.

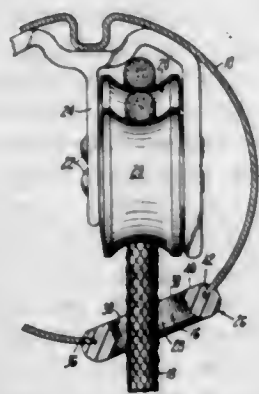
3,341,884
PORTABLE COMBINATION NAIL POLISH AND
POLISH REMOVER HOLDER AND APPLICATOR
 Barbara Pryor, 2829 Lunt Ave., Chicago, Ill. 60645
 Filed Feb. 19, 1965, Ser. No. 433,894
 4 Claims. (Cl. 15-523)



4. In a portable combination nail polish and polish remover holder and applicator including: a nail polish section, a nail polish remover section and a coupling member to associate said sections together, said nail polish section comprising:

- a removable compressible receptacle for containing said nail polish, said receptacle having a nozzle for dispensing said polish;
- a housing within which said receptacle is positioned;
- a polish applicator including applying means and a hollow base ring attached to said applying means, said base ring being releasably and securely connected to said housing in both an operative and non-operative position, in said operative position said applying means extending outwardly from said receptacle and capable of receiving polish from said receptacle, in said non-operative position said applying means being inverted and disposed within said receptacle, said base ring being positionable from said operative to said non-operative positions upon being disconnected from said housing, inverted and reconnected;
- a removable cap engaging said housing and covering said base ring in said non-operative position; and
- a tubular shield closed at one end and fitting over and firmly engaging said housing, the closed end of said shield abutting said cap for preventing said cap from loosening and leakage of polish from the receptacle.

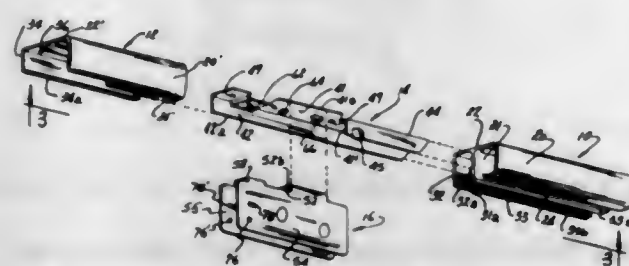
3,341,885
CAFE TRAVERSE ROD
 Kenneth M. Johnson, Kensington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
 Filed Dec. 23, 1965, Ser. No. 515,936
 6 Claims. (Cl. 16-2)



1. In combination with a cafe traverse rod having a pull cord opening in a curved wall thereof wherein variances occur in the dimensions and finish of the openings, a self-adjusting, self-locking grommet for covering the edges of said opening comprising an apertured body having generally parallel side walls joined together at their ends by curved end walls, the body having a convex bottom surface terminating on the outer periphery thereof

to form a peripheral flange around the periphery of the grommet, the transverse portions of the peripheral flange being concavely curved and having a curvature corresponding to the curvature of the rod at the end of said opening, the grommet further having a continuous inner peripheral wall projecting upwardly above said shoulder and disposed within said opening, said inner peripheral wall providing a pair of laterally extending lips on the sides of said grommet spaced from the peripheral flange to form a pair of grooves therewith, said laterally extending lips being formed of a resilient semirigid molded plastic deformable to alter the lateral projection of said lips for assembly in said opening and to resiliently bias said peripheral flange in intimate contact with the curved outer periphery of said rod.

3,341,886
SUPPORT FOR DRAPERIES AND THE LIKE
 Joseph V. Graber and Ferdinand F. Saltzman, Madison, Wis., assignors to Graber Manufacturing Company Inc., Middletown, Wis., a corporation of Wisconsin
 Filed Aug. 6, 1965, Ser. No. 477,827
 12 Claims. (Cl. 16-95)

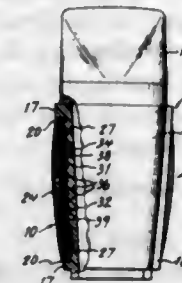


1. A support for draperies and the like comprising first and second elongate rod sections having inner and outer surfaces and abutted end to end, at least one of said rod sections having wall means defining at least one passageway and a slot extending generally the full length of the passageway, said wall means of said one of said rod sections including a pair of generally parallel walls attached to a third wall, a pair of longitudinal rails on the inner surface of said wall means of said one rod section and spaced from said slot, said pair of longitudinal rails being disposed one on each of the parallel walls, and internal splice means having longitudinal edges on one end portion thereof engaged with the longitudinal rails of said one rod section adjacent the abutted ends of the rod sections for holding the rod sections generally aligned and in said abutted relationship, said one end portion of said splice means being contiguous to the inner surface of said one parallel walls and said third wall of said rod section in an area between said longitudinal rails, and means for securing the other end portion of the splice means to the other rod section.

3,341,887
PAD GRIPPING DEVICE
 Robert J. Tolmie, Fairfield, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
 Filed July 30, 1964, Ser. No. 386,347
 7 Claims. (Cl. 16-110)

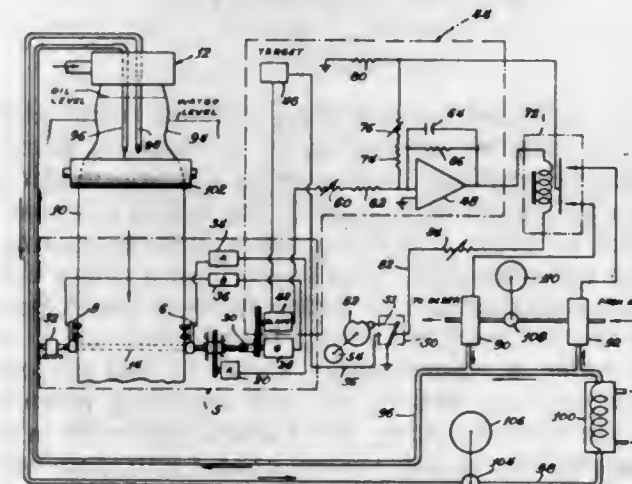
1. A pad gripping device for a hand-held appliance comprising:
- (a) a frame plate,
 - (b) a pad cushion member secured to said frame plate,
 - (c) said pad cushion member including an inner resilient member disposed against one face of said frame plate,
 - (d) a supporting plate adapted for attachment to a surface of a said hand-held appliance and having a greater surface area than said frame plate,

(e) aligning means formed on said frame plate and said supporting plate to align said frame plate in predetermined position within the surface area of said supporting plate wherein the peripheral edges of said pad member are spaced from the peripheral edges of the supporting plate.



(f) said aligning means including boss means on one of said plates and aperture means provided on the other plate adapted to receive said boss means, and (g) means securing said frame plate to said supporting plate in said predetermined position.

3,341,888
AUTOMATIC CONTROL SYSTEM AND METHOD
 William A. Bridge, Midland, and Donald J. Crawford, Sanford, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 Filed Apr. 18, 1963, Ser. No. 274,009
 11 Claims. (Cl. 18-2)

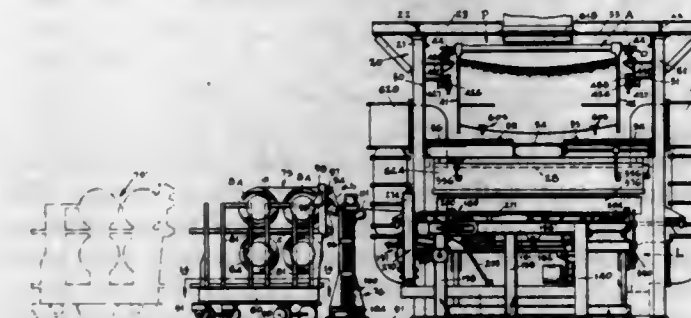


1. For use in an automatic control system wherein a process variable is to be maintained within a predetermined range, which system includes sensor means for monitoring and measuring changes in said process variable and generating an error signal indicative of a change in said process variable from a preset value, an electrical circuit comprising integrating means including a resistor and a capacitor for integrating said error signal to generate a control signal; means coupled to said integrating means for providing a feedback voltage thereto of a polarity such that said control signal has an on-time which is linearly proportional to the integrated value of said error signal; and control means operated in response to said control signal to influence the process so that the process variable is returned to said preset value.

3,341,889
APPARATUS FOR SHAPING THERMOPLASTIC SHEETS
 Alfred H. Miller, Glenn Perry, and Lawrence C. Wheat, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
 Filed Oct. 21, 1964, Ser. No. 405,383
 15 Claims. (Cl. 18-4)

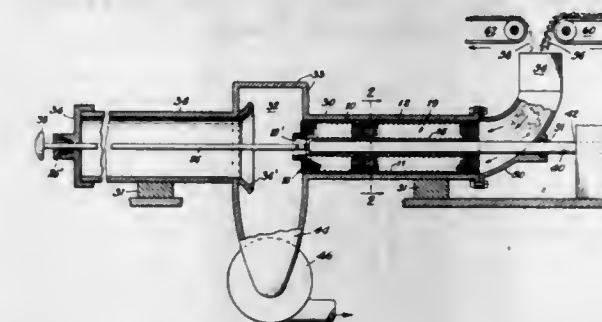
1. Apparatus for shaping thermoplastic sheets comprising,
- (a) a substantially horizontal supporting table,

- (b) a source of plastic including means located at one side of the table for supporting substantially continuous plastic sheeting,
- (c) a plastic shaping frame horizontally supported on said table,
- (d) means for receiving the plastic sheeting from said source of supply and conveying it over the table and frame,
- (e) means for clamping the free end of the sheeting in the frame,
- (f) means for creating lengthwise tension in the sheeting,



- (g) means for clamping the tensioned sheeting in the frame at a point between the clamped end of the sheeting and the tensioning means whereby said sheeting may be cut transversely outwardly of the second clamping means to provide an individual sheet clamped under tension in said frame,
- (h) a heating chamber and a cooling chamber communicating with one another,
- (i) means for supporting the frame and plastic sheet carried thereby in a vertical position and for conveying them successively through the heating and cooling chambers, and
- (j) means engaging the sheet adjacent its lower edge to apply a tractive force thereto in the plane of the sheet to effect the shaping of said sheet as it passes through said heating and cooling chambers.

3,341,890
APPARATUS FOR PRODUCING ELONGATED FELTS
 Wayne J. Oja, Cloquet, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
 Filed Oct. 1, 1963, Ser. No. 312,974
 2 Claims. (Cl. 18-5)



1. Felting apparatus comprising wall means forming a region closed from the atmosphere, air-exhausting means for producing subatmospheric pressure in said region, said wall means including a chamber wall with an opening therein, a door movable into position surrounding and sealing said opening, said door providing space therein extending outwardly from said opening, said chamber

having a second chamber wall opposite said first-mentioned chamber wall with an opening therein aligned with said opening in the first chamber wall, track means extending between said two chamber walls from around the openings thereof, a tubular plunger open at both ends and movable in said track means and in sealed relation through the openings of the second chamber wall into and out of sealed relation with the first chamber wall around the said opening therein, a foraminous mold of size to pass through the opening in said first chamber wall and to fit in close contact with the inner wall of said tubular plunger, said mold having an elongated tubular mold space comprising a foraminous outer shell, a parallel inner foraminous shell, and a wall at but one end, said inner shell being open at its end opposite said end wall, a plate closing the other end of said inner shell and having an opening therein registering with the interior of said inner shell, said outer shell having said end wall adjacent and overlapping said plate and having an opening therein registering with the opening in said plate, said outer shell extending beyond said end wall, a second plate closing the extended end of said outer shell and having an opening therein aligned with the openings of said first plate and said end wall, a tubular member carried by said first plate and passing through the openings of said end wall and said second end plate, means removably secured to the end of said tubular member beyond said second end plate for moving the inner shell with said second end plate in the direction of the projecting tubular member, said outer shell being formed in two complementary parts adapted for separation to remove a felt formed in the mold space, said end wall and said second plate being secured each to but one of said parts, at least one of said tubular member and of said second end plate being perforate for the passage of air from within the inner shell to the space between said end wall of the mold space and said second plate, said tubular plunger at its end adjacent the second chamber wall carrying a core projecting into and filling the inner foraminous shell when said tubular plunger is in sealed relation with said first chamber wall, feeding means connected to the open end of said tubular plunger which extends from said chamber, said feeding means being adapted to feed air containing suspended felt fiber, and means to withdraw the tubular plunger from said chamber progressively as fiber felts in said mold during said feeding.

3,341,891

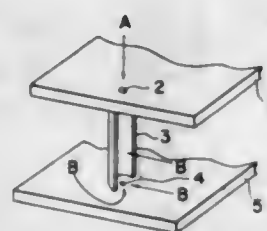
PRODUCTION OF A COMPOSITE FILAMENT AND A SPINNERET ASSEMBLY

Kitao Shimizu, Kazuo Yuki, and Miyoshi Okamoto, Iyogun, Ehime-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed July 31, 1963, Ser. No. 298,883

Claims priority, application Japan, Aug. 6, 1962, 37/32,487; Apr. 19, 1963, 38/19,965, 38/19,966

5 Claims. (Cl. 18-8)



1. A spinneret assembly for use in the production of a composite filament which comprises a spinneret plate, a distributing plate facing the spinneret plate and spaced apart therefrom, the spinneret plate being provided with a plurality of orifices therethrough, the distributing plate

being provided with a plurality of apertures therethrough, a first liquid-supply chamber behind the distributing plate and in communication with each aperture thereof, means for guiding a second liquid in the space between the two plates so as to supply the liquid towards each orifice predominantly from not exceeding two directions in a plane perpendicular to the axis of the orifice, each aperture of the distributing plate being open directly to the space between the two plates whereby the first liquid meets the second liquid staying substantially about the orifice, and a second liquid-supply chamber communicating with the space between the two plates.

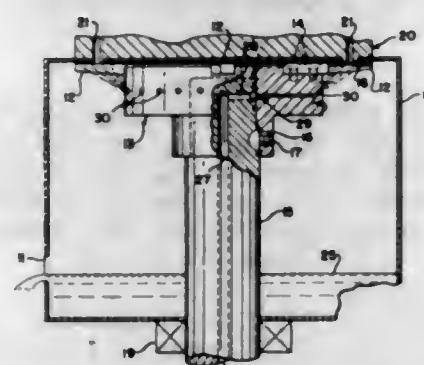
3,341,892

PELLETIZING APPARATUS

Thomas S. Mayner, Chagrin Falls, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 23, 1965, Ser. No. 434,544

4 Claims. (Cl. 18-12)



1. An apparatus for pelletizing extruded thermoplastic polymeric material comprising, an enclosure, a plurality of circularly positioned orifices in said enclosure through which a thermoplastic polymeric material is extruded in the form of rods, a shaft in said enclosure entering it from an opposite side facing said orifice, a rotary cutter means on said shaft in said enclosure being biased against said orifices, at least two cutting blades contained in said rotary cutter, a coolant spray means in said enclosure for sweeping said orifices and said extruding polymeric rods at the time of cutting, and a collecting trough in said enclosure below and independent of said cutter into which said pellets and spray are collected having an outlet for the continual removal of said cutting entrained coolant.

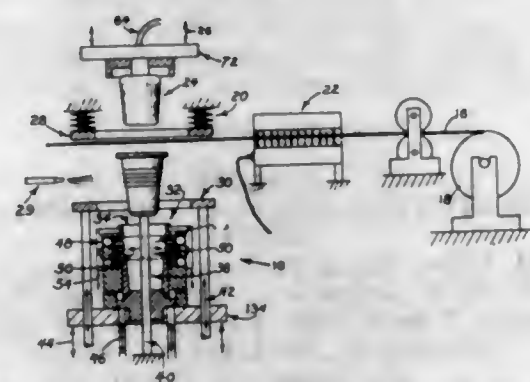
3,341,893

APPARATUS FOR FORMING DOUBLE THICKNESS FINS IN A THIN WALL PLASTIC CONTAINER

Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Sept. 23, 1963, Ser. No. 310,666

20 Claims. (Cl. 18-19)



1. Mold insert means for a sheet material mold comprising guide and retaining means having a predetermined axis, a plurality of movable mold members mounted on

said guide and retaining means for limited movement thereon relative to each other and to said guide and retaining means, said mold members defining a closed figure in space presenting a mold surface when said guide and retaining means are disposed in their initial position prior to movement thereof in a direction transverse to said axis, each of said mold members comprising one quadrant of a conical figure and disposed in stepped relationship to each other as measured along said axis, means biasing said mold members to a first predetermined position whereby surfaces on each of said mold members are spaced in opposition to surfaces on the next adjacent movable member, means operable to move said movable members against said bias to cause said surfaces on said movable members to move closer to each other in a direction parallel to the axis of said guide and retaining means, and means for moving said guide and retaining means and thereby said movable members as a unit in a direction transverse to the axis of said guide and retaining means whereby said movable members may squeeze sheet material located against said surfaces in opposition to each other toward each other and said movable insert members may then be moved out of contact with said sheet material.

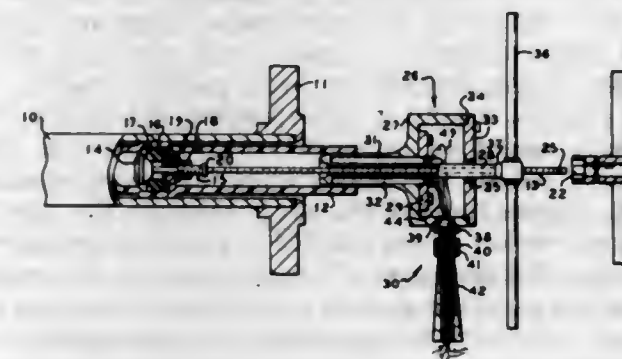
3,341,894

FLARING PLASTIC PIPE ENDS

Edwin H. Flaming, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,030

5 Claims. (Cl. 18-19)



1. A flaring tool for forming a flange on the end of a thermoplastic pipe comprising an annularly expandable means adapted to be inserted in the end of said thermoplastic pipe and expanded against the interior of said thermoplastic pipe; a threaded shaft secured to said annularly expandable means and extending beyond the end of said pipe when the expandable means is inserted in the end of the pipe; means to expand the expandable means against the interior of said pipe; a flaring plug having a first end adapted to fit into said pipe and gradually increasing in diameter to form a second end of the plug; a passageway through the longitudinal axis of said plug to allow said plug to pass freely over said threaded shaft; heating means in said plug; wrench means having a threaded opening therethrough to mate with the threads of said threaded shaft; and means to prevent rotation of said plug when said wrench is threaded onto said threaded shaft so as to force said plug into the end of said thermoplastic pipe.

3,341,895

MOLDING MACHINES

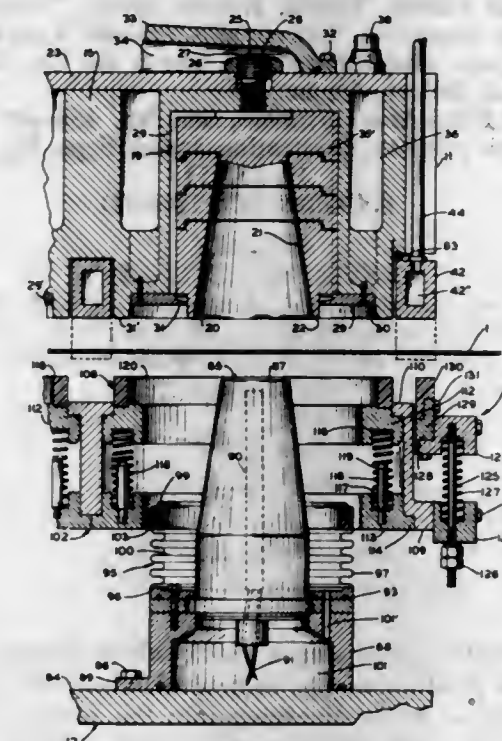
Richard K. Shelby, Chicago, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Mar. 15, 1966, Ser. No. 534,442

12 Claims. (Cl. 18-19)

2. A molding machine comprising a supporting frame, a pair of oppositely disposed first and second cooperating die frame assemblies operatively mounted on said supporting frame, at least one molding cavity formed in said

first die frame assembly, at least one plug formed on said second die frame assembly and being sized to force the web into said cavity, means for passing a web of moldable material between said die frame assemblies, means for shifting the second die frame assembly toward the first die frame assembly and causing a plug to force a portion of the web into a cavity for a predetermined time interval, a web clamping frame operatively mounted on said supporting frame and being shiftable in timed relation to said



second die frame assembly, a plurality of clamping rings mounted on said clamping frame and each of said rings engaging a portion of the web extended over the open portions of each of said cavities causing such extended portions to drape, and recess means operatively formed on the underside of said first die frame assembly surrounding each of said cavities for accommodating each of said rings when the clamping frame is in its extendedmost position.

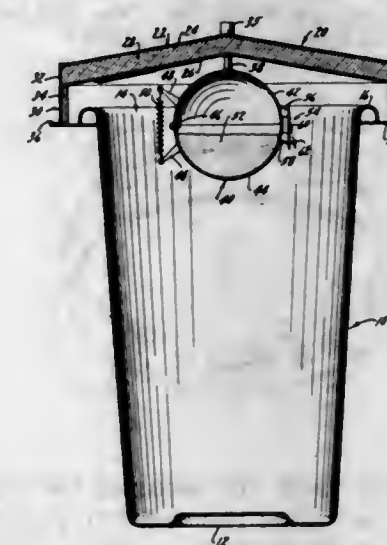
3,341,896

MOLDING MECHANISM AND METHOD

Louis H. Barnett and Henry P. Horton, Fort Worth, Tex., assignors, by mesne assignments, to Loma Industries, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Nov. 12, 1963, Ser. No. 322,909

4 Claims. (Cl. 18-26)



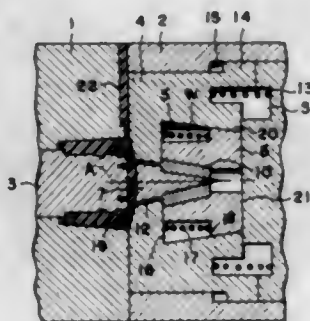
1. In a mold for forming a hollow plastic article, a mold body having an open end, a cover for said open end, a container for holding a charge of molding material

fixed to said cover and extending within said mold body, said container including a pair of releasable sections yieldingly urged toward an open position, and a temperature actuated latch holding said sections in a closed position and arranged to release said sections when the temperature in the mold reaches a predetermined level.

3,341,897 INJECTION MOLD

Rinnosuke Susuki, Tokyo, Hiroshi Hoshi, Narashino-shi, Hiroshi Sugawara, Tokyo, and Takeshi Kaneko, Suwayama-shi, Japan, assignors to Lion Fat & Oil Co., Ltd., Edogawa-ku, Tokyo, Japan

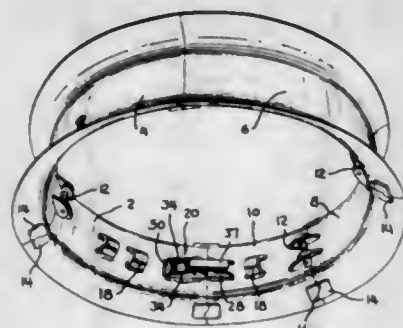
Filed May 17, 1965, Ser. No. 456,406
Claims priority, application Japan, Sept. 28, 1964, 39/55,451
6 Claims. (Cl. 18-42)



2. A mold comprising a block which defines, at least in part, a product cavity, said block being provided with a plurality of holes diverging into the product cavity, a projection on said block provided with grooves coaxially aligned with said holes, a plurality of segments spacedly arranged around said projection and defining grooves opposed to the grooves in the projection and coaxial with the holes in the block, pin members slidable in the grooves of and sandwiched between the projection and segments and insertable into and withdrawable from the holes in the block for entering and leaving the product cavity, and means for displacing the segments along with said pin members along and transversely relative to said projection such that the pin members are displaced axially relative to the holes in the block to enter and leave the product cavity.

3,341,898 LATCH AND JOINT CONSTRUCTION FOR A CURING RIM

Charles E. Branick, P.O. Box 1937, Fargo, N. Dak. 58103
Filed Aug. 24, 1965, Ser. No. 482,209
4 Claims. (Cl. 18-43)



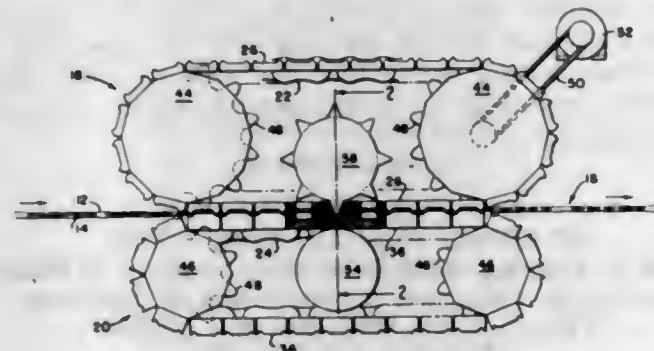
1. A curing rim latch for securing the adjacent free end sections of the curing rim together comprising a U-shaped bar on one rim section, means securing each leg of the U-shaped bar to said rim section adjacent an end edge of said one rim section to thereby form an opening between the U-shaped bar and said rim section, a tongue

secured to the other rim section and extending therebeyond to overlap the end edge portion of the other rim section and being of a cross section substantially equal to said opening to fit therein, a lever pivotally carried by said other rim rearwardly of said tongue, a depending shoulder on said lever adjacent the free end thereof for engagement over said U-shaped bar and tongue, and having means for pivoting and holding the lever into engagement with the bar with the free ends of said rim sections in engagement.

3,341,899 TREATMENT OF WOOL SLIVERS

Kenneth W. Marriner, East Pepperidge, Mass., assignor to Marriner & Co., Inc., Lawrence, Mass., a corporation of Massachusetts

Filed Aug. 11, 1964, Ser. No. 388,878
7 Claims. (Cl. 19-66)



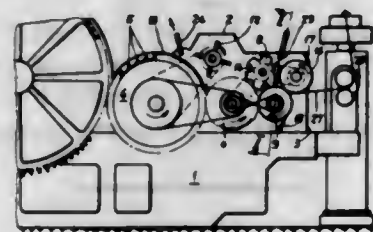
1. Apparatus for treating a vegetable fiber-containing wool sliver including a pair of endless conveyors having linked slats, means to support each conveyor with a plurality of slats thereof each in opposed relation to and under pressure against a corresponding slat of the other conveyor, means to drive the conveyors at the same peripheral speed, the slats having transverse openings therein, means to feed the sliver between the opposed slats, and breaker means adapted to penetrate the opening in a slat and at least part of the opening in a slat opposed thereto to extend the portion of the sliver traversing said openings, wherein the vegetable fibers contained in the wool sliver traversing said openings are broken into shorter lengths.

3,341,900 APPARATUS FOR TAKING OVER THE FLEECE FROM THE DOFFER OF A CARDING MACHINE

Rudolf Wildbolz, Hans Rutz, and Roelof Adrianus Rietsema, Winterthur, Switzerland, assignors to Rieter Machine Works Ltd., Winterthur, Switzerland, a corporation of Switzerland

Continuation of application Ser. No. 319,441, Oct. 28, 1963. This application Apr. 12, 1966, Ser. No. 549,094

11 Claims. (Cl. 19-106)



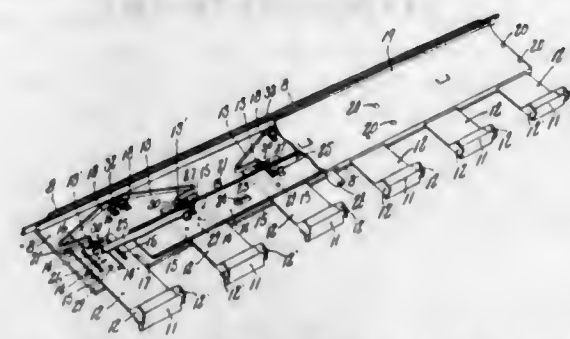
1. In an apparatus for taking up a fleece, a filtered roller for conveying the fleece, a pair of rollers spaced from said filleted roller for pulling the fleece therebetween from said filleted roller, said pair of rollers comprising a substantially smooth surfaced lower roller and an upper roller spaced from said lower roller, said upper roller having a plurality of grooves therein, each pair of adjacent grooves

defining a tooth therebetween, each said tooth having a leading face forming a sharp edge with the peripheral surface of said upper roller for seizing and pulling the fleece on said intermediate roller.

3,341,901 LONG APRON TYPE DRAFT APPARATUS USED IN TEXTILE MACHINES

Shinzo Kitamura, 914 Oaza Ikaga, Hirakata-shi, Osaka-fu, Japan

Filed Aug. 16, 1965, Ser. No. 479,841
3 Claims. (Cl. 19-250)



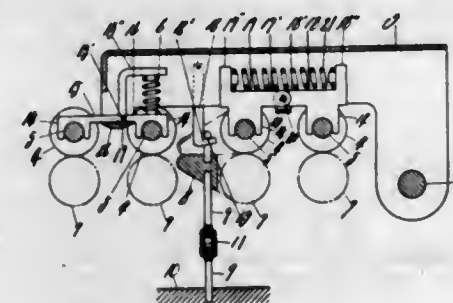
1. A draft apparatus for textile machines, which apparatus is of the type that includes a plurality of longitudinally aligned assemblies each comprising

- (a) a saw tooth roller element,
 - (b) a front end supporting element,
 - (c) a tensioning element, and
 - (d) a long apron trained about said elements and tensioned by said tensioning element,
- particularly characterized in that
- (e) said front end supporting element comprises an elongated tensor bar extending through a plurality of said aprons, and
 - (f) said tensioning element for each apron consists of an independently retractable apron tensioning lever carried by said tensor bar inside the respective apron,
 - (g) each tensioning lever being provided with spring means for extending it from said tensor bar for tensioning the respective apron.

3,341,902 DEVICE FOR PRESSING TOP ROLLER OF TEXTILE MACHINE

Shohachiro Yano, Nara-shi, Japan, assignor to O-M Ltd., Osaka, Japan

Filed June 29, 1964, Ser. No. 378,809
4 Claims. (Cl. 19-281)



1. A textile machine of the type comprising
- (a) a base,
 - (b) spaced roller stands carried thereby,
 - (c) bottom rollers supported by said stands and spanning horizontally therebetween,
 - (d) a plurality of sets of top rollers spaced longitudinally of and bearing against said bottom rollers, and
 - (e) a plurality of loading means correspondingly spaced longitudinally of said bottom rollers and comprising spring pressed bearing means for pressing the said sets of top rollers against said bottom rollers,

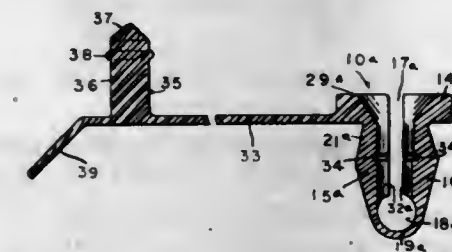
said machine comprising, in combination:

- (f) a bar supported by said stands and horizontally extending parallel to said bottom rollers and spanning the space between said stands,
- (g) interengageable hook means carried by said bar and by the respective ones of said plurality of loading means and engageable for securing said loading means to said bar against the reactions of said spring pressed bearing means, and
- (h) a tie rod means connecting the central part of the said bar to the said base,
- (i) said tie rod means being adjustable in length to nullify deflection of said bar due to the reaction of said spring pressed bearing means transmitted through said hook means.

3,341,903 PLASTIC FASTENER

Robert Z. Buntic, Elmhurst, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,741
6 Claims. (Cl. 24-16)



1. A wire holding and retaining member comprising a strap having a recessed fastener at one end thereof and a stud affixed at one end to the strap and projecting from adjacent the other end for insertion in the recess of said fastener, said stud having an annular bead formed thereon adjacent the other end, and said fastener including an enlarged head and a depending body portion divided by a longitudinally extending transverse slot open at one end to form a pair of prongs, and a loop joining the lower ends of the prongs, said transverse slot terminating adjacent the loop in an enlarged generally cylindrical transverse passage defining the loop, said head and body portion having a central longitudinally extending passage, adapted to receive said stud, intersecting and terminating at said transverse passage and provided with an annular recess formed in the walls of the passage and spaced from the transverse passage.

3,341,904 UPHOLSTERY BUTTON

Victor F. Joyner, South Holland, and Leslie Harold Bennett, Chicago, Ill., assignors to Maxant Button & Supply Company, a corporation of Illinois

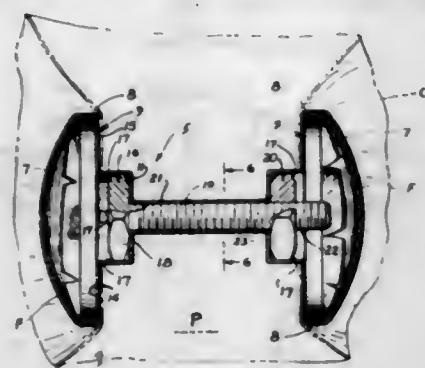
Filed July 16, 1965, Ser. No. 472,557
6 Claims. (Cl. 24-90)



3. A one-piece button component for use with a cap and a disk of covering material to form a finished upholstery button unit, the component comprising a disk-shaped head element formed from narrow, flat strip material and

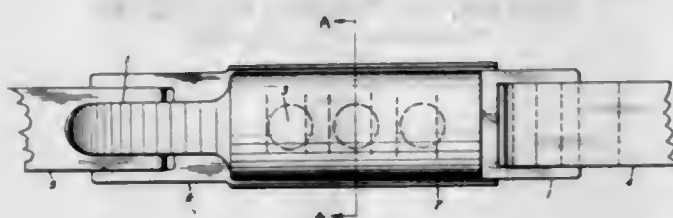
having a small central opening therein for the suspension therefrom of a wire eyelet shaped with the ends thereof oppositely disposed to rest on the head element with the eyelet inserted through the opening, and a pair of prongs integrated with the head element and disposed axially of the head element in contiguous substantial parallel relationship.

3,341,905
TWO-PART BUTTONS
Reva Gill, 183—51 Dunlop Ave.,
Holts, N.Y. 11423
Filed Oct. 30, 1964, Ser. No. 407,679
2 Claims. (Cl. 24—105)



1. In a two-part button of the class described comprising a substantially identically shaped pair of parts, each part including a base portion comprising:
 - an apertured casing enclosing a chamber which has an open end, said casing having a portion thereof formed as a peripheral wall, a cover surrounding said casing at the open end thereof and having a peripheral wall fitting over and secured to the peripheral wall of said casing, and
 - a threaded stud having its head anchored in the casing chamber of one part of the two-part button, the improvement consisting of covering said stud with a vinyl sleeve, except for a part at its end, the threaded portion of the stud extending through the aperture of the casing, and
 - a nut threaded to mate the threads of the stud, said nut being fastened in the casing chamber of the other part of the two-part button, whereby upon turning the nut on the stud, the end of the vinyl sleeve acts as a stop to prevent displacement of the button cover.

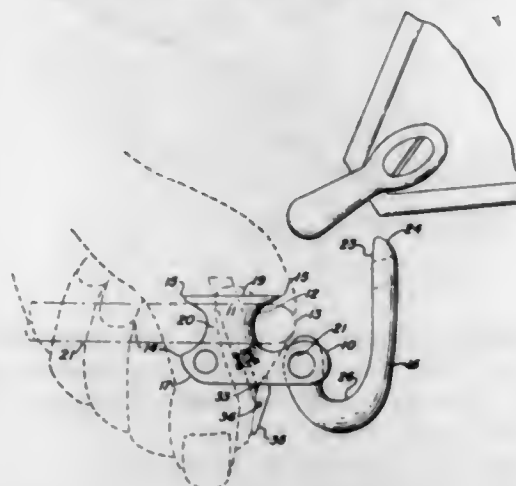
3,341,906
MAGNETIC SAFETY BELT FASTENER
Theodore M. Williams, Volusia, Fla.
(600 White St., Daytona Beach, Fla. 32014)
Filed June 2, 1966, Ser. No. 554,893
5 Claims. (Cl. 24—206)



1. A magnetic seat belt fastener comprising a first elongated bar of a magnetizable material constituting an inner fastener half, a first seat belt strap fastened to one end of said bar, said bar having longitudinally spaced transversely disposed slots, a second elongated bar, constituting an outer fastener half, having longitudinally spaced transversely disposed prongs depending therefrom and positioned to be received in said slots, a magnet

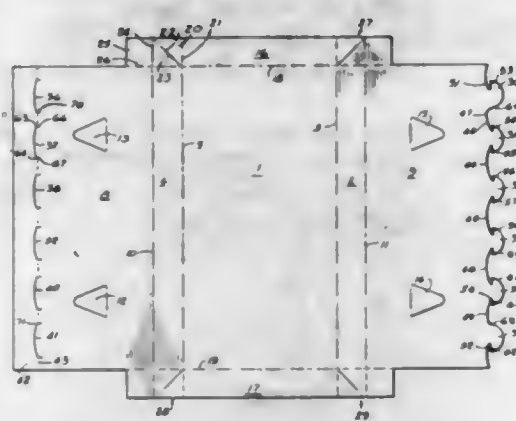
mounted in the second bar between the prongs and releasably holding the bars in engagement with one another when the prongs are disposed in the slots, and an end of a second seat belt strap being connected to an end of the second bar and remote from the end of the first bar to which the first seat belt strap is fastened.

3,341,907
SNAP SHACKLE
James Michael, 107 Golden Gate Ave.,
Belvedere, Calif. 94920
Filed Oct. 14, 1965, Ser. No. 496,032
11 Claims. (Cl. 24—241)



8. In a snapshackle the combination of a body frame, a hook pivoted thereto, and a locking pin slidable in a bore in said frame and engageable in and aligned in said hook; characterized by a flanged hub formed at one end and on one side of said body frame, with a mating face formed on its unsupported end; and a face on the free end of said hook mated to the like face on said hub; and in which said hub and said hook are at opposite ends of said body frame.

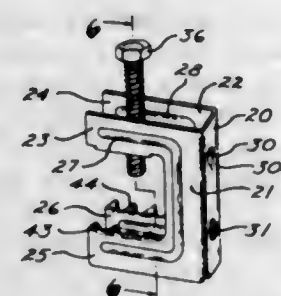
3,341,908
PANEL INTERLOCKING MEANS
Joseph H. Lock, Mableton, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed Oct. 21, 1966, Ser. No. 588,602
3 Claims. (Cl. 24—204)



1. An arrangement for interlocking adjacent edges of a pair of substantially coplanar panels, said arrangement comprising a plurality of locking tabs formed along one edge of one of said panels and disposed in outwardly protruding exposed relation, each of said tabs having at least one generally transverse locking edge, the portions of said one edge of said one panel which are disposed between adjacent locking tabs being of arcuate inwardly protruding configuration and said transverse locking edges conforming generally to the configuration of the adjacent

arcuate portions of said one edge, a plurality of complementary locking slots formed in the other of said panels said locking slots being of arcuate outwardly protruding configuration to define individual guide tabs and the end of said slots being disposed in divergent relation with respect to the associated locking edges respectively whereby fastening security is enhanced, a common guide panel foldably joined to said other panel along a fold line which is disposed in general coincidence with said locking slots, and a longitudinal flexing slit at each end of each of said locking slots for facilitating bending movement of said guide tabs out of the plane of said other panel thereby to facilitate interlocking action of said locking tabs and slots, interlocking movement being in a direction parallel to said flexing slits at least one intermediate locking tab being provided with transverse locking edges on opposite sides thereof and the end ones of said locking tabs being provided with a transverse locking edge on only one side thereof and with a longitudinal positioning edge on the opposite side thereof whereby substantial transverse relative movement between said panels is prevented.

3,341,909
CLAMP
Leslie N. Havener, Euclid, Ohio, assignor to Spring Steel Fasteners, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 1, 1965, Ser. No. 484,178
4 Claims. (Cl. 24—243)

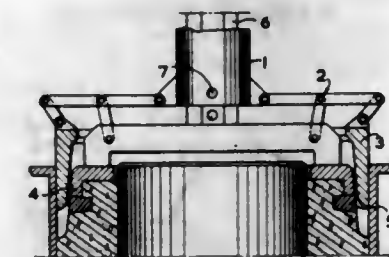


1. A generally H-shaped sheet metal stamping bent symmetrically along two axes parallel to the cross bar of the H, forming a clamp structure comprising a U-shaped main body, the U-shape being defined by an elongated, rectangular bight portion and integral, parallel legs extending from the longer sides of, and substantially at right angles to, said rectangular bight portion, each said leg having integrally formed therewith a pair of generally parallel arms extending perpendicularly away from said rectangular bight portion in the same direction as said leg, each said leg and its corresponding arms defining a C-shaped jaw, and said parallel legs and corresponding arms defining adjacent parallel C-shaped jaws.

3,341,910
APPARATUS FOR MOULDING CONCRETE PIPES HAVING A CIRCUMFERENTIAL RECESS IN THE OUTER SPIGOT END SURFACE
Jens Hesselholt, Brønderslev, Denmark, assignor to Peder-shaab Maskinfabrik A/S, Brønderslev, Denmark, a company of Denmark
Filed Nov. 2, 1964, Ser. No. 408,113
Claims priority, application Denmark, Nov. 7, 1963, 5,224/63

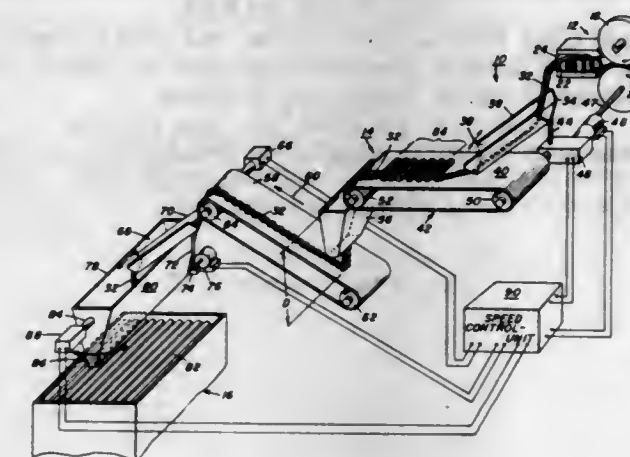
3 Claims. (Cl. 25—39)

1. An apparatus for molding concrete pipes having a circumferential recess in the outer spigot end surface, said apparatus comprising a profile ring forming a core for said recess; outer and inner mold parts defining between them an annular space; a pressure cover to close the spigot end of said space, said pressure cover comprising separate inner and outer annular members, said outer annular member completely surrounding said ring and



displaced from its operative position while said inner annular member is retained in its operative position on the concrete mass, said means being adapted to form a rigid connection between said members for their simultaneous removal from between said mold parts.

3,341,911
APPARATUS FOR PACKAGING CRIMPED MATERIALS
John Winston Smith, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 12, 1965, Ser. No. 507,443
9 Claims. (Cl. 28—1)



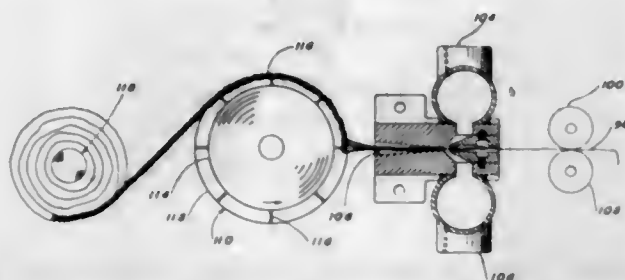
1. A packaging apparatus adapted for handling and processing highly crimped filamentary materials without adversely affecting the bulk factor thereof comprising first conveyor means for carrying the filamentary material through a conditioning zone, positioning means for laying the filamentary material on said first conveyor means in a zigzag pattern without subjecting the material to an elongating pressure, second conveyor means for transporting the conditioned filamentary material from the discharge end of said first conveyor means to a packaging means, the receiving end of said second conveyor means being positioned below the discharge end of said first conveyor means by a predetermined distance so that the filamentary material at the discharge end of said first conveyor means is pulled therefrom and layed in a substantially straight line upon said second conveyor means by the weight of the filamentary material that is falling onto said second conveyor means, and packaging means positioned to receive the highly crimped filamentary material as it leaves the discharge end of said second conveyor belt for arranging the material in a superimposed position.

3,341,912

TOW INTERLACING APPARATUS

Richard F. Dyer and Paul Gallagher, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Original application Mar. 7, 1963, Ser. No. 263,641.
Divided and this application Nov. 26, 1965, Ser. No. 528,002

9 Claims. (Cl. 28—1)

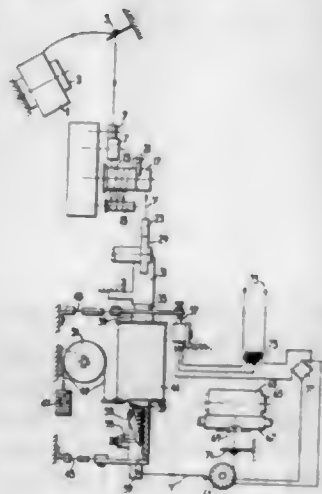


1. Tow-treating apparatus comprising movable tow-receiving means in close association with a slot-venturi jet comprising two body sections which when placed adjacent to one another are adapted to form a venturi exit slot, two nozzle sections which when placed adjacent are adapted to form an entrance passageway within said body sections, end plates for positioning and holding the afore-said parts in the relationship indicated and conduit means associated with the body sections and adapted to supply air to the slot-venturi jet, said jet being adapted to entangle tow filaments prior to deposit upon said receiving means.

3,341,913

DRAWING AND BULKING OF SYNTHETIC POLYMER YARNS

Donald Glyn Jenkins, Aberystwyth, and Anil Chandrakant Parikh, Caerleon, England, assignors to British Nylon Spinners Limited, Pontypool, England
Filed Nov. 18, 1964, Ser. No. 411,996
Claims priority, application Great Britain, Nov. 19, 1963, 45,560/63; June 3, 1964, 22,886/64
6 Claims. (Cl. 28—72)

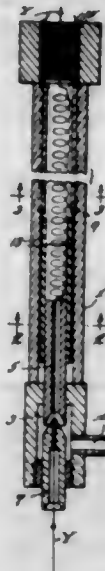


1. A process for drawing and bulking drawable synthetic polymer yarns comprising the steps of
(a) forwarding undrawn yarn of a drawable synthetic polymer material by feed means at a predetermined rate to a drawing zone;
(b) drawing said yarn in said drawing zone by drawing means operating at a drawing rate at least twice that of said predetermined rate;
(c) forwarding said drawn yarn from said drawing means substantially at the drawing rate and at a low degree of mechanical overfeed in the range from 3 percent to 20 percent to a stuffer-box crimper; and
(d) bulking the drawn yarn by said stuffer-box crimper.

3,341,914

PROCESS FOR TREATING FILAMENTARY MATERIAL IN A FLUID

Victor Bruce van Blerk, Cape Town, Cape Province, Republic of South Africa, assignor to British Nylon Spinners Limited, Pontypool, Monmouthshire, England
Original application July 22, 1964, Ser. No. 384,505, now Patent No. 3,303,546, dated Feb. 14, 1967. Divided and this application Nov. 17, 1966, Ser. No. 595,182
1 Claim. (Cl. 28—72)

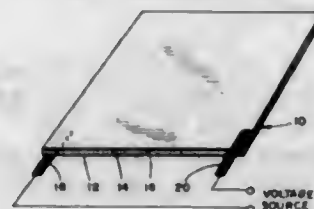


A method of drawing filaments comprising: forwarding undrawn filaments through a conduit and drawing the filaments therein by means of a compressed gas flowing through the conduit at a rate sufficient to draw the filaments, discharging the filaments into an expansion chamber, mechanically guiding the drawn filaments for a portion of the length of the chamber toward the axis of the chamber to form them into a concentrated plug-like mass within the chamber, simultaneously exhausting the compressed gas uniformly radially outwardly of the mass toward the periphery of the chamber, discharging the mass from the chamber, discharging the exhausted air from the chamber independently of the mass, and collecting the discharged mass.

3,341,915

METHOD OF MANUFACTURING ELECTROLUMINESCENT LAMPS

William J. Knochel, West Orange, and Robert W. Wolentzin, Bloomfield, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 19, 1963, Ser. No. 259,540
3 Claims. (Cl. 29—25.11)



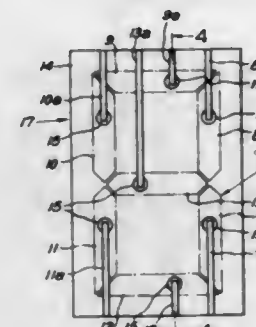
3. The method of making a flexible electroluminescent panel comprising,
deposit-forming a layer of electrically-conductive light-transmitting material in situ on and in direct contact with a rigid temporary support member that has a surface to which the layer of light-transmitting material only loosely adheres,
deposit-forming a layer of admixed electroluminescent phosphor particles and a hardenable plastic dielectric material on said layer of light-transmitting conductive material,

covering said phosphor-dielectric layer with a thin film of metal,
curing said hardenable plastic dielectric so that the respective layers are bonded one to the other, and then
stripping the resulting electroluminescent lamination from said rigid support member.

3,341,916

METHOD OF MANUFACTURING ELECTROLUMINESCENT DISPLAY DEVICES

Lawrence E. Greene, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York
Original application Mar. 27, 1963, Ser. No. 268,319, now Patent No. 3,281,619, dated Oct. 25, 1966. Divided and this application Apr. 20, 1966, Ser. No. 544,018
6 Claims. (Cl. 29—25.11)

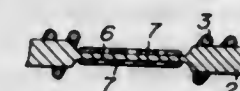


1. The method of making an electroluminescent display panel which comprises forming a self-supporting sheet comprised of an electroluminescent phosphor dispersed in an organic matrix material, applying to one side of said phosphor-containing sheet a segmented back electrode layer comprising an array of discrete electrode sections, applying over the said one side of said phosphor-containing sheet and over the said discrete electrode sections thereon a preformed insulator sheet of a low dielectric constant organic thermoplastic material having apertures overlying respective ones of said electrode sections, applying electrically conductive leads over the said plastic insulator sheet to extend flatwise thereacross from the edge thereof into electrical contact with respective ones of said electrode sections through the said apertures in the insulator sheet, and applying a light-transmitting electrically conductive front electrode layer to the other side of said phosphor-containing sheet.

3,341,917

METHOD OF MANUFACTURING CATHODES FOR ELECTRON TUBES

Shunzo Oyabu and Junzo Masuda, Kyoto, and Hiroyuki Matsumoto, Takatsuki-shi, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed Apr. 22, 1964, Ser. No. 361,799
Claims priority, application Japan, Apr. 30, 1963, 38/22,968
6 Claims. (Cl. 29—25.14)



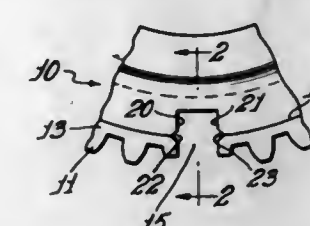
1. A method of manufacturing a cathode element for electron tubes comprising the steps of coiling a heating filament about a unitary mandrel of soluble metal, applying pressure to deform said assembled heating filament and mandrel together into close fitting unitary relation,

providing a coating layer of material on at least one surface of said assembled and flattened filament and mandrel and selectively removing said flattened mandrel by selective dissolution.

3,341,918

BURR REMOVING BROACH AND METHOD OF BROACHING

Clarence H. Mansfield and Chester G. Blighton, Muncie, Ind., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1965, Ser. No. 476,591
5 Claims. (Cl. 29—95.1)

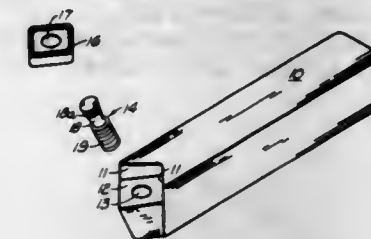


4. A broach for a cylindrically shaped part having an annular outer surface and a counter-bored cup-shaped end thereon forming an annular wall, said wall including an inner annular surface spaced a predetermined distance from said outer annular surface, said broach adapted to cut an axial slot in the outer annular surface of said part, said broach having a series of teeth of increasing height to cut said slot, said broach including means to cut grooves in the sidewalls of said slot at a height corresponding to said predetermined distance whereby said means will remove any burrs formed in a zone defined by the junctures of said slot and said inner annular surface.

3,341,919

TOOL HOLDER ARRANGEMENT

Norman Herbert Lovendahl, Elmwood Park, Ill., assignor to Futurmill, Inc., Farmington, Mich., a corporation of Michigan
Filed Aug. 1, 1963, Ser. No. 299,331
23 Claims. (Cl. 29—96)

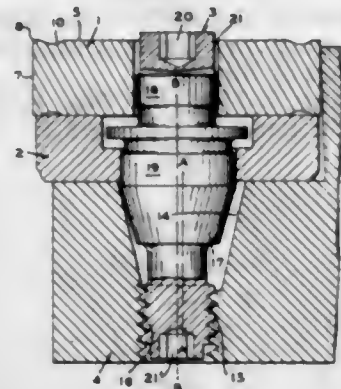


19. A tool holder for use with an insert which comprises a body in the form of a regular polygon having a central cylindrical hole extending there through, said tool holder comprising a shank, a portion of reduced thickness at one end of said shank, said portion of reduced thickness defining a base for receiving an insert, and a pair of side walls at the junction of said base and remainder of said insert, said side walls being inclined at an angle equal to the angle between adjacent sides of an insert, a screw-threaded bore extending into said base, a screw-threaded pin engaged in said bore and having an extension of truncated conical form extending from said bore into said cylindrical hole in said insert, the axis of said bore extending at an acute angle to the axis of said hole in said insert, said truncated-conical extension making line contact with the hole in said insert, and axial movement of said pin clamping said insert against said side walls.

3,341,920

CUTTING TOOL

Walter H. Kelm, Mount Clemens, Mich., assignor to General Electric Company, a corporation of New York
Filed Feb. 16, 1965, Ser. No. 433,117
10 Claims. (Cl. 29-96)

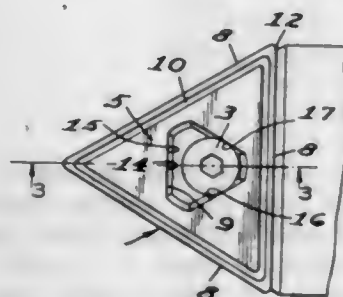


1. In a cutting tool,
 - a disposable cutting insert having an axial hole therein,
 - a cutter body having a recess therein to provide a base and at least one supporting shoulder for the insert, the cutter body having a hole therein extending generally transverse to the base of the recess and adapted for alignment with the axial hole in the insert, the axis of the portion of said hole adjacent the base of the recess being offset from the axis of the remainder of the hole in a direction toward the shoulder of the recess.
 - a retention pin fitting within the hole in the cutter body with an end thereof projecting into the hole in the insert, said pin forming an interfering contact with the offset portion of the hole in the cutter body, the insert being releasably held in the recess of the cutter body by movement of the retention pin toward the shoulder.

3,341,921

CUTTING INSERT

Elbert J. Weller, Detroit, and Walter H. Kelm, Mount Clemens, Mich., assignors to General Electric Company, a corporation of New York
Filed Jan. 10, 1966, Ser. No. 519,728
12 Claims. (Cl. 29-96)



8. A cutting tool comprising
 - a disposable cutting insert, said cutting insert having an axial hole therein providing at least one pocket adapted to receive a pin for locking the insert in the cutting tool, said pocket containing two opposite facing spaced-apart axial surfaces,
 - a cutter body having a recess therein containing at least one supporting shoulder for the insert, cutter body having a hole therein extending into the cutter body from the recess,

a locking pin circular in cross-section fitting within the hole in the cutter body with an end thereof projecting into the hole in the insert, said pin being adjustable in the direction of the shoulder against the two spaced-apart axial surfaces of the pocket in the hole of the insert to lock the insert in place against the shoulder of the cutter body, said pin and insert in locked position contacting each other at two separate spaced-apart portions thereof.

3,341,922

DETACHABLE CLAMPING ARRANGEMENT FOR A REVERSIBLE CUTTING BIT

Manfred Wallace Gustafson, Fagersta, Sweden, assignor to Fagersta Bruks Aktiebolag, Fagersta, Sweden
Filed Feb. 17, 1966, Ser. No. 528,149
Claims priority, application Sweden, Feb. 19, 1965, 2,205/65
8 Claims. (Cl. 29-96)

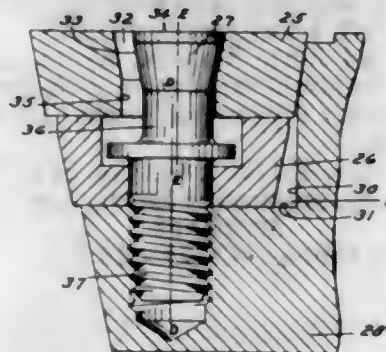


1. A holder for detachably mounting a bit having a cutting face and at least two angularly related side faces, comprising a holder member having a recess adjacent one end thereof for receiving said bit, said recess having a bottom and two angularly related sides complementary to the angularly related side faces of said bit, a threaded hole in said holder member adjacent to one of said recess sides inclined relative to the adjacent side and bottom of said recess, and a bolt having a shank threaded into said hole and a head with an edge portion overlying said recess, the inclination of said threaded hole and said bolt and the direction of the threads being related to urge said side faces of said bit against said sides of said recess when said bolt is screwed into said hole.

3,341,923

CUTTING TOOL

Walter H. Kelm, Mount Clemens, Mich., assignor to General Electric Company, a corporation of New York
Filed Sept. 9, 1966, Ser. No. 578,174
2 Claims. (Cl. 29-96)



1. A cutting tool comprising
 - a disposable cutting insert having upper and lower parallel faces, peripheral surfaces between said faces meeting with said upper face at an acute angle to form a plurality of cutting edges and a central axial hole between said parallel faces, said axial hole being tapered inwardly from said upper face, said insert being indexable to utilize each of said cutting edges,

a cutting tool body having a recess therein to provide a base and a shoulder for support of a face and a portion of the peripheral surface of the insert, said shoulder being tapered complementary to the peripheral surface of the insert,

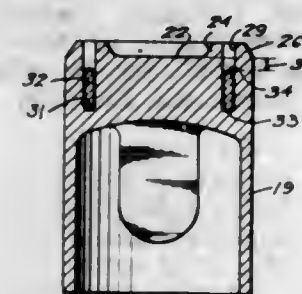
a retention pin adjustably secured at one end thereof in the cutting tool body, the other end of said pin projecting into the hole in the insert, said projecting end being symmetrical about its central axis and being tapered so as to form a complementary taper with the hole in the insert, the largest diameter of the projecting end of said pin being less than the smallest diameter of the tapered hole in the insert, the projecting end of said pin being adjustable toward the shoulder of the recess in the cutting tool body,

said retention pin adapted upon such adjustment to lock said insert in the recess of the cutting tool body.

3,341,924

METHOD OF MAKING A FORGED PISTON WITH AN OIL GALLERY

Harry E. Clary and Thomas C. Richmond, Chesterland, Ohio, assignors to TRW Inc., a corporation of Ohio
Filed Dec. 2, 1963, Ser. No. 327,336
18 Claims. (Cl. 29-156.5)



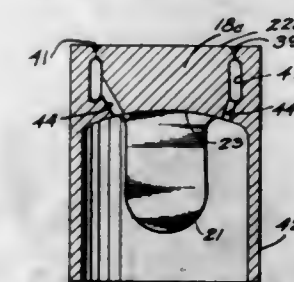
1. A method of manufacturing an internal combustion engine piston comprising:
 - forming an aluminum alloy piston slug consisting of by weight 10.5-11.5 silicon, 0.5-0.9 percent magnesium, 1.5-2.0 percent copper, 0.4-0.9 percent manganese, no greater than 0.7 percent iron, no greater than 0.4 percent zinc, and the remainder being aluminum, forming a preform with said slug having a greater volume of stock near the outer diameter of the portion that forms a piston head,
 - forging the preform and forming a forged piston blank having a piston head portion with a frusto-conical ridge axially outwardly extending from the top wall of said piston head around the periphery thereof and an annular axial blank groove concentric with and extending axially inwardly from the end of the ridge and a predetermined distance into the piston head and having a closed groove end, sizing said frusto-conical ridge to have a volume substantially equal to the volume necessary to close said annular groove and provide a substantially flat piston head top wall and an oil gallery cavity in the piston head, sizing a tubular form ring to have a volume equal to the volume of the oil gallery and a thickness equal to the thickness of the annular groove,
 - said form ring being a zinc alloy having a melting temperature of 700-900° F. and having a refractory mold wash coating thereon, comprising silica flour with a sodium silicate binder,
 - heating said forged piston blank to temperatures of 750-950° F.,
 - in a maximum of two minutes

inserting the tubular form ring in the annular groove, and upsetting the forged piston ridge to close the annular groove to provide a substantially flat piston head top wall with an annular weld V-groove therein concentric with the form ring and maintaining constant piston head and form ring volumes,

drilling a plurality of circular holes through the bottom wall of the piston head to communicate with the form ring,

solution treating the piston for two to four hours at temperatures of 940-1000° F.,

water quenching the solution treated piston,



precipitation hardening the water quenched piston for six to twenty hours at temperatures of 300-450° F., immersing the entire hardened piston in a 50 percent solution of nitric acid for one to two minutes and thereby dissolve and drain the form ring from the piston head through the drilled holes to form the oil gallery in the piston head, and

closing the piston head weld V-grooves with a weld bead alloy having the same rate of thermoexpansion as the piston head alloy and applying said weld bead alloy in an inert argon atmosphere.

3,341,925

METHOD OF MAKING SHEET METAL HEAT EXCHANGERS WITH AIR CENTERS

George W. Gerstung, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 26, 1963, Ser. No. 290,738
4 Claims. (Cl. 29-157.3)



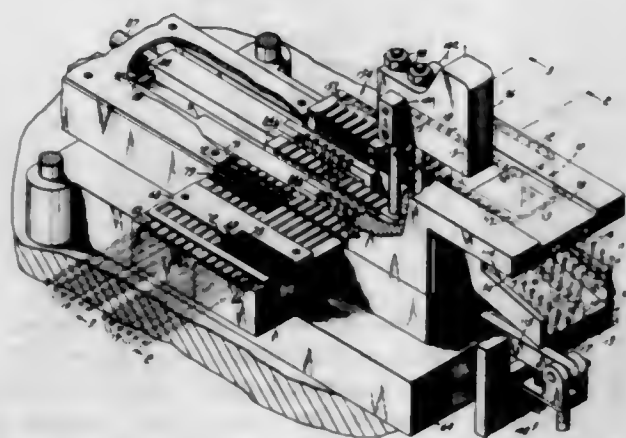
1. A method of making a heat exchanger having opposite sides for admitting and discharging a first fluid such as air, said method comprising forming wide portions alternating with narrow strips along a length of sheet metal, the said forming including holding peripheral margins of alternate pairs of said wide portions in the flat and pressing the metal enclosed by said margins of said alternate pairs into ridges protruding from one side of said sheet and into ridges also on said one side and extending entirely across the other pairs of said wide portions, forming openings defined by peripheral flanges in each of said wide portions, folding and compressing said sheet with fold lines within said narrow strips into zigzag formation with the ridges and peripheral flange of each wide portion of an alternate pair into facing relation with the ridges

and peripheral flange of the adjacent wide portion of said alternate pair, securing the peripheral flanges of each pair of alternate wide portions together, and said method including the removal of sheet metal from each of said narrow strips connecting the wide portions of an alternate pair to an adjacent wide portion to open the grooves formed by corresponding ridges.

3,341,926

TERMINAL ASSEMBLY APPARATUS

Helmut E. Durr, Summit, Frank Wahl, North Bergen, and Roger R. Wahlberg, Bloomfield, N.J., assignors to Western Electric Company Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 2, 1964, Ser. No. 393,910
6 Claims. (Cl. 29—203)



1. An apparatus for forming terminals with parallel legs and inserting the legs into apertures arranged in rows at opposite sides of an insulating member such as a terminal head comprising:

- a plurality of wire supply reels,
- means for intermittently feeding wires from the supply reels,
- means for severing a predetermined length from the wires fed by the intermittent feeding means,
- a pair of movable die means, each die means receiving a group of the predetermined lengths of wire and including a row of forming recesses,
- means cooperating with the die means for forming the severed lengths of wires in the recesses such that terminals are provided having parallel legs protruding above the recesses,
- means for receiving a terminal head,
- means for transferring each die means a different distance to positions at opposite sides of the terminal head such that the legs of the terminals are in alignment with rows of apertures in the terminal head, and
- means for causing relative movement of the terminal head receiving means and both die means to insert the terminal legs into the apertures at opposite sides of the terminal head.

3,341,927

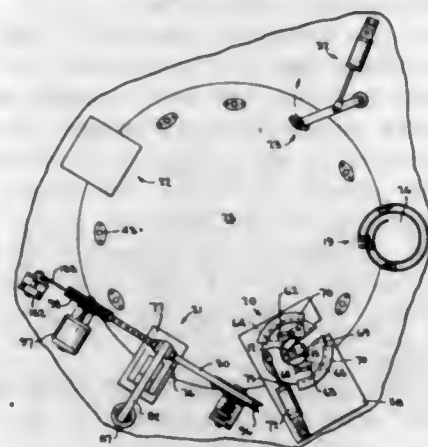
APPARATUS FOR ASSEMBLING ARTICLES ON PROJECTING MEMBERS

William G. Grainger, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 21, 1965, Ser. No. 465,433
7 Claims. (Cl. 29—203)

1. An apparatus for assembling an article onto a post comprising:

- a vacuum source;
- a member having a passageway communicating with said vacuum source for holding said article thereon;

said passageway having a portion with a cross section large enough to allow insertion of said post therein and small enough to restrict air flow through said passageway when said post is inserted therein; and



means for moving said member relative to said post to pass said post through said article and into said passageway to interrupt said vacuum to release and assemble said article onto said post.

3,341,928

APPARATUS FOR TESTING, SORTING AND ASSEMBLING ARTICLES

Harry K. Naumann, Wernersville, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 3, 1965, Ser. No. 476,834
18 Claims. (Cl. 29—203)



1. Apparatus for testing a series of articles, sorting them into groups in accordance with the test results, and then assembling together one article from each group, which comprises:

- means for supplying successive articles to a work position;
- means for elevating an article at the work position to separate that article from the supply and, after a pause, for releasing that article;
- transporting means, vertically aligned with the elevating means, for receiving the article from the elevating means and for releasing the article, the article being sandwiched between the elevating means and the transporting means during the pause;
- means, operable during the pause, for testing the article to determine in which of the groups it belongs;
- means for moving the transporting means to a selected one of at least two receiving locations in accordance with the results of the test, the transporting means releasing the article at the selected receiving location to sort the articles into groups; and
- means for removing one article from each group and assembling the articles together.

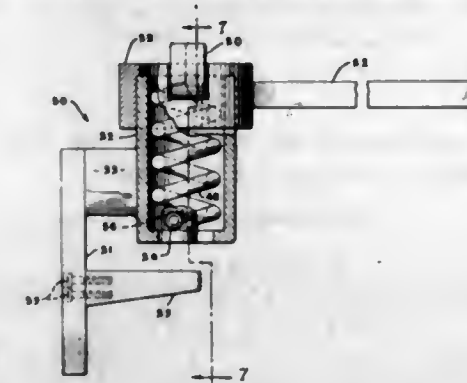
3,341,929

FORAGE HARVESTER

Bruce D. Schwalm, Leola, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Original application Aug. 10, 1965, Ser. No. 478,549, now Patent No. 3,268,268, dated Aug. 23, 1966. Divided and this application Apr. 29, 1966, Ser. No. 552,667
1 Claim. (Cl. 29—227)

A fixture for assembling a helical spring on a circular shaft having a helical groove on its outer periphery and

the minor diameter of said groove being greater than the internal diameter of said spring in an unexpanded condition and comprising a vertically extending support having first and second spaced horizontally extending arms thereon, a vertically extending hollow cylinder on said first arm, said cylinder having a lower end spaced above said second arm, a rotatably mounted cylindrical element on the upper end of said cylinder and concentric thereto, a radially inwardly extending finger on said element for

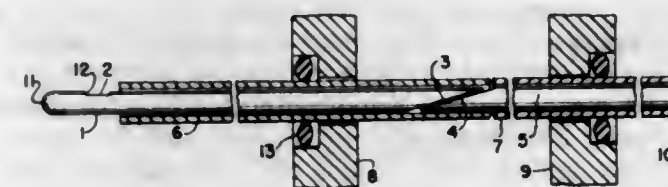


engagement with one end of said spring, a radially outwardly extending handle on said element for turning said element, an abutment and a set screw on said cylinder and adjacent said cylinder lower end for fixedly holding the other end of said spring, and when said spring is fixed in said cylinder and a torsional load is applied to said spring one end by said cylindrical element the internal diameter of said spring is increased sufficiently to permit said shaft to be easily screwed into said spring.

3,341,930

METHOD AND TOOL FOR EXTRACTING AND INSERTING HEAT EXCHANGER TUBES

Celestin Victor Belanger, Beaumont, Tex., assignor to Henry W. Allen, trustee, Beaumont, Tex.
Filed Mar. 24, 1964, Ser. No. 354,333
5 Claims. (Cl. 29—401)



1. Means for simultaneously extracting an old heat exchanger tube from its position within the openings in spaced tube sheets and replacing it with a new tube, said means comprising a mandrel device consisting of a pair of interengageable mandrel rods, each of said rods being of somewhat greater length than that of one of the tubes and of an outside diameter but slightly smaller than the inside diameter of the tubes, no part of either rod being of greater diameter than the inside diameter of said tubes, one of said rods adapted to be inserted within the old tube with one of its ends protruding from the old tube in the direction of withdrawal of the tube, and its other end at the opposite end of the old tube provided with a longitudinally extending bevelled surface; the other of said rods adapted to be inserted within the new tube with one of its ends protruding from the new tube in the direction opposite to the replacing movement of the new tube, the other end of the second named rod at the opposite end of the new tube being provided with a longitudinal bevelled surface complementary to the bevelled surface of the first named rod and interfitted therewith when the old and new tubes are brought into end-abutting relationship; the wedging interfit of the bevelled ends of the rods serving to effect internal gripping of the tubes for longitudinal forced movement thereof and at the same time to buttress the walls of both tubes to prevent distortion of the tube walls

as they are forced simultaneously through the openings in the tube sheets, a protruding end of said second named rod being provided with a shoulder depressed within its periphery which is adapted to be impacted in the opposite direction to the movement of the tubes in order to break the wedging interlock of the bevelled rod ends, as when the new tube is ultimately in place.

4. The method of simultaneously removing an old heat exchanger tube from its tube sheets and inserting a new tube in its place, which comprises end-abutting the two tubes; inserting an expansion mandrel through the aligned tubes; expanding the mandrel in the vicinity of the abutting tube ends, only to the point of obtaining wedging interlocking of the tubes and expansion mandrel and the reinforcement of the tube walls against distortion; and then applying force to the resulting assembly of tubes and expansion mandrel in the direction longitudinally of the tubes to slidably remove the old tube and bring the new one into position.

3,341,931

BRAKE SHOES

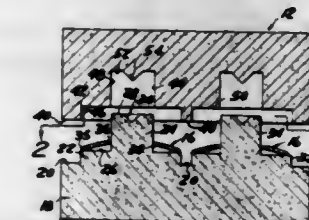
Herbert L. Libbin, New Shrewsbury, and Roswell S. Frichette, Jr., Ramsey, N.J., and Howard B. Huntress, Suffern, N.Y., assignors to Abex Corporation, a corporation of Delaware
Continuation of application Ser. No. 313,799, Oct. 4, 1963. This application Nov. 10, 1965, Ser. No. 507,229
5 Claims. (Cl. 29—420.5)

1. A method of producing a railroad brake shoe having a body presenting an effective wear portion of compacted and sintered particles consisting essentially of from about 60 to about 75 percent by weight iron powder, from about 10 to about 25 percent by weight graphite powder and up to about 20 percent by weight of powdered friction and augmenting agents, said portion of the shoe having a mean coefficient of friction of at least 0.30 and a wear rate of less than 3.85 cubic inches per 100,000 foot pounds of absorbent energy as determined under A.A.R. dynamometer test procedures, comprising: heating the body of compacted and sintered particles to at least 1700° F. and subjecting the heated body to a pressure of about 3000 pounds per square inch applied through a plurality of pressure-no pressure cycles for a time not exceeding 1.5 minutes while the body is confined within a die.

3,341,932

METHOD OF MECHANICALLY-UNITING SINTERED POWDERED METAL PARTS

John Haller, Northville, Mich., assignor, by mesne assignments, to Federal Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Filed Apr. 16, 1964, Ser. No. 360,376
7 Claims. (Cl. 29—432)



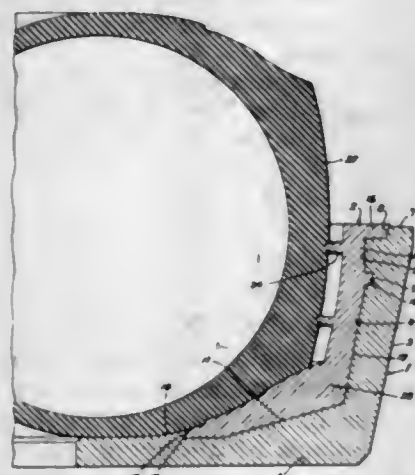
1. A method of substantially inseparably coupling two component parts of sintered powdered material to one another to form a composite workpiece, said process comprising

forming the component parts with mating junction walls and with laterally spaced coupling walls disposed approximately perpendicular to said junction walls, placing in the space between said coupling walls a laterally-deformable annular coupling member of a size substantially filling said space and with substantially sharp outer and inner peripheral edges, and moving said parts toward one another until said junction walls come substantially into engagement with one another while deforming said coupling member therebetween and moving said sharp outer and inner peripheral edges laterally into penetrating interlocking engagement with both of said coupling walls.

3,341,933

METHOD OF MAKING A MATRIX FOR MOLDS
Bruce McPhaden, Alamo, Calif. (739 Allston Way, Berkeley, Calif. 94710), and James R. Maddox, Oakland, Calif., assignors, by mesne assignments, to said Bruce McPhaden

Filed Oct. 4, 1962, Ser. No. 228,347
4 Claims. (Cl. 29—447)



1. The method of making a matrix for molds comprising
 - (a) forming a band and design bearing matrix insert with interfitting respective inner and outer peripheral contours including interfitting projections and recesses in said peripheries, said matrix and said band being made of materials having substantially the same coefficient of expansion
 - (b) expanding the band by application of heat to a size to accommodate said projections for insertion of the insert into the band
 - (c) inserting said matrix into the expanded band and loosely registering the respective projections and recesses, and
 - (d) shrinking the band over said inserted matrix by cooling so as to interlock said interfitting contoured peripheries.

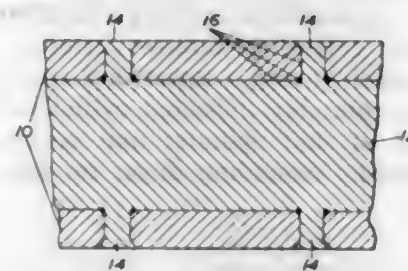
3,341,934
RIVETING

Alan Frank Hall, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Nov. 30, 1964, Ser. No. 414,563
Claims priority, application Great Britain, Dec. 4, 1963, 47,941/63

8 Claims. (Cl. 29—458)

1. A method of riveting whereby the riveted joint is sealed which comprises applying to a metal rivet a quantity of a viscous liquid curable resin, in excess of that required to fill the space between the rivet and the interior surface of the hole which is to receive the rivet,

mating the rivet with the hole, whereby the excess resin is squeezed out of the hole and forms a protective seal



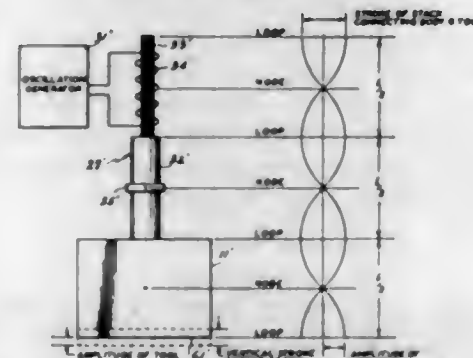
around the junction of the rivet with the hole, closing the rivet and thereafter curing the resin.

3,341,935

ENERGY STORAGE IN HIGH FREQUENCY VIBRATORY DEVICES

Lewis Balamuth, New York, N.Y., assignor to Cavitron Ultrasonics Inc., Long Island City, N.Y., a corporation of New York

Filed Apr. 23, 1964, Ser. No. 362,019
13 Claims. (Cl. 29—470)



1. In a device for intermittently applying vibratory energy to a work object, the combination of:
 - (A) continuously operated, electrically energized generating means producing mechanical vibrations at a frequency of at least 400 cycles per second;
 - (B) means defining a tool output surface for intermittent, energy transferring contact with the work object during work periods of finite duration with intervals therebetween when said surface is out of contact with the work object; and
 - (C) transmission means continuously transmitting said vibrations from said generating means to said tool output surface,
 - (1) said transmission means having an energy storage capacity at least twenty times as large as the energy storage capacity of said generating means, and at least five times as large as the quantity of vibratory energy transferred to the work object during each work period.
13. In the method of intermittently applying to a work object vibratory energy produced by an electrically energized generator of mechanical vibrations at a frequency of at least 400 cycles per second,

the improvement comprising transmitting said vibrations from said generator through relatively massive transmission means to an output surface which is intermittently disposed in vibratory energy transferring relation with the work object for predetermined work periods during each of which said work object receives a quantity of vibratory energy at a rate greater than that at which vibratory energy is supplied by said generator, said transmission means having an elastic energy storage capacity which is at least twenty times as large as the energy storage capacity of said generator and at least five times as

large as said quantity of vibratory energy received by the work object during each work period, and operating said generator continuously to supply said vibratory energy at a rate in excess of that required to sustain vibrations of said transmission means and output surface at said frequency during the intervals between said work periods so that vibratory energy is stored in said transmission means during each of said intervals, the duration of each of said intervals being sufficient to permit substantial replenishment in said transmission means of the stored vibratory energy drawn therefrom during a prior work period.

3,341,936

METHOD OF PRODUCING ELECTRODES

Gerd Sanstede, Alfons Köhling, Helmar Krupp, Helmut Rabenhorst, Kurt Richter, and Gerhard Walter, Frankfurt am Main, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,618
Claims priority, application Germany, Sept. 7, 1962, B 68,756

16 Claims. (Cl. 29—529)

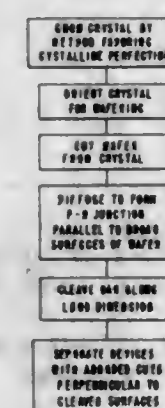
1. A method of producing a porous electrode for electrochemical processes, such as an electrode for an electrochemical fuel cell, comprising the steps of providing an electrically conductive, porous electrode body of a porosity of between about 50% to about 70%; at least partially filling the pores of said porous electrically conductive electrode body with an alloy comprising a nobler and a less noble metal, said nobler metal being adapted to act in finely subdivided form as a catalyst in an electrode for a fuel cell and the like; and dissolving the less noble metal of said alloy so as to retain in said pores of said electrode body only said nobler metal in the form of a finely subdivided catalytically active layer.

3,341,937

CRYSTALLINE INJECTION LASER DEVICE MANUFACTURE

Frederick H. Dill, Jr., Putnam Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 20, 1963, Ser. No. 260,020
5 Claims. (Cl. 29—583)



1. A method of making accurately reproducible electro-optical device crystalline bodies comprising the steps of: providing a crystal wafer having the distance between the broad surfaces thereof defining one device dimension, said broad surfaces being essentially perpendicular to a crystallographic plane of the particular crystal material of said wafer that requires less force for separation than other crystallographic planes of said particular crystallographic material;

forming by two parallel "cleaving" operations a bar out of said wafer; the width dimension of said bar defining a second dimension of the ultimate device; and, dividing said bar into individual devices by severing perpendicular to the "cleaved" sides of said bar.

3,341,938

METHOD OF PRODUCING SELENIUM MIDGET RECTIFIERS

Georg Hoppe, Berlin, and Rainer Dangschat, Munich, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Jan. 27, 1965, Ser. No. 428,395
Claims priority, application Germany, May 6, 1964, S 90,946

1 Claim. (Cl. 29—588)



Method of producing selenium midget rectifiers having pellet-shaped rectifier elements and electrodes on opposite sides of the pellet, which comprises fastening respective connector leads to the external surfaces of the two electrodes by resistance shunt welding, immersing the pellet and the welded junctions in an adherent mixture of epoxide-resin varnish with an admixture of thixotropic material, removing the coated assembly from said mixture, and hardening the resulting envelope to thereby embed the pellet and the welded ends of the leads in the solidified mixture.

3,341,939

METHOD OF BONDING LAMINATED ELECTROMAGNETIC CORES

Albert E. Feinberg and Eugene Czernobill, Chicago, Ill., assignors to Advance Transformer Co., Chicago, Ill., a corporation of Illinois

Original application June 29, 1961, Ser. No. 120,656, now Patent No. 3,222,626, dated Dec. 7, 1965. Divided and this application Aug. 19, 1965, Ser. No. 493,297

7 Claims. (Cl. 29—606)



1. In a method of manufacturing cores for mounting electromagnetic coils thereon to form electromagnetic devices wherein said cores include outer winding legs and a center winding leg, each formed of a stack of a predetermined number of individual lamination parts of size

and configuration to form said legs and in which the method includes the steps of assembling the individual parts into stacks to form the outer winding legs and a central winding leg and assembling said so-formed winding legs with the electromagnetic coils mounted thereon to form said core construction by placing end portions of said outer winding legs abutting adjacent end portions of said central winding leg; the invention comprising the steps of applying an exterior coating of a polymerizable resinous composition at a first viscosity stage of low flowability to the abutting portions of said winding legs prior to their assembly to form said core construction, placing disposable binder means over the ends of said assembled winding legs and spaced from said ends, and thereafter, with the disposable binder means so placed, curing said resinous composition to an intermediate viscosity stage of high flowability to introduce, as by capillary action, between juxtaposed individual lamination parts and thereafter completing the cure of said resinous composition to a cured viscosity stage of zero flowability whereby said laminations are permanently bonded.

3,341,940

METHOD OF MAKING A PERMANENT MAGNET
Frits Tomholt and Willem Elze Witteveen, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 28, 1963, Ser. No. 268,782
Claims priority, application Netherlands, Mar. 29, 1962, 276,592

4 Claims. (Cl. 29-608)



1. A method of manufacturing a magnetically anisotropic body comprising the steps, disintegrating a finely-divided magnetic material in a closed receptacle, whirling said material in said receptacle to form a dust cloud of said material, separating particles of said material in said dust cloud with a magnetic field which forms magnetically anisotropic conglomerates of said particles, removing said conglomerates from said receptacle, compressing the magnetically anisotropic conglomerates of said particles in the presence of a magnetic field into a body, and sintering said body to form the same into a highly coherent body.

3,341,941

METHOD OF ASSEMBLING AND FORMING TRANSFORMER CORES WITH THE USE OF AN ASSEMBLY BOX

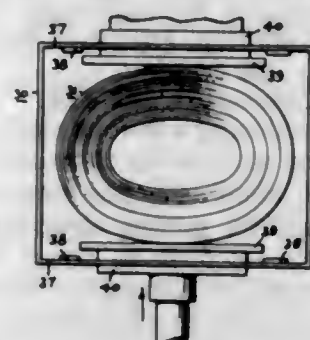
Willy Olsen, Lynchburg, Va., assignor to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware

Filed Oct. 24, 1963, Ser. No. 318,726

2 Claims. (Cl. 29-609)

1. The method of forming a substantially rectangular transformer core having a substantially rectangular window from a plurality of internestable circular wound transformer core sections each having a circular central window and being built up of layers of magnetic core strip material, comprising the steps of, at an assembly station laterally compressing the core section of largest diameter from diametrically opposite sides so that it

becomes ovoid in shape and then placing the compressed core section with its shorter lateral dimension between a pair of rigid forming plates which are maintained by spacing means in parallel spaced relation to one another at a separation equal to the aforesaid shorter lateral dimension of said core section said forming plates having free upper and lower edges, internesting within the largest diameter core section the core sections of successively smaller diameter by also laterally compressing each such section in turn and slipping it into the section of next larger size until the complete unformed core is built up between the said pair of rigid forming plates, transferring the unformed core assembly to a forming station, subjecting the said forming plates to a pair of colinear forces directed toward one another to render the core more ovoid in shape and releasing said plates from said spacing means; removing said spacing means from the vicinity of said core and released plates and placing a forming mandrel having at least one pair of spaced apart parallel sides within the window of the core so that the parallel



sides of the mandrel are disposed parallel to and between the said pair of rigid parallel forming plates, moving said pair of forming plates toward one another to form the ovoid core into a flattened oval with the core material clamped tightly between the parallel sides of the mandrel and the parallel forming plates, exerting a pair of colinear oppositely directed inward forces upon the curved ends of the flattened oval core along a line perpendicular to the line of action of the aforesaid pair of forces by means of another pair of rigid parallel forming plates having planar surfaces perpendicular to the parallel sides of the mandrel to thereby form the flattened oval core into a rectangular core, securing the free upper edges of the forming plates in position by placing a rigid frame downward thereover, withdrawing the colinear forces and turning the core and forming plate assembly top-for-bottom so that the free lower edges become the upper edges and reapplying the colinear forces, securing the free upper edges of the forming plates by placing a rigid frame downward thereover and then withdrawing the colinear forces.

3,341,942

METHOD OF MAKING A STABLE ELECTRICALLY-CONDUCTIVE SHEET AND PRODUCT THEREOF

Thomas J. Fitzpatrick, Libertyville, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Delaware

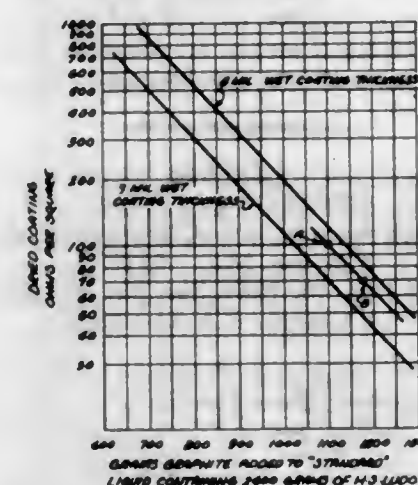
Filed Dec. 24, 1964, Ser. No. 420,907

9 Claims. (Cl. 29-610)

1. A resistively-stable, electrically-conductive sheet suitable for radiant-heating elements comprising a non-conductive, dimensionally-stable web supporting a conductive film, said film being prepared by the method which comprises:

(a) providing a gel-free aqueous mixture comprising an alkali-stabilized colloidal silica sol, electrolytic-grade graphite particles, a wetting agent for said graphite particles, and sufficient pH modifier to prevent gelation of the resulting mixture during the processing steps hereinafter set forth;

- (b) subjecting said mixture to extended mechanical working including shear stresses so as to break up agglomerates formed by the ingredients of said aqueous mixture without substantial pulverization of said graphite particles and to substantially-completely disperse said graphite particles uniformly throughout said colloidal silica sol and coat the graphite particles individually and discretely with said colloidal silica sol, whereby a substantially homogenized dispersion results;
 - (c) applying the resulting dispersion uniformly to said nonconductive, dimensionally-stable supporting web so as to form a coating of substantially-uniform thickness;
 - (d) drying the coating at elevated temperature; and
 - (e) substantially immediately heat stabilizing the coating by raising the temperature thereof to the range of about 250° F. to 375° F. for a period of about five seconds to five minutes.
2. A process for producing a resistively-stable, electrically-conductive sheet comprising the steps of:



- (a) providing a gel-free aqueous mixture comprising an alkali-stabilized colloidal silica sol, electrolytic-grade graphite particles, a wetting agent for said graphite particles, and sufficient pH modifier to prevent gelation of the resulting mixture during the processing steps hereinafter set forth;
- (b) subjecting said mixture to extended mechanical agitation including shear stresses so as to break up agglomerates formed by the ingredients of said aqueous mixture without substantial pulverization of said graphite particles and to substantially-completely disperse said graphite particles uniformly throughout said colloidal silica sol and coat the graphite particles individually and discretely with said colloidal silica sol, whereby a substantially homogenized dispersion results;
- (c) applying the resulting dispersion uniformly to a nonconductive, dimensionally-stable supporting web so as to form a coating of substantially-uniform thickness;
- (d) drying the coating at elevated temperature; and
- (e) substantially immediately heat stabilizing the coating by raising the temperature thereof to the range of about 250° F. to 375° F. for a period of about five seconds to five minutes.

3,341,943

METHOD OF MAKING ELECTRICAL CONTACT ELEMENTS

Childress B. Gwyn, Jr., Export, Pa., assignor, by mesne assignments, to Talon, Inc., a corporation of Pennsylvania

Filed Oct. 31, 1962, Ser. No. 234,479

3 Claims. (Cl. 29-630)

1. A method of making projection welding electrical make-and-brake contact elements comprising:

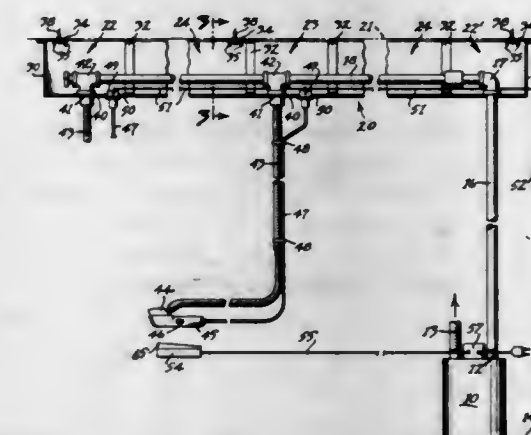
- (a) aligning a pair of rivet shaped metallic contact components, one of said components including a tubular body having a generally cylindrical recess extending through the major shank portion thereof and the other of said components including a solid cylindrical body adapted to be received within said recess and including shoulder portions defining a depression extending through a major portion of the cylindrical body,
- (b) disposing an apertured disc-shaped metallic member annularly of and closely spaced from said tubular body,



- (c) axially inserting said cylindrical body into said recess and axially pressing said components together within a fixture permitting relative component movement therein and driving said shoulder portions of said cylindrical body outwardly to distort and indent the walls of said tubular body adjacent said recess to mechanically interlock said components while simultaneously deforming the disc-shaped metallic member with the outwardly distorting tubular walls to mechanically interlock the components to said disc-shaped member.

3,341,944

BARBER VACUUM SYSTEM
D. Elmon Ligon, Springfield, Tenn., assignor to Nasco, Inc., Springfield, Tenn., a corporation of Tennessee
Filed Apr. 29, 1965, Ser. No. 451,757
3 Claims. (Cl. 30-133)



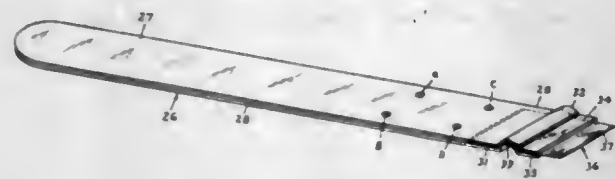
1. A barber vacuum system comprising:
 - (a) a vacuum-producing unit including an electrical motor for driving the unit, and having an intake,
 - (b) barber shears remoted from said unit,
 - (c) a suction head attached to said shears,
 - (d) a flexible hose connecting said intake and said suction head in fluid communication,
 - (e) a treadle switch for receiving said shears,
 - (f) an electrical circuit connecting said treadle switch and said motor, whereby said switch opens said circuit when receiving said shears and closes said circuit when said shears are removed from said switch.

3,341,945

SPINNERETTE CLEANING DEVICE

Robert E. Chase, Chester, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,473
2 Claims. (Cl. 30—169)



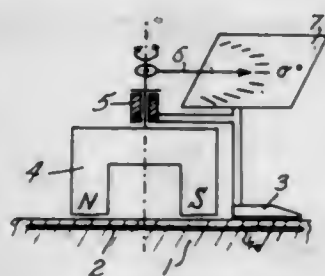
1. A device for removing polymeric residue from a spinnerette face comprising in combination:
 - a blade having a forward edge and a back edge and a curved portion extending parallel to and equidistant from the forward edge and back edge, said blade consisting of a material having a hardness index less than the hardness index of the spinnerette; and
 - a handle comprising two complementary-shaped planar plates in laminar configuration, said plates having a curved portion extending transverse to the axis of said handle and adapted to receive the curved portion of said blade therebetween, said plates extending beyond the axis of the curved portion of said plates to a distance which is less than half the distance between the forward edge and back edge of said blade and being separated thereat a distance sufficient to compressively engage said blade.

3,341,946

DRAWING APPARATUS

Gottlieb Bullinger, Munich, Germany, assignor to Clemens Riefler, Nesselwang, Germany

Filed Oct. 30, 1964, Ser. No. 407,627
Claims priority, application Germany, Nov. 8, 1963, B 74,192
6 Claims. (Cl. 33—76)



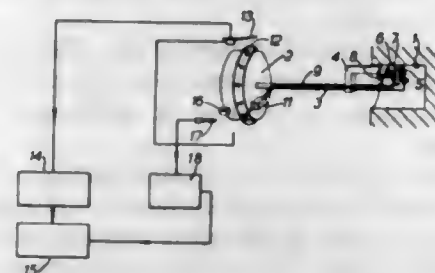
1. A drafting arrangement comprising, in combination, a drawing board consisting of insulating material; at least one set of parallel narrow elongated magnetizable metallic members embedded in said drawing board of insulating material and extending parallel to the surface thereof and spaced from each other; support means adapted to be placed on said drawing board above said embedded magnetizable narrow elongated metallic members; magnetic means supported by said support means turnably about an axis extending normal to the surface of said drawing board with the poles of said magnetic means located at a small distance from said surface so that said magnetic means interact with said narrow elongated metallic members and is caused to turn into alignment with the same; and a drawing implement mounted on one of said means.

3,341,947

APPARATUS FOR MEASURING DIAMETERS

Walter Pascoe Berryman, Bedford, England, assignor to George Richards & Company Limited, Altrincham, England, a company of Great Britain

Filed Mar. 31, 1965, Ser. No. 444,297
Claims priority, application Great Britain, Apr. 1, 1964, 13,459/64; July 3, 1964, 27,586/64
8 Claims. (Cl. 33—141.5)



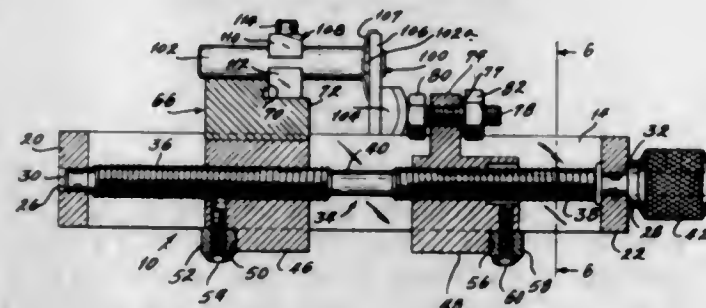
1. A machine tool for machining a bore and apparatus for measuring the diameter of the bore during machining comprising a wheel carried on a tool bar for running around the circumference of the cylindrical surface of the bore, and electrical means arranged to sense the number of revolutions and part revolutions of the wheel.

3,341,948

SETTING FIXTURE

Joseph Sunnen, 400 S. Warson Road, Clayton, Mo. 63105

Filed Dec. 10, 1964, Ser. No. 417,425
11 Claims. (Cl. 33—185)



1. Means for adjusting the wear elements on honing and like devices comprising a fixture having a pair of spaced gage members for engaging a surface to be honed, means for adjusting the spacing between said gage members so that they engage opposite sides of a cylindrical surface to be honed, means associated with one of said gage members forming a first abutment, means on the fixture forming a second abutment spaced from the first abutment, means for positioning a wear element to be adjusted on said fixture, said wear element having relatively movable portions engageable respectively with said first and second abutments, the distance between said first and second abutments being calibrated with the spacing of the gage members to provide accurate adjustment of the wear element for every setting of the gage members.

3,341,949

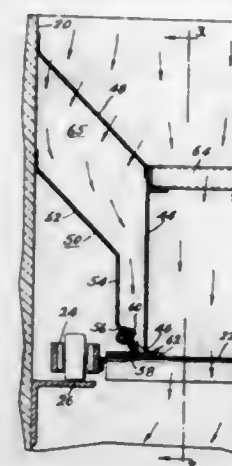
DRYER SEALS

George Donald Flaith, Wyndmoor, and Charles E. Hoffman, Hatboro, Pa., assignors to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 8, 1965, Ser. No. 446,593
17 Claims. (Cl. 34—218)

8. In a conveyor dryer including a housing defining a drying chamber, a foraminous conveyor run horizontally disposed within said drying chamber, and means for directing a flow of drying air through the foraminous conveyor run for drying material carried thereon, the improvement comprising a seal along an edge of the conveyor run for preventing escape of material therealong,

said seal comprising a vertical inner guard element secured to the housing and extending parallel to an edge of the conveyor run, an outer guard element secured to the housing and spaced outwardly from said inner guard element, a flat horizontal sealing plate on the conveyor run in opposed relation to said inner and outer guard elements, said sealing plate extending inwardly beyond the plane of said inner guard element, each of said guard elements terminating in a lower edge spaced above said



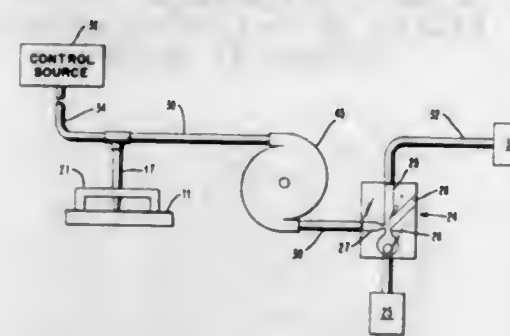
sealing plate, a flexible seal strip extending along the lower edge of said outer guard element, said flexible seal strip being in sealing contact with said sealing plate along the length thereof, and means for diverting a portion of the flow of drying air from the drying chamber between said inner and outer guard elements to direct a sealing flow of air between said inner guard element and said sealing plate thereby preventing the entrance of conveyed materials therebetween.

3,341,950

BRaille READING DEVICE

Trevor D. Reader, King of Prussia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 7, 1965, Ser. No. 470,037
6 Claims. (Cl. 35—35)



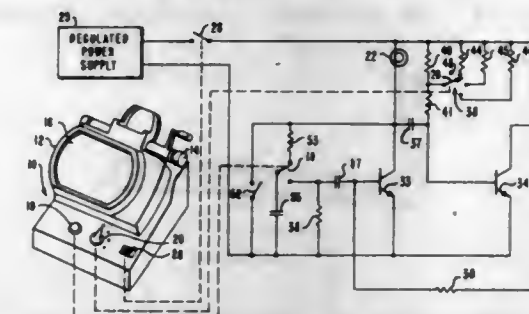
1. A device for reading braille code in the form of raised dots on the surface of a sheet of paper, comprising in combination: a nozzle terminating in an orifice at one end, carriage means rigidly holding said nozzle in an upright position so that said one end of said nozzle just clears said raised dots as said carriage means is moved contiguously over said surface, a fluid inverter comprising an input channel, a control channel, and first and second output channels, a source of power fluid connected to said input channel, a conduit connecting the other end of said nozzle to said control channel, a source of control fluid connected to said conduit maintaining the power fluid in said second output channel only when said orifice is blocked when it coincides with a raised dot, means connected to said second output channel producing a distinctive sound when said orifice is blocked.

3,341,951

DISPLAY CONTROL FOR TESTING AND TEACHING DEVICE

Gaspar Cisneros Barnette, 7138 Samoa Place, Tujunga, Calif. 91042

Filed Oct. 8, 1965, Ser. No. 494,051
20 Claims. (Cl. 35—35)



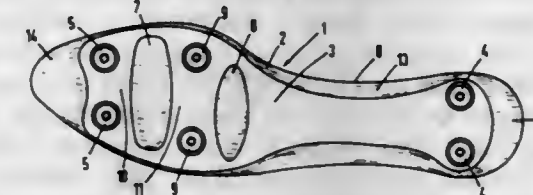
1. A control circuit for providing a display of a record member on a viewing element in a tachistoscopic device for a predetermined, variably selectable duration, comprising means in said tachistoscopic device for providing a source of illumination; means in said tachistoscopic device for providing illumination of the viewing element through an optical path for a variable interval in response to a control signal; means disposed in the optical path for providing a record member to be illuminated on the viewing element; and control means including a monostable multivibrator having a pair of active elements, and means for varying the regenerative time constant of said multivibrator, said control means being coupled to provide the control signal to said means for providing illumination.

3,341,952

SPORT SHOE, ESPECIALLY FOR FOOTBALL

Adolf Dassler, Am Bahnhof, Herzogenaurach, near Nuremberg, Germany

Filed July 1, 1965, Ser. No. 468,877
Claims priority, application Germany, Nov. 10, 1964, D 45,821
13 Claims. (Cl. 36—2.5)



1. A sport shoe comprising an upper, an insole, and a resilient outer sole of plastic, means for removably securing cleats or spikes at least to the front area of said outer sole in front of its shank area, at least the part of said outer sole between said shank area and the last cleats or spikes in front of said shank area being of a greater flexibility than said shank area for displacing the bending stresses normally acting upon the shank area in the direction toward the toe area of the sole, said flexible part of said outer sole extending transversely to the longitudinal direction of said sole and having a thickness smaller than the thickness of said shank area.

3,341,953

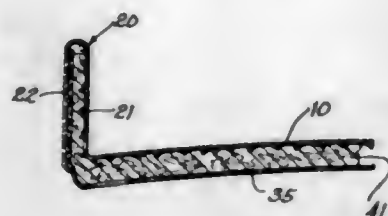
FABRIC PRESSING PAD

Nathan Root, 1524 Woodlawn SE., East Grand Rapids, Mich. 49507

Filed Apr. 25, 1966, Ser. No. 545,820
6 Claims. (Cl. 38—66)

1. A steam diffusing assembly for securement adjacent the working surface of the hollow upper buck of a steam-heated fabric pressing machine, the lower wall of the buck having a plurality of orifices providing exit for steam from the interior of the buck comprising: an inner,

relatively shape-retaining layer at least coextensive with said surface, adapted to be positioned adjacent said surface, and perforated over the area thereof coextensive with said surface, an outer, porous fabric layer, at least one other layer intermediate said two layers, said inter-

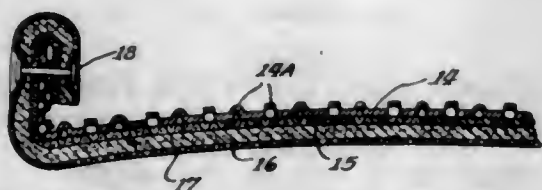


mediate layer being of resilient material, said perforate layer being marginally bent upwardly upon itself and then outwardly and downwardly to provide a peripheral frame which in transverse cross section, is an inverted U, the margin of at least said outer layer being clampingly received between the legs of the U.

3,341,954

PRESS COVER ASSEMBLY

Harvey L. Davis, Highland Park, Roy M. Schultz, Chicago, and Arvid B. Anderson, Park Ridge, Ill., assignors to Bishop Freeman Co., a corporation of Illinois
Filed Sept. 19, 1966, Ser. No. 580,352
6 Claims. (Cl. 38-66)



1. A unitary self-supporting laminar press cover assembly including a diffusor plate for diffusing steam, said diffusor plate having flanged periphery, a cushion layer having a knit back face that is locally stretchable and a napped front face that is locally yieldable and conformable and a porous fabric cover sheet overlying the napped front face and presenting a wear resistant protective pressing surface, said diffusor plate, said cushion layer and said porous fabric cover sheet being secured together adjacent their peripheries whereby said press cover assembly may be applied to and removed from a press as an integrated unitary assembly.

3,341,955

PRODUCING WRINKLE-FREE, PERMANENTLY CREASED GARMENTS

Charles Mactavish Pyke and Frank Sweet Pyke, Salt Lake City, Utah, assignors to Everprest, Inc., Salt Lake City, Utah, a corporation of Utah
No Drawing. Filed July 21, 1965, Ser. No. 473,841
10 Claims. (Cl. 38-144)

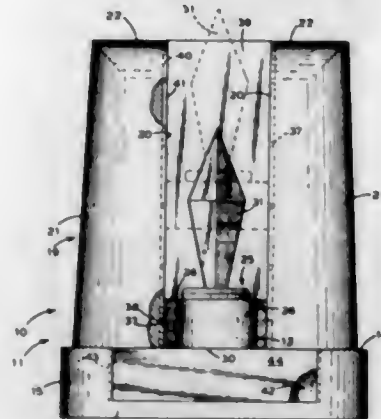
1. Method of manufacturing an article of wearing apparel from a fabric comprising a blend of cellulosic or wool fibers and synthetic, thermo-plastic fibers, said fabric containing synthetic thermo-setting resin in at least partially cured state, which article in finished state is relatively unwrinkleable and has at least one relatively permanent crease in a predetermined area thereof, which method consists essentially of cutting patterned pieces of the fabric, sewing the pieces together into a unitary, shaped body, folding the shaped body at a predetermined zone where a permanent crease is to be formed, and subjecting said zone to hot pressing for a time interval of from ten seconds to 30 seconds and at a temperature, within

the range 350°-500° F., the time, temperature and pressure being correlated to set at least the thermoplastic fibers into a permanent crease.

3,341,956

TROPHY CONSTRUCTION

Frank A. Marino, 855 E. 7th St., Brooklyn, N.Y. 11230
Filed July 13, 1965, Ser. No. 471,590
8 Claims. (Cl. 40-1)

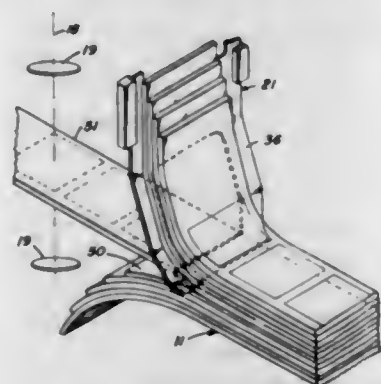


1. A trophy construction comprising a base member, a pair of laterally spaced upright members upstanding from said base members, a subbase member disposed between said upright members and arranged for vertical movement therebetween, trophy emblem means mounted on said subbase member and coating means on opposed portions of said upright members and said subbase member for selectively interengaging said subbase member with said upright members to locate said subbase member at selected vertically spaced levels on said upright members to thereby adjust the elevation of said subbase member relative to said base member.

3,341,957

SELECTING DEVICE FOR FILM STRIPS

Walter W. Blakley and Robert B. Smith, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 25, 1965, Ser. No. 427,798
15 Claims. (Cl. 40-79)



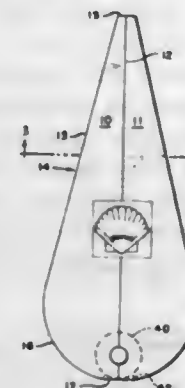
1. An apparatus for retrieving a predetermined chip from a plurality of similar chips which are arranged in a shingled array such that an end portion of each chip in said plurality can be exposed, comprising:
first guide means defining a first path for directing movement of such array thereon;
means defining a passage for separating said predetermined chip from said similar chips and being movable in a second path which intersects said first path;
first means for moving such array along said first path to align the end portion of said predetermined chip with respect to said separating means; and

second means for selectively moving said separating means along said second path so that said separating means directs a portion of said predetermined chip away from the remaining chips in said array and along a path of retrieval.

3,341,958

SELF-RIGHTING ADVERTISING DISPLAY

John Russell Pardue, Westport, Conn., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Oct. 22, 1964, Ser. No. 405,786
2 Claims. (Cl. 40-138)

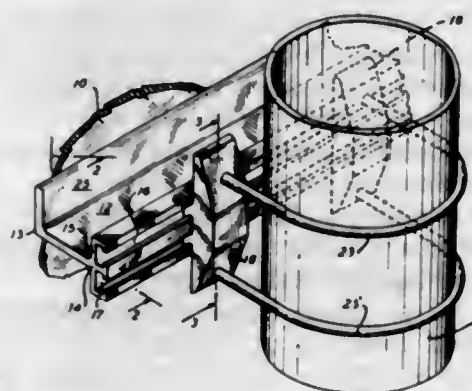


1. A self-righting display sign comprising:
spaced flat end panels, said end panels having a round bottom joined to edges that converge to an apex;
a continuous panel fixedly attached to said spaced ends, said continuous panel forming with said end panels an enclosed structure having a cylindrical bottom joined to flat side panels that converge at the top;
a ballast container disposed within said enclosed structure adjacent the cylindrical end;
a pair of rectangular-shaped frames, said frames being attached to said flat side panels and adapted to contain a display sign thereon.

3,341,959

SIGN SUPPORT

Joseph L. Sabadies, Nutley, N.J., assignor to Pfaff and Kendall, Newark, N.J., a corporation of New Jersey
Filed Dec. 8, 1964, Ser. No. 416,935
2 Claims. (Cl. 40-145)

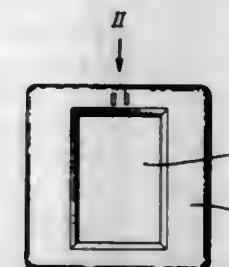


1. A sign support comprising a post, a plate having an attaching flange along one edge of the plate and a longitudinally fastening flange on a parallel edge of the plate, said longitudinally extending fastening flange being provided with a plurality of parallel longitudinal slots, complementary means having studs in the slots engaging the fastening flange of the plate and engaging the supporting post for securing the plate to the post, the complementary means including a single bearing member arranged transversely to the slots, the studs and slots enabling the plate to be slidably positioned relative to the bearing member.

3,341,960

TRANSPARENCY FRAME

Peter Florjancic, Villach, Austria, and Peter Mundt, Garmisch-Partenkirchen, Germany, assignors to Gelmuplast Peter Mundt KG., Garmisch-Partenkirchen, Germany
Filed May 14, 1964, Ser. No. 367,528
Claims priority, application Germany, May 21, 1963, G 37,799; July 9, 1963, G 38,133
21 Claims. (Cl. 40-152)

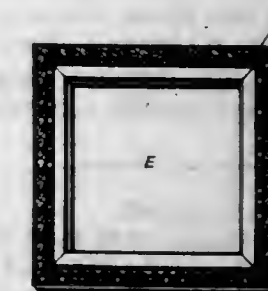


1. A plastic transparency frame having a receiving pocket forming a slideway for said transparency, at least one window formed in said pocket, a receiving slot extending through one end of said frame and communicating with said pocket, and at least one bore formed through a portion of said pocket adjacent said slot and positioned outside of said slideway so as not to interfere with the passage of said transparency in and out of said pocket, said bore forming a passage for a spreading mandrel to be applied against the inside surface of an opposite portion of said pocket to enlarge said slot for the insertion of said transparency.

3,341,961

PICTURE FRAME

Walter H. Shanks, 729 Marsh Ave., Reno, Nev. 89502
Filed July 27, 1965, Ser. No. 475,193
2 Claims. (Cl. 40-158)



1. A frame for mounting substantially flat pictorial elements such as photographs, and the like, comprising:
a single piece frame member having an outer peripheral edge,
a front surface,
a rear surface, and
an inner peripheral edge defining an opening therein;
said front surface having a decorative design thereon;
said rear surface being substantially covered with a pressure-sensitive adhesive material;
a removable protective backing sheet covering said adhesive;
indicia comprising scored lines extending through said removable protective backing and defining on said adhesive covered rear surface inner and outer areas for indicating proper placement of a pictorial element to be mounted thereon;
said inner area being adapted to retain the peripheral edge of a pictorial element; and
said outer area being adapted to secure said frame member on a substantially flat display surface.

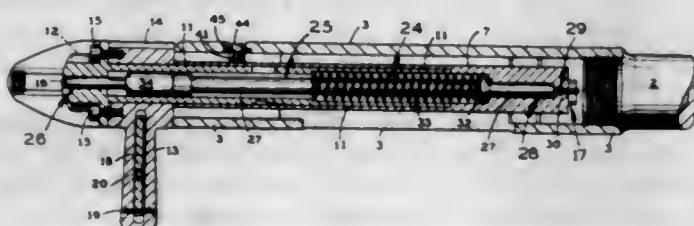
3,341,962 BALL POINT PEN WITH PERMANENT DISPLAY ELEMENT

Milton I. Siegel, New York, N.Y., assignor to Duro Pen Co., Kings County, N.Y., a corporation of New York
Filed Oct. 4, 1965, Ser. No. 492,609
6 Claims. (Cl. 40—334)



1. In a writing implement having a ball point cartridge, a compression spring on said cartridge, a hollow cap having a mechanism located therein for protracting and retracting said cartridge, said cap having a lower end; the combination of a first tubular member having an upper end adapted to be secured to said lower end of said cap, an outwardly-directed flange on said first member adjacent said upper end, a plurality of projections on the lower end of said first member, said first member having an internal shoulder adjacent its said lower end, a second tubular member enveloping said first member, said second member having an inwardly-directed flange at its lower end, said inwardly-directed flange having a plurality of cut-outs adapted to engage said projections, a conical, hollow tip having an outer shoulder, said outer shoulder abutting against said inwardly-directed flange, a cylindrical tubular neck protruding over said outer shoulder, said neck fitting into said lower end of said first member, and a flange on said neck, said flange overlying and being in secure engagement with said internal shoulder in said first member, whereby said first member, said second member, and said tip are permanently retained in assembled condition.

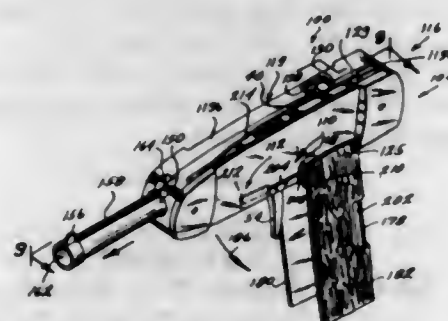
3,341,963
BOLT ACTION FOR FIREARMS HAVING A RIGHT
OR LEFT HAND OPERATING HANDLE
Abe Seiderman, Coral Gables, Fla., assignor to Universal Firearms Corp., Hialeah, Fla., a corporation of Florida
Filed Aug. 9, 1966, Ser. No. 571,307
6 Claims. (Cl. 42—16)



5. In a dual bolt firearm of the character described a means forming a frame,
a barrel having a firing chamber therein secured in said frame,
a main bolt adapted and constructed for reciprocation within a predetermined distance in said frame coaxial with said chamber for movement from an outer loading to an inner firing position with the inner end of said bolt in close proximity to said chamber,

locking means cooperatively associated with said frame and said bolt for locking the latter when rotated about its axis through a predetermined angle for locking a cartridge in said chamber,
said main bolt having a coaxial cylindrical bore entering the rear end thereof,
a secondary bolt having a cylindrical forward portion slidably retained in said bore for predetermined combined axial and radial movement therein,
the rear portion of said secondary bolt slidably retained on said frame for axial movement only,
a helical groove in said forward portion of said secondary bolt of uniform width and predetermined pitch and length terminating at the forward end thereof in a straight axial portion of like width,
a follower member secured in said main bolt engaged in said groove whereby the helical groove will drive said follower member in a rotary path and rotate and lock said main bolt in said frame when said secondary bolt is moved forward in a straight axial direction and whereby the retraction of said secondary bolt said predetermined distance will rotate said main bolt and unlock same for movement to said loading position.

3,341,964
CAP GUN TOY
John W. Ryan, Bel Air, Warren Dale Kabot, Manhattan Beach, and John Harmer Northrop, La Canada, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Dec. 28, 1965, Ser. No. 517,005
7 Claims. (Cl. 42—57)

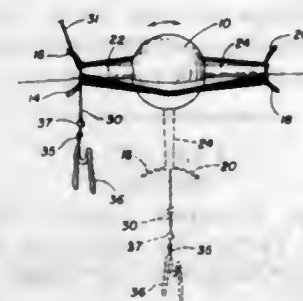


2. A gun toy comprising:
a plurality of movably connected sectional members, one of said members comprising a pocket knife frame and another comprising a gun barrel means movably mounted in said knife frame;
means for holding said sectional members in a first position simulating a pocket knife;
means for releasing said holding means; and
means for maintaining said sectional members in a second position simulating a gun;
said gun barrel means being within said knife frame when said members are in said first position and extending therefrom when said members are in said second position.

3,341,965
FISHING FLOAT
Joe T. Purcella, 16390 W. 44th Ave., Golden, Colo. 80401
Filed Mar. 31, 1965, Ser. No. 444,239
2 Claims. (Cl. 43—43.11)

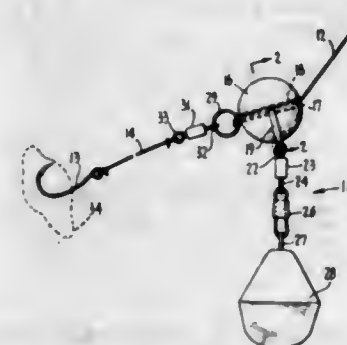
1. A float device for fishing comprising a tapered tube for holding a line extending therethrough; a hook and a weight on the end of the line; a float mounted on said tube with the tube ends extending a substantial distance from opposed sides beyond said float, and the smaller tube end

being held downwardly by the weight on the line to weight the float when floating on water; a ball having a diameter larger than the small end of said tube reciprocally mounted in said tube in position to releasably wedge against a line passing through said tube; retaining means in the



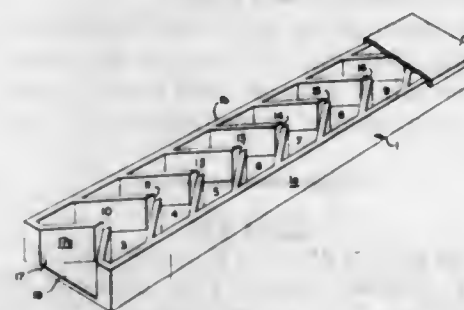
large end of said tube for retaining said ball therein; and a pair of opposed prongs extending laterally from each end of said tube for holding a coil of line which extends from the small end of said tube, which coil is wrapped from end to end around said tube.

3,341,966
FISHING WEIGHT ASSEMBLY
Henry H. Pippen, San Lorenzo, Calif.
(24252 Broadmore Ave., Hayward, Calif. 94544)
Filed Feb. 3, 1965, Ser. No. 430,042
2 Claims. (Cl. 43—43.15)



1. A fishing weight assembly for attachment to a fish line comprising a weight, a substantially spherical member having a passage extending diametrically therethrough and adapted to slidably receive a fish line, and linkage interconnecting said member and said weight spacing said member and said weight a distance apart and allowing free rotational movement of said member with respect to said weight, said linkage including a swivel for rotation of said member with respect to said weight about a diametrical axis transverse to said passage.

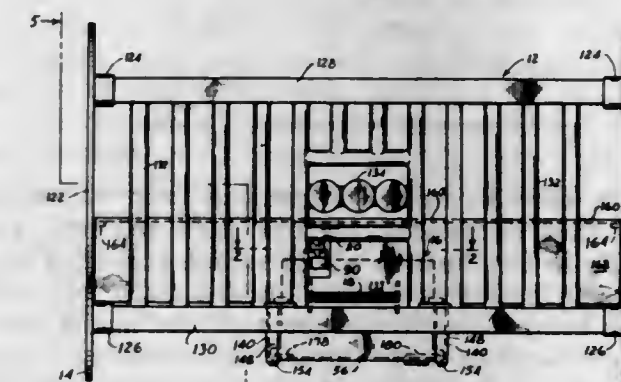
3,341,967
INSECT TRAP
Thomas F. Kelley, 751 2nd Ave., New York, N.Y. 10007
Filed May 20, 1966, Ser. No. 562,023
1 Claim. (Cl. 43—65)



In an insect trap of the type having walls defining an enclosure and in which two of said walls bound an entrance opening therebetween into said enclosure, each

of said two walls having an external surface contiguous to said entrance opening and an internal surface similarly contiguous to said entrance opening and forming a part of the boundary of said enclosure, the improvement comprising a bottom panel operatively arranged to serve as a lower surface for said enclosure and forming the lower edge of said entrance opening, and each of said two walls having an operative position normal to said bottom panel and oriented to converge inwardly to said entrance opening such that together their external surfaces are effective to cam together the normally diverging antennae of insects crawling on said bottom panel during entering movement thereof into said enclosure and such that together their internal surfaces are effective to cam apart the antennae of insects during reverse direction escaping movement thereof from said enclosure, whereby said external wall surfaces facilitate entering movement of said insects into said enclosure and said internal wall surfaces minimize escaping movement thereof from within said enclosure.

3,341,968
DOLL CRADLE WITH PHONOGRAPH
Bernard Suchowski, Howard Beach, N.Y., assignor to American Character, Inc., Brooklyn, N.Y., a corporation of New York
Filed July 21, 1965, Ser. No. 473,691
8 Claims. (Cl. 46—15)

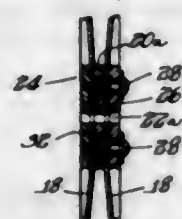


3. A doll cradle comprising a cradle body, rockers at the ends of said body on which said body may be rocked from side to side, a toy phonograph with a changeable record, means mounting the phonograph in the body, a record chute extending from one side of said body to said phonograph and through which chute a record may be loaded or discharged, said chute being substantially horizontal when the cradle is in upright position, and a phonograph control element, the arrangement being such that the cradle may be tilted on its rockers to bring the outer end of the chute downward for gravitational discharge of a record released by said control element, and the cradle may be tilted on its rockers in opposite direction to bring the outer end of the chute upward for gravitational loading of a record into the phonograph.

3,341,969
DIABOLO TYPE TOY DEVICE
Roy H. Olson, 83 S. Deere Park Drive, Highland Park, Ill. 60035
Original application May 15, 1964, Ser. No. 367,647.
Divided and this application Oct. 23, 1965, Ser. No. 503,575

3 Claims. (Cl. 46—60)
1. A toy device of the diabolo type including a pair of saucer-like members, the bottom surfaces of said members disposed in close spaced relation and the outer peripheral margins flaring away from each other to facilitate accommodation of a flexible actuating member such

as a length of cord, a central hub member of limited diameter providing a peripheral surface to accommodate said flexible actuating member, said hub member being centrally apertured to accommodate a bearing member



on which said hub member may rotate freely, and means for securing the opposite sides of said hub member in close contact with the adjacent bottom surfaces of said saucer-like members.

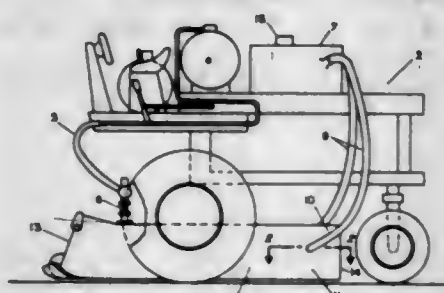
3,341,970

AMMONIA APPLICATOR

Desmond M. Bailey, Memphis, Tenn., assignor, by mesne assignments, to Chevron Research Company, a corporation of Delaware

Filed Feb. 23, 1965, Ser. No. 434,249

4 Claims. (Cl. 47-1.7)



1. In a movable vehicular-mounted crop contacting hood of fixed dimensions, open at front and rear, and comprising in combination a fore section consisting of a flared mouth having two side walls and a top wall, said side walls being joined to said top wall, said mouth being joined, at a juncture, to a body section consisting of two side walls and a top wall, said side walls being joined to said top wall, at least one ammonia discharge port being positioned in said body section immediately behind said juncture, the improvement comprising positioning an inert gas nozzle within said hood on the inner surface of each side wall of said body portion, each of said nozzles being positioned at about the midpoint of said side wall about 15-20 inches from the exit end of said hood with the discharge port of said nozzle being so oriented that the inert gas stream issuing from said nozzle flows toward the fore end of said hood substantially parallel to the ground and at an angle of about 35-50° with respect to the wall on which said nozzle is mounted.

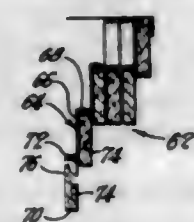
3,341,971

FIRE DAMPER

George F. Hartman, Jr., Toledo, Ohio, assignor to The American Warming & Ventilating, Inc., Toledo, Ohio, a corporation of Ohio

Filed Aug. 19, 1965, Ser. No. 480,903

6 Claims. (Cl. 49-7)



1. A fire damper comprising a frame including at least two spaced frame members, a plurality of fire damper blades having first longitudinal flanges extending in com-

mon directions from corresponding edges therefrom, an intermediate flange on each of said blades extending from an intermediate portion of said blade in a direction opposite the first flange, and insulating means affixed to each of said blades adjacent said intermediate flange and on the side of said intermediate flange opposite the first flange, the intermediate flange of one blade engaging the first flange of an adjacent blade when the damper is closed and the blades are in an extended position.

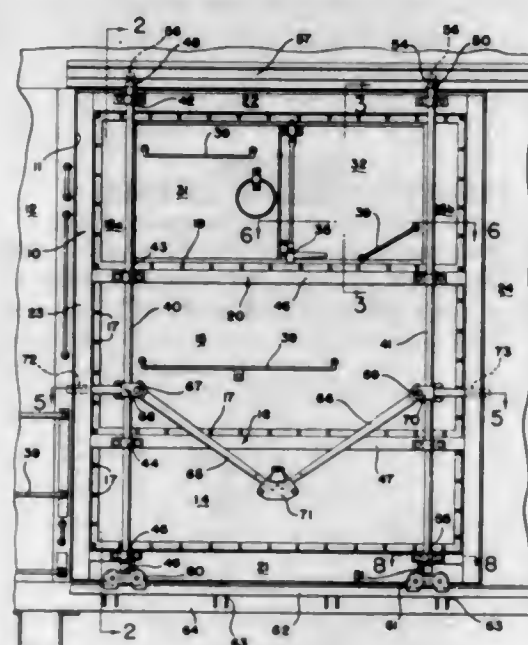
3,341,972

DOOR

Thomas C. Soddy, Downers Grove, and Theodore Z. Herr, Highland Park, Ill., assignors to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio

Continuation of application Ser. No. 329,434, Dec. 10, 1963. This application Jan. 4, 1966, Ser. No. 528,678

6 Claims. (Cl. 49-220)



1. In a railroad car having a side wall with an opening formed therein;
a door adapted to be received in the opening;
operating means secured to said door and adapted to support said door on said car for lateral movement into and out of the door opening;
said operating means including a pair of vertical pipes rotatably mounted on said door;
crank means secured to the upper and lower ends of each of said pipes for rotation with said pipes;
each of said crank means being substantially perpendicular to the longitudinal axis of said pipes;
roller means connected to each of said crank means;
track means on said car;
said roller means being in engagement with said track means and supporting said door for rolling movement longitudinally of the car;
actuating means secured to said pipes for rotating said pipes and said crank means thereby to effect the lateral movement of said door;
the angular relation of said crank means to said pipes being such that with the door in the closed position, the longitudinal axes of said crank means are disposed substantially perpendicular to the plane of said door.

3,341,973

SCREEN ROLLER ASSEMBLY

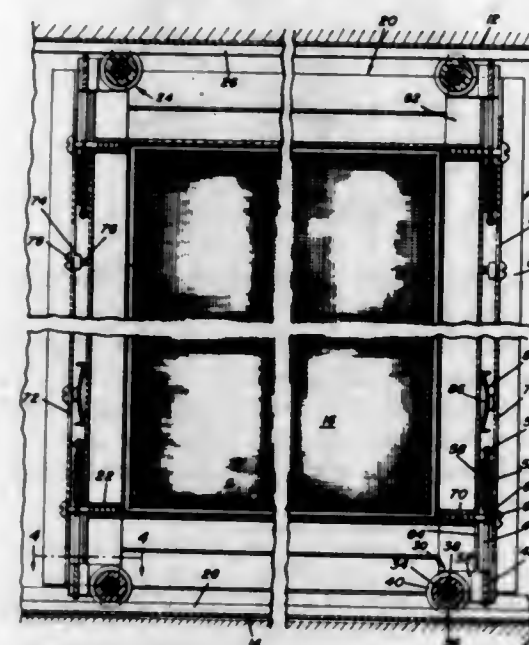
Donald L. Miller, Miami, Fla., assignor to Daryl Industries, Inc., a corporation of Florida

Filed July 19, 1965, Ser. No. 472,782

2 Claims. (Cl. 49-420)

1. In combination with a pair of vertically spaced tracks for guiding movement of a panel frame having a vertical

stile and a pair of rails connected to opposite ends of the stile, a guide assembly mounted by the stile comprising track engaging means slidably mounted by the stile projecting from said opposite ends thereof, a spring element connected to each of said track engaging means within the stile, spring anchoring means connecting each of said spring elements to the stile at locations for limiting outward projection of the track engaging means from the stile and yieldably resisting inward retraction thereof, and adjustable means mounted by the stile for limiting said inward retraction of the track engaging means to prevent disassembly of the panel frame from the tracks, said ad-



justable means including a releasable stop element mounted within said stile adjacent one end of each of the spring elements remote from an opposite end to which the anchoring means is connected, said stile having slots formed therein through which the stop elements are exposed, and a lock portion connected to the stop element in straddling relation to the slot engaging the stile to hold the stop element in adjusted position, said stop element having a tool receiving formation thereon exposed through the slot whereby deformation of the stop element by insertion of a tool through the slot will disengage the lock portion and permit repositioning of the stop element along the slot.

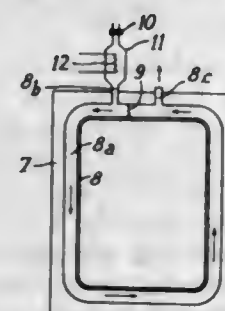
3,341,974

REFRIGERATOR DOOR SEAL

Jean Victor Ganzinotti, Brive, France, assignor to Etablissements Malle et Vagneux and Equipement Moderne Industriel par Application du Caoutchouc Manufacture et des Plastiques "EMI," both of Paris, France, both corporations of France

Filed May 5, 1965, Ser. No. 453,251

7 Claims. (Cl. 49-477)



1. A device for preventing the formation of frost on the sealing joint of a refrigerator door, comprising a joint encircling said door and formed with an internal longitudinal passageway for circulating a heating fluid, a transverse partition blocking said passageway at one point, an input duct on one side of said partition for introducing

a heating fluid into said passageway, an outlet on the other side of said partition for withdrawing said heating fluid from said passageway, and means associated with said input duct for heating said heating fluid as it flows through said duct.

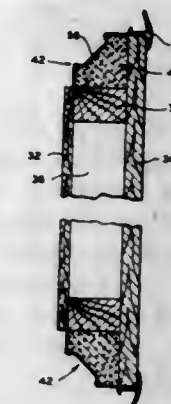
3,341,975

DOOR SEAL CONSTRUCTION

Eugene R. Tyllisz, Michigan City, Ind., assignor to Clark Equipment Company, a corporation of Michigan

Filed Apr. 7, 1965, Ser. No. 446,165

3 Claims. (Cl. 49-485)



1. For use with a door or other closure member having a frame and a striker or jamb construction associated therewith, a seal comprising an elongated resilient body, the said body having a configuration in cross section which includes a pair of sides disposed at an angle relative to each other and a generally U-shaped recess located between the said sides, the said recess having a pair of sides and a bight portion, the said bight portion being substantially wider than the said recess sides and disposed substantially symmetrically relative to the said first-mentioned sides, the said first-mentioned sides and the said recess sides defining a pair of projections so that when the door is closed there is provided one, two or three areas of sealing, depending upon the position and configuration of the jamb relative to the seal.

3,341,976

APPARATUS FOR RENOVATING WINDSHIELD WIPER BLADES

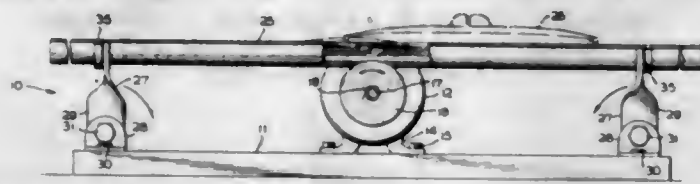
Virgil Pace, Sr., 307 S. 23rd Ave., Hattiesburg, Miss. 39401

Filed Nov. 20, 1964, Ser. No. 412,634

4 Claims. (Cl. 51-102)

1. Portable apparatus for renovating used windshield wiper blades having wiping edges formed of a rubbery material on lower portions thereof comprising a portable base, an electric motor having a driven shaft extending horizontally therefrom, means for mounting the electric motor on the base, the electric motor being mounted on the top surface of the base and being positioned so that the shaft extends transversely across the base, an abrasive disc, means for rotatably mounting the disc on the driven shaft for rapid rotation around the axis thereof, the disc being mounted so that it rotates in a vertical plane which extends longitudinally with respect to the base, elongated guide means for the windshield wiper blade, the guide means having an elongated longitudinally extending slot formed therein for receiving at least a portion of the peripheral surface of the disc, supporting means mounted on the upper surface of the base for supporting the guide means generally above the disc with the upper peripheral surface of the disc extending upward into the slot, the guide supporting means including a pair of spaced pivotally mounted elongated supporting members, the pair of supporting members being on opposite sides of the disc and located at points remote therefrom, the guide means extending between the elon-

gated supporting members and longitudinally with respect to the base, the supporting members extending in a generally upward direction from the base and being pivotally mounted on their inner ends and including means on the outer ends thereof for receiving and supporting the guide means, the supporting members being pivotable in a vertical plane which extends longitudinally with respect to the base and passes through the disc and the guide means so that the height above the surface of



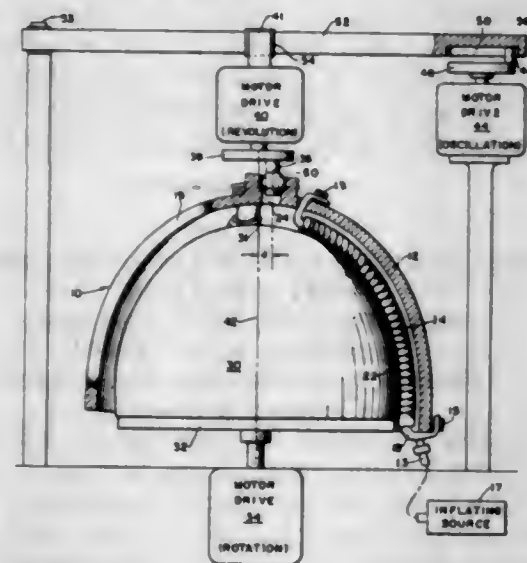
the base of the outer ends of the supporting members and the guide means supported thereby is adjustable by pivoting the supporting members, whereby the distance that the peripheral surface of the disc extends upward into the slot is adjustable to contact the wiping edge on the lower portion of the windshield wiper blade upon passing the blade along the guide means and across the slot to thereby remove damaged areas by abrasion and renovate the wiper blade.

3,341,977

CONFORMING POLISHER FOR ASPHERIC SURFACES OF REVOLUTION

William J. Hungerford, Bowie, Md., John W. Larmer, Arlington, Va., and Maurice Levinsohn, Annapolis, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 12, 1965, Ser. No. 432,433
6 Claims. (Cl. 51-57)



1. A polisher for an aspheric surface of revolution comprising: a body means generally shaped to conform to an aspheric surface of revolution to be polished; and a plurality of polishing means secured to the inner periphery of said body means, each polishing means including an inflatable tube means, whereby uniform pressure for polishing may be applied to each portion of an aspheric surface of revolution by inflation of said inflatable tube means.

3,341,978

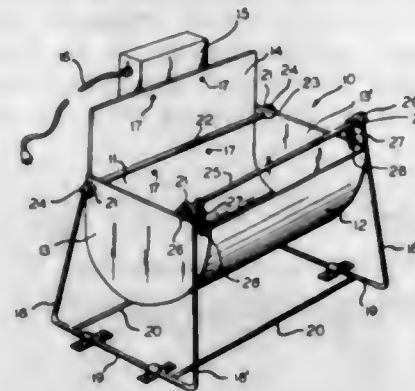
ROCK TUMBLING DEVICE

Gerald J. Carstens, 1026 S. 3rd St., Las Vegas, Nev. 89101

Filed Jan. 13, 1965, Ser. No. 425,270
3 Claims. (Cl. 51-163)

1. A rock polishing machine including an upwardly open receptacle adapted to contain a bed of abrasive grit

and rock-like material therein, said receptacle having forward, bottom and rear walls formed in a generally upwardly open U-shape, means resiliently supporting said receptacle for limited rocking movement, support means extending upwardly above the open top of the receptacle from the rear wall of said receptacle, and a pulsating vibrator positioned on said support means, said vibrator



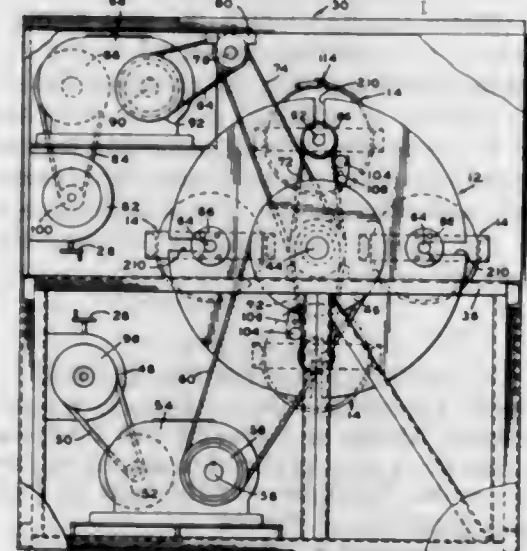
having means to produce pulsating forces directed perpendicular to the place of and across the front and rear of said receptacle whereby pulsating forces imparted to said receptacle cause said receptacle to rock about an axis adjacent the rear of the receptacle and cause material within said receptacle to follow a generally arcuate path defined by said receptacle while being tumbled about and abraded therein.

3,341,979

MACHINE FOR MECHANICALLY FINISHING WORKPIECES

Leo R. Davidson and Richard L. Davidson, both of 400 Norwood Ave., Sturgis, Mich. 49091

Filed Jan. 19, 1965, Ser. No. 426,644
3 Claims. (Cl. 51-164)



1. A machine for mechanically finishing workpieces comprising a turret mounted for rotation about a generally horizontal axis, said turret having a pair of axially spaced side members, a plurality of cradles extending axially across the space between said side members, each of said cradles being journaled at its opposite ends for rotation on the side members about a horizontal axis which is spaced radially from the axis of rotation of the turret, and means for rotating said cradles and said turret independently of one another, each of said cradles comprising a generally semi-cylindrical receptacle portion for receiving a generally cylindrical drum, a pair of arcuately shaped straps pivotally connected at one end, one to one edge of the receptacle portion and the other to the opposite edge of the receptacle portion, said straps being circumferentially aligned, a toggle mechanism supported on one of said straps and a hook means fixed on the other strap and

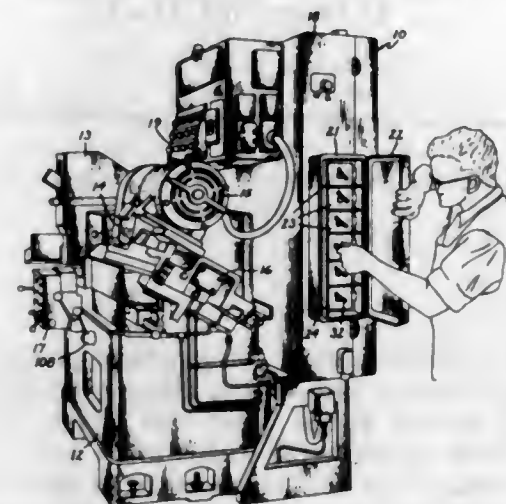
engageable by said toggle mechanism to secure said straps in latched position encircling the portion of a drum in said cradle which is not encircled by said receptacle portion.

3,341,980

GRINDING MACHINE

John Klar, West Boylston, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed July 7, 1964, Ser. No. 380,857
3 Claims. (Cl. 51-165)



1. A grinding machine, comprising
 - (a) operative apparatus having parts including a base, a workhead slide, a wheelhead table having an abrasive wheel, and a dresser,
 - (b) a control apparatus to produce relative movement between certain of the parts of the apparatus including a "table in" movement relay, a "slide index" movement relay, a "rough grind" relay, a "finish grind" relay, a sparkout relay, a "slide retraction" movement relay, a "table out" movement relay, a "dresser index front" movement relay, a "dresser index rear" movement relay, a "table index in" movement relay, a "table index out" movement relay, and a "loading operation" relay,
 - (c) a plurality of electrical lines extending from said relays of the control apparatus to a permanent receptacle,
 - (d) a plug-in unit insertable in the receptacle for connecting various lines from the relays together, and
 - (e) interengageable means extending between the permanent receptacle and the plug-in unit, including a plurality of connectors on the permanent receptacle, each connected to one of the said lines, including a plurality of connectors on the plug-in unit exactly matching those on the permanent receptacle, and including bridging lines within the plug-in unit joining certain of its connectors so that, by insertion of the plug-in unit in the permanent receptacle, certain connectors of the permanent receptacle are electrically joined.

3,341,981

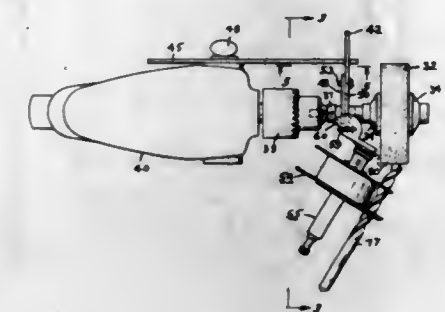
TWIST DRILL BIT SHARPENING DEVICE

Michael F. Baronyak, Coraopolis, Pa., assignor of one-half to Louis J. Baronyak, McKees Rocks, Pa.

Filed Feb. 1, 1965, Ser. No. 429,495
13 Claims. (Cl. 51-241)

5. A portable twist drill bit sharpening assembly for operative attachment to an electric power drill having a housing and a chuck, comprising in combination,
 - (1) a support structure
 - (2) a rotary grinding element on an axially rotatable shaft carried by said support structure and having a grinding surface, said shaft having a free end extending beyond a portion of said support structure,

- (3) a drill bit holder carried by said support structure proximate to said grinding element for presenting a drill bit tip to be ground in operative grinding relationship to the said grinding surface, said drill bit holder being in the form of a rotary bit diameter size selector mounted for rotation about a part of said support structure passing therethrough, said selector having a rotary wall portion with a plurality of different specifically sized apertures therethrough corresponding to the sizes of different diameter bits

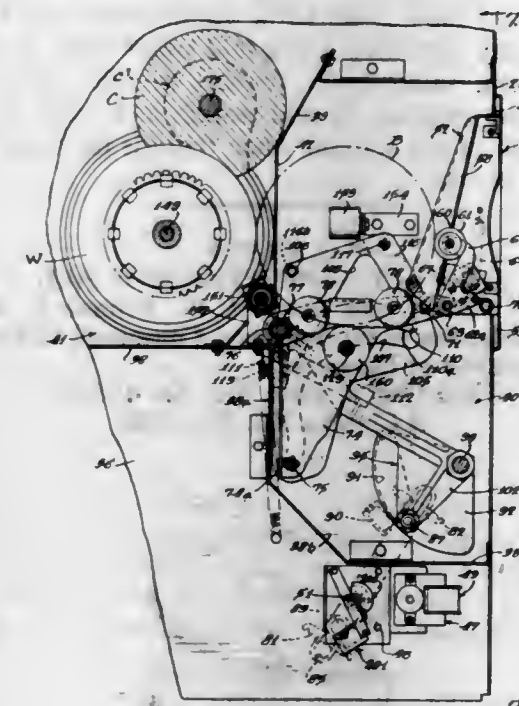


which it is desired to grind, each aperture being selectively rotatable into a particular position operative for bit grinding in which the longitudinal axis of a bit projected therethrough intersects the said grinding surface, said rotary selector being rockable on pivot means carried by said support structure in a direction transverse to its plane of bit size diameter selection rotation to thereby pivot a bit to be ground and cause the bit tip to traverse the said grinding surface.

3,341,982

BOWLING BALL POLISHING MACHINE

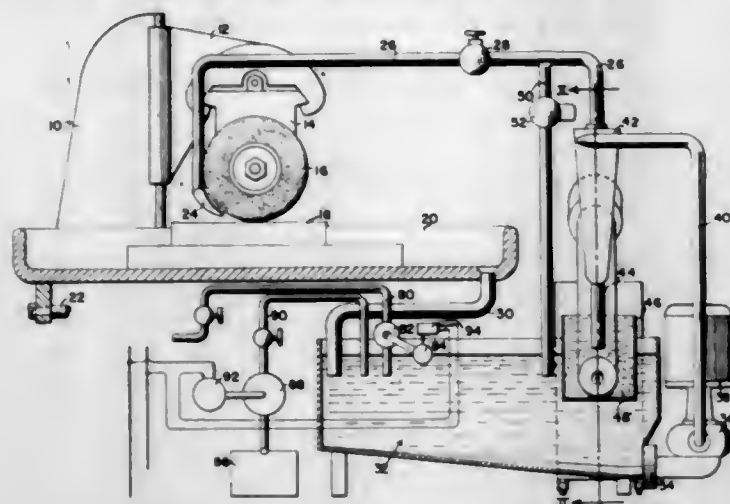
Robert Torresen, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed Mar. 22, 1965, Ser. No. 441,551
14 Claims. (Cl. 51-263)



9. A bar of buffing compound having a generally cylindrical configuration and an arcuate recess in the periphery, said bar having means for mounting the same upon an indexing drive for rotating the bar about the axis thereof.

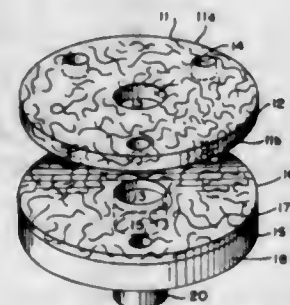
3,341,983
METHOD AND APPARATUS FOR CONTINUOUSLY CLARIFYING MACHINE TOOL COOLANT AND THE LIKE

William G. Baldenhofer, 4222 Grant Road, Springfield, Ohio 45502, and Fritz G. Krafft, Springfield, Ohio; said Krafft assignor to said Baldenhofer
 Filed Oct. 6, 1964, Ser. No. 401,821
 13 Claims. (Cl. 51-267)



7. In combination in a grinding machine; a grinding wheel, a work table for supporting a workpiece to be ground by the wheel, a coolant supply nozzle adjacent the wheel to supply coolant to the wheel and workpiece, a coolant tank connected for receiving the coolant from the said table together with the swarf developed during grinding operation and which is carried by the coolant, a pump having its inlet connected to the bottom of the tank to withdraw swarf laden coolant therefrom, a vortex separator having an inlet, said inlet being connected to the discharge side of the pump, a supply conduit leading from the clarified liquid outlet of said separator to said nozzle, a discharge from the separator for separated out swarf and liquid entrained therein, a swarf tank positioned to receive the swarf from said separator and arranged to overflow liquid into said coolant tank, said separator discharge extending to below the liquid level in said swarf tank, means for withdrawing swarf in substantially dry condition from said swarf tank, and means leading from said supply conduit to said coolant tank in bypassing relation to said nozzle and table to permit clarification of the coolant when there is no supply thereof to said nozzle.

3,341,984
SURFACE CONDITIONING PAD
 Vernon C. Sickie and Herbert W. Schnabel, Alliance, Ohio, assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
 Filed Dec. 8, 1964, Ser. No. 416,707
 3 Claims. (Cl. 51-358)



1. In combination, a reversible surface conditioning pad having symmetrically spaced openings, a backup pad, a backup plate, and a plurality of T-shaped fasteners having a cross-bar mounted at its mid point on the upper extremity of an upwardly extending member attached to the

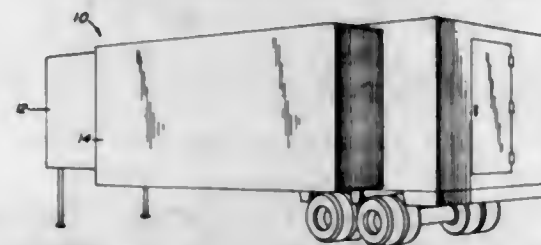
face of said plate, said fasteners adapted to be inserted into said openings of said conditioning pad to hold said pad to said plate.

3,341,985
SWITCH MECHANISM FOR TROLLEY-SUPPORTED PANELS
 Ernest Robert Haws, Allen Park, and Bert W. Piper, Redford Township, Wayne County, Mich., assignors to Robert Haws Co., Melvindale, Mich., a corporation of Michigan
 Filed Oct. 7, 1964, Ser. No. 402,149
 13 Claims. (Cl. 52-1)



12. In a room structure, an overhead primary track, a plurality of panels each having a pair of trolleys swivelly mounted thereon at the upper end thereof and engage in said track to enable the panels to be moved along the track in end-to-end abutting relation to form a partition in said room structure, a pair of parallel panel storage tracks spaced apart in accordance with the trolley spacing on each panel, said storage tracks intersecting the primary track, a pair of track switches located one at each of the intersections of the two storage tracks with the primary track, said switches being rotatable from a position in alignment with the primary track to a position in alignment with the storage tracks, means for rotating one of said switches, a sprocket associated with each of the switches, an endless chain trained around both sprockets, said chain having slack therein and means for adjusting the rotative position of the two sprockets relative to one another comprising a pair of idler sprockets, one idler sprocket being engaged with one run of the chain and the other idler sprocket being engaged with the opposite run of the chain, said idler sprockets each being shiftable in a path generally transversely of a line connecting the two switch sprockets to enable shifting of the chain relative to one of the sprockets.

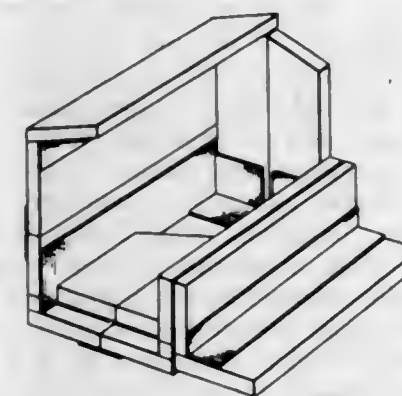
3,341,986
LEVELLING DEVICE
 Heinz W. Brosig, Rockville, Md., assignor to Brosig, Hilburger, and Hall, McLean, Va., a partnership
 Filed Mar. 15, 1965, Ser. No. 439,551
 5 Claims. (Cl. 52-67)



1. Levelling apparatus comprising:
 a main body having an opening in the sidewall thereof, upper and lower anchor means in said main body proximate to said sidewall, upper and lower anchor means in said main body spaced inwardly from said sidewall, a side body telescopically movable relative to said main body in said opening between a contracted position and an expanded position, means for supporting said side body on said main body, a first

non-extensible elongated flexible element extending from said upper anchor means proximate to said sidewall to said lower anchor means spaced inwardly therefrom, and a second non-extensible elongated flexible element extending from said lower anchor means proximate to said sidewall to said upper anchor means spaced inwardly therefrom, rotatable guide means on said side body engageable respectively with said first and second elements to maintain a constant angular relationship between said side body and said main body.

3,341,987
COLLAPSIBLE HOUSE
 Erik Ragnhill Johansson, Trebackegatan 11, Goteborg, Sweden
 Filed July 26, 1965, Ser. No. 474,906
 Claims priority, application Sweden, Aug. 4, 1964, 9,434
 1 Claim. (Cl. 52-70)

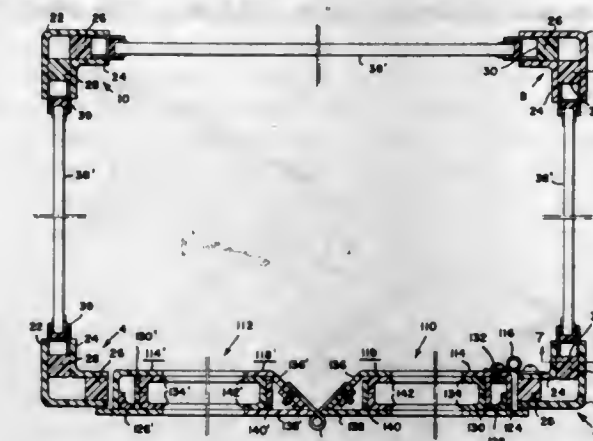


A collapsible house comprising a floor, two side walls, two end walls and a roof and being divided along the ridge of the roof into two identical halves articulated to each other at a line extending longitudinally midway of the floor, each of said halves including one half of the floor, two end wall parts arranged to be turned downward to the floor and articulated each to one end of said half of the floor, a first side wall part firmly connected to said half of the floor, the height of said wall part being substantially equal to the thickness of the end wall parts, a second side wall part located on said first side wall part and articulated thereto, a third side wall part located on said second side wall part and articulated thereto, and a half of the roof articulated to said third side wall part, said halves and parts being constructed and arranged to be turned against each other and placed side by side in the collapsed position of the house such that the two halves of the floor are confronting each other centrally of the collapsed house and that each of the halves of the floor is followed in lateral direction by said two end wall parts, said second side wall part, said third side wall part and one half of the roof, all in the order named.

3,341,988
TELEPHONE BOOTH
 Percival H. Sherron, Jamaica, N.Y. (% Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn, N.Y. 11237)
 Filed Jan. 18, 1965, Ser. No. 426,110
 10 Claims. (Cl. 52-71)

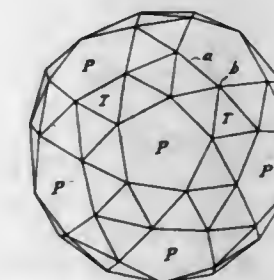
10. In a telephone booth made substantially of plastic elements, the combination comprising a base, a plurality of upright corner posts supported at their lower ends on said base and made of a plurality of plastic members of simple shapes and including a pair of right angular plastic members and a pair of members having a rectangular cross-section, each of said rectangular members being positioned between a pair of opposed legs of said right angular members with a pair of spaced parallel walls in

contact with said opposed legs, each of said rectangular members being secured to said opposed legs so that said legs are positioned in spaced parallel relation, a plurality of horizontally extending frames extending between said corner posts, a plurality of panels for forming the walls of the telephone booth, said corner posts and said frames



providing channels for supporting the edges of said panels, and a door assembly movable between open and close positions for providing access to telephone booth, said door assembly comprising a pair of hinged doors each of which is made of a plurality of plastic elements of either angular or straight configuration.

3,341,989
CONSTRUCTION OF STEREOMETRIC DOMES
 David Georges Emmerich, 27 Rue St. Andre-des-Arts, Paris VI, France
 Continuation of abandoned application Ser. No. 364,253, May 1, 1964. This application July 16, 1965, Ser. No. 472,534
 Claims priority, application France, May 2, 1963, 933,363, Patent 1,379,636
 2 Claims. (Cl. 52-81)

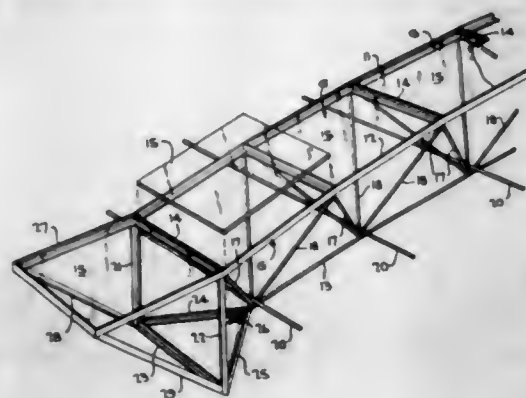


1. A complex polyhedral dome-shaped building structure, comprising structural components of equal length interconnected to form a multitude of polygonal faces defining alternately reentrant and salient angles therebetween, whereby one standardized component is used in the structure, said polygonal faces being grouped to form a multiple of polyhedral frusta having regular polygonal bases and each polygonal base corresponding in space with a regular face of a polyhedron serving at least partially as a structural pattern for the building structure.

3,341,990
CONTINUOUS SPACE FRAME
 William J. Mouton, Jr., 1800 Jefferson Highway, New Orleans, La. 70121
 Filed Feb. 12, 1965, Ser. No. 432,353
 7 Claims. (Cl. 52-86)

7. A space frame comprising a plurality of identical longitudinally arched trusses disposed in parallel laterally contiguous relation, said trusses respectively being of

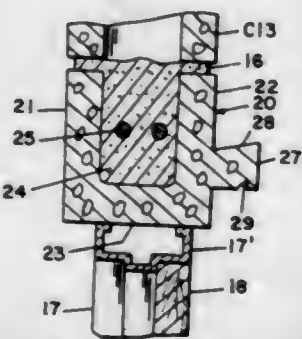
uniform width throughout their respective spans and capable of limited lateral flexing, each said truss being constructed to have substantial lateral and torsional flexibility and comprising a pair of parallel laterally spaced top chords and relatively uniformly spaced cross bars extending transversely between and interconnecting said top chords, said top chords and cross bars jointly defining a plurality of uniformly shaped and dimensioned glazing frames, means interconnecting adjoining top chords of



relatively adjacent trusses, glass panels in the respective glazing frames, and bottom chords equidistant from and rigidly interconnected to said respective top chords; means interconnecting said bottom chords at uniformly spaced intervals less than the widths of the respective trusses, to relatively tilt said trusses about their respective interconnections, said interconnecting means laterally flexing the respective trusses in planes common to the respective upper chords of each truss to maintain the contiguous relationship between said trusses despite such relative tilting.

3,341,991 BUILDING WALL WITH WATER DEFLECTING LINTEL BLOCKS

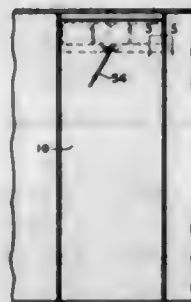
George E. Dupre, 1351 N. Airline Ave.,
Gramercy, La. 70052
Filed Apr. 6, 1965, Ser. No. 446,001
4 Claims. (Cl. 52-97)



1. A building wall formed from superposed courses of modular wall blocks and provided with an opening, a rectangular closure frame mounted in said opening and including a transverse top frame member, the vertical dimension of said frame being such that said top frame member is disposed at a level below the junction line between the top of one course of said wall blocks and the bottom of the next overlying course of wall blocks, and a lintel structure comprising a row of modular lintel blocks positioned on said top frame member, the vertical dimension of said lintel blocks being such that they span said junction line and have the top thereof coplanar with the top of said next overlying course of wall blocks, each of said blocks being provided integrally on its outer face with an outwardly projecting water shed shoulder having a downwardly and inwardly sloping upper surface whereby to form a trough through which water may run laterally for drainage at the ends of the lintel structure.

3,341,992 PORTABLE ROOM DIVIDING PANEL

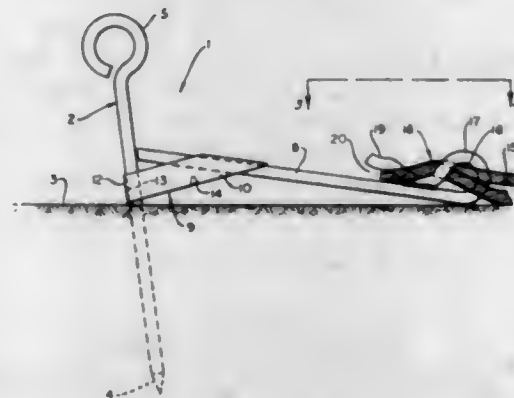
Bert W. Piper, Redford Township, Wayne County, Mich.,
assignor to Robert Haws Co., Melvindale, Mich., a corporation of Michigan
Filed Oct. 7, 1964, Ser. No. 402,148
2 Claims. (Cl. 52-127)



1. A portable partitioning panel having a pair of spaced apart side walls, a sealing mechanism for one edge of the panel comprising a pad at said one edge guided for movement in a direction transverse of said edge, means disposed between said side walls for moving said pad, means extending through one of said side walls for operating said pad moving means, the means for moving said pad comprising a header attached to said pad, a base plate anchored within said panel, means connecting said header and said base plate in spaced relation, said connecting means comprising resilient means urging said header away from said base plate, the means for moving said pad including a further means connected to said header and said operating means for retracting and locking said header in the retracted position, means extending along the side edges of said side walls and forming edge walls therebetween, said edge walls having longitudinal grooves along their inside faces, and guide bars attached to each end of said header, said guide bars being slidably disposed in said grooves.

3,341,993 ANCHOR

Robert A. Lavond, 1395 San Tomas Aquino Road, San Jose, Calif. 95130; and Lado Muhlstein, Jr., 280 Easy St., Apt. 14B; and Donald L. Kassner, 2480 Wyandotte, Apt. 4, both of Mountain View, Calif. 94040
Filed May 17, 1965, Ser. No. 456,331
1 Claim. (Cl. 52-158)

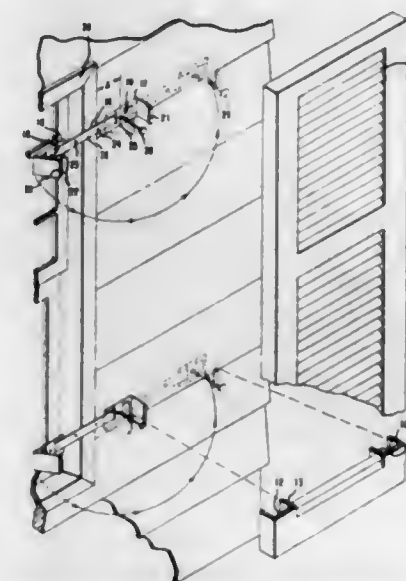


An anchor comprising a stake, a connecting arm, a coupling extension on said arm coupling the arm to said stake, said coupling extension having wall means forming a holding surface for slidably engaging said stake, said coupling extension being shaped to form an open space through which said stake can be moved between engagement with said holding surface and parallel alignment with said connecting arm, said connecting arm being rebent to form an eye opening at a position spaced from

said coupling extension, and said connecting arm being shaped to form a hook adjacent said eye opening, said hook being disposed intermediate the ends of said arm and being formed as a continuation of the rebent portion of the arm, said hook having its open end toward said coupling extension and its closed end toward said eye opening, said hook being formed with a wall confronting said connecting arm in an angularly disposed arrangement to form a wedging action therebetween for gripping a rope disposed therebetween and received by the eye opening.

3,341,994 MOUNTED SHUTTER ARRANGEMENT AND METHOD OF MOUNTING

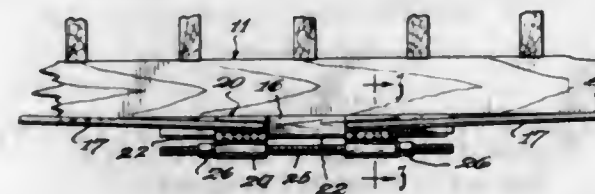
Edwin G. Olson, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 27, 1965, Ser. No. 459,395
3 Claims. (Cl. 52-204)



1. A mounted shutter arrangement comprising a shutter having a substantially rectangular frame with two spaced longitudinal channels in the two vertical sections of the frame said channels including inner rails; a substantially flat base plate fastened in a horizontal position to the side of a building adjacent a window frame and two substantially L-shaped resilient projections from the opposite outer edges of said base plate, said projections being turned inwardly at an acute angle relative to said base plate engaging the inner rails of said channels of said shutter.

3,341,995 BRACING STRUCTURE

Melford H. Docken, 415 Washington, Glencoe, Ill. 60022, assignor of one-half to Seymour Graham, Glencoe, Ill.
Filed June 11, 1964, Ser. No. 374,420
2 Claims. (Cl. 52-226)

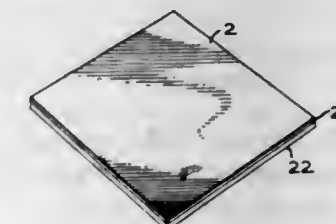


1. A bracing structure adapted to support the central portion of an elongated structural member against sagging, said bracing structure comprising two straps on each side of an elongated structural member, each of

said straps on one side of said elongated structural member being located on opposite sides of the longitudinal center of said elongated structural member and extending angularly downwardly toward said longitudinal center, the outer end of each of said straps being secured to said elongated structural member, the inner end of each of said straps terminating short of said longitudinal center, a stirrup rigidly secured to both straps on one side of said longitudinal center, a second stirrup rigidly secured to both straps on the other side of said longitudinal center, each of said stirrups being spaced from said longitudinal center and extending under the bottom of said elongated structural member, a tubular sleeve welded to each side of each of said stirrups, the lowermost portion of each of said sleeves being flush with the bottom of said stirrups, a screw extending through the sleeves on each side of said stirrups, and means cooperating with each of said sleeves to move said stirrups longitudinally of said screws toward said longitudinal center to shorten the longitudinal distance between the inner ends of said straps, said longitudinal movement of said stirrups being effective to lift the inner ends of said straps and thereby move the central portion of said elongated structural member toward a straight line condition.

3,341,996 FLOOR STRUCTURES COMPRISING FLOOR COVERING LAYER CONTAINING MAGNETIC MATERIAL

William H. Jones, Mountain Side, N.J., and Emanuel Laprezosa, Greensburg, Pa., assignors to The General Tire & Rubber Company, a corporation of Ohio
Filed Feb. 23, 1966, Ser. No. 529,563
1 Claim. (Cl. 52-309)



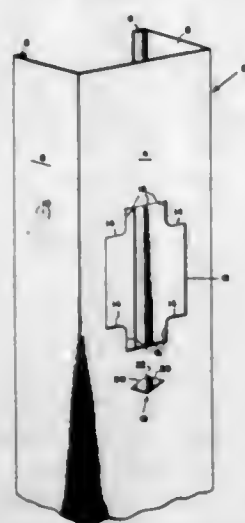
A floor structure comprising a subflooring composed of a first magnetic material having magnetic particles dispersed in a matrix, a floor covering layer in the form of tiles about 25 to 100 mils in thickness, and consisting of a top decorative sheet of vinyl chloride polymer having a thickness of between about 15 and about 90 mils, and a bottom sheet laminated to and coextensive with said top sheet, having a thickness of between about 10 and about 25 mils and composed of permanently magnetized barium ferrite particles having a size of between 1 and 100 microns and constituting between about 50 and about 90% of said bottom sheet, and the remainder comprising a resinous binder, said tiles being retained upon said subflooring solely by magnetic attraction between said subflooring and said tiles.

3,341,997 WALL CONSTRUCTION

Paul Pestel, Anaheim, and James Manderbach, Hacienda Heights, Calif., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts
Filed Apr. 7, 1965, Ser. No. 446,147
13 Claims. (Cl. 52-364)

1. A building wall construction comprising in combination a vertical stud member of the metal section type having a web portion and side faces to which wall panels can be secured, said web having a utility opening therein,

a transverse building member passing through said utility opening, a smaller opening in said web at a location spaced from said utility opening, a wire-like means passing

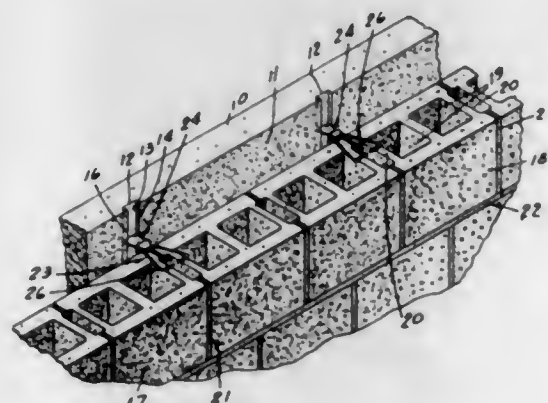


through said smaller opening and securing said member against the stud member, and wall panels secured flatly against at least one of said side faces of the stud member.

3,341,998
FLEXIBLE REINFORCEMENT JOINT FOR MASONRY WALL REINFORCEMENT
Joseph N. Lucas, Hammond, Ind., assignor to AA Wire Products Co., Chicago, Ill., a corporation of Illinois
Filed Apr. 23, 1965, Ser. No. 450,425
1 Claim. (Cl. 52-379)

In combination,
a poured concrete wall having a vertically extending flat surface,
a vertically extending dovetail slot formed in said surface having a bottom wall and reentrant side walls terminating in a mouth narrower than said bottom wall,
a masonry wall laterally adjacent said concrete wall and comprising separate block members joined in assembly with one another by means of horizontal and vertical mortared joints,
and an adjustable wall tie assembly interconnecting said walls and comprising
an anchor and
a wire tie member,
said anchor member comprising a strip form element bent into a "J" shaped configuration having a long leg and a reversely turned short leg joined by a curved bight portion,
said long leg having a first set of side edges extending longitudinally and converging inwardly from an end edge towards a narrow throat portion at an angle of convergence corresponding to the reentrant angle of said dovetail slot,
said long leg being received in said dovetail slot and being dimensioned to position said throat outwardly adjacent said mouth,
said long leg having extending oppositely and transversely of said throat portion a transverse shoulder formed as a return portion extending to a width equal to the width of said end edge of said long leg,
said long leg having a second set of side edges which converge and blend into said curved bight portion,
said bight portion comprising the narrowest dimension of said anchor member,
said bight portion extending through approximately 180° of curvature and terminating in said short leg,

said short leg having side edges diverging outwardly from said bight portion towards and terminating at an end edge spaced opposite and parallel to said transverse shoulder,
said side edges of said short leg being in parallel spaced relation to said second set of side edges on said long leg,
said short leg and said long leg together with one another forming a hook,
said end edge of said short leg together with said transverse shoulder on said long leg forming stop means to prevent lateral movement of the anchor member towards the concrete,
said first set of side edges on said long leg engaging said side walls of said dovetail slot to prevent lateral withdrawal movement of said anchor member away from the concrete wall,
said wire tie member comprising a wire form member of selected size and shape to form a hook engaging leg longer than said bight portion of said anchor member,

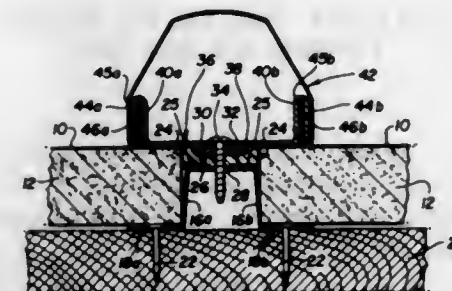


said hook engaging leg terminating in angularly diverging legs offset therefrom at opposite ends of said hook engaging leg which, in turn, terminate in transversely disposed confronting legs offset from each of said diverging legs to extend in a direction parallel to said hook engaging leg,
all of said legs of said wire tie member being disposed in coplanar relation with said hook engaging portion of said wire tie member,
said tie member being hooked in assembly with said anchor member with said hook engaging leg received in and seated against said bight portion to prevent lateral movement of said tie member away from said concrete wall,
said legs of said wire tie member extending into the horizontal mortared joint of said masonry wall and being integrated with said masonry wall to prevent relative lateral displacement of said walls with respect to one another,
said hook engaging leg of said wire tie member being slidably adjustable horizontally in said narrow bight portion of said anchor member to accommodate slight horizontal movement of said masonry wall relative to said concrete wall.

3,341,999
ARRANGEMENT FOR INSTALLING BATTENS ON PANELLED ROOFS AND WALLS
Edward T. Berg, 187 Fremont St.,
San Francisco, Calif. 94105
Filed May 18, 1965, Ser. No. 456,673
3 Claims. (Cl. 52-395)

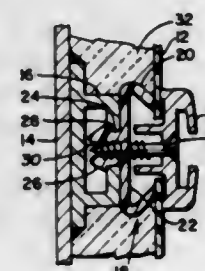
1. A cover arrangement for the surfaces of roofs and walls comprising an inverted channel member having a bight portion and having the end edges of its side walls

turned outwardly to form flanges resting on the surface of the roof or floor, panels of sheet material in the form of inverted trays having outwardly turned peripheral lips arranged adjacent said channel member with said lips overlying the bight portion of said channel member, a pad of a plastic sealing material arranged upon said lips and the bight portion of said channel member in the space between the confronted side walls of said panels, a bar arranged upon said pad, a batten holder in the form of a U-shaped clip having a bight portion sup-



ported upon said bar, the legs of said clip being turned outwardly upon themselves to form guide channels, screw means passing through the bight portion of said holder, said bar and said pad of sealing material and engaged in the bight portion of said channel member, and a batten of the cross-sectional contour of an arch having its pier portions turned inwardly in the manner of a hair pin to form guide strips, said batten being placed over the joint between the panels and over said batten holder with said guide strips thereof slidably engaged in the guide channels of said holder.

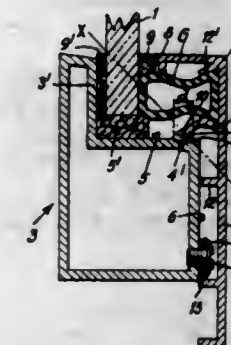
3,342,000
PANEL MOUNTING STRUCTURE
Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,476
4 Claims. (Cl. 52-468)



1. A panel mounting structure including in combination:
a support member having an aperture;
a spacer element positioned in said aperture, said spacer element including:
1. a base segment, at least a first part of said base segment being adapted to make contact with said support member,
2. first and second spaced apart opposed flanges extending from opposite edges from the side of said base segment removed from the side thereof which faces the support member, said flanges extending from said base segment at an angle other than 90°,

3. a projection extending from said base segment on the side thereof removed from said first and second flanges, said projections extending into the aperture in the said support member and being at least partly bifurcated into third and fourth opposed flange segments having a space therebetween,
4. a shoulder extending outwardly from each of said third and fourth opposed flange segments, the span between said shoulders being greater than the span of the aperture in the support member, said shoulders being adapted for insertion into the aperture in the support member, said spacing between the third and fourth flange segments allowing relative inward movement of said shoulders during insertion whereby said shoulders may be snapped into the aperture in the support member;
a mounting element positioned opposite to said first and second spaced apart flanges, said mounting element having an engaging surface;
a fastener having a diameter greater than the spacing between said third and fourth flange segments of said spacer element, said fastener being adapted to pass through said mounting element and said base segment of said spacer element and to extend into the space between said third and fourth flange segments whereby said third and fourth flange segments are urged apart and said shoulders engage the inner surface of the support member thus preventing removal of said spacer element from the aperture in the support member; and
a panel member, at least a part of said panel member being held between said engaging surface of said mounting element and one of said first and second flanges.

3,342,001
FRAME ASSEMBLY FOR WINDOWS, DOORS OR THE LIKE
Maurice Arnd, Sablons 36, Neuchatel, Switzerland
Filed June 16, 1965, Ser. No. 464,328
Claims priority, application Switzerland, June 17, 1964, 7,869/64
7 Claims. (Cl. 52-498)

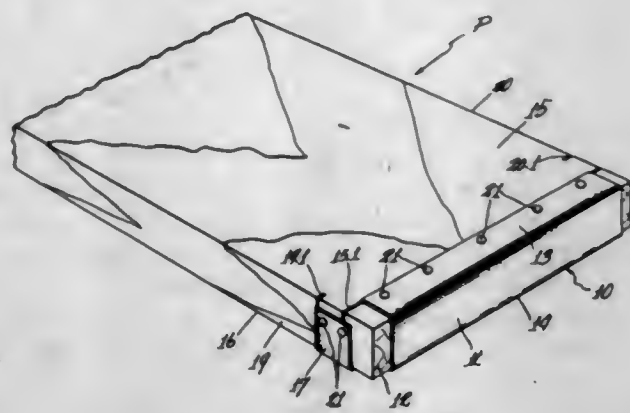


1. A window frame assembly comprising a base section for supporting a glass panel, and at least one cover section mounted on said base section for holding said glass panel thereon, said base section being a hollow prismatically shaped section provided with at least two perpendicular sides, one which has an inclined V-shaped groove extending parallel to and adjacent the junction of the two perpendicular sides of the base section, said cover section including, on the one hand, an element adapted to bear against the glass panel, an inner rib terminating in a hook portion engaged in said V-shaped groove, and, on the other hand, a part serving as a third supporting point on the other side of the V-shaped groove relative to the said junction of the base section, and a gasket between the glass panel and the cover section to hold the hook portion pressed in said V-shaped groove.

3,342,002

PROTECTIVE DEVICE FOR PLANKS AND THE LIKE AND METHOD OF ASSEMBLY

James T. Traichal and David C. Crummel, Niles, Ohio, assignors to Traichal Construction Company, Niles, Ohio

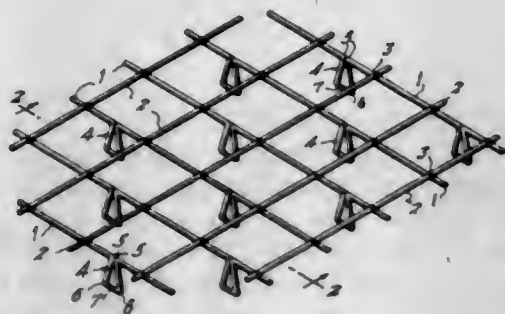
Filed Apr. 15, 1965, Ser. No. 448,380
6 Claims. (Cl. 52-627)

5. A protective cap for use with a wood plank having longitudinally extending grain structure, said cap being formed as a channel-shaped, sheet metal member having a first portion for overlying one end of said plank, second portions integral with said first portion for overlying opposite sides of said plank adjacent its end aforesaid, and said sheet metal member also having third portions for overlying opposite edges of said plank adjacent such plank end, margins of said second and third sheet metal member portions extending transversely of said plank being turned inwardly thereof to fit within respective recesses formed in said plank, the improvement wherein each of said sheet metal member third portions is exclusively integral with one of said sheet metal member second portions to insure registry of the turned margin aforesaid of respective sheet metal member third portions with respective recesses formed in said plank despite variations in plank width.

3,342,003

MESH REINFORCEMENT WITH SPACER FOR CEMENTITIOUS MATERIAL

Joseph J. Frank, 41 Osborne Ave., Brielle, N.J. 08730

Filed Sept. 25, 1963, Ser. No. 311,433
2 Claims. (Cl. 52-664)

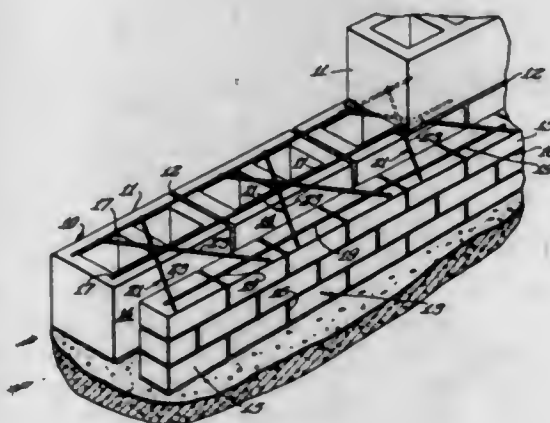
1. A reinforcement for cementitious materials comprising a plurality of elongated support elements disposed in a common plane, and tie elements in crossed perpendicular relation to said support elements and rigidly secured to said support elements at the zones of crossing of the elements, said support elements having a plurality of loops therein projecting equidistantly therefrom at one side of said plane and between said tie elements, the loops

in each support element being disposed in staggered relation to the next adjacent support elements, said loops having arms each connected at one end to the support element and connected at its other end by a bight to the other arm, and the bights of said loops being straight and parallel to the respective support elements providing for large areas of contact of the loops with a supporting surface.

3,342,004

MASONRY WALL REINFORCEMENT WITH A-FRAME CONSTRUCTION

Joseph N. Lucas, Hammond, Ind., assignor to AA Wire Products Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 7, 1963, Ser. No. 314,328
2 Claims. (Cl. 52-695)

1. A masonry wall reinforcing device for locating in the adjacent mortar joints of a cavity masonry wall including a backup wall and a parallel spaced tying wall, comprising a pair of adjacent parallel relatively rigid metal rods adapted to be positioned in the mortar joint of the backup wall and to extend therealong, a single relatively rigid metal rod adapted to be positioned in the mortar joint of the facing wall and extend therealong in parallel relation with respect to said first mentioned rods, a plurality of relatively rigid crossing rod metal locking structures connecting said parallel spaced rods together, said parallel spaced rods and said crossing rod locking structures all lying in substantially the same common plane, means permanently joining said crossing rod locking structures at the points of crossing of said crossing rod locking structures and joining said crossing rod locking structures to said parallel spaced rods, comprising flush welded connections between said rods attaining a rigid self-sustaining structure of lesser thickness than the thickness of the mortar joints, and the angles between said crossing rods being in the range of between 60 and 90 degrees.

3,342,005

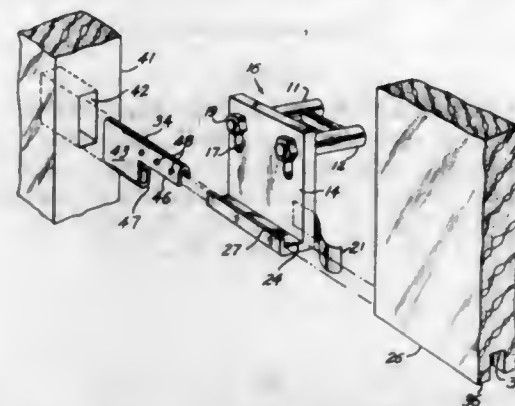
CRYPT FASTENER

John W. Rickards, Evangeline H. Rickards, and John B. Sinner, all of 1711 Santa Barbara St., San Diego, Calif. 92107

Filed Mar. 26, 1965, Ser. No. 442,922
4 Claims. (Cl. 52-702)

1. An improved crypt fastener for keying and removably fastening together crypt front slabs to crypt anchor bushing studs comprising:
a fastener bracket having a vertical wall adapted to be carried by anchor bushing studs;
said bracket having a horizontal shelf dimensioned for carrying at least one crypt front slab directly thereon;
said horizontal shelf having a vertical lip on a front edge thereof; and

a key member, said key member having a slot adapted to slidably receive said vertical lip whereby upon sliding said key member to one side of said vertical lip and upon the replacement on said shelf of a crypt

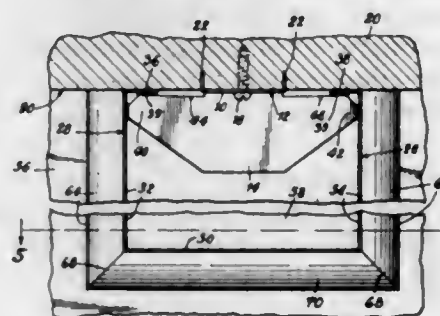


front slab having a slot dimensioned greater both horizontally and vertically than said key member and upon sliding said key member into said crypt slot said crypt slab will be removably mounted to said fastener.

3,342,006

FALSE BEAM CEILING STRUCTURE

Gerald John Joseph, North St. Paul, and Kern Clair Olson, Minneapolis, Minn., assignors to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware

Filed June 11, 1965, Ser. No. 463,187
2 Claims. (Cl. 52-718)

1. A ceiling structure comprising a main ceiling presenting a generally planar horizontal face and having two opposite edges, a plurality of spaced sheet metal hangers aligned and secured to said ceiling between said two edges, each hanger comprising sheet metal formed and bent on a folding line to provide a planar mounting section for the hanger and at a right angle thereto a planar section, oppositely directed ears extending from said planar section for supporting a simulated beam, said two ears having in the vicinity of their extreme ends uppermost top edges slightly below the plane of the outermost face of the mounting section, the top edges of said ears being slightly inclined such that the outermost ends of the top edges are closer to the plane of said mounting section than the inner ends of said top edges, said mounting section having an opening for headed securing means to pass through it in one manner of mounting the hanger, said mounting section also having at least two tabs extending from said mounting section in the opposite direction to said planar section for engagement over parallel flanges of a grid member in a suspended ceiling in a second manner of mounting the hanger, and a simulated beam immediately below said ceiling face extending between said two edges, said beam being in the form of a U-shaped hollow sheet metal form having vertical sides normally spaced apart by a distance to encompass between them the said two ears, said vertical sides having at their upper ends narrow intumed horizontal flanges to rest upon said outermost ends of the top edges and close the space between said top edges and

said ceiling face, said sidewalls being sufficiently resiliently spreadable apart at the region of said flanges to separate said flanges for mounting the beam on said aligned hangers.

3,342,007

STRUCTURAL MEMBER

Karol J. W. Merson, Toronto, Ontario, Canada, assignor to Anthes Imperial Limited, St. Catharines, Ontario, Canada

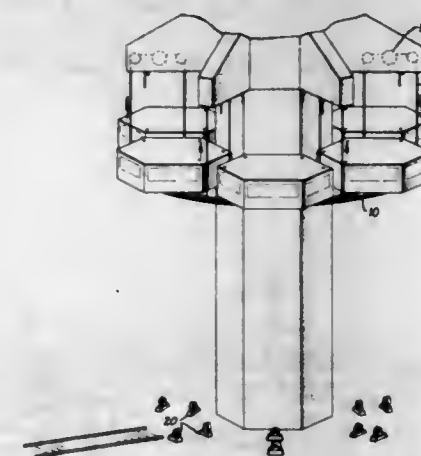
Filed Aug. 3, 1964, Ser. No. 387,082
1 Claim. (Cl. 52-729)

A structural member manufactured from a single piece of steel sheet by cold roll forming, said structural member having a pair of longitudinally extending load bearing elements and an intervening web, said load bearing elements each having a first extent positioned transversely to the plane of said web and two sloped extents extending from the side margins of said transverse extent to said web, one sloped extent of each of said load bearing elements terminating, adjacent said web, in a free edge which abuts against the other sloped extent in the same load bearing element, the angle between the sloped extents in each load bearing element being 90°, the transverse extent of each load bearing element being provided with a longitudinally extending shaped indentation.

3,342,008

SUSPENDED MODULE BUILDINGS

Christian Frey, San Francisco, Calif., assignor to Suspended Structures, Inc., San Francisco, Calif., a corporation of California

Filed Dec. 22, 1965, Ser. No. 515,602
4 Claims. (Cl. 52-745)

1. In the method of making a building from modular units by erecting at least one substantially vertical service column on the ground, mounting a support portion on the column at an elevation substantially above the ground, and prefabricating at a location remote from the support portion a plurality of three dimensional modular units from which the building is to be made, the improved method of moving the modular units from the remote location and attaching the units to the support portion which comprises:

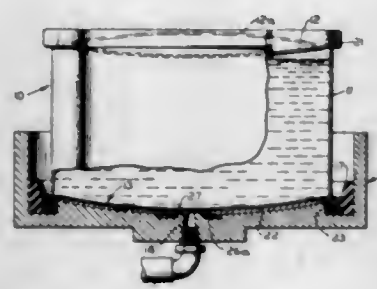
(A) mounting a platform adjacent to the column underneath and at a level substantially below the support portion,

- (B) moving a plurality of the modular units that constitute substantially a full floor level onto the platform from the remote location,
 (C) lifting the platform, with the plurality of modular units thereon, to an elevated position,
 (D) attaching the plurality of modular units to the support portion,
 (E) lowering the platform to its initial position, and
 (F) continuing to thus move and suspend full floor levels of modules and raise and lower the platform until a building is substantially complete.

3,342,009

METHOD OF PROVIDING A HEAD SPACE WITHIN A FILLED CONTAINER

Earl R. Anderson, Campbell, Calif., assignor to Philip H. Allen, Saratoga, Calif.
 Filed June 11, 1962, Ser. No. 201,711
 4 Claims. (Cl. 53-22)

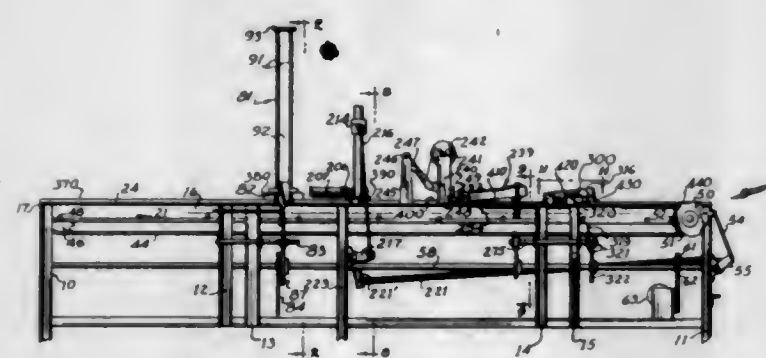


2. A method of providing a head space within a filled can having a side wall and two end closures connected thereto, which comprises filling the can, exhausting the filled can, closing the can, heating the can to move said closures to an outwardly dished condition, and reinforcing at least one of said closures while in said outwardly dished condition to retain said dished condition.

3,342,010

APPARATUS FOR AND METHOD OF FILLING AND SEALING CUPS

Nelson R. Henry, Decatur, Ga., assignor to Sav Oil, Inc., Atlanta, Ga., a corporation of Georgia
 Filed Sept. 18, 1963, Ser. No. 309,831
 6 Claims. (Cl. 53-37)



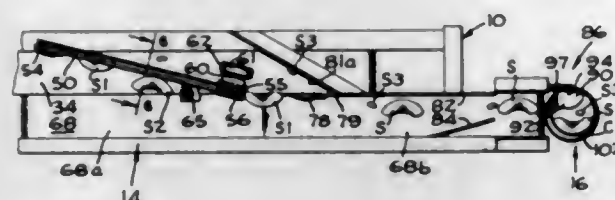
6. In a process of providing filled, sealed cups in a tray, the steps of arranging open ended cups nested one within the other in a vertical stack in a cup depositing zone, passing along a predetermined path past said cup depositing zone a tray having equally spaced recesses aligned with the path of movement of said tray, dropping the bottommost cup of said stack into an intermediate holding position while retaining the remaining cups of the stack in the depositing zone, subsequently moving the bottommost cup to a discharge position and dropping the bottommost cup into the first recess in said tray when

the recess of said tray is in the cup depositing zone, sequentially dropping additional bottommost cups into successive recesses of said tray as said recesses move into the cup depositing zone, successively inserting material into the cups, and sealing the open ends of the filled cups.

3,342,011

CONTAINER FILLING MACHINE

Thomas G. Cox and Wilber C. Belk, Lakeland, and Hans W. Grotewold, Sebring, Fla., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed Nov. 6, 1964, Ser. No. 409,529
 11 Claims. (Cl. 53-59)

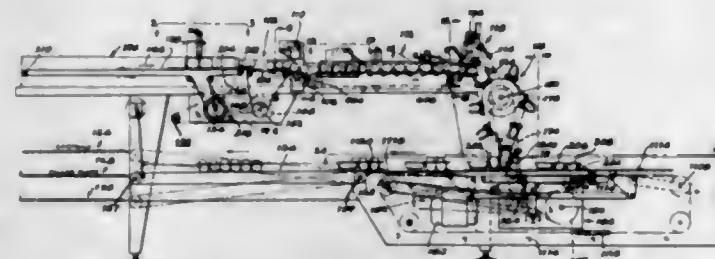


11. An apparatus for filling a container with segmented sections comprising a frame, means mounted on said frame for supplying a random assortment of said sections, said supplying means including a conveyor for moving said sections and means movable to a first position for stopping said sections and to a second position for passing said sections, orientating means mounted on said frame in a position for receiving said sections from said supplying means and positioning said sections in a single row with substantially all of said sections being orientated in the same direction, means for filling a container with a predetermined quantity of said sections, said filling means including means for sensing said predetermined quantity of said sections within said container being filled; said stopping means being moved into said section stopping position responsive to said sensing means when said sections reach said predetermined quantity in the container being filled.

3,342,012

EGG PACKER

Walter J. Reading, Ottumwa, Iowa, assignor, by mesne assignments, to Barker Poultry Equipment Company, Ottumwa, Iowa, a corporation of Iowa
 Filed Feb. 12, 1964, Ser. No. 344,285
 41 Claims. (Cl. 53-62)



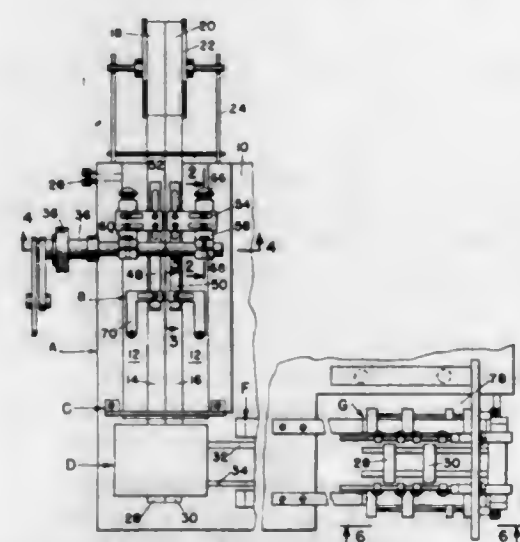
3. In an article handling machine, in combination, a star wheel device having a plurality of article-receiving pockets, an accumulator conveyor leading to said star wheel device for discharging articles to said pockets, an infeed conveyor discharging to said accumulator conveyor, means for driving said infeed conveyor, a plurality of plow members forming channels at said pockets,

means for driving said star wheel device only when all the pockets thereof are filled with articles to thereby advance a row of articles,
 a container conveyor adapted to support containers thereon,
 packer means adapted to receive rows of articles formed by said star wheel device and deposit them in containers on said container conveyor,
 drive means for simultaneously driving said accumulator conveyor, vertically reciprocating said plow members, driving said container conveyor, and driving said packer means,
 and means responsive to abnormality of any row of articles or of abnormality at said container conveyor to disable both said drive means and said means for driving the star wheel device.

3,342,013

WEB MATERIAL SEVERING, FOLDING AND PACKING DEVICE

Frederick F. Forthmann, Jr., 688 Pascack Road, Washington Township, N.J. 07882
 Filed July 10, 1964, Ser. No. 381,851
 14 Claims. (Cl. 53-123)



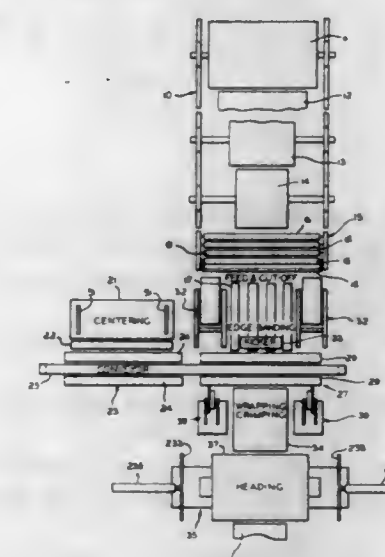
4. In a strip or label cutting and forming device in which strip material in continuous length is fed into association with a reciprocating knife for the cutting of material into individual label elements, a strip material feeding mechanism comprising an oscillatable shaft member, means supporting said oscillatable shaft member for oscillation and for movement forwardly and backwardly in a direction of strip material feed, a feed finger connected to said oscillatable shaft member and being oscillatable therewith and movable backwardly and forwardly upon backward and forward movement of said oscillatable shaft member, said finger having a downwardly turned portion adapted to contact the continuous strip material and to advance it in a direction of feed when said member is oscillated downwardly into engagement therewith and thereafter moved forwardly, means for cutting said strip material into individual label elements, a packing mechanism including at least one laterally displaceable supporting ledge member, means for advancing the individual label elements into association with said packing mechanism and above the displaceable ledge member, means for displacing the ledge member out of the path of said label element to permit the label element to fall downwardly, and means for supporting said label elements in a stack below said ledge element, said means for supporting said labels in a stack comprising a supporting base, means mounting said supporting base for vertical movement, and means to bias said member against vertical movement,

said biasing means being of an amount to permit downward movement of said base member as said labels are fed downwardly.

3,342,014

ROLL WRAPPER

George J. Prager, Rosemont, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
 Filed Sept. 29, 1964, Ser. No. 400,140
 17 Claims. (Cl. 53-214)



8. A roll wrapping apparatus comprising, a centering station, axially aligned conveying and wrapping stations disposed to one side of said centering station, said centering station including a series of troughed rollers supporting a roll of paper for movement along its axis of rotation, a support frame for said rollers tiltable about an axis extending transversely of the axes of rotation of said rollers and parallel to the axis of rotation of the roll of paper supported on said rollers, a ramp between said centering station and said conveying station, means tilting said frame and rollers to effect the discharge of a roll of paper from said troughed rollers onto said ramp to roll to said conveying station, said conveying station and said wrapping station each drums disposed to one side of said centering station and extending parallel thereto in axial relation with respect to the axis of rotation of a roll to be wrapped, said support drums of said wrapping station being rotatably driven to effect the wrapping of a roll of paper with a wrapper web passing in the nip between said support drum and the roll of paper supported thereon, said wrapping station also including a glue applicator applying glue to the leading and trailing ends of the wrapper on the side thereof facing the roll of paper, banders movable toward and from each other in accordance with the length of the roll of paper, for banding the roll of paper and disposed at the incoming side of said wrapping station, crimpers at the outgoing side of said wrapping station mounted for movement toward and from each other in accordance with the length of the roll, for crimping the wrapper to the ends of the roll, a kicker at the incoming side of the wrapping station for kicking a roll of paper therefrom for heading, and a header spaced from the outgoing side of the wrapping station for applying outside heads to the crimped ends of the wrapped roll.

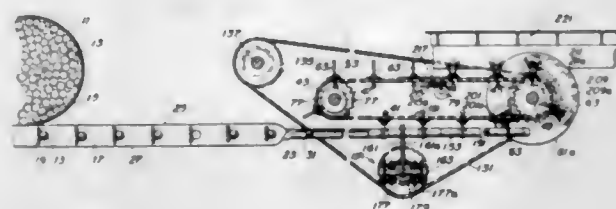
3,342,015

ARTICLE WRAPPING MACHINE

Kaoru Kawasaki, Mozu Akahata-machi, Sakai, and Yasuichi Kawata and Senzo Koto, Sakai, Japan, assignors to Tenchi Kikai Company, Inc., Sakai, Osaka, Japan

Filed Oct. 9, 1964, Ser. No. 402,815

3 Claims. (Cl. 53-217)



1. Apparatus for continuously and automatically packaging individual articles in separate finite segments of a formed tubular sheet-like wrapping material, said apparatus comprising, in combination:

- motor means and cooperating belt means for driving said apparatus;
- a web of said wrapping material adapted to move in a generally lengthwise direction;
- positioning means for placing said articles at predetermined regularly spaced intervals on said lengthwise moving web;
- forming means for continuously shaping said moving web to define an elongated generally tubular body;
- linearly advancing gripping means operable to grasp and hold said articles through said web and comprising means gripping and pulling said web forwardly as said articles move with said web;
- web cutting means positioned forwardly of at least one of said gripping means for severing said moving tubular body between article containing portions thereof to provide finite segments of said tubular body, each said segments containing an article to be wrapped;
- rotating means for positioning each said segments to present opposed ends of said segments for subsequent twisting operations;
- means for gripping and twisting each said segments at said opposed ends thereof to provide individually wrapped articles;
- and means positively intercoupling said web, said article gripping means, said means gripping said web and said gripping and twisting means in mechanically keyed and locked synchronization at identical linear speeds and driving said web cutting means in synchronization with linear movement of said moving web;
- whereby all linearly advancing elements of said apparatus are maintained in predetermined fixed relative positions in absolute and locked synchronization, and whereby said synchronization is automatically maintained irrespective of changes in speed of said drive means and said linearly advancing elements.

3,342,016

LOADING AND PACKAGING APPARATUS

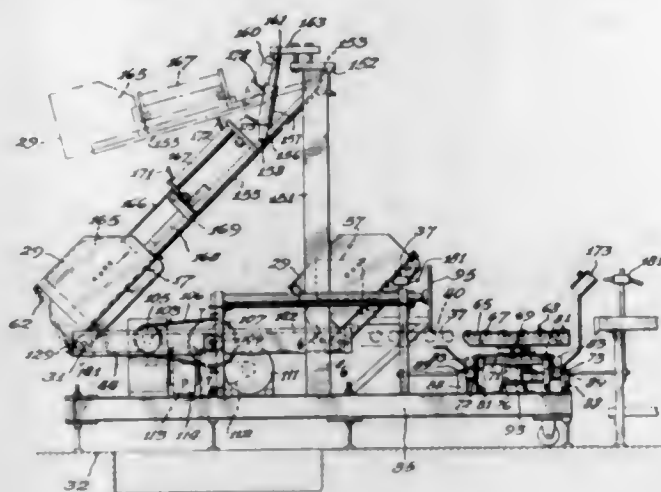
Allan Bamba, Elwood, and Richard D. Bunker, Alexandria, Ind., assignors to National Gypsum Company, a corporation of Delaware

Filed May 3, 1963, Ser. No. 277,861

18 Claims. (Cl. 53-249)

1. Apparatus for packaging a plurality of articles within a container comprising a transporter means having a plurality of arcuately spaced generally V-shaped receiving troughs mounted for rotation about a common axis and

adapted in one position to receive the articles and maintain the articles in aligned and stacked relationship relative to each other and supported at each wall of the V-shaped trough, means for shifting the transporter and the V-shaped trough for supported articles between article-receiving and article-unloading position, means for maintaining the loaded V-shaped trough in an upwardly open



position during shifting between the loading and unloading positions, a container support means adapted to hold an article-receiving container at the unloading position, and means at the unloading position for removing the plurality of aligned and stacked articles from the V-shaped troughs as a group and for forcing the group into an article-receiving container.

3,342,017

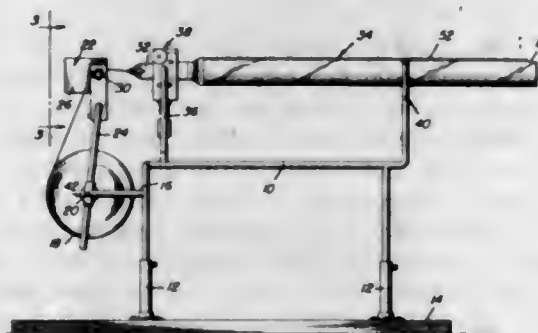
PACKAGING MACHINE

John H. Yerkey, 3005 Ailsa Ave.,

Baltimore, Md. 21214

Filed Dec. 15, 1964, Ser. No. 418,462

10 Claims. (Cl. 53-255)



1. Apparatus for encasing an elongated article in a slip-over wrapper, comprising an elongated hollow member for receiving said wrapper as an envelope and for housing said elongated article and having an opening at one end for permitting simultaneous withdrawal of said elongated article and said wrapper from said elongated member to obtain encasement of said article, roller means mounted to said elongated member for engaging the interior of said wrapper, and stationary roller means for engaging the exterior of said wrapper in embracing relationship with respect to said first mentioned roller means to thereby anchor said elongated member, said elongated member including a head end and consisting of two sections and means for clamping said two sections together,

with said first mentioned roller means each having a journal shaft element encompassed by the junction of said two sections to thereby obtain mounting of said roller means.

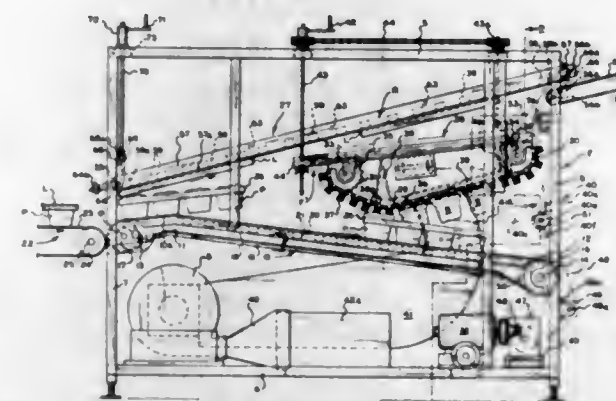
3,342,018

DELIDDING AND CONVEYING MECHANISM

Hiram E. Temple, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York

Filed July 23, 1964, Ser. No. 384,617

9 Claims. (Cl. 53-381)



3. Conveyor mechanism comprising: longitudinally extending, chain carrying means; a magnetizable endless roller chain extending along a bottom portion of said chain carrying means and projecting slightly below other portions thereof; means for driving said chain; said chain carrying means including non-magnetizable guide track means supported above said chain and permanent magnet means mounted on said chain carrying means to magnetize said chain along its lower run; said track means having longitudinally extending guide surface rib means disposed so as to be engaged only by the rollers of said chain which, due to the magnetic field created, is held upwardly to engage said guide surface means.

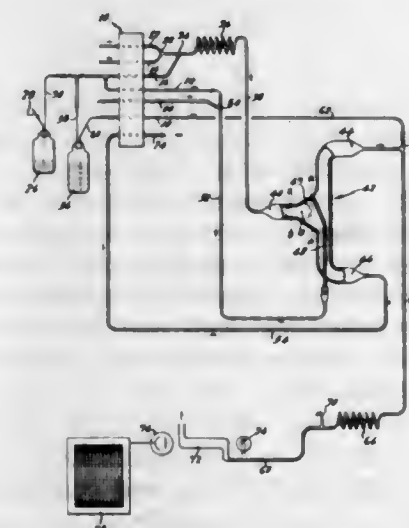
3,342,019

GAS AND LIQUID SEPARATOR FOR GAS ANALYSIS

William J. Smythe, Rye, N.Y., assignor to Technicon Corporation, a corporation of New York

Filed Aug. 12, 1964, Ser. No. 389,087

4 Claims. (Cl. 55-53)



4. A method of separating free gas in a liquid comprising: transmitting the liquid as a stream in a conduit; coalescing the free gas into bubbles to occlude the conduit; serially enlarging the volume of each occluding bubble as it flows in the conduit; and directing a flow of an

additional gas at each enlarged bubble to break each bubble for the escape of the gas therefrom.

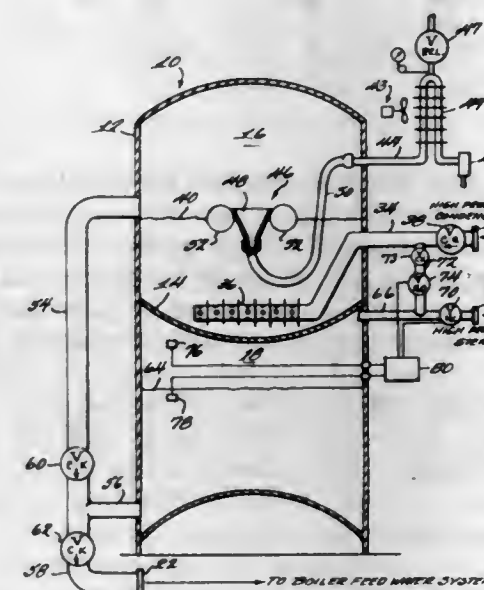
3,342,020

DEAERATION AND PUMPING OF HIGH PRESSURE CONDENSATE

Gene W. Ross, Lorain, Ohio, assignor, by mesne assignments, to Ritter Pfaudler Corp., Rochester, N.Y., a corporation of New York

Filed Nov. 28, 1966, Ser. No. 597,386

3 Claims. (Cl. 55-164)



1. A deaerator and pumping unit for high pressure steam condensate for use with a steam boiler feed system comprising: a tank having an internal partition dividing the interior of said tank into an upper chamber and a lower chamber; a steam condensate conduit communicating with said upper chamber for delivering condensate thereto; vent means associated with said upper chamber for maintaining a desired pressure on the condensate and for removing noncondensable gases from said upper chamber, said vent means including a float carried by the surface of the condensate in said upper chamber and vertically movable with the surface, a vent conduit having an open end, said conduit carried by said float in a position such that said open end is disposed just above the surface, an adjustable pressure relief valve in said conduit, and means connected to the other end of said conduit to pass noncondensable gases and liquid to the atmosphere and to prevent passage of steam; conduit means for conducting condensate from the upper portion of said upper chamber to said lower chamber, said conduit means including one-way valve means permitting liquid flow only from said upper chamber to said lower chamber; conduit means for conducting condensate out of said lower chamber for return to the boiler, said conduit means including one-way valve means permitting liquid flow only from said lower chamber; means for introducing high pressure steam from the boiler into said lower chamber; means for introducing high pressure steam condensate into said upper chamber; and control means for said steam introducing means and for said condensate introducing means, said control means including a device associated with said lower chamber responsive to a predetermined high liquid level therein to simultaneously introduce high pressure steam into said lower chamber while closing said condensate introducing means and responsive to a predetermined low liquid level in said lower chamber to simultaneously close said steam introducing means and open said condensate introducing means.

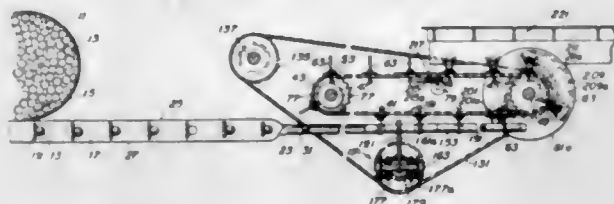
3,342,015

ARTICLE WRAPPING MACHINE

Kaoru Kawasaki, Mozu Akahata-machi, Sakai, and
Yasuichi Kawata and Senzo Koto, Sakai, Japan, as-
signors to Tenchi Kikai Company, Inc., Sakai,
Osaka, Japan

Filed Oct. 9, 1964, Ser. No. 402,815

3 Claims. (Cl. 53-217)



1. Apparatus for continuously and automatically pack-
aging individual articles in separate finite segments of
a formed tubular sheet-like wrapping material, said ap-
paratus comprising, in combination:

motor means and cooperating belt means for driving
said apparatus;

a web of said wrapping material adapted to move in a
generally lengthwise direction;

positioning means for placing said articles at predeter-
mined regularly spaced intervals on said lengthwise
moving web;

forming means for continuously shaping said moving
web to define an elongated generally tubular body;

linearly advancing gripping means operable to grasp
and hold said articles through said web and com-
prising means gripping and pulling said web for-
wardly as said articles move with said web;

web cutting means positioned forwardly of at least
one of said gripping means for severing said moving
tubular body between article containing portions
thereof to provide finite segments of said tubular
body, each said segments containing an article to
be wrapped;

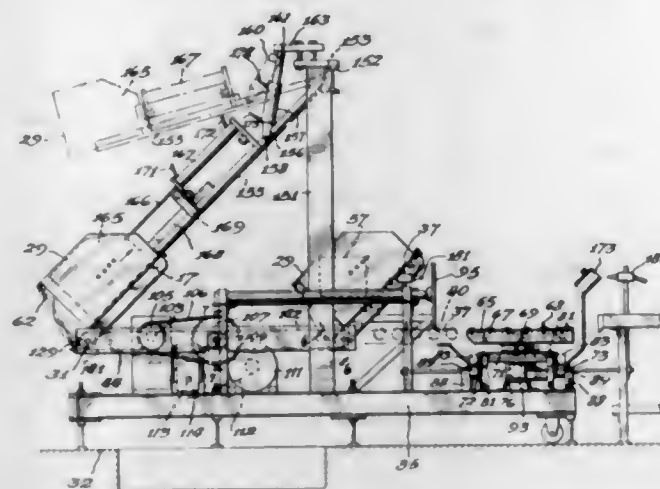
rotating means for positioning each said segments to
present opposed ends of said segments for subsequent
twisting operations;

means for gripping and twisting each said segments at
said opposed ends thereof to provide individually
wrapped articles;

and means positively intercoupling said web, said ar-
ticle gripping means, said means gripping said web
and said gripping and twisting means in mechanically
keyed and locked synchronization at identical linear
speeds and driving said web cutting means in syn-
chronization with linear movement of said moving
web;

whereby all linearly advancing elements of said ap-
paratus are maintained in predetermined fixed rela-
tive positions in absolute and locked synchroniza-
tion, and whereby said synchronization is automati-
cally maintained irrespective of changes in speed
of said drive means and said linearly advancing ele-
ments.

adapted in one position to receive the articles and main-
tain the articles in aligned and stacked relationship relative
to each other and supported at each wall of the V-shaped
trough, means for shifting the transporter and the
V-shaped trough for supported articles between article-
receiving and article-unloading position, means for main-
taining the loaded V-shaped trough in an upwardly open



position during shifting between the loading and unload-
ing positions, a container support means adapted to hold
an article-receiving container at the unloading position,
and means at the unloading position for removing the plu-
rality of aligned and stacked articles from the V-shaped
troughs as a group and for forcing the group into an
article-receiving container.

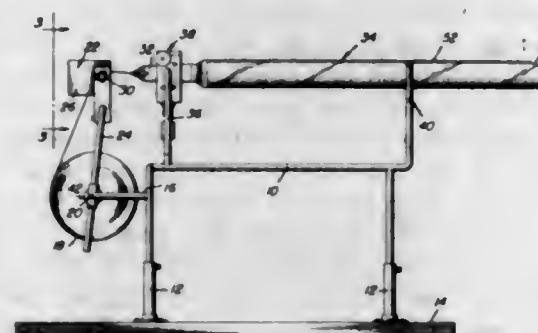
3,342,017

PACKAGING MACHINE

John H. Yerkey, 3005 Allsa Ave.,
Baltimore, Md. 21214

Filed Dec. 15, 1964, Ser. No. 418,462

10 Claims. (Cl. 53-255)



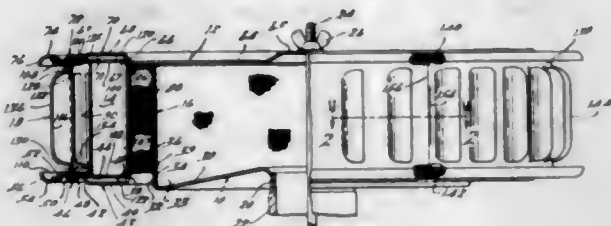
1. Apparatus for encasing an elongated article in a
slip-over wrapper, comprising an elongated hollow mem-
ber for receiving said wrapper as an envelope and for
housing said elongated article and having an opening at
one end for permitting simultaneous withdrawal of said

3,342,021

FILTER

Gustav H. Yelinek and Jack R. Giles, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Substituted for abandoned application Ser. No. 210,679, July 18, 1962. This application Nov. 19, 1964, Ser. No. 414,505

4 Claims. (Cl. 55—337)



1. An air filter assembly adapted for attachment to the inlet end of a tubular air flow conduit comprising a filter housing including top and bottom plates extending transversely to the length of said air flow conduit and further including an annular rim positioned between said plates and acting to space them apart lengthwise of said air flow conduit, said plates and rim being separable each from the others, manually operated adjustable means for clamping said plates against opposite ends of said rim and for holding said housing in operative position on said air flow conduit, a filter member inside said housing including an annular pleated paper filter element substantially concentric with said rim and spaced radially inwardly of the rim to provide an annular inlet chamber in the housing between the rim and the outer periphery of the element, said rim having inlet openings for flow of air into said inlet chamber, said filter member including imperforate end caps sealing opposite ends of the pleated paper element and said end caps each extending radially outwardly from the element and being clamped between an end of the rim and a plate to serve as a seal between the plates and rim, the attachment of said end caps to said housing by means of said plates and rim serving as the sole securement of the filter member to the housing and to floatingly support the filter member in the housing and further serving to force all incoming air to flow through the paper element, said rim spacing said plates apart out of substantial force transmitting relationship with the paper element and acting to transmit all clamping force between the plates and thereby preventing application of clamping force to the paper element, said rim having means therein to provide said inlet openings and arranged to direct air along a swirling path as it enters said inlet chamber.

3,342,022

FILTRATION CELL

René Donguy, Bagnaux, and André Roguin, Antony, France, assignors to Commissariat à l'Energie Atomique, Paris, France

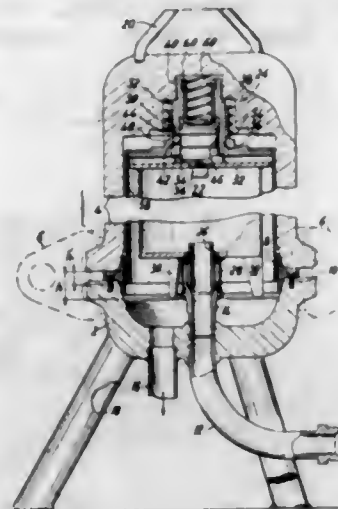
Filed Nov. 5, 1964, Ser. No. 409,055

Claims priority, application France, Nov. 11, 1963, 953,983

4 Claims. (Cl. 55—356)

1. Filtration cell comprising a support unit which forms part of a leak-tight filter container having a filter element and consisting of a number of separable components and a coupling device for securing the filter element to the support unit, said device comprising a tubular member which is integral with said support unit and which is provided with movable locking components, an extension which is formed on said filter element and which can be inserted in said tubular member, said extension being fitted with means for receiving said locking components, a member for operating said locking components which is movable parallel to said extension between a first position in

which said operating member maintains said locking components engaged with said extension and a second position in which said operating member frees said locking components, said operating member being thrust back by elastic means towards the first position and provided with abutment means so constructed and arranged to thrust



back said operating member towards the second position when said abutment means come into contact with cooperating means arranged for this purpose in a transfer can for receiving the filter and when the assembly consisting of support unit and filter element are inserted within said transfer can.

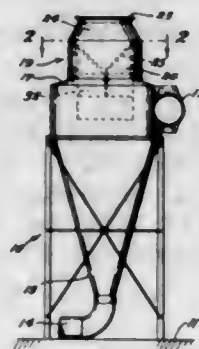
3,342,023

UPFLOW AIR OUTLET SHROUD

William T. Fleming, Cincinnati, Ohio, assignor to The Klrk & Blum Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio

Filed June 26, 1964, Ser. No. 378,252

1 Claim. (Cl. 55—414)



A cyclone having a roof, an upstanding cylindrical tube extending through and above the central portion of the roof and constituting an outlet opening for the cyclone, a weather protective shroud mounted on said roof over said outlet opening, said shroud comprising a lower cylindrical wall portion concentric with the outlet opening and having a larger diameter than said opening, means supporting the cylindrical wall portion upon the cyclone with its lower end disposed below the outlet opening and in spaced relation with the roof to form a circular breather space and a water discharge opening for the shroud, a circular air outlet flange formed on the upper portion of the shroud and disposed concentric with and of substantially the same diameter as the outlet opening, said shroud having an upwardly and inwardly tapering intermediate wall portion connecting the upper edge of the cylindrical wall portion to the air outlet flange of the shroud, a generally V-shaped deflector disposed within the space encompassed by the cylindrical wall portion of the shroud and formed from an oval-shaped plate having a small diameter greater than the diameter of the outlet

opening, said deflector having upwardly divergent wing portions connected together along a centrally disposed angular trough portion, said trough portion extending diametrically across and beyond the outlet opening with the trough ends terminating in spaced relation to the interior face of the cylindrical wall portion of the shroud, the marginal edge of the V-shaped deflector extending to the vertical extension lines of the outlet opening, an annular chamber formed between the marginal edge of the V-shaped deflector and the interior face of the cylindrical wall portion of the shroud and having a capacity substantially the capacity of the outlet opening of the cyclone, a baffle plate mounted within the tube on a diameter thereof and extending upwardly into the shroud beyond the outlet opening, the upper portion of the baffle plate having upwardly divergent top edges, and fastening means securing each upwardly divergent edge of the baffle plate to the underside of a wing on the deflector.

3,342,024

DUST COLLECTOR APPARATUS

Karl L. Westlin, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 435,912

4 Claims. (Cl. 55-443)



1. Dust collector apparatus for separating contaminant particles from a dirty gas stream comprising a gas flow path defining casing means having spaced, substantially aligned and opposed dirty gas inlet means and clean gas outlet means; means to move said dirty gas stream through said casing means; first louvered partition wall means having spaced passage-defining louvers, said partition wall means extending lengthwise of said casing from said dirty gas inlet means toward said clean gas outlet means along the general direction of gas flow in an inclined manner with a first portion of the wall of said casing to form a dirty gas inlet plenum means therewith converging in the direction of gas flow, the louvers of said first partition wall means being inclined so that the spaced passages defined thereby have their upstream portions closer to said clean gas outlet means of said casing than their downstream portions so that gas flowing in said inlet plenum is abruptly changed from its initial direction of flow towards said clean gas outlet means as it passes through said spaced passages defined by said louvers; a first dust particle outlet means opposite said dirty gas inlet means and in communication with said dirty gas plenum means; second louvered partition wall means having spaced passage-defining louvers, said second partition wall means extending substantially parallel to said first louvered partition wall means along the general direction of gas flow and converging with a second portion of the wall of said casing means substantially opposite said

first portion of the wall of said casing means to form a clean gas outlet plenum means therewith diverging in the direction of gas flow in communication with said clean gas outlet means and to provide an intermediate gas plenum means between said first and said second partition wall means, the louvers of said second partition wall means being inclined so that the spaced passages defined thereby have the upstream portions closer to said downstream gas inlet of said casing means than their downstream portions so that gas flowing in said intermediate gas plenum is again abruptly changed from its direction of flow as it passes through said spaced passages defined by said louvers of said second partition wall to resume its initial direction of flow towards said clean gas outlet means; and a second dust particle outlet means spaced from and opposite said first dust particle outlet and said clean gas outlet and in communication with said intermediate gas plenum means to receive dust particles therefrom.

3,342,025

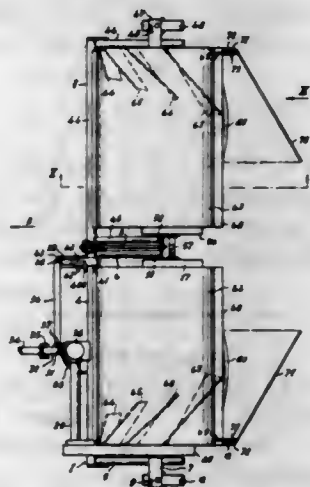
DRUM TEDDERS

Cornelis van der Lely, Zug, Switzerland, assignor to Patent Concern N.V., Willemstad, Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles

Filed June 26, 1964, Ser. No. 378,267

Claims priority, application Netherlands, July 5, 1963, 295,025; Sept. 17, 1963, 298,021

25 Claims. (Cl. 56-372)



1. A drum tedder comprising a frame and a tined drum journaled in said frame, said drum being rotatable about a substantially horizontal axis for displacing and throwing crop over and across said drum to the rear as the tedder moves over the ground, a screening hood supported on said frame above said drum, guide means positioned within said hood to extend over, above and adjacent at least one end of said drum for guiding displaced crop away from said one end towards the center of said drum, said guide means comprising elements which extend obliquely to the rear, the extremities of said elements overlapping one another from the front to the rear towards the center of said drum.

3,342,026

METHOD AND APPARATUS FOR PRODUCING TEXTURED YARN

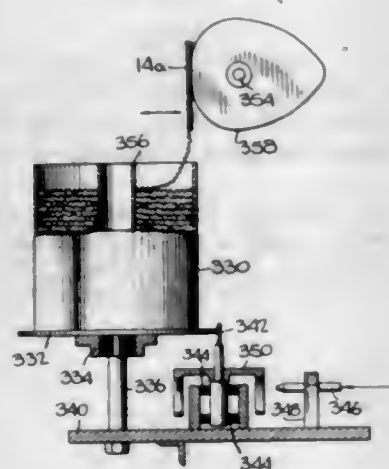
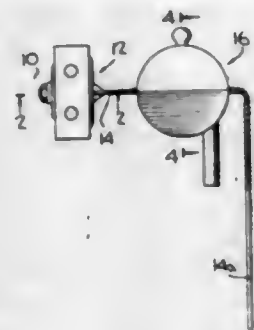
Victor L. Nichols, Bergenfield, and Ivan J. Garshelis, Clark, N.J., assignors to David & David, Inc., Long Island City, N.Y., a corporation of New York

Filed Sept. 16, 1964, Ser. No. 396,957

34 Claims. (Cl. 57-34)

1. Apparatus for texturing yarn, comprising: a mandrel having a longitudinal axis and an elongated marginal edge portion; spinning means having a longitudinal axis coaxial

with said axis of said mandrel for rotation about said longitudinal axis of said spinning means, and having an eccentric guide for the passage of the yarn therethrough, said elongated marginal edge portion being thin in cross-section, approaching a sharp, but not cutting edge, so

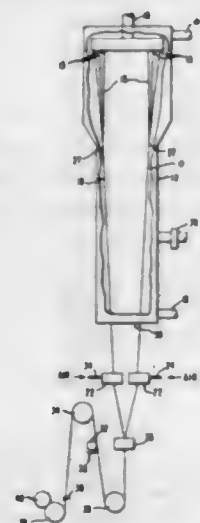


that as said spinning means rotates, the yarn is wound around said mandrel successively in close engagement with at least a longitudinally extending portion of said thin edge portion of the mandrel and is thereby kinked at a multiplicity of points spaced from each other longitudinally of the yarn.

3,342,027

COALESCE MULTIFILAMENT YARN

Albert Joseph Mehler, Jr., New Hope, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 4, 1965, Ser. No. 453,062
10 Claims. (Cl. 57-140)



1. A coalesced multifilament yarn comprising a plurality of individual groups of continuous filaments, said groups being joined together along their lengths but retaining their cross-sectional identity, the average force required to separate said groups from each other being in

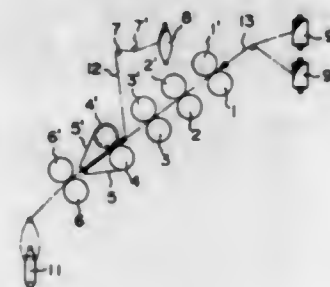
the range from about 20 milligrams to about 50 milligrams, each of said groups comprising a plurality of individual continuous filaments similarly joined together along their lengths and retaining their cross-sectional identity, the average force required to separate said individual filaments from one another within the group being at least 45 milligrams and at least 1.5 times the average force required to separate said groups from each other.

3,342,028

METHOD OF PRODUCING AN ELASTIC CORE YARN

Kanji Matsubayashi and Tadayoshi Morimoto, Kurashiki, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki, Japan

Filed Oct. 20, 1965, Ser. No. 498,915
Claims priority, application Japan, Apr. 21, 1965, 40/23,598
4 Claims. (Cl. 57-163)



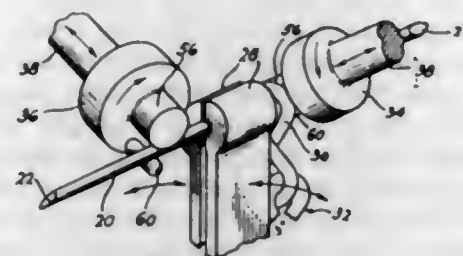
1. A method of producing core yarn using an elastic thread as the core, which comprises drafting roving in a roller drafting zone, feeding an elastic thread directly to the rear side of an apron drafting zone together with the drafted roving, doubling the elastic thread with the roving from the roller drafting zone without drafting the elastic thread, and spinning both the elastic thread and the roving.

3,342,029

PROCESS AND APPARATUS FOR FORMING TWISTED LINK CHAIN

George J. Campbell, Jr., and John McCartney, York, Pa., assignors to Campbell Chain Company, York, Pa., a corporation of Pennsylvania

Filed Aug. 3, 1964, Ser. No. 386,905
17 Claims. (Cl. 59-18)

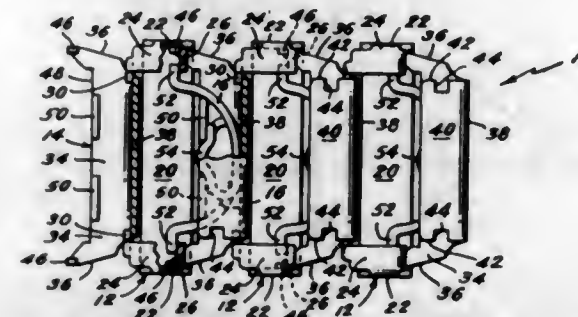


1. A process of making twisted link chain comprising the steps of preparing successive pieces of wire stock of uniform length, forming said lengths of wire while extending through the last-formed link successively into a closed elongated loop configuration having the opposite ends disposed within planes at substantially 90° to each other along the longitudinal axis of said loop, and welding the ends of each loop thus formed to connect the ends thereof into a finished chain link having substantially the same configuration as a pre-welded elongated chain link after being twisted along its longitudinal axis substantially 90°.

3,342,030

EXPANSION BRACELET WITH REMOVABLE LINKS

Francis J. Bellavance, North Attleboro, and Richard W. Mueller, Attleboro, Mass., assignors to Bellavance, Inc., Attleboro, Mass., a corporation of Massachusetts
Filed Feb. 8, 1965, Ser. No. 430,990
3 Claims. (Cl. 59-79)



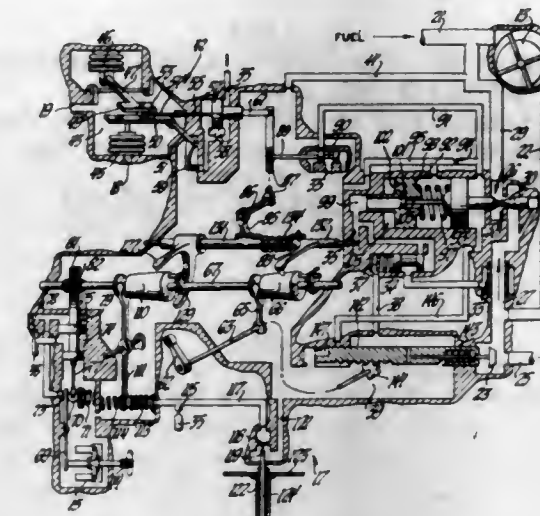
1. An expansion bracelet construction comprising a plurality of housings, each comprising an elongated flat top wall, end walls extending inwardly at opposite ends of said top wall, said end walls having notches extending inwardly from opposite side edges thereof, and bottom walls extending from said end walls in substantially parallel underlying relation with respect to the end portions of said top wall, said bottom walls each having inturned lugs at opposite sides thereof, with the aligned lugs at one side of said bottom walls each having extensions extending beyond the inner edges of said bottom walls toward the central portion of the housing, the combination further comprising a link element mounted within each housing and transversely movable with respect thereto, each link element comprising a top wall slidable against the inner surface of the housing top wall, a side wall extending downwardly from one side edge of said link top wall, an open side opposite from said side wall, and a bottom wall extending from said side wall in underlying relation to said link top wall, the end edges of said link bottom wall being located slightly inwardly of the edges of said housing bottom walls and in substantially the same plane, the end edges of said link top wall being inclined outwardly from said link side wall, spring means mounted within each link element and having end portions extending outwardly from opposite ends of the link element, said spring end portions engaging said housing so as to normally maintain said link element substantially within said housing, the lug extensions of the next-adjacent housing extending into said link element and engaging the inner surface of said link side wall thus interconnecting each link element to said next-adjacent housing whereby when adjacent housings are pulled apart, each link element will be carried transversely by the next-adjacent housing and will slide transversely with respect to the housing it is normally positioned within against the action of the aforesaid spring means, means for enabling separation of the bracelet at any desired point in order to facilitate shortening and lengthening of the bracelet, said means comprising aligned notches extending inwardly from the end edges of said link bottom wall, said notches being sufficiently large to permit passage therethrough of the said lug extensions of the next-adjacent housing when manipulated so as to be aligned with said notches, and an outer shell superimposed over the outer surface of said housing top wall, said shell having flanges at opposite ends thereof bent over into engagement with the housing end walls, and lugs carried by said flanges and engaging the notches in said end walls for effecting four-point securement of said outer shell to said housing.

3,342,031

GAS TURBINE FUEL CONTROL

Eugene J. Bevers, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 23, 1965, Ser. No. 466,310
2 Claims. (Cl. 60-39.28)



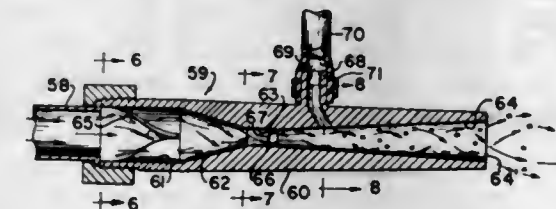
1. A fuel control system for a gas turbine engine comprising, in combination, means responsive to compressor discharge total pressure in the engine, means responsive to compressor discharge static pressure in the engine, means actuated by the aforementioned means for providing an output of actual R, where R is the ratio of total to static pressure, operable input means for setting a desired engine power level, means sensing engine speed, means actuated primarily by the input means and the sensing means for generating a signal of desired R, and means responsive to the actual R output and the desired R signal controlling engine fuel so as to adjust the actual R to equal desired R.

3,342,032

JET PROPULSION MEANS FOR A BOAT

Clifford B. Cox, 320 Oakdale, 1402, Chicago, Ill. 60657, and Joe M. Valdespino, 3609 Old Winter Garden Road, Suite E, Orlando, Fla. 32805

Continuation of application Ser. No. 378,312, June 26, 1964, now Patent No. 3,288,100, dated Nov. 29, 1966. This application June 29, 1966, Ser. No. 561,433
4 Claims. (Cl. 60-221)



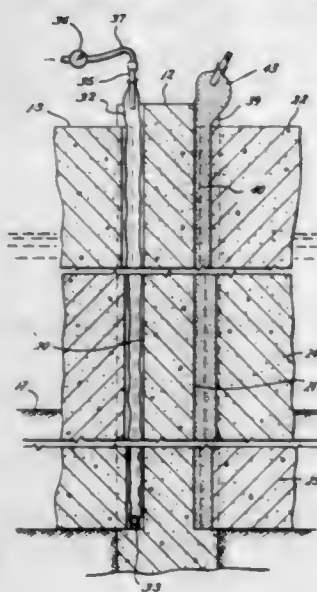
1. Reaction propulsion means for a boat comprising pump means for location in said boat, means for directing water to said pump, means for driving said pump for discharging water therefrom under pressure, a venturi type aspirator nozzle connected to the discharge of said pump, said nozzle including a body having a high-pressure inlet portion, a constricted throat portion and a frusto-conical negative pressure discharge portion, said constricted throat portion having therein means providing an obstruction with a sharp-edged orifice, the outlet opening of said discharge portion being smaller in diameter than the opening

of said inlet portion, said body having an aspirator opening extending from the exterior thereof into the frusto-conical discharge portion in spaced relation to said throat, and means for admitting air into said aspirator opening, whereby air from said aspirator opening will be entrained in said water under pressure to increase the velocity thereof.

3,342,033

METHOD OF PROVIDING A SEALED JOINT EMPLOYING A FLEXIBLE BAG

Robert L. Crouch and Andrew L. Williams, Jr., Houston, Tex., assignors to Layne Texas Company, Inc., Houston, Tex., a corporation of Texas
Filed Apr. 8, 1965, Ser. No. 446,533
4 Claims. (Cl. 61-30)



4. A method of constructing a wall to form a dam across a body of water comprising the steps of driving piles that are longitudinally grooved on opposite sides into the bottom of the body of water at spaced points along the line of the dam with the grooves in the piles in facing relationship with the grooves of the adjacent piles, stacking a plurality of panel members between each two adjacent piles with the ends of the panel members extending into the facing grooves of the adjacent piles that support them and with the abutting longitudinal edges of each panel coated with a water insoluble material for providing a seal between each two abutting panel members, locating a flexible bag having a porosity such that it will pass water but not cement in each groove in the piles between the ends of the panel members and the piles and extending from above the expected water level of the bottom of the water, pumping a slurry of water and cement into each bag under pressure thereby forcing the excess water in the slurry out of the slurry through the bag until the bag is filled with cement sufficiently to hold the bag in sealing engagement with the panels and the pile, and holding the pressure on the bag until the cement hardens.

3,342,034

ROOF SUPPORTS

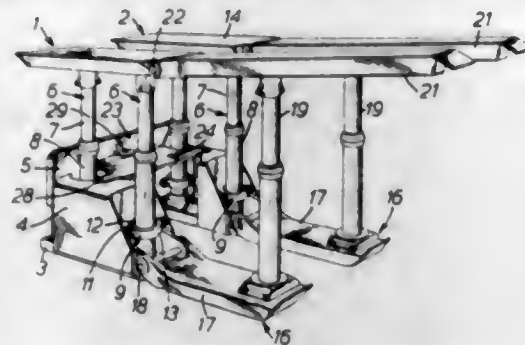
Thomas Desmond Hudson Andrews, Leckhampton Hill, Cheltenham, David Gurney Arnold Thomas, Deerhurst Walton, and Peter Farr, Cheltenham, England, assignors to Dowty Mining Equipment Limited, a British company

Filed June 18, 1964, Ser. No. 376,031
Claims priority, application Great Britain, June 21, 1963, 2,470/63

9 Claims. (Cl. 61-45)

1. In a mine roof support, in combination with two laterally spaced apart roof support units, each of which includes at least one extensible and contractible upright

prop and a floor-engaging member extending in the direction of advance and supporting the lower end of said prop for limited relative tilting of said props and their floor-engaging members, roof-engaging means supported upon said props, and means directed transversely between and secured to each of said support units to maintain them spaced apart, said spacing means comprising at



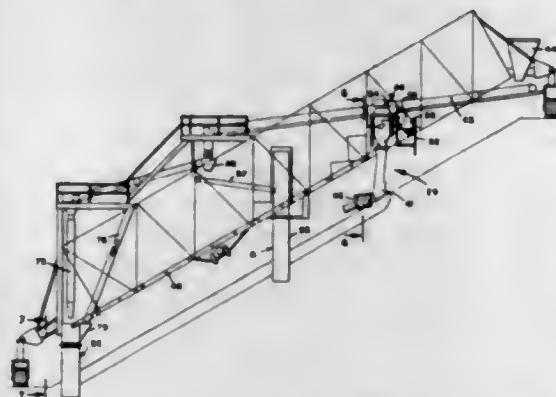
least one plate secured to said support units at spaced apart points, said spacing means being resiliently distortable at least about a transverse axis, so as to permit limited bodily movement of either support unit relative to the other, each in the plane defined by its prop and floor-engaging member, but not substantially transversely of such planes, under the influence of irregularities in the roof and floor as the support units are set against the roof.

3,342,035

BACKFILL MACHINE

Dwight B. Sale, San Mateo, Calif., assignor to Guy F. Atkinson Company, South San Francisco, Calif., a corporation of Nevada

Filed Dec. 28, 1964, Ser. No. 421,446
9 Claims. (Cl. 61-63)



1. A machine for simultaneously applying different kinds of material to a longitudinal trench comprising a supporting framework, means for supporting the framework for movement in the direction of said trench, conveying means for moving at least two different materials from a source of material, means carried by the supporting framework for delivering the two different kinds of materials to the trench in at least two contiguous zones as it is received from the conveying means, said delivery means comprising means forming at least two discharge openings displaced laterally with respect to each other, said openings adapted to simultaneously receive different materials for depositing the same in laterally displaced zones within the trench.

3,342,036

BALLAST DEVICES FOR SKIN DIVERS

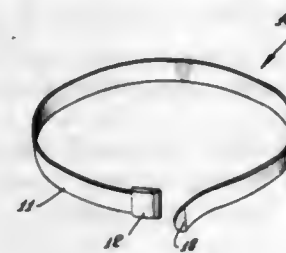
André Gruget, 8 Sentier de la Pointe, Meudon, Seine-et-Oise, France

Filed Feb. 28, 1964, Ser. No. 348,096
Claims priority, application France, Mar. 19, 1963, 928,428

5 Claims. (Cl. 61-70)

1. A diver's weight, or the like, comprising a flexible strip having contained therein high density randomly ori-

ented material in particulate form, said strip together with said material providing a substantial negative buoyancy relative to water, and providing a substantial ballast



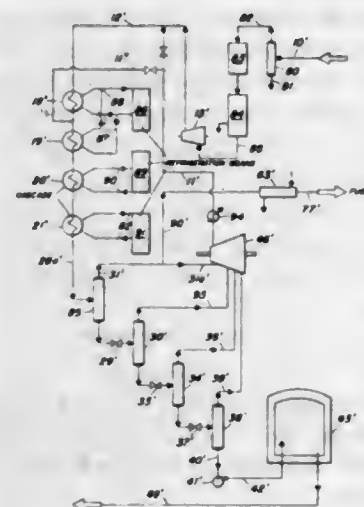
weight; and means detachably and adjustably securing the ends of said strip to secure said strip about the body of the user.

3,342,037

LIQUEFACTION OF NATURAL GAS BY CASCADE REFRIGERATION AND MULTIPLE EXPANSION

Ludwig Knele, Scarsdale, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Feb. 18, 1965, Ser. No. 437,621
1 Claim. (Cl. 62-23)



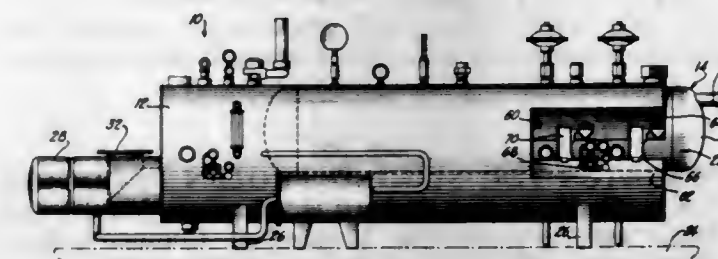
A method for liquefying a natural gas at elevated pressures comprising:

- cooling the gas in a plurality of stages by expanding a refrigerant in an indirect heat transfer relation with the gas, liquefaction of the gas being effected in the last stage;
- expanding the liquefied gas in a plurality of stages to atmospheric pressure; a gaseous fraction being produced in the course of said expansion;
- compressing a gaseous fraction from each stage and recycling the compressed gaseous fraction to said cooling stages, the compressed gas fractions being recycled to and admixed with the natural gas at the cooling stage having a temperature most nearly corresponding to the temperature of the compressed gas fractions; said recycled gas and natural gas being liquefied in admixture with each other in passing through the cooling stages;
- separating a portion of a gas fraction removed from the first expansion stage and passing said portion of gas fraction to fuel gas consumption and
- in the said plural stages of refrigeration, providing a cooling close to the condensation temperature of the gas at the prevailing pressure and a subsequent cooling to extract the heat of liquefaction, respectively, in the order of natural gas flow, supplying the said cooling close to the condensation temperature with a refrigerant connected in cascade fashion with the refrigerant supplying cooling to extract the heat of liquefaction.

3,342,038

NATURAL GAS LOW TEMPERATURE EXPANSION WITH HEATER TO PREVENT HYDRATE CLOGGING

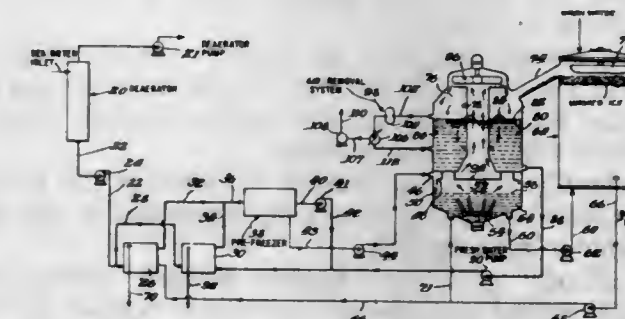
Gene O. Sinex, P.O. Box 1110, Farmington, N. Mex. 87401
Filed Nov. 13, 1964, Ser. No. 412,589
18 Claims. (Cl. 62-37)



1. A low temperature production apparatus for use with well fluids comprising a heating vessel, a separator vessel disposed in the heating vessel spaced from at least one wall of the heating vessel, said heating vessel being adapted to receive a body of fluid heat transfer medium contacting the walls of the separator vessel, means disposed in the heating vessel spaced from the separator vessel for heating the transfer medium, choke means for supplying well fluid to the separator vessel, said choke means including a valve portion and a control portion for controlling the operation of the valve portion, and means mounting the choke means with the control portion positioned outside of the heating vessel and with the valve portion interposed between said one wall of the heating vessel and the adjacent wall of the separator vessel and immersed in the heating medium.

3,342,039

SEPARATION SYSTEMS AND APPARATUS
Richard R. Bridge, Robert B. Cox, John H. Davids, Dieter K. Emmermann, William F. Engler, Wallace E. Johnson, and Paul A. Weiss, Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Filed Feb. 8, 1965, Ser. No. 433,540
45 Claims. (Cl. 62-123)

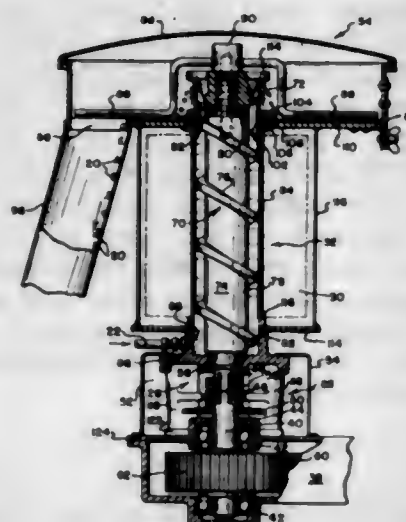


1. In a freezing system adapted for separating a vaporizable solvent in substantially pure form from a solution comprising means for deaerating said solution, means for receiving and for cooling the deaerated solution, means including a first chamber for receiving the deaerated and cooled solution, means to maintain said chamber at a pressure sufficient to permit at least a portion of said solvent to vaporize and to form solid solvent from at least a portion of the remainder of the solvent, a plurality of distributing means in said first chamber, said means being movable within said chamber for propelling the solution to randomly distribute said solution in said chamber to enhance exposure of said solvent to the vaporizing pressure conditions in said chamber whereby vapor and a slurry of solid solvent and solution are formed,

means for removing said slurry from said chamber and for delivering said slurry to means including a second chamber for separating said solid solvent and solution of said slurry, means for washing said solid solvent, means for delivering said washed solid solvent to a third melting and condensing chamber, means for removing said vapor from said first chamber and for compressing said vapor, means for delivering compressed vapor to said third chamber for contact with said solid solvent to condense said vapor and liquify said solid solvent, and means to remove liquid solvent from said third chamber.

3,342,040

APPARATUS FOR MAKING FROZEN PRODUCTS
Alvin N. Dedricks and Richard H. Swanson, Manitowoc, Wis., assignors to The Manitowoc Company, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed May 25, 1966, Ser. No. 552,776
6 Claims. (Cl. 62—320)



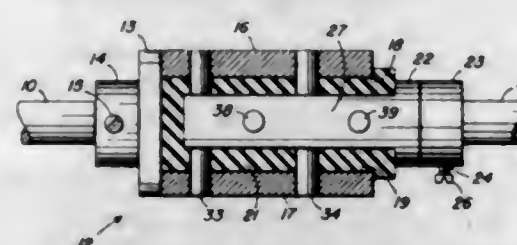
1. Apparatus for forming frozen particles of a predetermined size, said apparatus comprising:

- a generally upwardly projecting freezer cylinder having an open upper end portion and a support base adjacent the lower end portion thereof, said freezer cylinder having
- a first annular ledge on the exterior surface disposed near the lower end portion thereof and a second annular ledge on the exterior surface thereof disposed above said first annular ledge;
- a generally cylindrical freezer surrounding the freezer cylinder and being removably supported on the first annular ledge thereof;
- a generally cylindrical freezer housing surrounding said freezer and having an annular bottom portion removably supported on said second annular ledge;
- a conduit connected to the lower end portion of said freezer cylinder in communication with the interior thereof to supply liquid to said freezer cylinder;
- a rotary conveyor device disposed within said freezer cylinder;
- said freezer cylinder having a supporting base provided with an opening therethrough for receiving an elongate shaft portion of the rotary conveyor device;
- a transmission housing disposed beneath said supporting base in spaced relationship relative thereto and having a drive shaft rotatably mounted thereon and extending upwardly therefrom;
- said supporting base having a plurality of depending leg-like portions formed thereon which are rigidly and removably connected to said transmission housing;

- a bearing plate disposed beneath said supporting base and having an aperture therethrough with said bearing plate being connected to said depending leg-like portions;
- a generally cylindrical, substantially upwardly extending coupling member rotatably mounted within but separated from said supporting base;
- the lower end portion of said rotary conveyor shaft portion being slidably disposed within said coupling member and having sealing means thereabout for sealing said lower end portion to the supporting base;
- the upper portion of said drive shaft being slidably disposed within said coupling member for enabling rotation of said drive shaft to be transferred to said coupling member and then from said coupling member to said rotary conveyor shaft portion;
- said open upper end portion of said freezer cylinder extending generally upwardly beyond said freezer;
- a collector tray-like structure surrounding the upper end portion of said freezer;
- said collector tray-like structure having an exit area for receiving frozen particles;
- a chipper device having a body portion removably mounted on the upper end portion of said rotary conveyor shaft portion;
- said chipper device having a curved annular deflector surface defining a concave cavity;
- said chipper device being adjustably mounted with respect to said collector tray with the curved annular deflector surface thereof being generally spaced above the tray-like structure; and
- a sweep device connected to said chipper device and extending generally outwardly therefrom into said tray-like structure for moving frozen particles to said exit area.

3,342,041

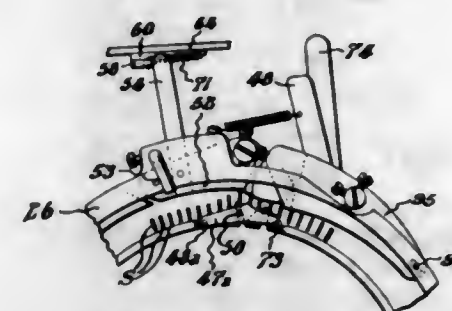
HIGH STRESS INSULATED COUPLING
Herman Nebiker, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 19, 1965, Ser. No. 497,669
3 Claims. (Cl. 64—11)



1. A coupling device for connecting a pair of shafts comprising a first member formed with an opening into which one of the shafts extends, a slot formed in said first member to form fingers, a second coupling member formed with an opening into which the second shaft extends, a slot formed in the second member to form fingers, a coupling shaft receivable between the first and second coupling members with the members interdigitated such that the fingers of the first member fit into between the fingers of the second member, first means for locking the first coupling member to the coupling shaft, second means for locking the second coupling member to the coupling shaft, said first locking means comprise pins extending transversely through the first coupling member and the coupling shaft, said pins being axially spaced and extending through the fingers of the first coupling member, and the second means for locking comprise pins which pass through the second coupling member and the coupling shaft, said pins being axially spaced and extending through the fingers of the second coupling member.

3,342,042

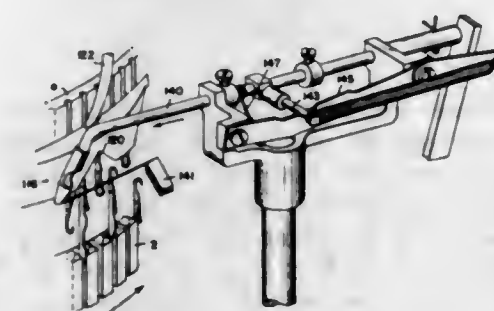
APPARATUS FOR KNITTING RUN-RESISTANT HOSIERY
Richard B. Sheek and Vernon T. Stack, Winston-Salem, N.C., assignors to Hanes Corporation, a corporation of North Carolina
Original application Nov. 16, 1962, Ser. No. 238,190.
Divided and this application Dec. 23, 1964, Ser. No. 420,605
2 Claims. (Cl. 66—108)



1. In combination with a circular knitting machine comprising a needle cylinder, sinkers carried by said cylinder, a sinker control cap, and main and auxiliary feeds, a pair of cams mounted upon said cap for pivotal movement cross-axially of said cylinder and cap and selectively positionable for passage of the butts of said sinkers freely therebetween and for providing a path of travel for said butts whereby said sinkers are moved as they approach said auxiliary feed first outwardly to transfer stitches from behind to in front of the nebs of said sinkers and then immediately inwardly again, first controlled means operable for actuating said cams and yieldably securing the same in said position for providing said path of travel for said butts, a third sinker cam mounted upon said cap for rectilinear movement cross-axially of said cylinder and cap and selectively positionable for urging said butts outwardly whereby said sinkers are moved outwardly for knitting in front of the nebs of said sinkers, and second controlled means operating in predetermined timed relation to said first controlled means and operable for actuating said third cam against the influence of said first controlled means.

3,342,043

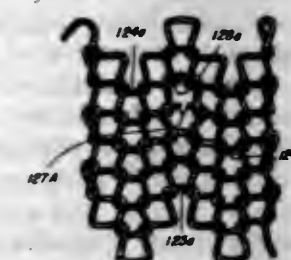
KNITTING MACHINES AND METHODS
Ralph W. Shannon, Lakeport, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed Dec. 27, 1963, Ser. No. 333,860
11 Claims. (Cl. 66—111)



1. A circular knitting machine comprising upper and lower superposed needle cylinders, sliders slidably mounted in said cylinders, latch needles mounted to slide in said cylinders and controlled by said sliders, means for controlling movements of said sliders, means for feeding yarn to needles in both the upper and lower cylinders, and means for closing latches of bare needles to trap yarn fed by said feeding means to the hooks of such needles.

3,342,044

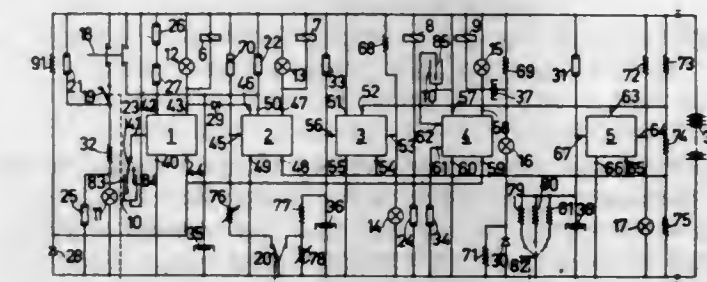
NON-RUN REVERSIBLE KNIT-WEAVE
Robert J. Corey, % J. Wall, Box 588A, R.D. 1, Dover, N.J. 07801
Filed Nov. 14, 1963, Ser. No. 323,635
9 Claims. (Cl. 66—169)



1. A reversible, non-run, knit woven flat fabric comprising alternate courses of inverted and non-inverted loops in which alternate wales thereof run in opposite directions with at least one intermediate step up and step down loop disposed on either side of each said inverted and non-inverted loop to form said knit woven fabric of at least double stretch, each of said loops being interlocked twice by loops in each succeeding course.

3,342,045

AUTOMATIC WASHING MACHINE PROGRAM CONTROLLER
Willem Ebbinge, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1965, Ser. No. 479,177
Claims priority, application Netherlands, Aug. 13, 1964, 64—9,310
10 Claims. (Cl. 68—12)



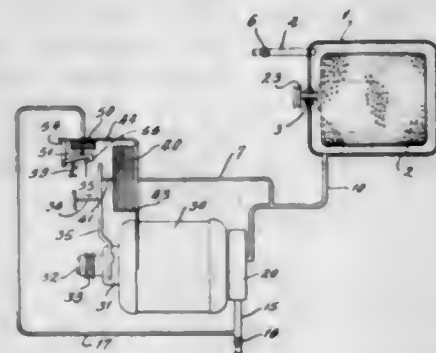
1. A program controller for actuating a washing machine through a cycle of successive operations comprising, a source of supply voltage, first, second, third and fourth switching circuits for successively controlling the filling, heating, washing and draining operations, respectively, of said washing machine, each of said switching circuits having an operative state and a rest state, first, second, third and fourth relay means individually coupled to the output circuits of said first, second, third and fourth switching circuits, respectively, and arranged to control the intake of water into said washing machine, the heating mechanism for heating the water, the energization of the washer motor, and the washer drain pump, respectively, a first photosensitive resistor arranged to couple said first and second switching circuits to said source of supply voltage, first and second light sources connected to said first and second switching circuits, respectively, and optically coupled to said first photosensitive resistor so as to illuminate same in the operative state of said first and second switching circuits, respectively, a second photosensitive resistor electrically coupled to said third switching circuit so as to control the state thereof and optically coupled to said first and second light sources, optical coupling means responsive to the state of said third switching circuit for controlling the energization of said third relay means and the state of said fourth switching circuit, means coupling the output circuit of said first

switching circuit to the input circuit of said second switching circuit, first water level sensing means coupled to the input circuit of said first switching circuit to control the state thereof, water temperature sensing means coupled to the input circuit of said second switching circuit to control the state thereof, timing means coupled to the input circuit of said third switching circuit to control the state thereof, second water level sensing means coupled to the input circuit of said fourth switching circuit to control the state thereof, and switch means for momentarily applying said supply voltage to said first switching circuit to start a wash program, said various sensing means, said timing means, and said light sources and photosensitive resistors being operative to successively cycle said switching circuits between their operative and rest states thereby to sequentially operate said first to fourth relay means to successively fill the washer with water, heat the water, energize the washer motor, and operate the drain pump to empty the water.

3,342,046

WASHING MACHINE

Robert W. Brundage, Belnor, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Feb. 23, 1966, Ser. No. 529,468
6 Claims. (Cl. 68-24)



1. In a washing machine having a filling conduit, a tub for the reception of water, and a drain, all forming parts of a water system for the machine and wherein a driving means is connected to a variable speed transmission and an output shaft from said transmission is connected to drive said washing machine and a mechanical shifting means is operatively connected to said transmission for causing the transmission output shaft to drive the washing machine selectively at one position of the shifting means at tumble speed and at another position of the shifting means at spin speed, the improvement comprising a main hydraulic shifter operatively communicating with said water system to be operated by water in said system, and mechanically coupled to said shifting means to move the shifting means between tumble and spin positions, and interlock operating means connected to a discharge pipe from said tub and mechanically coupled to a mechanical interlock adapted selectively to restrain movement of said shifting means in response to bias of the main hydraulic shifter.

3,342,047

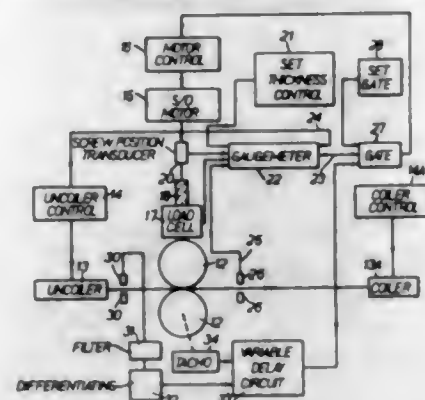
ROLLING MILLS

Peter Richard Ashworth Briggs, Sheffield, England, assignor to The British Iron and Steel Research Association, London, England
Filed Sept. 17, 1964, Ser. No. 397,129
Claims priority, application Great Britain, Sept. 17, 1963, 36,510/63

12 Claims. (Cl. 72-8)

1. For a rolling mill comprising at least one pair of co-operating rolls, means for passing material between the rolls under tension, and means for adjusting the mill for controlling the outgoing thickness of the material; an

automatic gauge control system comprising an error detector giving an error signal representing the departure of the outgoing thickness of the strip between the rolls from a desired value, an adjustable gate circuit to which the error signal is applied and for giving an output signal when the error signal exceeds the gate value, means for setting the gate circuit to a first gate value, means for controlling the mill adjusting means by the output signal



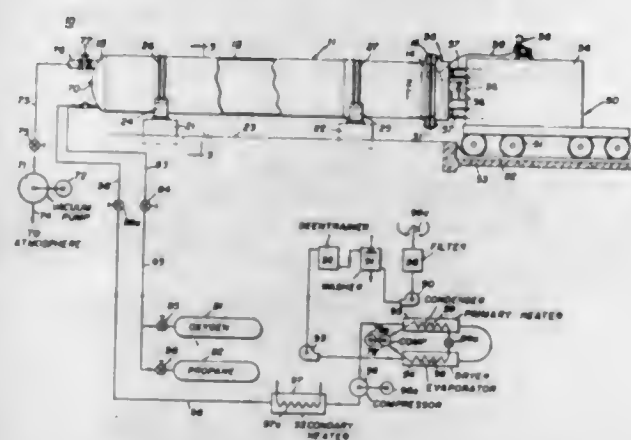
to correct the outgoing thickness to reduce the departure substantially to zero, a gauge detector for detecting changes in the ingoing thickness of the material and means controlled by the gauge detector and controlling the gate circuit for reducing the gate value to a lower gate value following the detection of a change in the ingoing thickness and in advance of the detection by the error detector of a corresponding change in the outgoing thickness.

3,342,048

DETONATION WAVE FORMING MACHINE
Milton R. Johnson, Chicago, and Frank W. Horner, Jr., Park Ridge, Ill., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Aug. 13, 1964, Ser. No. 389,448

26 Claims. (Cl. 72-56)



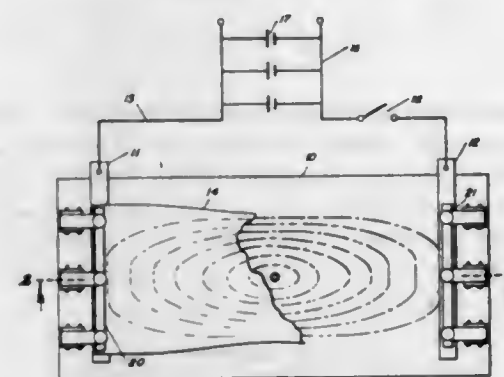
1. A machine for imparting a desired shape to a blank characterized by plastic flow; said machine comprising an elongated and longitudinally extending tubular casing, a rear wall closing the rear end of said casing, structure for closing the front end of said casing and for mounting the blank with at least a portion of the area of the inner surface thereof in communication with the interior of said casing, a die removably disposed closely adjacent to the outer surface of the mounted blank and in cooperating relation therewith, means for supplying a detonable gas into said casing, and means for igniting the gas adjacent to and forwardly of said rear wall to produce a forwardly traveling flame front in the detonable gas, said casing having a length that is at least three times the average lateral dimension thereof so as to provide an induction distance for the purpose of transforming the forwardly traveling flame front into a forwardly traveling

detonation wave in the detonable gas, the forwardly traveling detonation wave being characterized by a substantial overpressure and forward travel at supersonic velocity and also being characterized by a planar shock front having a predetermined high pressure therein, the impact of the shock front upon the adjacent inner surface of the mounted blank generating a reflected wave that is productive of a working pressure thereupon that is substantially higher than the pressure in the shock front, the working pressure acting upon the adjacent inner surface of the mounted blank deforming the blank at a high strain rate so as to move the same at a high velocity into the die to shape the blank.

3,342,049

METHOD OF FORMING SHEET METAL WITHOUT MECHANICAL DIES

Arthur J. Devine, 15629 Cordary Ave., Lawndale, Calif. 90260
Filed Nov. 5, 1963, Ser. No. 321,550
5 Claims. (Cl. 72-60)

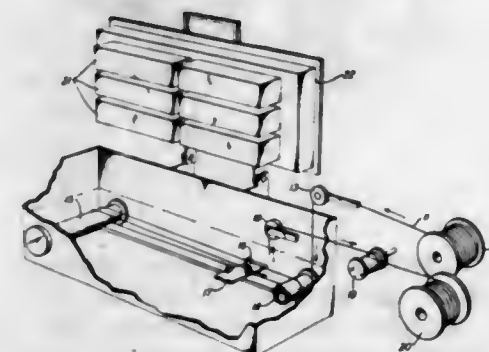


1. A process of forming sheet metal, comprising: supporting a metal sheet to be formed adjacent a die surface, heating the sheet so supported by passing an electrical current through the sheet until the sheet has reached a plastic phase, forming the sheet supported in the plastic phase to the configuration of the adjacent die surface, and cooling the sheet while maintaining it so conformed to the die surface.

3,342,050

ULTRASONIC WIRE DRAWING

Edward O. Fuchs, Union, Robert F. Jack, Convent Station, and Karl M. Olsen, Madison, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 26, 1965, Ser. No. 458,945
11 Claims. (Cl. 72-60)



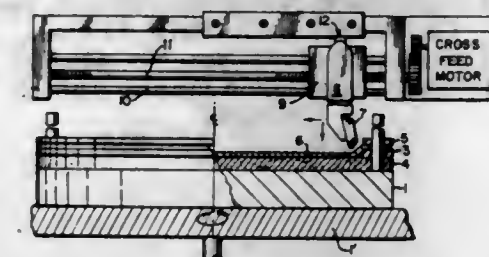
1. An apparatus for drawing continuous stock through a die comprising a fluid-tight, a die mounted below the rim of the tank adapted to be completely immersed with fluid in the tank, means for drawing the continuous stock through the die, ultrasonic means adapted for applying ultrasonic energy to a fluid contained in the tank said ultrasonic means disposed in a position to deliver ultrasonic energy at a power density of at least 1 watt/in.² to the region of the fluid containing the die and a twelve inch length defined by the path of the continuous stock

just prior to entering the die, the said ultrasonic means in said region spaced at less than twelve inches from the said die and continuous stock path.

3,342,051

APPARATUS AND PROCESS FOR INCREMENTAL DIELESS FORMING

Edward Leszak, 155 Homestead Ave., Amityville, N.Y. 11701
Filed Aug. 10, 1964, Ser. No. 388,507
10 Claims. (Cl. 72-81)

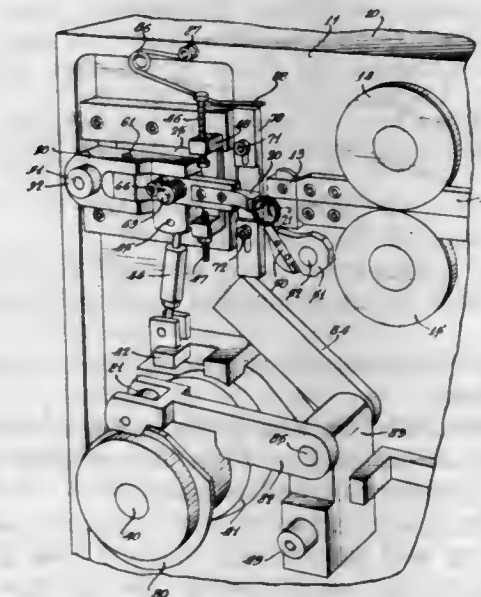


1. In a device for forming a workpiece: a turntable rotatable about an axis, a resilient facing on said turntable, clamping means, means mounting said clamping means on said turntable for rotation therewith but permitting axial movement of said clamping means with respect to said turntable, tool holding means, said tool holding means being movable radially with respect to said axis of rotation in a plane substantially parallel to the surface of said turntable, a tool held in said tool holder for applying localized pressure against said turntable facing, whereby said work piece when clamped by its periphery to said clamping means and interposed between said tool and said resilient facing is caused to flow under said tool and be locally deformed into said facing so that when the turntable is rotated and the tool is moved radially the piece is formed into a figure of revolution.

3,342,052

SPRING COILING MACHINE

Harold G. Boy, Melrose Park, Ill., assignor to Lewis Spring & Manufacturing Co., a corporation of Illinois
Filed Feb. 2, 1965, Ser. No. 429,788
9 Claims. (Cl. 72-138)

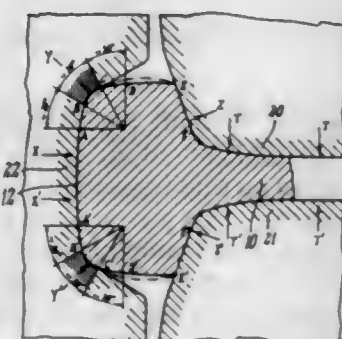


1. A spring coiling machine comprising, a wire guide, means for feeding a wire through said wire guide, a coiling point spaced from said wire guide, means mounting said

coiling point for up and down movement relative to said wire guide, means mounting said coiling point in a floating plane for in and out movement in a direction transverse to the length of the wire emitted from the wire guide, and driven means operating in timed relation for moving said coiling point either simultaneously or sequentially in both modes of movement to form a spring with a wound body and a curved end.

3,342,053

METHOD OF PRODUCING RAIL SECTIONS
Raymond Stammbach, Seremange, France, assignor to De Wendel & Cie, Paris, France
Filed Apr. 9, 1965, Ser. No. 446,860
Claims priority, application France, Apr. 15, 1964, 970,951
10 Claims. (Cl. 72-226)



1. The method of producing a rail comprising the steps of: producing a rail blank having a symmetrically shaped section; subjecting the blank to a first series of rolling passes and to a second series of rolling passes alternating with said first series; applying to said blank in each pass of said first series a set of symmetrical rolling forces predominantly in the portions of said section that are to provide the upper surface, upper side edge surfaces and under surfaces of the rail head in the finished rail, while permitting limited extrusion of the section laterally of the rail head, and applying to said blank in each pass of said second series a set of symmetrical rolling forces predominantly in the portions of said section that are to provide the side surfaces, upper side edge surfaces and under surfaces of the rail head in the finished rail, while permitting limited extrusion of the section from the top of the rail head.

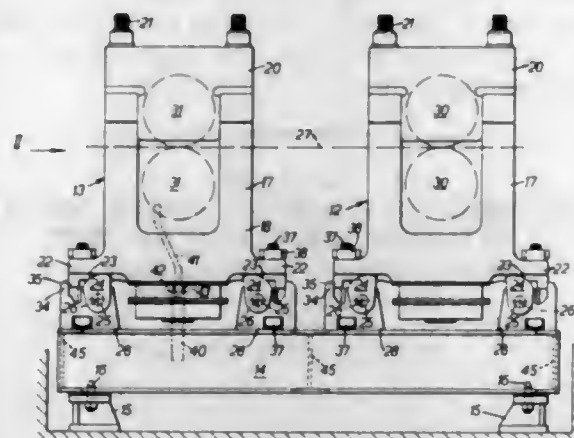
3,342,054

ROLLING MILLS

Harry Laurence Fred Bond, Hathersage, near Sheffield, and Reginald Dennis Swallow, Todwick, near Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England
Filed May 6, 1964, Ser. No. 365,280
Claims priority, application Great Britain, May 16, 1963, 19,584/63
9 Claims. (Cl. 72-238)

1. In a rod mill, the combination of a pair of rolling mill stands arranged in tandem, each of said stands comprising a pair of opposed housings, a pair of rolls rotatably supported by each pair of said housings, a common underframe on which said pair of rolling mill stands are mounted to form an operative unit, a foundation for said underframe, quick release means for detachably securing said underframe to said foundation, whereby said underframe and stands are readily removable together as a unit for roll changing, and means for adjusting one of said stands relative to the underframe in a direction transverse to the pass line of the mill.

2. In a rod mill, the combination according to claim 1, wherein the pair of rolls supported by one pair of said housings have complementary grooves defining a first number of oval passes, the other pair of rolls supported by the other of said pairs of housings and having complementary grooves defining two sets of round passes,

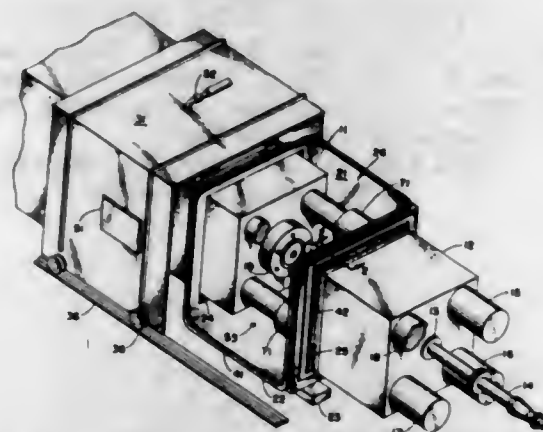


each said set of round passes having a number of passes equal to said first number of oval passes, said means for adjusting including means for adjusting said one stand relative to the underframe in a direction parallel to the axes of the rolls supported thereby through at least a distance between adjacent passes of the different sets of grooves.

3,342,055

PROTECTIVE DEVICE FOR MACHINE AND METALWORKING TOOLS

Charles P. Blankenship, Rocky River, and Charles A. Gyorgak, Middleburg Heights, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 29, 1964, Ser. No. 422,098
7 Claims. (Cl. 72-253)

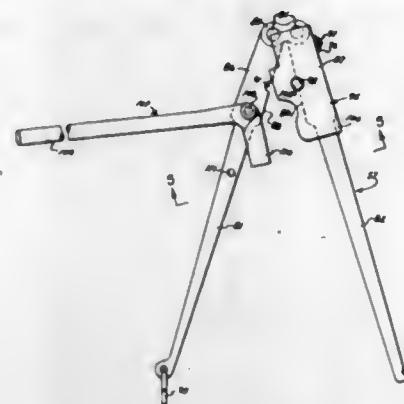


1. An improved extrusion press comprising a ram, a bolster block spaced apart therefrom, and an elongated pressure chamber disposed between said ram and said bolster block and having an opening at each end in communication with said ram and said bolster block; a first flexible member sealingly interposed between said ram and the opening at one end of said chamber externally of said chamber, a second flexible member sealingly interposed between said bolster block and the opening at the other end of the chamber externally of said chamber, whereby said ram and said bolster block are free to move relative to said chamber while a work piece inserted within the chamber is protected from the atmosphere while it is being extruded.

3,342,056

COMPRESSION TOOL

Marvin F. Tepner, Plainview, Nebr. 68769
Original application June 17, 1963, Ser. No. 288,121, now Patent No. 3,235,651, dated Feb. 15, 1966. Divided and this application June 21, 1965, Ser. No. 465,468
4 Claims. (Cl. 72-316)

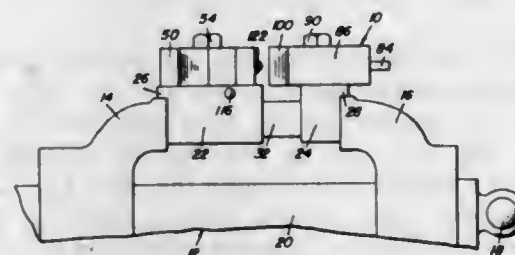


1. A compression tool comprising: a pair of handle members, each having a top surface and a side surface, means pivotally connecting said handle members for movement of said side surfaces into and out of abutment with each other, said side surfaces each having a roughened groove extending from said top surfaces to form a hole through said handle members when said side surfaces are in abutment, means for locking said handle members together with said side surfaces in abutment with each other, an elongated compression member mounted on the top surface of one of said handle members for rocking engagement with said handle member about one end of said compression member, means for forcing the other end of said compression member from a first position adjacent said handle member to a second position away from said handle member, said compression member having a hole therethrough intermediate its ends, said compression member hole being in axial alignment with said handle members hole when said compression member is in its first position.

3,342,057

BENDING AND FORMING ATTACHMENT FOR VISES

Guthrie B. Stone, % Stone Conveyor Co., Inc., Honeoye, N.Y. 14471
Filed Dec. 7, 1964, Ser. No. 416,542
11 Claims. (Cl. 72-333)



1. An attachment for vises having relatively movable jaws comprising a pair of blocks adapted to engage with the movable jaws and project thereabove, spring means interposed between said blocks for biasing the blocks apart, and a die element on each block orientated above the vise thereby permitting the bending of rods, bars and the like, at least one of said die elements is being rotatably

mounted on one of the blocks, said one die element having different peripheral surface portions thereof provided with different forming characteristics thereby enabling various operations to be performed with one attachment.

3,342,058

ROLL FOR COLD-ROLLING METALLIC SHEET MATERIALS

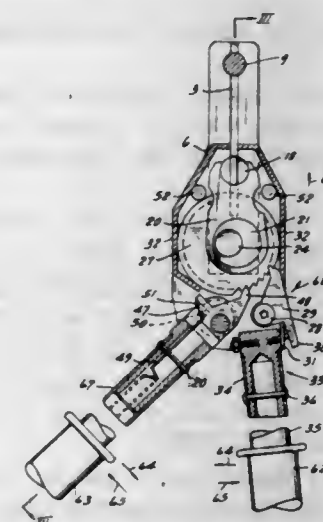
Tadashi Nemoto, Takahagi-shi, and Toshio Yaegashi, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Continuation of application Ser. No. 267,757, Mar. 25, 1963. This application Oct. 28, 1966, Ser. No. 590,437
Claims priority, application Japan, Mar. 26, 1962, 37/11,036
2 Claims. (Cl. 72-365)

1. In a process of cold-rolling metals by means of a rolling mill having rolls which contact the metal, the improvement in said process comprising contacting said metals with said rolls, said rolls consisting essentially of 1.0 to 2.5% by weight of carbon, 3 to 10% by weight of chromium, 0.5 to 8% by weight of molybdenum, 0.5 to 6% by weight of tungsten, 1.0 to 7% by weight of vanadium, not more than 0.5% by weight of silicon, not more than 0.6% by weight of manganese, the balance being substantially iron and a small amount of impurities.

3,342,059

LEVER PRESS

Friedrich-Günther Laux, Königsweg 301, Berlin 39, Germany
Filed Dec. 23, 1964, Ser. No. 420,827
4 Claims. (Cl. 72-410)

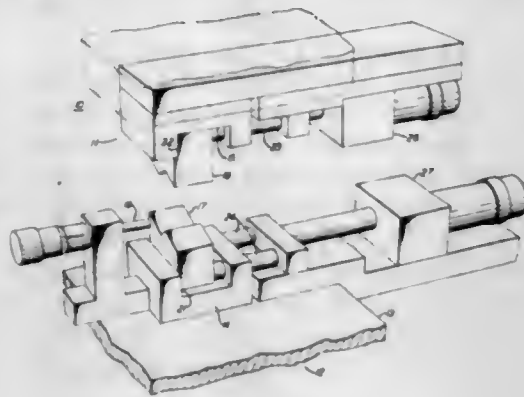


1. A lever-actuated compression tool capable of producing a mechanical advantage on the order of 1:600 for comprising articles between a pair of dies, comprising:

- a first hand lever;
- a compression die coupled to said first hand lever for slidable movement relative thereto;
- an eccentric cam rotatable mounted to said first hand lever in position to displace said compression die from a given position as said cam is rotated;
- a ratchet wheel coupled to said eccentric cam in substantially fixed relation therewith about a common axis;
- a second hand lever coupled to said first hand lever by means of an eccentric pivot;
- a pawl member mounted to said second hand lever in position to operatively engage and rotate said ratchet wheel as said second lever is pivoted from one position to another;

whereby movement of said second hand lever about said eccentric pivot advances said pawl against said ratchet wheel which in turn rotates said eccentric cam and causes said compression die to be moved slidably relative to said first hand lever, toward a mating die.

3,342,060
INDEXING OF DIES
Roswald M. Peterson, 85 Weston Ave.,
Chatham, N.J. 07928
Filed Dec. 15, 1964, Ser. No. 418,442
3 Claims. (Cl. 72—470)



1. Apparatus for aligning dies in a die press comprising:

means comprising a vise having first and second jaw surfaces for compressing in intermeshing relationship and for aligning first and second dies; means overlapping the first jaw defining a first guide aperture; means overlapping the second jaw defining a second guide aperture; said first and second guide apertures lying along a common center line, whereby aligned positions for drilling index apertures in the first and second dies are defined;

the die press including an upper die holder having a first flat side wall extending from an upper wall surface and a lower die holder having a second flat wall extending from a lower wall surface; a first index pin extending from the first wall, the distance of the first pin from the upper wall surface being equal to the distance of the first guide aperture from the first jaw surface;

a second index pin extending from the second wall, the distance of the second pin from the lower wall surface being equal to the distance of the second guide aperture from the second jaw surface; means for clamping the first die against the first wall surface;

and means for clamping the second die against the second wall surface.

3,342,061
TUBING LEAK DETECTOR FOR WELLS, AND METHOD OF OPERATING SAME
Jack D. Morris, Houma, La., assignor to Texaco Inc.,
New York, N.Y., a corporation of Delaware
Filed July 15, 1965, Ser. No. 472,106
12 Claims. (Cl. 73—40.5)

1. A tubing leak detector comprising a body adapted to be passed through well tubing;

a pair of annular cups of flexible resilient material located on the outside of said body in longitudinally spaced opposed relation to one another;

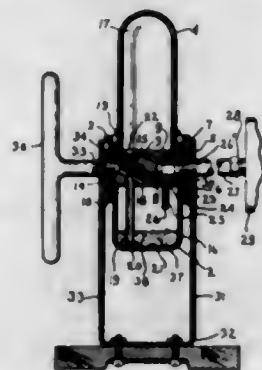
one of said cups comprising a supported base and a skirt projecting downwardly therefrom;

the other of said cups comprising a supported base and a skirt projecting upwardly therefrom; means for pre-adjusting the diameter of each of said skirts so as to adjust the clearance between the outside of each skirt and the internal wall of said tubing during passage of said body therethrough;



the construction and arrangement being such that when said body is passed through tubing having a leak through which high pressure gas is entering said tubing, said cups are both expanded into contact with the internal wall of said tubing after the passage of one of said cups across said leak.

3,342,062
LEAK TESTING APPARATUS
Richard S. Smith, Prairie Village, Kans., and Vernon P. Spelser, Kansas City, Mo., assignors to Seek-A-Leak, Inc., Kansas City, Mo., a corporation of Missouri
Filed Jan. 25, 1965, Ser. No. 427,840
4 Claims. (Cl. 73—49.2)



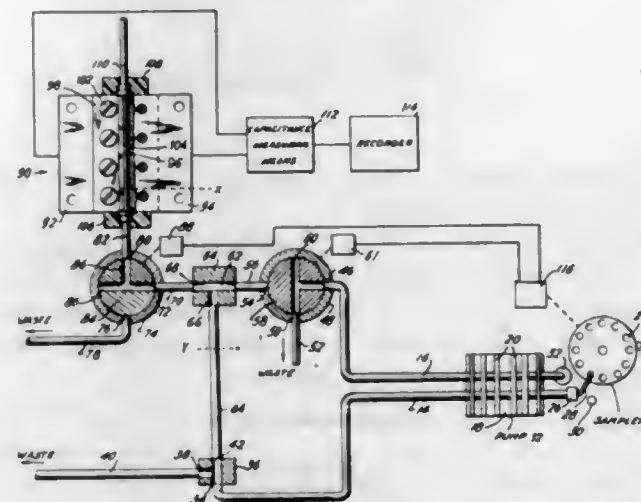
1. Apparatus for detecting leaks in a closed vessel comprising:

(a) a body member having first and second generally parallel opposed surfaces, a first bowl having a transparent wall and having the open end thereof sealed against said first surface forming an enclosed first chamber, a second bowl having the open end thereof sealed against said second surface forming an enclosed second chamber in opposed relation to said first chamber.

(b) a first bore through said body member and communicating between said first chamber and said second chamber, said first bore expanding into a funnel at said second surface, a quantity of liquid in said first chamber and partially filling same, a tube communicating at one end thereof with said first bore at said first surface and having the other end thereof normally extending beneath the surface of said liquid,

(c) a transverse opening extending into said body member, a second bore communicating between said transverse opening and said first chamber and a hose communicating with said transverse opening for coupling to a pressure vessel to be tested for leaks.

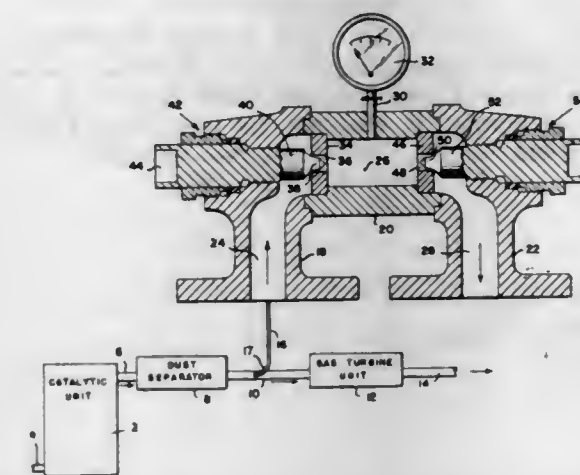
3,342,063
BLOOD-VISCOSITY MEASURING APPARATUS
William J. Smythe, Rye, and Morris H. Shamos, New York, N.Y., assignors to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed Feb. 23, 1965, Ser. No. 434,714
12 Claims. (Cl. 73—55)



1. Apparatus for measuring the viscosity of a first fluid comprising: a first conduit; a constriction at one end of said first conduit; first supply means for supplying and positively displacing the first fluid through said first conduit and said constriction coupled to the other end of said first conduit; a second, substantially vertical conduit; the lower end of said second conduit being coupled in fluid-flow communication with said first conduit between said constriction and said first supply means; a three-legged tubular junction having one leg coupled to the upper end of said second conduit; a first three-port valve having a first port coupled to the second leg of said three-legged junction, and the second port coupled to a waste sump; second supply means for transmitting a second fluid to said second conduit coupled to the third port of said first three-port valve; said first valve having a stem and a passageway for alternatively intercoupling said first and third ports, and said second and third ports; a second three-port valve having a first port coupled to the third leg of said three-legged junction, and the second port coupled to a waste sump; a third, substantially vertical conduit having a closed upper end and a lower end coupled to the third port of said second valve, and a quantity of gas trapped within its upper portion; said second valve having a stem and a passageway for alternatively intercoupling said second and third ports, and said first and third ports; operating means coupled to said first and second valve stems for (1) initially positioning said first valve stem to intercouple said first and third ports of said first valve, and said second valve stem to intercouple said second and third ports of said second valve, whereby said second fluid is transmitted by said second supply means into said first valve third port, out of said first valve first port, through said three-legged junction, through said second conduit, into said first conduit and out said constriction, and (2) subsequently positioning said first valve stem to intercouple said second and third ports of said first valve, and said second valve stem to intercouple said first and third ports of said second valve, whereby said second fluid is transmitted by said second supply means into said first valve

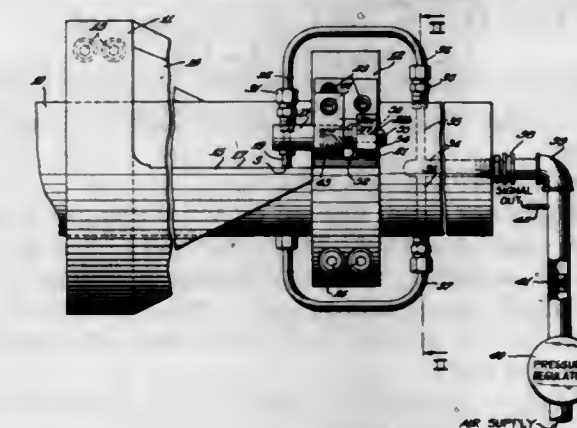
first port, and out of said first valve second port to said waste sump, a quantity of said second fluid is trapped in said second conduit and said third conduit, and the first fluid in said first conduit rises upwardly in said second conduit, displacing said trapped second fluid upwardly in said second and third conduits; and means for measuring the upward displacement of said trapped second fluid in said third conduit by the first fluid against said trapped quantity of gas.

3,342,064
EROSION INDICATOR
Ernest W. Blattner, Trenton, N.J., assignor to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware
Filed May 15, 1964, Ser. No. 367,722
11 Claims. (Cl. 73—86)



1. A device for the indication of the erosive properties of a fluid containing abrasive particles comprising means providing a chamber, first orifice defining means providing an inlet orifice, second orifice defining means providing an outlet orifice, means for leading fluid containing abrasive particles at a known pressure condition through said inlet orifice into said chamber for flow therefrom through said outlet orifice whereby said fluid erodes both said orifice defining means to vary the orifice size thereof, said chamber providing unimpeded flow from said inlet orifice to said outlet orifice, one of said orifice defining means presenting to the fluid flow a surface of material which is eroded more easily than the material forming the other orifice defining means, and means to measure a change of pressure in said chamber which pressure change is indicative of the relative erosion of said orifices.

3,342,065
TORQUE METER WITH BALANCING ARRANGEMENT
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 18, 1964, Ser. No. 412,001
7 Claims. (Cl. 73—136)



1. A torque meter for measuring torque in a rotatable shaft comprising in combination,

a first member adapted to be attached on the shaft having a radial surface facing in a circumferential direction and extending parallel to the shaft axis, a second member adapted to be attached on the shaft axially spaced from the first member, an air jet on the second member directing a stream of air against said surface, a slide support for the jet extending at an acute angle with respect to the shaft axis to vary the spacing between said surface and said jet as a function of the position of the jet along said slide support, and means for adjusting the jet along said slide support, whereby the twist in the shaft between said members can be measured by changing resistance to air emitted from the jet.

3,342,066

MODEL LAUNCHER FOR WIND TUNNELS

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Harold P. Holway, La Crescenta, Calif.
Filed Apr. 2, 1965, Ser. No. 445,292
3 Claims. (Cl. 73-147)



1. A model launcher for use in a wind tunnel, having an observation window, said launcher comprising:

- (a) a model supporting member disposed downstream from said observation window and including a model receiving tip at its upstream side for retaining said model thereon when said model is subjected to the force of fluid flowing downstream past said model, said tip permitting upstream movement of said model away from said tip;
- (b) a shaft connected to said supporting member and extending downstream therefrom;
- (c) a piston and chamber for said shaft;
- (d) means for imparting a predetermined force to said piston thereby to drive said shaft, supporting member and model upstream; means for sunbbling said shaft at the end of a predetermined amount of motion upstream;
- (e) and means mounted on said cylinder for clamping said model in place on said supporting member prior to movement of said shaft.

3,342,067

TESTER FOR WIRE ROPE FITTING

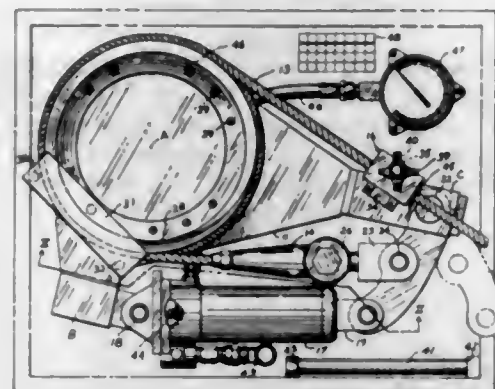
Robert Martin Bush, Goleta, Calif., assignor to Hydranautics, Santa Barbara, Calif., a corporation of California

Filed May 28, 1965, Ser. No. 459,546
3 Claims. (Cl. 73-158)

1. A compact tension tester adapted for manual portability for testing fittings secured to the ends of long ropes comprising:

- (a) a frame forming an angle;
- (b) a stationary drum located on the frame at the apex of the angle and about which one end of a long rope may be wrapped, said rope having a fitting on the end which projects from one part of the drum and further having a rope body projecting from another part of the drum;
- (c) a clamp secured to an end of the frame to grip the projecting rope body;
- (d) an arm pivoted to one end of the frame and having an outer end;

- (e) means on the arm for attaching said fitting being tested;
- (f) a motor pivoted to the other end of the frame and connected to the arm to rotate the arm on its pivot to apply tension to the fitting being tested;



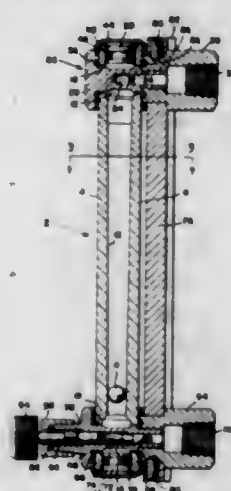
- (g) and means for indicating the amount of tension applied to the fitting;
- whereby the fitting may be subjected to tension with a minimum straight length of the rope being employed, resulting in compactness and small size of frame with resultant low weight to permit manual portability of the entire tester.

3,342,068

FLOWMETER

Harold W. Metzger, Willow Grove, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1964, Ser. No. 412,049
1 Claim. (Cl. 73-209)



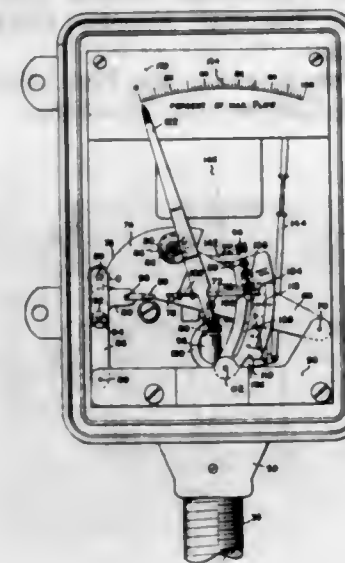
A flowmeter comprising a tube having a bore having cross sections varying along its length, a float in said bore, end assemblies providing inlet and outlet connections with the bore at its ends, said tube at at least one end thereof having parallel flat faces with aligned openings therein providing a transverse passage, the corresponding end assembly comprising a first member extendible into said passage, a plug member closing the end of said bore, a cap member with walls having transverse openings aligned with said transverse passage, said cap member extending across the end of said bore to hold said plug member therein, and a second member secured to said first member to clamp the end of the tube therebetween, one of said members having an opening therein communicating with said bore for flow of fluid, and at least one of said first and second members extending through at least one of said transverse openings in the walls of said cap member, and holding said cap member in place against said plug member.

3,342,069

OPEN CHANNEL FLOWMETER

Nathaniel Brewer, Newtown, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania

Filed Mar. 31, 1965, Ser. No. 444,211
3 Claims. (Cl. 73-215)



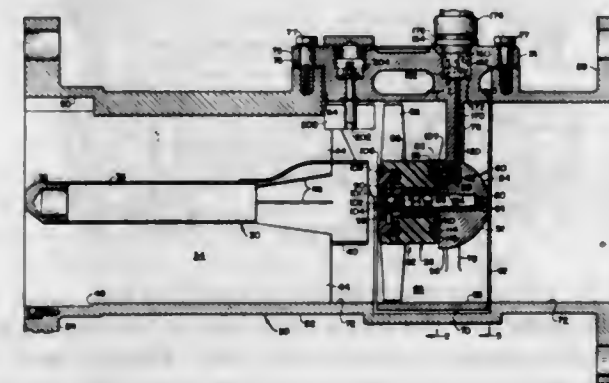
1. A flowmeter of the type responsive to the level of the surface of a liquid, which level varies with the liquid flow, comprising a float mounted to rest on the liquid surface, an output element, and means connected between the float and the output element to transmit float movements to said output element to provide substantially linear movement of said output element with respect to liquid flow rate, said means including movable means positioned by said float according to the level of the surface of said liquid, a contoured cam mounted on said movable means, a follower riding on said cam, said cam and follower providing for movement of said output element as a function of liquid level raised to an exponential power by an exponent dependent on the flow channel and means for adjusting the position of said cam relative to said movable means to modify said exponent in accordance with the differences in liquid flow channels.

3,342,070

FLUID METER

Leo M. Walch, Jr., Pittsburgh, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1964, Ser. No. 400,727
5 Claims. (Cl. 73-231)



1. In a fluid meter, a housing having inlet and outlet openings, a rotor rotatably supported in said housing to be driven by fluid flow therethrough, and means for producing an electrical signal representative of the rotor velocity comprising a fixed non-permanently magnetizable toroidal core having a longitudinal axis of resolution normally intersected by a plane containing the rotor rotational axis, a detecting winding wound around said core,

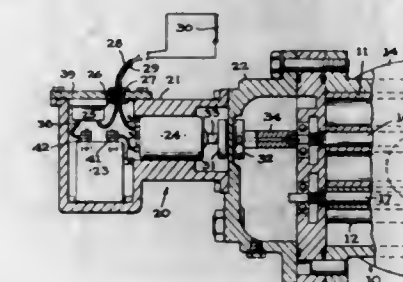
a current energized exciting winding wound around said core for inducing a voltage signal in said detecting winding, and at least one permanent magnet carried by said rotor for rotation in a circular path coaxially surrounding the rotor rotational axis, said magnet being axially polarized along an axis that (a) is normally intersected by a plane containing the rotor rotational axis and (b) is contained in a plane extending parallel to the longitudinal axis of said core for periodically suppressing said voltage signal by substantially saturating said core with flux.

3,342,071

SELF-POWERED METER RATE COMPENSATOR

Douglas C. Meyers, Connersville, Ind., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed June 7, 1965, Ser. No. 461,773
12 Claims. (Cl. 73-261)



1. A self-powered meter rate compensator comprising in combination with a rotary positive displacement meter, motive means so coupled to a rotatable element of said meter as to be capable of either driving or being driven by said element, and a rechargeable source of energy so connected to said motive means as to be capable of either delivering energy thereto or receiving energy therefrom, said motive means and said source of energy having characteristics such that, when said meter is operating at speeds less than approximately 50% of capacity, said motive means supplies rotational energy to said rotatable element, and, when said meter is operating at speeds greater than approximately 50% of capacity, said motive means is driven by said rotatable element and supplies energy to said source.

3,342,072

PRESSURE-MEASURING DEVICE

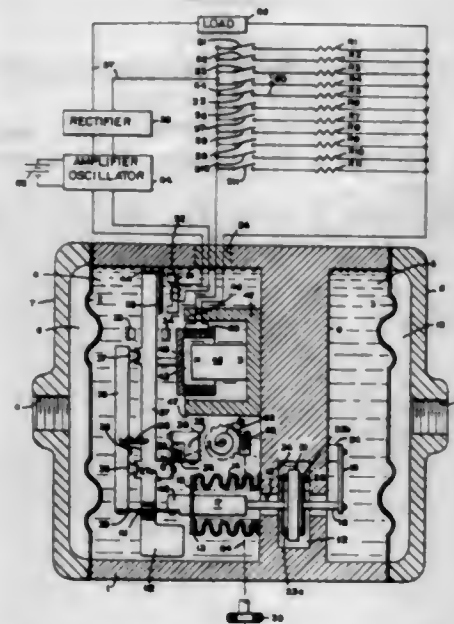
Harold E. Trell, Wakefield, Mass., assignor to General Electric Company, a corporation of New York

Filed Apr. 28, 1965, Ser. No. 451,547
12 Claims. (Cl. 73-398)

1. A pressure-measuring device comprising:

- a hollow casing,
- a pair of flexible isolating diaphragms mounted in said casing and defining therewith a space adapted to contain a liquid,
- a rigid partition in said casing dividing said space into two chambers,
- a flexible pressure-sensitive element having one side exposed to the liquid pressure in one of said chambers and the other side connected to be exposed to the liquid pressure in the other of said chambers through a connecting conduit whereby said pressure-sensitive element is subjected to a force proportional to the difference in the liquid pressures in said chambers,
- a force balance system mounted in one of said chambers comprising a first lever pivotally mounted with respect to said casing for limited rotation with respect to a normal balanced position,
- a second lever pivotally mounted on said first lever,

yielding means normally preventing pivotal movement of said second lever relative to said first lever so that said levers rotate in unison, means connecting said second lever to said pressure-sensitive element to apply a torque to said levers, balancing means for applying a counterbalancing torque to said first lever to maintain said levers in said normal balanced position when the force exerted on said levers by said pressure-sensitive element lies within a predetermined normal range of pressures,



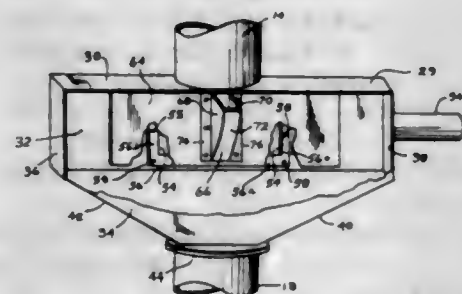
said yielding means being overpowered by said pressure-sensitive element during abnormal pressures to permit overpressure movement of said second lever and said pressure-sensitive element in either direction from their normal balanced position, and an overpressure valve actuated by said pressure-sensitive element for closing said conduit in response to overpressure movement of said pressure-sensitive element.

3,342,073

GRAIN SAMPLING DEVICE

Erling K. Strand, 2336 Wellwood Curve, Bloomington, Minn. 55431; Edna E. Strand, executrix of said Erling K. Strand, deceased

Filed Sept. 3, 1963, Ser. No. 306,254
4 Claims. (Cl. 73-423)



1. A grain sampling apparatus comprising in combination, a first housing having coaxial inlet and outlet ports therein, said first housing having an opening in one wall thereof, a second housing attached to the first housing and communicating with said first housing through said opening, a sealing plate slidably mounted against said one wall, said sealing plate having an orifice therein, a sample collecting chute mounted upon said plate in communication with said orifice and projecting from said orifice toward the center of said first housing, said plate being adapted to prevent grain from passing from said first housing to said second housing except through said orifice and an actuator means operatively connected to said plate for sliding said plate within said housing whereby said

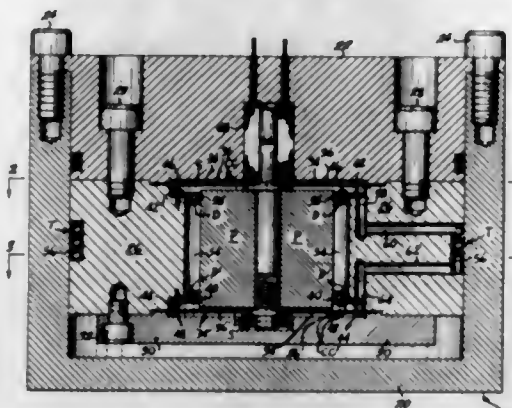
collecting chute will pass through said grain traveling from said inlet to said outlet ports through said first housing.

3,342,074

MOTION SENSING DEVICE WITH INERTIAL GAS FLOW

Cecil K. Stedman, Enumclaw, Wash., assignor to Stat-ham Instruments, Inc., Los Angeles, Calif., a corporation of California

Filed Mar. 4, 1964, Ser. No. 349,252
22 Claims. (Cl. 73-515)



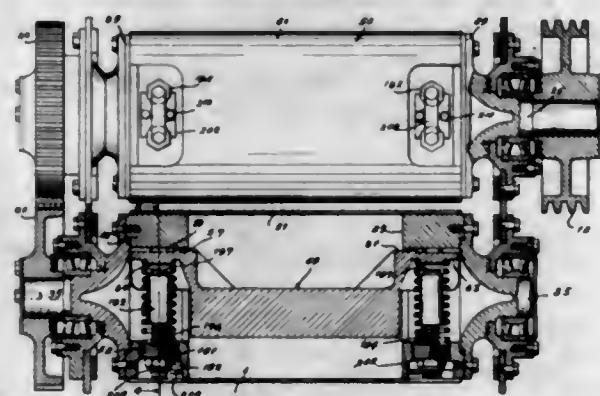
1. In a motion sensing device of the type wherein a spring constrained suspended mass moves with one degree of freedom with respect to a case, the improvement comprising chamber means defined in part by one end of the said suspended mass and arranged so that the said end of said suspended mass moves as a piston into and out of said chamber means, passageway means intercommunicating said chamber means and the opposite end of said suspended mass, and a gaseous medium filling said chamber means and said passageway means, the dynamic mass developed by flow of the gaseous medium in said passageway means and said chamber means being greater than the static mass of said suspended mass and therefore primarily inertial in nature.

3,342,075

VIBRATING MECHANISM

Keith B. Lowe, Joplin, Mo., assignor to Missouri Rogers Corporation, a corporation of Missouri

Filed Feb. 23, 1965, Ser. No. 434,196
5 Claims. (Cl. 74-61)



1. A vibrating mechanism adapted to use on a feeder, grizzly, screen or the like, comprising a bearing supporting frame, bearings supported by said frame, two spaced hollow cylindrical weight housings connected to and between stub shafts journaled in said bearings, means for driving said weight housings in contra-rotation and in predetermined phase relationship with respect to one another, each of said weight housings being provided with a weight guide at each end, defined by parallel, chordally directed walls, an elongated weight mounted within said weight housing, said elongated weight being provided with a complementarily parallel-sided guide tray at each end,

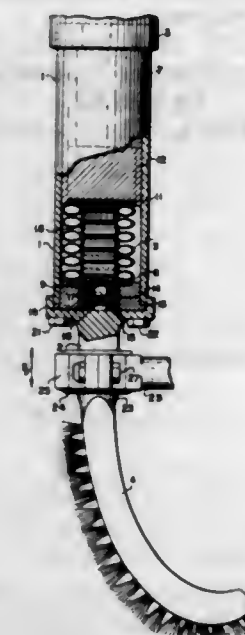
slidably received within the said weight guide, whereby said weight is slidably mounted at its ends adjacent the said bearing, for movement radially with respect to the axis of the weight housing, biasing means mounted to exert on the weight a continuous bias toward the axis of rotation of the weight housing, and adjustable stop means for limiting the outward radial movement of the weight, the said biasing means being of such strength as to permit substantial radial outward movement of the weight only at a speed of rotation of the housing at which the frequency generated by the weight is higher than the natural frequency of the device to which the mechanism is to be attached.

3,342,076

SONIC RESONATOR FOR USE WITH SONICALLY DRIVEN APPARATUS

Albert G. Bodine, 7877 Woodley Ave.,
Van Nuys, Calif. 91406

Filed Oct. 15, 1965, Ser. No. 496,468
18 Claims. (Cl. 74-87)



1. A sonic fluid resonator, comprising:
means defining a fluid-tight variable volume enclosure;
a body of fluid confined within said enclosure;
a vibratorily movable mass, reactively coupled to said body of fluid;
a source of sonic energy coupled to said body of fluid and to said mass, and having a frequency which resonates an acoustic circuit comprising said mass and said body of fluid; and
an acoustical load element coupled to said circuit, whereby said load element is sonically driven at said frequency.

3,342,077

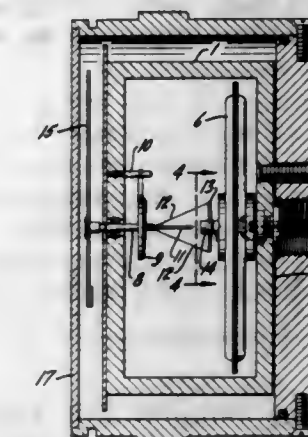
MECHANICAL MOVEMENT

Charles R. Bonnell and Kenneth L. McMillen, Wichita, Kans., assignors to Standard Precision, Inc., Wichita, Kans., a corporation of Kansas

Filed May 13, 1965, Ser. No. 455,371
14 Claims. (Cl. 74-89.2)

1. In combination, a rotator member held against longitudinal movement along and free to rotate about an axis of rotation, means for rotating said member, a reciprocator member held against rotation about and movable along an axis generally aligned with the axis of rotation, one of said members having an elongated body in general alignment with said axis, the other of said members having cable-securing means offset from the alignment of said axis to an extent radially outside the maximum radial extent of said body, a flexible generally inextensible cable anchored at one end to said body and at

the other end to said cable-securing means, the cable being free to wind about said body upon relative rotation



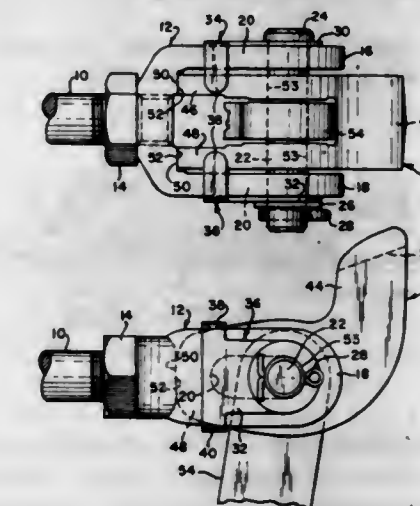
of said members, to vary the length of cable between the periphery of the body and its anchorage at said cable-securing means.

3,342,078

BRAKE RELEASE MEANS

Gilbert B. Pumphrey and Joseph Duffala, Elyria, Ohio, assignors to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware

Filed Oct. 1, 1965, Ser. No. 492,152
9 Claims. (Cl. 74-102)



1. In combination, a brake applying rod having an axially extending slot therein, a brake lever having a part registering with said slot, a pin operatively connected to said part and slidably received in said slot, an abutment integral with said rod, a brake releasing member rotatably connected to said brake lever and having an end part engaging said abutment to positively position said pin and brake lever toward an end of said slot, and means integral with said member for effecting rotation of the same until the end thereof is clear of said abutment so that said pin, and consequently said brake lever, has freedom of movement in said slot independently of said rod.

3,342,079

SPEED CHANGE DEVICES FOR AGRICULTURAL TRACTORS

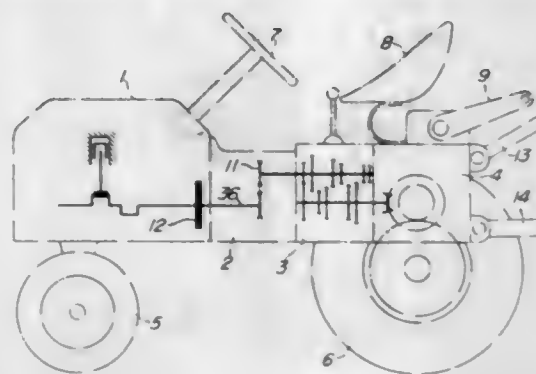
Isao Yoshigaki, Nishinomiya-shi, and Toshiro Azuma, Osaka, Japan, assignors to Tadao Yamaoka, Ashiya-shi, Japan, a manufacturer of Japan

Filed Apr. 15, 1965, Ser. No. 448,456
Claims priority, application Japan, Sept. 29, 1964,
39/54,756

6 Claims. (Cl. 74-230.17)

4. In an agricultural tractor for tilling soil having, a frame, wheels supporting said frame, an engine, a rotary tilling implement, a power take-off shaft, and coupling

means connecting said rotary tilling implement to said frame, a power transmission comprising speed change means connected to said engine, at least one of said wheels and said power take-off shaft, said coupling means including a displaceable member responsive to variations of

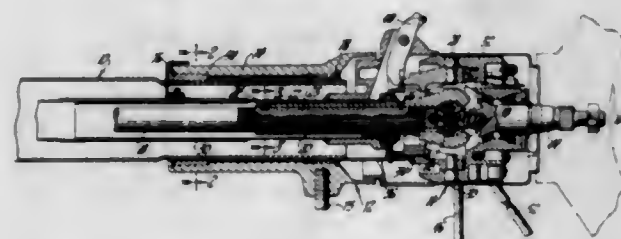


load on said tilling implement, and means connected between said displaceable member and said speed change means for controlling said speed change means whereby said wheels are rotated at a predetermined speed in accordance with the amount of load on said implement.

3,342,080

TILT AND TELESCOPING STEERING WHEEL
Donald R. Cantleberry, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,925
10 Claims. (Cl. 74-493)



1. A tilt and telescoping steering assembly comprising a fixed lower column supporting a lower steering shaft, an upper column supported by the lower column for axial movement between two extreme positions, said upper column having an upper steering shaft splined to said lower steering shaft, a steering wheel, a tilt mechanism connecting said upper steering shaft with said steering wheel and located therebetween whereby the latter is pivotally movable about a horizontal axis for operation at various angles with respect to the upper steering shaft and the lower column, and said upper column including means for locking the upper column to the lower column after the upper column is adjusted to a desired position between said two extreme positions.

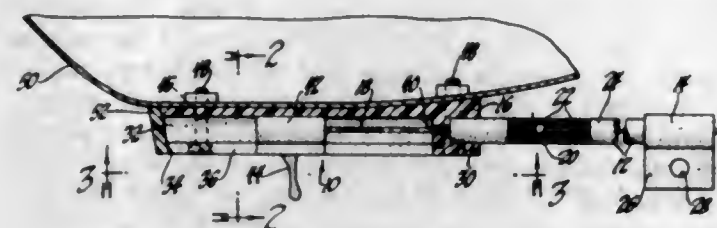
3,342,081

REMOTE CONTROL ASSEMBLY
Winthrop B. Conrad, Franklin, Mich., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed July 9, 1965, Ser. No. 473,564
22 Claims. (Cl. 74-501)

1. A remote control assembly comprising: a conduit; a fitting attached to said conduit; a slider member slidably connected to said fitting in bearing engagement with the latter for sliding movement along a portion of and only between the ends of said fitting; said bearing engagement between said fitting and said slider member preventing any movement of the latter relative to said fitting other than said sliding movement; said slider member

having a portion thereof extending away from said fitting at an angle to the direction of the sliding movement



thereof; and a motion transmitting core element movably disposed in said conduit and attached to said slider member.

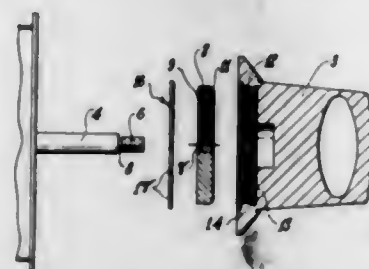
3,342,082

CONTROL KNOB FOR WASHING MACHINES AND OTHER DOMESTIC APPLIANCES

Jack Miller Davidson, Mordialloc, Victoria, Australia, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 27, 1965, Ser. No. 490,584
Claims priority, application Australia, Oct. 6, 1964, 50,059/64

2 Claims. (Cl. 74-553)



1. A control knob for washing machines and other appliances of the kind indicated comprising a supporting member of circular shape in plan, a finger grip and releasable retaining means for detachably connecting said supporting member and finger grip together after they have been selectively assembled in the desired relationship, said finger grip having an axial recess adapted to accommodate said supporting member, both the side wall of said recess and the side face of the supporting member having a series of preformed, complementary and circumferentially spaced serrations adapted to be brought into mating engagement by relative axial movement towards each other between said supporting member and finger grip, said supporting member being in the form of a disc having an internally threaded axial hole with said serrations formed in the peripheral edge portion of the disc so as to extend substantially parallel to the axis thereof, said recess in the finger grip being of substantially complementary formation, said recess in the finger grip being of slightly greater depth than the thickness of said disc, a circumferential groove being formed in the circular wall of said recess adjacent to the outer edge thereof and substantially utilizing all of that portion of the depth of said recess not filled by the thickness of said disc, said retaining means consisting of a resilient split polygonal ring adapted to be removably accommodated within said groove in such a manner that when assembled the straight portions of said ring form chords with the circular wall of said recess, said serrated peripheral edge portion of said disc being provided on its inner edge with an endless chamfer adapted to cooperate with the straight portions of said ring so as to facilitate its passage through said split retaining ring for subsequent engagement with the serrated recess in said finger grip.

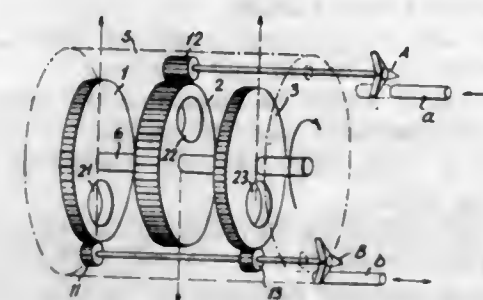
3,342,083

CORRECTION BALANCING OF ROTATING BODIES

Henryk Kaliszer, Edgbaston, Birmingham, and Stephen Vipian Hayes, Kings Heath, Birmingham, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Sept. 13, 1965, Ser. No. 486,695
Claims priority, application Great Britain, Sept. 16, 1964, 37,917/64

13 Claims. (Cl. 74-573)



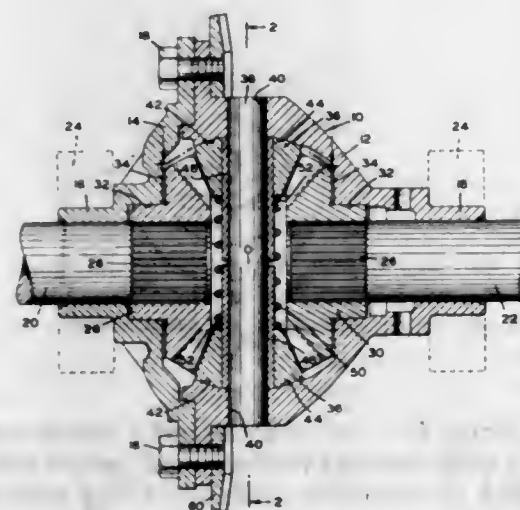
1. Apparatus for balancing a rotating body comprising a frame adapted to be mounted on the rotating body for rotation with the body, a plurality of balancing masses mounted on the frame, each mass having its centre of mass offset from the axis of rotation of the frame with the body, and being adapted to rotate relative to the frame but constrained so that the centre of mass can only travel in a circular path about the axis of rotation of the frame, and means to rotate each mass relative to the frame.

3,342,084

DIFFERENTIAL MECHANISM

Ralph R. Randall, Freeport, Ill., assignor to Dualoc Engineering Company, Rockford, Ill., a corporation of Illinois

Filed May 17, 1965, Ser. No. 456,239
8 Claims. (Cl. 74-711)



1. A differential mechanism comprising a rotatable case forming a driving member, a pair of spaced-apart, axially aligned axle gears in the case journaled for rotation at the axis of rotation of the case, a pinion gear interposed between and meshing with each of said axle gears, a pin extending axially through said pinion gear and having its radially outer end fixed in said case against movement circumferentially of the case, means forming an opening extending axially through the pinion gear and through which the pin extends, said opening being elongated in a

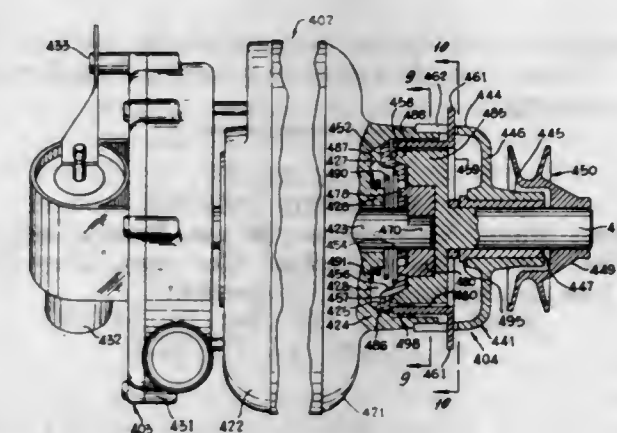
direction radially of the pinion gear such that the pin and the case are permitted to shift in a circumferential direction relative to the pinion gear when the elongated axis of the opening in the pinion gear is aligned in a direction circumferentially of the case to a position wherein the axis of rotation of the pinion gear is offset from the axis of the pin to thereby lock the pinion gear against rotation in the case and a sleeve on said pin forming a bearing rotatable on the pin and engaging the sides of the elongated opening in the pinion gear, said sleeve being radially elongated on its outer surface to a lesser extent than the opening in the pinion gear so that the pin and sleeve are permitted to shift radially of the pinion as a unit.

3,342,085

LAUNDRY EQUIPMENT POWER PACKAGE

Robert W. Brundage, Belnor, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Mar. 18, 1966, Ser. No. 535,543
6 Claims. (Cl. 74-785)



2. A power package transmission system comprising an input shaft; an output shaft; gear means adapted to be driven by said input shaft and to drive said output shaft, said gear means including a pinion and a ring gear; fixed means independent of said shafts positioned and arranged selectively to engage with one of said pinion and ring gear to hold it against rotation; clutch-brake means, axially floatingly arranged with respect to the shafts and the fixed means for selectively connecting the ring gear and pinion against rotation relative to one another or producing the engagement of one of said pinion and ring gear with the fixed means, and including a lost motion connection for causing the said one of the pinion and ring gear to engage the said fixed means before the said pinion and ring gear are disconnected from one another, and to disengage from said fixed means after said pinion and ring gear are connected to one another, and shifter means for moving said clutch-brake means between ring gear and pinion connected position and ring gear and pinion disconnected position.

3,342,086

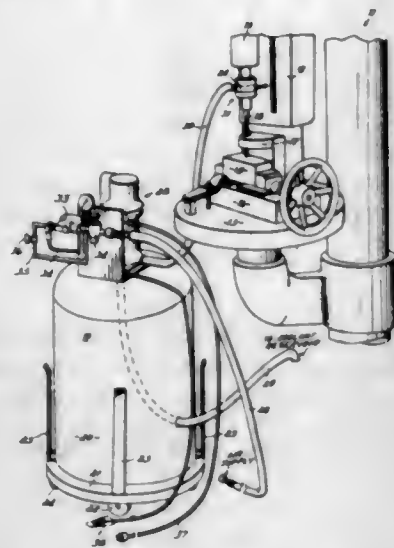
DRILLING METHOD AND APPARATUS

Jess W. Borman, Cincinnati, Ohio, and John P. Schaefer, Bennington, Ind., assignors to The Balcraik Division of The Wheelabrator Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed June 24, 1965, Ser. No. 466,778
17 Claims. (Cl. 77-5)

14. The method of drilling a hole in a workpiece which comprises: effecting relative rotational movement between a workpiece and a drill while said drill remains in engagement with said workpiece,

supplying coolant fluid through a longitudinal passage-way in said drill terminating near the tip thereof to said workpiece so as to cool said drill and said work-piece and to flush chips away from the cutting tip of said drill, and

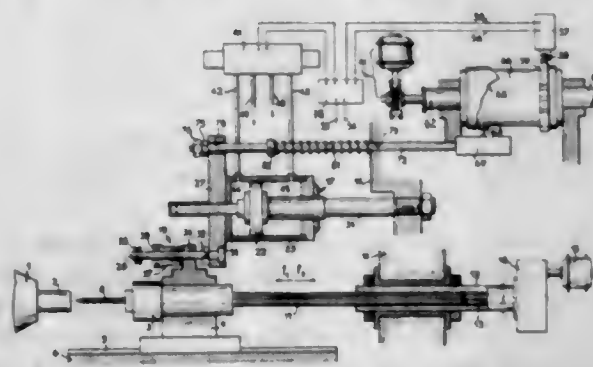


regularly varying the pressure of the coolant flowing through said drill so as to pulse the fluid flow to said drill tip.

3,342,087

DRILLING DEVICE

Marcel Mulot, Villeurbanne, Rhone, France, assignor to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut
Filed Dec. 21, 1964, Ser. No. 419,897
3 Claims. (Cl. 77-32.3)

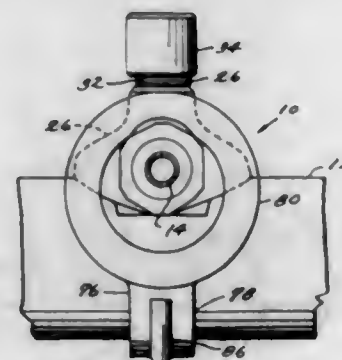


1. A drilling device for drilling holes in a workpiece while the workpiece is supported in a carrier comprising drill chuck means carrying a drill bit, means to rotate said drill chuck means including means to guide the axial movement of said drill chuck means including bearing and slide means, reciprocating means to axially reciprocate said drill chuck means forwardly and rearwardly, including fluid operated motor means having a cylinder and piston rod, adjustable coupling means coupling said reciprocating means and said drill chuck means, a flange secured to said reciprocating means, said adjustable coupling means including a threaded spindle passing through said flange and having a head engaging said flange, said spindle also being secured to said drill chuck means for coupling movement thereto, means to control the forward and rearward movement of said reciprocating means including valve means operable in two positions to selectably control said movement, switch means to actuate said valve means including a microswitch element and a relay, said microswitch controlling said relay,

first control means to open and close said switch means in a programmed sequence, including a first rotatable cam having a programmed cylindrical surface, said microswitch element including a roller elastically held against said cam, said programmed surface of said first rotatable cam including recesses, cam rotating means to rotate said cam and to support said cam in corresponding relationship with the movement of said drill means to position said recesses against said roller when said drill means is at its maximum forward stroke, whereby said drive means is moved rearwardly when said roller is in one of said recesses, second control means to determine the extent of forward movement of said drill means, including a drum cam rotatably carried by said cam rotating means, said second control means including second roller means riding said drum cam and a rod establishing a lost-motion connection between said second roller means and said flange, means resiliently loading said rod in the direction to maintain said second roller means in following contact with said drum cam, a stop on said rod determining a forward position limit of said flange with respect to said rod, said drum cam having a plurality of cam surfaces, one for each drilling stroke for any single work object, the intersecting regions of said cam surface being formed so that the beginning of the next successive surface is offset from the ending of the prior surface, whereby the drill is free from rubbing against the bottom of the hole already drilled.

3,342,088

SERVICE FITTING FOR CONNECTING MAINS AND SERVICE LINES OR THE LIKE
John J. Smith, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Dec. 10, 1964, Ser. No. 417,436
14 Claims. (Cl. 77-37)



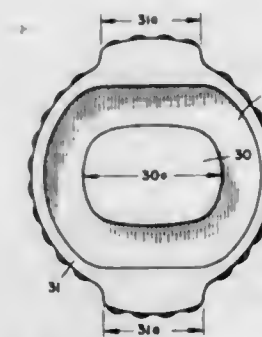
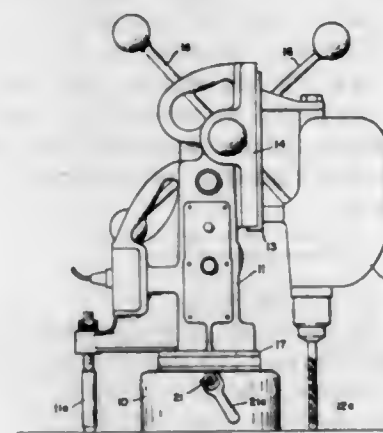
1. A fitting for connecting a service line to a main comprising a body member having an integral saddle part provided with an arcuate surface for fitting closely about a portion of an exterior surface of a main, the arcuate surface of said saddle part having means thereon for providing a fluid tight seal between said body member and said main, said body member having a bore therein opening to the arcuate surface of the saddle part and arranged to align with an opening provided in said main, an outlet branch member integral with and extending from said body member in a direction transverse of the longitudinal axis of said main when said body member is positioned on said main, said outlet branch member having a bore therethrough communicating at its inner end with the bore in said body member, means carried by said outlet branch member for connecting a service line to said outlet

branch member with a fluid tight connection, a lug extending from said body member in a direction oppositely disposed to said outlet branch member, said lug having an open slot therein, and clamping means engaging said lug and said outlet branch member and extending about said main and oppositely disposed to said body member for maintaining said body member on said main, said clamping means including a generally U-shaped strap having an eye bolt portion at one end thereof for fitting over and engaging said outlet branch member, said strap having its other end threaded and extending through the open slot in said lug, and a nut on the threaded end of said strap for bearing against said lug.

3,342,089

MAGNETIC DRILL MOUNT WITH BASE MAGNET HAVING ENLARGED OUTER POLE AREAS

Bernhard A. Palm, Los Angeles, Calif., assignor to Buck Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 31, 1965, Ser. No. 484,014
5 Claims. (Cl. 77-59)



1. In a magnetic drill mount which may be used on magnetic work surfaces that are curved or not as wide as the base of the drill mount, the combination comprising a post for supporting an electric drill, a base magnet comprising a core of magnetic material and a winding, means connecting said winding to a source of current supply for energizing said winding and magnetizing said core, said core having an inner pole face and an outer pole face surrounding said inner pole face, said pole faces being adapted to grip surfaces of magnetic work material and support the drill mount thereon when said winding is energized, said outer pole face having at least one selected part thereof enlarged in the core's radial direction and the other part of said outer pole face being narrowed in the radial direction so that the major part of the magnetic flux threads through said enlarged part when the drill mount is supported by said base on a magnetic work material surface that is only approximately as wide as the circumferential length of said enlarged part, said circumferential length being substantially shorter than the width of said base magnet.

3,342,090

NUT GRIPPING TOOLS

Wilfred M. Martin, Denver, Colo., assignor to Clark-Feather Mfg. Co., Fort Morgan, Colo., a corporation of Colorado
Filed Sept. 7, 1966, Ser. No. 577,734
1 Claim. (Cl. 81-345)



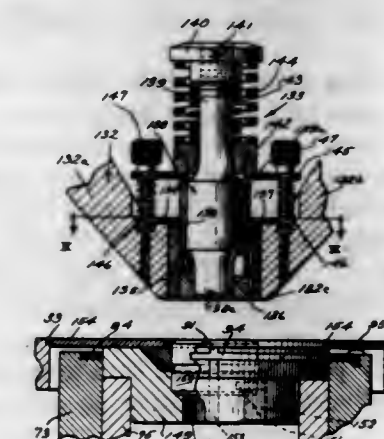
On a nut gripping tool of the type having an elongated handle tube with a spring-loaded tension rod longitudinally slidable therein, means for supporting and gripping a nut in consequence of relative longitudinal movements of said tube and rod comprising:

- a flat, axially elongated nut rest plate mounted on and extending forwardly from said rod in a plane below and substantially parallel to the axis of said rod;
- a unitary, upturned nut-retaining flange formed on the forward extremity of said rest plate;
- a flat, axially elongated top plate unitarily formed on said tube and extending forwardly over, and in substantially parallel spaced relation therewith; and
- a unitary, downturned nut-gripping flange formed on the forward extremity of said top plate extending downwardly into close proximity with said rest plate to prevent close proximity with said rest plate to prevent relative rotation of said rod in said tube and to allow a nut to be rested on said rest plate and forced forwardly against said upturned flange by said downturned flange when said rod is moved forwardly in said tube.

3,342,091

PUNCHING MACHINE WITH SELECTIVE ANGULARLY ADJUSTABLE PUNCH AND DIE SET

Arthur K. Schott, Clarence, Kenneth J. Bartha, Tonawanda, and Charles Lee Rovoldt, Getzville, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Original application Nov. 1, 1960, Ser. No. 66,639, now Patent No. 3,225,636, dated Dec. 28, 1965. Divided and this application Apr. 19, 1965, Ser. No. 449,254
17 Claims. (Cl. 83-140)



8. A punching machine comprising in combination: a rigid frame having an upper tool support and a lower tool support secured to said frame; a die member of shaped cross-section supported in a selectable infinitely adjustable angular position on said lower tool support; said upper

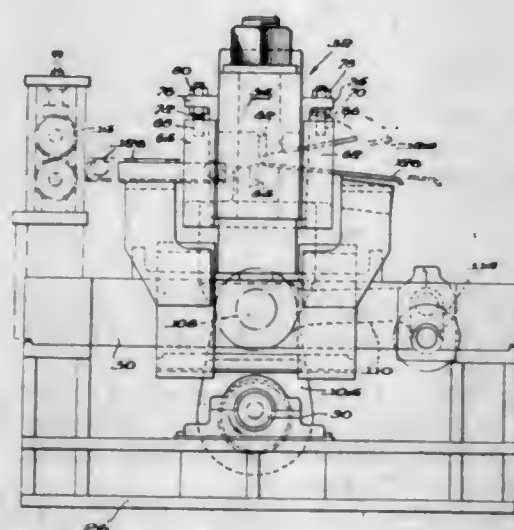
tool support having an upwardly opening recess; an annular member disposed in said recess and rotatable to an infinite number of angular positions about an axis common with that of said die; a punching and stripping assembly slidably received in said annular member for reciprocating as a unit, including a stripping sleeve having a downwardly directed peripheral shoulder remote from its lower end, a punch of shaped cross-section, and keying means for effecting corotation between said punch and said annular member; a lifting plate having an aperture receiving said stripping sleeve, and an upper surface in lifting engagement with said sleeve shoulder, said punching and stripping assembly and said annular member being rotatable as a unit with respect to said lifting plate; lifting spring means acting between said lifting plate and said upper tool support at a point adjacent to said recess; and means on said tool support locking said annular member in any one of an infinite number of selected rotational positions with said punch in alignment with said die.

3,342,092

APPARATUS FOR CUTTING A CONTINUOUSLY MOVING STRIP OF MATERIAL

Gerald L. Bearer, Pittsburgh, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 8, 1964, Ser. No. 336,442
6 Claims. (Cl. 83-320)

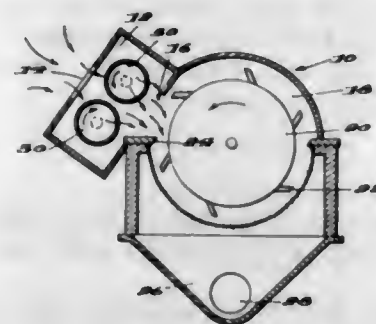


1. In a device for shearing a moving strip of material the combination comprising, a support frame having a pair of parallel spaced rail portions, a carriage having an upper blade carrier rigidly secured to the carriage and a lower blade carrier, said upper blade carrier having a body portion and a pair of guide portions connected thereto, said guide portions having horizontal recessed portions slidably positioned on said rail portions, said lower blade carrier having pairs of spaced guide portions extending laterally therefrom, said guide portions positioned on opposite sides of said blade carrier body portion so that said lower blade carrier is movable vertically relative to said upper blade carrier, actuating means to move said lower blade carrier vertically toward and away from said upper blade carrier, and oscillating means to reciprocate said carriage in a rectilinear direction at substantially the speed of the moving strip and in timed relation to said actuating means.

3,342,093 PERFORATED FEED ROLLS WITH INDUCED GAS FLOW THERE THROUGH

John George Selby Billingsley, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 412,432
6 Claims. (Cl. 83-402)



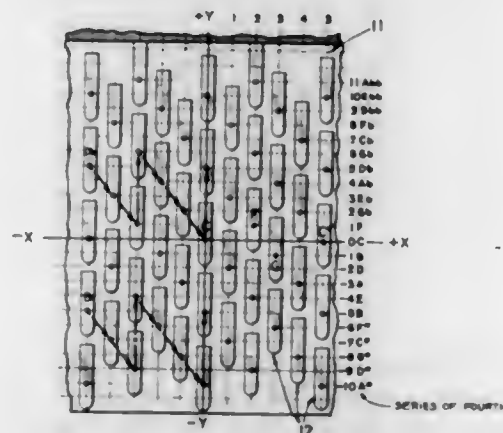
1. In a material cutting apparatus having an induced gas flow therethrough and having in combination, a feed section containing, in the path of said gas flow, a pair of rotatably mounted material transmitting nip rolls, a cutting chamber, and a discharge section; the improvement wherein said nip rolls have hollow interiors and surfaces containing perforations, the perforations being of such a size and number that said gas flow is predominantly through said nip rolls.

3,342,094

MUSICAL INSTRUMENT KEYBOARD

Ervin M. Wilson, 1219 Poinsettla St., Los Angeles, Calif. 90046

Filed Nov. 4, 1966, Ser. No. 592,174
6 Claims. (Cl. 84-423)



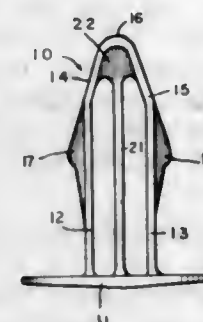
1. A musical instrument keyboard including: a plurality of keys; and key responsive means for enabling the generation of tones individual to said keys, respectively, said keys being arranged in a plurality of parallel columns staggered with respect to each other such that relative to an X-Y rectangular coordinate system in which the Y axis coincides with one of said columns and one key in said one column corresponds to the origin, the remaining keys in said column from the origin fall on every fifth Y coordinate, and successive integral X coordinates from said origin define the intersections of said columns with the X axis, the second key from the origin in an X direction being positioned one Y coordinate from the X axis and the third key from the origin in the same X direction being positioned one Y coordinate of opposite sign from the X axis.

3,342,095

SNAP-IN FASTENER

Robert Z. Buntic, Elmhurst, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware

Filed Mar. 5, 1965, Ser. No. 437,429
5 Claims. (Cl. 85-5)



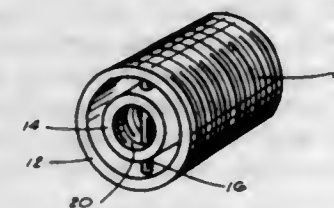
1. A resilient plastic snap-in fastener comprising an enlarged head, a center bar extending upward from the head and terminating in a pointed tip, the center bar tapering adjacent the tip to a narrow end, and a pair of flanges spaced from and positioned on opposite sides of said center bar, said flanges extending upward from the head parallel to the center bar and then converging and tapering to the pointed tip, each flange including an outwardly extending enlargement intermediate the length of the flange and each enlargement tapering vertically upward and downward to merge into said flange and also tapering horizontally to merge into the opposite edges of the flanges.

3,342,096

FLOATING NUTS

Cla Mounte R. Bobrowski, Arlington, Va. (2903 Rosemary Lane E., Falls Church, Va. 22042)

Filed June 21, 1965, Ser. No. 465,544
4 Claims. (Cl. 85-32)



1. A floating nut comprising: a first cylinder threaded externally thereof for engaging a hole in a carrier part and having a generally smooth-walled bore; a second cylinder disposed within said first cylinder having an outer diameter considerably smaller than the inner diameter of said first cylinder, said second cylinder being threaded internally thereof and having a generally smooth-walled exterior; a cylindrical pin located within said first cylinder and secured at either end to said first cylinder generally at diametrically opposite locations; openings formed in said second cylinder generally at diametrically opposite locations; said openings receiving therethrough said pin in sliding engagement, whereby said second cylinder may have translational and angular movement relative to said first cylinder.

3,342,097

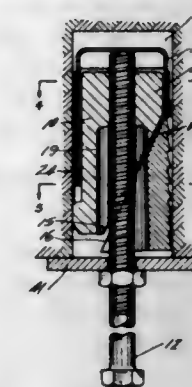
ANCHOR RODS

Charles-Edward Rochelleau, Box 391, Sudbury, Ontario, Canada

Filed Dec. 27, 1965, Ser. No. 516,380
3 Claims. (Cl. 85-79)

1. In an anchor rod to be inserted into a cylindrical hole drilled into a first formation, the combination of a rod, a formation-engaging wedge member through which said rod is threaded, a second formation-engaging wedge

member, said two members subtending a transverse periphery of substantially 360°, cam means on said members whereby said members may be relatively displaced laterally to engage the formation as said members are moved one toward the other axially of said rod, and a guide movable on said first member in a direction parallel



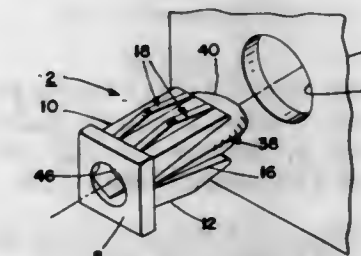
with the axis of said rod, said guide member being substantially U-shaped and including two legs, one of said legs being attached to the upper end of said second member and the other of said legs being free and slidable in a longitudinal groove formed in the wall of said first wedge member.

3,342,098

SEALED EXPANSION FASTENER

Jerome T. Schuplin, Parma Heights, Ohio, assignor to Tinnerman Products, Inc., a corporation of Ohio

Filed Aug. 16, 1965, Ser. No. 479,959
21 Claims. (Cl. 85-83)



1. A fastening device adapted for insertion through an opening in a support structure comprising, a head portion having an aperture therein, a tube-like means made integral with and extending from said head portion having a bore communicating with the aperture in said head portion for receiving a threaded means therein, shank means made integral with and cooperating with said tube-like means for retaining said device in the opening in said support structure upon spreading deformation of said tube-like means, and wherein said tube-like means is of a generally polygonal shape in external configuration defined by at least four obliquely disposed integral side walls having a closed entry end portion.

3,342,099

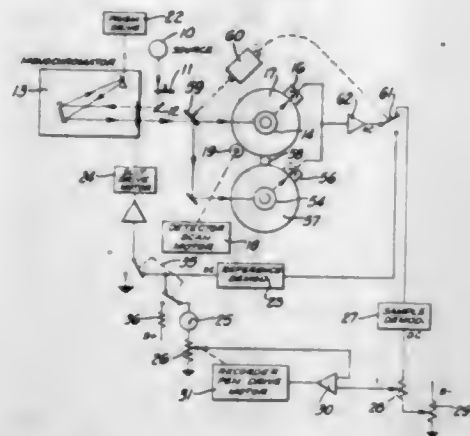
SCATTERED LIGHT SPECTROPHOTOMETER

Wilbur I. Kaye, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Feb. 26, 1963, Ser. No. 261,066
3 Claims. (Cl. 88-14)

1. In an instrument for scattered light measurement, the combination of:
a radiation source;
a sample cell;
a reference cell;
a first radiation detector for producing a sample electrical signal varying as a function of incident radiation;
a second radiation detector for producing a reference electrical signal varying as a function of incident radiation;

a beam switcher including means for directing radiation from said source alternately to said sample cell and reference cell;
first detector mounting means for mounting said first detector adjacent said sample cell and including a scattered light path from said sample cell to said first detector;



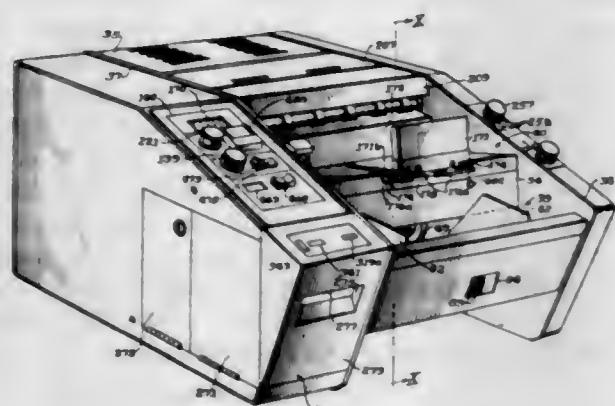
second detector mounting means for mounting said second detector adjacent said reference cell and including a scattered light path from said reference cell to said second detector; and
means for moving said detectors in synchronism in paths about the corresponding cells to provide sample and reference scattered light signals varying as a function of angle with respect to the incident beams.

3,342,100

MICROFILM RECORDER

David L. Maloney, Evanston, Paul G. Bielik, North Riverside, and Louis A. Smitzer, Chicago, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 14, 1964, Ser. No. 396,017
58 Claims. (Cl. 88-24)



1. A microfilm recording machine comprising, in combination,
a cabinet including an enclosing housing having a front portion provided with a lower feed-in entrance and an upper discharge exit,
magazine structure aligned with said entrance for documents to be microfilmed,
document feed means in said entrance including
document pull-in means including a manually adjustable pressure regulating device,
a document feed roller drivingly coupled with said pull-in means,
a reversing roller opposing the feed roller and including means for manually selectively adjusting operative spacing between the rollers,

and a document thickness detector mounted in the path of documents passing the feed and reversing rollers including manually operable adjusting means and means for automatically controlling operations of the feed roller,

document transport means within the cabinet between said feed means and exit and including an intermediate front and back document scanning zone, document illuminating means mounted adjacent to said scanning zone and including light intensity control means having a manual adjustment device and a visual index and meter located on the front of the machine,

document hopper means aligned with said exit for receiving documents therefrom and including adjustable front stop means and pivotally mounted rear back stop means and adapted to be removed for access to said illuminating means,

means within the cabinet defining a wrap-around optical track including document scanning mirror means associated with said zone and a series of reflecting mirrors directing front and back images of scanned documents horizontally toward the right and then downwardly and toward the left under the transport means to the left side of the cabinet within the housing and then forwardly,

manually settable shutter means in said path for selectively blocking either the front or back images, a flow film camera unit and means in the left forward portion of the cabinet receptive of the camera unit in alignment with said forwardly projected document images,

film driving means on the camera unit,
power transmission means in the cabinet positioned to be automatically drivingly coupled with said film driving means incident to mounting of the camera unit in the cabinet,

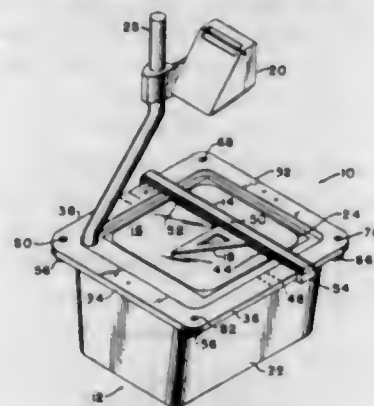
a driving motor mounted in the cabinet,
means drivingly coupling the driving motor with said transmission means and said document transport means as well as said feed and reversing rollers, and electrical operating and control means for said motor, said document feed means, said illuminating means and said camera, and comprising control means mounted on the front of said cabinet.

3,342,101

GRAPHIC PROJECTOR

Fred A. Zollner, Oscoda, Mich., assignor of one-half to Robert Richardson, Oscoda, Mich.

Filed Mar. 26, 1965, Ser. No. 443,138
8 Claims. (Cl. 88-24)



1. An overhead projector including a light box, and a light diffusing member and drawing surface positioned over the top of the light box, a projecting head positioned over the drawing surface for receiving light therefrom and projecting images received from the drawing surface and means supporting the projecting head from the light box and drawing aid structure including a single

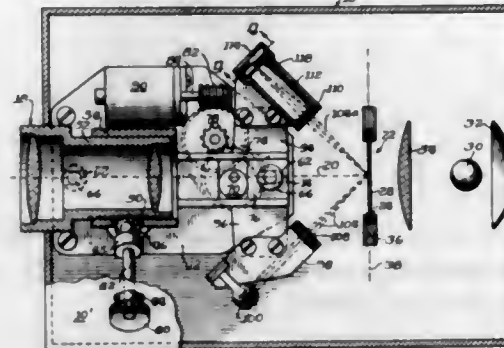
unitary rectangular frame removably secured over the top of the light box and outlining the complete drawing surface, a straight edge positioned over the frame for movement between the ends thereof and means for securing the straight edge to the frame for restricting movement of the straight edge to relatively parallel positions.

3,342,102

IMAGE PLANE POSITION APPRAISAL SYSTEM FOR A SLIDE PROJECTOR

Eric K. Maxon, Evanston, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 23, 1965, Ser. No. 434,254
2 Claims. (Cl. 88-26)



1. In a projector on which is mounted an image plane position appraisal system, said projector including a projection lens with a focal plane located a predetermined distance therebehind, said projector adapted to project series of slides, each of which comprises a film held along its edges in a mount defining an image area to be projected along the projection axis of said lens, and wherein the image area of the slide establishes an image plane capable of shifting out of coincidence with the focal plane of the projection lens upon "popping" of said film during projection, the projector including a base, a carriage mounted on said base for movement relative thereto, means for adjustably mounting said lens on said carriage for movement therewith, reversible driving means operably connected to move said carriage in a direction substantially parallel with said projection axis and relative to the image plane, and an appraisal system mounted on said carriage for movement therewith, comprising:

a source of light rays,
a balancing bridge circuit including a pair of resistors in series circuit with one another, and
a dual photoconductor having a pair of light sensitive portions connected in series circuit with one another, and an effectively non-sensitive portion between said light sensitive portions,
said light rays from said source being directed toward said image plane wherein said light rays are reflected from said image plane to impinge upon a portion of said dual photoconductor,
said bridge circuit generating an output current when said bridge is caused to be unbalanced in response to changes in resistance of one of said sensitive photoconductor portions due to said reflected light rays impinging on said portion, and
a sensing circuit including a pair of amplifier switching transistors in circuit connection with said bridge circuit and in circuit connection with an energizing circuit for said reversible driving means,
the energizing circuit energizing said reversible driving means when one of said transistor components of said sensing circuit responds to an output current of said bridge circuit upon unbalancing of said bridge circuit in one direction wherein said driving means moves said appraisal system as required until said light ray impinges upon said nonsensitive portion of said photoconductor,

said transistors operating such that the current through said transistor varies proportionally wherein said driving means is energized with similar proportionality, in response to variations in the illuminated condition of said light sensitive portion of said photoconductor,

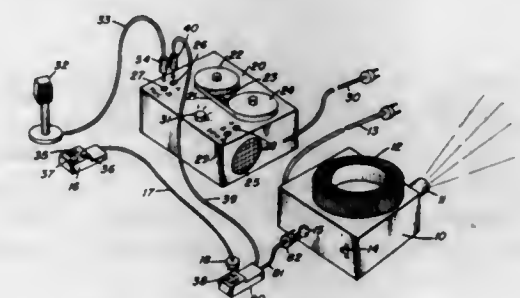
whereby said reversible driving means is variably energized as said light ray approaches said non-sensitive portion of said photoconductor on which portion the light ray comes to rest thereby defining coincidence of said focal plane with said image plane.

3,342,103

SYNCHRONIZING UNIT FOR SOUND AND STILL-PICTURE PRESENTATION

William J. Fabrey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 7, 1965, Ser. No. 485,237
16 Claims. (Cl. 88-28)



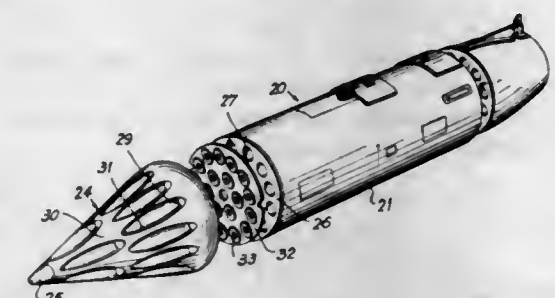
1. In combination with a slide projector of the type having electrically controllable slide-changing mechanism, a slide-change control circuit for initiating a slide-changing operation of said mechanism,
said control circuit including a circuit component across which a voltage is developed during such operation of said mechanism,
a signal recorder having signal input terminals, and means for connecting said signal input terminals to said circuit component so that at least a portion of said voltage appearing across said component will be recorded by said recorder as a slide-change signal.

3,342,104

GUIDE TUBE MAGAZINE FOR CARRYING AND LAUNCHING AIRPLANE ROCKET-BOMBS

Roger Almé Robert, 33 Blvd. d'Angleterre, Le Vesinet, France

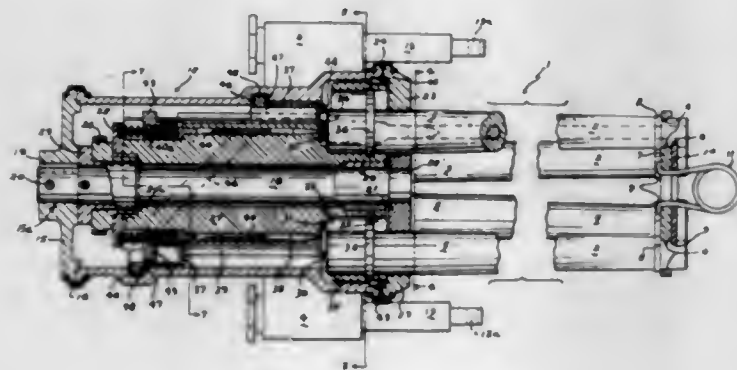
Filed Nov. 17, 1964, Ser. No. 411,817
Claims priority, application France, Oct. 22, 1964,
992,316, Patent 1,441,434
4 Claims. (Cl. 89-1.817)



3. In a guide-tube magazine for carrying and launching airplane rocket-bombs, comprising a magazine body, a tapered nose portion mounted on the forward end of said magazine body, a plurality of guide tubes mounted in said magazine body, said tapered nose portion having channels with outlets on the external surface of the tapered nose,

said channels being longitudinally aligned with each of said guide tubes, an annular wall in each tube secured to the latter along its outer edge, said annular wall being positioned in the tube forwardly of the rocket-bomb located therein and spaced from the forward end of the rocket-bomb, said wall having a central opening smaller in diameter than that of the tube, and being operative to restrict heating of the rocket-bomb due to penetration of air at high speed within the channels of the tapered nose portion, said annular wall being deformable upon passage therethrough of the corresponding rocket-bomb in the tube.

3,342,105
BOLTLESS GATLING GUN MECHANISM
 Emile J. Fagerstrom, 213 Baker Ave. NW.,
 Fort Walton Beach, Fla. 32548
 Filed Jan. 28, 1966, Ser. No. 523,805
 7 Claims. (Cl. 89-12)

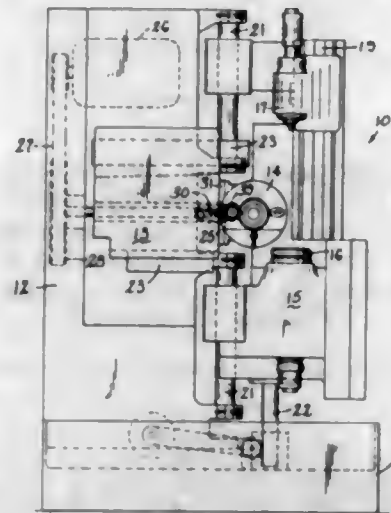


3. In a machine gun of the Gatling type, an annular supporting casing having a central axis, a plurality of gun barrels having round cartridge chambered rear ends for receiving rounds therein, means for rotating in a planetary motion said barrels in substantially parallel relation around said axis, annular cam means fixed relative to said casing for successively camming said barrel rear ends inwardly into firing position and outwardly into round ejecting and fresh round loading positions during rotation, in a planetary motion, of said barrels around said axis, round back up abutment means disposed in spaced relation behind said chambered rear ends perpendicular to said axis for backing up chambered rounds in said barrel rear ends when each barrel rear end is cammed inwardly toward said central axis, said abutment means disposed to be out of round back up relation when said barrel rear ends are cammed outwardly, means for firing said rounds while in said chambered barrel rear ends while said rear ends are in inwardly cammed positions, means carried by said rotor for ejecting spent rounds from and injecting fresh rounds into said barrel rear ends while said rear ends are cammed outwardly during rotation of said barrels in a planetary motion around said central axis, and means connecting the muzzle ends of said barrels together for limited fulcrum swinging movement as said barrel rear ends are cammed inwardly and outwardly.

3,342,106
HOBBING MACHINE
 Edward J. Batorski, Wallingford, and Rudolf P. Hundt, Cheshire, Conn., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
 Filed Oct. 18, 1965, Ser. No. 497,338
 27 Claims. (Cl. 90-4)

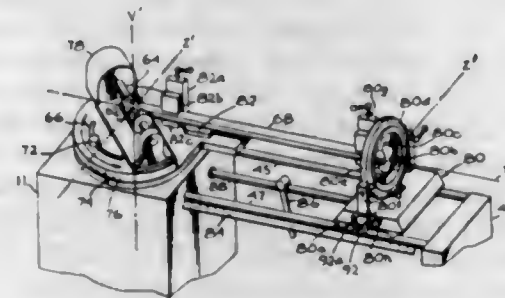
1. A hob head comprising a housing, a hob arbor, means mounting said arbor in said housing for rotation and axial movement therein, first drive means for rotating said arbor, an arbor shifting member rotatively supported

in said housing in fixed axial position, means connecting said arbor and said shifting member for shifting said arbor



axially upon relative rotation between said hob arbor and said shifting member, and second drive means for rotating said shifting member relative to said arbor.

3,342,107
ELONGATED STOCK CUTTING APPARATUS
 David H. Margolien, 23206 Hatteras St.,
 Woodland Hills, Calif. 91364
 Original application Sept. 1, 1964, Ser. No. 393,582, now
 Patent No. 3,263,544, dated Aug. 2, 1966. Divided and
 this application Aug. 23, 1965, Ser. No. 481,610
 6 Claims. (Cl. 90-17)

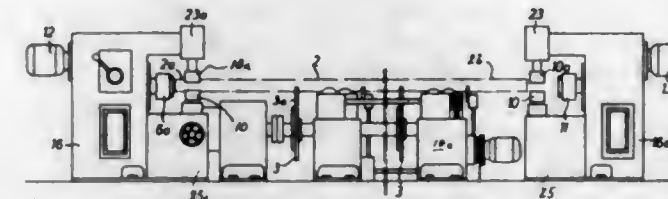


1. An apparatus for shaping the end of elongated stock having a longitudinal axis comprising fastening means for releasably fastening said elongated stock; a shaping member having a center which is fixedly positioned in a fixed central axis of reference; and means for releasably rotating said shaping member about said fixed central axis of reference to be at a predetermined angle with respect to said longitudinal axis of said elongated stock, while maintaining said fixed central axis of reference perpendicular to said longitudinal axis and means for rotating said shaping member about a longitudinal axis thereof to shape the end of said stock when engaging the surface thereof, with said center being fixedly positioned in said fixed central axis of reference.

3,342,108
APPARATUS FOR MACHINING THE ENDS OF WORKPIECES
 Horst Lorenz, Solingen, Germany, assignor to Kieserling, Th. & Albrecht, Solingen, Germany
 Filed Oct. 14, 1965, Ser. No. 495,907
 Claims priority, application Germany, Oct. 24, 1964, K 54,352
 11 Claims. (Cl. 90-21)

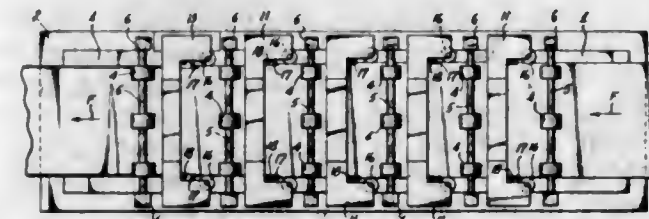
1. An apparatus for machining the ends of elongated workpieces, comprising, in combination, means for sup-

porting a series of elongated workpieces in parallel positions in a working plane; transporting means for transporting the same in a direction transverse to the longitudinal direction of the same along a path successively to a working position; tool means located on at least one side of said path in said working plane registering with workpieces in said working position for machining one end of said workpieces; clamping means for clamping said end of each workpiece and located on said one side of said path and including a pair of clamping members located in a plane perpendicular to said working plane on opposite sides of said working plane, said clamping members being operable in the respective perpendicular plane in a direc-



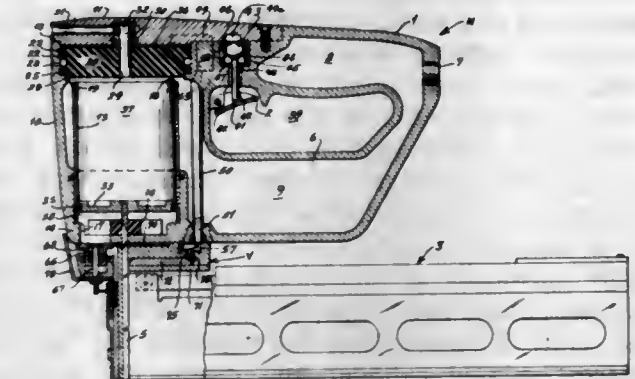
tion transverse to said working plane for clamping said end of each workpiece in said working position; drive means for driving one of said clamping members; and motion transmitting means connecting said one driven clamping member with the other clamping member, and transmitting the motion imparted to said one driven clamping member to the other clamping member for moving said clamping members in opposite directions away from each other, and towards each other for clamping the workpiece.

3,342,109
PROCESS FOR REGULATING THE WIDTH OF METALLIC STRIPS OR BANDS DESIGNED FOR MANUFACTURING TUBES OR OTHER STRUCTURAL SHAPES, AND MACHINE TO PUT THE PROCESS INTO OPERATION
 Charles Gillet, Paris, France, assignor to
 Societe anonyme dite: Vallourec
 Filed Sept. 21, 1965, Ser. No. 488,882
 Claims priority, application France, Sept. 29, 1964, 989,753
 18 Claims. (Cl. 90-24)



1. Machine to smooth the edges of metal bands, comprising in combination: a stationary horizontal table on which the band is transported in the direction of its length while being pressed by presser-rollers, two stringer pieces placed on either side of the table and at least one tool-carrier carriage mounted on the stringer pieces so as to be able to slide freely transversely with respect to the band, and carrying a pair of tools machining each of the two edges of the band as well as a pair of rollers placed on either side of the band, wherein each of the two stringer pieces is mounted on two eccentrics carried along by the same rotation movement, so that the two stringer pieces and the tool-carrier carriages that they support are carried along by a circular translation movement.

3,342,110
NAILING MACHINE
 Werner Schafroth, P.O. Box 247, Herrin, Ill. 62948,
 and Anthony E. Cairatti, Herrin, Ill.; said Cairatti assignor to said Schafroth
 Filed Sept. 25, 1964, Ser. No. 399,152
 1 Claim. (Cl. 91-454)



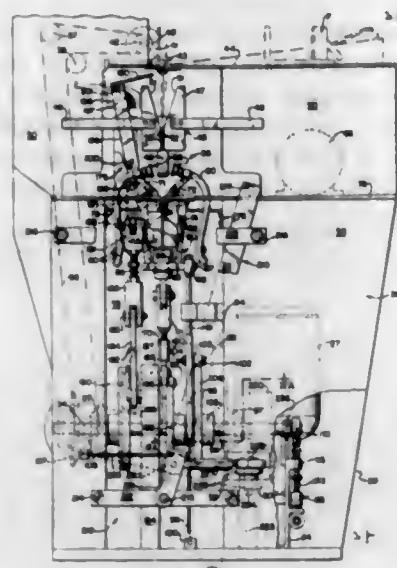
In a driving machine having a casing with a reservoir and an inner cylinder therein, a piston slidably mounted in said inner cylinder, said piston having a driving blade connected thereto, a main valve assembly slidably mounted in said casing above said inner cylinder for opening and closing the top of said inner cylinder, a chamber above the main valve assembly normally exposed to pressure from said reservoir and closed to atmosphere, a valve block connected to said casing below said inner cylinder, said driving blade adapted to actuate a valve positioned within said valve block, a feeder tube connecting said chamber with said valve in said valve block, a trigger which when moved toward said casing causes said piston to be driven downward, said casing having an exhaust port therein for exhausting said inner cylinder beneath said piston, said exhaust port being provided with a relief valve for closing said exhaust port to atmosphere, said relief valve closing said exhaust port when said driving blade has completed its downward movement due to the size of the passage within said valve block, said piston remaining in its downward position until said trigger is released, said relief valve being adapted to close said exhaust port and being provided with means therein for allowing pressure to enter said cylinder beneath said piston for returning said piston to its upper position, the release of said trigger allowing pressure from said reservoir to enter said chamber to move said main valve assembly downward to close the top of the inner cylinder and to enter said feeder tube and valve block to close said exhaust port and supply pressure from said reservoir through said exhaust port to return said piston to its upper position.

3,342,111
FLUID PRESSURE ACTUATOR AND LOCKING MEANS
 Robert H. Royster, 1436 Serenade Terrace,
 Corona Del Mar, Calif. 92625
 Original application Oct. 21, 1963, Ser. No. 317,760, now
 Patent No. 3,217,609, dated Nov. 16, 1965. Divided
 and this application Sept. 8, 1965, Ser. No. 485,741
 6 Claims. (Cl. 92-24)

1. A double acting fluid pressure actuator and locking means comprising an elongated hollow cylinder, each end surface of said cylinder being beveled outwardly, a cylinder head received on one end of said cylinder, an inwardly opening annular recess between said head and the adjacent end of said cylinder, means on said head for attaching the same to a cooperating structure, a fluid pressure inlet in said head communicating with said cylinder, a piston slidably received in said cylinder, a piston rod connected

to said piston and projecting from the opposite end of said cylinder, a second cylinder head received on the opposite end of said cylinder and surrounding said piston rod, a second inwardly opening annular recess between said second head and the adjacent end of said cylinder, a second fluid pressure inlet in said second head communicating with said cylinder, a central axial bore in each end of said piston, a radial aperture in each end of said piston communicating with said bore, a second bore in each end of said piston concentric with said first bore and of smaller diameter, a plunger slidably disposed in each of said second bores, a fluid pressure passage in said piston between the first bore in one end of said piston and the second bore in the opposite end of said piston, a second fluid pressure passage between the first bore in said opposite end of said piston and the second bore in said one end of said piston, spring means for urging each plunger axially outwardly of said piston, locking detents slidably disposed in said radial apertures, beveled surfaces on the outer ends of said detents for engaging the beveled end surfaces on said cylinder and means for moving said detents outwardly and locking the same in outward position comprising a flat surface on the outer end of each plunger disposed at right angles to the longitudinal axis of each detent, each flat surface merging into an inwardly

with respect to the first and second portions, means for further separating the second portions and said last-men-

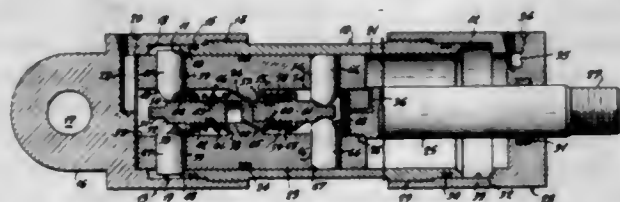


tioned means being a movable mandrel carrying means for interlockingly engaging the first and third portions of the carton.

3,342,113

METHOD OF MAKING TWO-PIECE PAPER CUPS
Donald W. Baumgartner, 4740 N. Bartlett Ave.,
Milwaukee, Wis. 53211

Filed Mar. 26, 1965, Ser. No. 442,909
4 Claims. (Cl. 93-39.1)



extending inclined cam surface, each cam surface terminating in a second flat surface disposed radially outwardly of said first flat surface and a rounded nose on the inner end of each detent, said rounded nose having a cross-section which is substantially, but not exactly, equal to that of a semi-circle, and engaging said first flat surface when said detents are in inward position, whereby with said piston at one end of said cylinder and upon outward movement of one plunger the cam surface on said one plunger will move the associated detent outwardly into the adjacent annular recess to lock said piston against movement and movement of the nose portion on said last named detent into engagement with the second flat surface will lock said last named detent in outward position and upon admission of fluid pressure into said one end of said cylinder said one plunger will be forced inwardly to release said last named detent to permit inward movement thereof and movement of said piston to the opposite end of said cylinder, the spring at the opposite end of said piston and fluid pressure through the passage to the second bore at said opposite end of said piston serving to move the plunger at said opposite end of said piston and the associated detent outwardly and lock the same in the annular recess at the opposite end of said cylinder to lock said piston against movement from the opposite end.

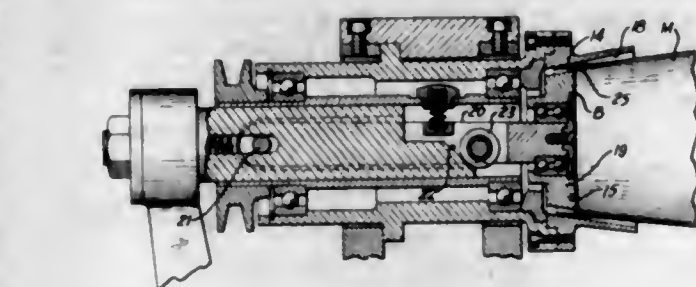
3,342,112

EGG CARTON SETTING-UP MACHINE

Harold W. Voorhis, Upper Nyack, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 20, 1964, Ser. No. 412,659
26 Claims. (Cl. 93-37)

1. Apparatus for erecting cartons comprising means for feeding a folded carton along a predetermined path, means for grasping and separating first portions of the carton whereby second portions of the carton are separated and third portions of the carton are repositioned



1. A method of making a two-piece paper cup of the frusto-conical, flat-bottom type on a frusto-conical mandrel having a flat end, said method comprising, forming an annular flange around a paper circular bottom blank, reforming said flange by pressing it further radially inwardly so that it does not extend radially beyond the periphery of the mandrel, wrapping a side wall blank tightly around the bottom with a portion of said side wall protruding axially beyond the bottom flange, and folding said portion over said flange.

3,342,114

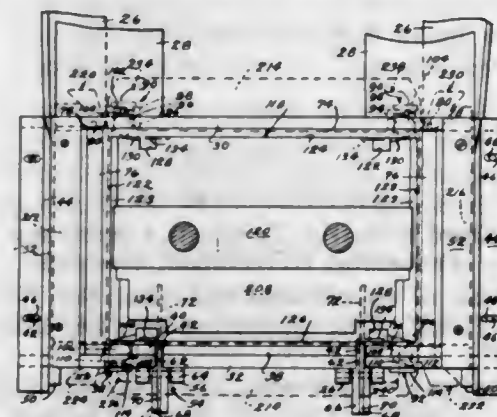
METHOD AND APPARATUS FOR MAKING CARTONS FROM BLANKS

Maurice B. Dunn, Charlotte, N.C., assignor to Memco Machinery Corporation, Charlotte, N.C., a corporation of North Carolina

Original application Nov. 27, 1962, Ser. No. 240,298, now Patent No. 3,226,006, dated Dec. 28, 1965. Divided and this application Sept. 10, 1964, Ser. No. 403,675
8 Claims. (Cl. 93-51)

1. In a machine for setting up into erected operative position, at least part of a carton blank of the type including a main panel and a plurality of side panels hinged

to the edges of said main panel for movement from a blanked position wherein said side panels are disposed in the plane of said main panel and an erected operative position wherein said side panels are disposed at an angle with respect to said main panel to form a container or cover, and in which at least one adjacent pair of end portions of adjacent side panels includes a flap defining a tab hinged to one of said pair of side panel end portions for movement from a blanked position wherein said flap is disposed in the plane of the associated side panel and a locking operative position wherein the interior surface of said flap is disposed in substantially abutting relation to the adjacent exterior surface of the other of said pair of side panel end portions and a cut formed in said other side panel end portion for receiving said tab inwardly therethrough when said flap is disposed in said locked operative position, said cut and tab being so related that when the associated side panels are disposed in said erected operative position said tab overlaps said cut in the locked operative position thereof so that said tab is prevented from movement out of said cut without a deflection of at least a portion of the blank out of its operative position, with the end edge of said other side panel end



portion including a stop portion shaped and positioned to engage the interior surface of said one side panel end portion adjacent the hinged flap thereon and prevent a non-deflecting movement of said one side panel end portion into a position wherein said tab is disposed out of overlapping relation with said cut, said end edge also including a relieved portion extending angularly outwardly from said stop portion and of a size and shape sufficient to permit said one end portion and flap to be flexed about said stop portion as a fulcrum to thereby effect movement of said tab out of overlapping relation with said cut and permit complete entry of said tab through said cut,

said machine being of the type which has a die forming a cavity and a plunger cooperatively movable relative to said die through the cavity thereof to at least partially set up a carton blank positioned therebetween, the improvement in said die and plunger of: side panel fulcrum forming means on said plunger, and means operatively connected to said die for flexing the outer part of at least the said end portion of said one side panel inwardly about said fulcrum means to cause the aforesaid entry of said tab through said cut.

3,342,115

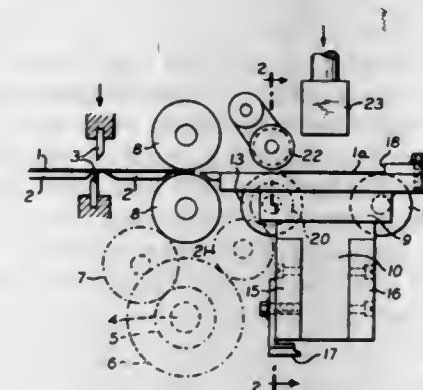
WRAPPING FORMING APPARATUS IN PACKAGING MACHINES

Gunter Reinecke, Wuppertal-Elberfeld, Germany, assignor to Benz & Hilgers G.m.b.H., Dusseldorf, Germany, a corporation of Germany

Filed Apr. 27, 1965, Ser. No. 451,272
3 Claims. (Cl. 93-51)

1. A wrapper forming apparatus in packaging machines, comprising a conveyor member, an aligning member and a prefolding member,

said members being adapted to move, to align and to prefold a cut of a wrapping sheet, a folding box defining a folding channel, a wrapper die movable downwardly and pressing said cut through and across said folding channel, and, thereby, deforming said cut to a packaging wrapping open at its top, said folding box including two rollers disposed horizontally relative to and spaced apart from each other in the direction of feeding of said cut and forming the front and rear limit of said folding box,



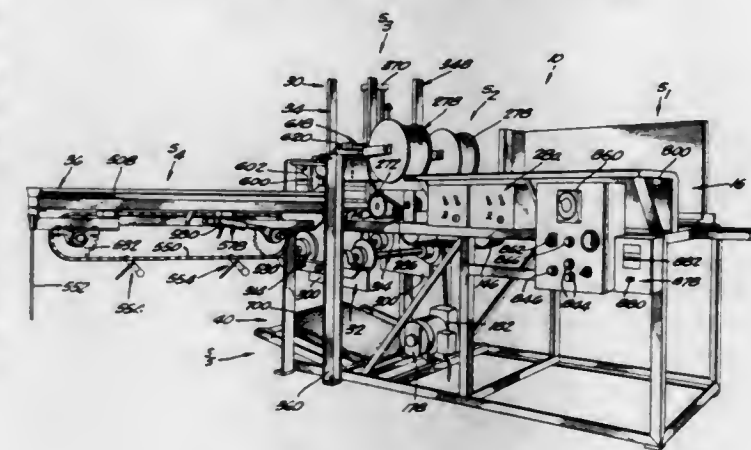
the upper edge of said folding box being disposed tangentially to the upper periphery of said rollers, means for driving the first of said rollers taken in direction of movement of said cut and constituting accelerating means for the movement of said cut, and a freely rotatable and swinging roller engaging said first of said rollers.

3,342,116

BOTTOM SEALING MACHINE

Lawrence C. Roesner, Downey, and Lenard E. Moen, Whittier, Calif., assignors to Precision Produce Specialties, Inc., Los Angeles, Calif., a corporation of California

Filed Jan. 27, 1965, Ser. No. 428,462
25 Claims. (Cl. 93-55)



1. In a machine for mating separate preformed end panels with a preformed blank and erecting said blank about said end panels to form a container structure, said blank having a central rectangular bottom wall forming panel, hinged side wall forming panels along opposite sides of said bottom wall forming panel, and hinged projecting end panel joining flaps along opposite edges of the blank, the combination comprising: a frame, means on said frame defining a folding die having a generally

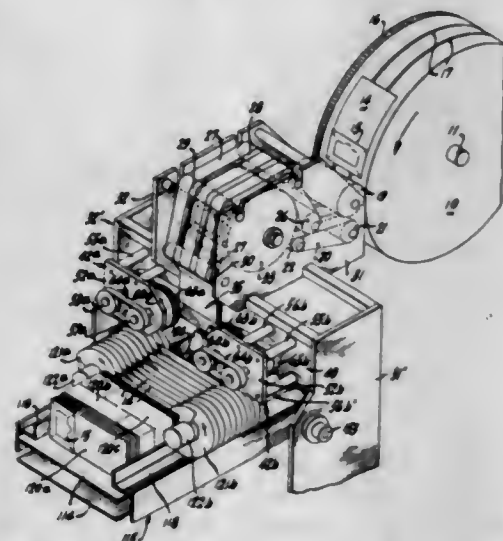
rectangular forming cavity bounded along two opposite sides by first folding members and along its two remaining opposite sides by second folding members, a forming mandrel having a leading end, means mounting said mandrel on said frame for movement between an extended position wherein said leading end of the mandrel projects into said forming cavity and a retracted position wherein said mandrel is withdrawn from the cavity, said mandrel having a rectangular cross-section generally complementing said forming cavity and including two opposite side members having outer surfaces disposed in planes generally parallel to one another and to the direction line of movement of the mandrel and generally normal to said first two mentioned opposite sides of said forming cavity, thrust shoulders on said mandrel rearwardly of said leading end of the mandrel and projecting beyond said outer surfaces of said mandrel side members, said thrust shoulders including shoulder surfaces presented toward said leading end of the mandrel, said blank being adapted to be positioned across said forming cavity between the latter and the leading end of said mandrel and said panels being adapted to be positioned against said outer surfaces of said mandrel side members forwardly of said thrust shoulders when the mandrel is in retracted position, whereby forward movement of the mandrel to its extended position is effective to initially move said end panels into mating engagement with said blank and thereafter to force said blank and end panels into said forming cavity between said folding members, thereby to cause said folding members to fold the ends of said blank upwardly about the ends of said panel and to fold said end panel joining flaps against the outer surfaces of said end panels, means for moving said mandrel between said extended and retracted positions thereof, and means for extending said mandrel side members outwardly to urge said end panels into firm contact with said flaps of said blank during forward movement of said mandrel to its extended position and retracting said mandrel side members inwardly to release said end panels during rearward movement of said mandrel to its retracted position.

3,342,117

COLLATING APPARATUS

James B. Cole, Concord, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Mar. 10, 1965, Ser. No. 438,666
19 Claims. (Cl. 93-93)



1. In a collator for relatively flat articles such as folded grocery bags and the like, a pair of spaced apart collating mechanisms defining a path of movement therebetween along which such articles are successively advanced

in a predetermined orientation, each of said mechanisms comprising a pair of rotatable discs disposed in facing relation and being movable between a closed article-gripping position and an open article-passing position, said pairs of discs being transversely aligned with respect to such path of movement and the space defined between each pair of discs in the open position thereof being sufficiently great that an article can pass freely therethrough, drive mechanism for rotating the two pairs of discs respectively comprised by said mechanisms in opposite angular directions toward each other along such path of movement, actuating mechanism for repetitively displacing selectively one or the other pair of discs between the open and closed positions thereof throughout a period corresponding to the advancement of a predetermined number of articles along such path toward said collating mechanisms and in timed relation with the advancement of such articles so as to grip and rotate each and thereby reorient the same to form collated groups thereof, and timing mechanism for selectively maintaining one pair of discs in the open position thereof during such period that the other pair is repetitively displaced between open and closed positions and vice versa, each article gripped and rotated by any one pair of discs to effect such reorientation being displaced angularly through the space then defined between the other pair of discs.

3,342,118

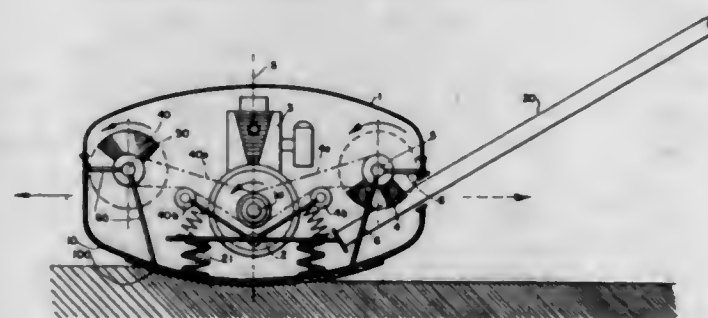
TAMPING DEVICE

Bernhard Belerlein, Bergische Landstrasse 309,
Dusseldorf-Gerresheim, Germany

Continuation of abandoned application Ser. No. 196,382,
May 21, 1962. This application May 26, 1966, Ser. No.
553,260

Claims priority, application Germany, May 25, 1961,
J 19,978; Feb. 14, 1962, B 65,938

7 Claims. (Cl. 94-48)



1. A self-propelled tamping device comprising, in combination:

- (a) plate means having a working surface which contacts the surface of the material to be tamped, said working surface being arched convexly and having a substantially uniform, generally cylindrical configuration, the axis of curvature of said working surface being transverse to the direction in which the tamping device is movable;
- (b) a weighty mass resiliently carried by said plate means; and
- (c) at least one rotary vibrator rigidly mounted on said plate means and incorporating but a single rotary unbalance mass for producing non-directional vibrations, said vibrator being located in the forward part of the tamping device for causing the tamping device, when said single rotary unbalance mass is driven, to move in a pendular manner over the surface to be tamped, whereby the non-directional vibrations are utilized to impart directional movement to the tamping device.

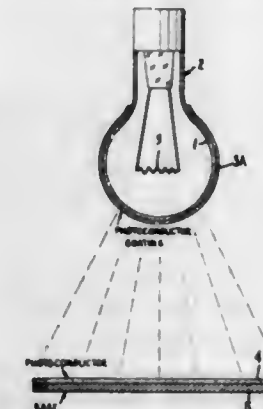
3,342,119

XEROGRAPHIC SAFE-LIGHT

Kenneth A. Metcalfe, Fulham, South Australia, William H. Lowe, Beaumont, South Australia, and Alwin S. Clements, Largs Bay, South Australia, Australia, assignors to The Commonwealth of Australia, % the Secretary, Department of Supply, Melbourne, Victoria, Australia

Filed Dec. 5, 1962, Ser. No. 242,556
Claims priority, application Australia, Dec. 8, 1961,
12,191/61

16 Claims. (Cl. 95-1)



1. A xerographic safe-light comprising a translucent base and fixed thereon a photoconductor coating having its absorption bands coincident with the absorption bands of the photoconductor work piece being handled.

3,342,120

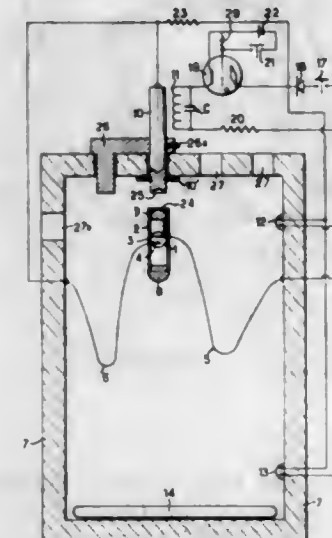
DEVICE FOR STUDYING THE BEHAVIOR OF MOVING BODIES

Marc Odier, Blvd. Exelmans, Paris 16, France

Filed Mar. 1, 1965, Ser. No. 436,185

Claims priority, application France, Mar. 6, 1964,
966,313; Apr. 13, 1964, 970,677, May 15, 1964,
974,622

9 Claims. (Cl. 95-11)



1. In an apparatus for the study of the basic laws of motion, said apparatus comprising a support frame and an optical recording device, the improvement comprising:

- (a) an object whose motion is to be studied, which object carries a ferromagnetic armature;
- (b) a lamp contained in said object;
- (c) a source of current for periodically energizing said lamp;
- (d) a pair of flexible conductors connecting said source to said lamp;
- (e) a releasable holding means including an electromagnet whose core is shaped to engage said armature for holding said object at the highest point of its projected travel path;

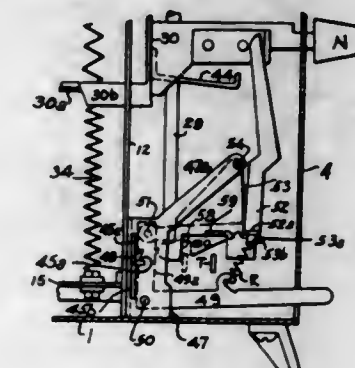
- (f) means connected to said holding means and including an electric control circuit connected between said source of current and the control winding of said electromagnet for controlling the release of said object; and
- (g) short-circuiting means connected between said lamp and said current source for short-circuiting said lamp as long as said object is held by said holding means.

3,342,121

ELECTRIC TOASTER

Joseph Pavelka, Jr., St. Louis, and Frank Stanek, St. Louis County, Mo., assignors to The Toastswell Company, St. Louis, Mo., a corporation of Missouri
Original application Jan. 28, 1963, Ser. No. 254,317.
Divided and this application Jan. 13, 1966, Ser.
No. 520,385

2 Claims. (Cl. 99-329)



1. In combination in a bread slice toaster including a housing having a base and electric resistance heating elements, operating mechanism therefor including an energizing electrical circuit for said heating elements, a switch controlling said circuit, a vertically movable slice carrier adjacent to said heating elements and movable to a lowered position to close said switch and to a raised position to open said switch, spring means normally supporting the carrier in the raised position, a latch engaging the carrier when lowered to hold the carrier against the thrust of said spring means, an upstanding pin on said base, a bracket swingably mounted on said pin, a bimetal elongated timer member fastened to one end of said bracket, said bracket having an elongated flat radial leg which normally extends parallel to said timer member and which has a free end which is adapted to slide along the upper surface of said base, said timer member functioning to release said latch when the timer member heats up, warps, and moves relative to said flat radial leg free end, a cam lever slidably mounted on the upper surface of said base adjacent said leg free end, and a manually operable device for readily adjusting the timing period of said timer member within a given range of temperatures, said device including a flat member slidably mounted on the bottom surface of said base and having an upstanding member which extends through an elongated opening in said base to a position above said upper surface and being located on the opposite side of said leg free end from said cam lever, said device being adapted to be adjustably positioned along said opening, said cam lever being pivotally mounted on said flat member.

3,342,122

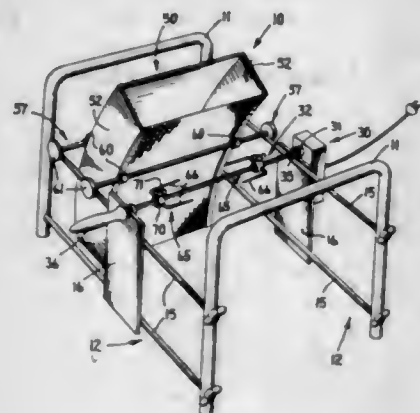
COOKING DEVICE

Herbert M. Blinn, Indianapolis, Ind., assignor of one-half to William Jakelsky, Carmel, Ind.
Filed May 5, 1965, Ser. No. 453,315

3 Claims. (Cl. 99-421)

1. A cooking device comprising a pair of U-shaped bars each having four bores therethrough with two bores in one leg of each U-shaped bar and two bores in the

other leg of each U-shaped bar, a pair of said structures each including a pair of rods fixed in parallel spaced relation by a rectangular member welded to the rods centrally thereof, each of said rods being threaded at its distal ends and deformed adjacent its distal ends to provide abutments, each distal end of said rods being projected through a respective one of said bores, a plurality of nuts each received on a respective one of said threaded distal ends and drawing up said abutments against said U-shaped bars to provide a rigid assembly with said U-shaped bars forming the end portions thereof and said side structures forming the side portions thereof, a motor mounted on one of said rectangular members and having an output drive member which is formed for removable coupling



to a spit, a spit having a handle on one end thereof, means slidable along and securable to said spit at any desired location along the length thereof for impaling an object to be cooked and fixing it against rotation relative to the spit, an annularly externally grooved member adjustably fixed to said spit, the other of said rectangular members having a semicircular recess in the upper edge thereof receiving the grooved member within the groove thereof thereby retaining said spit in said electric motor output drive member, a charcoal basket having closed sides and rear and having a foraminous forward face, said charcoal basket face being curved about a horizontal axis in a cylindrical configuration and cupped about said spit, and means adjustably supporting said basket on said side structures.

3,342,123

AUTOMATIC CHAMBER PRESSURE FILTER

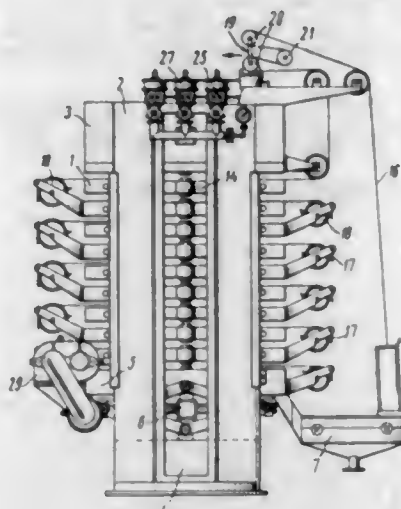
Ivan Semenovitch Ermakov, Georgy Mikhailovich Kochkin, Mikhail Yakovlevich Meshengisser, and Filipp Nikolaevich Shakhov, Kharjov, U.S.S.R., assignors to Ukrainsky Nauchno-Issledovatel'sky Institute Khimicheskogo Mashinostroeniya, Kharjov, U.S.S.R.

Filed Apr. 15, 1964, Ser. No. 360,015

2 Claims. (Cl. 100-115)

1. An automatic chamber pressure filter comprising: guides, horizontally arranged filter plates consisting of upper and lower parts of which the upper part serves as a filtrate diversion chamber whereas the lower part is a frame forming a filtration chamber; a waterproof sheet diaphragm provided between the lower and the upper parts of the plate and adapted to press out suspension and press off filter cake; extreme plates, said filter plates being located between the extreme plates which are adapted for carrying the total filtration load and are interconnected by said guides; a clamping device to compress said filter plates; rollers, a filter cloth on said rollers and disposed zigzag-wise between the said filter plates; springs, two knives on said springs at each of the rollers, one of said knives being adapted for removal of residue and the other for fine cleaning of the cloth; a regeneration chamber for the said filter cloth and a tension slide providing compensation of the filter cloth extension and consisting of

three vertically related rollers of which the middle one is fixed whereas the upper and lower ones are interconnected



and move synchronously; and means for moving said rollers and regeneration chamber simultaneously with the filter plates.

3,342,124

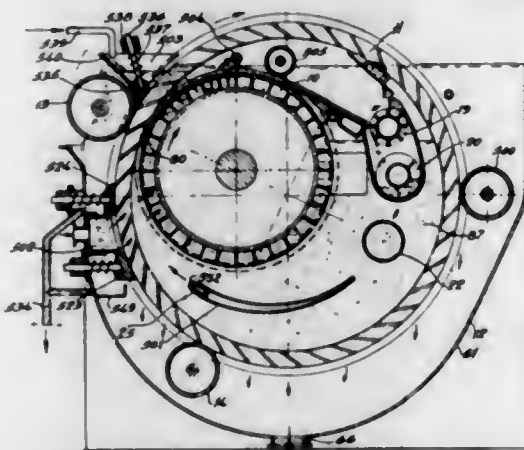
APPARATUS FOR DEWATERING AND RINSING HYDROUS SUBSTANCES

Rune Helmer Frykhult, Johanneshov, Sweden, assignor to Aktiebolaget A. Ekströms Maskinaffar, Stockholm, Sweden, a Swedish joint-stock company

Filed Mar. 15, 1965, Ser. No. 439,848

Claims priority, application Sweden, Mar. 10, 1964, 3,495/64

13 Claims. (Cl. 100-121)



1. An apparatus for high degree dewatering and rinsing of hydroous substances, preferably fiber pulp suspensions, comprising an inner rotary screen drum and an outer rotary screen drum, means provided in the space between said drums for supplying the hydroous substance, further means provided in the space between said drums and beneath said outer drum for removing the resulting product and the liquid removed therefrom, said screen drums being so disposed that a nip is formed therebetween, said outer screen drum being defined by an inner, thin screen casing which may be surrounded by an outside perforated wall, said drum being provided at the outside with spaced annulus-shaped members with a relatively great height to width ratio constituting stiffening means and trailing wall members provided between adjacent stiffening means to define together with the latter, cell structures having no circumferential intercommunication.

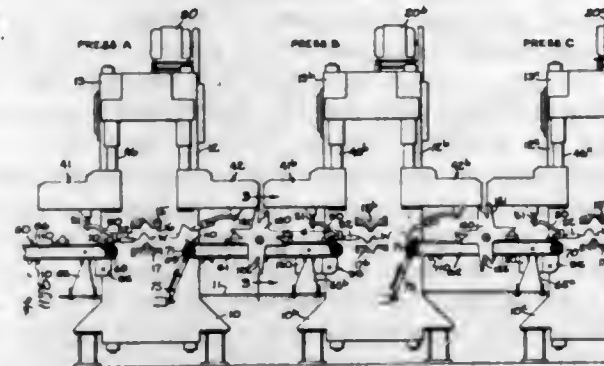
3,342,125

APPARATUS FOR REVERSING A WORKPIECE FOR AN AUTOMATIC PRESS LINE

Willard F. Curran, Chicago, Ill., assignor to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 2, 1965, Ser. No. 476,535

9 Claims. (Cl. 100-207)



1. In a press line for performing a series of press operations on a workpiece, the combination comprising a series of power presses each having an individual press drive and area of adjacent presses, transfer mechanisms at the output and input sides of said adjacent presses for transferring workpieces to and from the conveyors, said transfer mechanisms being coupled to respective press drives for precisely coordinated movement with respect to the press slide, intermittent drive means coupled to a press drive of one of its adjacent presses for driving each of said conveyors through equal periods of advance and dwell, a plurality of fixtures spaced along the conveyors, turnover means positioned along at least one of said press conveyors and between adjacent work stations, means including an intermittent drive coupled to said conveyor intermittent drive means for driving said turnover means through equal periods of advance and dwell, said turnover intermittent drive means being synchronized with said conveyor intermittent drive means so that each of said conveyors and turnover means advances during the dwell period of the other.

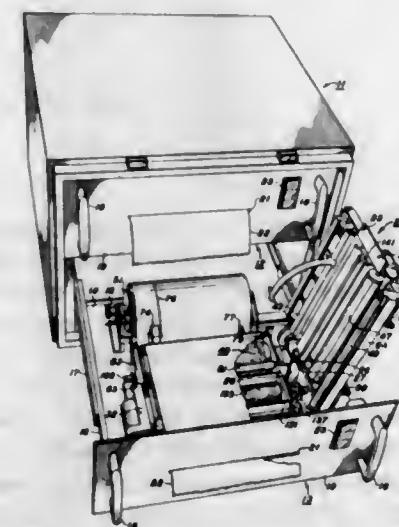
3,342,126

MULTIPLE ELECTROGRAPHIC PRINTER HAVING PLURAL UNITS CONNECTED TO COMMON DRIVE MEANS

Daniel J. Nesin, Arcadia, Leland D. Green, Sierra Madre, and Armand R. Tanguay, Pasadena, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Mar. 17, 1966, Ser. No. 535,247

4 Claims. (Cl. 101-90)



1. A multiple copy electrographic recorder comprising at least two electrographic printers, each of said printers including a plurality of separate electrically conductive

backing electrodes arranged in a line, a carrier member, a plurality of different alphanumeric character shaped electrodes mounted on said carrier, means to move said carrier so that said character electrodes repeatedly cycle past said backing electrodes, means to feed a charge retaining recording web between said carrier and said backing electrodes, means to apply short duration pulses between selected ones of said backing electrodes and said carrier when the desired characters are opposite said backing electrodes, a common drive means in said recorder for the carrier in each of said printers, a clutch mechanism for positively coupling said drive means to each of said carriers only when the common drive is at one position relative to the position of the carrier in its cycle, signal generating means actuated by said common drive means and adapted to produce an output signal analog of the position of each of said carriers in its cycle and pulsing control means adapted to compare input printing data with output signals from said signal generator to activate said pulsing means when selected characters are opposite selected backing electrodes to thereby produce a line of electrostatic character images on said recording web.

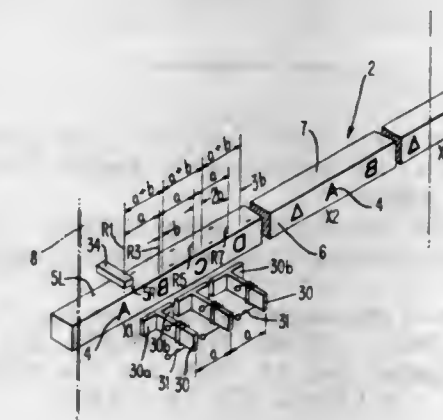
3,342,127

HIGH SPEED PRINTING DEVICE WITH RECIPROCATABLE TYPE BAR

Solomon H. Pitt, 18 Everturn Circle, Norristown, Pa. 19401

Filed May 9, 1966, Ser. No. 548,584

18 Claims. (Cl. 101-93)



1. In an apparatus for printing a plurality of characters in a plurality of character spaces across the width of a record the combination comprising: a reciprocating type carrier mounted for to and fro movement across said character spaces of said record, said type carrier having a plurality of character types uniformly disposed in a first pitch on a surface thereof and a plurality of selectively operable print hammer means uniformly disposed adjacent the character spaces of said record in a second pitch different than said first pitch and positioned to cause selected ones of said character types on said carrier to be printed in the character spaces on said record as said type carrier moves across said record.

3,342,128

ENDLESS BELT PRINTER AND INK PAD

Dorothea M. Weitzner, 8 E. 62nd St., New York, N.Y. 10021

Filed Apr. 26, 1965, Ser. No. 450,773

3 Claims. (Cl. 101-103)

1. A printer having an elongated body with a clearance extending from end to end thereof and opening through one end of the body, a cap closing the other end of the body, an open frame slidable in said clearance, said frame open at its end adjacent the open end of the body,

a coil spring interposed between the body and frame mounting said frame, a spring-pressed plunger in the cap adapted to slide said frame, an endless belt movably supported in said frame, blocks carried by the belt, type carried by the blocks and protruding through the frame, said



type adapted to be moved through the adjacent openings in the body and frame, a wheel outwardly of the body operatively connected to the belt for moving said belt around the frame, and inking pads supported on the inner surface of the body in opposed relationship in the path of movement of the movable type for inking the type.

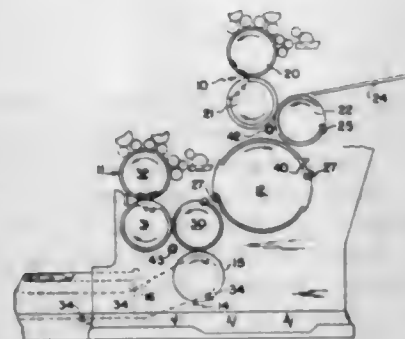
3,342,129

METHOD AND APPARATUS FOR ELECTROSTATICALLY DRIVING A SHEET IN A ROTARY PRESS

William Weigl, Brecksville, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Ohio

Continuation of abandoned applications Ser. No. 442,336, Mar. 24, 1965, and Ser. No. 519,554, Jan. 10, 1966. This application Dec. 19, 1966, Ser. No. 603,058

6 Claims. (Cl. 101-142)



3. In the process of printing where a sheet is printed by gripping the leading edge of the sheet with grippers on a rotating cylinder to carry the sheet through a printing nip for printing the sheet under pressure, the nip being formed by the rotating cylinder and a printing cylinder and after printing moving the sheet away from the rotating cylinder by transferring the leading edge of the sheet to second grippers associated with a second cylinder moving in an arcuate path adjacent the rotating cylinder on the delivery side of the printing nip whereby the path of movement of the sheet as it leaves the nip is generally an S-shaped path through a first curved portion along the surface of the rotating cylinder and then through a reverse curved portion along the path of the second grippers with the freshly printed surface facing the periphery of the second cylinder and wherein the leading edge of the

sheet is engaged by the second grippers while another portion of the sheet is in the printing nip, the steps of establishing a driving relationship between the periphery of the rotating cylinder and the part of the sheet between the nip and the transfer point to the second grippers by electrostatically attracting the sheet to the rotating cylinder to establish a driving relationship between the sheet and the rotating cylinder, maintaining the driving relationship at least until the trailing end of the sheet leaves the printing nip whereby the part of the sheet on the delivery side of the nip is continuously driven through the first part of the S-shaped path and the sheet is prevented from following the printing cylinder, printing each sheet in a second printing nip defined by a second printing cylinder and a second rotating cylinder having grippers associated therewith to which said second grippers deliver the sheet, the sheet as it leaves the second nip moving in an S-shaped path defined by the surface of the rotating second cylinder and a reversely curved path of grippers associated with a delivery drum, electrostatically attracting the sheet to the second rotating cylinder to establish a driving relationship therebetween during movement of the sheet whereby the sheet is prevented from following the second printing cylinder, and wherein the printing cylinder defining each of the printing nips has a resilient planographic printing surface, and said second cylinder has a periphery radially inwardly of the path of travel of the second sheet grippers.

3,342,130

EXPLOSIVE HOLDER FOR SEISMIC PROSPECTING

Thomas E. Miller, El Centro, Calif. (731 Poplar, Wasco, Calif. 93280), and William A. Parker, El Centro, Calif. (2109 1st St., P.O. Box 296, Wasco, Calif. 93280)

Filed Mar. 8, 1966, Ser. No. 532,727
7 Claims. (Cl. 102-21.8)



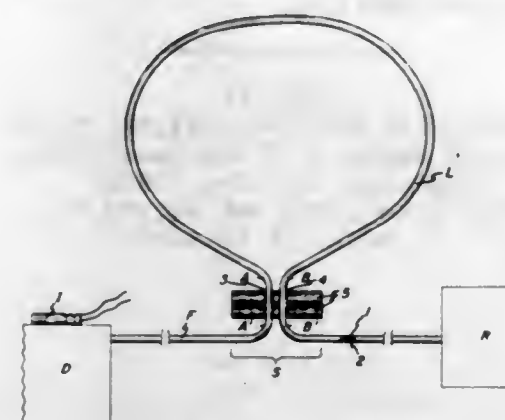
1. In combination with an explosive charge, a holder adapted to position the explosive charge within a borehole which comprises a generally tubular cup-shaped body member adapted to receive at least a portion of the explosive charge, stabilizing means secured to said body member and adapted to selectively position the holder within a borehole by gripping the wall of the borehole and adapted to normally stabilize the holder against both upward and downward movement in the borehole, said stabilizer means including a plurality of upwardly and downwardly diverging relatively rigid resilient borehole wall gripping members adapted to normally secure said holder within a borehole at a predetermined point, whereby said holder will be held relatively stationary against

upward and downward movement in the borehole during detonation of another explosive charge spaced from the charge held by said explosive holder.

3,342,131 SAFE-ARM MECHANISM FOR EXPLOSIVE TRAINS

George A. Noddin, Mantua, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,937
7 Claims. (Cl. 102-22)



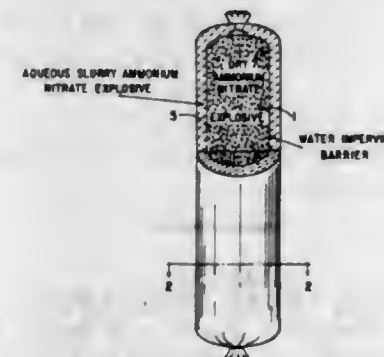
1. A safe-arm mechanism comprising a segment of detonating fuse in the form of a loop with a narrow open neck at its base and having a core of cap-sensitive, high-velocity detonating explosive at a loading of about from 40 to 85 grains/foot encased in a flexible sheath of material selected from the group consisting of textile, solid plastic, and a combination of textile and solid plastic, the width of the opening through the neck being from 1/16 to about 1/2 inch and the minimum loop length being about from 4 to 8 inches for core loadings of about from 40 to 85 grains/foot, respectively, said width and length being such that the segment of detonating fuse will propagate a detonation stimulus when the neck is immersed in a liquid medium but will not propagate such a stimulus when the neck is surrounded by a gaseous medium.

3,342,132

EXPLOSIVE PACKAGE

Dale S. Partridge, Overland Park, Kans., assignor to Gulf Oil Corporation, Pittsburg, Pa., a corporation of Pennsylvania

Filed Apr. 13, 1966, Ser. No. 542,250
5 Claims. (Cl. 102-24)



1. A substantially cylindrical package containing a dry explosive comprising ammonium nitrate and a carbonaceous fuel, a water-impervious barrier sealing said dry explosive and a mass of aqueous slurry explosive surrounding said dry explosive, said aqueous slurry explosive comprising water, ammonium nitrate and suspended solid fuel.

3,342,133

LOW ENERGY CORD ASSEMBLIES

Tor Alfons Ström, Nora Stad, and Gustav Allan Wetterholm, Gyttopp, Sweden, assignors to Nitroglycerin Aktiebolaget, Gyttopp, Sweden, a Swedish company

Filed Feb. 8, 1965, Ser. No. 430,877
Claims priority, application Sweden, Feb. 14, 1964, 1,823/64
5 Claims. (Cl. 102-27)



1. In a low energy cord assembly of the type which comprises a length of cord consisting of a high velocity detonating explosive in the form of a continuous core surrounded by a tubular metal element and at least one layer of insulating material, a booster cap attached to and capping one end of said cord, a blasting cap attached to and capping the other end of said cord, and a cylinder-shaped distance body for keeping said other end of said cord spaced from the contents of said blasting cap, the improvement that said distance body is elongated and has an axial bore, the cross section of which is less than about 20 mm.², in open communication with said cord.

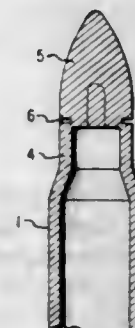
3,342,134

TARGET PRACTICE AMMUNITION

Hans Stadler, Nurnberg, Thomas Schinnerer, Furth, Bavaria, and Hans Umbach, Stadeln, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

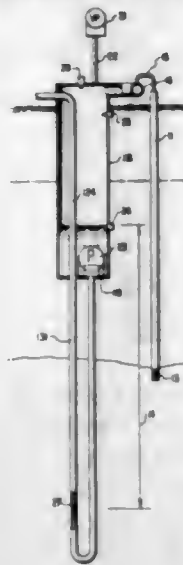
Continuation of application Ser. No. 449,003, Apr. 19, 1965. This application Sept. 20, 1966, Ser. No. 580,832
Claims priority, application Germany, Apr. 30, 1964, D 44,311

8 Claims. (Cl. 102-41)



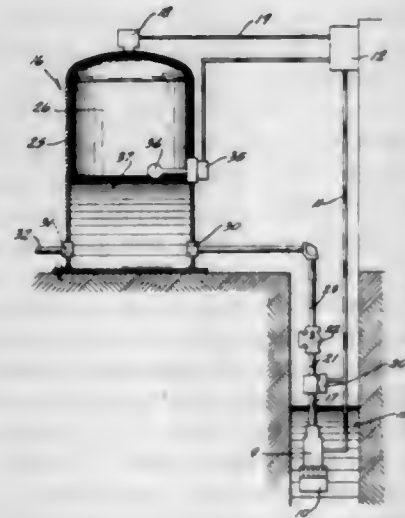
1. A cartridge having a firing axis of symmetry, comprising: a plastic bullet portion having a forward free end and a rearward substantially cylindrical portion; a plastic tubular cartridge case for enclosing propellant powder and having a forward substantially cylindrical tubular portion only partially encircling said bullet rearward cylindrical portion to define overlapping cylindrical portions; the inside diameter of said overlapping portion of said forward substantially cylindrical tubular case portion equalling the external diameter of said overlapping portion of said bullet rearward cylindrical portion; and said overlapping portions being homogeneously integrally connected along their entire adjacent peripheries to form a one piece plastic bullet and case structure to form the sole connection between said bullet portion and said cartridge case, and to constitute means for forming an intentional cylindrical breaking zone between said bullet portion and said cartridge case that is stressed substantially exclusively in shear by the pressure of the propellant gases during the firing of the cartridge.

3,342,135
WATER SEALED PUMPING SYSTEM
 Harry V. Schnabel, Jr., 5210 River Road,
 Bethesda, Md. 20016
 Filed Feb. 8, 1965, Ser. No. 430,830
 9 Claims. (Cl. 103—5)



1. A pumping system for removing ground water which comprises a header pipe, a plurality of spaced well points connected to and extending downwardly into the ground from said header pipe and having inlets below said header pipe and below the normal ground water level, a water collection casing having a sealed upper portion connected to said header pipe and extending downwardly therefrom, a vacuum pump connected in fluid communication with said upper portion to cause ground water to flow through said well points and said header into said casing, a water pump having an inlet in said casing below said header, a discharge pipe connected to the outlet of said water pump and exposed at its outer end to atmospheric pressure, said discharge pipe extending to a depth below said well point inlets to provide when said water pump has been deactuated a water seal which will prevent admission of atmospheric pressure to said casing and will retain in said upper portion a vacuum sufficient to cause said flow when there is ground water at any level from the ground surface to said well point inlets.

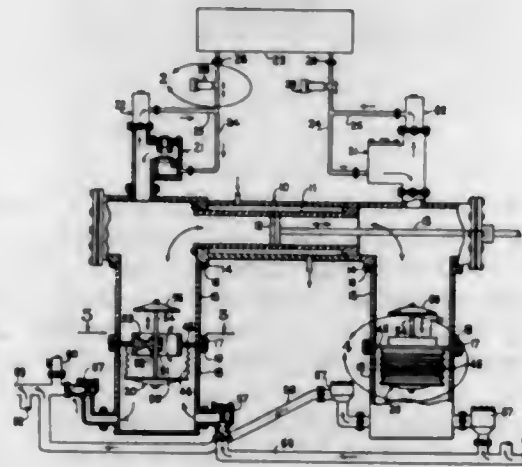
3,342,136
LIQUID SUPPLY CIRCUIT
 Edward H. Domecki, Lighthouse Point, Fla.
 (2256 NE. 25th St., Pompano Beach, Fla. 33064)
 Filed Sept. 7, 1965, Ser. No. 485,406
 4 Claims. (Cl. 103—6)



1. In a water supply system for furnishing water from a source to an outlet; a storage tank connected to the outlet for delivering water thereto; water supply means actu-

ated by a reduction of the pressure in said tank to supply water from the source to said tank; a valve connected in the system and operable when actuated to place the tank in communication with the atmosphere for admitting air into the tank; air indicator means actuated by the dissipation of air in said tank to a predetermined minimum; and control means activated by said air indicator means to delay the operation of said water supply means upon the reduction of pressure in said tank and to thereupon activate said valve for a predetermined period of time to admit a predetermined amount of air into said tank and to activate said water supply means upon the expiration of said period of time for restoring the pressure in said tank to a predetermined value.

3,342,137
HYDRAULIC RECIPROCATING PUMP
 James T. Rigdon, 2317 Middlecoff Drive,
 Mississippi City, Miss. 39562
 Filed Oct. 11, 1965, Ser. No. 494,700
 5 Claims. (Cl. 103—44)

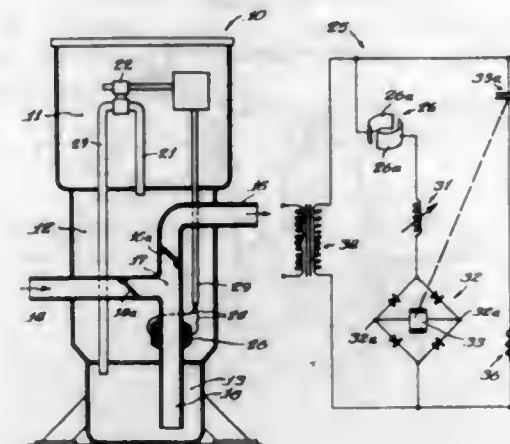


1. A hydraulic reciprocating pump of the character described, comprising an inverted U-shaped assembly embodying a horizontally disposed cylinder in which is located a piston that is given reciprocating motion by any desired means, and each end of the said cylinder being removably secured to a separate cylindrical chamber that has its lower end secured to a cylindrical lower chamber and a bellows mechanism embodying a vertically disposed sliding rod in the center thereof on the bottom end of which is secured a suction valve head having its periphery secured to a bellows, and the upper end of the said rod being secured to the center of a discharge valve head, and the said bellows mechanism being located in each of the cylindrical lower chambers, the said bellows mechanism being activated by hydraulic fluid located in the first mentioned cylindrical chambers, and pipes connecting the said lower chambers with a mud tank from which mud and the like is pumped when the said piston is activated, the mud being pumped through the said lower chambers and on out a discharge pipe.

3,342,138
LIQUID LEVEL INDICATOR
 John W. Parks, Overland Park, and Philip R. Shafer,
 Shawnee Mission, Kans., assignors to Union Tank Car
 Company, Chicago, Ill., a corporation of New Jersey
 Filed Aug. 12, 1965, Ser. No. 479,206
 6 Claims. (Cl. 103—240)

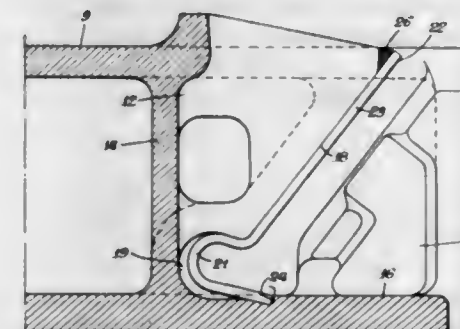
1. In controlled sewage handling apparatus which includes means for receiving sewage, selectively actuatable means for effecting the discharge of sewage from said receiving means and through said outlet means, and a control circuit for selectively actuating said discharge effecting means in accordance with the level of sewage

within said receiving means, said control circuit including a source of current, and current responsive switching means for operating said discharge effecting means when said switching means is energized, the combination thereof with a pair of serially connected variable impedance elements connecting said switching means in circuit with said current source, a first of said variable impedance elements being selectively adjustable to provide



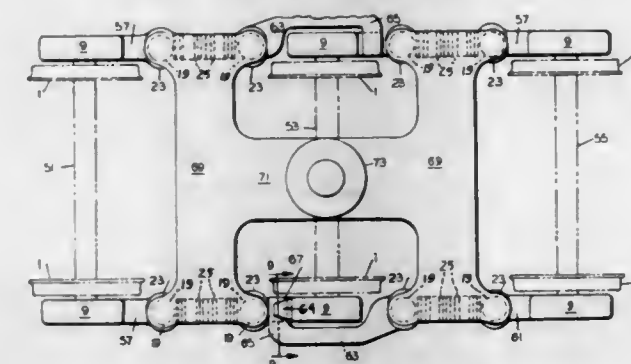
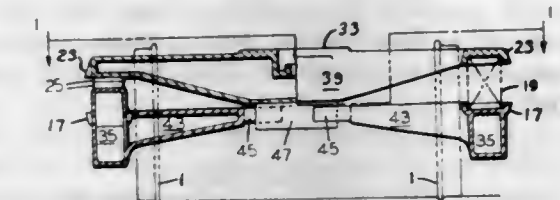
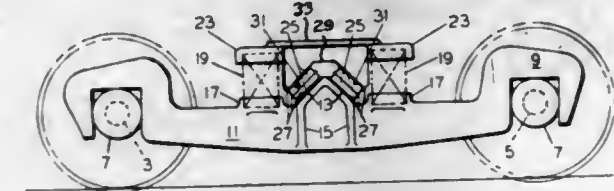
a predetermined impedance characteristic, a second of said variable impedance elements being associated with said sewage receiving means so that the impedance of said second element varies with variations in the level of sewage within said receiving means, said series combination of elements providing minimum impedance to energizing current flow from said source and to said switch means when the sewage accumulated in said receiving means reaches a preselected level.

3,342,139
SNUBBED BOLSTER TRUCK
 Carl Edward Tack, Elmhurst, Ill., assignor to Amsted
 Industries Incorporated, Chicago, Ill., a corporation of
 New Jersey
 Filed Feb. 1, 1965, Ser. No. 429,585
 2 Claims. (Cl. 105—197)



1. In a railway car truck having spaced side frames interconnected by a bolster, said bolster being resiliently supported at its end upon the side frames for vertical movement relative thereto, said bolster having a friction shoe pocket defined by a bottom bolster wall, a back bolster wall, and a bolster wedge wall diverging upwardly from the back wall, said bottom, back and wedge walls defining a recess at the bottom of the wedge wall, a wear plate of hardened spring metal having a shank engaging a wedge wall and a loop portion sprung into said recess with said loop portion engaged at its lower edge against an abutment shoulder on the bottom wall, said shoulder facing the back wall, the upper end of said wear plate being tack welded to said wedge wall, a friction shoe engaging the plate and the side frame, and actuating means for the shoe.

3,342,140
BOLSTER SUSPENSION DEVICE
 Richard L. Lich, Pasadena Hills, Mo., assignor to Gen-
 eral Steel Industries, Inc., Granite City, Ill., a corpora-
 tion of Delaware
 Filed May 13, 1966, Ser. No. 549,974
 12 Claims. (Cl. 105—197)

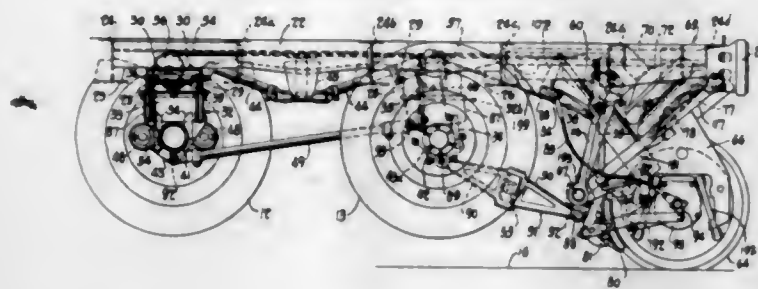


1. In a railway vehicle truck, separate longitudinally extending side frames spaced apart transversely of the truck, upwardly facing transverse surfaces of each said side frame intermediate its ends being oppositely inclined lengthwise of the truck, upstanding coil springs seated on each said side frame, flat elastomeric pads carried by said surfaces, and a transverse bolster seated on said coil springs and having similarly inclined surfaces seated on said pads, said coil springs and said pads at each side acting in parallel to permit and yieldingly resist vertical movements of said bolster on said side frames by compression of said coil springs and compression and shear in said pads and to permit transverse movement of the bolster resisted solely by the resistance of said pads and coil springs to shear.

3,342,141
CONVERTIBLE RAIL-HIGHWAY VEHICLE TRUCK
 Kenneth A. Browne, Lakewood, Ohio, assignor to The
 Chesapeake and Ohio Railway Company, Cleveland,
 Ohio, a corporation of Virginia
 Filed May 3, 1965, Ser. No. 452,601
 14 Claims. (Cl. 105—215)

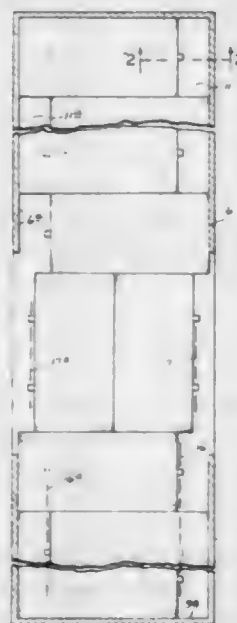
1. In a road-rail vehicle, a frame structure having transversely spaced and dependent bracket means; laterally spaced and paired sets of dependent air-springs, individually mounted on the frame and spaced apart horizontally in a direction lengthwise of the vehicle; transversely extending road and rail wheel-set axle means pivotally anchored on the bracket means and individually

engaged by a set of the paired air-springs; a source of compressed air; valving means for selectively inflating or deflating the road and rail air-springs in alternate sequence; and, axle retracting means mounted on the



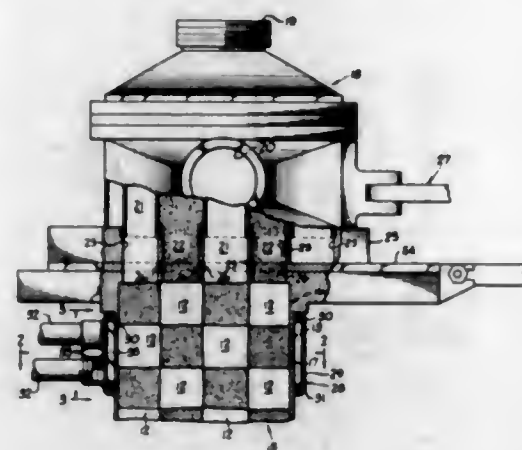
frame, connected to both the road and rail wheel-set axles, and operable to maintain either the road or rail wheel-set axles in a raised and stowed position, when their associated set of paired air-springs is in a deflated condition.

3,342,142
BRACING FOR RAILROAD BOXCAR
William Don Miller, 4303 SW. Vermont St.,
Portland, Oreg. 97219
Filed June 11, 1965, Ser. No. 463,124
6 Claims. (Cl. 105—369)



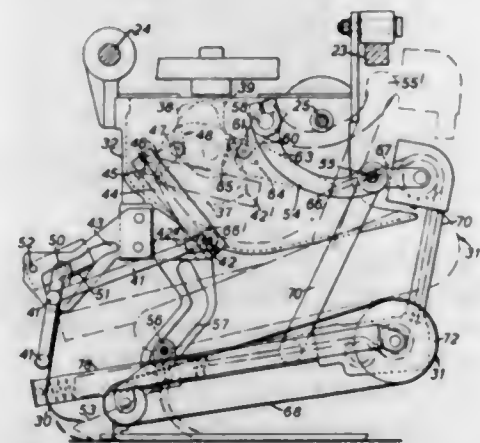
1. A load bracing assembly for a railway freight car having a floor, a related pair of spaced sidewalls and end walls, a roof structure, one sidewall having a door opening arranged intermediate the two spaced end walls, the interior of said freight car at each end thereof between the door opening and the end wall at such end defining plural rectangular cargo spaces to accommodate therein packaged rigid cargo units, each cargo space terminating laterally of the freight car at one of said sidewalls and being spaced from the other sidewall of a pair, said load bracing assembly comprising releasable, elongated, vertical brace members each engaging the floor by one of the ends thereof and engaging the roof structure by the other end thereof, one vertical brace member being adjacent the midline of each cargo space, pinning rigid cargo within said space against said one sidewall of the railway freight car, permitting rigid cargo to rack or cant in transit and thus become wedged within said cargo space between said one vertical brace member and the said one sidewall of the railway freight car.

3,342,143
METHOD AND APPARATUS FOR FORMING AN EDIBLE PRODUCT
Kenneth Bell, Marengo, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1965, Ser. No. 484,646
6 Claims. (Cl. 107—1)



4. The combination of apparatus for assembling a plurality of sections of different edible materials into an elongated column with flat layers extending transversely of the column and with adjacent sections of adjacent layers formed of different materials, a discharge tube receiving said column from said assembling apparatus and guiding the column for movement lengthwise of the column and into a container, said tube having a wall defining a passageway of a cross-sectional size and shape complementary to the periphery of said column, and means for treating said wall to reduce the friction between the wall and said periphery of the column to avoid distortion of the product due to advance of the central portion of each layer along the tube ahead of the periphery of the column.

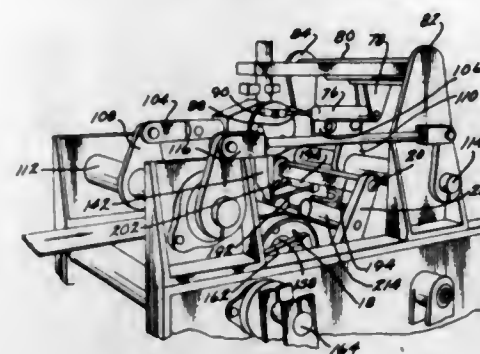
3,342,144
METHOD OF AND APPARATUS FOR ROLLING A FIBROUS LAMINA
Bernard Joseph Pillner, Chandler's Ford, England, assignor to Rational Automation Limited
Filed July 6, 1964, Ser. No. 380,353
Claims priority, application Great Britain, July 11, 1963, 27,484/63
28 Claims. (Cl. 107—9)



1. A method for forming articles of rolled confectionery with a movable rolling device, said method comprising the steps of moving a strip of confectionery on a support member transversely of the direction in which the surface of said rolling device moves, lowering said surface of the rolling device in contact with one edge of the strip, and causing said surface to move in the direction of the opposite edge of the strip whereby said one edge of the strip

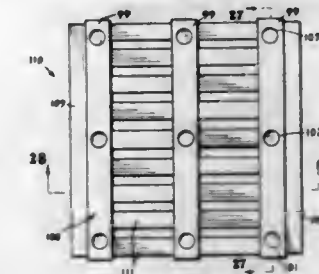
is entrained by the surface and the strip is rolled into a spiral about that edge between the surface and the support member, wherein said strip is itself moving transversely of the direction in which said surface of the rolling device moves and said rolling device is moved correspondingly during the rolling operation.

3,342,145
FILLING DEPOSITOR
Bruce W. Brunson, Grand Rapids, Mich., assignor to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Aug. 13, 1964, Ser. No. 389,271
3 Claims. (Cl. 107—28)



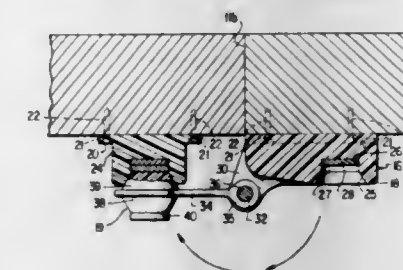
1. A filling depositor comprising: a framework; a deposit valve housing fixedly mounted in a stationary position on said framework; conveyor belt guide and support means through said framework and a driven conveyor belt thereon; a cylindrical valve chamber in said housing on a horizontal axis transverse to the direction of movement of said belt; a filling inlet port in the top of said chamber and a filling outlet port in the bottom of said chamber; a pair of oppositely positioned measuring chambers on opposite peripheral sides of said valve chamber, displaced 90° from said inlet and outlet; a rotatable cylindrical valve in said valve chamber having a pair of peripheral concavities forming passages circumferentially spaced 90° at their inlets and outlets; a pressurized filling inlet conduit to said inlet port; a deposit nozzle on said outlet port, having a laterally elongated downwardly directed mouth with a narrow dimension in the direction of movement of said belt; a pair of reciprocable pistons in said measuring chambers shiftable toward and away from said valve chamber; reciprocable drive means connected to said pistons and including operably associated cranks and camming means; coordinating linkage means associated with said pistons causing simultaneous movement of said pistons in like directions; valve rotating means operably connected to said valve including extensible means connected to said framework and to said valve eccentric to its axis, to rotate it back and forth in 90° intervals, causing alternate communication between said inlet and one measuring chamber and said outlet and the other measuring chamber, and vice versa; shiftable filling severance means to separate the deposited filling from filling still in said nozzle; and time coordinated control means including said cranks and camming means operably associated with said reciprocal drive means, said valve rotating means, and said severance means to cause repeated simultaneous filling of one measuring chamber and deposit emptying of the other, and formation of uniform spaced deposits of filling on a dough strip traveling on said belt, said camming means being a cam having two constant motion drive segments of equal lengths and changing radii to oscillate said pistons and obtain uniform length deposits, spaced by two equal length, non-drive, dwell segments to cause uniform spaces between the deposits.

3,342,146
PALLETS
Arno Lessheim, 109 Beech Grove Ave.,
Batesville, Ind. 47006
Filed July 1, 1965, Ser. No. 468,890
7 Claims. (Cl. 108—53)



2. A pallet comprising:
first deck means having a plurality of downwardly extending projections on the lower face thereof;
second deck means having a plurality of projection receiving strips secured thereto, said projections being received in said strips, portions of said strips between said projections being disposed in parallel vertically spaced relationship to and above the upper face of said second deck, whereby a lifting fork moving under said first deck means and substantially parallel to said strips is effective to raise said first deck means separately from said second deck means, and whereby a lifting fork moving under said strip portions between said projections is effective to simultaneously raise as a unit, both said first deck means and said second deck means.

3,342,147
MODULAR TABLE
Mack W. Shettles, Decatur, Ala., assignor of three-fourths to George Marshall Thomas, Atlanta, Ga., Ronald John Carlson, Kingsport, Tenn., and Anthony Bartholomew Aske, Atlanta, Ga.
Filed Apr. 12, 1966, Ser. No. 542,062
4 Claims. (Cl. 108—64)



1. A plurality of tables of equal size and each formed with a triangular equilateral surface, means for connecting said tables to one another comprising a latching element disposed adjacent at least one angle between adjacent sides of each table, said latching element including a support portion attached to the underside of its table, said support portion defining a recess therein, a pivotal connecting portion including a stem pivotally connected to said support portion at a point thereof remote from said recess, said stem terminating in a head having opposite sides each of a size and shape corresponding to the size and shape of said recess, said stem being of a length to pivot said head so that one of its sides is received in said recess, said latching element being disposed with its recess centered on a line bisecting the angle formed by converging edges of said table and with said pivotal connecting portion pivotal about an axis disposed in a vertical plane extending through one edge of said table.

3,342,148

CONVERTIBLE SUPPORT STRUCTURE

Konrad Fritsch, Kreuzwertheim, Germany, assignor to Haslocher Ausziehtisch-und Moebelfabrik A. Hainke G.m.b.H., Hasloch am Main, Germany

Filed Aug. 3, 1966, Ser. No. 570,050

Claims priority, application Germany, Aug. 9, 1965, H 56,807

4 Claims. (Cl. 108—102)



1. A convertible support structure, particularly a table, comprising, in combination, a base having a pair of spaced opposite sides; a panel member supported on said base and comprising two sections disposed in a common plane, each of said sections having first and second edge faces intersecting one another at a right angle; hinge means pivotally connecting said sections to one another at the points of intersection of the respective first and second edge faces and cooperating guide means provided on said sections and said base and arranged to compel simultaneous mirror-symmetrical movement of said sections, in response to movement of either section, between one position in which said points of intersection are located adjacent one another at one of said sides while the respective first edge faces abut, and another position in which said points of intersection are displaced in a straight line across said base from said one to the other side thereof and in which the respective second edge faces abut.

3,342,149

TABLE STRUCTURE

John W. Kruissink, Des Plaines, Ill., assignor to Dentin Manufacturing Company, Bellwood, Ill., a corporation of Illinois

Filed Apr. 20, 1966, Ser. No. 543,992

3 Claims. (Cl. 108—113)



1. In a table structure, a pair of U-shaped base members, transverse bars connecting said base members and extending transversely of the table structure, a pair of complementary table sections adapted to be moved into facing relation within said U-shaped members, supports for said table sections pivotally connected to the top of said U-shaped base members, legs carried by the outer ends of said table sections, links connecting said legs to vertical portions of said U-shaped base members, longitudinal frame members anchored to the bottom portions of said table sections, and crooks carried by the outer ends of said longitudinal frame members and aligned with said legs to brace said legs when said legs are moved

to vertical table-supporting position, said transverse bars extending upwardly and horizontally and in alignment with said table sections to provide supports therefor at an elevated position.

3,342,150

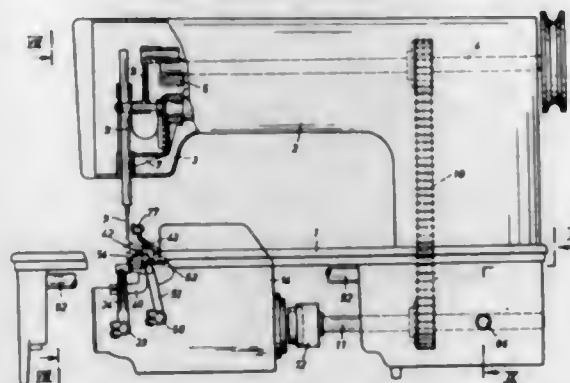
UPPER AND LOWER BORDER DEFLECTING MEANS FOR OVEREDGE SEWING MACHINES

Werner Tretow, Kaiserslautern, and Kurt Geib, Enkenbach, Germany, assignors to G. M. Pfaff AG, Konigsstrasse, Germany, a corporation of Germany

Filed Feb. 9, 1965, Ser. No. 431,316

Claims priority, application Germany, Feb. 12, 1964, P 33,570

3 Claims. (Cl. 112—162)



1. A sewing machine for securing together two superimposed widths of fabric and for sewing edgings on the borders of said widths comprising:

- (a) securing means for stitching said two widths together along a line of stitching parallel to the borders of said fabric widths and at a distance therefrom;
- (b) means defining first and second sewing stations;
- (c) deflecting means for effecting relative borderwise deflections of said widths at said first and second sewing stations, respectively, for disposing only one of said widths for a sewing operation at said first station and for disposing only the other of said widths for a sewing operation at said second station;
- (d) first and second sewing means for sewing, respectively, an edging on the border of said one width at said first station and an edging on the border of said other width at said second station, each of said edgings being secured only to the associated border;
- (e) looper means associated with said sewing means; and
- (f) means attaching said deflecting means directly to said looper means for movement in unison therewith.

3,342,151

UNIVERSAL PRESSER FOOT ATTACHMENT

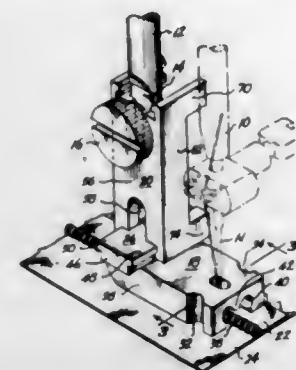
Robert B. Howell, 2115 Madrona Point Drive, Bremerton, Wash. 98310

Filed July 28, 1965, Ser. No. 475,486

14 Claims. (Cl. 112—235)

1. A presser foot attachment for a sewing machine equipped with a presser bar, a material advance mechanism, and a reciprocating needle bar and needle assembly, said attachment comprising: a presser foot component having a plurality of laterally-spaced, parallel, selectively usable use positions, and including one component of a two component slide mount means; and a mounting shank connectable to the presser bar, and including a lower end portion constituting a second component of said slide mount means, with said slide mount means and said mounting shank serving to mount the foot component onto the presser bar in a position over the material advance mechanism, and with said slide mount means mounting said foot component onto said mounting shank

in a manner permitting lateral adjustment of said foot component on said mounting shank, relative to the needle, said first component of the slide mount means consisting of a transverse slide bar secured to the foot component, said slide bar having a substantially uniform cross-sectional shape throughout its entire length and being narrower at its bottom than at its top, said second component of the slide mount means being a friction clamp formed by a pair of spaced apart side parts at the lower end of the mounting shank, defining a transverse slide-way therebetween, said slideway having a transverse shape



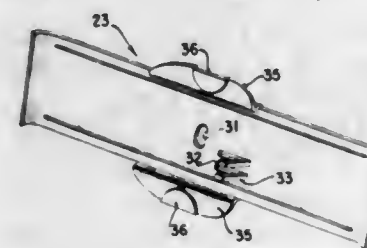
that is substantially identical to the transverse shape of the slide bar, with the slideway being slightly undersized in comparison to said slide bar, and said side parts being resilient enough to spread apart slightly and allow passage of the slide bar endwise relatively into said slideway, with said friction clamp frictionally gripping the slide bar and serving to frictionally retain the foot component in each selected position of use, but permitting the foot component to be moved laterally relative to the needle when it is subjected to a lateral force of sufficient magnitude to overcome the friction forces.

3,342,152

FEED COVER-PLATES FOR SEWING MACHINES
Joseph G. Rakacs, Cranford, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 20, 1965, Ser. No. 514,918

3 Claims. (Cl. 112—260)



1. A feed cover-plate adapted for use on a sewing machine having an endwise reciprocating needle, a loop-taker cooperating therewith in the formation of stitches, work-feeding mechanism including a feed-dog having at least one serrated bar formed with a free extremity, a work supporting surface, and securing means for detachably fastening said feed cover-plate to said work supporting surface, said feed cover-plate having a body portion adapted to be disposed above the level of said work supporting surface to hold the work in a position above the level of action of said feed-dog, a needle hole formed in said feed cover-plate through which said needle is adapted to reciprocate, thread deflecting means depending from the under side of said feed cover-plate and adapted

to be disposed adjacent to the free extremity of said feed-dog to deflect any thread limbs impelled by the action of said needle and loop-taker thereby to preclude snagging of said thread limbs on said feed-dog, and attaching means on said feed cover-plate, said attaching means being complementary to said securing means for detachably fastening said feed cover-plate to said sewing machine.

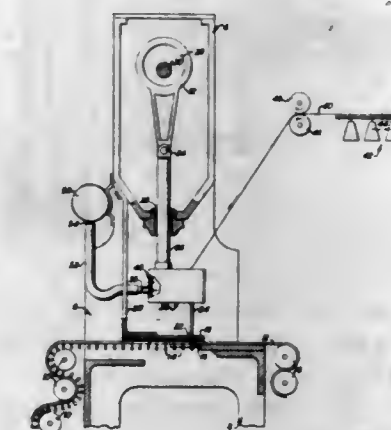
3,342,153

TUFTED FABRIC HAVING PILE COMPOSED OF ROVING OR ROPING

Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia

Filed Oct. 4, 1965, Ser. No. 497,591

7 Claims. (Cl. 112—410)



1. A tufted fabric comprising a backing material having a plurality of rows of openings extending therethrough, a plurality of tufts defining a soft, luxurious pile surface formed by low strength, unspun yarn extending through said openings, said yarn having a soft, bulky texture and a tensile strength sufficient to permit its being withdrawn from a package by feed means and moved by streams of fluid through hollow tufting needles but insufficient to withstand the stress which would be imposed upon the yarn by conventional tufting operations wherein yarn is pulled by the eye of a needle through a backing material and engaged by a looper element.

3,342,154

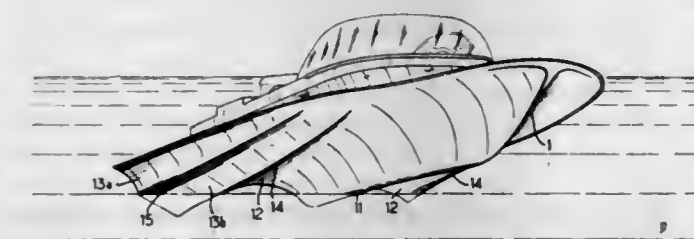
BOATS

Francois Henri Marie Le Marec, Moussy-le-Vieux, France, assignor to Navill S.a.r.l., Le Mesnil-Amelot, France, a corporation of France

Filed Feb. 4, 1966, Ser. No. 525,013

Claims priority, application France, Feb. 8, 1965, 4,697

10 Claims. (Cl. 114—66.5)



1. A boat hull comprising one main body and two spaced-apart coffer projecting from the rear of said main body, said main body having a central keel and two bilge keels, said coffer having two respective keel portions extending from said bilge keels and positioned below said central keel.

3,342,155

HYDROFOIL CRAFTChristopher Hook, % Hydrofin Design Centre,
Yateley Hill, Yateley, England

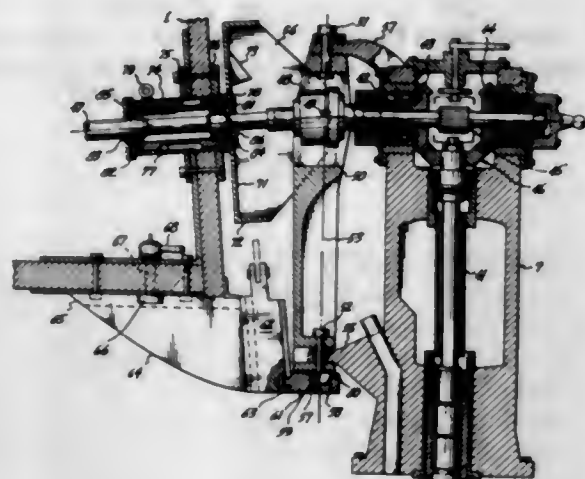
Original application June 7, 1965, Ser. No. 461,777.

Divided and this application Apr. 26, 1966, Ser.
No. 589,766

Claims priority, application Great Britain, June 11, 1964,

24,231/64; July 8, 1964, 28,046/64

10 Claims. (Cl. 114-66.5)



1. A drive and tail foil assembly for a hydrofoil craft, comprising a main strut having a hydrofoil and a propeller mounted thereon and carrying an outboard drive mechanism for the said propeller, a secondary column including pintles rotatably supporting the main strut about a steering axis, an inboard drive shaft being driveably coupled to the outboard drive mechanism by a universal joint located on the said steering axis, the said secondary column being pivotally mounted in a bracket about a fail safe pivot axis, and fail safe pivot axis being generally horizontal during flight of the craft, yieldable means restraining the secondary column from pivoting about the said fail safe pivot axis, the said bracket being pivotal about the axis of the inboard drive shaft to retract the assembly so that the foil and propeller are out of the water, and releasable means for holding the said assembly in operation position to prevent retraction.

3,342,156

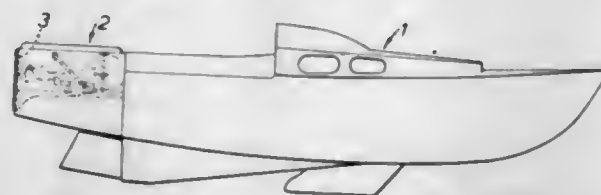
POWERED CRAFTDenys Arthur Rayner, West Meon, near Petersfield, and
Christopher Malcolm Forman, Cowplain, England, as-
signors to Westerly Marine Construction Limited,
Portsmouth, England, a British company

Filed Nov. 12, 1965, Ser. No. 507,483

Claims priority, application Great Britain, Nov. 27, 1964,

48,437/64

5 Claims. (Cl. 115-41)



1. A powered water craft having a stern, a compartment within said stern containing guiding surfaces, an outboard motor mounted on a trolley fitted with two pairs of wheels and movable along said guiding surfaces, the wheels on said trolley being spaced apart in such manner that the trolley and outboard motor tilt whilst moving from a first extreme position in which the outboard motor is located in an inoperative position within the compartment to a second extreme position in which the outboard motor is located in an operative position for

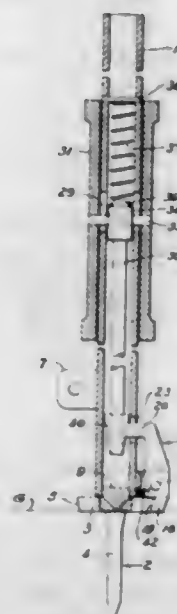
propelling the craft and in which the surface of said trolley has a vertical orientation, and means for preventing movement of the trolley beyond the second extreme position comprising a linkage interconnecting the trolley and craft.

3,342,157

FOOTBALL LINESMEN'S MARKER POLESEdward Sexton, Gowanda, N.Y., assignor to Granite
Merchandising Corporation, Gowanda, N.Y.

Filed Oct. 21, 1965, Ser. No. 499,822

6 Claims. (Cl. 116-114)



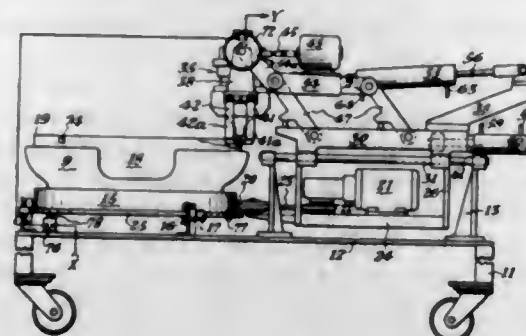
1. Game marker means comprising, in combination, a pole, a ground engaging spike member, and means for quick securing and releasing of the lower end of said pole to and from said spike member, said spike member comprising a relatively flat head for engagement against the ground surface and a depending ground piercing portion, whereby said spike member may be left in ground engagement to serve as a position indicator when said pole is detached and removed therefrom.

3,342,158

COATING APPARATUS WITH TRACKING MEANSRobert W. Bennett and Clarence F. Golladay, Corning,
N.Y., assignors to Corning Glass Works, Corning,
N.Y., a corporation of New York

Filed Feb. 1, 1965, Ser. No. 429,553

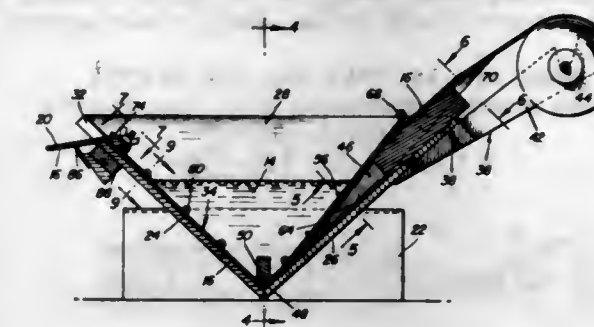
6 Claims. (Cl. 118-7)



1. In combination with a tank provided with a bottom orifice for emission therefrom of a material to be deposited on the top surface of the annular brim of a hollow vessel supported by means for rotating such vessel about the center point of the plane of such brim and

said surface being of varying width, apparatus for maintaining the geometric center point of said orifice in alignment with the centerline of said surface during rotation of said vessel substantially about the centerpoint, such apparatus comprising; a pair of bell cranks oppositely pivoted to said tank and each including first and second arms, said first arms of such cranks extending to points adjacent said orifice and equidistant therefrom, the ends of such arms each provided with a similar tracking device for contacting and following the contour of the inner and outer peripheral borders respectively of said surface during said rotation of the hollow vessel, the ends of the second arms of said cranks so interconnected that a movement of one of said first arms will cause an equal and opposite movement of the other of said first arms; spring biasing means for maintaining said tracking devices in their respective contour following attitudes during said rotation of the hollow vessel, and means pivotally mounting said tank for lateral movement thereof in line with said tracing devices and with the orifice of the tank facing said surface.

in contact with at least one of the walls for exposing only one side of the tape to said body of adhesive, dispensing means on one of the walls for guiding withdrawal of the



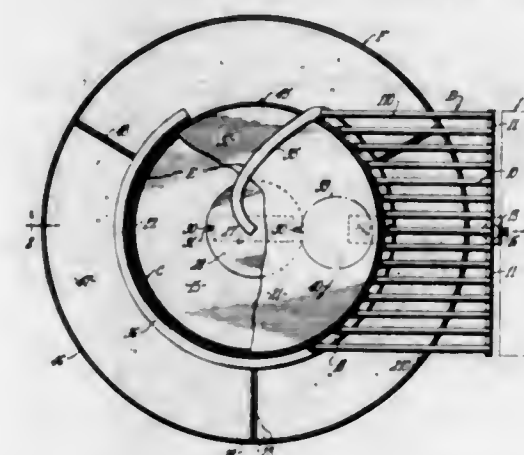
tape coated with the adhesive from the guide means, and means mounted on the other of said walls for feeding tape through the guide means.

3,342,159

DONUT ICING APPARATUSStanley B. Jones, Torrance, Calif., assignor to Hol 'n One
Donut & Supply Co., Inc., Los Angeles, Calif., a cor-
poration of California

Filed Aug. 6, 1965, Ser. No. 477,732

17 Claims. (Cl. 118-28)



1. Food article topping apparatus comprising, in combination: a turntable including an elevated platform and an annular tray-supporting ledge connected to and rotatable with said platform and disposed radially outwardly of the periphery thereof and below the level thereof; means for depositing a succession of articles on said platform; means for rotating said turntable; and guide means disposed above said platform adjacent the top surface thereof and operable to deflect the articles carried on said platform outwardly to the periphery of the platform and over said periphery so as to drop into trays carried by said ledge, said guide means releasing said articles at a fixed position and said trays receiving said articles in circumferentially-spaced succession due to their circumferential movement beneath said fixed release position.

3,342,160

ADHESIVE COATING DEVICE FOR JOINT TAPEEuwell A. Weeks, 101 Santa Villa Drive,
Milton, Fla. 32570

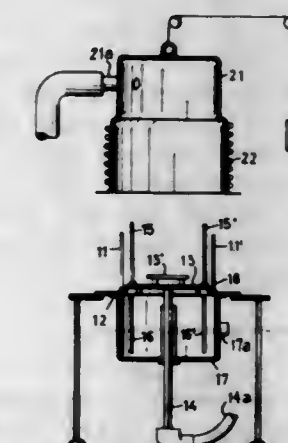
Filed Mar. 17, 1964, Ser. No. 352,509

15 Claims. (Cl. 118-43)

1. A device for dispensing tape coated with adhesive comprising, a hopper having at least two downwardly converging walls confining a body of said adhesive therein, guide means mounted on said walls holding said tape

**3,342,161
APPARATUS FOR PYROLYTIC PRODUCTION
OF SEMICONDUCTOR MATERIAL**Max Helm, Munich, Germany, assignor to Siemens
Aktiengesellschaft, Berlin, Germany, a corpora-
tion of GermanyOriginal application Nov. 27, 1961, Ser. No. 155,030, now
Patent No. 3,240,623, dated Mar. 15, 1966. Divided
and this application July 26, 1965, Ser. No. 490,757

5 Claims. (Cl. 118-49.5)



1. Apparatus for producing semiconductor material by pyrolytic reduction and precipitation of the material from a gaseous compound thereof onto core rods of the same material, comprising a closed vessel structure having an enclosed processing chamber and including an adjacent space within said closed vessel, supporting structure having holder means in said chamber for mounting a multiplicity of core rods parallel and adjacent to each other, conductor means for applying voltage to drive heating current through the rods when preheated; a carrier structure displaceable between active and inactive positions, heater elements mounted on said carrier structure and located close to and along at least some of the core rods when said carrier structure is in said active position for then preheating said rods to electric conductance temperature, means to inactivate and means to move said heater elements to said adjacent space, sealing means closing said processing chamber from said space when said carrier structure is in said inactive position, and duct means connected with said vessel structure for supplying said chamber with non-reactive gas during preheating and with reaction gas during pyrolytic processing.

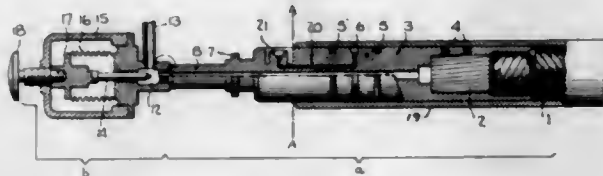
3,342,162

SELF-SEALING END CAPS FOR THE IMPREGNATION OF SHEATHED ELECTRIC CABLES OF THE OIL-FILLED TYPE

Paolo Gazzana Priaroggia, Milan, and Vincenzo Pignatari, Livorno, Italy, assignors to Pirelli Società per Azioni, Centro Pirelli, Milan, Italy, a corporation of Italy

Filed July 28, 1964, Ser. No. 385,724
Claims priority, application Italy, Aug. 2, 1963,
16,070/63

3 Claims. (Cl. 118—50)



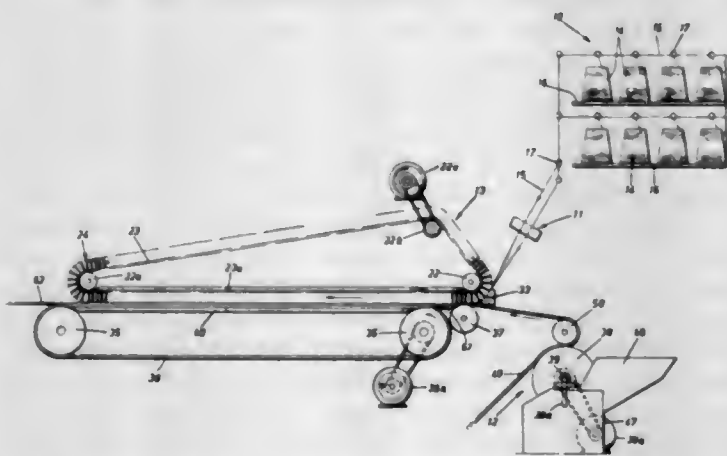
1. A self-sealing end cap for attachment to the end of a cable to be impregnated with insulating fluid after being dried and evacuated in a tank under vacuum and sheathed with an impervious metallic sheath, said self-sealing end cap being suitable to maintain the cable before, during and after such operation under the same environmental conditions existing in the tank, said end cap being constituted by a first sleeve like part, means for mechanically securing the interior of one end of said sleeve like part to the end of a cable core passing thereto, means for hermetically sealing the exterior of said one end of said sleeve like part to the interior of one end of an impervious outer cable sheath, said sleeve like part further being formed with a duct extending thereto from its said one end to its other end, said duct being sealed at the other end of said sleeve like part by means of a metallic lamina, and a second, cap like part, constructed to be hermetically connected to said other end of said first sleeve like part after sheathing of said cable, a terminal part mounted on said second cap like part, said terminal part being connected to actuate a lance within said second cap like part to perforate said metallic lamina and to establish communication between the sleeve duct and a connection on said second cap like part arranged to connect the duct selectively with a vacuum source and with a source of insulating fluid.

3,342,163

APPARATUS FOR COATING A MATERIAL WITH A MOLTEN THERMOPLASTIC MATERIAL

William D. McAlpine, 44 Cumbrian Court,
Brampton, Ontario, Canada
Filed May 3, 1965, Ser. No. 452,661
Claims priority, application Great Britain, May 5, 1964,
18,704/64

5 Claims. (Cl. 118—202)



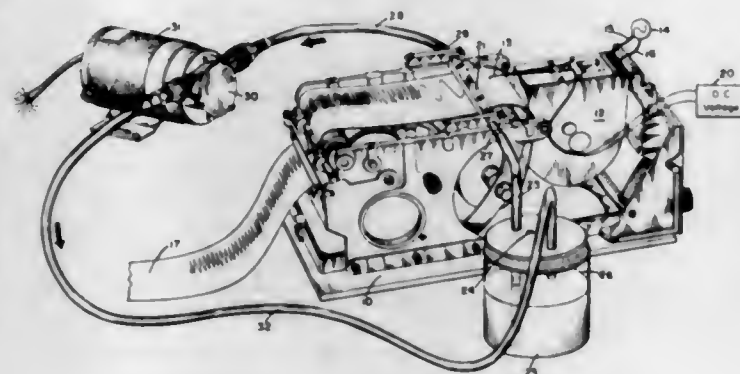
1. Apparatus for coating a material with molten thermoplastic material which comprises: a roller journaled for rotation and having a cylindrical surface; means for

rotating said roller; a plate spaced apart from said cylindrical surface of said roller but positioned progressively closer to said curved surface in the direction of rotation of said roller, whereby a part of said cylindrical surface and said plate define a chamber of progressively decreasing depth from an inlet end to an outlet end thereof; a hopper for supplying thermoplastic material to said inlet end of said chamber; means for cooling said thermoplastic material in said hopper to a temperature below the melting point of said thermoplastic material; means for heating said thermoplastic material in said chamber to a temperature above the melting point of said thermoplastic material a second roller spaced apart from and journaled for rotation about an axis parallel to the axis of rotation of the first-mentioned roller; means for cooling said second roller; an endless heat conductive belt extending between said rollers and adapted to pick up molten thermoplastic material as said belt rotates through said chamber; and means for bringing said material into contact with said belt after said belt has rotated through said chamber and picked up molten thermoplastic material and for maintaining the contact between said belt and said material until said material has passed at least part way around said second roller.

3,342,164

ELECTROSTATIC TONER HEAD AND SYSTEM

Arthur M. Lewis, Shaker Heights, Ohio, assignor to
Clevite Corporation, a corporation of Ohio
Filed Nov. 4, 1964, Ser. No. 408,894
7 Claims. (Cl. 118—637)



7. A toner system for applying liquid toner to a moving record medium on which a latent electrostatic record has been applied, comprising, a housing forming with said record medium a substantially closed developer compartment, means for moving liquid toner through said housing and in engagement with said record medium to develop the latent image thereon, and cleaning nozzle means separated from said developer compartment and within said housing and adjacent said record medium at a location where said latent image has been developed, said nozzle operating below ambient pressure at the surface of said record medium to remove excess liquid toner therefrom by "vacuuming" up the excess liquid.

3,342,165

SUSPENDED DUMPING FEED DISTRIBUTER APPARATUS

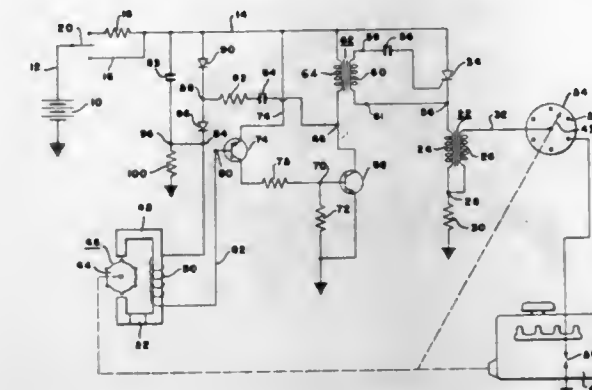
Damon Szymanski, Rte. 3, Pulaski, Wis. 54162
Filed May 28, 1965, Ser. No. 459,549
4 Claims. (Cl. 119—56)

1. A conveyor comprising, a pair of overhead tracks in parallel relationship, an elongated feed conveyor located beneath and parallel to said tracks and comprising a frame member, an elongated pan hinged along one side to said member for swinging between a horizontal position and a downwardly inclined position, a rotatable shaft carried by the conveyor and along the opposite side of

3,342,167

VOLTAGE PULSE GENERATOR CONTROLLED SOLID STATE IGNITION SYSTEM

Ralph E. Tarter, Plano, Tex., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,604
6 Claims. (Cl. 123—148)



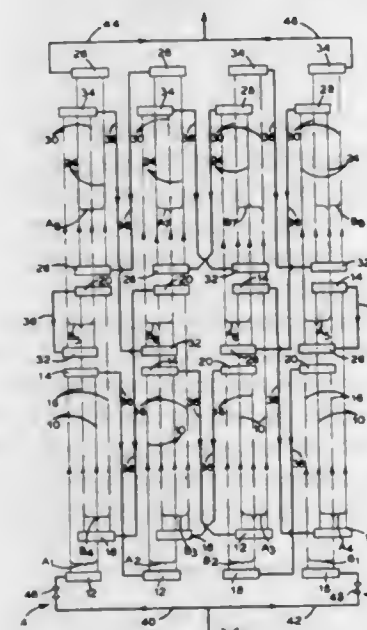
to said horizontal position, hanger means connected to said conveyor and having wheels at their upper ends for supporting engagement with said tracks, and second motor means for driving said conveyor along said tracks.

3,342,166

WALL STRUCTURE FOR VAPOR GENERATOR

Peter Schaloske, Oberhausen, Rhineland, Germany, assignor to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain
Filed May 6, 1965, Ser. No. 453,669
Claims priority, application Germany, May 9, 1964,
D 44,380

6 Claims. (Cl. 122—406)



1. In a forced circulation fluid heating unit, a wall structure subject to high temperature heating gases comprising a pair of parallel flow through-flow paths, each path comprising a group of tube panels, each tube panel including a multiplicity of parallel flow tubes, tubes of the panels of each path being interlaced with and rigidly united to tubes of the panels of the other path, means for supplying fluid in parallel flow relation to said paths, means interconnecting the tube panels of each path so as to provide serial flow of fluid therethrough and so that with respect to the longitudinal edges of the wall structure the general direction of flow of fluid in said one path is opposite to the general direction of flow of fluid in said other path.

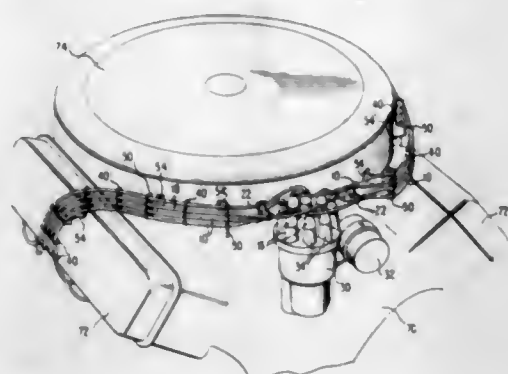
3,342,168

IGNITION SYSTEM HARNESS

Robert S. Burdette, 9 Stutz Ave.,
Mount Vernon, Ohio 43050
Filed Mar. 23, 1965, Ser. No. 441,968
2 Claims. (Cl. 123—148)

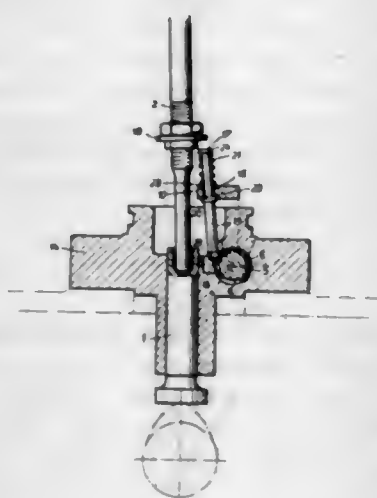
1. In an internal combustion engine having a plurality of combustion cylinders, a distributor, a spark plug for each cylinder, an ignition cable harness including a plurality of cables connecting said distributor with the respective spark plugs, and means mounting said harness on said engine, the improvement wherein said cables are all of substantially equal length to deliver substantially uniform potentials to each of said spark plugs, and said mounting means comprises a plurality of clips, including a plurality of spacer clips and a plurality of supporting clips, holding said cables spaced apart and substantially parallel to one another during their coextensive lengths, with at least two of said cables being substantially coplanar, and for insulatedly spacing said cables from the metal portions of said engine, said clips being spaced at intervals along the cables a distance sufficient to prevent

said cables from engaging each other during normal operation of said engine and being formed of a resilient insulating material and having a plurality of cable holding recesses with entry apertures leading from one edge bordered by curved fingers which admit entry of and releasably grasp the cables, there being at least one spacer



clip between each two supporting clips, and brackets mounted on said engine between said distributor and said spark plugs and removably supporting said supporting clips, said brackets being spaced sufficiently to prevent any of said cables from engaging any portion of said engine during normal operation thereof.

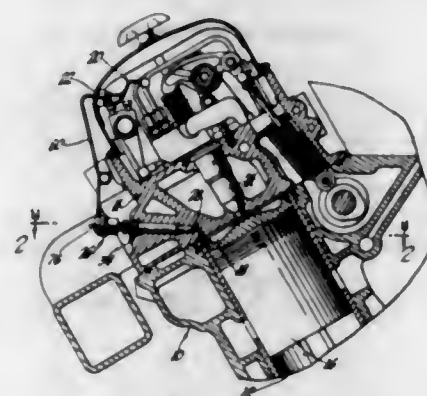
3,342,169
DECOMPRESSION DEVICE FOR AN INTERNAL COMBUSTION ENGINE
Paul Farny, Mannheim-Ilvesheim, and Karl Hellwig, Weinheim, Germany, assignors to Farymann Diesel, Farny & Weldmann, Lampertheim, Germany, a German company
Filed Oct. 21, 1965, Ser. No. 500,053
Claims priority, application Germany, Nov. 4, 1964, F 44,363
15 Claims. (Cl. 123—182)



1. In an internal combustion engine having an inlet and an exhaust valve and a reciprocating pushrod for operating a respective valve, the provision of a decompression device comprising cam means having an active decompression position and an inactive decompression position and supported for rotation between said positions, first means in engagement with said cam means for acting on the pushrod for the inlet valve to hold the same open in the active position of the cam means while being released from the pushrod for the inlet valve in the inactive position of the cam means, and second means operatively associated with the cam means for rotating the

latter stepwise from the active to the inactive position thereof in dependence upon the strokes of the pushrod of the inlet valve, said cam means comprising a shaft of cylindrical shape having a flattened surface, said first means comprising a lifting member in contact with the shaft for contacting the cylindrical surface in the active position of the cam means and the flattened surface in the inactive position, means on said lifting member for engaging the pushrod for the inlet valve to raise the latter with the lifting member in contact with the cylindrical surface of the shaft and for releasing the pushrod of the inlet valve with the lifting member in contact with the flattened surface of the shaft, said second means including means activated by the contact of the lifting member with the cylindrical surface of the shaft and driven by the pushrod of the exhaust valve to rotate the shaft stepwise.

3,342,170
CONDENSATE SCAVENGING ARRANGEMENT
Charles H. McCreary, Oak Park, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 1, 1965, Ser. No. 505,884
7 Claims. (Cl. 123—182)

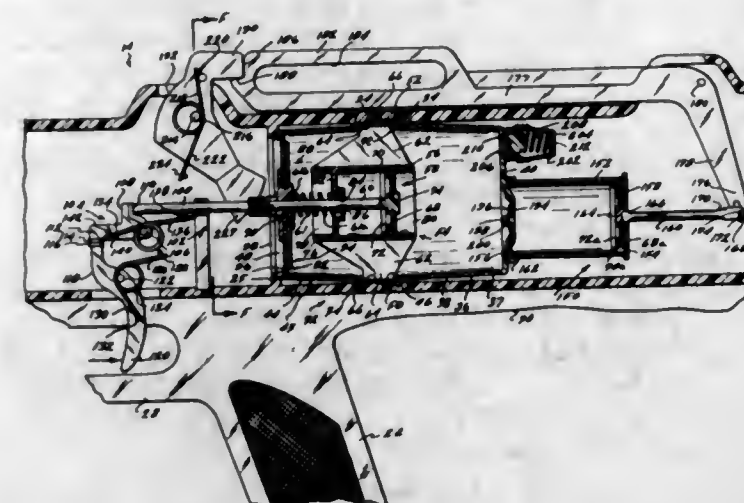


7. A condensate scavenging arrangement for a diesel engine having a pressurized fuel system and a combustion chamber comprising valve means interposed in a passage connecting the combustion chamber to the atmosphere, a piston assembly operatively connected to said valve means, a flexible diaphragm in communication with the fuel system and being expandable against said piston assembly by the fuel pressure of the fuel system, spring means biasing said piston assembly against the diaphragm and biasing said valve means in an open position, said diaphragm and said piston operating said valve means against said spring means to gradually close said passage in response to pressure build-up in the fuel system as the engine is started.

3,342,171
TOY POP GUN HAVING AN AIR PUMP WITH A RESILIENTLY FLEXIBLE MOVABLE CHAMBER CLOSURE MEMBER
John W. Ryan, Bel Air, George William Stoles, Palos Verdes Estates, and James Franklin Munday, South Gate, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Feb. 15, 1965, Ser. No. 432,730
6 Claims. (Cl. 124—1)

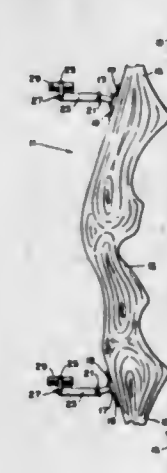
1. A toy gun comprising: means defining a chamber; pump means for compressing air in said chamber to a superatmospheric pressure; an outlet opening from said chamber; a closure member movably mounted in said chamber and having a resiliently flexible peripheral portion, larger than said opening, sealingly engaging said chamber around said opening; releasable trigger means holding said member against outward movement through

said opening whereby release of said trigger means permits air pressure in said chamber to force said member to pop



outwardly through said opening and thereby suddenly release said pressure to produce sound simulating a gun.

3,342,172
ARCHERY BOW LIMB SHOCK CUSHIONING MEANS HAVING A BRACKET WITH PIVOTALLY MOUNTED WEIGHTED EXTENDED ARMS
John Dewitt Sanders, Pine Bluff, Ark., assignor to Ben Pearson, Incorporated, Pine Bluff, Ark., a corporation of Arkansas
Filed Feb. 25, 1965, Ser. No. 435,138
4 Claims. (Cl. 124—23)



1. Shock cushioning means for mounting upon an archery bow comprising a bracket, said bracket having means for engaging an archery bow, an arm adjustably pivoted to said bracket, means for locking said arm in a selected adjusted position relative to said bracket, a holder pivotally connected to said arm adjacent the end of said arm remote from said bracket, means for locking said holder in a selected position of angularity relative to said arm, and weight means held in said holder.

3,342,173
BOW WITH MAGNETIC RETRACTABLE ARROW REST
Eugene L. Ferguson, 231 Arlington Road, Hoyt Lakes, Minn. 55750
Filed Jan. 4, 1965, Ser. No. 422,998
2 Claims. (Cl. 124—24)

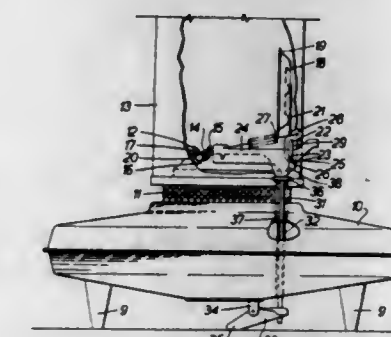
1. In combination, an archery bow having a hand grip, an arrow rest pivoted on the side of said bow above said hand grip and for movement between a retracted position and a position extending laterally of said bow, magnetic means fixedly mounted on the side of said bow adjacent

said arrow rest, said arrow rest having means thereon for supporting an arrow when said rest is in its laterally extending position, said arrow rest having magnetic means thereon, one of said magnetic means being permanently magnetized, whereby the magnetic means on said rest



will be attracted to the magnetic means on said bow to normally retain said rest in its laterally extending position, and whereby contact of the feathers of an arrow with said arrow supporting means will pivot said rest to its retracted position.

3,342,174
OIL-FIRED HEATERS
Dennis Tongue, Brian John Bickley, and David Alexander Robertson, Warwickshire, England, assignors to The Valor Company Limited, Bromford, Erdington, Birmingham, England, a British company
Filed Feb. 23, 1965, Ser. No. 434,422
Claims priority, application Great Britain, Feb. 21, 1964, 7,260/64; Apr. 30, 1964, 17,925/64; Oct. 24, 1964, 43,460/64; Jan. 30, 1965, 4,187/65
4 Claims. (Cl. 126—96)



1. In an oil-fired space heater incorporating a draught inducing chimney, a burner mounted at the base of said draught inducing chimney and including a wick on which a flame burns almost directly, the invention comprising a safety device for putting out the flame if the heater is knocked over, tilted or lifted from the surface on which it is standing, said device including a flame extinguisher in the form of an inverted cup mounted inside said chimney, spring means for moving the extinguishing cup towards the burner with sufficient rapidity to blow out the flame and to bring the extinguishing cup into a final position in which it covers the wick, a stop with which said extinguishing cup in said final position is adapted to engage to prevent said extinguishing cup contacting said wick, latch means for holding said extinguishing cup in an initial position clear of said wick against the action of said spring means, said latch means comprising an arm having a first end and a second end, said arm carrying at said first end said extinguishing cup, means pivotally mounting said arm for at an intermediate point in its length for angular movement about a horizontal axis relative to said chimney, said spring means co-operating with said arm and adapted to move it into a position to move said extinguishing cup towards said final position,

a latch member, and a pivotal connection between said latch member and said second end of said arm, said latch member at a position remote from said pivotal connection having a notch adapted to engage with a fixed part adjacent to an opening in said chimney when said extinguishing cup is in said initial position to hold said cup in that position against the action of said spring means, pre-loaded means for releasing said latch member to disengage said notch from said fixed part when the equilibrium of the heater is disturbed, and means restraining said pre-loaded means from releasing said latch means, while the heater is standing normally, said restraining means including a shoe engaging with the surface on which the heater is standing.

3,342,175
CARDIAC BIOPSY INSTRUMENT
Robert T. Bulloch, 5518 A St., Apt. 4,
Little Rock, Ark. 72205
Filed Nov. 23, 1964, Ser. No. 413,047
6 Claims. (Cl. 128-2)

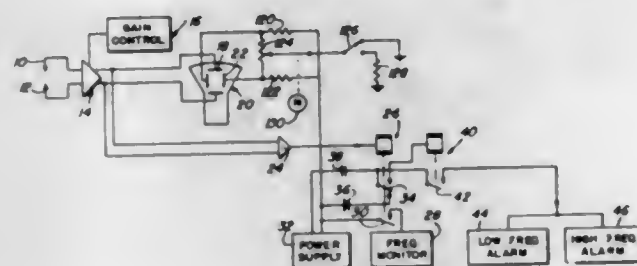


1. An instrument for accomplishing intracardiac biopsy of the ventricular septum, comprising
 - an elongated tubular needle sheath of a diameter such that the needle sheath can be passed through a catheter;
 - said sheath being resiliently distortable before entry into a body to perform the biopsy but capable of normally retaining a predetermined shape while within the body and during biopsy sampling,
 - the length of said sheath being adequate to allow the same to extend from an exterior point to the ventricular septum via the right external jugular vein of a patient,
 - said sheath having a proximal end and a distal end;
 - a handle member fixed to said sheath at the proximal end thereof and including indicating means projecting laterally relative to said sheath;
 - a flexible wire extending through said sheath and having one end portion projecting from the proximal end thereof;
 - a manipulating member secured to said one end portion of said wire and disposed exteriorly of said sheath, whereby said wire can be moved rectilinearly relative to said sheath; and
 - specimen cutting means secured to the other end portion of said wire for cleanly severing a tissue sample, said cutting means comprising two blade portions movable toward each other to cooperatively grip and cleanly sever the tissue sample;

the length of said wire being greater than the length of said sheath by an amount such that said manipulating member can be moved between a first position spaced from the proximal end of said sheath to a position adjacent the proximal end of the sheath in order to cause said cutting means to remove a specimen of cardiac muscle without artifact,

said cutting means being retracted within the distal end portion of said sheath when said manipulating member occupies said first position; the portion of said sheath adjacent the distal end thereof being curved, when said sheath is in its normal predetermined shape, in a lateral direction, said indicating means being aligned with the tip of said distal end portion to enable the user to accomplish remotely the accurate placement of said cutting means on the lower ventricular septum.

3,342,176
CARDIAC MONITOR
Sherman R. Kaplan, 1680 Meridian Ave., Miami Beach, Fla. 33139, and Harold A. Corrigan, North Miami, Fla.; said Corrigan assignor to Dwyer-Baker Electronics Corp., a corporation of Florida
Filed Nov. 12, 1964, Ser. No. 410,442
8 Claims. (Cl. 128-2.06)



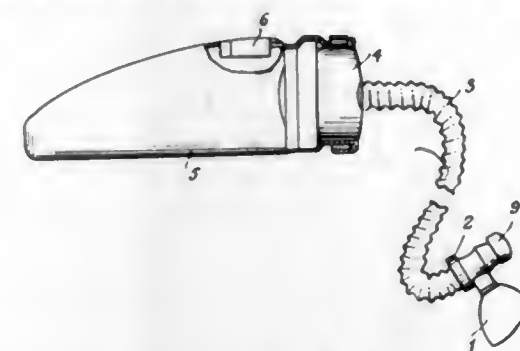
1. In a system for monitoring the heartbeats of a patient to whom electrodes are applied for receiving pulse signals, a display device having a pair of perpendicular deflecting elements, amplifying means connecting one of said deflecting elements to the electrodes, constant voltage varying means connected to the other deflecting element for visual display of a varying voltage applied to said one deflecting element by the amplifying means, and pulse indicating means connected to the amplifying means for energization at a variable frequency and pulse duration corresponding respectively to the frequency and amplitude of said varying voltage.

3,342,177
PUMP AND STORAGE DEVICE FOR AN ARTIFICIAL RESPIRATION APPARATUS
Pehr Lawe Clementz, Fredsgatan 17, Sundbyberg, Sweden
Filed Aug. 11, 1964, Ser. No. 388,772
Claims priority, application Sweden, Nov. 4, 1963, 12,100/63

1 Claim. (Cl. 128-145.7)

A device for artificial respiration comprising, an air pump including a valved compressible bag having a large mouth, a closure for said mouth consisting of a filter for vitiated air, the filter being of a shape and size to conform to and close the mouth of the bag and to enable it to be fitted in the mouth with either of its opposite faces directed toward the interior of the bag, a connecting device around the filter to thereby hold the filter in either of its two positions, a flexible tube carrying valves and a mask, attached to the filter and extending from one of the faces of the filter, the filter when fitted in one position, having the tube, valves and mask arranged to locate

such elements on the outside of the bag in operative position to function when the bag is compressed, the bag being of a size to enable it to contain the filter, hose,



valves and mask and serve as a protective enclosure therefor when the filter is positioned in the mouth of the bag so that said hose and attached valves and mask are disposed within the bag.

3,342,178
DENTAL SPRAYERS OR ATOMIZERS
Hyman Freedman, 200 W. 58th St., New York, N.Y. 10019
Filed Nov. 23, 1964, Ser. No. 413,206
8 Claims. (Cl. 128-173.1)



1. An atomizer comprising, an air supply tube and a water supply tube, a spray nozzle to which the tubes are connected, the water supply tube having a vent opening, a valve attached to the tubes and normally closing the vent opening, said valve being a springy element mounted to enable it to repeatedly open and close with a fluttering action under the pressure of the water passing through the water tube toward the spray nozzle thereby causing intermittent interruption of the spray emanating from the nozzle.

3,342,179
BLOOD COLLECTION AND SAMPLING APPARATUS HAVING SEPARABLE COUPLING MEANS
Norbert W. Ellmann, Chicago, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
Filed June 18, 1965, Ser. No. 465,024
6 Claims. (Cl. 128-214.2)

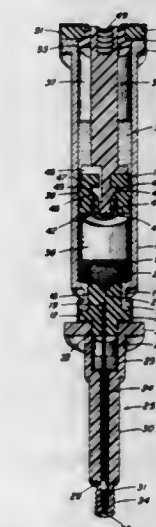
1. Blood collection apparatus comprising: a blood collection container, a hypodermic needle, a hollow frangible housing having an upper end and a lower end, a first length of flexible tubing intercommunicating said container and said upper end, a second length of tubing intercommunicating said lower end and said hypodermic

needle, a line of weakness defined by said housing about the periphery thereof in skew relation to the longitudinal axis of said housing providing opposed cam faces and conditioning said housing for separation into an upper section and a lower section, a cannula mounted in said



housing and having a first end fixedly mounted in said lower section and a pointed end removably extending into said upper section, whereby said cam faces interact to longitudinally separate said upper and lower sections when said sections are twisted in opposite directions relative to each other.

3,342,180
DISPOSABLE LIQUID-POWDER PACKAGE AND HYPODERMIC SYRINGE
Ellsworth Roland Sandhage, Pearl River, and Arthur Sinclair Taylor, Spring Valley, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Apr. 24, 1964, Ser. No. 362,444
4 Claims. (Cl. 128-218)



4. A combination aspirating hypodermic syringe and two-compartment package comprising:
 - a generally cylindrical barrel, having at the rear end a barrel flange, and at the forward end a barrel neck;
 - a resilient piston in said barrel and on said piston at least one annular ring in sealing engagement with said barrel; said piston dividing the barrel into a front and a rear storage compartment; a separate component in each compartment during storage; a

rear retaining stopper to prevent loss of contents from the rear compartment; one-way valve means to transfer the contents from the rear compartment to the front compartment at time of use;

a plunger extending from the rear of said barrel to said piston, and on the rear of the plunger, means for attaching a plunger extension;

a puncturable stopper in the barrel neck having therein at the forward end a needle port, and at the rear end a needle point dimple, the solid membrane of the stopper therebetween being readily puncturable, said stopper substantially filling said neck, and thereby minimizing dead space, a stopper seal retaining the said stopper in the barrel neck;

a double ended hypodermic needle, a needle hub surrounding said needle, dividing the needle into a short end and a long end, said short end extending into and being stored in the needle port;

a combination needle guard and plunger extension fitting over the front of the barrel and stopper assembly, having a thumb piece at the rear and means for connecting to the plunger at the front thereof, said guard having therein a hub chamber and a needle sheath, into which fits the hub and needle respectively, said hub chamber being deep enough to hold the needle hub during storage, with the thumb piece positioned against the seal, and also having therein a sterilizing vent, to permit entry of a sterilizing gas, and an air filter adjacent said vent.

3,342,181

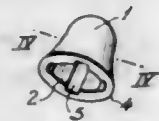
FORMS OF OVULES

Norbert Jacquignon, Paris, France, assignor to Charles Albert Merminod, Paris, France

Filed June 22, 1964, Ser. No. 376,690

Claims priority, application France, June 25, 1963, 939,326, Patent 1,407,659

3 Claims. (Cl. 128—260)



1. An ovule comprising a one-piece member hollowed out to form a depression contoured to fit over the extremity of the finger of the user during the placing of said ovule in its therapeutic position, said ovule being configured to a shape similar to that of a sewing thimble including a head portion, internal and external walls, having a free edge, the free edge of said ovule being slightly flared, the external wall of the ovule being striated, the head of the ovule being pierced with at least one orifice opening into said depression, said internal wall of said depression being provided with longitudinal flutings.

3,342,182

PACKAGED CREAM APPLICATOR

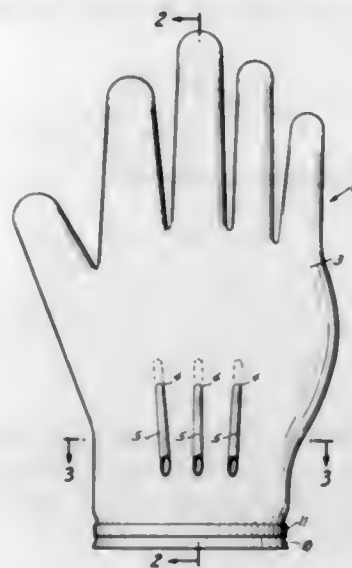
Peter Charos, Maylen Drive, Hampton Bays, N.Y. 11946

Filed June 29, 1964, Ser. No. 378,704

2 Claims. (Cl. 128—260)

1. A device of the character described comprising a glove fitting tightly around a person's wrist and having inner and outer panel portions, and a plurality of cartridges extending through slots in one of said outer panel portions and being open toward the inner one of the panel portions and the interior of the glove, said cartridges being adapted for holding a cosmetic, and to dispense the same into the glove, said inner one of the panel portions being

porous and lining said glove, said outer one of said outer portions being of a resilient material and bringing pres-



sure to bear on the hand to which the glove is applied to massage the cosmetic preparation into the skin of the hand.

3,342,183

ABSORBENT ADHESIVE PATCH IMPREGNATED WITH A VASOCONSTRICTOR

Martin Edenbaum, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Aug. 13, 1964, Ser. No. 389,275

14 Claims. (Cl. 128—268)



1. A patch for application to small cuts to prevent bleeding, comprising a dry absorbent sheet impregnated with a vasoconstrictor and containing on at least one surface an adhesive, said adhesive being present in an open pattern extending across at least a large portion of said sheet inward of its periphery leaving numerous adhesive free areas distributed over the surface of said patch whereby, when said patch is adhesively applied to a bleeding cut, blood from the cut is absorbed by the adhesive free areas of said sheet and effects the release of said vasoconstrictor from said sheet into said cut to thus retard further bleeding.

3,342,184

SANITARY NAPKIN WITH ATTACHMENT MEANS AND METHOD OF MAKING

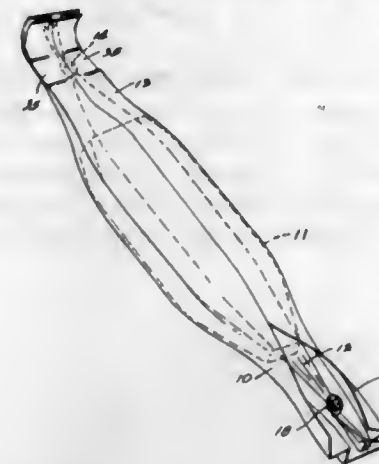
Curt G. Joa, Ocean Ridge, Fla. (Box 1121, Boyton Beach, Fla. 33435)

Filed Jan. 13, 1964, Ser. No. 337,353

7 Claims. (Cl. 128—290)

1. The method of fabricating a sanitary napkin having end tabs with lumps therein and comprising the steps of feeding a strip of wrapper material, feeding pads onto said material strip in spaced relation to leave gaps between said pads, feeding a reinforcing strip with preformed lumps spaced along the strip a distance equal to the spacing of the gaps to feed the strip onto said material with the lumps in said gaps, forming the wrapper strip around the pads and reinforcing strip, and severing said wrapper strip across said gaps to subdivide it into discrete napkin portions having end tabs with lumps therein, plus the preliminary step of preforming the reinforcing strip with knots spaced along its length to constitute said lumps.

4. A sanitary napkin comprising a pad, a wrapper about the pad and which has end tabs extending beyond



the pad, a reinforcing strip within the wrapper and extending from one end tab to the other, and fastening knots formed in said strip in the respective end tabs.

3,342,185

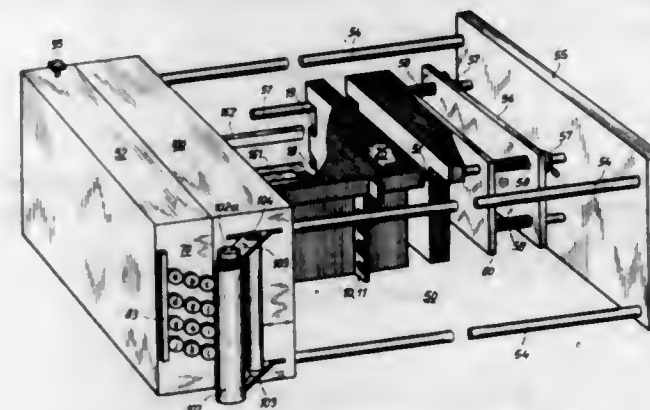
CARD SELECTING APPARATUS

Günter Emde, Neubilberg, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn, near Munich, Germany

Filed Aug. 3, 1965, Ser. No. 476,922

Claims priority, application Germany, Aug. 17, 1964, B 78,126

11 Claims. (Cl. 129—16.1)



1. Apparatus for automatically selecting record bearers from a stack of record bearers of the type having scannable identification indicia at their edges cooperable with scanners of a searching device, said apparatus comprising, in combination, means supporting a stack of such record bearers divided into two classes having different respective classification indicia in addition to the identification indicia; first and second scanning means movable along such stack; first and second arresting means each selectively operable to arrest the record bearers of a respective class in a rest position; setting means operable to set said second scanning means in accordance with the identification indicia of at least one record bearer in the stack; and control means connected to said scanning means and to said arresting means and operable to traverse said scanning means along the stack of record bearers; said control means, when actuated, operating said arresting means to release the record bearers of one class while maintaining the record bearers in the other class in the rest position and positioning said first scanning means to engage and shift the record bearers in one class during traversal along the stack; said second scanning means, during traversal along the stack, shifting back to the rest position all the record bearers of said one class except those having identification indicia corresponding to the setting of said second scanning means.

3,342,186

AROMATIZED TOBACCOS

Marvin K. Cook, Brooklyn, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,273

3 Claims. (Cl. 131—17)

1. An aromatized tobacco composition comprising cased tobacco containing an added flavorant and a minor amount of cyclohexylcyclohexanone.

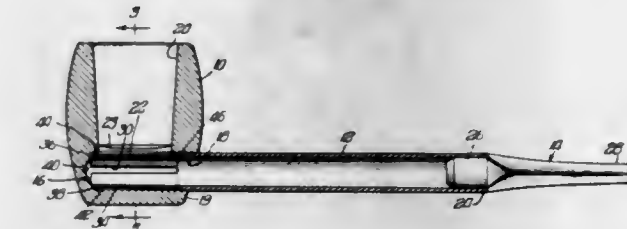
3,342,187

TOBACCO PIPE

Kenly C. Bugg, 1202 Sunset Drive, Fort Wayne, Ind. 46807

Filed Apr. 16, 1965, Ser. No. 448,757

9 Claims. (Cl. 131—201)



1. A pipe for smoking tobacco comprising: a bowl having a longitudinal tobacco-receiving bore defined by a bowl wall and a lower bowl base; a transverse bore in said bowl base having an open end at said bowl wall for receiving a pipe stem and communicating intermediate its ends with the lower end of said longitudinal bore; a tubular stem having one end adapted to be received within said transverse bore and having a bit member joined to the other end thereof, said one end of said stem having axially spaced portions adapted to frictionally engage the extremities of said transverse bore and establish a seal between said transverse bore and said stem; a length of said stem between said spaced portions having a reduced diameter in relation to the diameter of said transverse bore to provide a chamber in said transverse bore external of said stem for receiving smoke drawn from tobacco burning in said longitudinal bore; and means providing slots in said one end of said stem substantially coincident with said length of reduced diameter to bring said chamber in communication with the interior of said stem, said slots being disposed on said stem to permit condensates of smoke drawn from said chamber into said interior of said stem to be collected within said chamber in said transverse bore.

3,342,188

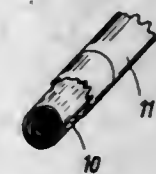
SMOKE FILTER, ESPECIALLY FOR TOBACCO PRODUCTS

Helmut Wolf, Neuwied (Rhine), Germany, assignor to Lohmann K.G., Fahr am Rhine, Germany

Filed Dec. 9, 1964, Ser. No. 417,245

Claims priority, application Germany, Dec. 10, 1963, L 46,552

2 Claims. (Cl. 131—267)



1. A tobacco filter for smoking articles comprising a fleece laminate constituted of a plurality of individual fleece layers needle pinched together, the said laminate being formed into a cylinder, with the layers of said laminate extending axially of the cylinder, the fleece being constituted essentially of regenerated cellulose and

the fibers of said fleece being treated with caustic, subsequently neutralized and dried in the absence of a binding agent, the said fibers being then metallized to produce a filter characterized by low liquid absorption and increasing cooling resulting in the high deposition of undesirable components from the smoke.

3,342,189 ELEVATED WIG FOR FORMING AN ENLARGED HAIRDO

Loretta M. Houston, 1268 Maraposa,
Glendale, Calif. 91205
Filed June 4, 1964, Ser. No. 372,562
2 Claims. (Cl. 132-53)



1. An inset wig for use on a human head having an area covered with natural hair to form an enlarged coiffure, said wig including:

- a base of a size just large enough to cover a limited portion of said area adjacent the crown of the head, said base including a mesh having a sufficient rigidity to normally retain the base in a natural shape corresponding to the covered portion of the head,
- a support core secured to the base, said support core including a mesh having a sufficient rigidity to support at least a portion of a coiffure,
- the shape in plan of said base matching the shape in plan of said support core and the periphery of the base is united with the periphery of the support core to form a unitary hollow structure,
- said support core being of the general configuration of an axially elongated dome with the height of the dome greater than the width of the base of the dome,
- hair mounted on said support core, said hair being arranged in a configuration corresponding to the center portion of the coiffure,
- means for fastening the base to the natural hair to secure the wig in position on the head, said configuration being adapted to have the natural hair positioned therearound to form the peripheral portion of the coiffure.

3,342,190

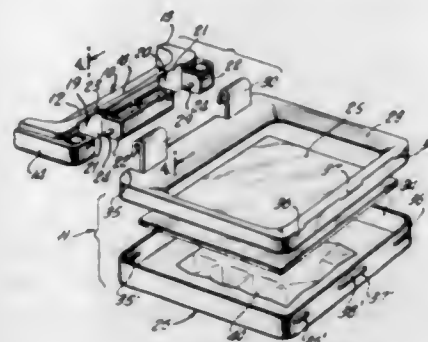
COMPACT CASE CONSTRUCTION

Eric George Hultgren, Westport, and William James Landen, Cheshire, Conn., assignors to The International Silver Company, Meriden, Conn., a corporation of Connecticut

Filed July 2, 1964, Ser. No. 379,833
2 Claims. (Cl. 132-83)

1. A case for a compact or the like, comprising a base with peripherally extending side-wall means defining a concavity adapted to contain cosmetic or the like substance, and a cover hingedly connected to an edge portion of said base; said edge portion including two laterally outward projections having opposed side walls defining a slotted passage therebetween, and hinge-pin means carried by one of said projections and extending at least part of the slot span in the direction of the other projection; said cover comprising an inner frame part and an outer case part and including interengaging means

for retaining the assembly of one of said parts to the other of said parts, the body of said frame part when so engaged being contained within said outer-case part with the peripheral wall of said outer-case part having a skirt rising continuously and clear of the body of said frame part, the skirt of said peripheral wall conforming generally to and peripherally overlapping the side-wall means of said base when in closed position; said frame part including a generally U-shaped hinge member projecting away from the general plane of the body of said frame and being of effective width substantially that of the



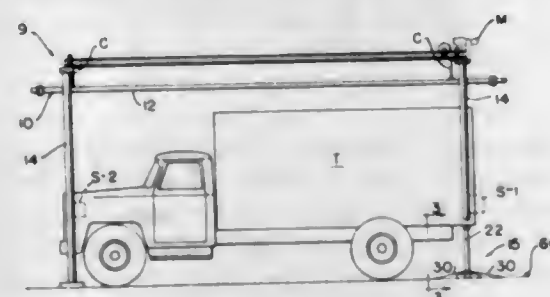
span between said side walls, one of the legs of the U-shape being longer than the other to at least the extent of the maximum offset of said hinge-pin means from the underside of said base, and the extent by which the shorter leg clears the adjacent part of the skirt being less than the extent of said offset; whereby said frame part may be assembled to said base by way of said hinge member prior to assembly of said outer-case part to said frame part; and further whereby disassembly of the hinge connection is prevented, once said outer-case part has been assembled to said frame part.

3,342,191

UNDER TRUCK WASHER

Norman R. Haines, Ann Arbor, Mich., assignor to Canomac Corporation, Ann Arbor, Mich., a corporation of Michigan

Filed June 1, 1965, Ser. No. 460,038
1 Claim. (Cl. 134-45)



Vehicle washing apparatus comprising a vertically moving spray frame, means for spraying the lower portions of a vehicle during the time it is moved along a predetermined path into operative position with respect to said spray frame comprising a generally U-shaped pipe frame, said pipe frame including an elongated horizontal spray pipe adjacent the floor near one end of said spray frame and extending transversely of said path, said horizontal spray pipe being of a length greater than the width of the vehicles to be washed and adapted to be passed over by such vehicles moving along said path, upwardly extending nozzles on said spray pipe spaced longitudinally thereof, an elongated support tube having an inside diameter greater than the outside diameter of said horizontal spray pipe, said horizontal spray pipe extending lengthwise within said support tube, said horizontal spray pipe and support tube being substantially coextensive with one another, said support tube resting upon the floor and being of heavy-wall construction sufficiently strong to

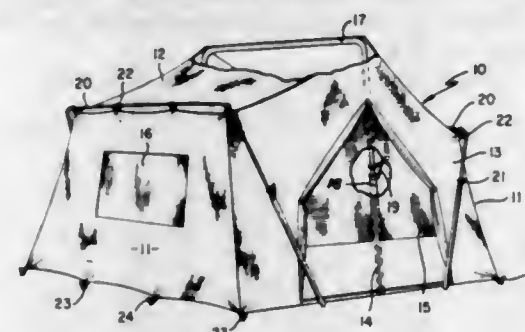
withstand the weight of such vehicles driven over it without collapsing, said support tube having ports in its top wall spaced lengthwise thereof and aligned with said nozzles to permit liquid from said nozzles to be sprayed on such vehicles, said nozzles extending into said ports but not extending above said top wall of said support tube so as to be protected thereby, said pipe frame also including elongated vertical spray pipes connected to the ends of said horizontal pipe and extending upwardly therefrom, nozzles on said vertical pipes spaced longitudinally thereof and directed inwardly, means for supplying liquid under pressure to said pipes to be discharged from said nozzles upon the lower portions of the vehicle, means for automatically starting said supply means when the leading end of the vehicle is adjacent said pipes during movement of said vehicle along said path toward said operative position with respect to said spray frame, and means for discontinuing the operation of said supply means after arrival of said vehicle at said operative position.

3,342,192

CAMPERS' TENT

Aldo L. Tombari, Statesville, N.C., assignor to The Hettrick Manufacturing Company, Statesville, N.C., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,192
1 Claim. (Cl. 135-1)



A side wall tent having a body of flexible fabric material provided with a pair of sloping roof panels forming a hip roof, side walls joined at their upper edges to the lower edges of the roof panels, and front and rear walls, the improvement which comprises a ridge pole on the inside of the tent body and extending from end to end, adjustable vertical support means for said ridge pole, a vertically adjustable U-shaped metallic supporting frame for each eave disposed wholly outside of said body with the horizontal portion thereof arranged at the juncture of a roof panel and a side wall, suspending means providing a connection between the horizontal portion of each frame and the respective eave, each frame having ground engaging terminal portions, the terminal portion of one frame inclining at the front and rear of the tent body toward the terminal portion of the other frame, and each side wall sloping downwardly and outwardly from its eave at an angle of the order of from 15° to 20°.

3,342,193

METHOD AND NOZZLE FOR INJECTING ONE FLUID INTO ANOTHER FLUID

Roland F. Deering, La Habra, and John H. Ballard, Whittier, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Apr. 5, 1965, Ser. No. 445,380
16 Claims. (Cl. 137-3)

1. A method of introducing a fluid under pressure into a lower pressure medium so that said fluid is discharged vertically into said medium in a substantially uniformly distributed flow pattern, which comprises: transporting said fluid from a higher pressure source to said lower pressure medium through an enclosed

conduit, said fluid flowing in a substantially horizontal direction within said lower pressure medium; dividing said fluid flowing within said conduit into two portions of substantially equal quantity to form first and second fluid streams flowing within separate channels of said conduit;

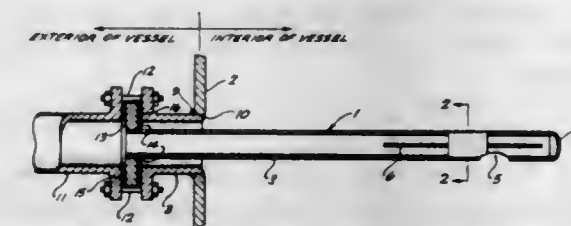
changing the direction of flow of at least one of said first and said second fluid streams to cause them to flow in opposition to each other toward a vertically directed aperture in said conduit; and

discharging said first and said second opposed streams in a substantially vertical direction through said aperture.

3. A nozzle for discharging a horizontally flowing fluid in a substantially vertical direction which comprises:

a horizontally positioned, elongated conduit having a closed end, said conduit also having a vertically directed aperture therein at a point removed from said closed end; and

a horizontal baffle extending a distance along the length of said conduit and positioned so that said aperture is located intermediate along the length of said baffle, said baffle laterally extending from one inside wall of said conduit to the opposite inside wall thereof so as to divide the conduit into two axial flow channels of substantially equal cross-sectional area, said horizontal baffle terminating at a distance from said closed end of said conduit thereby providing fluid communication between said flow channels formed by said horizontal baffle.



12. In combination with a vessel, a horizontal nozzle for introducing a fluid into said vessel so that said fluid is vertically discharged in a substantially symmetrical flow pattern, which comprises:

an elongated, horizontally mounted pipe communicating from the exterior of said vessel to the interior thereof through an opening in the side wall of said vessel, said pipe having a closed end on the interior of said vessel and said pipe also having a vertically directed elongated aperture therein located within said vessel at a point removed from said closed end of said pipe, said aperture having a length parallel to the axis of said pipe greater than the width thereof normal to said axis;

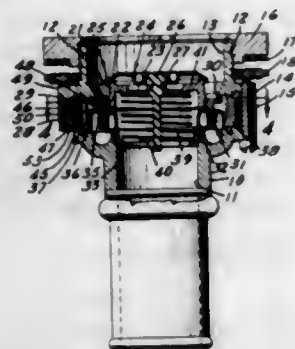
means for sealing said opening in said vessel side wall to prevent the flow of the contents of said vessel outwardly therethrough around the exterior of said pipe;

a horizontal baffle extending a distance along the length of said pipe and positioned so that said aperture is located intermediate along the length of said baffle, said baffle extending across the diameter of said pipe from one inside wall of said pipe to the opposite wall thereof so as to divide the pipe into two axial flow channels of substantially equal cross-sectional area, said horizontal baffle terminating a distance of at least one half the diameter of said pipe from said closed end of said pipe; and

a vertical transverse baffle attached to said horizontal baffle normal to the axis of said pipe and positioned adjacent and substantially at the midpoint of said aperture so as to divert fluid flowing in either direction toward said aperture outwardly through said aperture.

3,342,200

OXYGEN MASK EXHALATION CHECK VALVE
Orland W. Wilcox, Sierra Madre, Calif., assignor to
Sierra Engineering Co., Sierra Madre, Calif., a corpo-
ration of California
Filed Mar. 12, 1965, Ser. No. 439,298
3 Claims. (Cl. 137-102)



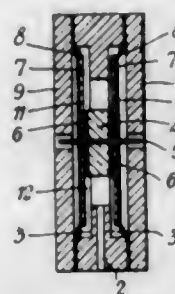
1. A composite inhalation-exhalation valve device comprising a valve body having a passage therethrough and a supply connection thereon, a tubular assembly within said passage movable axially relative to the passage, said body comprising a spacer having an exhalation port therein, a mask end element and a hose supply end element releasably joined to respective ends of said spacer, said mask end element having an annular exhaust valve seat thereon forming an exhaust port, an annular ex-haust valve element on said tubular assembly movable to seated and unseated positions relative to said exhaust valve seat, an annular flexible connection between said tubular assembly and said supply end element, resilient means acting between said body and said tubular assembly normally urging said exhaust valve element to seated position, an inhalation check valve passage through said tubular assembly communicating between the supply end element and the mask end element, an inhalation check valve seat surrounding the mask end of said passage, an inhalation check valve element operably mounted on said inhalation check valve seat, an annular outwardly facing exhalation valve seat in said spacer encompassing said exhaust port and located downstream relative to said ex-haust port, an annular flexible curtain valve element surrounding said exhalation valve seat, said curtain valve element having one annular end secured to said spacer on a side thereof opposite said exhalation valve seat, said curtain valve element having an axial width spanning the distance between said one end and said exhalation valve seat, another free end of said curtain valve element being normally in releasable engagement with said exhalation valve seat whereby to inhibit flow of ambient air inwardly through said exhaust port when said exhaust valve element is inadvertently opened; said annular curtain valve element being radially expandable to permit the exhausting of breathed air therethrough, and a skirt attached to said spacer in a position spaced radially outwardly from said curtain valve element, said skirt forming an opening exterior to and downstream of said exhalation port, whereby to overlie said curtain valve in protecting relationship.

3,342,201

PRESSURE DETECTING DEVICE
Alan Walter Grogono, London, England, assignor to
Henry Alfred Longden, Woldingham, Surrey, England
Filed Nov. 10, 1964, Ser. No. 410,093
7 Claims. (Cl. 137-112)

1. A device for detecting predetermined pressure variations in either of two supply lines, comprising a valve body defining two outer chambers and an intermediate chamber; means for respectively connecting the two outer chambers to the two supply lines and for connecting the intermediate chamber to a fluid pressure operable indicator

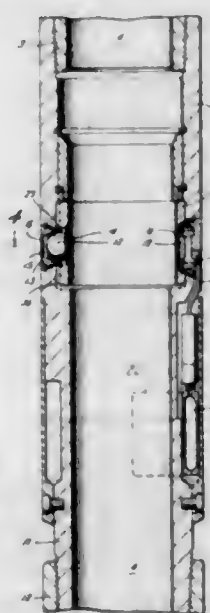
means; a valve member in said intermediate chamber for connecting the indicator means with either one of the two supply lines; and two pressure responsive apertured diaphragms which respectively separate the two outer chambers from the intermediate chamber and which are adapted



to be urged by the normal prevailing pressures in the respective supply lines into positions in which the diaphragm apertures are closed by the valve member, whereby a pre-determined pressure variation in either supply line opens the valve and thereby operates the indicator means.

3,342,202

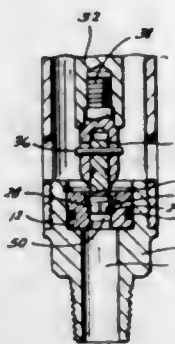
CONCENTRIC GAS LIFT VALVES
Everett D. McMurry and Bolling A. Abercrombie, Hous-
ton, Tex., assignors, by direct and mesne assignments,
of one-half to said McMurry and one-half to Knud I.
Bruun, both of Houston, Tex.
Filed Oct. 9, 1964, Ser. No. 402,831
24 Claims. (Cl. 137-155)



1. In a borehole connected to a source of gas under pressure and containing a string of tubing, a gas-lift apparatus comprising
at least one valve housing generally concentrically interconnected with said tubing string as an integral fluid-conducting portion thereof and having at one side a valve seat defining a port interconnecting the interior of said tubing string and the annular space about said tubing string,
a movable valve member for fluid-sealing engagement with said valve seat,
pressure-responsive means spaced arcuately about said valve housing from said valve seat for movement transversely to the longitudinal axis of said tubing string, and
actuating means disposed arcuately between said pressure-responsive means and said valve member for transmitting movement of said pressure-responsive means to said valve member transversely of said tubing string axis without substantially impeding fluid flow through said tubing string and valve housing.

3,342,203
VALVE

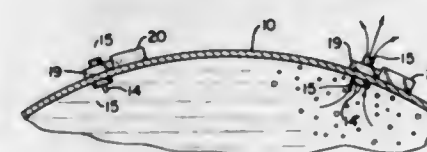
Bolling A. Abercrombie, Houston, Tex., assignor, by
mesne assignments, to McMurry Oil Tool Specialties,
Inc., Houston, Tex., a corporation of Texas
Filed June 14, 1965, Ser. No. 463,550
12 Claims. (Cl. 137-155)



1. A combination throttling and shutoff valve assembly comprising
a hollow valve body having a first inlet and a second inlet and having a fluid passageway therebetween encompassed by a shutoff seat at a first location and a throttling seat at a second location spaced between said first location and said second inlet,
a throttling member disposed in said passageway to be urged against said throttling seat for throttling fluid flow through said passageway, and
a shutoff member trailingy disposed in said passageway relative to said throttling member to be urged into fluid-tight engagement with said shutoff seat following engagement of said throttling member with said throttling seat.

3,342,204

APPARATUS FOR VENTING A GASEOUS PORTION OF A PRESSURIZED FLUID
Robert E. Royce, Englewood, Colo., assignor to Martin
Marietta Corporation, New York, N.Y., a corporation
of Maryland
Filed June 18, 1965, Ser. No. 464,989
4 Claims. (Cl. 137-199)

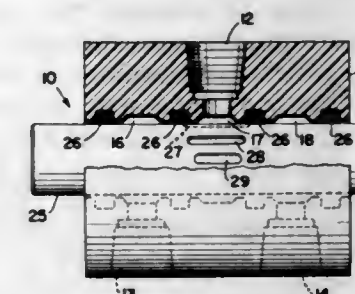


1. A valve system for automatically venting gas from a liquefied gas container in a substantially zero-gravity environment which comprises temperature sensing means for sensing a temperature differential between the temperatures of the gas phase and the temperatures of the liquid phase in a container thereof, trigger circuit means coupled with the temperature sensing means for selective activation by a signal sent from the temperature sensing means to the trigger circuit means indicating that the temperature sensing means senses the temperature of the gas phase, valve means coupled with the trigger circuit means for withdrawal of gas phase from the container adjacent the temperature sensing means, an overpressure switch means coupled with the trigger circuit means for automatically enabling the trigger circuit means when an overpressure condition develops inside the liquefied gas container, and power source means for energizing the valve system.

3,342,205

SLIDE VALVE

Mario J. Quinto, 511 Center Ave.,
Mamaroneck, N.Y. 10543
Filed July 28, 1965, Ser. No. 475,409
5 Claims. (Cl. 137-375)



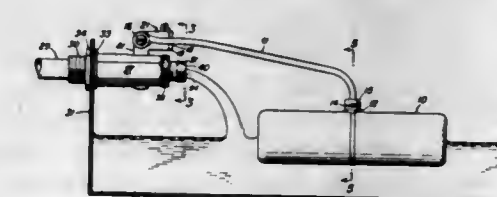
1. A slide valve comprising a tubular core formed with a plurality of inside and outside diameters and defining a plurality of annular first recesses and a plurality of annular second recesses that extend outwardly from its inner surface, said recesses being spaced along the core and arranged so that each first recess is located intermediate a pair of successive second recesses, a body having an opening, the core being positioned in said opening, the portion of the body which defines said opening having a configuration corresponding to that of the outside surface of the core and being in intimate contact therewith on the entire outside surface of the core within said opening, the valve being provided with a plurality of independent ports, each port being formed in the body and the core and establishing direct communication between the exterior of the body and a corresponding first recess, a valve member slidable in the core and having at least one groove which extends inwardly from its outer surface, and a plurality of flexible sealing rings, each sealing ring being seated in a corresponding second recess and bearing against the peripheral surface of the valve member, the length of said groove measured longitudinally of the valve member being greater than the distance between a pair of successive first recesses and less than the distance between the regions of engagement of a pair of successive sealing rings with the valve member.

3,342,206

POULTRY WATERING DEVICE WITH FLOAT-CONTROLLED SUPPLY

Lewis S. Martin, Harrisonburg, Va., assignor to Shenandoah Equipment Company, Harrisonburg, Va., a partnership

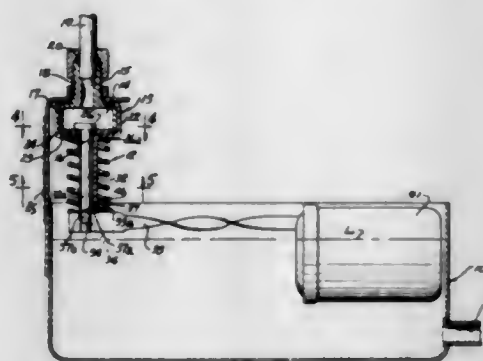
Filed Oct. 19, 1964, Ser. No. 404,978
5 Claims. (Cl. 137-436)



1. In a valve for controlling the water level in a trough, a body having a main bore, a water inlet discharging into said bore at one end thereof, a hollow adjusting plug at the other end of the bore, having a smooth central opening through which water is discharged into the trough, a slide loosely positioned in the bore and movable axially to open or close the water inlet, a float control lever for moving the slide, the lever having a vertical arm passing through slots in the body and having a recess whereby

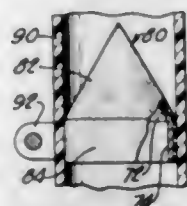
water may pass into the central opening when the float rises toward the desired water level, the float is an elongated cylinder and is pivotally connected to the lever by a stem so that its axis remains parallel to the water level thus providing maximum buoyancy, and the stem is secured to the lever by a spring-pressed bolt passing transversely through the lever and the stem and is therefore resiliently held but may be released by compressing the spring to move the float through an angle of over 90° whereby to make easier the cleaning of the trough by movement of the float out of the way, the bolt is loosely pivoted in the lever, and the bolt head is spring-pressed against the lever, and the lever carries a pair of spaced lugs between which the stem is held by the spring from which position the stem may be released by angular movement of the stem away from the lever.

3,342,207
FLOAT VALVE
Anthony J. Ross, 116 Myrtle Ave.,
Elmhurst, Ill. 60126
Filed July 17, 1964, Ser. No. 383,320
5 Claims. (Cl. 137-448)



2. A liquid level control valve for maintaining a preselected liquid level in a reservoir comprising, a valve body defining a chamber having a liquid inlet passage and a downwardly facing outlet passage, said body having a seat on the inner side of the body around the outlet passage, a valve member loosely positioned in said chamber in overlying relation to said outlet passage and having a face operable in one position of the valve member to block flow through the outlet passage, the valve face being tiltable with the valve member relative to the seat to thereby open for flow through the outlet passage, an arm member rigidly attached to said valve member and including a stem portion extending downwardly from said valve member through said outlet passage and an arm portion on said stem portion at a point spaced below said face on the valve member and extending laterally from said stem portion, a float attached to said arm portion at a point laterally offset from said stem portion and normally gravitationally urging said arm member downwardly to tilt said valve member relative to its seat away from said one position, said float being adapted to be buoyed upwardly as the water level in the reservoir rises and operative in a preselected upper position thereof to support said valve member in said one position and thereby stop flow through said outlet passage, said arm member having a first upwardly facing shoulder spaced a preselected distance below said valve face and extending laterally from the stem portion at the side thereof toward said float, a guide on said valve body and extending downwardly therefrom, the guide having a second downwardly facing shoulder adjacent the lower end thereof spaced below said seat a distance approximately equal to said preselected distance and positioned to engage said first shoulder and said stem portion when the valve member is in said one position.

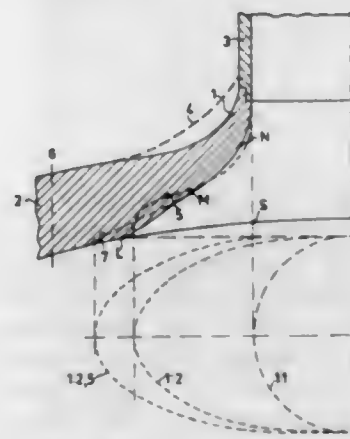
3,342,208
RESILIENT MATERIAL VALVE
Adam P. G. Steffes, 707 S. Hill St.,
Los Angeles, Calif. 90017
Filed Oct. 3, 1963, Ser. No. 313,555
1 Claim. (Cl. 137-516.11)



A valve for insertion into a continuous flexible fluid line comprising a hollow mandrel, said mandrel having a conical portion and a tubular cylindrical portion, said conical portion having a plurality of holes formed there-through only in a region intermediate its apex and its base, and a flexible and elastic member stretched tightly over said mandrel, said member having a tubular cylindrical portion overlying the cylindrical portion of said mandrel and adhesively affixed thereto, and a conical portion overlying said region and the remainder of said conical portion of said mandrel, said conical portion having as its sole perforation a small opening in the apex thereof, said conical portion of said member expanding away from said mandrel to pass fluid in a first direction and collapsing over said holes to prevent passage of fluid in the opposite direction, said small opening overlying an imperforate portion of said mandrel, said cylindrical portions being of greater lateral dimension than any other part of said valve whereby said valve may be bodily inserted in a flexible tube and the tube may be sealingly clamped, from the exterior thereof, about said cylindrical portions.

3,342,209
UNSYMMETRICAL CONNECTION-PIECE NOZZLE
Rudolf Hiltcher, Lovbrunna Gard, Taby, Sweden, and
Gunnar Florin, Sollentuna, and Sture Söderberg, Stockholm, Sweden; said Florin and said Söderberg assignors to said Hiltcher

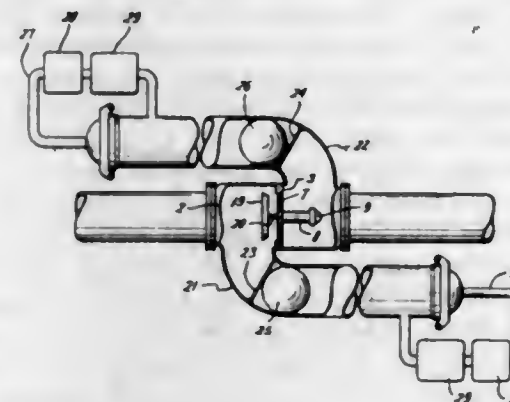
Filed Aug. 17, 1964, Ser. No. 390,133
Claims priority, application Sweden, Aug. 21, 1963,
9,134/63
5 Claims. (Cl. 137-561)



1. A nozzle for attachment of a pipe or the like to a cylindrical wall of a thick-walled pressure vessel, wherein the nozzle is integral with at least a part of said cylindrical wall and the nozzle orifice located adjacent the internal cylindrical surface of the wall of the pressure vessel is oblong, characterized in that the inner and outer surfaces of the nozzles are co-planar with inner and outer

surfaces of that part of the wall of the pressure vessel to which the nozzle is contiguous, in that the cross-sectional area of the flow passage of the nozzle is circular at that end which is remote from the pressure vessel and is elongated in the peripheral direction of the wall at the nozzle orifice on the inner side of the wall of the pressure vessel, said latter orifice being curved in accordance with the curvature of the inner side of said wall and registering with said inner side and extending across not more than 100° of the periphery of the pressure vessel, the slenderness ratio of the elongated area of said orifice being at least 1.2 and not greater than 2.5 and the slenderness ratio of the flow passage of said nozzle extending from said elongated area to said circular area continuously and smoothly decreases to unity so that said flow passage has approximately the form of a truncated cone having an elongated base and a circular top and a continuous generatrix.

3,342,210
SURGE SUPPRESSOR
Collin A. Renton, 817 W. Heisse St.,
Alvin, Tex. 77511
Filed June 22, 1964, Ser. No. 376,783
9 Claims. (Cl. 137-593)



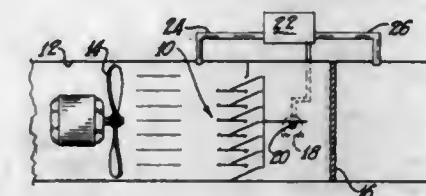
3. In a surge suppressing device for pipe lines, a chamber of greater inside diameter than the inside diameter of the pipe line being served, a valve seat in said chamber, a valve mounted in said valve seat having a valve head of the same diameter as the inside diameter of the pipe line being served, a tubular stem on said valve head having one end open to permit inlet of fluid moving upstream, and having a gas filled surge chamber at the other end, a diaphragm between said surge chamber and said valve stem expandable by upstream pressure, yieldable means for maintaining said valve normally in open position and means for permitting down stream flow of fluid through said valve when said valve is in open position and against said surge chamber when said valve is in closed position.

3,342,211
DAMPER FOR CONTROLLING THE FLOW OF FLUIDS
Edward H. Johnson, Maumee, Ohio, assignor to The American Warming & Ventilating, Inc., Toledo, Ohio, a corporation of Ohio

Filed Sept. 9, 1963, Ser. No. 307,419
4 Claims. (Cl. 137-601)

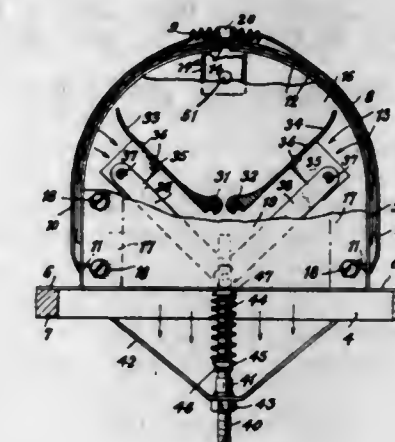
1. A flow control damper for controlling flow of fluid through a duct, said damper comprising a plurality of stationary vanes parallelly spaced and extending across the duct, a plurality of movable blades extending across the duct with each blade being positioned between two of said vanes, said blades lying at angles to the associated vanes and contacting both of said vanes when in a closed position, and means for lineally moving each of said

blades toward and away from its closed position along a lineal path which is parallel to at least one of said associated vanes so that said blades will remain substantially



in contact with one of their associated vanes regardless of their positions in the lineal paths, the movement of said blades being sufficient to cause said blades to extend beyond edges of said vanes to provide a controlled flow passage.

3,342,212
VOLUME TEMPERATURE CONTROL DEVICE FOR AIR OUTLET DEVICES
Thomas L. Day, Brookfield, Elbert Gordon Stocks, Jr., Brookfield Center, and Edgar J. Totsas, Danbury, Conn., assignors to Connor Engineering Corporation, Danbury, Conn., a corporation of New York
Filed Dec. 4, 1963, Ser. No. 328,084
2 Claims. (Cl. 137-613)

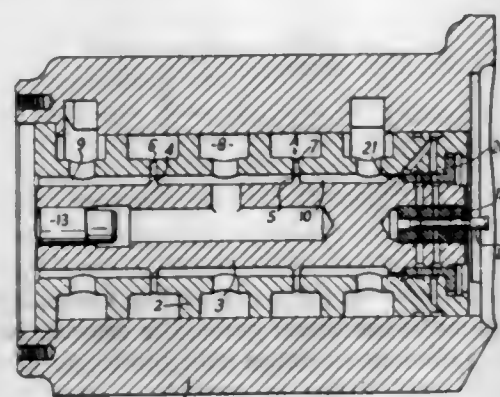


1. In an air-conditioning device, an air outlet having a casing composed of a pair of arched overlying hood sections closed by end walls, the outermost of said hood sections having a limited movement relatively to the innermost hood section, both of the hood sections being provided with a plurality of apertures capable of being wholly or partially disaligned by the adjustment of the outermost hood section, spring means attached to the inner hood section and the outer hood section resiliently biasing the outer section toward the inner section to maintain close contact between the two sections, a bar secured to the outside of the outermost hood section, said bar having an end extending beyond said hood section, a spindle threadable through the bar, and a chamber wall through which the spindle is adjustable, and means on the outer side of the wall for making such adjustment of the spindle.

3,342,213
HYDRAULIC APPARATUS
Ronald Walters, Wembley, England, assignor to The Sperry Gyroscope Company Limited, Brentford, Middlesex, England, a company of Great Britain
Filed July 20, 1965, Ser. No. 473,413
Claims priority, application Great Britain, July 22, 1964,
29,569/64
3 Claims. (Cl. 137-625.69)

1. A hydraulic spool valve comprising a body, a plurality of sets of metering ports for hydraulic fluid in the walls of said valve body, a spool within said valve

body, said spool having raised lands for cooperating with said ports, in which each set of metering ports for the hydraulic fluid comprises at least one port of circular



section and of a diameter slightly exceeding the width of the spool lands, and at least one port of circular section and of a diameter less than that of the spool lands.

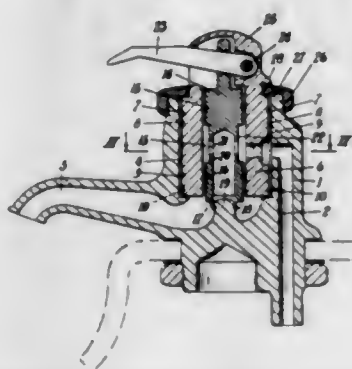
3,342,214

DEVICE FOR CUTTING OFF AND ADMIXING TWO FLUIDS

Maria Panerai and Giuseppe Panerai, both of
2 Piazza Galileo Ferraris, Florence, Italy
Filed Jan. 20, 1964, Ser. No. 338,879

Claims priority, application Italy, Apr. 8, 1963, 84,219;
Apr. 30, 1963, 85,158; Nov. 30, 1963, 93,493; Dec. 30,
1963, 9,577

12 Claims. (Cl. 137—636.4)

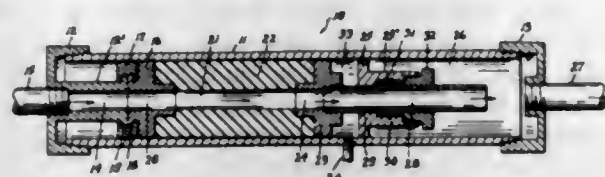


1. A valve unit for mixing and cutting off the inflow of two fluids comprising in combination a valve housing having a first and a second fluid bore for a first and a second fluid respectively, and a third opening for the outflow of said fluids, a distributing body having an arc shaped slit embracing said first and second fluid bores revolvably arranged within said housing having an axial bore and a radial bore communicating with said axial bore and with said arc shaped slit, a ring threaded on the upper end of said housing for holding said distributing body within said housing, an annular protuberance provided within said housing on which the lower end of said distributing body rests, a cylinder shaped shutting off element slidably arranged in said axial bore of said distributing body having an upper stem provided with a radial bore and an inner axial cavity at its lower end portion and an annular recess on its side surface for connecting said inner axial cavity with said radial bore of said distributing body, an inner protuberance on said housing, said inner axial cavity having its mouth shaped to match said inner protuberance of said housing, a lever pivotally mounted at one end at the upper portion of said distributing body with its free end passing through said radial bore of said stem for manual operation to axially slide said shutting off element within said distributing body and sealing means located between said housing, said distributing body and said shutting off element.

3,342,215

MUD THROTTLING VALVE

Phil H. Griffin III, Fort Worth, Tex., assignor to Bass Brothers Enterprises, Inc., Fort Worth, Tex.
Filed May 6, 1965, Ser. No. 453,663
4 Claims. (Cl. 138—45)

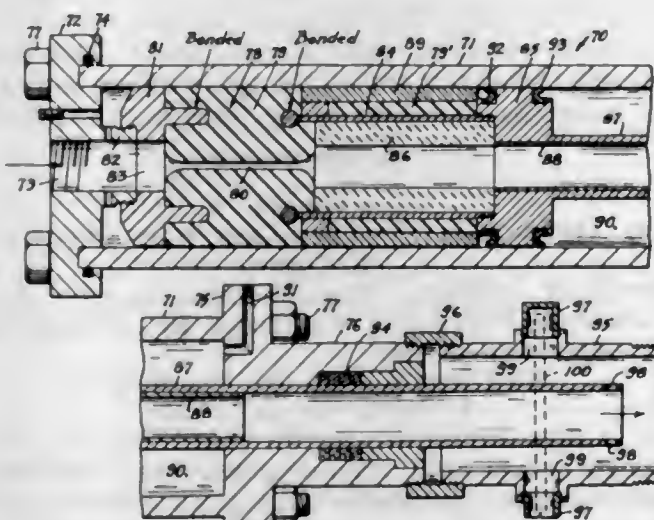


1. A hydraulic throttling valve, comprising in combination, a tubular housing having a fluid inlet end and a fluid outlet end, an abutment member fixed in the fluid inlet end portion of said housing and provided with a central port in communication with the fluid inlet, a tubular valve member of resilient material positioned in the housing with one end thereof against said abutment member, said valve member having a central fluid passage in register with said central port of said abutment member, a piston slidable in the housing and abutting the other end of said valve member, said piston having a central port in register with said fluid passage of the valve member, a partition secured in said housing in spaced relation between said piston and said outlet end of the housing, the portion of the housing between said partition and the housing outlet end defining a fluid outlet chamber discharging through the outlet end, a fluid transmitting tube secured centrally to said piston in register with the piston port, said tube extending slidably through said partition and having an outer end discharging into said fluid outlet chamber, a portion of said housing between said partition and said piston defining a pressure chamber surrounding said tube but out of communication with the interior of the latter, said resilient valve member being axially compressible by said piston and radially inwardly expansible whereby the cross-section of said passage may be reduced as a function of axial thrust applied to the valve member by the piston, and means for admitting fluid under pressure into said pressure chamber whereby to effect application of axial thrust by said piston to said valve member.

3,342,216

MUD THROTTLING VALVE

Phil H. Griffin III, Fort Worth, Tex., assignor to Bass Brothers Enterprises, Inc., Fort Worth, Tex.
Filed Feb. 1, 1966, Ser. No. 524,061
11 Claims. (Cl. 138—45)



1. In a fluid throttling valve, the combination of an elongated housing adapted for passage of fluid longitudinally therethrough and having an inlet and an outlet end,

a fixed abutment member mounted in fixed position at the inlet end portion of said housing and provided with a central port, a tubular valve member of resilient material positioned in the housing and having the inlet end thereof secured to said fixed abutment member, said valve member being provided with a central fluid passage in communication with said port of the fixed abutment member, a slidable abutment member at the outlet end of said valve member and provided with a central port in register with said fluid passage of the valve member, said resilient valve member being axially compressible and radially inwardly expansible whereby the cross-section of said fluid passage may be reduced as a function of axial thrust applied to said slidable abutment member in the direction of the fixed abutment member for compressing the resilient resilient valve member therethrough, and means for applying axial thrust to said slidable abutment member, together with a tubular liner of wear resistant material axially juxtaposed to said resilient valve member.

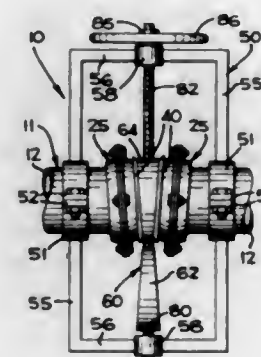
3,342,217

FLOW CONTROLLING APPARATUS

Warren N. Low, Bethesda, Md., assignor to FMC Corporation, San Jose, Calif., a corporation of California

Filed Feb. 12, 1965, Ser. No. 432,142

6 Claims. (Cl. 138—94.3)

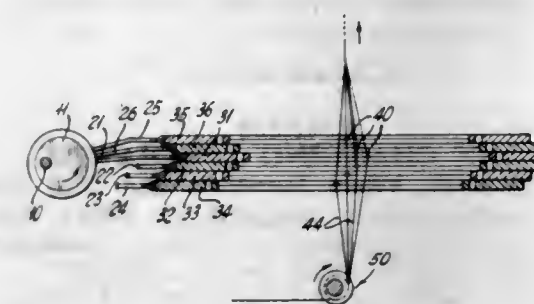


1. A line blind comprising conduit means having an axial flow passage and a pair of axially spaced mounting portions defining a gap disposed transversely of said flow passage, collars circumscribing said mounting portions and having annular inner edges, said collars being swivelly mounted on said mounting portions for movement between a neutral position with said inner edges substantially parallel and seating positions with said inner edges obliquely related to each other, each collar having front and rear segments cooperating to retain said collar on its mounting portion, said segments being releasably interconnected to facilitate installation and removal of said collar on and from its mounting portion, each collar also having an annular arcuate camming lip extending radially outward from its inner edge, annular sealing means mounted on each collar and providing a fluid-type seal between said collar and said mounting portions, a valve member having a wedge-shaped flow controlling portion with opposite faces which are in oblique relation to each other, said valve member being located in the plane of said gap, and means for moving said valve member in said plane to bring the opposite faces of the valve member against said inner edges of the collars to force said collars from their neutral position to a seating position with the faces of the valve member circumferentially engaging their respectively confronting inner edges of the collars.

3,342,218

DEVICE FOR THE FORMATION OF A TRAVELLING SHED IN LOOMS

Rudolf H. Rossmann, Gauting, near Munich, Germany, assignor to U.T.L. Incorporated, Scranton, Pa.
Filed Mar. 22, 1965, Ser. No. 441,762
14 Claims. (Cl. 139—12)

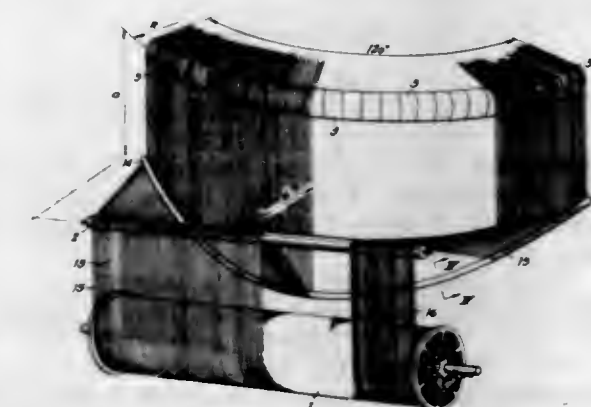


1. A device for the formation of a travelling shed in warp threads of a loom in the form of a travelling wave of predetermined period, comprising, in combination, a plurality of heddles in engagement with the warp threads for forming said travelling shed, a plurality of shaft frame means each containing a predetermined number of heddles combined into a plurality of groups, each of said groups representing corresponding portions of said travelling shed in successive periods thereof, one half of said plurality of shaft frame means arranged to form an upper portion of said travelling shed, the other half of said plurality of shaft frame means arranged to form a lower portion of said travelling shed, control means for reciprocating each shaft frame means over a predetermined distance, each of said shaft frame means reciprocable out of phase with respect to each other as a function of the number of said plurality of heddle groups, the plurality of heddle groups of each shaft frame means being connected for reciprocation in phase to a respective one of said control means, and driving means for said reciprocating means.

3,342,219

DEVICE FOR PROMOTING CONSTANT TENSION IN ALL WARP THREADS OF A CIRCULAR WEAVING LOOM

Armand Malchair, Herstal, Belgium, assignor to Societe Anonyme Iwan Simonis, S.A., Verviers, Belgium
Filed Jan. 25, 1965, Ser. No. 427,660
Claims priority, application Netherlands, Jan. 28, 1964, 64—0,633
3 Claims. (Cl. 139—13)



1. In a circular weaving loom having a central ring of compensators, a plurality of thread-carrying beams located around and extending tangentially to said ring of compensators, the circumferential length of said ring of compensators being greater than the sum of the lengths

of said beams, and a plurality of elongated thread holders, each thread holder being located adjacent a separate beam and receiving threads unwound from that beam, the improvement which comprises a curved static element aligned with said ring of compensators and having a curvature every point of which is so spaced from said thread holders and said ring of compensators that every thread extending from a thread holder to the static element and from the static element to the ring of compensators has the same length.

3,342,220

WEFT CHANGING APPARATUS

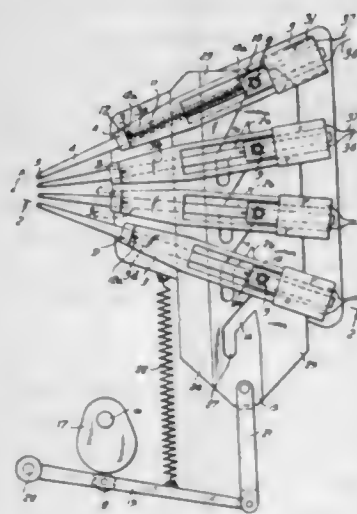
Vladimir Bartosek, Vilem Janousek, and Otto Rotrekl, Brno, Czechoslovakia, assignors to Elitex Sdruzeni podniku textilního strojírenství, Liberec, Czechoslovakia

Filed Sept. 1, 1965, Ser. No. 484,327

Claims priority, application Czechoslovakia,

Sept. 2, 1964, 4,893/64

13 Claims. (Cl. 139—122)



1. Weft changing apparatus for supplying different weft threads to a loom, comprising, in combination, a set of thread guides for guiding said different threads, respectively; support means for guiding each of said thread guides between an inoperative position and a feeding position for feeding the respective thread to a weft inserting means, control means including biasing means and reciprocating mechanical means for holding said thread guides in said feeding position and for moving said thread guides to said inoperative position; a set of blocking means for blocking movement of said thread guides, respectively, from said inoperative position to said feeding position; and selectively actuated means for operating one selected blocking means to release the respective selected thread guide for movement by said biasing means to said feeding position.

3,342,221

POWER LOOM FOR WEAVING MAGNETIC MEMORY DEVICES

Akira Matsushita, Kitatama-gun, Tokyo-to, and Chikara Uchida, Setagaya-ku, Tokyo-to, Japan, assignors to Toko Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed June 2, 1965, Ser. No. 460,623

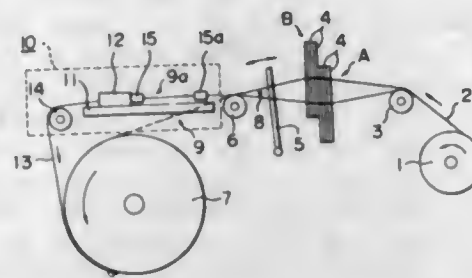
Claims priority, application Japan, June 5, 1964,

39/31,800

1 Claim. (Cl. 139—304)

In a power loom for weaving magnetic memory devices, a take-up mechanism operable with a cloth beam drum for taking up individual woven memory devices formed from continuous warp wires, the improvements which comprise, in combination, a moving head disposed above the cloth beam drum and adapted to be translationally movable in a direction perpendicular to the axis of said drum, a pair of rails mounting said head and op-

erative to limit its length of travel; a first clamp for clamping said warp wires at one end of said memory device; a second clamp for clamping said warp wires at the opposite end of said memory device; said first and second clamps being interchangeably connectable to and disconnectable from said moving head, said first clamp being



connected to said head while the desired fabric length is drawn off where upon the memory device is removed from the loom; and a flexible member attached to said moving head and anchored to the circumferential surface of the cloth beam drum thereby causing the head to move in register with the cloth beam drum.

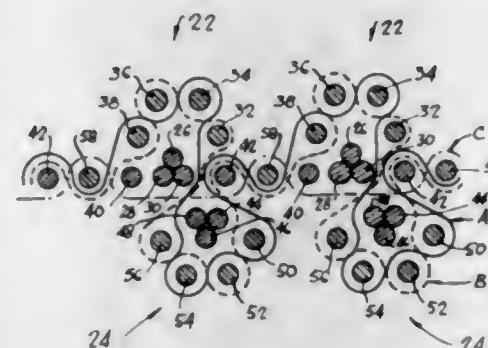
3,342,222

REVERSIBLE REINFORCED WOVEN FABRIC

George F. Sperry, Granby, Quebec, Canada, assignor to Dominion Corset Company Limited, Quebec, Quebec, Canada

Filed Feb. 14, 1966, Ser. No. 527,236

7 Claims. (Cl. 139—384)



1. A stiffened woven fabric comprising warp and weft threads, said fabric having parallel stiffening ridges extending outwardly and consecutively from the upper and lower surfaces thereof and in weft-wise directions, each of said stiffening ridges comprising a plurality of weft core threads grouped in parallel relation and substantially covered by a plurality of weft cover threads, and locking weft threads positioned on each side of the upper groups of said core threads, certain of said warp threads being interwoven with said locking threads and said cover threads and the remainder of said warp threads being interwoven with said locking threads and floated under said upper core threads and over said lower core threads to securely lock said core threads between said warp threads, said fabric characterized by relative stiffness on both sides in a weft-wise direction and relative pliability in a warp-wise direction.

3,342,223

METHOD AND APPARATUS FOR FORMING A WIRE TIE

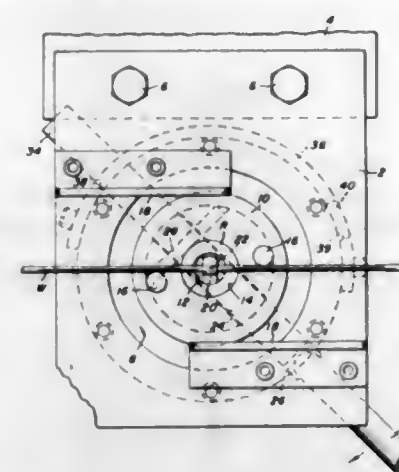
Marchand B. Hall, Olympia Fields, John P. Long, Park Forest, and Edward W. Schultz, Homewood, Ill., assignors to United States Steel Corporation, a corporation of Delaware

Filed May 6, 1965, Ser. No. 453,767

5 Claims. (Cl. 140—71)

1. Apparatus for forming a loop in a wire and securing it with a ring which comprises a base plate, a cylinder hav-

ing an upper and lower end sunk through said base plate and rotatable therein, spaced bending pins upstanding from the upper end of said cylinder, said cylinder having a central bore therethrough, a hook rod reciprocable axially in said bore and normally projecting above said upper end



so as to engage a length of wire laid thereacross, the lower end of the cylinder having a diametral slot, a lever fitted in said slot and pivoted to said cylinder for turning it, a pair of spaced walls upstanding on said base plate on opposite sides of said cylinder, and a link pivoted to said lever and said rod for actuating the latter.

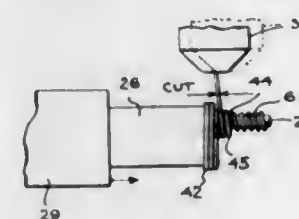
3,342,224

APPARATUS FOR FABRICATING FILAMENT SUPPORT LOOPS

Robert M. Brady, Hazlet, Charles W. Hawkey, Caldwell, and John E. Kirby, Hazlet, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 20, 1964, Ser. No. 361,176

5 Claims. (Cl. 140—71.5)



1. An apparatus for producing a continuous arcuate support for an elongated filament from a supply source of wire, which apparatus comprises;

- a shaft provided with an eccentric passageway therethrough for the longitudinal movement of said elongated filament,
- a die at the end of said shaft provided with a slot and having an arcuate segment on its face adjacent said slot of diminishing thickness tapering away from the latter,
- drive means carried by said apparatus and under control of an operator to cause rotation of said shaft and its die end through a predetermined number of revolutions, and
- a guide member operable in response to operation of said drive means for guiding the end of a length of wire into said slot and over the peripheral end of said die and the arcuate segment on the face thereof, then down and around a filament projecting from the eccentric passageway in said shaft first in one direction over a segment of said filament then in the opposite direction over the same segment as the fila-

ment is rotated the several revolutions in response to operation of said drive means, to form an arcuate support secured to and surrounding said filament.

3,342,225

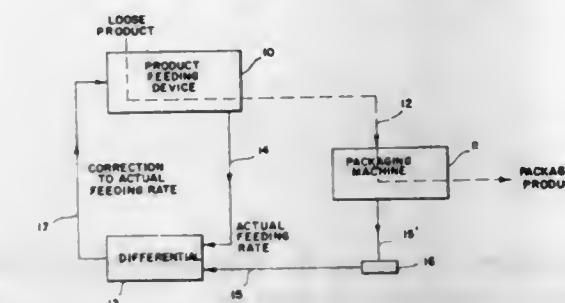
AUTOMATIC FEED CONTROL SYSTEM

Stewart B. Blodgett, Houston, Tex., assignor to

Mirapak Incorporated, Houston, Tex.

Filed Nov. 5, 1965, Ser. No. 506,559

18 Claims. (Cl. 141—1)



1. A method for controlling the actual feeding rate of product from a feeding apparatus to a cyclically operable packaging machine having an available feeding time comprising the steps of generating a first signal indicating the available feeding time of the packaging machine, generating a second signal indicating the actual feed time of the feeding apparatus, comparing the first and second signals to obtain a third signal proportional to the difference between the actual feed time and the available feeding time, changing the said actual feed rate in response to the said third signal by an amount proportional to the third signal so that the actual feed time will approach the said available feeding time.

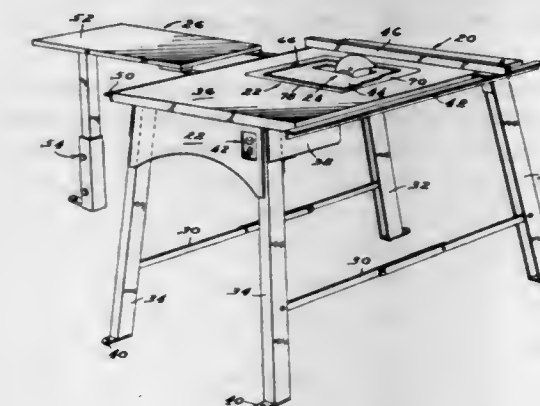
3,342,226

COLLAPSIBLE WORK TABLE

Henry J. Marcoux, 672 Chestnut, and Bertrand Marcoux, 931 3rd St., both of Wyandotte, Mich. 48192

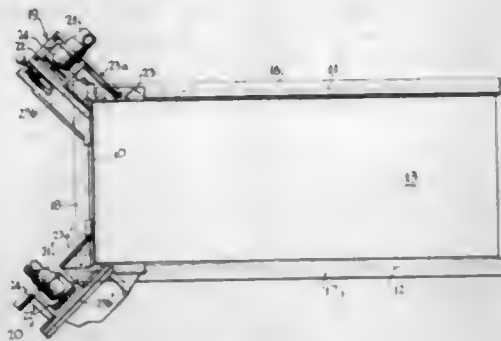
Filed Apr. 29, 1966, Ser. No. 546,373

4 Claims. (Cl. 144—286)



1. A portable work bench, comprising: a top member having a configured opening including at least one underlying marginal edge portion, an adaptor frame received within said top member opening and supported on said marginal edge, said adaptor frame having a configured opening including at least one underlying marginal edge, said adaptor frame opening configured to receive and operably support a particular commercial power tool, a first locking means releasably locking said adaptor frame within said top member opening, and a second locking means adapted to releasably lock a power tool supported in said adaptor frame opening.

3,342,227
SYSTEM FOR CUTTING TRIM MEMBERS AND DOOR STOPS AND ASSEMBLING SAME
 Warren B. Zern, 1016 N. Evans and Mineral Sts., Pottstown, Pa. 19464
 Filed Oct. 2, 1964, Ser. No. 401,170
 63 Claims. (Cl. 144—314)



1. The method of cutting the trim members for doors and windows comprising the steps of:
 supporting a pair of side trim members parallel to each other and in a common plane in the relative positions they will have in their normal installation, supporting a head trim member in a plane parallel to the plane of the side trim members with the head trim member extending across the upper ends of the side trim members and being perpendicular thereto, the head trim member being positioned beyond its normal assembled head position with respect to the side trim members by a predetermined amount corresponding to the thickness of a cutting member, and concurrently cutting miters on at least one end of the head trim member and the adjacent side trim member while the trim members are in their supported positions.

3,342,228
NAILING DEVICE
 William E. Reid, 4566 Freeway Circle, Sacramento, Calif. 95841
 Filed Oct. 20, 1965, Ser. No. 498,898
 1 Claim. (Cl. 145—46)



In a nailing device, a hollow elongated tubular member, a solid relatively heavy rod reciprocable within said tubular member, knob means forming a handle on one end of said rod, magnetic nail-holding means on the other end of said rod, and latch means to prevent inadvertent reciprocation of said rod relative to said tubular member, said latch means comprising a lug projecting radially and outwardly from said tubular member and spaced inwardly from that end of said tubular member adjacent said knob means, an elongated detent lever, means pivotally connecting one end of said detent lever on said lug with the other end of said detent lever extending axially of said tubular member towards said knob means, a protuberance formed on said knob means, and means on said other end of said detent lever releasably engageable with said protuberance.

3,342,229
RATCHET HANDLE SCREWDRIVER
 Igor Janes, 372 Cobden St., Sarnia, Ontario, Canada
 Filed Oct. 21, 1965, Ser. No. 499,879
 7 Claims. (Cl. 145—71)

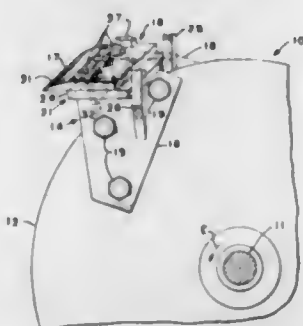
1. A ratchet handle tool comprising in combination a first generally cylindrical handle provided with a longi-

tudinally disposed recess adjacent one end, a bushing secured in said recess, said bushing including an integral flange disposed outwardly of said recess, a pawl means rotatably secured to said flange on said bushing, a second handle pivotally secured to said pawl means for movement from a first non-rotatable position contiguous with said first handle to a second position whereby said handle



is adapted to be rotated through a plane at generally right angles to the axis of rotation of said pawl means, and whereby said second handle may be utilized to rotate said pawl means independently of the rotation of said first handle means; a tool shank means rotatably received in said bushing, said tool shank means including an integral ratchet wheel adapted to be acted upon by said pawl means to be rotated thereby.

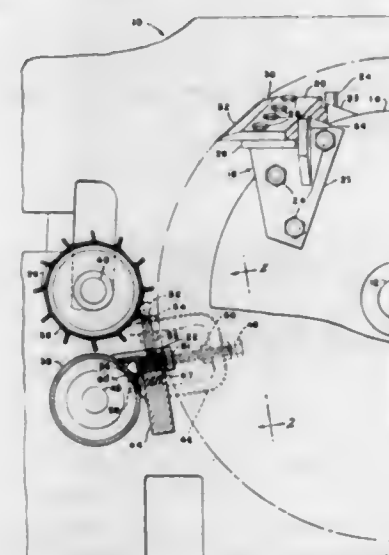
3,342,230
FORAGE HARVESTER HAVING DETACHABLE FAN ELEMENTS
 Thomas W. Waldrop, Ronks, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
 Filed June 2, 1965, Ser. No. 460,735
 5 Claims. (Cl. 146—107)



1. A forage harvester cutter comprising a rotatable shaft, disc means mounted on said shaft and extending outwardly relative thereto, at least two brackets on said disc means radially outwardly of said shaft and spaced relative to each other in an axial direction relative to the shaft, a thick flat support plate generally rectangular in cross section and extending between said brackets and having ends supported thereon, said support plate projecting generally tangentially relative to said disc means, a flat knife mounted on one flat side of said support plate and coextensive therewith, means connecting said knife to said support plate, said knife having a section projecting outwardly of said support plate and said section having a cutting edge, said support plate having an end wall adjacent said knife section generally perpendicular to the knife, said wall being inwardly of and behind said cutting

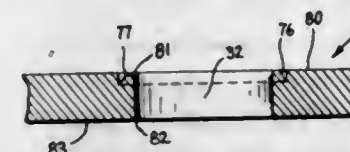
edge relative to the direction of travel of said shaft, a fan element mounted on the side of said support plate opposite said one side and having a front face adjacent and generally coextensive with said end wall, and means for detachably connecting said fan element to said support plate whereby when said element is in place the blowing action of said cutter is increased and when removed said opposite side of said support plate is substantially unobstructed.

3,342,231
FORAGE HARVESTER
 Thomas W. Waldrop, Ronks, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
 Filed Aug. 3, 1965, Ser. No. 476,791
 8 Claims. (Cl. 146—120)



4. A forage harvester comprising in combination a rotatably mounted cutter, an axially extending knife which generates a cylinder on rotation, a pair of feed rolls for feeding crop material to said cutter, said rolls being parallel to one another and spaced one above the other, said rolls being spaced radially outward from said cylinder, a shear bar support mounted between said feed rolls and said cylinder, a shear bar on a top side of said support for cooperation with said knife, a scraper mounted on a generally vertically extending side of said support for removing material from one of said feed rolls, said scraper being adjustable relative to said support, and clamp means on said shear bar support for adjustably holding said shear bar in a given position on the support, and said scraper and shear bar being adjustable independently of each other.

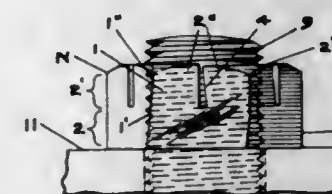
3,342,232
CUTTER PLATE
 Larry M. Tipton, 4224 Linden Lane, Anderson, Ind. 46011
 Original application Dec. 11, 1963, Ser. No. 329,669, now Patent No. 3,286,551, dated Nov. 22, 1966. Divided and this application July 21, 1966, Ser. No. 581,122
 3 Claims. (Cl. 146—189)



1. A cutter plate for use in a food chopper or the like comprising a plate having an opening therethrough, said plate having an annular recess on one face thereof surrounding said opening, said face being flat with the por-

tion exterior of said recess aligned with the portion interior thereof to define a sharp edge at the junction of the opening and the face.

3,342,233
LOCK NUT
 Michael M. Meisel, 5021 Palmer Ave., Baltimore, Md. 21215
 Filed June 25, 1965, Ser. No. 466,929
 12 Claims. (Cl. 151—21)



1. A self-locking nut in which the nut is formed with a rigid integral body portion having a non-circular outer side and a central threaded opening for engaging an external threaded element in which the non-circular outer side is adapted to be engaged by a wrench element having at least two opposite jaws in parallel planes, wherein:

(a) one end of the body portion of the nut is provided with substantially vertical lateral slots extending from the central threaded bore outwardly through the rigid body portion to the outer side surface thereof;

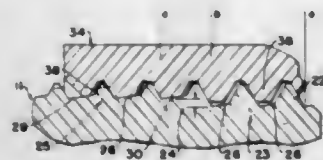
(b) the outer side surface of the nut being formed with a plurality of oppositely disposed substantially flat sides, substantially parallel with the axis of the central threaded opening and positioned at predetermined angles substantially transverse to the said axis and in which the planes of the adjacent sides intersect each other;

(c) the intersecting planes and the respective adjacent sides terminating in lined edges, the lined edges extending throughout the slotted and unslotted area of the nut, each lined edge of the nut extending at a slight angle from its end in the unslotted portion of the nut to its end in the slotted portion, the angle of each of the lined edges being substantially equal to each other and extending in the same direction as the direction of the thread; thereby allowing a wrench in a wrenching action to exert more initial pressure to at least one pair of diametrically opposed edges of the flat surfaces of the slotted end of the nut in which the wrench jaws are initially in contact to move the contacted slotted portions of the nut inwardly and forwardly in relation to the central opening to lock the nut to the external threaded element when the nut is force wrenching to a substantially rigid support for the external threaded element.

3,342,234
SELF-LOCKING SCREW
 Edwin R. Evans, deceased, late of Orchard Lake, Mich., by The Detroit Bank and Trust Co., executor, Detroit, Mich., a corporation of Michigan, assignor to Lock Thread Corporation, Detroit, Mich., a corporation of Delaware
 Filed Feb. 9, 1966, Ser. No. 531,653
 10 Claims. (Cl. 151—22)

4. A self-locking screw having a continuous external generally helical male thread including a starting portion adjacent one end of said screw, a body portion, and a ramp portion between said starting and body portions, said thread continuing throughout each of said portions, a female member having an aperture and having a pre-formed continuous internal female thread mating with said male thread, the root of said starting portion being of

reduced cross-section relative to the root of said body portion, the root of said body portion in each of a plurality of convolutions adjacent said ramp portion being of arcuate non-circular cross-section having a plurality of convex arcuately curved lobes and intermediate sides, in each of said plurality of convolutions said lobes being located farther outward from the axial center of said screw than said sides, said lobes and sides merging and blending gradually with one another to provide a substantially smooth, gently relieved form free of sharp edges and projections, the root of said ramp portion connecting the roots of said body portion and starting portion, said root of said ramp portion being of arcuate non-circular cross-section having a plurality of convex arcuately curved lobes and intermediate sides, said second-mentioned lobes being located progressively farther outward from the axial center of said screw from said starting portion to said body portion to provide said root of said ramp portion with a generally radially outward taper from said starting portion to said body portion, said second-mentioned intermediate sides being radially inwardly relieved relative to the line



of taper provided by said second-mentioned lobes, said second-mentioned lobes and sides merging and blending gradually with one another to provide a substantially smooth, gently relieved form free of sharp edges and projections, said root of said ramp portion being substantially symmetrical in cross-section with the root of said body portion in said plurality of convolutions adjacent said ramp portion, the crest of said female thread extending generally helically and having interference with at least some of said lobes but being relieved from said intermediate sides, said radially outermost lobe in said ramp portion being located substantially no farther outward from the axial center of said screw than said first-mentioned lobes, the root of said male thread being of substantial width measured axially to provide broad load-bearing surfaces, and a continuous space for receiving displaced metal between one of the flanks of said male thread and the confronting flank of said female thread, said male thread in said starting portion being substantially full-formed and of substantial height to assure proper starting in said female thread.

3,342,235

ASSEMBLED THREADED FASTENER UNITS
Michael Pylpyshyn, Bloomfield, N.J., assignor to Triangle Tool Company, Union, N.J., a corporation of New Jersey

Filed Jan. 25, 1966, Ser. No. 522,914

7 Claims. (Cl. 151-37)

1. An assembled lock washer and threaded fastener unit wherein the lock washer is maintained in assembled relationship with the fastener adjacent a lower surface thereof, the lock washer being positively retained against disassembly from the fastener and readily rotatable relative thereto, said unit comprising:

a fastener member including a body having an outer periphery and an axially extending screw-threaded portion displaced radially inwardly of said outer periphery, the lower surface of the body extending between an inner boundary at the screw-threaded portion and an outer boundary at the outer periphery, the lower surface including

a recess having a lowermost mouth and extending axially upwardly into the body from the mouth and radially from one of the lower surface boundaries

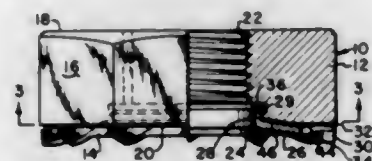
toward the other of the lower surface boundaries to an axially directed peripheral margin,

a clamping surface lying in a generally radial plane displaced axially below the mouth of the recess and extending from said other of the lower surface boundaries toward said one of the lower surface boundaries, and

a lock washer having a unitary body with a central opening and an outer periphery and including therebetween

a first, generally annular, frusto-conical body portion extending between radially inner and outer peripheries, the first body portion of the lock washer having a radial extent and an apical angle,

a second body portion integral with one periphery of the first body portion and extending generally axially therefrom upwardly through the mouth of the recess in the lower surface of the fastener member body, said second body portion including a flange displaced axially above the first body portion and projecting radially toward the other periphery of the first body portion and toward the peripheral margin of the recess, and



locking teeth integral with the other periphery of the first body portion, projecting radially therefrom at least partially coextensive with the clamping surface of the fastener member and being twisted relative thereto about an axis projecting substantially parallel to the first body portion to present upper and lower locking edges displaced axially from the first body portion;

means integral with the fastener member body at the mouth of the recess therein and projecting radially beneath the flange of the second body portion of the lock washer about the peripheral margin of the recess along a portion thereof sufficient to retain the lock washer against disassembly from the fastener member; and

a frusto-conical surface on the fastener member body extending upwardly from the clamping surface to the mouth of the recess, the frusto-conical surface defining an apical angle corresponding to the apical angle of the first body portion of the lock washer and having a radial extent corresponding to the extent of the first body portion of the lock washer between the inner and outer peripheries thereof;

the apical angle of the first body portion of the lock washer and the corresponding apical angle of the frusto-conical surface of the fastener member body being chosen to maintain the upper locking edges of the locking teeth of the lock washer below the radial plane of the clamping surface and clear of the clamping surface to permit rotation of the lock washer relative to the fastener member.

3,342,236

SELF-LOCKING BOLT

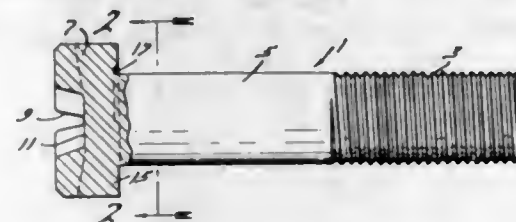
Samuel K. Clark, Ann Arbor, Mich., assignor to Isabel Place, Beverly Hills, Calif.

Filed Mar. 7, 1966, Ser. No. 536,552

14 Claims. (Cl. 151-38)

1. A self-locking bolt or the like comprising a head and a shank, said shank being coaxial with the head and of circular cross section at its juncture with the head, said

head having a bottom face providing a bearing surface lying perpendicular to the axis of the bolt, said bottom face having a substantially semi-circular recess therein and extending axially a substantial distance into the head



at the juncture of said bottom face with the shank and serving to unbalance the head so that one side of said bolt provides a substantially different resistance to bending under axial load than the other side.

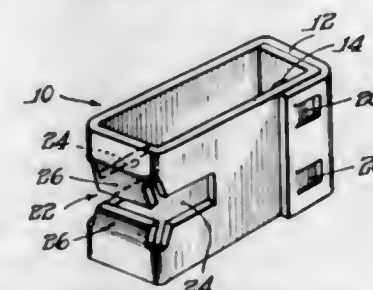
3,342,237

ATTACHABLE FASTENER DEVICE

Clarence L. Meehan, Itasca, Ill., assignor to Illinois Tool Works, Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 502,915

3 Claims. (Cl. 151-41.75)



1. An attachable fastener device for attaching a fastener shank relative to a rib shaped protuberance on a wall comprising a longitudinal body member having a bifurcated portion at one end slideable over a rib, first integral locking means formed on at least one side of said bifurcated portion, said first locking means being formed at an angle relative to the rib so as to be slideable over the rib when moved in one direction and movable into wedging engagement with the rib to resist movement in the opposite direction, said fastener device having a pair of openings formed therein at points disposed from the bifurcated end portion, said openings having their edges peripherally continuous and aligned in face to face relationship and at least one of said openings being provided with an impression for accommodating and retaining the shank of a fastener, and second locking means formed adjacent said openings for retaining said openings in face to face relation.

3,342,238

SYNTHETIC RUBBER TIRE AND ADHESIVE THEREFOR

Kermil V. Weinstock, Silver Lake, and Emert S. Pfau, Cuyahoga Falls, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 8, 1962, Ser. No. 193,304

14 Claims. (Cl. 152-330)

1. A tread adhesive composition for synthetic rubber tires which comprises 100 parts by weight of a rubbery hydrocarbon polymerization product of at least a major proportion of a conjugated diolefinic compound of not in excess of 8 carbon atoms, said polymerization product having a raw computed Mooney viscosity of about 120 to 200, about 40 to 90 parts by weight of high abrasion furnace carbon black having an average surface area of at least about 74 to 98 square meters per gram, up to 40 parts by weight of an added compatible liquid hydrocarbon plasticizer oil, and at least about 20 to 80 parts by weight of a compatible tackifying resinous material

which is soluble in benzene and is selected from the group consisting of condensation products of acetylene and at least one phenol which consists only of carbon, oxygen and hydrogen atoms and which is open in more than one of the ortho and para positions; condensation products of an aliphatic aldehyde having no more than two carbon atoms and at least one phenol which consists only of carbon, oxygen and hydrogen atoms and which is open in more than one of the ortho and para positions; rosins; indene resins; coumarone resins; and mixtures thereof.

9. A vulcanized synthetic rubber tire, said tire when unvulcanized having uncured portions joined by a thin layer of a vulcanizable, self-adhering rubber cement compound of high film strength interposed between said portions, said cement compound comprising 100 parts by weight of a rubbery synthetic hydrocarbon polymerization product of a conjugated diolefinic compound of not in excess of eight carbon atoms having a raw computed Mooney viscosity of 120 to 150, said polymerization product being the copolymer of said conjugated diolefinic compound and a copolymerizable monoolefinic compound, the atoms forming said polymerization product being obtained principally from said conjugated diolefinic compound, about 40 to 90 parts by weight of high abrasion furnace carbon black having an average surface area of at least about 74 to 98 square meters per gram, about 10 to 20 parts by weight of a compatible hydrocarbon oil, said oil being liquid at normal temperatures and having a volatility such that when placed in an open cup for a few hours in an atmosphere maintained at a temperature of 300° F. the volatile loss will be not substantially greater than about 25 percent, and about 30 to 50 parts by weight of a compatible tackifying resinous material that is soluble in pure benzene, the amount by weight of resinous material being at least twice the amount of oil, said resinous material being selected from one group consisting of a condensation product of acetylene and at least one phenol which consists only of carbon, oxygen and hydrogen atoms and which is open in more than one of the ortho and para positions; condensation products of an aliphatic aldehyde having no more than two carbon atoms and at least one phenol which consists only of carbon, oxygen and hydrogen atoms and which is open in more than one of the ortho and para positions; rosins; indene resins; coumarone resins; and mixtures thereof, the total amount of oil and any other plasticizers in said cement compound not exceeding about 50 parts by weight.

3,342,239

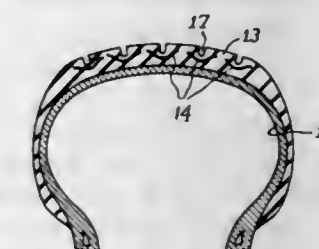
PNEUMATIC TIRE CASES, PARTICULARLY FOR AIRPLANES

Jean Francis Olgner, Levallois, France, assignor to Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber-Colombes, Colombes, Seine, France, a corporation of France

Filed June 21, 1965, Ser. No. 465,647

Claims priority, application France, June 24, 1964, 979,530

8 Claims. (Cl. 152-361)



1. A pneumatic tire casing having a carcass and a circumferentially ribbed and grooved rubber tread, comprising at least one reinforcing tread ply of cords embedded

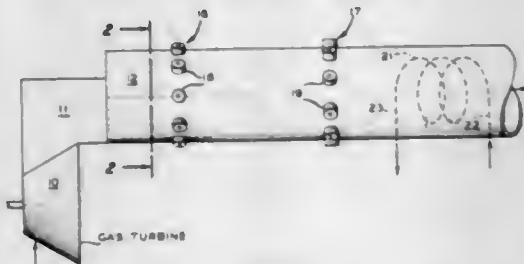
within the tread rubber, said at least one tread ply being interrupted in the transverse direction at at least one point located approximately below the center of a selected rib of said tread, to form a plurality of bands extending toward the center of at least said selected rib and curving inwards below an adjacent tread groove but remaining entirely embedded within the tread rubber.

3,342,240
TUBELESS TIRE REPAIR MEANS
Robert L. Williams, 1815 Skylark,
Arlington, Tex. 76010
Filed Oct. 8, 1965, Ser. No. 494,098
5 Claims. (Cl. 152—370)



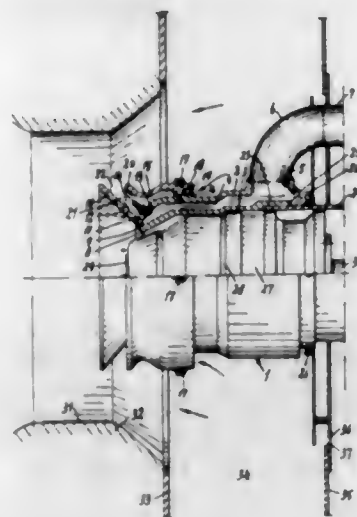
1. A tire repair device comprised of a cylindrical plug of resilient material having inner and outer ends, a frangible capsule containing a solvent at the outer end of said plug, a flexible tubular cover enclosing said plug and said capsule, and grip means integral with said cover outwardly of said capsule.

3,342,241
COMBUSTION APPARATUS
John S. Whitesides, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 18, 1965, Ser. No. 496,993
6 Claims. (Cl. 158—7)



1. Apparatus for recovering waste heat from exhaust gases comprising duct means adapted to be connected to a gas turbine for receiving and transmitting exhaust gases therefrom; a first bank of burners carried by the walls of said duct means and arranged in a substantially common plane substantially transverse therewith; a second bank of burners positioned downstream from said first bank of burners and carried by the walls of said duct means and arranged in a substantially common plane substantially transverse therewith, each of the burners in said first and said second banks of burners comprising a cylinder carried by the inner surface of said duct means, a conduit carried exteriorly of said duct means in fluid communication with said cylinder, means connected to said conduit for supplying a combustible mixture of fuel and air thereto, and means within said conduit for projecting fuel into said cylinder and said duct means; means connected to said first and said second banks of burners for supplying fuel thereto; and heat exchange means connected to said duct means downstream from said second bank of burners for recovering the heat in the exhaust gases passing through said duct means.

3,342,242
GAS AND OIL BURNER
Hendrik Nicolaas Verloop, Amsterdam, Netherlands, assignor to Ingenieursbureau Rodenhuis en Verloop N.V., Amsterdam, Netherlands
Filed July 7, 1966, Ser. No. 563,455
Claims priority, application Netherlands, July 12, 1965, 65—8,929
15 Claims. (Cl. 158—11)

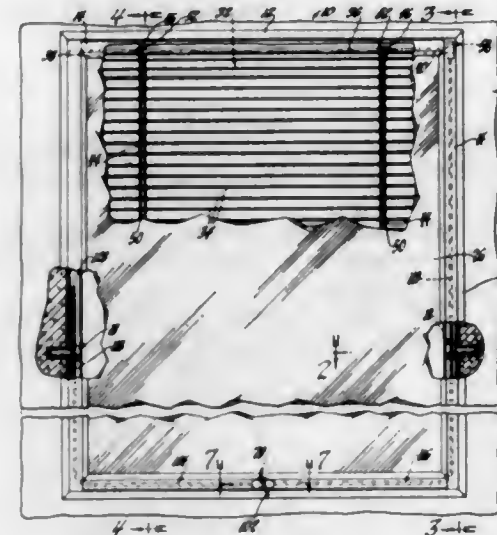


1. A gas burner for discharging burning gas into a flow of combustion air for said gas, comprising a substantially cylindrical shell having at its forward end a forwardly diverging cone-shaped part; an air guiding sleeve member arranged concentrically about and radially spaced from said shell to the rear of said shell cone part, said sleeve at its rear end enclosing with the wall of said shell an annular air inlet opening and said sleeve having at its forward end a conical forwardly diverging portion enclosing with the rear side of said shell cone part a mixing chamber with an annular forwardly and radially outwardly directed outlet opening; gas conduit means; and gas discharge means connected to said conduit means and arranged circumferentially in said shell to the rear of said shell cone part for admitting burning gas into said mixing chamber, said gas discharge means being adapted to discharge a substantially annular gas flow diverging forwardly in the direction of said annular outlet opening; whereby when said combustion air is caused to flow axially forwardly of the burner and circumferentially about said shell and sleeve thereof, part of said air flow enters said air inlet opening to be guided by said sleeve towards said mixing chamber and past said gas discharge means in said chamber, the resulting gas-air mixture flowing outwardly to be burned at said outlet opening.

3,342,243
WINDOW ASSEMBLY
Albert F. Salter, Hatfield, Pa., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed May 25, 1965, Ser. No. 458,560
9 Claims. (Cl. 160—107)

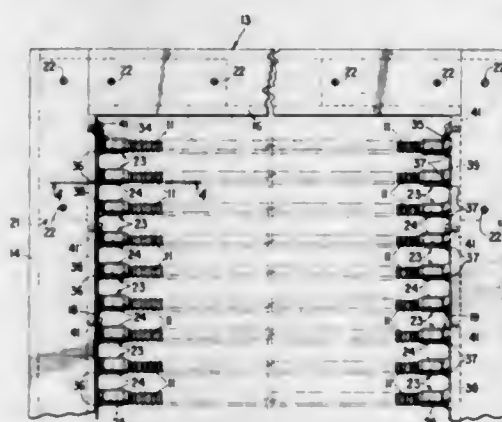
1. A window assembly comprising: a window casing; a window frame supporting a pair of spaced window panes; mount means for rotatably mounting said window frame in said window casing; a Venetian blind disposed between said panes and secured to said frame, said Venetian blind having a plurality of slats; control means operatively interconnecting said slats for opening and closing said slats upon actuation thereof and for raising and lowering the lower end of said blind upon actuation thereof; driven means attached to said window frame for actuating said control means; drive means disposed on the opposite side of said mount means from said driven means; and motion transmitting means operatively inter-

connecting said drive means and said driven means and including, a flexible motion transmitting cable engaging said drive means and extending along said window frame between said panes and then about said mount means to engage said driven means whereby upon actuation of said drive means said cable is moved to actuate said driven means for actuating said control means; a pair of flexible conduits having first ends thereof supported adjacent said driven means and having second ends thereof supported adjacent said drive means and extending about said mount means in said window frame; said flexible motion transmitting cable being movably disposed in said conduit; said mount means rotatably interconnecting said



window frame and said window casing on each side of said window frame to mount said window frame for rotation about a horizontal axis; said control means including a shaft rotatably disposed at the ends thereof in opposite sides of said window frame; said driven means including a first pulley operatively attached to said shaft and having a groove disposed circumferentially thereabout with gear teeth means disposed at spaced intervals along said groove; said drive means including a second pulley having a groove disposed circumferentially thereabout with gear teeth means disposed at spaced intervals along said groove; said cable having means disposed thereabout for defining gear means engageable with said gear teeth means in said groove of each of said pulleys.

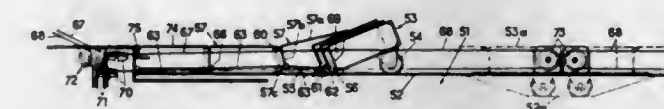
3,342,244
LOUVERED SCREEN
Edward C. Streeter, Jr., New York, N.Y.
(39 Olin St., Ocean Grove, N.J. 07756)
Filed May 26, 1965, Ser. No. 458,970
9 Claims. (Cl. 160—107)



1. A louvered screen comprising parallel, transversely spaced non-contiguous elongated free-span louvers of corrugated metallic foil, the axis of said corrugations extend-

ing parallel to the width of said louvers rendering said louvers longitudinally resilient, and means for tensioning said louvers longitudinally.

3,342,245
RETRACTABLE PANEL FOR CLOSING HORIZONTAL OR SUBSTANTIALLY HORIZONTAL OPENINGS
René Charles Caillet, 26 Rue de la Republique,
Saint-Germain-en-Laye, France
Filed Sept. 30, 1963, Ser. No. 312,668
Claims priority, application Luxembourg, Oct. 2, 1962, 42,461; May 9, 1963, 43,715
7 Claims. (Cl. 160—193)



1. A sectional sliding cover for a hatchway, said cover having a fixed end and a free end and comprising a plurality of panels mounted to slide in a common direction across said hatchway between a closed position in which said panels lie parallel to each other in a common plane to close the hatchway and an open position in which a plurality of said panels are stacked on the panel at said free end, thus leaving at least a portion of said hatchway uncovered, extensible connector means interconnecting each pair of adjacent panels which, when extended, prevents lateral separation of said adjacent panels when they lie side by side in said common plane but, when collapsed, permits stacking of said panels one upon the other, a pawl carried by each panel except the one at said free end, stop means positioned to be engaged by each pawl when the panel carrying said pawl is in stacked position, each pawl being mounted to normally engage said stop means, and thereby retain said last mentioned panel in stacked position, and said connector means being connected to release the pawl on a stacked panel to which said connector means is attached when, but only when, said connector means is in its extended position.

3,342,246
GUIDE ASSEMBLY FOR BIFOLDING DOORS
Edmund F. Reiss, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 8, 1965, Ser. No. 430,947
8 Claims. (Cl. 160—195)

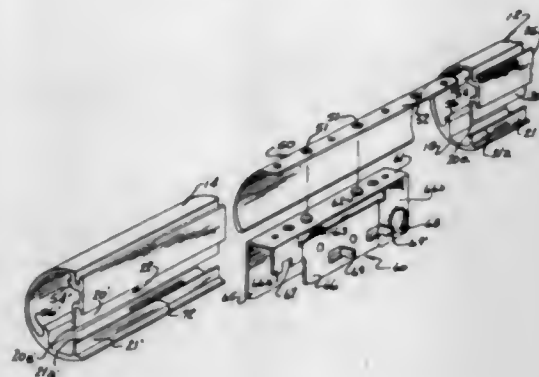


5. In a guide assembly having a door guide mountable on a bifold door for controlling the movement thereof, an elongated hollow track comprising an outer telescoping track member, an inner telescoping track member received within the outer track member for relative sliding movement, a pair of side walls longitudinally extending in spaced opposed parallel relationship on each track member forming a longitudinal guide slot in the track for receiving the door guide, confronting surfaces of the side walls on the outer track member being in coplanar alignment with the corresponding confronting sur-

faces of the side walls on the inner track member to define uninterrupted sides for the guide slot engageable with the door guide, and biasing means disposed between the track members opposite the guide slot and urging the track members into direct contact to prevent the track from rattling.

3,342,247

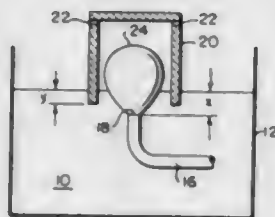
SUPPORT FOR DRAPERIES AND THE LIKE
Joseph V. Graber and Ferdinand F. Salzmann, Madison, Wis., assignors to Graber Manufacturing Company, Inc., Middleton, Wis., a corporation of Wisconsin
Filed July 23, 1965, Ser. No. 474,397
15 Claims. (Cl. 160—345)



1. A support for draperies and the like comprising a rod including first and second tubular members having matching exterior faces and abutted end to end, each said tubular member having a longitudinal slot therein, said longitudinal slots arranged in substantial alignment to provide a continuous slot extending generally the full length of the rod, a plurality of holders slidably mounted on the rod and each having a portion projecting through said slot, an elongate splice member shaped for engaging a portion of the inner wall of each tubular member in an area adjacent said abutted ends, and at least one longitudinal projection on each tubular member for engaging the splice member and holding the same in a position spaced from said longitudinal slots to allow free movement of said holders past at least a portion of said splice.

3,342,248

METHOD OF BLOWING ALUMINUM
Laszlo J. Bonis, Brookline, and August F. Witt, Arlington, Mass., assignors to Ilikon Corporation, Natick, Mass., a corporation of Delaware
Filed May 14, 1964, Ser. No. 381,278
33 Claims. (Cl. 164—55)



8. A method of fabricating a hollow metal article from a liquid bath of a molten metal which method comprises: blowing a bubble of the molten metal expanding above the surface of the bath from a controlled depth beneath the surface of the molten metal employing a predetermined volume of gas under pressure to form the bubble; forming the molten bubble so blown into a hollow article of the desired shape; and solidifying the formed bubble.

3,342,249

METHOD OF COATING A METALLIC MOLD SURFACE WITH A BORON CONTAINING COMPOUND

William L. Ulmer, 2480 Kenilworth Road, Cleveland, Ohio 44106, and Harry W. McQuaid, Cleveland, Ohio; said McQuaid assignor to said Ulmer
No Drawing. Continuation of application Ser. No. 206,178, June 29, 1962. This application May 23, 1966, Ser. No. 551,942
5 Claims. (Cl. 164—72)

5. A method of coating the inner surface of a mold for molten metal with a continuous film comprising the following steps:

- providing a flame containing a suspension of boric oxide; and
- pouring molten metal through said flame into said mold.

3,342,250

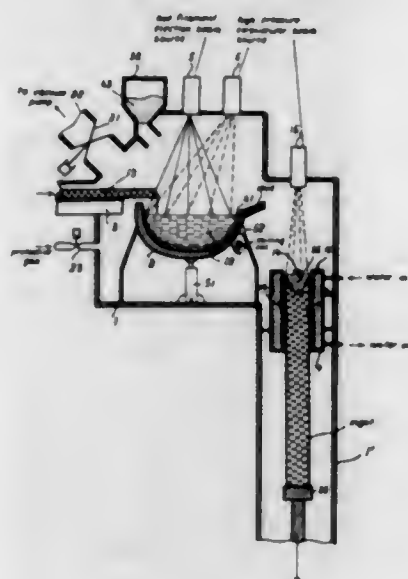
METHOD OF AND APPARATUS FOR VACUUM MELTING AND TEEMING STEEL AND STEEL-LIKE ALLOYS

Helmut Treppschuh and Robert L. Hentrich, Geisweid, Germany, assignors to Stahlwerke Sudwestfalen AG., Geisweid, Germany

Filed Nov. 9, 1964, Ser. No. 409,712

Claims priority, application Germany, Nov. 8, 1963, St 21,298

24 Claims. (Cl. 164—50)



8. A method of refining metals, especially steel and alloys, which includes the steps of: in a vacuum purely electron heating the melt to be refined for eliminating volatilizable impurities by evaporation and subsequently stopping the said electron heating and subjecting the thus treated melt to a heating at least partially by ion beams.

10. An apparatus for refining metals, especially steel and alloys, which includes: closed vacuum-tight furnace means, crucible means arranged within said furnace means and adapted to receive material to be refined, first material supply means adapted to be connected to said crucible means for furnishing thereto the basic material to be refined, second material supply means adapted selectively to be connected to said crucible means for conveying alloying constituents thereto, gas exhaust conduit means associated with said furnace means for selectively creating therein an absolute pressure of not exceeding 100 millitorrs, electron heating means connected to said furnace means for selective electron heating the contents in said crucible means, and plasma heating means likewise associated with said furnace means and operable selectively to be made effective and ineffective for selective plasma heating of the contents of said crucible means.

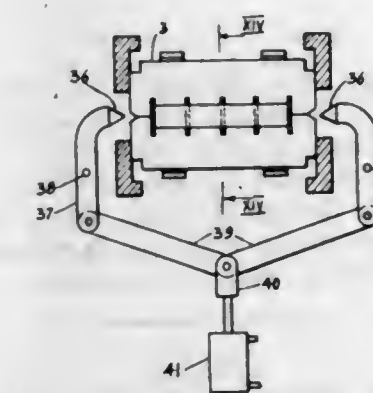
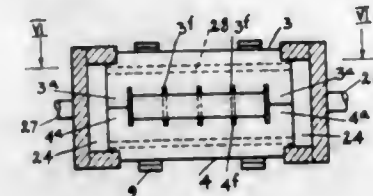
3,342,251

APPARATUS FOR CASTING OF SECTIONS WITH PARALLEL MEMBERS AND TRANSVERSE CONNECTIONS

Harry S. Nagin, Bala Cynwyd, and William H. Parmelee, Bethel Park, Pa., assignors to Reliance Steel Products Company, McKeesport, Pa., a corporation of Pennsylvania

Filed June 3, 1965, Ser. No. 460,984

7 Claims. (Cl. 164—279)



1. Apparatus for casting load-carrying structures having parallel longitudinal portions and cross-over portions connecting the longitudinal portions comprising:

- a supporting structure having rigid guide means with an entering end and a discharge end,
- a lower series of mold elements movable along and supported in a plane on said guide means with the mold elements in tightly abutting contact with one another

- each of said mold elements of the lower series having marginal end portions on its upper face at each end and extending across the mold element parallel with the direction of travel thereof and in longitudinal alignment with similar marginal end portions of the mold elements of said lower series,
- each of said lower mold elements having at least two parallel cavities extending thereacross in its upper face parallel with the direction of travel of the mold elements and in alignment with the corresponding cavities of the other mold elements of the lower series,
- an upper series of mold elements, each of which is coextensive in overall size and shape with the lower series movable in the same direction as the lower series along said guide means and supported in a plane in tightly abutting relation with each other, the mold elements of the upper series being confined by the supporting means with their lower faces in confronting relation to the mold elements of the lower series, each mold element of the upper series having

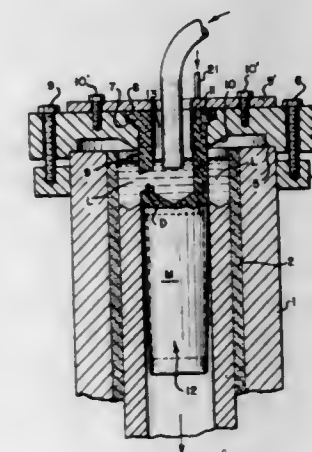
- marginal end portions on each end extending thereacross parallel with the direction of travel of the mold elements of the lower series and in contacting engagement with said marginal portions of the lower series forming therewith continuous molten metal-retaining sides along the length of the confronting series of mold elements and defining the plane of separation of the mold elements,

- each mold element of the upper series also having at least two cavities extending thereacross parallel with the direction of travel of the molds and registering with the longitudinally-extending cavities of the lower mold elements and complementing them, forming with said cavities in the lower mold elements at least two longitudinally-extending cavities that are continuous in the direction of travel of the respective mold elements,

- the mold elements of each series having confronting areas between the longitudinally-extending cavities, the confronting surfaces of which lie within the plane of separation of the upper and lower mold elements, some of said areas of at least one of the series of mold elements having cavities therein extending crosswise of the direction of travel of the molds and opening into the longitudinally-extending cavities to the other to produce in a casting formed in the series of molds spaced cross-over connections between the longitudinal portions of such casting,
- means for introducing molten metal into the cavities formed between the upper and lower series of molds at the entering end of the supporting structure,
- means for effecting movement of the series of molds along the guide means in unison and with the mold elements of the upper and lower series being in paired relationship to each other, and
- means effective independently of the travel of the series of molds arranged to initially thrust the mold elements of each pair of mold elements away from each other in a direction normal to their plane of separation to substantially clear the cross-connecting portions of the finished casting at the discharge end of the guide means.

3,342,252

MANDREL FOR CONTINUOUS CASTING MOLD
William A. Wood, Glen Burnie, and Camille A. Zeldin, Baltimore, Md., assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Sept. 15, 1964, Ser. No. 396,687
2 Claims. (Cl. 164—283)



1. In apparatus for the continuous casting of hollow metal billets which includes an upright stationary outer annular graphite mold having an annular interior and an open ended bottom mounted snugly within mold support, an inner upright hollow graphite mandrel extending into the annular mold from above to provide an interior annular space between the mandrel and the mold, means communicating with the upper portion of the annular space between the annular mandrel and the annular mold for feeding molten metal continuously downwardly into said annular space where molten metal

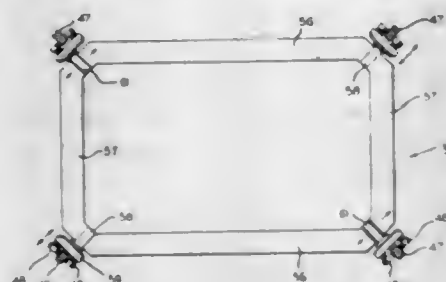
freezes to form a continuous progressively advancing hollow billet, the improvement in combination therewith which comprises:

- the inner upright hollow mandrel has an axial opening therein having an inside cylindrical surface extending upwardly from its lower end;
- the inner hollow mandrel has within its axial opening a core which has a snug fit within the inside cylindrical surface, and the generally cylindrical surface of the core has a helical groove providing lubricant distributing channels facing the inside cylindrical surface of the mandrel, and the upper end of the helical groove connects to an upright duct through which a lubricating gas is supplied to the helical groove and into contact with the mandrel inside surface; and
- a plug is fitted at the lower end of the cylindrical inside surface of the mandrel to retain the core therein and to close the lower end of the helical groove.

3,342,253

FLUID-OPERATED EXTENSIBLE FLASK
William A. Hunter, Morton Grove, Ill., assignor to Heatherwill Company, Morton Grove, Ill., a partnership
Original application Nov. 16, 1964, Ser. No. 411,538.
Divided and this application June 15, 1966, Ser. No. 557,720

3 Claims. (Cl. 164—374)



1. The combination of a rectangular shaped foundry flask and a guide for movement of said flask on said guide between a position where moulding sand therein is compacted and a position where the compacted mould therein is released, said guide comprising guide rails marking rectangular corners spaced from the rectangular corners of said flask, said flask having diagonally opposed fixed corners including guide means at said corners for guiding said flask at corresponding ones of said guide rails for movement between said positions, said flask having diagonally opposed mitred ends at the other corners thereof, means disposed between each pair of mitred ends including guide means mounted on each of said means for guiding said flask at other corresponding ones of said guide rails for movement between said positions, and fluid pressure means acting across said means for causing the mitred ends contiguous to said means to move towards and away from said means in accordance with a moulding operation within said flask and release of a compacted mould therewithin.

3,342,254

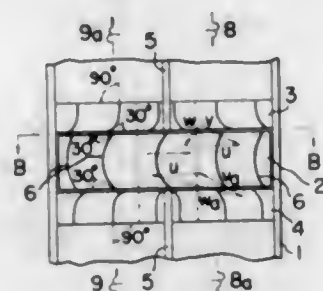
VENTILATING MACHINE OF SUPPLY-EXHAUST TYPE WITH HEAT EXCHANGER

Kunio Fujie, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company
Filed Sept. 1, 1965, Ser. No. 484,299
Claims priority, application Japan, Sept. 2, 1964, 39/49,888

3 Claims. (Cl. 165—8)

1. A gas ventilating machine of the supply-exhaust type comprising a cylindrical duct with an interior divided into

two flow passages by flat partitions extending in parallel with the duct axis along the length of the duct except for duct sections where rotating parts are positioned; a blade rotor fitted with blades wherein the blade face is concave and the blades are supported rotatably and coaxially with the duct in said duct section; means to drive said blade

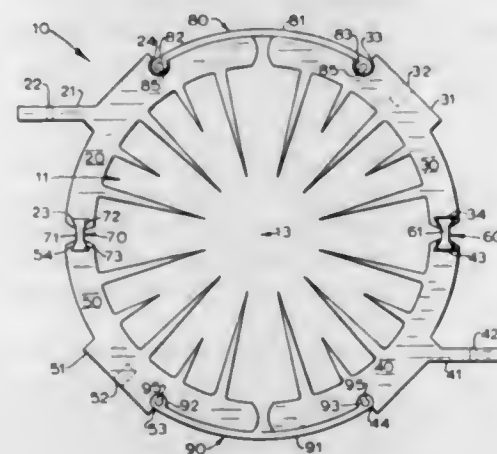


rotor in rotation in one direction; and guide vane assembled respectively disposed near both axial ends of said blade rotor and having radial vanes with curved profiles, the curvature of the vane face on one side of the partition being opposite to that on the other side of the partition, and the curvature of the vane face in each of said guide vane assemblies being opposite each other.

3,342,255

HEAT DISSIPATOR APPARATUS
George Risk and Raymond C. Root, Columbus, Nebr., assignors to Richleu Corporation, Columbus, Nebr., a corporation of Nebraska
Filed Oct. 22, 1965, Ser. No. 501,498

5 Claims. (Cl. 165—80)



1. A heat dissipator apparatus comprising a tubular member that is laterally enclosed and longitudinally open, the lateral confines of said conduit comprising a plurality of adjacently disposed heat-conductive web segments connected together about the tube longitudinal central axis with electrically-insulative rigid spacer means located at the juncture between every adjacent web segment, a plurality of said heat-conductive web segments each being provided with a plurality of heat dissipator ribs spaced along one of the sides of said web segment, said heat dissipator ribs being in heat-conductive relationship with said web segment, each web segment being provided with a pair of longitudinal grooves each being substantially parallel to the conduit longitudinal central axis, said grooves having linearly generated sidewalls, said spacer means cooperating with said grooves to removably support and space said web segments about the tube longitudinal central axis the opposite side of at least one web

segment being integrally provided with at least one support member adapted to carry a heat generating electronic component, said at least one support member being in heat-conductive relationship to said web segment, said electrically-insulative spacer means comprising an intermediate portion and a pair of terminal socket members, each of said terminal socket members being securely surrounded with an elongate groove of adjacently disposed web segments, the intermediate portion of the spacer means being disposed at the juncture of the respective adjacent web segments.

3,342,256

METHOD FOR RECOVERING OIL FROM SUBTERRANEAN FORMATIONS

George G. Bernard and Le Roy W. Holm, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Apr. 17, 1964, Ser. No. 360,768

14 Claims. (Cl. 166—9)

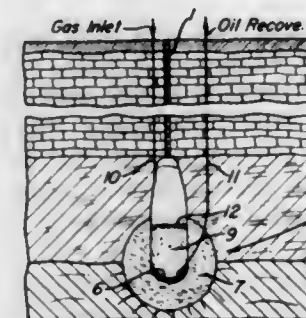
1. In the recovery of oil from subterranean oil-bearing formations wherein carbon dioxide is introduced into the formation and then driven through said formation from an injection well to a recovery well by means of an aqueous drive liquid, the improvement which comprises disposing a surfactant solution, capable of forming a stable foam under formation conditions, in said formation not later than the introduction of said carbon dioxide, and prior to the driving of said carbon dioxide by means of said aqueous drive liquid.

3,342,257

IN SITU RETORTING OF OIL SHALE USING NUCLEAR ENERGY

Robert B. Jacobs and Lawrence T. Wright, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Dec. 30, 1963, Ser. No. 340,579

10 Claims. (Cl. 166—11)



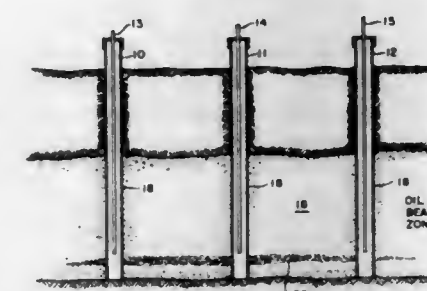
1. An improved method of recovering shale oil from a subsurface oil shale formation with a nuclear explosive device, which comprises: drilling an access well into the formation, inserting a nuclear explosive device in said well near the bottom of said formation, sealing said well above said formation to confine the subsequent nuclear explosion, said device having an energy-yield relationship with the depth of placement sufficient to insure containment of the subsequent explosion, detonating said device thereby to create a cavity in said formation, which cavity at least partially fills with collapsing oil shale to form a zone of fractured and crumbled shale of high permeability, connecting at least one gas input conduit and at least one oil recovery conduit to said zone, flowing hot retorting gas through said gas input conduit into at least part of said fractured and crumbled shale in a generally vertical direction to heat the shale and distill the shale oil therefrom, and recovering the shale oil via the oil recovery conduit.

3,342,258

UNDERGROUND OIL RECOVERY FROM SOLID OIL-BEARING DEPOSITS

Michael Prats, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1964, Ser. No. 349,923

4 Claims. (Cl. 166—11)



1. A method of recovering oil from an underground oil-bearing formation selected from the group consisting of tar sand and oil shale which is penetrated by a plurality of wells, at least one of said wells being normally a fluid injection well and at least one well adjacent said injection well being normally an oil-production well, said method comprising

establishing communication between all of said wells and the oil-bearing formation surrounding said wells, fracturing the formation between a fluid-injection well and at least one adjacent oil-production well in a manner such that the wells are in fluid flow communication with each other through said oil-bearing formation,

injecting an oil-removal fluid down the injection well and through the fracture to said production well at a pressure sufficient to maintain the fracture open, maintaining said injection of oil-removal fluid through said fracture for a time sufficient to remove oil from the walls of the formation forming the fracture and increase the permeability of said walls to a value sufficient to permit the flow of oil therethrough when said fracture is closed,

stopping the injection of said oil-removal fluid and reducing the fluid injection pressure whereby said fracture closes with a permeable zone formed along said closed fracture line,

injecting a combustible driving oil-displacement fluid in said injection well and through said oil-bearing formation to said production well at a pressure less than that which would cause the formation between said wells to fracture, and recovering oil therefrom through said oil-production well.

3,342,259

METHOD FOR REPRESSURIZING AN OIL RESERVOIR

Howard H. Powell, 8501 Ronnie, Fort Worth, Tex. 76108

Filed Feb. 23, 1965, Ser. No. 434,351

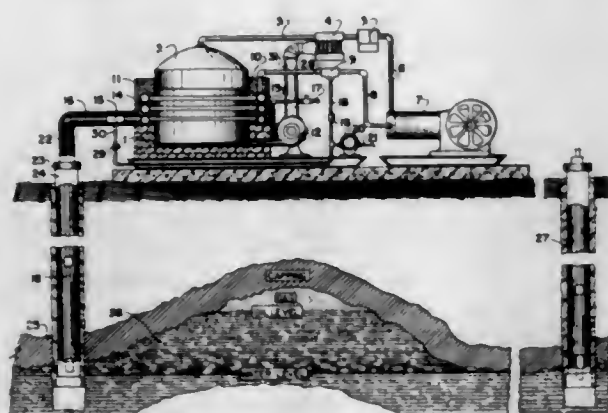
1 Claim. (Cl. 166—11)

A method of tertiary oil recovery for an oil reservoir wherein the oil has been entrapped below a capping strata by secondary recovery processes, comprising:

(A) providing an injection well in spaced relationship to one or more production wells, said injection well being in operative relationship to said entrapped reservoir to cause a substantially non-compressible elastic fluid having a specific gravity less than the entrapped oil to flow out of the entrapment strata so that a pressure is exerted against the entrapped reservoir in a substantially downward direction causing the entrapped oil to flow out of the entrapment and toward the existing production well;

(B) producing said substantially non-compressible elastic fluid in a blast furnace resulting in combustion products,

- (1) collecting said combustion products,
- (2) reducing the volume of said combustion products,
- (3) compressing said thus reduced volume combustion products,
- (4) superheating and volumetrically expanding said compressed combustion products to form a substantially non-compressible elastic fluid,
- (5) feeding said elastic fluid to said injection well while substantially maintaining the temperature thereof;



- (C) injecting said elastic fluid through said injection well into the entrapped oil reservoir at a temperature which will vaporize any liquids adjacent to the injection point to further increase said elastic fluid volume, said fluid flowing upwardly through any impounded or entrapped oil to the apex of the entrapment;
- (D) continuing said injection until said elastic fluid displaces the oil in the entrapment causing the oil to flow downwardly against prior injected pressure; and
- (E) recovering the thus displaced oil through the producing well.

3,342,260

THERMAL RECOVERY OF OIL

William B. Lumpkin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Mar. 25, 1965, Ser. No. 442,781
10 Claims. (Cl. 166—11)

6. In a process for recovering oil from an oil-bearing stratum comprising contacting said oil in said stratum with a hot gas at an elevated temperature in a heating zone which effects cracking of a substantial portion of said oil and producing oil and cracked products thru a production well therein, the improvement comprising providing in said heating zone during said cracking an injected hydrocarbon material comprising at least one aromatic-naphthenic compound readily dehydrogenatable under the conditions in said heating zone so as to depress coke formation.

3,342,261

METHOD FOR RECOVERING OIL FROM SUBTERRANEAN FORMATIONS

Donald C. Bond, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,336
11 Claims. (Cl. 166—11)

1. In a process for recovering oil from a subterranean formation penetrated by at least one injection well and one production well in which the formation is successively fractured to establish fluid communication between the injection well and the production well and subjected to

a recovery operation conducted coextensive with the fracture to recover oil from the formation adjacent the fracture until said adjacent formation is substantially depleted of oil whereupon the fracturing and recovery steps are repeated, the improvement which comprises disposing a tenacious foam in the oil depleted fracture prior to initiating subsequent fracturing and recovering steps.

3,342,262

METHOD OF INCREASING OIL RECOVERY

Jack A. King and Wayne S. Fallgatter, Tulsa, Okla., assignors to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
No Drawing. Filed Mar. 2, 1965, Ser. No. 436,633
8 Claims. (Cl. 166—29)

1. In the method of selectively adjusting the permeability of oil producing formations by the introduction of precipitate-forming reactants into the formation in the vicinity of undesirable fluid flow, the improvement wherein the desired quantity of reactants may be employed at pressures approaching the limiting injection pressure under existing field conditions comprising introducing the treating solutions into the formation in cycles, each cycle consisting of a portion of said treating reactants separated by an inert spacing medium, the relative amount of spacing medium employed being decreased during the treatment operation so that the reactants will contact each other in concentric regions of the formation increasingly approaching the injection well, whereby the precipitates are deposited in a heavy concentration of the more permeable channels of a relatively large area of the strata surrounding the injection well causing the surface injection pressure to approach its limiting value rendering the injection of the desired quantity of reactants into the formation.

3,342,263

METHOD AND COMPOSITION FOR TREATING SUBTERRANEAN FORMATIONS

Paul W. Fischer, Whittier, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed May 12, 1965, Ser. No. 455,297
34 Claims. (Cl. 166—33)

1. A method of treating subterranean formations penetrated by a well bore comprising the step of injecting through said well bore and into said formation particles of a homogeneous solid mixture comprising a polymer component and a halogenated aromatic hydrocarbon melting above about 120° F.

33. A composition for injection into an earth formation comprising particles of a homogeneous solid mixture comprising a polymer component and a halogenated aromatic hydrocarbon melting above about 120° F. suspended in a carrier liquid.

3,342,264

A METHOD OF REMOVING SOLID PARAFFIN-CONTAINING DEPOSITS FROM OIL WELL SURFACES AND COMPOSITIONS THEREFOR

John W. Willard, Sr., Rapid City, S. Dak., assignor to J. B. Oil Treatment Company, Incorporated, a corporation of South Dakota
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,276
9 Claims. (Cl. 166—38)

1. A method of removing paraffin-containing deposits on surfaces in oil wells comprising introducing lecithin into the interior of the well and into intimate contact with the said deposits, introducing an aqueous solution of alkali which contains sufficient alkali to saponify the lecithin into the interior of the well and into intimate contact with the said deposits, the alkali being selected from the group consisting of alkali metal hydroxides, carbonates,

phosphates and silicates, and thereafter introducing water into the interior of the well and flushing the well therewith.

3,342,265

METHOD OF REMOVING SOLID PARAFFIN-CONTAINING DEPOSITS FROM OIL WELL SURFACES

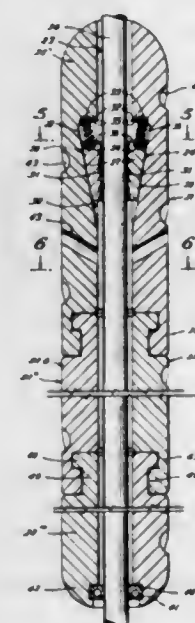
John W. Willard, Sr., Rapid City, S. Dak., and John Brorby, Newcastle, Wyo., assignors to J. B. Oil Treatment Company, Incorporated, a corporation of South Dakota
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,277
9 Claims. (Cl. 166—38)

1. A method of removing solid paraffin-containing deposits on surfaces in oil wells comprising the steps of introducing into the interior of the oil well and into intimate contact with the said solid deposits a triglyceride vegetable oil, thereafter introducing an aqueous solution of alkali which contains sufficient alkali to saponify the ester into the interior of the well and into intimate contact with the said solid deposits, the alkali being selected from the group consisting of alkali metal hydroxides, carbonates, phosphates, and silicates, and then introducing water into the interior of the well and flushing the well therewith.

3,342,266

METHODS AND APPARATUS FOR FREEING STUCK TOOLS

Edward R. Le Blanc, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed June 21, 1965, Ser. No. 465,465
6 Claims. (Cl. 166—46)



1. A method for freeing a well tool suspension member stuck at a remote location and keyseated in a borehole wall comprising the steps of: tensioning the suspension member to produce elongation thereof; interposing a rigid member between the suspension member and borehole wall above the keyseat; clutching the rigid member to the tensioned suspension member for downward movement therewith upon contraction of the suspension member; and relaxing the suspension member to release tensile forces therein for driving the rigid member downwardly between the keyseat and suspension member as the suspension member contracts.

4. A well tool comprising: an elongated rigid body having a longitudinal passage therethrough adapted to receive a well tool suspension member; means on said

body and facing said passage adapted for gripping a well tool suspension member therein upon downward movement of the suspension member relative to said body; and passage means on said body for equalizing fluid pressures between opposite outer longitudinal surfaces of said tool including at least one lateral passage between said surfaces.

3,342,267

TURBO-GENERATOR HEATER FOR OIL AND GAS WELLS AND PIPE LINES

Gerald S. Cotter, 1549 Westridge Court, Casper, Wyo. 82601, and James E. Huffmaster, Box 565, Big Piney, Wyo. 83113
Filed Apr. 29, 1965, Ser. No. 451,747
10 Claims. (Cl. 166—60)



1. An oil well production tubing heater adapted to be operatively associated with a well tubing at a point remote from the surface of the ground and comprising in combination a section of oil well tubing through which oil is produced, an electric heating element mounted upon said tubing section in good heat exchange relation therewith for heating production fluid flowing upwardly there-through, a production fluid actuated source of electrical energy mounted upon said tubing closely adjacent said heating element and electrically connected to and energizing the latter for energizing said heating element from within the well, said energy source comprising an electric generator and driving means coupled thereto, said heating element being disposed within said tubing and of an annular configuration thereby presenting a minimum resistance to the flow of fluid therethrough, said driving means comprising a production fluid actuated turbine disposed within said tubing and operated by production fluid flowing upwardly through said tubing.

3,342,268

WELL PACKER FOR USE WITH HIGH TEMPERATURE FLUIDS

Joe R. Brown, 5649 Tupper Lake, Houston, Tex. 77027
Filed Sept. 7, 1965, Ser. No. 485,182
5 Claims. (Cl. 166—124)

5. A well packer, comprising, a tubular body, collar means threadedly connected to the body carrying means frictionally engageable with a well wall to permit relative rotation of said body, an anchor-and-seal assembly mounted about the body for radial expansion and contraction in response to said relative rotation, a setting

sleeve secured to said body for rotating the same, a connector sleeve concentrically disposed in the bore of said setting sleeve and having an axial bore, cooperating anchor means carried by the connector and setting sleeves arranged to anchor said connector sleeve to said setting sleeve in response to axial movement of the connector sleeve relative to said setting sleeve and releasable therefrom by right-hand rotation of the connector sleeve rela-

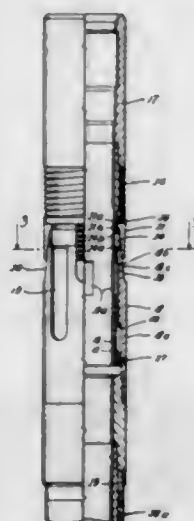


tive to the setting sleeve, a tubular mandrel connectible to an operating pipe string for rotation thereby and extending slidably through the bore of said connector sleeve, and first and second longitudinally spaced clutch elements being engageable with said setting sleeve at one axial position of said mandrel and the other of said clutch elements being engageable with said connector sleeve at a second axial position of said mandrel.

3,342,269
ANCHOR FOR A WELL TOOL
Henry U. Garrett, P.O. Box 671,
Longview, Tex. 75601

Continuation of abandoned application Ser. No. 342,622, Feb. 5, 1964. This application Sept. 19, 1966, Ser. No. 580,508

18 Claims. (Cl. 166—137)

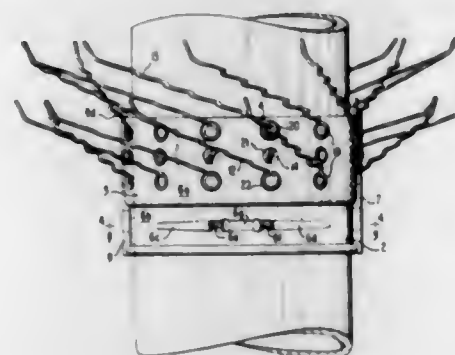


1. In a packer, for use in a well pipe, having a packing element and two members engaging the packing element with at least one member movable toward the other to move the packing element into sealing engagement

with the well pipe, the improvement in combination therewith of an anchor for engaging the well pipe and holding the movable member against movement away from the other member while allowing the member to move toward the other member and force the packing element into sealing engagement with the well pipe, comprising, a slip expander member connected to the movable member and having a tapered outer surface adjacent the end away from the packing element; said slip expander being mounted for radial movement; slip means engaging the tapered surface on the slip expander member; a mandrel slidably mounted within the slip expander member for movement into engagement with the movable member to exert a force on the member and move the packing element into sealing engagement with the well pipe; an annular enlargement on said mandrel engageable with the inner surface of the slip expander member as the mandrel is moved into engagement with said movable member to exert a force on the latter, said enlargement coacting with the expander to maintain the slip expander member in its outermost radial position; and resilient means carried by the mandrel engaging the slip means for moving the slip means along the tapered surface on the slip expander into engagement with the well pipe and to move the slips with the slip expander as it moves toward the packing element as the packing element is compressed to hold the slip expander and the member against movement away from the packing element.

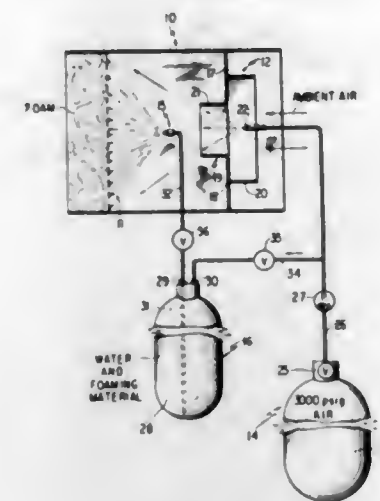
3,342,270
ABRADING APPARATUS FOR USE IN WELL BORES

John W. Woods, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,556
9 Claims. (Cl. 166—173)



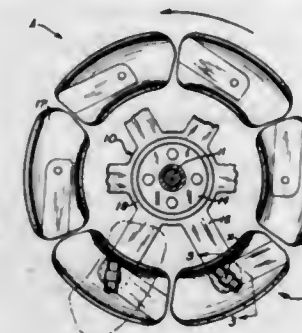
1. In combination:
a well;
conduit means supported for axially reciprocable movement within said well; and
well wall abrading means supported by said conduit means, said abrading means comprising a plurality of abrading elements projecting from said conduit means into engagement with material on an interior surface of said well, each said abrading element comprising
an elongate member;
a plurality of protrusions projecting generally laterally of said member;
said protrusions having a common median plane when said member is substantially unstressed; and
a free end adapted to engage material on a well wall;
the free ends of said abrading elements and at least one protrusion of each abrading element being in engagement with said material.

3,342,271
FOAM PLUG GENERATOR
Charles Anthony, Jr., Livingston, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Mar. 23, 1965, Ser. No. 442,087
3 Claims. (Cl. 169—15)



1. In apparatus for generating a highly expanded fire-fighting foam plug, the combination of a wind tunnel; a foam forming net at one end of said tunnel; an aspirator at the other end of said tunnel having a high total air to primary air ratio and including an unobstructed air entraining tube having an inlet at one end and an outlet at the other end facing said net for delivering a large volume of air into said tunnel which flows towards said net, and nozzle means at said inlet for directing gaseous medium under pressure into said tube to effect air entrainment; spray means in said tunnel between said net and said aspirator for directing onto said net a solution containing a foaming agent, whereby the air delivered into said tunnel causes the solution deposited on said net to foam and generate the foam plug; a source of foaming solution; first conduit means connecting said source of solution to said spray means; second conduit means connecting said source of gaseous medium to said nozzle means and to said source of solution for applying a pressure head on the solution to expel the same from said source; and pressure regulating means in said second conduit means upstream of said nozzle means and said source of solution for reducing the pressure of the gaseous medium.

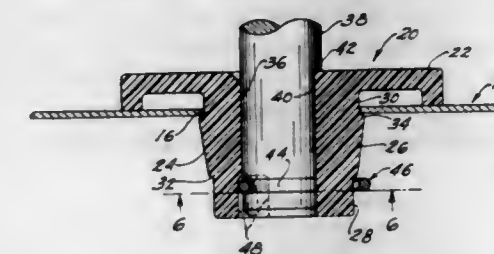
3,342,272
VARIABLE DELIVERY FAN
Robert L. Martin, Detroit, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 1, 1966, Ser. No. 554,406
12 Claims. (Cl. 170—160.11)



1. A fan mechanism for providing a flow of air in response to rotation thereof comprising a support member rotatable about an axis, a blade member movable upon

rotation of said support member to create a flow of air, connecting means between said blade member and said support member providing for pivotal movement of said blade member relative to said support member about an axis parallel to the axis of rotation of said support member between a first position wherein said blade member is operable to provide a first flow of air at a given speed of rotation of said support member and a second position wherein said blade member is operable to provide a second flow of air different from said first flow at said speed of rotation, and temperature-responsive means operable to effect pivotal movement of said blade about said axis parallel to the axis of rotation of said support member from said first to said second position.

3,342,273
FAN HUB
Herbert R. Crane, St. Louis County, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 4, 1966, Ser. No. 531,908
4 Claims. (Cl. 170—160.53)

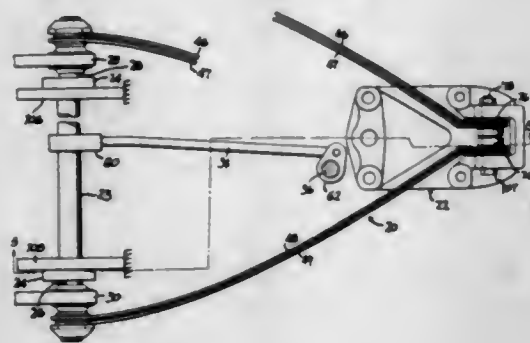


1. In a device of the class described, a driven member having a generally circular perforation therein with re-entries in the wall forming said perforation, a hollow hub formed of resilient material mounted in said aperture and comprising a round tapered portion extending outwardly from one side of said driven member, a flange on the other side of said driven member, and a short cylindrical portion having substantially the same diameter as said aperture entered in said aperture, said round tapered portion being of larger diameter than said aperture at its end adjacent said one side of said driven member and diminishing outwardly to a diameter smaller than said aperture, whereby a shoulder is formed on said hub at said one side of said driven member, radial driving portions formed on said hub extending longitudinally from said flange and passing through said aperture wall re-entries in close fit relationship, said short cylindrical hub portion being longer than the thickness of said driven member, and said flange having a circumferential rim projecting from the inner face thereof and engaging said other side of said driven member, said hollow hub having sufficient resilience to permit passing said round tapered portion thereof through said aperture without permanent deformation thereof and said circumferential rim extending sufficiently from the inner face of said flange to result in some distortion of said flange whereby said shoulder and said circumferential rim bear firmly against the opposite sides of said driven member.

3,342,274
SENSING RANGE ADJUSTMENT FOR DRAFT SENSING MECHANISM
Alfred A. Wridt, Jr., Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 11, 1965, Ser. No. 431,928
4 Claims. (Cl. 172—7)

1. In an apparatus for controlling the magnitude of draft exerted upon a tractor by a tractor-drawn earth working implement and the like, a draft sensing mecha-

nism comprising a wishbone-shaped, resilient frame assembly interposed in draft-load transmitting relation between the implement and the tractor, means for elongating said frame assembly to establish a minimum value for a desired sensing range, said means comprising an abutment engageable by one end of said frame assembly and a rotatable eccentric cam assembly engaging the opposite end

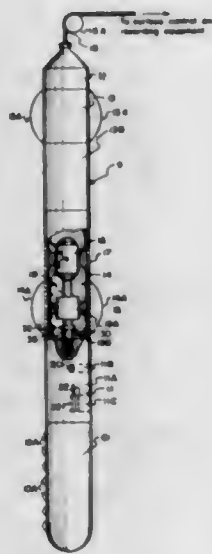


of said frame assembly, means for measuring changes in spring deflection which fall within a selected sensing range exceeding the minimum value, means for generating a draft control signal proportional to each major change in spring displacement and means for changing the elevation of the implement an amount proportional to the draft control signal.

3,342,275

APPARATUS FOR DIRECTIONAL TUBING PERFORATION

Norman J. Mellies, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,843
5 Claims. (Cl. 175-4.51)



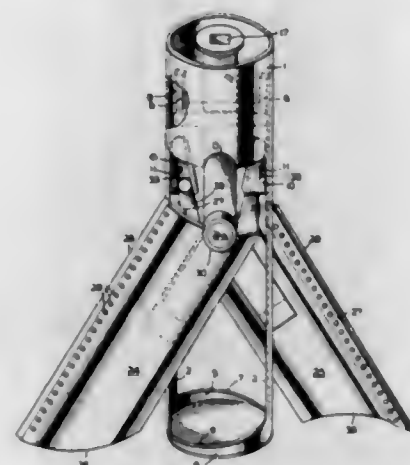
1. Apparatus for selectively perforating a selected tubing string in a borehole, said apparatus comprising a monodirectional perforator for insertion in said selected tubing string and including a tubing locator for detecting the positions of an adjacent tubing string and the nearest portion of the wall of the borehole relative to said selected tubing string, a rotator means for rotating said locator and perforator and including an electric motor and signalling means for indicating the completion of a full revolution of said locator and perforator, an armored and grounded cable having a single conductor and attached at one end to said rotator, locator and perforator, and

power and indicating means connected to the other end of said cable and including recording means functionally interconnected with said locator and said rotator for developing a polar-type representation of said positions of said adjacent tubing string and nearest portion of borehole wall.

3,342,276

UNDER REAMING DEVICE

August H. Beck, Jr., 5123 Blanco Road,
San Antonio, Tex. 78216
Filed Dec. 1, 1965, Ser. No. 510,918
10 Claims. (Cl. 175-286)



7. In combination with a driven drill stem, an elongated under-reamer shell including an upper cylindrical shell portion, a closed bottom portion and spaced connecting side wall sections defining door openings, a coupling member adapted to be fixed to the drill stem for movement therewith, said coupling member comprising a body portion including a pair of laterally projecting spaced wing members, slots formed in the outer marginal edges of said wing members, hinge sections fixed to the bottom portion of said coupling member, a hinge pin carried by a hinge section, oppositely positioned vertical guide members fixed to the inner upper portion of said shell for engagement within the slots in said wing members to guide said coupling member in vertical movement within the upper portion of said shell, and a pair of hinged doors for closing the door openings in the wall of said shell, hinge members carried at the upper end portions of said doors for mounting on said hinge pin, pilot arms fixed to the inner walls of each of said hinged doors and projecting upwardly and outwardly therefrom, means fixed to and projecting inwardly of the upper cylindrical shell portion and formed with upwardly and outwardly inclined channels, pin means carried at the upper ends of said pilot arms and engaging in said channels for swinging said doors inwardly and outwardly on said pivot pin in opposite directions as said coupling member moves longitudinally within said shell, and cutters fixed along the opposite marginal edges of said doors.

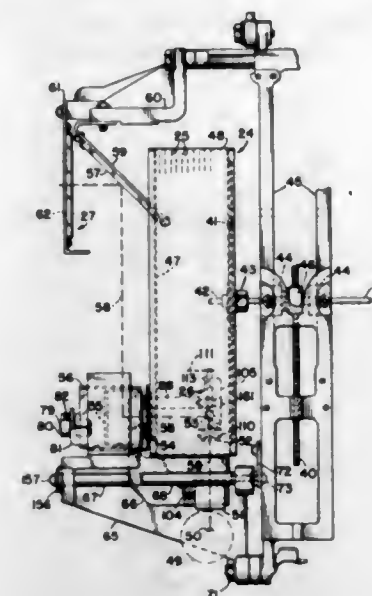
3,342,277

CONDITION RESPONSIVE MECHANISM

Frederick C. Carroll, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 5, 1964, Ser. No. 401,292
6 Claims. (Cl. 177-178)

1. In a weighing scale, in combination, a load-responsive chart having successive series of indicia, a viewing screen, lens means including a projection lens for selectively projecting images of the indicia from each of the series along a projection path onto the same place on the screen, index means for the images serving to point

out the images to be read, the index means having a constant size for all positions of the projection lens, said lens means further including stationarily mounted anti-zoom lens means for maintaining substantially constant



magnification, whereby the images of the indicia on the screen are maintained in a substantially constant size relative to the index means for all positions of the projection lens.

3,342,278

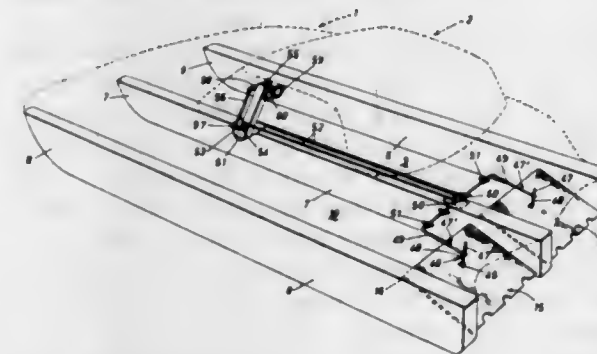
CHANNEL PRESSURE CONTROL MEANS FOR AIR CUSHION SUPPORTED CRAFT

George Thomas Cocksedge, R.R. 1, Niagara Falls,
Ontario, Canada

Filed Aug. 2, 1965, Ser. No. 476,296

The portion of the term of the patent subsequent to Aug. 2, 1982, has been disclaimed and dedicated to the Public

10 Claims. (Cl. 180-7)



1. A craft having a bow and stern and adapted to be propelled over surfaces at varying heights above said surfaces, said craft comprising three longitudinally extending spaced apart hulls, means connecting said hulls together, said hulls and said means connecting said hulls together defining two longitudinally extending, side-by-side channels, each of said channels having an open underside, propelling means for drawing air into said channels adjacent said bow of said craft and for propelling air through said channels towards said stern of said craft, bow plate means positioned across said channels adjacent said bow of said craft, pivotally supported stern plates respectively positioned across each of said channels adjacent said stern of said craft, said stern plates being movable to open and close said channels adjacent said stern of said craft, and a stern plate control member for actuating said stern plates and pivoted about an axis for movement in the fore and aft direction of the craft and including means rotatable about an axis transverse to said first axis, first means connecting said stern plates with said

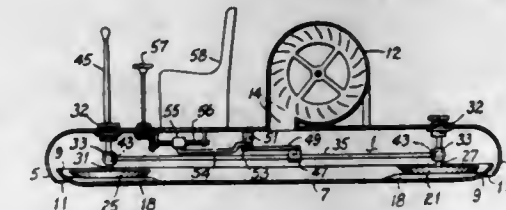
control member whereby movement of said control member in said direction moves said stern plates in unison, and second means connecting said last named means to said rotatable means whereby rotation of said rotatable means moves said stern plates differentially to thereby permit air pressure in the respective channels to be varied, the displacement of said craft being such that at rest said craft floats in water with said hulls only partly submerged and said channels only partly filled with water, air occupying the remainder of said channels from the bow to the stern thereof.

3,342,279

CONTROL SYSTEM FOR SURFACE EFFECT MACHINES

Robert Downhill, Florissant, Mo. (338 Lady Margaret Road, Southall, Middlesex, England)

Original application Nov. 22, 1963, Ser. No. 325,549, now Patent No. 3,276,738, dated Oct. 4, 1966. Divided and this application June 17, 1966, Ser. No. 569,781
7 Claims. (Cl. 180-7)



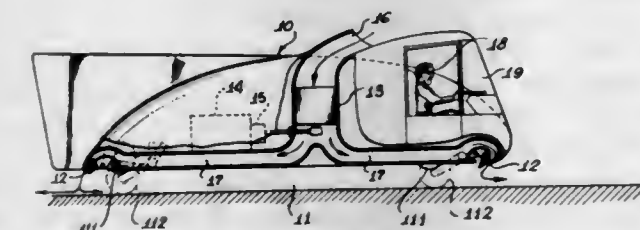
1. A control device for transport machines supported and movable on a cushion of pressurized air therebeneath comprising vertically spaced walls defining a plenum chamber therebetween, ports in the bottom wall in communication with the plenum chamber and air cushion therebeneath and spaced apart lengthwise of the machine, valves having generally convex lower surfaces normally seated in said ports and being mounted on the machine for universally tilting about a fulcrum which is at the center of their convexity, means for selectively tilting a forward valve about its fulcrum to open a predetermined side of its port, and linkage means connecting said forward valve and a rear valve for transmitting fore and aft movements of said forward valve to said rear valves and transverse movements opposite to that of said forward valve to said rear valves, said valves including upwardly extending central stems universally fulcrumed at the center of their convexity.

3,342,280

JET SHEET ENCLOSURE FOR COMPRESSED GASES

Melville W. Beardsley, Severna Park, Md., assignor, by mesne assignments, to Hovercraft Development Limited, London, England, a British company
Filed Apr. 4, 1957, Ser. No. 650,583

3 Claims. (Cl. 180-7)



2. A ground effect vehicle for travel over and in close proximity to a surface, comprising: a body having its bottom adapted to be vertically spaced above said surface and having a sufficient portion to be acted upon by underlying fluid pressure so that the weight of the vehicle may be sustained, means on said body to sealingly and lateral-

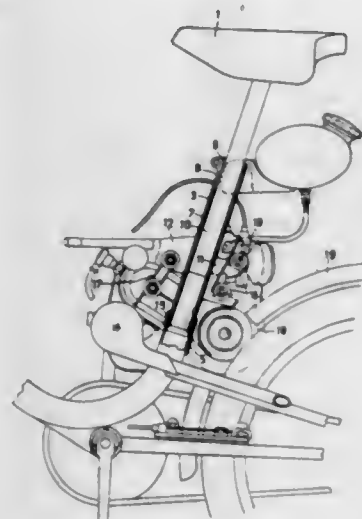
ly circumscribe a space between said surface and said bottom portion, said means including a jet nozzle having an orifice sized and shaped to establish a relatively thin jet sheet; said jet nozzle being positioned in a manner to direct the jet sheet downwardly towards said surface and, in issuing from said nozzle, with inclination toward the center of the circumscribed space; shiftable means associated with the nozzle adapted to vary the degree of such inclination; and means on said body for supplying pressurized fluid to said jet nozzle; said shiftable means including a control member rotatably adjustable about an axis parallel to the jet nozzle and having a surface extending below said nozzle orifice along which the jet flows and to which it adheres due to the Coanda effect, the lower edge of said control member being formed with a relatively sharp angle so that the jet sheet leaves said member in the direction imparted thereto by said surface of said member.

3,342,281

BICYCLE CONVERTIBLE INTO A MOTORIZED BICYCLE

Emilio Elia, Milan, Italy, assignor to S.p.A. Officine Metallurgiche Edoardo Bianchi-Velo, Milan, Italy, a company of Italy

Filed Oct. 7, 1965, Ser. No. 493,863
Claims priority, application Italy, Oct. 16, 1964,
22,334/64, Patent 737,612
3 Claims. (Cl. 180—33)

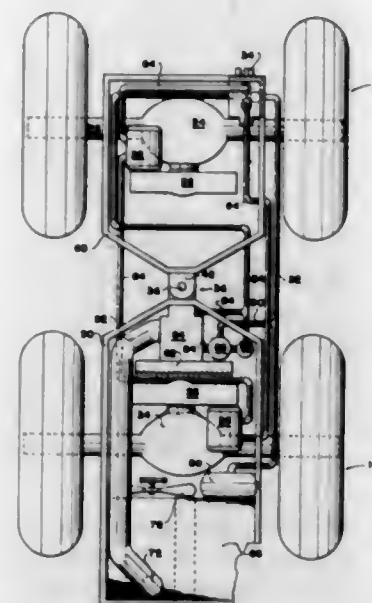


1. A bicycle convertible into a motorized bicycle and vice versa which comprises a bicycle frame, a tubular cylindrical member secured to said frame and having opposite ends, a tongue at one of said ends, the cylindrical member being provided with a slot at the other of said ends, a pair of hollow bushings, one including means for supporting a drive means, the other being free of such means, said bushings being selectively and replaceably mounted on said cylindrical member by being telescopically engaged thereon, whereby the bicycle is convertible into a motorized bicycle and vice versa, said bushings each having a lower end provided with a slot for receiving the tongue on said tubular cylindrical member when telescopically engaged thereon to prevent relative rotation therebetween and an upper end with a slot corresponding to the slot in the cylindrical member, the latter slots being in registry when the bushing is mounted on the tubular cylindrical member and the tongue is engaged in the associated slot, a saddle including a saddle supporting shank engageable in the hollow bushing, and clamp fitting means mounted at the upper end of each bushing proximate the slot thereat, for cooperating with a clamp to secure together the saddle supporting shank, the bushing and the tubular cylindrical member.

3,342,282 HYDRAULICALLY DRIVEN ARTICULATED VEHICLE

Ray E. Forpahl, Harper, Kans., assignor to Harper Manufacturing, Inc., Harper, Kans., a corporation of Kansas

Filed June 14, 1965, Ser. No. 463,647
6 Claims. (Cl. 180—51)



5. A hydraulically driven articulated vehicle comprising, a front chassis and a rear chassis, locomotive means mounted on each of said chassis, a hydraulic motor means on each chassis drivingly connected through a corresponding transmission means to said locomotive means on the corresponding one of each of said chassis, pump means connected in series by a fluid pressure line to all said motor means, control valve means mounted in said fluid pressure line operably connected to said pump means and said motor means, said control valve means constructed and adapted to pass hydraulic fluid under pressure through said motor means in either direction, said valve means including a pressure relief valve, a check valve, and a directional valve connected in series in said fluid pressure line and operable under load conditions to increase the pressure of the hydraulic fluid to said motor means, coupling means for connecting said front chassis to said rear chassis having a vertical trunnion and a horizontal trunnion, said rear chassis turnably mounted on said horizontal trunnion, said front and rear chassis turnably mounted on said vertical trunnion whereby said vehicle constructed and adapted to be hydraulically driven on each of said front and rear chassis with said connecting means operable to continuously maintain contact with the supporting surface.

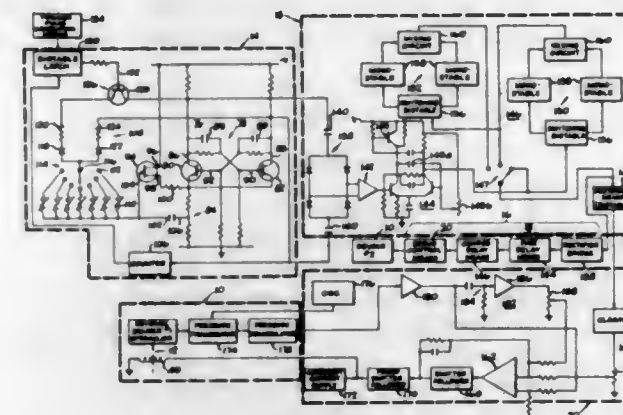
3,342,283 CONTROL APPARATUS UTILIZED TO PRODUCE A BEAM FROM SEISMIC SOURCES

Dwight C. Pound, Solana Beach, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,303
5 Claims. (Cl. 181—5)

1. Apparatus for controlling the operation of a plurality of seismic sources comprising signal generating means for generating a signal having a predetermined frequency and a predetermined number of cycles, said signal generating means including means responsive to a start signal for generating a wave having a predetermined frequency, and counting means for counting the number of cycles of said wave and stopping means responsive to said counting means for stopping said wave after a predetermined num-

ber of cycles to produce said generated signal; a plurality of delay means coupled to said signal generating means for delaying said generated signal for predetermined lengths of time each less than the duration of said signal to produce a plurality of signals each identical with said generated signal and overlapping in time; and means cou-

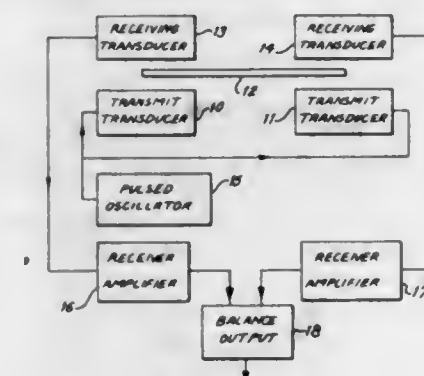


pled to each of said delay means for applying each of said identical signals to a respective one of said seismic sources, the amounts of delay provided by each of said delay means being such that the seismic waves generated by said array of sources are formed into a beam.

3,342,284 WEB POSITION MEASURING DEVICE AND METHOD

James D. Baird, Hauppauge, N.Y.
(333 Jackson Ave., Syosset, N.Y. 11791)

Filed Jan. 10, 1966, Ser. No. 519,651
3 Claims. (Cl. 181—5)



1. Apparatus comprising transducer means for establishing an ultrasonic energy field adjacent opposite edges of a web, circuit means responsive to said transducer means for providing a signal having a magnitude and polarity dependent upon the extent and direction of displacement of said web from a predetermined path.

3,342,285 COMBINATION PILLOW SPEAKER AND CONTROL UNIT

Alex Robbins, Jamaica, N.Y., assignor to Standard Systems Communications Corporation, Port Washington, N.Y.

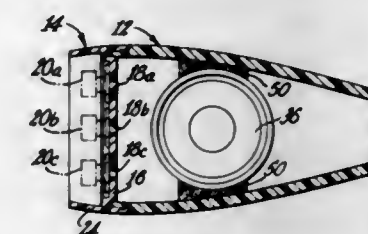
Filed Dec. 19, 1966, Ser. No. 602,809
4 Claims. (Cl. 181—31)

1. A combination pillow speaker and control unit comprising:

(a) a tubular shell having a plurality of apertures for the transmission of sound and having a major longitudinal axis and a generally oval shape in a plane transverse to the longitudinal axis;

(b) a wall transverse to the major axis and set in from an open end of said shell to define an open chamber for receiving control means;

(c) Wall means closing the other end of said shell to define a speaker enclosure; and



(d) a speaker mounted within the speaker enclosure with the axis along which the speaker normally propagates sound transverse to the major axis of said shell and proximate to the apertures in said shell.

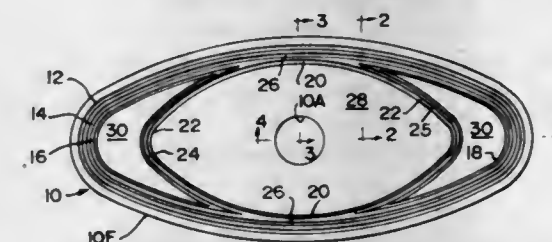
3,342,286

COMPLIANCE ACTIVATED MULTI-DIAPHRAGM

Bruno G. Staffen, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed June 22, 1966, Ser. No. 559,600

6 Claims. (Cl. 181—32)



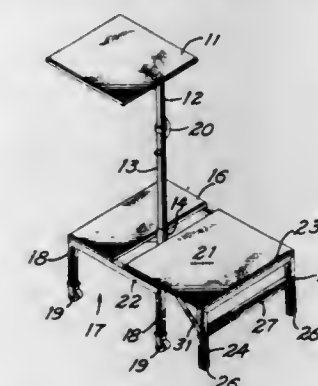
1. A unitary diaphragm including: an outer set of compliance corrugations the area within which defines a major piston area, an inner set of compliance corrugations formed within said outer set and merging with a limited portion thereof, the area within said inner set defining a minor piston area, at least one intermediate piston area between said inner and outer sets of compliance corrugations, said minor piston area being entirely surrounded by said inner set of compliance corrugations so that it is dynamically decoupled from said major and intermediate piston areas, whereby each of said piston areas has an independent resonant frequency.

3,342,287

UTILITY PLATFORM

William L. Williams, 5074 Mt. Durban Drive 92117, and Wayburn D. Downs, 1205 Grand Ave. 92109, both of San Diego, Calif.

Filed Feb. 3, 1966, Ser. No. 524,680
2 Claims. (Cl. 182—15)



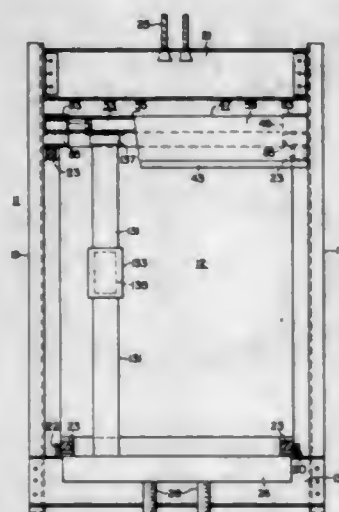
1. A utility platform comprising: a dolly having at least three supporting legs, each of said supporting legs terminating in a caster;

a supporting surface mechanically coupled and extending from one end of said dolly, said supporting surface terminating away from said dolly in at least one supporting leg, said supporting surface's at least one supporting leg being dimensioned to be clear of any resting surface on which said at least three supporting legs rest; and

a utility shelf carried by said dolly and extending above said supporting surface, whereby upon user's standing or sitting upon said supporting surface said at least one supporting leg will contact said resting surface securing said utility platform in a fixed position relative thereto.

3,342,288 VEHICLE

Arthur P. Vogel, Martinsville, and Harry Berkovitz, Glen Rock, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 23, 1965, Ser. No. 509,295
7 Claims. (Cl. 187—1)



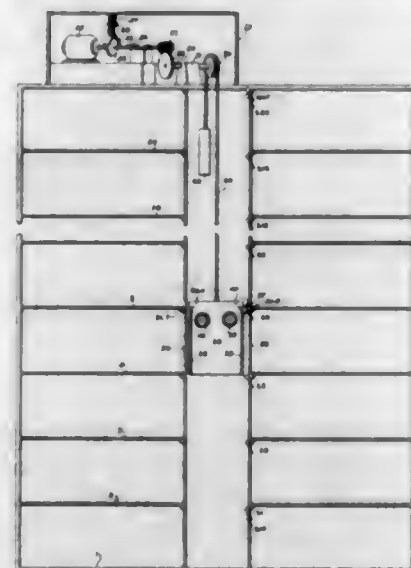
1. A vehicle including a frame, and a cab mounted on said frame and having a doorway, a duct assembly secured to said frame independently of said cab, a door movable between open and closed positions supported from said vehicle, said vehicle including electrical junction means movable with said vehicle for supplying power, said vehicle also including servicing, operating and controlling components for said vehicle at different positions of said vehicle, said door being supported from said duct assembly supported by said vehicle, and electrical conductors within said duct assembly connected in current-conducting relationship between said junction means and said components.

3,342,289 CONTROL SYSTEM FOR AN ELEVATOR OR DUMBWAITER

John A. Gingrich and Gordon A. Holland, Toronto, Ontario, Canada, assignors to Turnbull Elevator Limited, Toronto, Ontario, Canada, a company
Filed Mar. 3, 1964, Ser. No. 348,929
14 Claims. (Cl. 187—29)

1. An electrical control system for a car movable by traction means between a plurality of spaced apart stations, the system including a manually operable impulse-sending device on the car, a multi-position selector arranged to index from an initial position and operable by the sending device when connected thereto, car call means at each station, each call means being associated with a predetermined position of the selector, an impulse-producing circuit common to all the call means and operable to deliver impulses to index the selector when connected thereto, the operation of said impulse-producing circuit

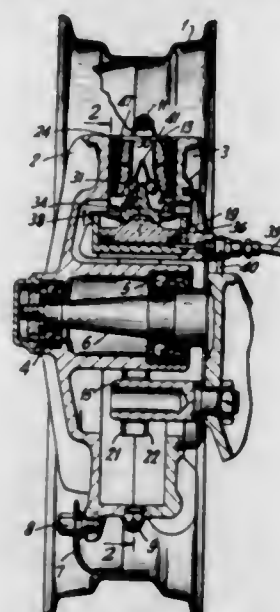
being initiated to cause the selector to index by operation of any car call means when the selector is in its initial position and connected thereto, said circuit continuing to operate to index the selector until its operation is terminated as a result of the selector reaching the first position it comes to during its indexing which is associated with an operated car call means, the selector being retained in said first position, means controlling the connection of the selector to the impulse-sending device and



the impulse-producing circuit, sensing means responsive to the positions of both the car and the selector, control means interposed between the sensing means and the traction means and energisable to control the latter to move the car, upon operation of either the sending device or the car call means to a station corresponding to the position assumed by the selector as a result of said operation, and means to return the selector to its initial position after the car has arrived at its destination.

3,342,290 DISK BRAKE FOR AUTOMOTIVE VEHICLE

Hermann Klaue, Buglerstrasse 5, Constance (Bodensee), Germany
Filed Dec. 22, 1964, Ser. No. 420,357
12 Claims. (Cl. 188—72)

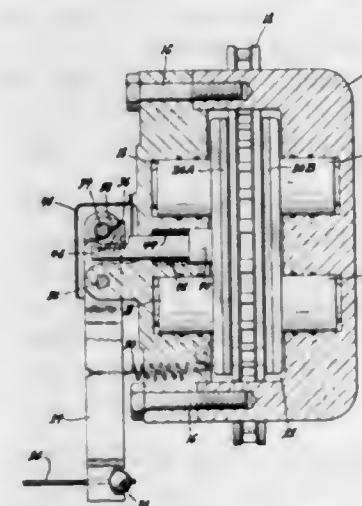


1. A disk brake, particularly for motor vehicles, comprising, in combination, a brake housing revoluble with a vehicle wheel and having a radial disk braking surface; brake shoe means fixed against rotation with said housing and engageable, by movement parallel to the axis of said housing, with said disk braking surface; brake operating

means fixed against rotation with said housing and including at least one brake operating member movable only rectilinearly radially of said housing relative to the axis of rotation thereof; radially movable wedge means having a radially inner end directly engaged with said operating member for movement thereby, and a radially outer wedge formation at least partially overlapping said brake shoe means; and roller means interposed between the wedge formation of said wedge means and said brake shoe means, and directly engaged with said wedge means and with said brake shoe means, to transmit a braking force from said operating member to said brake shoe means.

3,342,291 MANUALLY ACTUATED SPOT-TYPE DISC BRAKE AND ADJUSTING MEANS

Edward H. Warwick, Englewood, and Carl F. Wood, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,450
4 Claims. (Cl. 188—73)



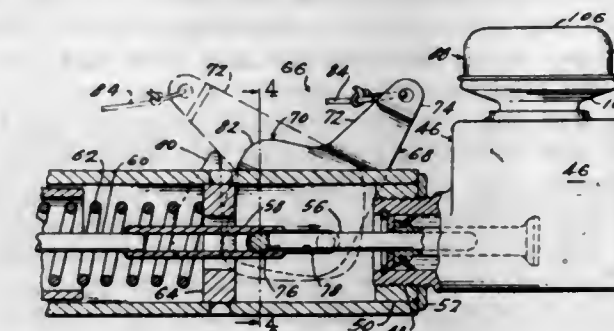
1. A caliper-type disc brake mechanism including a housing, disc, and friction pads therefor, said mechanism comprising: a lever pivotally supported at a fulcrum point disposed between extremities thereof on one side of the housing; pawl means carried by said lever and pivotal near one extremity of said lever and being spring loaded in one direction of rotation; a slide linearly movable in a wall of the housing and engaging one of said friction pads for the disc brake, said slide having a flat rack portion arranged to cooperate with said pawl means to establish a poised position for said slide as pad wear progresses; biasing means engaging said lever; and a cable engaging said lever and being movable from the driving compartment of a vehicle to pivot said lever against the force of said biasing means to force said slide toward the disc and drawing a portion of the housing toward the moving slide to engage the disc on opposite sides in scissor-like action to impede relative movement between the housing and the disc, said pawl means moving across said flat rack portion during brake release to engage a new tooth thereof if brake wear has progressed to the point requiring an adjustment.

3,342,292 TRAILER BRAKE ACTUATOR

Joseph L. Wherry, Perrysburg, Ohio, assignor to Toledo Stamping & Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 24, 1964, Ser. No. 420,983
9 Claims. (Cl. 188—112)

8. A trailer brake actuator comprising a first component having means for making an attachment to one of a towed and a towing vehicle, a second component hav-

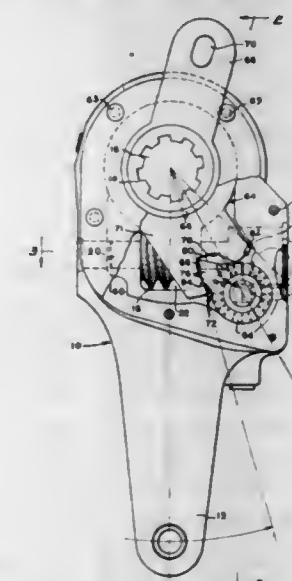
ing means for making a connection with the other of the towed and the towing vehicle, brake fluid pressurizing means mounted on said second component and having brake rod means extending therefrom and engageable by said first component when said components are moved toward one another to actuate brakes of the towed vehicle, an axle supported for transverse movement by said second component, a member mounted on said axle and forming a bearing edge, means forming a second



bearing edge supported by said second component in predetermined relationship with respect to said edge forming member, a lever mounted in fixed relationship with respect to said edge forming member and extending therefrom, a break-away line connected to said lever and adapted to be connected to said towing vehicle and to move said lever when pulled by the towing vehicle to force said edge forming member against said bearing member to move said axle toward said pressurizing means.

3,342,293 AUTOMATIC SLACK ADJUSTER

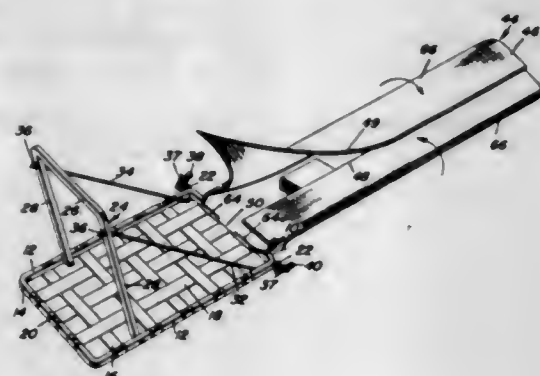
Alexander T. Hildebrand and Bruce E. Latvala, Elyria, Ohio, assignors to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed June 29, 1965, Ser. No. 467,936
12 Claims. (Cl. 188—196)



1. In a slack adjuster including a movable body and an arm integral with the body and adapted to be connected to a brake applying member, an internally splined relatively rotatable member carried by said body and adapted to receive therethrough a brake actuator cam shaft, a driven ratchet including incrementally spaced teeth operatively connected to said rotatable member for effecting incremental rotation thereof in a slack take up direction, and a drive ratchet having teeth cooperating with the teeth of said driven ratchet, the invention which comprises means for effecting rotational movement of said driven ratchet in response to a predetermined degree of

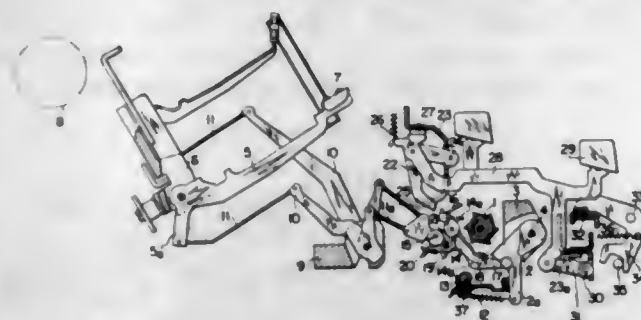
movement of said body in a brake applying direction, said means including first and second cooperating parts carried respectively by said body and by said drive ratchet, means for holding said first part against movement as the body is moved between brake applied and released positions, one of said parts including a single projection only and the other of said parts including a pair of spaced arms defining a pair of spaced apart camming faces cooperating with said projection, one of said faces being normally spaced from said projection but engageable with the same to rotate said drive ratchet independently of the driven ratchet and in one direction but only after said body is moved the predetermined degree in a brake applying direction, said one cam face and said projection being related in size and configuration that said driven ratchet is rotated more than one but less than two tooth increments during said predetermined degree of movement, said projection and said one cam face being moved clear of the path of movement of one with respect to the other so that continued movement of said slack adjuster beyond the predetermined degree in a brake applying direction has no effect on said drive ratchet, the other of said faces being engageable with said projection to rotate said drive ratchet in the reverse direction to rotate the driven ratchet a one tooth increment upon the return of said slack adjuster to its brake released position.

3,342,294
CONVERTIBLE BACK-REST AND DUAL PURPOSE MAT
 Huston M. Beatty, Proctor and Ogden Sts.,
 Sturgeon, Mo. 65284
 Filed Dec. 10, 1965, Ser. No. 513,037
 9 Claims. (Cl. 190—8)



1. A convertible device for lounging and diversified recreational use indoors or outdoors comprising: portable support means embodying a back-rest having a bottom marginal member which is designed and adapted, when in use, to reside flatwise and firmly on a support surface, a collapsible easel-like prop operatively mounted on said back-rest and having a cooperating marginal member likewise adapted to rest upon said support surface, flexible stay means carried by said prop and adjustably connected with coacting component portions of said back-rest, said stay means being capable of selectively adjusting and maintaining variable angular in-use relationship between said back-rest and prop, respectively, and clamping means carried by said back-rest for attachment thereto of a dual purpose beach towel, said clamping means being operatively mounted on said bottom marginal member and, in combination, a relatively large spreadable beach towel having a median part of an inner edge portion thereof detachably connected to said clamping means, the longitudinal edge portions and outer end remote from said detachable edge portion being free, whereby said towel can be hand-folded and optionally transformed into a bag-like storing and carrying pouch for small articles and miscellaneous sundries.

3,342,295
REPEAT ACTION MECHANISM FOR POWER OPERATED TYPEWRITERS
 Yukio Hishida, Nagoya-shi, Japan, assignor to Brother Kogyo Kabushiki Kaisha, Nagoya-shi, Japan
 Filed Mar. 10, 1966, Ser. No. 533,183
 Claims priority, application Japan, Mar. 15, 1965, 40/14,926; Sept. 6, 1965, 40/54,541
 9 Claims. (Cl. 197—17)



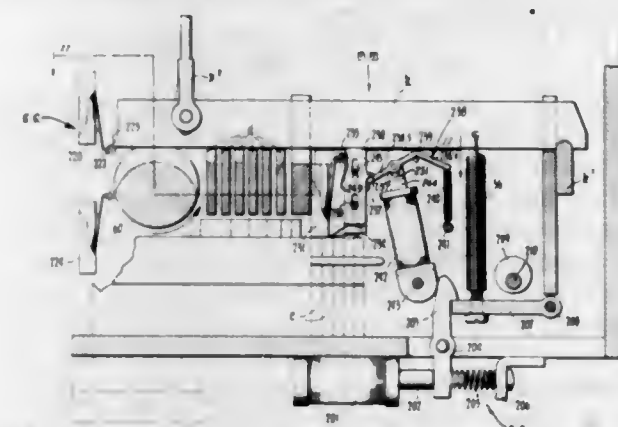
1. A power operated typewriter having a power roll rotatable about a horizontal axis disposed transversely across the machine, a driven part to be operated by said power roll, an actuating member supported at one end on the machine for rocking about a fixed axis which is parallel to and forward of the power roll and having the other end extended rearwardly under said power roll, said actuating member being operatively connected at the extremity of said extended end to said driven part and being biased toward a normal rest position, an intermediate member supported rearwardly of the power roll on said actuating member for movement relative to the actuating member and adapted to be engageable with said power roll as a result of said movement, a key lever depressible into successive first and second positions in the depressing direction, an L-shaped operating lever pivoted at one end on the frame above said power roll and pivotally connected at its bent portion to the key lever, the other end of said operating lever being movable in a substantially horizontal direction upon the depression of said key lever and engageable with the intermediate member to cause it to move into engagement with said power roll, disengaging means on said intermediate member for disengaging the intermediate member from said power roll at the end of forward stroke of the actuating member, and a repeat cam on said intermediate member, said other end of the L-shaped operating lever also being positioned in the path of the repeat cam of said intermediate member on the actuating member which is returning to said normal rest position and actuating the intermediate member at the end of the return stroke of the actuating member for causing said intermediate member to re-engage with said power roll by the cam action of said repeat cam when said key lever is depressed into the second position and while being held in said position, whereby repeat operation of the driven part is continued.

3,342,296
TYPEWRITER WITH MEANS TO DECREASE RATE OF OPERATION TO PREVENT TYPE-BAR MALFUNCTION
 George B. Greene, Lafayette, Calif.
 (2500 Anniversary Lane, Newport Beach, Calif. 92660)
 Filed Oct. 16, 1964, Ser. No. 404,246
 11 Claims. (Cl. 197—20)

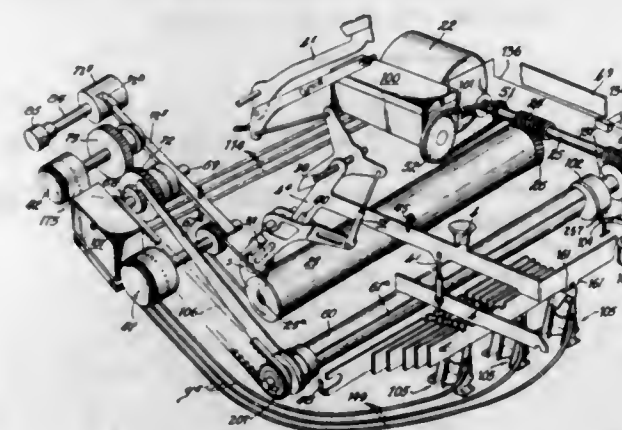
1. In a writing machine having a bank of a plurality of types,

power-operated type drive means for driving said types from their rest positions to their printing positions, and reading means controlling selection of the type to be operated by said type drive means, the improvement which comprises:

- (1) an operating means for said reading means normally operating said reading means at a speed at which malfunction between adjacent types will occur;
- (2) a registering device for registering the type last operated including:
 - (a) a member for each type positioned in an operative position by operation of its respective type,
 - (b) means for holding a member in its operative position, and
 - (c) means operated by another type during its operation to release the previously operative member;



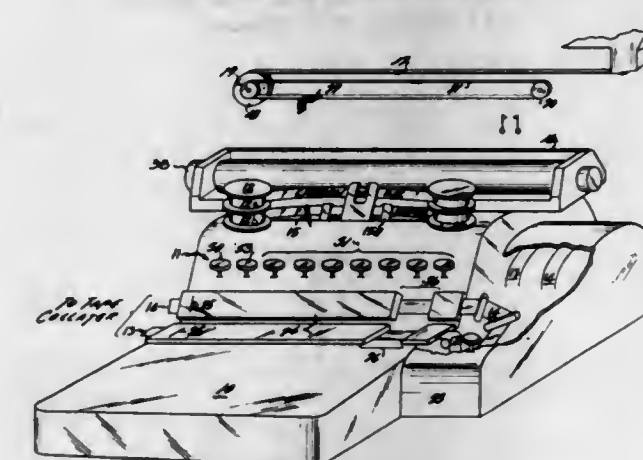
3,342,297
FLUIDYNAMIC SYSTEM AND METHOD OF OPERATION
 George B. Greene, Lafayette, Calif. (2500 Anniversary Lane, Newport Beach, Calif. 92660)
 Filed Aug. 26, 1965, Ser. No. 482,816
 6 Claims. (Cl. 197—20)



1. A fluidynamic system including a plurality of information transmission channels, each channel comprising: first and second throughputless collapsible containers respectively situated at spaced apart locations, conduit means coupling the interiors of said containers together

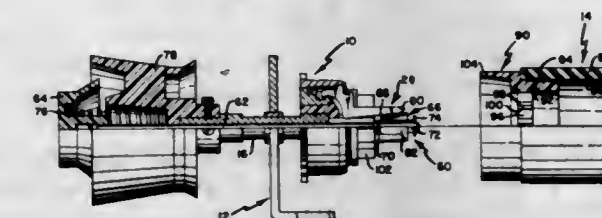
in a fluid tight relationship, means for continuously varying the volume of said first container in a predetermined fashion in synchronism with the variation of the volumes of the first containers in the other ones of said channels, an output member, means for coupling said second container to said output member whereby said output member is movable with said second container when said second container expands and contracts, and means for selectively impairing said fluid tight relationship in accordance with data signals to correspondingly drive said output member.

3,342,298
PHANTOM CARRIAGE FOR AUTOMATIC TYPEWRITER
 James Warren Whitesel, Western Springs, Ill., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
 Filed Feb. 21, 1966, Ser. No. 529,160
 14 Claims. (Cl. 197—20)



1. An automatic typewriter comprising means for storing a record of copy as it is typed, means for correcting said copy after said copy has been stored on said record whereby the carriage return symbols originally stored on said record become improperly located, memory means for storing the position which a carriage would be in if said automatic typewriter typed said record copy as collated with said corrections, and means responsive to said memory means for detecting improperly located carriage return symbols with respect to the margin requirements of said collated copy.

3,342,299
PLATEN RATCHET ASSEMBLY
 James E. Harmon and Aaron C. Zeamer, Groton, N.Y., assignors to SCM Corporation, a corporation of New York
 Filed Dec. 1, 1965, Ser. No. 510,885
 3 Claims. (Cl. 197—145)



1. In a typewriter or the like having a carriage frame and a detachable platen rotatably mounted thereon comprising:

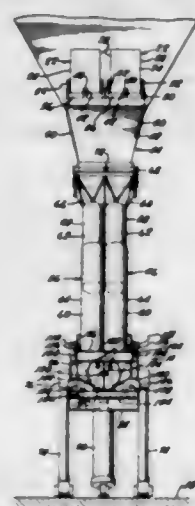
- (a) a ratchet assembly rotatably supported on the carriage frame including:
 - (1) a rotatably mounted ratchet wheel;
 - (2) a first plastic member;

- (3) a selectively operable means for connecting and disconnecting said ratchet wheel and said first plastic member; and
- (b) a platen assembly rotatably supported on the carriage frame including a second plastic member, said second plastic member having means for engaging said first plastic member with an interference fit to eliminate lost motion between said ratchet assembly and said platen assembly when said operable means is in said disconnecting condition and for disengaging said first plastic member whereby said platen assembly may be removed from the carriage independently of said ratchet assembly.

3,342,300

CAR LOADER

Harold E. Foy, Carlsbad, N. Mex., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
Filed Nov. 17, 1966, Ser. No. 595,127
11 Claims. (Cl. 198—6)



1. Apparatus for loading frangible materials in a railroad car having an upright longitudinal center plane through the center of its opposite end walls, and an opening through one side wall, said loading apparatus comprising:

a slinger conveyor;
means mounting the slinger conveyor for pivotal movement about a vertical axis;
means for extending the slinger conveyor interior of the car through the side opening so that the slinger conveyor is disposed between the open side and the longitudinal center plane;
first stop means limiting pivotal movement of the slinger conveyor in one direction to a first position in which the conveyor and the longitudinal center plane converge toward one end of the car;
second stop means limiting pivotal movement of the slinger conveyor in the other direction to a second position in which the conveyor and the longitudinal center plane of the car converge toward the opposite end; and,
means for selectively driving the slinger conveyor in either of two opposite directions at a velocity sufficient that the reactive force pivots the conveyor to the first position when the conveyor is driven toward said one end and to the second position when the conveyor is driven toward said opposite end.

5. Apparatus for delivering frangible materials from an elevated hopper to a railroad car having an opening through one side, said apparatus comprising:

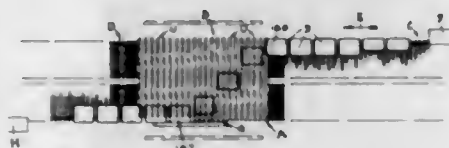
first and second side-by-side elongated inclined chutes, the upper end of each of said chutes being in communication with said hopper;

means for positioning the lower ends of said chutes interior of the box car;
a reversible slinger conveyor disposed at the lower end of said chutes for throwing material from the chutes toward opposite ends of the box car, said chutes being arranged so that one chute deposits materials at one location on the conveyor preferred for throwing the material in one direction, and the other chute deposits material at a different location on the conveyor preferred for throwing the material in the opposite direction; and
gate means exterior of the box car for alternatively opening one of the chutes and closing the other to deposit the materials at the selected location on the conveyor.

3,342,301

CONVEYOR APPARATUS

Alfred H. Miller and James E. Starnes, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Apr. 23, 1965, Ser. No. 450,315
4 Claims. (Cl. 198—24)



1. An apparatus for conveying a plurality of sheets, including a driven member having a sheet supporting surface moving in a first direction with first and second sides disposed adjacent opposite edges of said supporting surface, a frame mounted above said driven member, a plurality of transfer units mounted on said frame; each of said units including a conveyor, a driving member for moving said conveyor in a second direction at an angle to said first direction, engaging means secured to said conveyor for engaging said sheet to move said sheet from said first side to said second side while continuing movement of said sheet in said first direction, means adjacent said first side responsive to movement of said sheet member to successively halt a plurality of said driving members and responsive to continued movement of the sheet to simultaneously reactivate said driving members, an aligning unit adjacent said second side to limit the movement of said sheet in said second direction, and means adjacent said second side responsive to movement of said sheet to temporarily halt some of said driving members and responsive to continued movement of said sheet to successively reactivate said driving members.

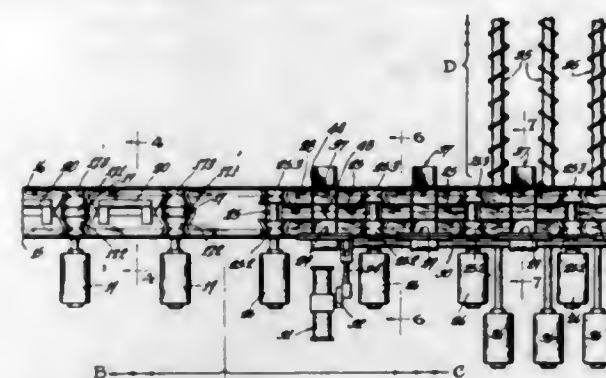
3,342,302

METHODS OF AND APPARATUS FOR HANDLING ELONGATED PIECES OF MATERIAL

Harry C. Ledebur, Youngstown, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio
Filed May 18, 1965, Ser. No. 456,739
18 Claims. (Cl. 198—31)

1. The method of handling elongated pieces of pipe and the like traveling longitudinally along a predetermined path in close succession at high speed, which comprises transversely shifting alternate pieces from said path to respective second paths in side-by-side spaced relation, reducing the speed of travel of said pieces in said second paths to a predetermined level, alternately transferring said pieces to respective skid troughs wherein their speeds are reduced from said predetermined level to zero, and transversely shifting two pieces from respective skid troughs simultaneously to a device along which such pieces are transversely movable.

3. Apparatus for handling elongated pieces of pipe and the like, comprising a plurality of elongated rolls in side-by-side relation forming a conveyor and the intermediate portions of said rolls providing a first conveyor path and the end portions of said rolls providing respective second conveyor paths each for longitudinally transporting said pieces, means for rotating the intermediate portion of each roll and its end portions at the same rotational

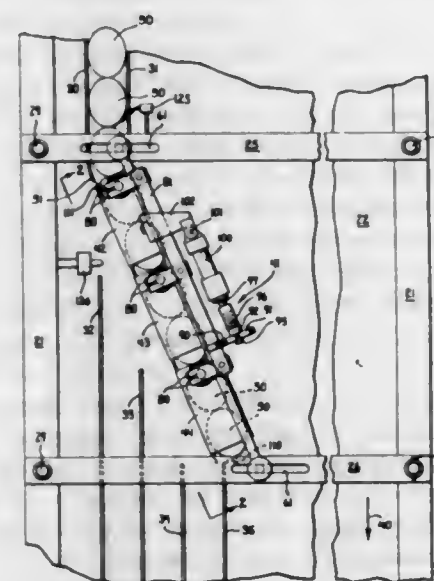


speeds, the intermediate portions of said rolls being of relatively large diameter wherein they have a relatively high peripheral speed for transporting said pieces in said first path at relatively high speed and the end portions of said rolls being of relatively small diameter wherein they have a relatively low peripheral speed for transporting said pieces in said second paths at relatively low speed, and means for shifting successive pieces from said first path to alternate second paths.

3,342,303

PATTERN FORMER

Eugene W. Onulak, Huntington, Ind., assignor to Shuttleworth Machinery Corp., Huntington, Ind., a corporation of Indiana
Filed Nov. 3, 1966, Ser. No. 591,767
6 Claims. (Cl. 198—31)

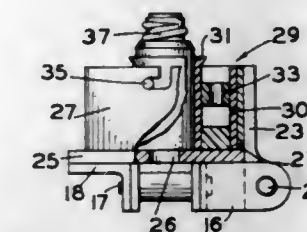


1. Apparatus for use with a conveyor having an upper surface adapted to support objects, said upper surface being movable in a direction of movement, said apparatus comprising a plurality of orienting elements each having a pair of guide walls with an opening therebetween, means swingably mounting said orienting elements over said conveyor for swinging movement between two positions in a first of which said orienting elements are aligned and extend across said conveyor at an angle to the direction of movement of said conveyor and in a second of which said orienting elements extend in the direction of movement of said conveyor and parallel to one another.

3,342,304

CONTAINER-TRANSPORT APPARATUS

Max A. Greulich, Montclair, N.J., assignor to Wilhelm B. Bronander, Jr., Montclair, N.J.
Filed Mar. 8, 1966, Ser. No. 532,734
4 Claims. (Cl. 198—33)

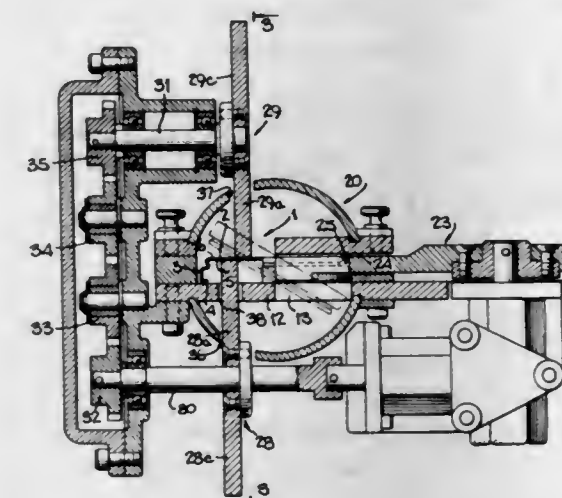


1. Apparatus for transporting objects comprising,
(a) a conveyor chain,
(b) a plurality of carriers pivotally secured to the chain for individual rotation about an axis substantially parallel to that of the chain, said adapters comprising tubular members having bayonet-type slots formed in the walls thereof, and
(c) object-receiving adapters removably secured to the said carriers, said carriers having secured thereto pins cooperating with the said slots thereby to secure an adapter to the associated carrier.

3,342,305

ALIGNING MECHANISM

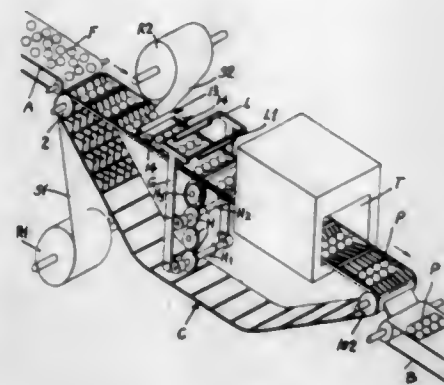
Charles S. Ochs, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Jan. 12, 1966, Ser. No. 534,263
18 Claims. (Cl. 198—33)



1. An inverting mechanism for inverting improperly positioned closure caps comprising a pair of pinwheels rotatable about parallel axes, each of said pinwheels having fingers which operate in synchronism with each other, said pinwheels being spaced above each other, means for moving closure caps between said fingers whereby properly positioned closure caps will be prevented from being tilted by said fingers, said fingers being adapted to tilt improperly positioned closure caps, and inverting means adjacent said fingers adapted to act on said tilted closure caps to invert them, wherein a star wheel is positioned adjacent said pinwheels and is rotatable in a plane substantially perpendicular to the plane of rotation of said pinwheels, said star wheel having pockets therein adapted to receive and position closure caps between said pinwheels.

3,342,306 CONVEYOR WITH TROUGHS OF VARIABLE DEPTH

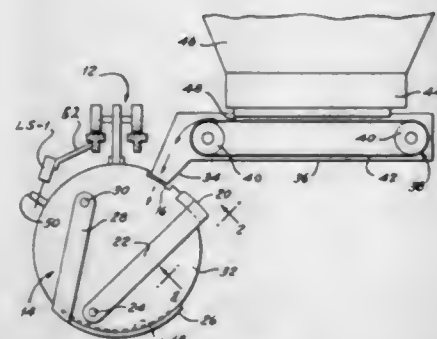
Ermanno Fabbri, 118 Via Caselline, Vignola, Italy
Filed May 12, 1964, Ser. No. 366,742
Claims priority, application Italy, Jan. 9, 1964, 706/64
7 Claims. (Cl. 198—40)



1. A conveyor adapted to transport fruit or similar articles, said conveyor comprising:
a pair of endless chains,
a plurality of spaced bar members extending longitudinally between said chains and being mounted therein, at least one set of rake-like teeth extending angularly from each of said bar members toward an adjacent bar member to define a plurality of troughs between said chains along a run of the chains, drive means for laterally advancing said chains, guide means positioned in operative relationship to said bar members, said guide means and such run of said endless chains being disposed at an acute angle relative to one another, and means connected to said bar members and coaxing with said guide means to impart rotational forces to said bar members, whereby the troughs are progressively varied in depth during the advancing of the chains.

3,342,307 MATERIAL HANDLING CONVEYORS

John M. Leach, P.O. Box 341, Port Jefferson, N.Y. 11777
Filed July 13, 1966, Ser. No. 564,958
8 Claims. (Cl. 198—58)

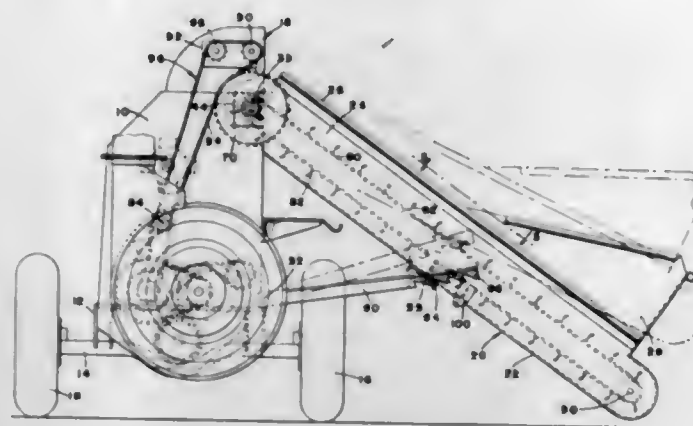


1. A material handling system comprising a power driven main conveyor, covered material carrying magazines supported for movement with said main conveyor, each of said magazines having a narrow material receiving opening near its covered top, a feeder conveyor positioned near said opening, a drive for moving said feeder conveyor at a speed so as to forcibly directly project material through said narrow receiving opening substantially without contacting anything before passing through said opening and at a higher volumetric rate than could be obtained by gravity flow, a movable closure for said opening, means for opening said closure prior to said opening reaching

said feeder conveyor and for closing said closure after said opening passes said feeder conveyor, and means for supplying material to said feeder conveyor.

3,342,308 CORN PROCESSING MACHINE ELEVATOR UNIT STRUCTURE

Allison W. Blanshine, Lilitz, and Charles M. Kline, Reinholds, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Aug. 9, 1966, Ser. No. 571,221
4 Claims. (Cl. 198—69)



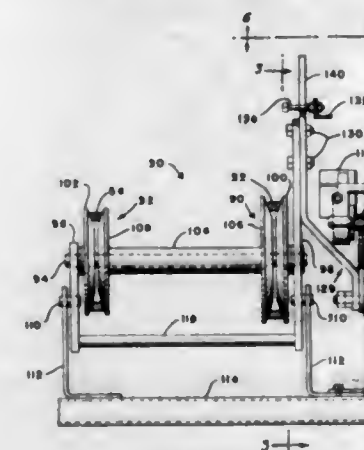
1. The combination of a corn processing machine having a housing provided with an inlet opening in one side wall thereof and an elevator unit removably connectable at one end to said inlet opening of said side wall to deliver ears of corn thereto, said elevator unit comprising a channel-shaped frame having substantially parallel opposite sides, shafts extending between said sides adjacent opposite ends of said frame, bearing structures carried by said sides to support the opposite ends of said shafts, said elevator unit being selectively positionable in an operative position in which it extends from its discharge end downwardly and outwardly from said inlet opening in said side wall of said housing and an inoperative position in which it is supported horizontally along said one side wall of said housing for storage therealong, the opposite ends of the shaft adjacent the normally upper discharge end of said frame extending beyond the sides of said elevator frame, flexible endless elevator means having transverse flights thereon and extending around means on said shafts for support and feeding movement of said elevator means within said frame, said inlet opening means in said housing having opposed parallel walls extending transversely to said one side wall of said housing, each of said parallel walls being rigidly connected to said housing for fixed support thereby and provided with transversely aligned notches in the forward edges thereof opening outwardly relative to said one side respectively to receive said projecting ends of said shaft at the upper discharge end of said elevator unit to support said unit for limited adjustable pivotal movement of the same to dispose it at a desired angle relative to said inlet opening, removable retaining means extending transversely across the open outer ends of said shaft-receiving notches in said opposed parallel walls of said inlet opening means to close the same and interengageable with said projecting ends of said shaft of said upper discharge end of said elevator unit received therein to retain said discharge end of said elevator unit operatively secured relative to said inlet opening of said housing, brace means extending outwardly from said housing and engaging said elevator frame in spaced relationship below the upper delivery end thereof, a drive gear connected to one of the outer ends of said shaft adjacent the delivery end of said elevator frame, and powered drive means on said processing machine positioned adjacent said inlet opening and interengageable by

said drive gear on said elevator unit when the projecting ends of the shaft at the delivery end of said elevator frame are received and retained within said notches in said inlet means of said processing machine by said retaining means as aforesaid, thereby to effect connection of said elevator unit to said processing machine and establish connection of said flexible elevator means to the drive means of said processing machine for operation thereby.

3,342,309 ELECTRIC SPEED CONTROL FOR BALE THROWER

James H. Hollyday, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed June 2, 1966, Ser. No. 554,792
6 Claims. (Cl. 198—110)



1. A bale thrower mountable on a hay baler as an extension thereof to receive discharged bales and traject them from the baler comprising in combination a frame structure pivotally mountable on the baler, bale trajecting means carried on said frame structure, a drive means for said bale trajecting means, a speed control means operatively connected to said drive means and said bale trajecting means, said speed control means comprising sheave means on said frame structure, gear means pivotally mounted on said frame structure and operatively connected to said sheave means, a drive motor on said frame structure and in operative engagement with said gear means, switch means connected to said motor for actuating said speed control means, a first element extending vertically upward from a cross member on said frame structure, said drive motor being fixed to said first element at an upper end, and said gear means comprising a gear segment pivotally mounted on said first element adjacent said motor.

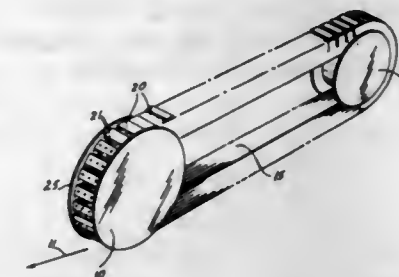
3,342,310 GROUND COTTON RETRIEVING SYSTEM AND BELT

James H. Gray, 3411 E. Gold Dust, Phoenix, Ariz. 85028
Filed Apr. 8, 1965, Ser. No. 446,587
1 Claim. (Cl. 198—179)

A cotton retrieving system comprising:

- (a) a first pulley,
- (b) a second pulley positioned higher than said first pulley,
- (c) an endless flexible belt, mounted over said pulleys, having slots therein that open when said belt is flexed over said pulleys,
- (d) a plurality of rigid clips, each secured to the external periphery of said belt between adjacent slots,
- (e) each of said clips including:
 - (1) a surface held against said belt including a front edge and a rear edge,

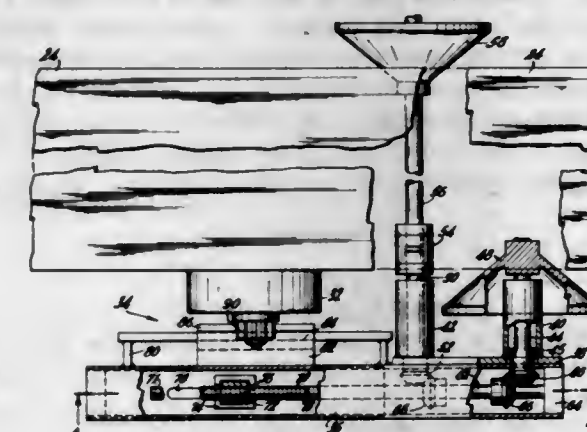
- (2) a plurality of teeth spaced apart and extending from said front edge over one of said adjacent slots, and
- (f) whereby when said belt is substantially flat said teeth of each clip extend over the adjacent slot and the tips of the teeth about the rear edge of the preceding



ing adjacent clip but being out of abutment with the preceding adjacent clip to expose said open slot when the belt is flexed.

3,342,311 BELT TRAINER

Samuel Davis Robins, 114 Berkshire Place, Lawrence, N.Y. 11559
Filed Sept. 26, 1966, Ser. No. 581,809
22 Claims. (Cl. 198—202)

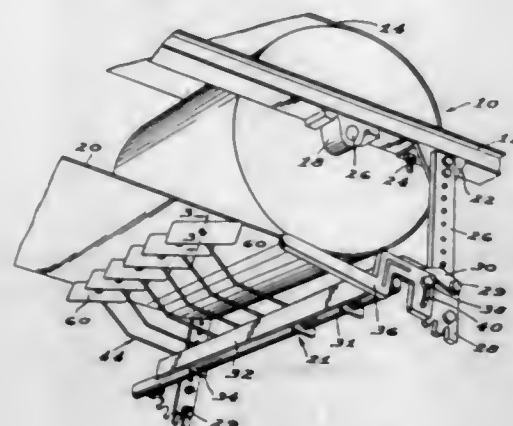


1. An improved training device for use with a conveyor system having opposed, frame members, at least one pivotal idler roller extending transversely between the frame members for arcuate movement in a horizontal plane and an elongated, longitudinally movable endless belt defined by an upper, load-carrying run and a lower, return run in contact with the idler roller, said training device comprising:

- (A) first and second rotatable sensing means positioned in proximity to at least one of the longitudinal edges of the conveyor belt, said sensing means being responsive to the lateral movement of the belt;
- (B) actuating means comprising:
 - (a) a first movable portion responsive to the rotation of said sensing means, and
 - (b) a second movable portion responsive to the movement of said first portion and arranged to travel between two limiting positions; and
- (C) coupling means connected to said second portion of said actuating means and to the pivotally movable idler roller whereby movement of said sensing means and said actuating means results in an arcuate movement of the idler roller in a horizontal plane; and
- (D) control means interposed between said rotatable sensing means and said coupling means for disengag-

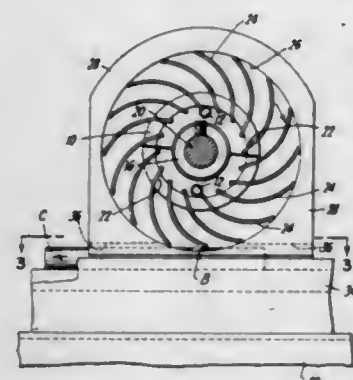
ing said coupling means from said sensing means when said second movable portion has reached the limit of travel in a given direction.

3,342,312
CONVEYOR BELT CLEANER
Robert C. Reiter, 38295 Jonathan Drive,
Mount Clemens, Mich. 48043
Filed Feb. 10, 1966, Ser. No. 526,466
11 Claims. (Cl. 198—230)



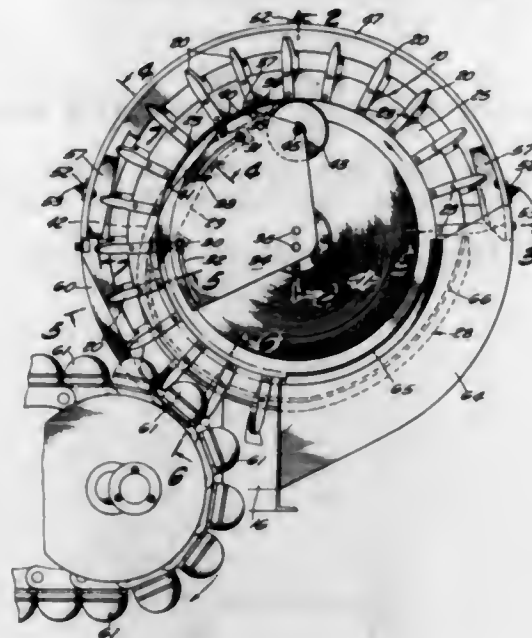
1. A cleaner for a conveyor belt adapted to engage the belt on the return run from below including a support adapted to be mounted transversely of the belt to be cleaned, and a plurality of torsion springs, each torsion spring having one end portion secured to said support and having on the other end portion a wiper blade which is engageable with the belt, each of said torsion springs being in the form of an elongated arm of generally circular cross-section substantially equal in flexibility, in the length thereof between said end portions, in planes normal to and paralleling the direction of travel of said belt return run.

3,342,313
CONVEYING SYSTEMS
George Dearsley, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Nov. 18, 1965, Ser. No. 508,505
7 Claims. (Cl. 198—211)



1. In a system for conveying cylindrical objects such as cigarettes having means for transporting said objects a roller assembly adapted to be mounted in conjunction with said transport means comprising, a body adapted for rotation, said body having a plurality of flexible members extending outwardly therefrom, a housing surrounding said body and defining a guide surface spaced from said body curvilinearly bending said flexible members upon rotation of said body, an opening intersecting said guide surface and adapted to conform to said objects being conveyed to permit said curvilinearly flexed members to engage said objects.

3,342,314
ROTARY FEEDER FOR FRUIT
Franklin K. Holbrook, Whittier, Calif., assignor to Brown Citrus Machinery Corporation, Whittier, Calif., a corporation of California
Filed Feb. 7, 1966, Ser. No. 525,776
4 Claims. (Cl. 198—212)

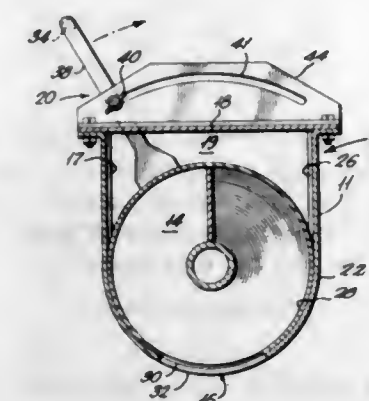


1. A rotary device for feeding fruit to a juice extracting machine, comprising in combination: a frame, a wheel structure mounted to rotate on the frame about a horizontal axis and having a series of circumferentially spaced blades fixed on the periphery thereof, each pair of adjacent blades defining therebetween a fruit-receiving pocket, a stationary arcuate cover on the frame enclosing an upper portion of the wheel structure, each blade having a central slot, a continuous stationary rail received in said slots and extending circumferentially for an arcuate distance substantially less than one full turn, said rail having a first portion adjacent one end defining the inner boundary of said pockets, a roller mounted on the frame adjacent said end of the rail for rotation about a horizontal axis and having an upper portion substantially tangent to said inner boundary, the rail having a second portion adjacent the other end defining the outer boundary of said pockets.

3,342,315
DEVICE FOR DISCHARGING MATERIAL FROM A SCREW CONVEYOR
Charles S. Godley, Hobbs, N. Mex., assignor to International Minerals & Chemical Corporation, a corporation of New York
Filed Aug. 20, 1965, Ser. No. 481,243
5 Claims. (Cl. 198—213)

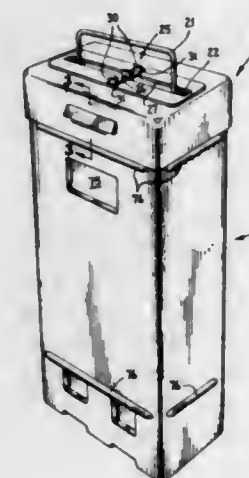
1. A conveying apparatus which comprises: an elongated conduit having a U-shaped cross-sectional lower portion with an arcuate inner surface at the bottom thereof and a cover for said lower portion; said conduit including two longitudinal case sections in spaced end to end relationship and a housing member covering the space between said case sections, said housing member being affixed to the outer surfaces of said case sections adjacent said space; a rotatable screw positioned within said conduit for conveying material through said conduit, said rotatable screw being positioned within said conduit adjacent said arcuate surface such that said arcuate surface closely surrounds the lower periphery of said screw and a longitudinal passageway is defined between the upper periphery of said screw and said cover;

a cylindrical sleeve closely surrounding the periphery of a longitudinal section of said screw and partially supported by said screw, said sleeve being positioned within said housing member between the extremities of said case sections and being journaled for rotation with respect to both said conduit and screw such that the lowermost portion of the inner surface of said sleeve remains contiguous to and longitudinally aligned with said arcuate surface;



said sleeve and the bottom of said housing member each having a transverse opening therethrough, which openings may be aligned by rotation of said sleeve; and means for rotating said sleeve to selectively adjust the degree of alignment of said openings.

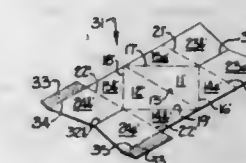
3,342,316
CARRYING CASE
Richard Henry Erlewine, Marion, Ind., assignor to Standard Change-Makers, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Mar. 23, 1966, Ser. No. 536,757
5 Claims. (Cl. 206—1)



1. A carrying case arrangement comprising a coin magazine, a bail shaped handle for said magazine pivoted to the top of said magazine, a carrying case having a closed bottom and sides, a top for said carrying case, said top having a first slot therein through which said handle projects, limit means projecting upwardly from the top of said magazine, said carrying case top having a second slot intersecting said first slot and at right angles thereto, said limit means being engageable with the said second slot to maintain said magazine intermediate the sides of said carrying case, a plate in said case resting on said bottom and having ridges therein, said magazine having a base including a pair of spaced parallel feet which

rest upon said plate between certain of said ridges and which are retained intermediate the sides of said case by said certain ridges, said carrying case top being formed of resilient material and having side walls extending perpendicularly of a central portion within which said slots are formed, projections formed in an opposite pair of said side walls and extending inwardly toward one another, said carrying case having recesses which receive said projections to lock said top on said carrying case, said carrying case top being bowed inwardly of said carrying case and formed of resilient material as to bear against the top of said magazine adjacent said slots and to hold said magazine firmly between said plate and top.

3,342,317
FOLDABLE ASH TRAY
James D. Barron, Box 509, Chapel Hill, N.C. 27514
Filed Aug. 11, 1966, Ser. No. 571,918
7 Claims. (Cl. 206—37)



7. A collapsible ash tray formed from relatively stiff foldable material comprising a first panel having a hinge line dividing the panel into a pair of substantially equal triangular walls, a second panel overlying a first portion of the first panel, said second panel having a pair of adjacent sides hingedly connected to edge portions of said first panel and intersecting at one end of said hinge line of said first panel, a third panel overlying a second portion of said first panel, said third panel having a pair of adjacent sides hingedly connected to edge portions of said first panel and intersecting at the other end of said hinge line of the first panel, proximal sides of said second and third panels being independent of each other, said second and third panels each having a hinge line extending from its proximal side to said intersection of its adjacent sides and lying parallel to the hinge line of said first panel to divide each panel into a pair of walls, whereby movement of said second and third panels about their hinged connections to said first panel results in movement of the respective pairs of walls of said second and third panels away from each other to form an opening into said ash-receiving compartment, and whereby continued movement of said second and third panels about their hinge connections to said first panel causes said ash tray to collapse into a flat configuration for storage when not in use.

3,342,318
TABLET DISPENSER
Herbert S. Ruekberg, Highland Park, Ill., and William E. Phillips, Grand Rapids, Mich., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 5, 1965, Ser. No. 493,206
9 Claims. (Cl. 206—42)

1. A dispensing container comprising a container body, said container body having opposite upper and lower end portions, said lower end portion being closed by a bottom wall, said upper end portion including dispensing means for dispensing individual packaged articles from said container body, said dispensing means being defined by a yieldable housing having a top wall, an elongated slot in

said top wall, said slot terminating at opposite ends and being adapted to form a dispensing opening upon the application of opposed forces to said housing adjacent said



slot ends, and a separate-flexible gasket of elastomeric material softer than the material of said container body sealing said slot in a normal non-dispensing position thereof.

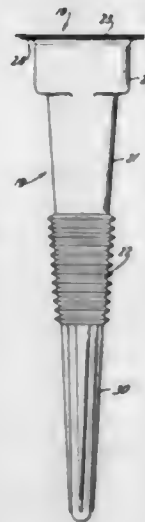
3,342,319

RIGID TUBULAR SYRINGE PACKAGE

Francis C. Faulseit, Clifton, N.J., assignor to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey

Filed June 21, 1966, Ser. No. 559,211

8 Claims. (Cl. 206—43)



1. A substantially rigid package for a syringe having a radial flange comprising a container including a tubular body closed at one end and open at the other, an enlarged head at the open end, said head having surface means for having a lid sealed thereto, said body provided with a tapered portion intermediate its ends, said enlarged head forming an internal shoulder with the open end of the body, and the radial flange on the syringe adapted to engage with the shoulder to thereby collapse in securing the syringe within the package, collapsible means forming part of the container for permitting a reduction in the effective longitudinal length of the container to facilitate the grasping and removal of an enclosed syringe, and said collapsible means being a bellows located intermediate the ends of the body of the container, said bellows being tubular in shape and tapered with its small end being nearer the closed end of the body of the container.

3,342,320

U-BOARD WITH THERMOFORMED WEB

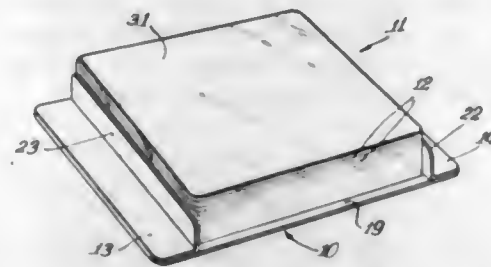
James S. Stelzer, Fort Wayne, Ind., assignor to Peter Eckrich & Sons, Inc., a corporation of Indiana

Filed Aug. 1, 1963, Ser. No. 299,207

15 Claims. (Cl. 206—45.34)

14. A package containing an article, which package comprises a stiff backing member having opposing ends

flaps, a first envelope web disposed on said backing member, a second envelope web peripherally secured to said first web to define an enclosure enclosing said article, said peripherally secured portions of said webs being nor-



mally generally in the plane of said first web, said end flaps being folded over opposing ends of said peripherally sealed webs at the peripherally sealed portions thereof and securing the opposing peripheral ends of the envelope between said flaps and backing member.

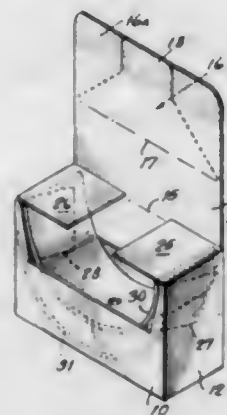
3,342,321

FOLDING CARTON AND BLANK THEREFOR

John E. Haffey, Cleveland, Ohio, assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed July 16, 1965, Ser. No. 472,482

6 Claims. (Cl. 206—46)



1. A blank for forming a collapsible carton of paper-board or the like having front, rear and side wall panels and top and bottom closure means, the upper portion of the front panel being formed with a pair of flaps integral therewith and hinged respectively along crease lines which extend along adjacent the upper side edges of such front panel, said flaps being adapted to be swung inwardly respectively toward the interior surfaces of the side wall panels to provide separating means to be interposed between surfaces of articles to be contained in the carton, and a dust flap integral with the upper edge of each side wall and adapted to be folded inwardly beneath said top closure means and to overlie said flaps integral with said front panel.

3,342,322

SAUSAGE CASING CARTON

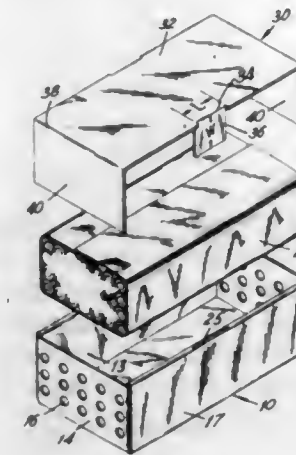
John W. Weisner and Charles R. Juhasz, Chicago, Ill., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 9, 1965, Ser. No. 506,939

4 Claims. (Cl. 206—46)

1. A two part sausage casing caddy comprising: a bottom member, having a rectangular bottom panel, two side walls, said side walls having a first section integral with the two side edges of said bottom panel and infolded 90° therefrom, and a second section integral with said first section and infolded 180° therefrom, and

an elongated slot along the fold between said first and second sections, and two apertured end walls integral with the two end edges of said bottom panel and infolded 90° therefrom, said end walls having end flaps integral with two opposing edges of said end walls, said end flaps being infolded 90° from said end walls and positioned between said first and second sections of said side walls,



and a top member, having a rectangular top panel, two end flaps integral with the end edges of said top panel and infolded 90° therefrom, and side tabs integral with the side edges of said top panel and infolded 90° therefrom, said top member seating on said top edges of said bottom member, said end flaps lying over said end walls and covering said apertures, and each of said side tabs being positioned in a corresponding slot.

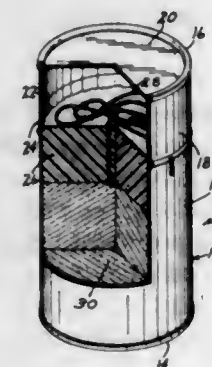
3,342,323

REMOVABLE CONDUIT PLUG

Lloyd G. Cherne, Hopkins, Minn., assignor to Cherne Industrial, Inc., Hopkins, Minn.

Filed May 27, 1965, Ser. No. 459,184

6 Claims. (Cl. 206—47)



1. A unit for forming a removable plug in a conduit comprising:

- (a) a container open at the upper end,
- (b) a cap for closing off the upper end of said container,
- (c) a circular support compressible member of a predetermined maximum diameter insertable into a conduit for frictional engagement therewith as a support for the formation of a plug thereon,
- (d) a supply of powdered material positioned in said container,
- (e) said compressible support member positioned within said container body and adjacent said powdered material,

(f) said cap being substantially impervious to water and having a capacity equal to the liquid required for the setting of the powdered material to form a plug in a conduit on top of said support member,

(g) means connected to and extending from said circular support member for removing the circular support member from a conduit on which the powdered material together with the liquid has solidified in the form of a plug.

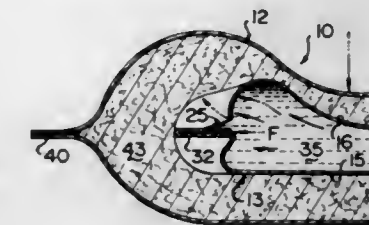
3,342,324

TWO-COMPARTMENT PACKAGE

Thomas E. Piazza, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 18, 1966, Ser. No. 535,412

17 Claims. (Cl. 206—47)



1. A container comprising inner and outer chamber means, and said inner chamber means including heat seal means for rupturing said inner chamber means upon the application of a force to said outer chamber means whereby materials adapted to be housed in said chamber means can be admixed.

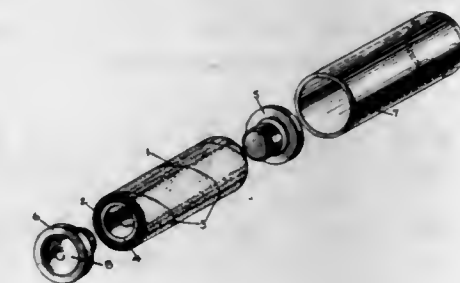
3,342,325

LINT REMOVERS

Donald F. Dreher, P.O. Box 56, East Brookfield, Mass. 01515

Continuation of application Ser. No. 305,231, Aug. 28, 1963. This application July 1, 1966, Ser. No. 562,406

12 Claims. (Cl. 206—52)



1. A lint pickup roller comprising a cylindrical support and a plurality of lengths of substrate having ever-tacky adhesive on one surface thereof, said lengths being superposed upon said support, said adhesive having one face outwardly exposable while on the roller, and each said length forming a helix with its opposite edges substantially abuttingly juxtaposed and in offset relationship to contiguous windings.

3,342,326

STERILE FLEXIBLE PACKAGE

Eli A. Zackheim, Princeton, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Oct. 22, 1965, Ser. No. 502,123

3 Claims. (Cl. 206—56)

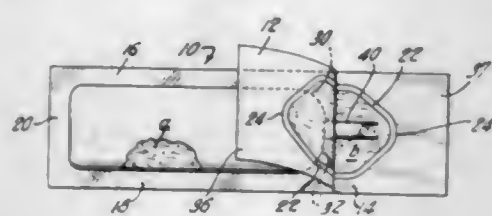
1. A flexible container having sealed therein a sterile material, said container comprising:

- (a) a pair of superimposed sheets of flexible material defining front and rear walls of said container,

(b) said front and rear walls being sealed together at the bottom and top ends thereof and along their co-extensive side edges existent between said sealed bottom and top ends,

(c) the seal at the top end of said container being spaced inwardly from the top end of said superimposed sheets and comprising:

- (1) an angular seal line having an apex directed toward the top end of said superimposed sheets and,
- (2) a pair of transverse lines directed inwardly from the sides of said container connecting the top ends of said side edge seals with the ends of said angular seal line, each of said transverse seal lines extending inwardly from the ends of said angular seal line and having its inner end spaced from one another below the apex of said angular line.



(d) said inwardly directed seal lines dividing said container into a lower primary chamber and an upper secondary chamber, each containing said sterile material, said chambers communicating with one another between the spaced inner ends of said transverse seal lines through a tube sealed within the spaced inner ends of said transverse seal lines, which tube extends upwardly into said secondary chamber,

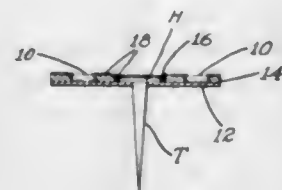
(e) said front and rear walls existent beyond the outside of said angular seal line forming tabs which upon exertion of a separating force open said upper secondary chamber down to said transverse seal lines and permit ejection of said sterile contents within said lower primary chamber through said tube without contacting an unsterile surface of said container.

3,342,327

STRIPS FOR FEEDING TACKS AND THE LIKE

Albert E. Newton, 2 Bass River Road,
Beverly, Mass. 01915

Filed June 24, 1963, Ser. No. 289,828
8 Claims. (Cl. 206—56)



1. A feedable fastener mounting comprising
 - (1) a strip of tissue paper adapted to receive the shanks of fasteners with their heads adjacent to one surface thereof; and
 - (2) a stronger backing strip secured to said one surface of the tissue paper, the backing strip being formed with apertures arranged to surround the respective fastener heads whereby each is supported only by the tissue paper and exposed for driving therefrom.

3,342,328

DIALYZER MEMBRANE STORAGE ASSEMBLY

Harvey F. Swenson, 3401 17th Ave. W.,
Seattle, Wash. 98119

Filed Apr. 14, 1966, Ser. No. 542,674
7 Claims. (Cl. 206—63.2)



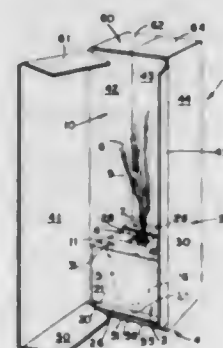
1. A dialysis membrane storage assembly which comprises at least one membrane envelope wherein said membrane envelope comprises a pair of membrane sheets and clamping means edge clamping opposing sides of said membrane sheets together; and enclosure means sterilely sealed around said membrane envelope.

3,342,329

CARTONS FOR POTTED PLANTS AND FLOWERS

Noble A. Knight, Richmond, Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Mar. 18, 1965, Ser. No. 440,713
13 Claims. (Cl. 206—65)



1. A carton comprising, in combination, an outer box comprising
 - a first side panel,
 - a second side panel opposite said first panel,
 - a back panel connected to the corresponding sides of said first and second panels,
 - a front panel hingedly connected to the side of one of said side panels opposite said back panel,
 - a first end structure connected to one end of said panels, and
 - a second end structure connected to the opposite end of said panels,
 said first end structure including
 - first and second flap members connected to the corresponding ends respectively of two opposite ones of said panels, said flap members extending toward each other;
 an inner box securable within said outer box and comprising
 - a first pair of side panels, and
 - a second pair of side panels connected respectively to the opposite side edges of each of said first pair of side panels,
 a first end structure including first and second flaps hingedly connected respectively to the corresponding ends of one of said pair of side panels and dimensioned to overlap each other, and
 - a second end structure including flaps hingedly con-

ected to the end of said inner box opposite said first end structure,

said inner box having first and second generally aligned transversely extending slots at opposite sides thereof and adjacent said first end structure of said inner box;

said inner box being mounted within said outer box with its first end structure adjacent the first end structure of said outer box;

said first and second flap members of said outer box extending through said first and second slots, respectively, of said inner box to retain the inner box in position within said outer box.

3,342,330

NEW PRODUCT AND PROCESS

Harry W. Buchanan, Milford, Pa., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 5, 1964, Ser. No. 365,174
5 Claims. (Cl. 206—84)

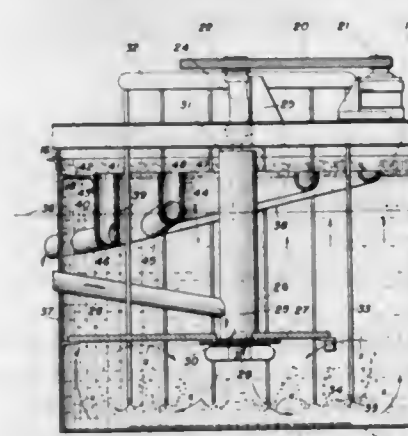
5. A novel collapsible tubular aluminum container having a 0.5–1.5 micron surface layer of tin on the interior surface thereof; and, within said container, tooth paste containing stannous fluoride.

3,342,331

FLOTATION MACHINE

John Russell Maxwell, P.O. Box 449, Chapais,
Quebec, Canada

Filed May 24, 1965, Ser. No. 457,933
2 Claims. (Cl. 209—170)



1. In apparatus for conditioning an ore pulp containing a flotation agent and separating a mineral therefrom, a machine comprising: a cylindrical flotation tank having a substantially flat bottom and a cylindrical wall terminating in an edge defining an open top; superstructure supported on said edge and extending over said open top; an impeller shaft supported by and depending from said superstructure centrally of said tank; an impeller drivably mounted on the lower end of said shaft in spaced relation to said bottom and including blades inclined with respect to said bottom; driving mechanism on said superstructure operably connected to said shaft to rotate said impeller to move pulp downwardly from regions above said impeller to regions below said impeller and outwardly towards said cylindrical wall; a feed column about and spaced from said shaft between said impeller and said open top; an inlet conduit passing through an opening in said cylindrical wall and communicating with said feed column; an air header of circular formation and of a diameter less than said cylindrical wall, said header being mounted on said superstructure; a plurality of bubble tubes angularly spaced apart and depending from said header in connected relation thereto and spaced from said cylindrical wall; said bubble tubes extending below the level of said impeller and having radial orifices therein

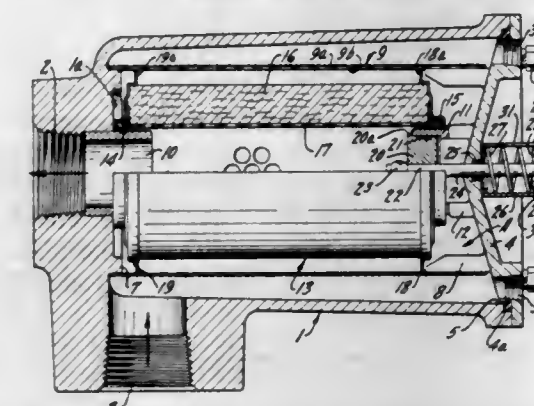
below said level; a pulp weir carried by said cylindrical wall in a predetermined relation to said edge; a circular froth launder of U-shaped cross section presenting opposed spaced side walls connected by a bottom wall and having upper weir edges at a predetermined level below said tank edge with the outermost weir edge spaced from said cylindrical wall and said bottom wall of said launder being inclined with respect to such tank bottom, said launder being mounted on said cylindrical wall; and an outlet conduit communicating with said launder adjacent to the bottom wall at the lowest region thereof and extending through said cylindrical wall.

3,342,332

FILTER

Walter J. Kudlaty, Elmhurst, Ill., assignor to Marvel Engineering Company, Chicago, Ill., a corporation of Illinois

Filed Apr. 10, 1964, Ser. No. 358,761
5 Claims. (Cl. 210—90)



1. A filter comprising a housing, a chamber within said housing, an inlet passage communicating with said chamber, an outlet passage in said housing, a filter cartridge positioned in said chamber between said inlet and said outlet, said filter cartridge having a hollow core, said outlet communicating with said core, said inlet communicating with the area within said chamber about said cartridge, a cap for said housing, a plurality of circumferentially spaced legs extending inwardly from said cap, a sleeve carried by said legs, said sleeve extending into the opposite end of said filter element core, a valve seated within said sleeve having one side thereof in communication with said inlet and the other side in communication with said core whereby the pressure differential across the cartridge urges said valve out of sealing engagement with said sleeve, a rod carried by said valve and extending outwardly through said cap, a spring carried by and externally of said cap, the outer end of said rod being connected with said spring thereby urging said valve toward sealing engagement with said sleeve, an indicator assembly carried by said cap and having an actuating engagement with said rod whereby movement of said valve off said seat is effective to actuate said indicator assembly, said spring urging elements of said assembly toward non-indicating position, said indicator assembly including elements movable toward said closure in response to movement of said valve off said seat.

3,342,333

APPARATUS FOR THIN-LAYER CHROMATOGRAPHY

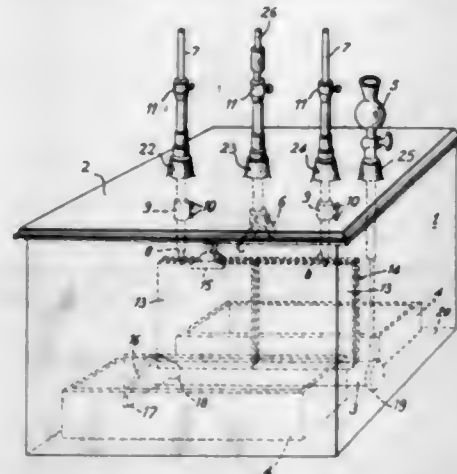
Friedrich Geiss, Laveno, and Helmut Schlitt, Masnago, Italy, assignors to European Atomic Energy Community-Euratom, Brussels, Belgium

Filed Dec. 26, 1963, Ser. No. 333,582
Claims priority, application Germany, Jan. 11, 1963,
E 17,696

11 Claims. (Cl. 210—94)

1. An apparatus for use in thin-layer chromatography separations with reproducible results comprising: a closed

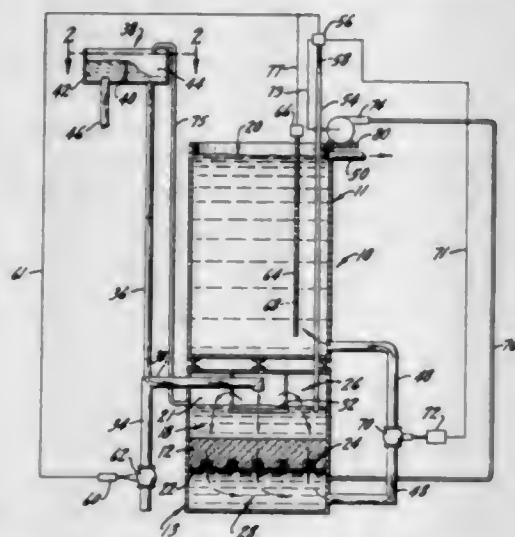
air-conditioning chamber in which desired climatic conditions can be formed, said chamber consisting of a box-like housing and a cover; container means in said chamber with a desiccant allowing to form said desired climatic conditions; an elution tank in said chamber provided with an opening through its top; a flat chamber formed by a thin-layer chromatography plate and a frame plate held



one against the other and capable of being opened, said flat chamber being inserted in said elution tank through its top opening; means operable from the outside of said closed air-conditioning chamber adapted to unfold the thin-layer chromatography plate and the frame plate thus opening the flat chamber; and means for introducing the eluant into the elution tank.

3,342,334 FILTER AND SCOURING GAS BLOWER SYSTEM

Alfonse J. Soriente, Gillette, and Joseph H. Duff, Basking Ridge, N.J., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed May 27, 1964, Ser. No. 370,652
The portion of the term of the patent subsequent to July 12, 1983, has been disclaimed
2 Claims. (Cl. 210-108)

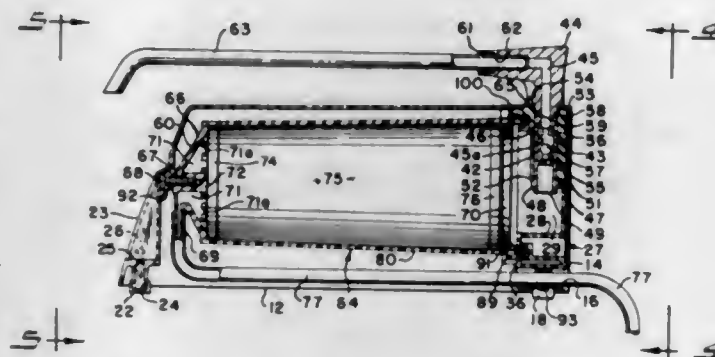


1. Liquid filtering apparatus having a service cycle, a gas scouring cycle, and a backwash cycle comprising a filter chamber having an inlet side and an outlet side, a filtered liquid storage chamber above said filter chamber, pipe means connecting said storage chamber with said outlet side of said filter chamber to receive filtered liquid therefrom, means connecting the inlet side of said filter chamber to a source of liquid to be filtered, service outlet means for filtered liquid communicating with said outlet side of said filter chamber, normally closed backwash discharge outlet means connected to the inlet side of said filter chamber, valve means to open and close said pipe means connecting said storage chamber and

service outlet means to said outlet side of said filter chamber, said outlet side of said filter chamber being at a high pressure during said service cycle and a low pressure during said gas scouring cycle, an actuatable gas blower connected to said outlet side by a valveless gas line, said gas line extending above said service outlet means, said gas blower when actuated exerting a pressure greater than said low pressure whereby gas is forced into said outlet side and to said inlet side of said filter chamber during said gas scouring cycle, means to open said backwash discharge means at a level below said service outlet means and to close said valve means to initiate said gas scouring cycle, said valve means closing after said backwash discharge means has been opened, and means for initiating the backwash cycle thereafter by opening said valve means.

3,342,335 WATER CONDITIONER

Reynold F. Gamundi, South Euclid, and Harry Shindell, Toledo, Ohio, assignors to Eaton Manufacturing Company, a corporation of Ohio
Filed Dec. 8, 1964, Ser. No. 416,763
11 Claims. (Cl. 210-117)



9. A fluid conditioning apparatus connectable to a source of fluid under pressure, comprising in combination: (a) a fluid conditioning cartridge closed at one end and open at the other; (b) a fluid inlet extending through the closed end of the cartridge; (c) fluid distributing means disposed in the closed end of said cartridge and including a plurality of radial fins integral with the closed end and a porous distributing disc defining a plurality of fluid chambers, and a plurality of spaced projections extending from said fins for spacing the disc therefrom and defining fluid passageways between adjacent fluid chambers; (d) a removable closure cap secured to the open end of the cartridge in sealing engagement therewith; (e) a fluid outlet extending through the cap; (f) a rotatable fluid delivery spout communicating with the outlet; (g) a housing enclosing the cartridge including means for mating engagement with said removable closure cap; and (h) retaining means coacting between the housing and the closed end of said cartridge.

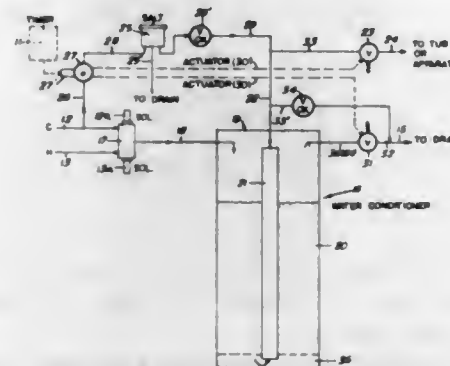
3,342,336 WATER CONDITIONER HAVING REGENERATION MEANS

Donald Rose, Dayton, Ohio, assignor to Water Refining Company, Inc., Middletown, Ohio, a corporation of Ohio

Filed Oct. 7, 1963, Ser. No. 314,130
3 Claims. (Cl. 210-134)

1. A water conditioner having a housing means having a mineral bed therein for service conditioning water and providing a supply thereof, supply conduit and inlet valve

means connected to said housing means and adapted to deliver water for service conditioning to said housing means and through the mineral bed, a discharge conduit means having pressure reduction means therein leading from said mineral bed housing to conduct conditioned water from said bed and housing means, a timer means, a container for a regeneration agent sufficient for a single regeneration of said mineral bed, water supply conduit means having pressure reduction means and a second valve means therein connecting said supply conduit inlet valve means with said regeneration container for supplying water thereto, conduit means having pressure reduction means therein connecting the regeneration container with the discharge conduit means leading from the mineral bed housing for a reverse flow therethrough to that of the service flow for supplying the regeneration agent at reduced pressure to the mineral bed for regenerating and backwashing the same, following said introduction of regeneration agent water continuing to flow through said regeneration container to flush same and to slow rinse said bed, the discharge conduit means leading from said mineral bed having its pressure reduction means therein so as to cause pressure loss and prevent pressure build up in said regeneration container and the conduit leading therefrom, drain means having a third valve having dia-



phragm actuation means connected with said mineral bed housing to remove regenerating fluid and slow rinse water therefrom, conduit means having pressure reduction means therein leading from the mineral bed housing and having fourth valve means therein including diaphragm actuating means for shutting off service flow from said mineral bed housing, means responsive to said second valve opening acting on said third valve diaphragm actuating means to open said third valve to drain and acting on said fourth valve diaphragm actuating means to close said fourth valve means, a discharge conduit means connecting said discharge fast rinse water therethrough to a drain and having a fifth valve acting as a check valve therein opening on discharge of fast rinse water therethrough, said fifth valve being pressure operated to open position by the fast rinse water acting thereon in the direction therethrough of service flow, and means connecting said timer with said inlet valve means and said second valve means for actuating the same for carrying out a service flow through said mineral bed to condition water flowing therefrom, to regenerate, backwash and slow rinse said mineral bed in a direction reverse of service flow and to reset said bed by a fast rinse therethrough in the direction of service flow.

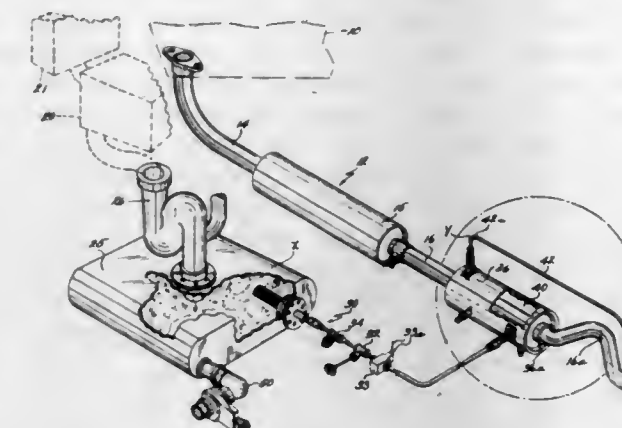
3,342,337 WASTE DISPOSAL SYSTEM

James S. Reid, Hudson, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Filed May 10, 1965, Ser. No. 454,416
6 Claims. (Cl. 210-152)

6. A waste disposal system for use in a vehicular unit for human transportation having a power source generat-

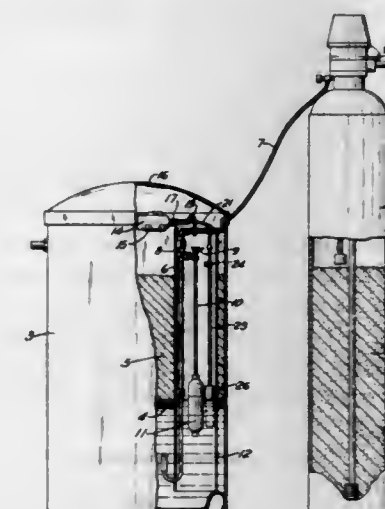
ing waste heat, and an exhaust system therefor, a water closet for receiving human waste material, a waste tank connected to said closet, a source of conveying fluid connected to said closet and operable to carry said waste material into said tank, means in said tank for producing anaerobic bacteriological action on said waste material effective to convert said material to a fluid state,



container means, conduit means connecting said tank to said container means for delivering fluid from said tank to said container means, said exhaust system including means for heating said container means effective to vaporize at least most of the liquid therein, and means connected to said container means for effecting the discharge of said generated vapor.

3,342,338 WATER TREATING APPARATUS WITH AGENT-ADDING DISPENSER

Joseph G. Selmeczi, Bridgeville, Pa., and Earl C. Drews, Liberty, Mo., assignors to General Ionics Corporation, Bridgeville, Pa., a corporation of Pennsylvania
Filed June 6, 1966, Ser. No. 555,330
3 Claims. (Cl. 210-191)

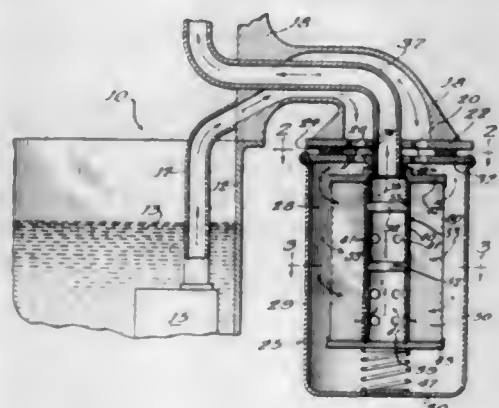


1. In water treating apparatus in which an ion-exchange bed is regenerated periodically with brine, a brine tank, means for withdrawing brine from the tank for regeneration and then replacing it with water to cause the brine in the tank to periodically fall from an upper level to a lower level and an adjustable dispenser for automatically adding predetermined quantities of a liquid agent to the brine tank, said dispenser comprising a closed container for said agent, means mounting the container in the upper part of the tank, a discharge tube extending laterally out of the container, the inner end of the tube being

located near the bottom of the container and the outer end of the tube being positioned to discharge into the tank above the brine level therein, a body of liquid agent in said container varying from a level below the top of the container to a level above the inner end of the discharge tube, the portion of the discharge tube outside of the container being provided with a reverse bend that extends upwardly at least as high as the top of the container, an air tube extending out of the container, the inner end of the air tube being located above the liquid agent level in the container at all times, a vertical standpipe mounted in the tank with its upper end connected to the outer end of said air tube, and a downwardly opening sleeve encircling the lower end portion of the standpipe and extending below it, the upper end of the sleeve being in sealing engagement with the standpipe and slidably mounted thereon for vertical adjustment, and the lower ends of the sleeve and standpipe being located between the upper and lower levels of the brine in the tank, whereby water rising around and in the sleeve to replace brine withdrawn from the tank will force a predetermined volume of air up through the standpipe and into said container to force some of the liquid agent out of the container through said discharge tube into the tank.

3,342,339 OIL FILTERS

Carl R. Riolo, Pewaukee, Wis., assignor to
Albert Armato, Lake Forest, Ill.
Filed Nov. 2, 1964, Ser. No. 407,995
2 Claims. (Cl. 210-223)



1. An oil filter of the character described, employing a generally cylindrical outer container with a filter cartridge therein arranged on a removable spool having a perforate hollow hub with the oil flow into the container, inwardly through the filter into the hub and centrally out through one end of the container, said filter having incorporated therein a permanent bar magnet extending across the hub and secured at its ends to the inside of the hub in the path of the flowing oil whereby the magnetism from said bar magnet permeates said hub circumferentially and provides a magnetic throat through which the oil passes after it is initially filtered.

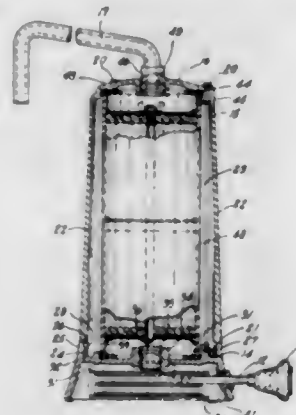
3,342,340 WATER CONDITIONING APPARATUS

Harry Shindell, Toledo, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Feb. 27, 1964, Ser. No. 347,915
1 Claim. (Cl. 210-282)

An apparatus for conditioning fluid from a source of fluid under pressure, comprising in combination:

- a base for resting on a generally horizontal surface independent of the source of fluid;
- an elongated removable fluid impervious hollow cylindrical cartridge having opposing open ends and vertically disposed on the base, one of said opposing ends being in sealed relation with said base;

- a transversely disposed resilient porous fibrous pad intermediate the extremities and dividing said hollow cartridge into two separate chambers;
- granular water conditioner in each of said chambers;
- transversely disposed resilient porous fibrous flow interrupting and distributing pads adjacent each extremity of the cartridge confining said granular water conditioner in each of said chambers;
- relatively rigid metallic screens coacting adjacent each extremity of said cartridge to retain said flow interrupting and distributing pads within said cartridge;
- diametral spring metal retaining clips coacting between opposite sides of said cartridge adjacent each extremity thereof to forcibly compress the screens against the flow interrupting and distributing pads for placing the water conditioner in each chamber under compression;



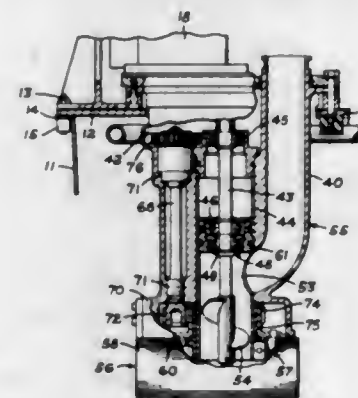
- axial bolt and nut means coacting between said retaining clips to secure said clips to said screens under compression;
- a fluid impervious housing including a cap surrounding the cartridge and detachably mounted on the base holding the cartridge on the base, gasket means at each end of said cartridge providing sealed relation between the opposing open ends of the cartridge and the cap and base;
- a hollow rigid spout mounted on the cap for rotating in a plane normal to the longitudinal axis of the cartridge, said spout being in communication with the adjacent open end of said cartridge for carrying conditioned fluid away from said cartridge;
- a flexible hose extending from the base, and communicating with the adjacent open end of the cartridge for carrying fluid into the cartridge; and
- a coupling secured to the end of the hose extending from the base for attachment to the source of fluid to divert fluid through the cartridge; and
- means associated with the base for varying the length of hose extending from the base, including a spring biased reel on which the hose is reeved, mounted for rotation in a plane normal to the longitudinal axis of the cartridge.

3,342,341 FILTER FOR A SELF-CONTAINED SEWAGE SYSTEM

Robert G. Lee, Dayton, Ohio, assignor to Koehler-Dayton, Inc., Dayton, Ohio, a corporation of Ohio
Filed Aug. 12, 1965, Ser. No. 479,093
1 Claim. (Cl. 210-357)

A filter assembly adapted for use in a self-contained sewerage system having a tank and a flush bowl, comprising a downwardly extending support tube having a liquid passage therein which forms the outlet from the filter assembly, a stationary subassembly secured near the lower end of said tube, said subassembly including a

radial flange member having a plurality of downwardly extending bars on the outer periphery thereof, a plurality of annular filter rings held by said bars against rotary movement and defining an internal chamber in communication with said outlet, said rings adapted to be disposed below the liquid level in the tank, each said ring having enlarged outer portions adjacent said bars, a rotary subassembly secured to said lower end of said tube below said radial flange member and internally of said rings, a plurality of downwardly extending posts on said rotary subassembly, a plurality of cleaning blades on each said post, said cleaning blades on each said post extending between each pair of adjacent filter rings for spacing said rings apart a distance equal to the distance between said cleaning blades, spacers on said posts between each of said cleaning blades for regulating the distance between said blades, said blades extending between said rings in sandwiched relation therewith to create small spaces between said rings for the flow of liquid from the tank to said internal chamber and then to said outlet, each said blade being spaced inwardly from said enlarged por-



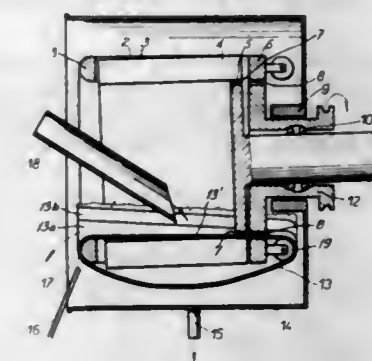
tion and outwardly of the remainder portion of said rings, a solid bottom member secured to the lower end of said posts to hold said annular rings on said bars against downward movement and to define the bottom of said internal chamber, means for moving said rotary subassembly to move said blades with respect to said rings, and a cleaning edge on the forward portion of each said blade which extends at least at an angle of 45° from a tangent through the point of intersection of said edge and said remainder portion of said rings, said edge extending from the inner portions of said rings toward the outer portions thereof in a direction trailing the direction of rotation of said blades so that any solids between said rings are forced outwardly of said rings and are collected on said enlarged portions wherein they build up and subsequently fall therefrom, substantially square corners on the outermost end of said cleaning edge to cut paper and the like which is held against the outer portions of said annular rings by liquid flowing into said internal chamber, and means for moving liquid into said internal chamber through said spaces between said rings to remove solids material from the liquid.

3,342,342 CONTINUOUS BELT-TYPE FILTER CENTRIFUGE

Jan Pinkava, Zilina, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed July 6, 1965, Ser. No. 469,563
Claims priority, application Czechoslovakia,
July 4, 1964, 3,867/64
11 Claims. (Cl. 210-370)

1. A filter centrifuge comprising, in combination, a first outer drum rotatable about a first axis and having a first end wall, a circular row of circumferentially spaced first bars projecting from said first end wall, and guide means at the free ends of said first bars; a second inner drum having a second axis slanted to said first axis and having a second end wall located within said first bars

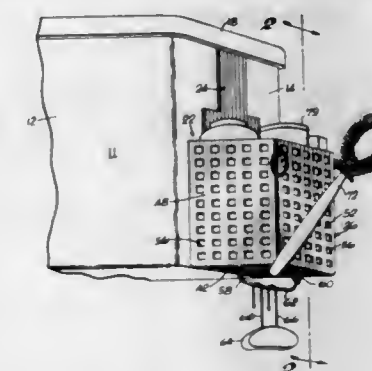
adjacent said first end wall, and a circular row of second circumferentially spaced bars projecting from said second end wall, said second bars being located between said first bars so that said first and second drums are connected for rotation together, said second bars reciprocating in axial direction during each revolution of said first and second drums due to the slant of said second axis, said end walls having, respectively, first and second sets of tangential circumferentially spaced slots, pairs of first and second slots being located in the proximity of



each other; and an endless filter band having a plurality of overlapping windings passing through said pairs of slots and over said guide means to form a toroid coil, the inner portions of said windings abutting some of said second bars and being pushed by the same toward and over said guide means during one reciprocating stroke of said second bars so that said filter band is screwed through said pairs of slots and changes its position when said first and second drums rotate during a filtering operation.

3,342,343 ARTICLE HOLDING DEVICE

Georgette M. Youlden, 5950 NW. 110 Terrace,
Hialeah, Fla. 33012
Filed Dec. 20, 1965, Ser. No. 514,884
2 Claims. (Cl. 211-88)



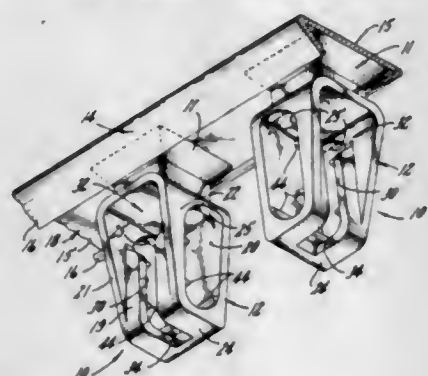
1. For attachment to a relatively thin walled upstanding side of a toilet tank so as to exteriorly overlay the height thereof, an article holding device of one-piece construction including a vertical hanging strap and an integral receptacle on one end of the strap, said strap being of thin material which is strong in tension and having a reversely bent one end defining a hook end with the bight of the hook being sized for hooked-up engagement over the top of the lip of the side wall of a toilet tank, said strap being of a predetermined length and adapted to support said receptacle near the bottom of a tank, said strap being wide along the other end to define a plane rectangular as is seen in plan and comprising a receptacle back wall of a length substantially one-half the strap length, said receptacle including a horizontal floor integrally connected to the other end of said strap, an upstanding front and side walls integrally connected together at their marginal edges and to the floor to define the receptacle, said walls having a plurality of openings therethrough defining a harmonious pattern to accom-

moderate air-flow through the receptacle, first and second apertured ears depending from said receptacle floor in spaced relation, and a spanning loop supported on the ears for removably hanging a deodorant therefrom, and at least one apertured lug projecting from said receptacle and including a ring element pivotally mounted thereon for removably accommodating the handle of a brush therein.

3,342,344

HANGER RECEPTACLE AND GARMENT SUSPENSION APPARATUS EMPLOYING THE SAME

Raymond A. Magnuson, Hinsdale, Ill., assignor to Vogel-Peterson Co., Elmhurst, Ill., a corporation of Illinois
Filed July 15, 1966, Ser. No. 565,441
28 Claims. (Cl. 211-113)

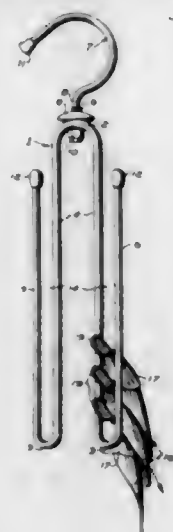


1. A hanger receptacle for supporting garment hangers and the like of the type having a support stem, said receptacle comprising a unitary hollow body and means for supporting said body from a fixed structural member, said body having vertical wall means and an integral bottom wall, at least one opening formed in said vertical wall means and communicating with the hollow interior of said body for permitting selective insertion and removal of the hanger support stem, and means formed on said body and projecting into said hollow interior for inhibiting accidental dislodgment of the hanger support stem.

3,342,345

HANGER FOR CLIP-ON NECKTIES

Laurence W. Van Dusen, Escondido, Calif., assignor to Mission Industries, Escondido, Calif., a corporation of California
Filed Dec. 20, 1965, Ser. No. 515,014
2 Claims. (Cl. 211-119)



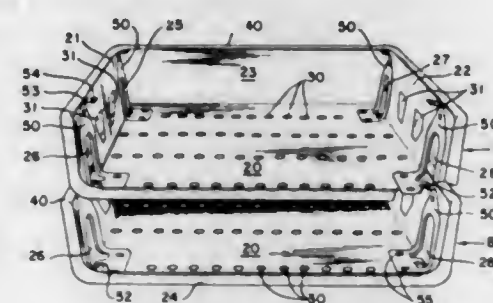
1. A hanger for clip-on ties having a pre-tied knot essentially triangular in front aspect with upwardly diverging yieldable portions, said hanger comprising:
(a) a frame defining a pair of vertically extending lateral slots and a front slot of greater width than the lateral slots;

(b) and vertical guide bars forming a part of said frame separating said lateral and front slots;
(c) said frame being open at its upper end to receive in said front slot the pre-tied knot of a clip-on tie and to receive in said lateral slots the upwardly diverging yieldable portions of a tie for forward withdrawal of a tie through said forward slot.

3,342,346

STACKING AND NESTING TRAY

Council A. Tucker, Glendale, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1965, Ser. No. 485,900
7 Claims. (Cl. 211-126)



1. An open-top plastic, rectangular nestable and stackable container comprising:

- a bottom wall;
- upwardly and outwardly diverging side and end walls, one end wall being substantially shorter than the other walls, said side and end walls terminating at their upper extremity in a continuous circumferential bead, said side walls adjacent the end walls having ports adapted to engage flanges of a metal bracket;
- four metal brackets each engaging one of said side wall ports and being affixed to the side and bottom walls of the container, said metal brackets being of a generally C-shape and comprising:
- a planar vertical body portion, the outer planar surface of which is contiguous at all points with the inner surface of the side wall when affixed thereto, said body portion having a port of substantially the same configuration as the side wall ports, said bracket ports at their edges having outwardly directing flanges adapted to fittingly engage the edges of said side wall ports;
- an inwardly directing top tab approximately parallel to the bottom wall of the container when said bracket is attached thereto and containing a slot adapted to engage a hook; and
- an inwardly directing planar base member, said base member at its midpoint and vertically below the tab slot being outwardly and downwardly deformed to form a hook adapted to engage the tab slot of an identical bracket affixed to another identical container when the two containers are in stacked position.

3,342,347

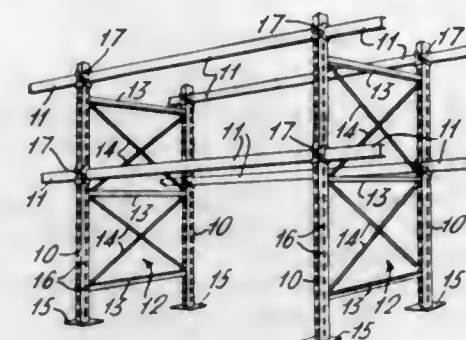
RACK, SHELF AND OTHER LIKE STRUCTURES

Paul Christopher Berend, 14 Roebuck House, Stag Place, London SW. 1, England
Filed Feb. 8, 1966, Ser. No. 525,873
Claims priority, application Great Britain, Feb. 19, 1965, 7,321/65

8 Claims. (Cl. 211-148)

1. A knock-down rack or shelf structure comprising a vertical support member and at least one horizontal load support member detachably connectible to said vertical support member characterised in that said vertical support member consists of a bar of angle section

material having a series of longitudinally aligned slots in each of its two flanges and in that the horizontal support member is provided at each end which is to be connected to a vertical support member with an anchor plate having a first planar surfaced portion adapted to have surface-to-surface engagement with the outwardly facing surface of one of the flanges of said vertical support member, said first portion being provided with at least one lateral extension from that one of its side edges which is disposed adjacent the apical region of the vertical support member, such extension being adapted to engage



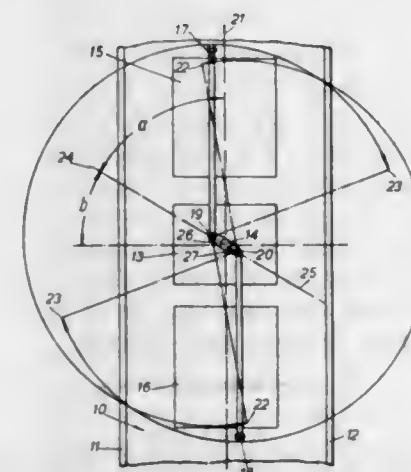
and interfit with the outwardly facing surface of the other flange of said vertical support member around the apical edge of the latter, said anchor plate being also provided with at least one hooked-form tongue projecting from that surface of said first portion which engages said vertical support flange and lying in a plane which is parallel with that plane which bisects the angle between the planes of said first portion and its lateral extension and being adapted to pass through and then hook on to the lower end of any of said vertical slots in the flanges of said vertical support member.

3,342,348

JIB ARRANGEMENTS FOR SHIPS

Hans E. Gjelsteen, Bergen, Norway, assignor to A/S Bergens Mekaniske Verksteder, Laksevag, Bergen, Norway, a corporation of Norway
Filed Sept. 27, 1965, Ser. No. 490,512
Claims priority, application Norway, Sept. 29, 1964, 154,934

5 Claims. (Cl. 212-3)



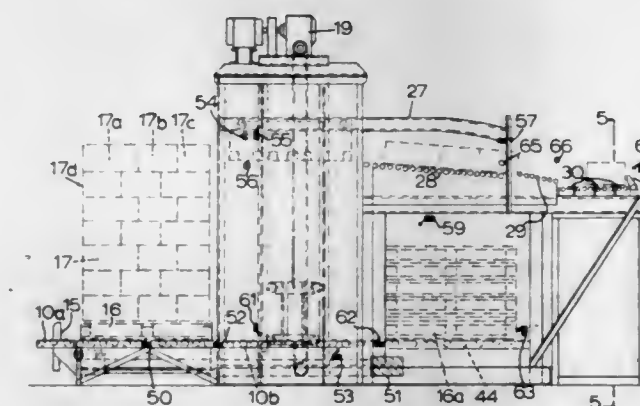
1. A ship's jib arrangement which comprises two pivoting jibs for operating a pair of hatches disposed longitudinally of the ship on opposite sides of a mast thereof, said jibs being connected to said mast so as to pivot in both vertical and horizontal planes about horizontal and vertical axes respectively, the vertical axes having an eccentric position relative to the axis of the mast and the jibs being adapted to pivot about their said respective vertical axes through an angle of at least 180° to form pivotal sectors, bracket means having two pivoting ar-

rangements for mounting the lower end of each jib for pivotal movement about horizontal and vertical axes, the pivoting arrangement for one jib being spaced closely to one side and aft of the mast and the pivoting arrangement for the other jib being spaced close to the opposite side and forward of the mast, each pivot axis and the axis of said mast being disposed along a common center line, each jib being mounted so that one of two outer extremities of its pivotal sector lies approximately on a longitudinal median line of the ship above one hatch and said sector extending beyond said median line by the other hatch and outside the side of the ship.

3,342,349

MECHANICAL HANDLING EQUIPMENT

Francis Duncan Sheldon and Charles Alan North, Tivdale, Tipton, England, assignors to The Lawrence Engineering Company Limited, Tivdale, Tipton, England, a British company
Filed May 25, 1965, Ser. No. 458,667
7 Claims. (Cl. 214-8.5)



1. Mechanical handling equipment for unloading pallets, comprising elevator means for raising and lowering a pallet loaded with a plurality of superimposed layers of articles, means for arresting the elevator means when the uppermost of said layers of articles on the pallet has been raised to a predetermined height, clamping means for clamping said uppermost layer of articles at said predetermined height, a reversing mechanism automatically operable to reactuate the elevator means after a predetermined delay to lower the loaded pallet for a distance less than the stack height and subsequently to raise the loaded pallet to present a new uppermost layer of the stack for a repeat cycle, a delivery conveyor horizontally spaced from the elevator means, a carriage supporting said clamping means at a fixed distance therebelow and reciprocable to carry the clamped uppermost layer to the delivery conveyor for release thereon, a fixed track extending from above the elevator means to above the discharge conveyor, said carriage being supported on said track, and means for reciprocating the carriage along the track.

3,342,350

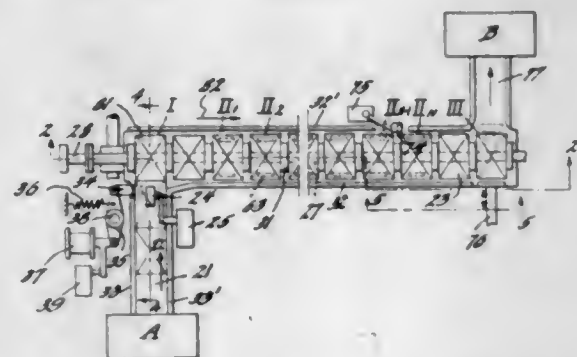
MECHANISM FOR TRANSFERRING ARTICLES FROM ONE MACHINE TO ANOTHER, WITH A STORE AUTOMATICALLY ACTING AS BAG, PARTICULARLY ADAPTED FOR AUTOMATIC WRAPPING MACHINE AND THE LIKE

Ariosto Seragnoli, Via Pomponia 10, Bologna, Italy
Filed Mar. 20, 1964, Ser. No. 353,380
Claims priority, application Italy, Apr. 9, 1963, 7,196/63

10 Claims. (Cl. 214-16)

1. Transfer mechanism for articles traveling from a delivery machine to a reception machine and having a high capacity for automatic storage of articles comprising the combination of conveyor means for the articles, said con-

veyor means having a plurality of equally spaced article receiving and positioning means, first and last stations at opposite ends of said conveyor means, equally spaced transfer stations along said conveyor means between said first and last stations, means for intermittently driving said conveyor means to advance said articles to successive transfer stations, means for laterally individually feeding said articles into said article receiving and positioning means on said conveyor at said first station, a pusher member at said last station, driving means to reciprocate said pusher member transversely along said conveyor to push articles out of said article receiving and positioning means towards said reception machine, vertical storage magazines above each of said transfer stations to contain articles charged therein, each said storage magazine being provided at its lower end with opposed retaining teeth, means for releasably closing said retaining teeth beneath

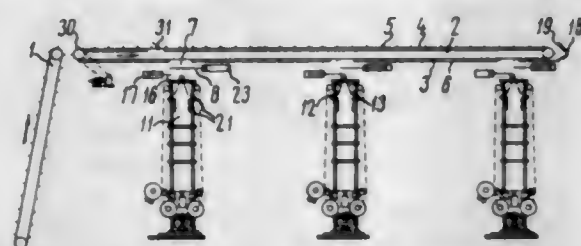


an article pushed from below beyond said retaining teeth for sustaining said articles within said storage magazine, releasable lateral pressure means positioned above said retaining teeth for laterally pressing upon opposite sides of an article situated immediately above the lowermost article supported by said retaining teeth, an elevator positioned at each transfer station and aligned with each storage magazine, power means for reciprocating each said elevator with a vertical reciprocating motion to move articles from said conveyor means into said storage magazines, sensing means for detecting articles in said feeding means and on said conveyor means and control means responsive to said sensing means for synchronously controlling movement of said conveyor means, feeding means, pusher member, elevators, retaining teeth and pressure means to maintain the flow of articles from said delivery machine to said reciprocating machine substantially constant.

3,342,351

DEVICE FOR AUTOMATIC CHARGING OF DEFIBRER MAGAZINES WITH PULPWOOD
Adolf Pinkhusovich Sinjavsky and Victor Alexandrovich Bedeker, Leningrad, and Vera Nickolaevna Dormidontova, administrator of Nikolai Ivanovich Dormidontov, deceased, Leningrad, U.S.S.R., assignors to Buma-zhnaja Fabrika, Leningrad, U.S.S.R.

Filed Oct. 15, 1964, Ser. No. 404,561
8 Claims. (Cl. 214-16)



1. A device for automatic charging of defibrer magazines with pulpwood, comprising:
a feed conveyor,
a guide frame onto which pulpwood is passed from said feed conveyor,

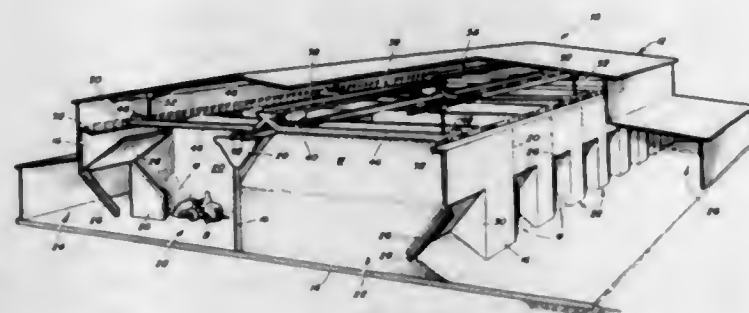
said guide frame having outlets over defibrer magazines, gates to close said outlets when the magazines have been filled up to a preset level,
a charging conveyor to pass pulpwood over the guide frame to said outlets,
pulpwood level sensors in the magazines to register the preset level of pulpwood,
actuators for operating said gates in response to signals from said pulpwood level sensors, and
reversing distributors for receiving signals from said pulpwood level sensors to direct delivery of pulpwood to either a right-hand or a left-hand side of the magazines.

3,342,352

SYSTEM FOR MAXIMUM UTILIZATION OF SPACE IN STORAGE OF LOOSE BULK MATERIALS

Walter J. Sackett, Sr., Baltimore, Md., assignor to The A. J. Sackett & Sons Company, Baltimore, Md., a corporation of Maryland

Filed July 27, 1965, Ser. No. 475,135
10 Claims. (Cl. 214-16)



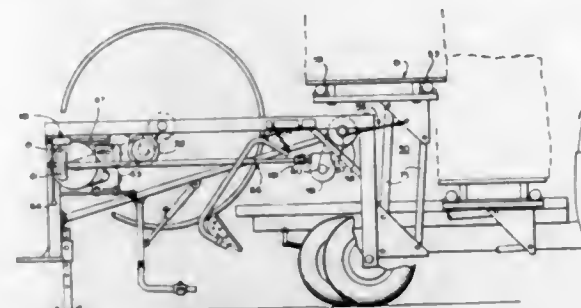
1. A building arrangement for storing granular material on a base, comprising, supporting wall structure defining a storage bin on said base, said wall structure having an opening therein terminating at said base, spaced supporting walls extending into said storage bin from each side of said opening, with each said supporting wall having a corresponding upper angular surface extending downwardly into said storage bin from said opening and terminating short of said base, an inwardly and downwardly extending movable door positioned over said opening and having its lower edge terminating short of said base, pintle means positioned along the top edge of said wall structure defining said opening for securing said movable door to the top edge of the wall structure defining said opening, with said movable door being securely held adjacent the upper angular surfaces of said spaced supporting walls in a closed position in said opening by the weight of stored granular material thereabove and arranged to be opened fully for access to said storage bin when said storage bin is being emptied of granular material through said opening.

3,342,353

TOBACCO HARVESTER AND CLIP
William E. Davis, Seven Springs, N.C. 28578
Filed Dec. 28, 1964, Ser. No. 421,236
24 Claims. (Cl. 214-38)

1. In a harvester, a frame having a front and a rear and also having wheels supporting the same for travel along the ground past the crops to be harvested, a forward facing crop-picker's seat carried by said frame and located adjacent the ground to support a crop-picker facing forwardly in the direction of travel of the frame, a raised platform carried by said frame at a level substantially above any crop-picker on said seat, a rotary element located in a generally vertical plane with its axis generally perpendicular to the path of travel of the

frame, means mounting the center of said rotary element adjacent said platform and sufficiently spaced forwardly of said seat that the outer portion of the rotary element having a plurality of such outer portions at different angular positions about said axis, a plurality of crop-holding means carried respectively by said plurality of outer portions, at least some of said crop-holding means comprising clips, said clips each having two jaws the respective crop-holding portions of which consist of helical coil

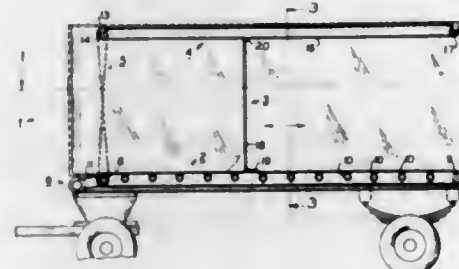


wire springs, the two springs of a pair of jaws moving to an adjacent parallel relation when the jaws are closed, the lower jaw being in a horizontal plane with its opening facing the crop-picker and the upper jaw in a vertical plane when the crop-holding means passes in front of the crop-picker, and means for rotating said rotary element in a direction which is clockwise when viewed toward that side of the harvester which is on the right of one facing the front of the harvester.

3,342,354

FREIGHT HANDLING DEVICE

Karl H. Behr, Princeton N.J., assignor to the trustee of the Shes Trust, Karl H. Behr, trustee
Filed Jan. 15, 1965, Ser. No. 425,913
6 Claims. (Cl. 214-83.22)



1. In combination a freight handling device having a roof, a movable endless conveyor floor for receiving and conveying freight thereon, load supporting means positioned transversely within said endless conveyor floor for supporting the freight received on said endless conveyor floor, a stationary front wall, a pair of side walls, endless chain means longitudinally disposed above said endless conveyor floor and mounted from said roof and a means for activating said movable endless conveyor floor and said endless chain means in synchronism, and a movable front wall positioned between said side walls and connected to said endless chain means and said endless conveyor floor whereby said movable front wall can be adjustably positioned with respect to said stationary front wall.

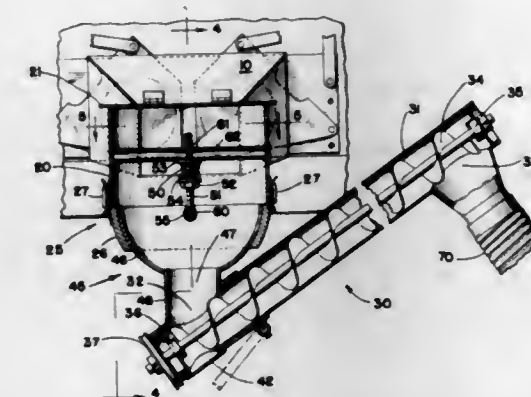
3,342,355

VEHICLE UNLOADER

Elvie Lasiter, Grant County, Okla.
(Box 9, Rte. 2, Caldwell, Kans. 67022)
Filed Mar. 15, 1965, Ser. No. 439,789
2 Claims. (Cl. 214-83.26)

1. An unloading conveyor comprising:
a gathering box adapted to receive the material to be

conveyed, one end of said box including socket means,
an elongated conduit including an inlet opening and an outlet opening,
a screw auger rotatably mounted within said conduit, means to rotate said auger to convey said material from said inlet opening to said outlet opening,
ball means connected to said conduit about said inlet opening and slidably engaged with said socket means, said ball means including a passage extending there-through so that said gathering box is in sealed communication with said conduit,

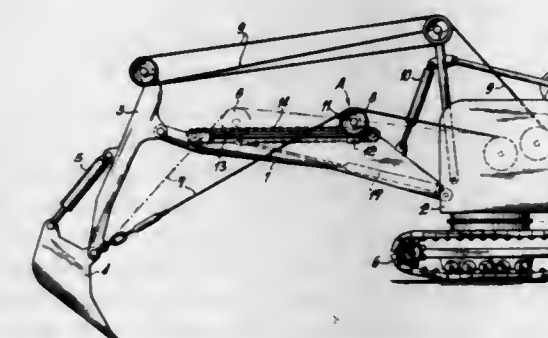


biasing means connected to said ball means to urge said ball means toward said socket means to retain said ball means in sealed engagement with said socket means,
whereby said conduit is pivotally connected to said gathering box to permit said unloading conveyor to discharge said material to a variety of locations,
said gathering box extended upright and said socket means mounted on the lower end of said gathering box, and
said socket means being the lower end of said gathering box operable to convey material downwardly into said ball means.

3,342,356

DEEP DREDGING DEVICE

Tore Jeremiasen, Sodra Klockarsvagen 15B,
Malmo V, Sweden
Filed Sept. 20, 1965, Ser. No. 488,312
Claims priority, application Sweden, Sept. 25, 1964,
11,506/64
4 Claims. (Cl. 214-138)

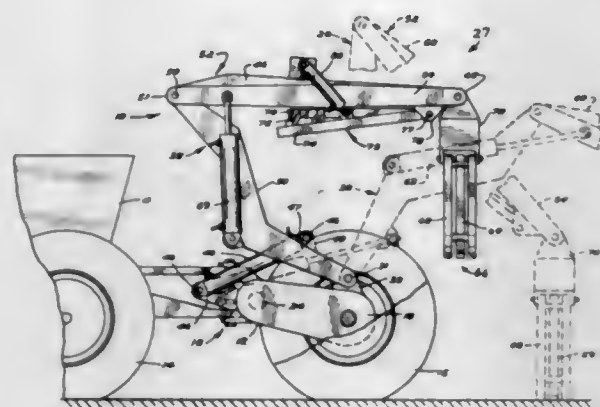


1. A device for deep dredging comprising:
(a) a jib supported at one end on a rotatable machine cabin of a dredger mounted on an undercarriage;
(b) a shaft carrying a dredger shovel mounted on the other end pivotable in a vertical plane, the dredger jib being provided with a displaceable slide

having a shaft on which are mounted two pulleys adapted to displace vertically a traction cable running from the shovel shaft to a hoisting drum; and (c) means for power shifting said slide.

3,342,357

SELF-LOADING SKIDDER AND STACKER
Robert W. Larson, Ashland, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 13, 1965, Ser. No. 495,387
1 Claim. (Cl. 214-147)

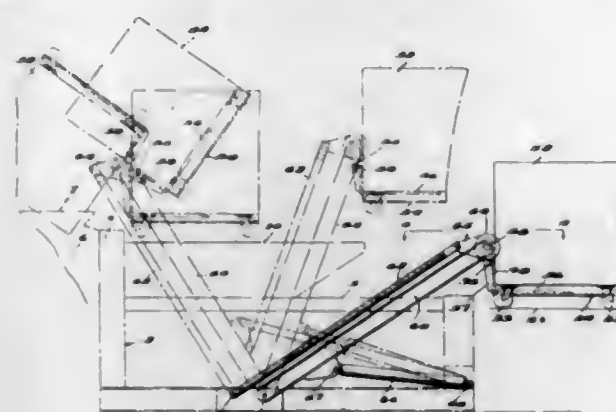


An improved self-loading skidder and stacker for bunched logs comprising a vehicle adapted to be propelled along the ground, a main boom frame pivotally mounted on said vehicle near one end thereof, hydraulic motor means connected between said vehicle and said main boom frame, one end of said hydraulic motor means being pivotally connected to said vehicle at a point spaced farther from said one end of said vehicle than the pivot point of said main boom frame, the other end of said hydraulic motor means being pivotally connected to said main boom frame intermediate the ends thereof, said hydraulic motor means in the fully retracted condition thereof positioning the free end of said main boom frame between the ends of said vehicle, and in the fully extended condition thereof positioning the free end of said main boom frame beyond said one end of said vehicle, a heel boom frame pivotally connected to the free end of said main boom frame for rotation about a horizontal axis, hydraulic motor means connected between said main boom frame and said heel boom frame for moving said heel boom frame about its axis, a log grapple pivotally mounted on said heel boom frame at the free end thereof, a cradle unit pivotally carried on said heel boom frame intermediate the ends of said heel boom frame and having a portion thereof movable in a generally vertical path to engage the heel end of a bunch of logs clamped in said grapple and for forcibly pivoting said bunch of logs about the pivot axis of said grapple, the pivot for said cradle unit being closely adjacent the pivot of said log grapple, said substantially vertical path having a proximal relationship with said main boom frame when the free end of said main boom frame resides between the ends of said vehicle and said generally vertical path being between the pivot locus of said main boom frame and the free end of said main boom frame when said free end resides between the ends of said vehicle, and hydraulic motor means connected between said heel boom frame and said cradle unit for causing said engaging portion of the cradle unit to effect said engagement with the heel end of the bunch of logs, whereby to heel said bunch of logs requires that a sufficient length thereof resides between said grapple and the said substantially vertical path with the consequence that the heeling action provided by said cradle unit takes place at an optimum location between the ends of said vehicle.

3,342,358

CONTAINER DUMPING DEVICES

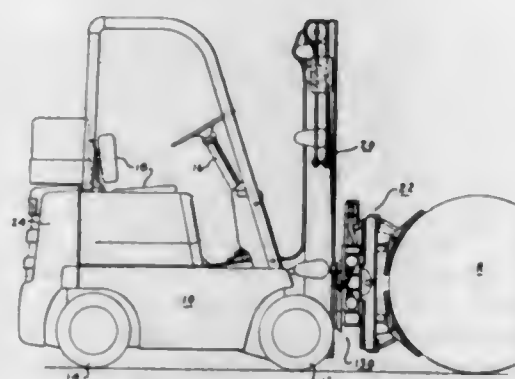
Henry C. French and Charles R. Toppins, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Dec. 15, 1965, Ser. No. 514,068
9 Claims. (Cl. 214-302)



1. A device for dumping a container comprising lifting arms spaced apart, a torque shaft extending between the one ends of the respective lifting arms and journaled thereon, fork structure on the torque shaft for lifting the container to a dumping position upon swinging movement of the lifting arms and separable from the container, a second arm extending parallel to each of said lifting arms and having an end adjacent said one end of the lifting arm, a lever member operatively connecting said end of the second arm with the torque shaft, means pivotally mounting the arms for swinging movement, and power means operatively connected with the lifting arms for swinging the arms to move the container, said lever member causing turning movement of the torque shaft to maintain the container substantially level during said swinging movement of the lifting arms.

3,342,359

ARTICULATED LOAD HANDLING ATTACHMENT
Marshall D. Sawdey, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Dec. 27, 1963, Ser. No. 333,870
2 Claims. (Cl. 214-652)



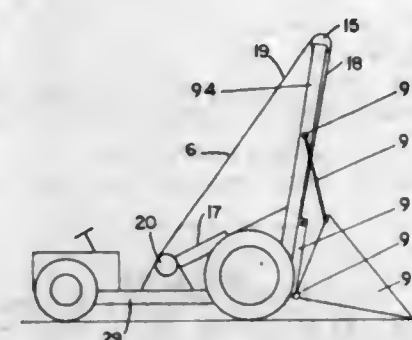
1. An articulated load handling attachment for an industrial truck having an upright with a vertically movable carriage on the front end thereof, said attachment comprising a plate rotatable on a vertical plane, a base for rotatably supporting said plate on said carriage, means for mounting said base on said carriage, a plurality of hydraulic cylinder units mounted on said base for rotating said plate through at least ninety degrees, a first rectangular frame pivoted at opposite sides to said rotatable plate and being on and limited to a plane substantially parallel with the plane of said plate, a second

rectangular frame pivoted at right angles and at opposite sides to said first frame and being on and limited to a plane substantially parallel with the plane of said base, and load engaging elements mounted on said second frame and projecting forwardly therefrom.

3,342,360

TILTING CARRIER MECHANISM

Joseph Folkard Eden, Shenley, Harold Gordon Vallings, London, and David John Tudor Webb, Kingswood, Watford, England, assignors, by mesne assignments, to Minister of Technology, London, England
Filed May 11, 1964, Ser. No. 366,585
1 Claim. (Cl. 214-660)

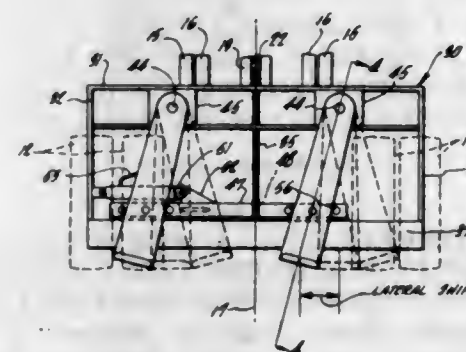


Mobile materials handling appliances comprising a mast which is pivoted at its lower end so as to be capable of rotation, guide means on said mast, a trolley which is mounted on said guide means so as to be movable up and down said mast, a load carrier pivoted to said trolley, drive means mounted on said appliance, a cable interconnecting said drive means and said trolley via a pulley on said mast, and a mechanical linkage between said mast and said trolley comprising a pivoted link connecting said mast to the upper end of said load carrier so that when said trolley is in its lowest position said link is fully extended downwards and said trolley is pulled upwards by said cable, said load carrier is gradually caused to tip outwards from said mast.

3,342,361

PIVOTAL FORK ASSEMBLY FOR FORK-LIFT TRUCKS

Thomas N. Melin, Longview, Wash.
(5538 The Toledo-Naples, Long Beach, Calif. 90803)
Filed Oct. 5, 1964, Ser. No. 401,451
2 Claims. (Cl. 214-730)



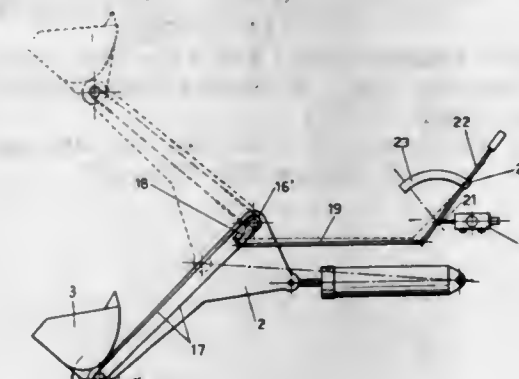
2. In a fork-lift truck having a wheeled chassis, an elevator including a vertically movable fork apron at one end of the chassis, and a pair of essentially rigid lifting fork members carried by the apron, each fork member having a vertical leg disposed adjacent the side of the apron opposite from the chassis and an elongate hori-

zontal leg rigidly connected to the vertical leg and extending substantially parallel to a longitudinal center plane of the chassis from the lower end of the vertical leg in a direction away from the apron, the horizontal legs of the fork members being arranged to be inserted under a load carried by the truck for supporting the load relative to the apron, the improvement comprising apparatus for shifting a load supported between fork members laterally of the truck chassis and comprising means mounting the upper ends of the fork member vertical legs to the apron for pendulous movement of said legs about substantially horizontal vertical axes substantially fixed relative to the apron, and fork moving means for moving corresponding parts of the fork members in the same selected direction relative to the apron about said axes upon operation thereof, the fork moving means being effective along a substantially horizontal line transversely of the longitudinal center plane and including a double acting ram arranged horizontally adjacent the lower end of the fork apron, a member pivoted between the fork member vertical legs adjacent the fork member horizontal legs, and means for connecting the ram between the fork apron and the member.

3,342,362

SHOVEL TILTING DEVICE FOR STATIONARY AND MOVABLE LOADERS

Sergio Stefanutti, Rome, Italy, assignor to Giovannetti Macchine S.p.A., Rome, Italy
Filed Dec. 17, 1964, Ser. No. 419,058
Claims priority, application Italy, Dec. 31, 1963, 26,780/63
3 Claims. (Cl. 214-772)

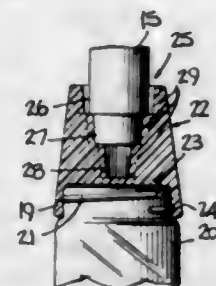


1. A device for tilting the shovel on a stationary or movable loader comprising in combination a support carrying the loader, two triangle shaped parallel arms, a horizontal axis rigidly connecting said arms to one another at one triangle apex and rotatably connecting said arms with said support, two first hydraulic cylinders pivoted at one end to said support, two piston stems each cooperating with one of said hydraulic cylinders and pivoted to said arms at the second triangle apex thereof, a rotary shaft connecting said arms to one another at the third apex thereof, a second hydraulic cylinder arranged on said shaft and rigidly connected with said arms, a shovel rigidly connected to said shaft at both ends thereof, at least one diaphragm supporting said shaft within said second hydraulic cylinder and dividing the inner space thereof into at least two chambers, a first and second blade arranged radially to the axis of said shaft within each chamber of said second hydraulic cylinder, one of said blades being rigidly connected with said shaft and the other blade with said second hydraulic cylinder and hydraulic-mechanic means for operating said second hydraulic cylinder for controlling the tilting movement of said shovel in dependence on the angular displacement of said arms.

3,342,363

CONTAINER AND ARTICLE HOLDING CAP
James Lloyd Thrush, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed Dec. 9, 1965, Ser. No. 512,765
14 Claims. (Cl. 215-43)



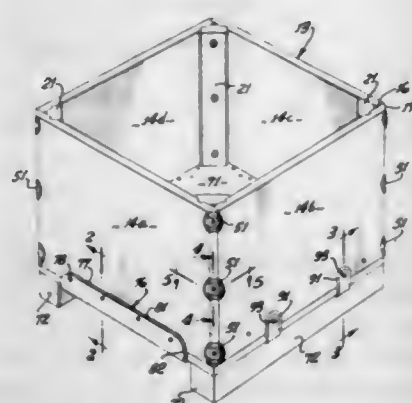
9. A package comprising a container, a closure cap comprising a cover portion and skirt portion integral with said cover portion and forming a corner therewith, said skirt portion having a lower edge, means associated with said skirt portion for applying said closure cap to said container, an article-receiving socket in said cover portion adapted to permit a decorative article to be mounted therein, said socket having a base and upstanding side walls defining an open mouth at its upper end, the socket extending below the level of said cover portion for substantially its entire length, the base of said socket being above the level of the lower edge of said skirt portion and the area of the cover portion between said mouth and said corner portion being planar.

3,342,364

BULK HANDLING CONTAINER CONSTRUCTION

Richard S. Bingham, 6861 Los Altos Way, and Markham R. Bingham, 7105 El Sereno Circle, both of Sacramento, Calif. 95831

Filed Sept. 13, 1965, Ser. No. 486,738
5 Claims. (Cl. 217-69)



1. A bulk handling container construction comprising:
- four wooden vertical panels joined in abutting relation along their vertical end edges to form four corners, one vertical end edge of each of said panels being beveled at approximately 45°, the other vertical end edge being squarely cut, the inner side of each of said panels including a vertical slot adjacent each vertical end edge;
 - internal corner posts mounted vertically in each corner, each of said corner posts being generally right triangular in cross section and including a hypotenuse and a pair of sides extending toward an apex in 90° relation, each of said sides including an outwardly projecting vertical strip having an outer face, a first side face parallel to and facing toward the adjacent corner and a second side face parallel to and facing away from said adjacent corner, said

vertical strips being disposed within registering one of said vertical slots in the adjacent vertical side panels;

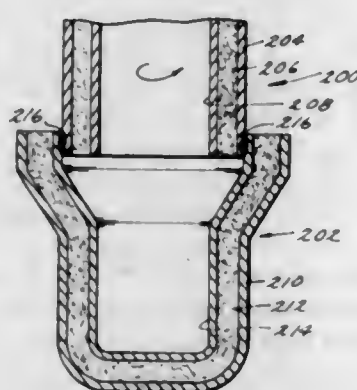
- a plurality of metal external corner clamps mounted vertically on each corner, said clamps being frusto-conical in cross section, each of said clamps including a base portion covering the adjacent vertical end edges of said vertical panels, each of said clamps also including a pair of legs disposed approximately at right angles, the periphery of said clamp being provided with a raised bead terminating in a sharp lip;
- a bolt extending horizontally through each of said base portions of said clamps, through said abutting vertical end edges of said panels and through said vertical corner posts, the tightening of said bolt being effective to clamp the ends of each of said vertical panels between said internal corner post and said external corner clamp and to drive said lip of said clamp into biting engagement with the underlying one of said vertical panels; and,
- a bottom panel mounted on said vertical panels.

3,342,365

WELDED CONTAINERS

John H. Lux and Ernest O. Ohsol, New York, N.Y., assignors to Haveg Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed Sept. 23, 1966, Ser. No. 581,575
13 Claims. (Cl. 220-4)



1. A welded container having thermoplastic resin wall means, said wall means comprising a pair of fitting cooperating portions, at least one of said portions comprising a foamed thermoplastic resin having at least one non-porous, substantially unfoamed, tough skin of the same resin integral with said foamed portion, a fused weld portion of thermoplastic resin substantially devoid of foam and including said skin joining said pair of cooperating portions, one of said cooperating portions having an outer wall portion fitting within an inner wall portion of the other of said cooperating portions in the weld area to provide overlapping contact and joining in said weld area.

3,342,366

METHOD FOR SECURING A METAL COLLAR OR GRUMMET IN THE ORIFICE OF A METAL BARREL AND ELEMENTS USED FOR THIS PURPOSE

Marcel Defauw, Ghent, Belgium, assignor to Rheem Manufacturing Company, San Francisco, Calif.

Filed Oct. 1, 1964, Ser. No. 400,648
Claims priority, application Belgium, June 22, 1964, 43,744, Patent 649,561
14 Claims. (Cl. 220-39)

1. Method for securing a metal collar in the orifice of a metal barrel, which comprises the steps of interposing an elastic ring between the erect neck surrounding the orifice of the barrel and a U-shaped channel provided in the peripheral face of the metal collar to

3,342,368

LITTER CONTAINER

Michael G. Matry, 919 N. Bosart Ave., Indianapolis, Ind. 46201
Filed Mar. 25, 1965, Ser. No. 442,744
9 Claims. (Cl. 220-1)



1. A litter container having an exterior casing and a removable litter basket disposed within the casing, comprising:

- a floor assembly for the casing, including a floor member and a drainage and ventilating member upstanding a substantial extent therefrom and provided with opening means;
- the floor being upwardly concave to provide that liquids spilled thereon will run to the region of said drainage and ventilating member to exit the casing via the opening means of said member;
- the drainage and ventilating member being covered by a plate member extending outwardly therefrom and providing an overhanging flange affording protection for the openings of the said drainage and ventilating member against blocking the opening means thereof;
- the basket being smaller than the casing and provided with outwardly-extending legs to assure a positioning of the basket in a generally central location providing ventilating space between the basket and the casing;
- the floor assembly being restingly supported by the casing and removable therefrom for cleaning any accumulation of debris on the floor member or against the drainage and ventilating member.

3,342,369

ROOF SPRAY GUN KIT

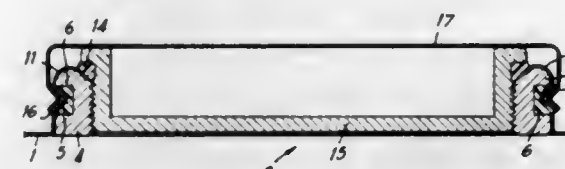
Willard Randorf, Beachwood, Ohio, assignor to Ranco Industrial Products Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 5, 1965, Ser. No. 430,711
2 Claims. (Cl. 220-4)



1. A packaging kit for a roof coating spray gun and associated equipment, comprising, a first cylindrical section having side and bottom walls and a cover including

be secured in said orifice, and deforming said neck at the periphery thereof so as to form an annular groove of V-shaped cross section therein which penetrates into said peripheral channel in said collar while completely enclosing the ring between said indentation and the bottom and side walls of said peripheral channel, and contacting the outer edges of said channel along two continuous circumferential lines of contact between the deformed portion of the neck and the edge portions of the channel so as to cause said elastic ring to exert elastic pressure on all parts delimiting said enclosure and producing a fluid sealed and interlocked joint between said neck and collar.



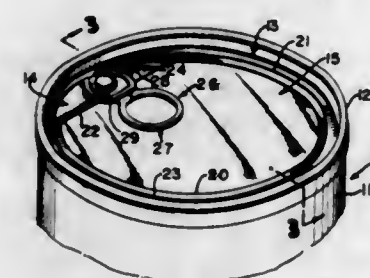
12. Closure device for an orifice of a vessel, said orifice being enclosed by an upstanding neck and said closure device comprising a collar having inner threads and a peripheral channel with a substantially U-shaped cross section, said collar being located in said orifice and being surrounded by said neck; an elastic ring located in said channel; said neck having a peripheral annular groove of substantially V-shaped cross section penetrating in said channel against said elastic ring and contacting said channel along two continuous circumferential lines, thereby producing a fluid sealed and interlocked joint between said neck and said collar, said neck being bent over the upper portion of said collar; a plug screwed in said inner threads of said collar; a capsule mounted on said collar and having a cylindrical portion with a circumferential indentation engaging said V-shaped groove, and a gasket interposed between said indentation and said groove.

3,342,367

WINDOW CAN END UNIT

Lewis F. Irland, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,369
18 Claims. (Cl. 220-54)



1. A window can end unit comprising a can end and a panel of transparent material, said can end including an end panel and a peripheral attaching portion, a window opening in said end panel, said transparent panel being sealed to said end panel and closing said window opening, in peripheral weakening line in said end panel surrounding said window opening and a pull tab secured to said end panel intermediate said weakening line and said window opening for facilitating the tearing out of all of said can end unit disposed within the outline of said weakening line.

lock means for releasably securing the cover to the side walls; a second cylindrical section, of lesser diameter, having bottom and side walls and a cover including lock means for releasably securing the cover to the side walls; the bottom end of the second section being permanently mounted on the top side of the first section cover to define a double-walled partition between the first and second sections; said partition having a central opening there-through, connecting the interiors of the two sections, of smaller diameter than the second section, to define a platform, inside, the second section, surrounding the partition opening.

3,342,370

NESTABLE CUP CONSTRUCTION

Roland E. Johnson, Cincinnati, Ohio, assignor to The Borden Chemical Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 8, 1966, Ser. No. 541,354
4 Claims. (Cl. 220-97)



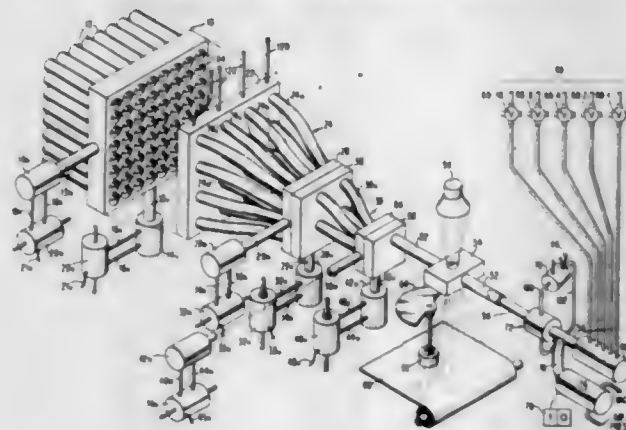
1. A one-piece, nestable, plastic receptacle comprising a body having a longitudinally tapering side wall portion, a transverse bottom wall, and a reversely tapered, multi-angular stop portion disposed between and connecting said bottom wall with said side wall portion, said stop portion defining a multi-angular, interior ledge projecting inwardly of said body portion above said bottom wall and an exterior, multi-angular shoulder disposed below said ledge, said interior ledge being arranged to engage the exterior shoulder of a like receptacle upon telescopic engagement of two of such receptacles to thereby prevent frictional wedging of one receptacle within the other.

3,342,371

DOCUMENT RETRIEVAL SYSTEM

Richard K. Wilmer, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 20, 1963, Ser. No. 281,594
18 Claims. (Cl. 221-13)



1. A system for retrieving a record strip comprising: a plurality of record strip storing positions, said positions being arranged in a matrix array; means for indicating the position in which a selected record strip is stored;

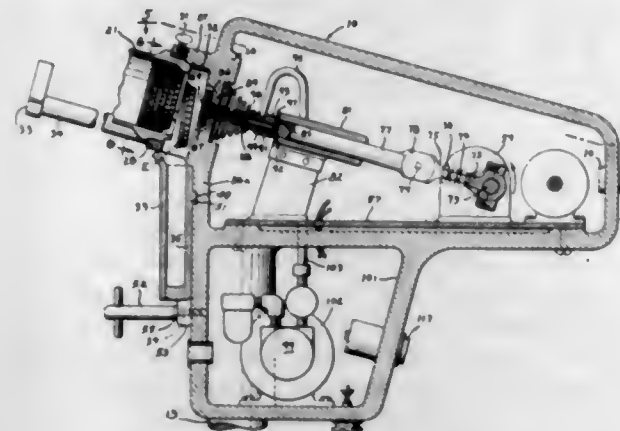
a path forming means comprising flexible tubing; a record utilization means; means operable in response to said indicating means for forming in said path forming means a single path of arranged tubing from the indicated position through said path forming means to said utilization means; and pneumatic means for driving said selected record strip through said formed path.

3,342,372

BOTTLE CAP FEEDER

William E. Whitchurch, Belvidere, Ill., assignor to Champion Papers Inc., Hamilton, Ohio, a corporation of Ohio

Filed May 18, 1964, Ser. No. 368,021
9 Claims. (Cl. 221-13)



1. A bottle cap feeder comprising in combination: a casing, a cap chute in an operative position extending laterally and downwardly from the casing at an inclination sufficient for caps to move therealong under gravity, said cap chute and casing having interfitting clamp means for connecting the cap chute to the casing, said interfitting clamp means being arranged for quick release for swinging movement of the entire chute from said operative position to a compact inoperative position for storing, depositing means on the cap chute spaced from the casing for releasably retaining the caps in the cap chute and for depositing the caps on the heads of bottles conveyed past the chute, a cap magazine mounted on the casing and having a dispensing end communicating with the cap chute, extractor means for removing a cap from the cap magazine and for depositing the same in the cap chute, and drive means for driving the extractor means to extract the caps from the cap magazine.

3,342,373

VENDING MACHINE FOR VENDING IN SEQUENCE MERCHANDISE ARTICLE CONTAINERS FROM TWO VERTICALLY STACKED ADJACENT COLUMNS THEREOF

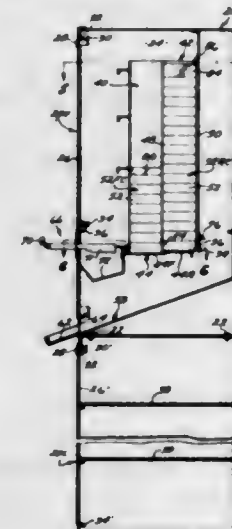
Norman G. Weltzman, % Arnold Provisor, Attorney-at-Law, 16401 Knapp St., Sepulveda, Calif. 91343

Filed Mar. 11, 1966, Ser. No. 533,550
1 Claim. (Cl. 221-107)

A vending machine for sequentially vending bottom-positioned merchandise article containers from two vertically stacked adjacent columns thereof, comprising: a housing and cabinet means having a hollow interior merchandise chamber therein, said housing and cabinet means being provided at a location within said merchandise chamber with a pair of forwardly and rearwardly adjacent vertically directed merchandise article receiving and vertical stacking guide channel means adapted to vertically receive and vertically stack therein in corresponding front and rear columns a plurality of merchandise article containers, each of said stacking guide channel means of said pair thereof being provided with a floor panel at the

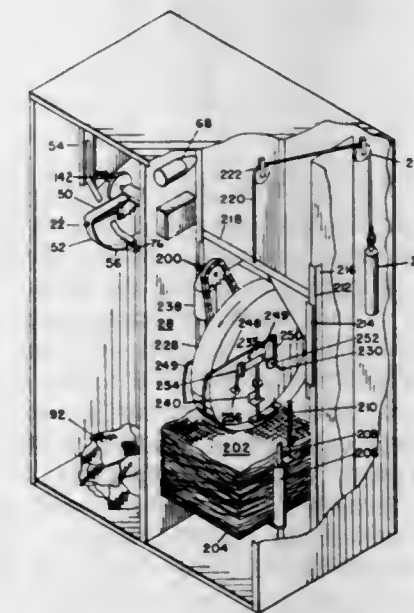
bottom thereof and an intermediate merchandise transfer opening communicating the rear of the front one of said pair of stacking guide channel means with the front of the rear one of said pair of stacking guide channel means, said rear stacking guide channel means being provided with a rear merchandise discharging egress opening immediately above the level of said floor panel and transversely substantially aligned with said merchandise transfer opening, the front one of said pair of stacking guide channel means being provided with a front actuation opening immediately above the level of said floor panel and substantially transversely aligned with the intermediately positioned merchandise transfer opening and the rearwardly positioned merchandise discharging egress opening; and a controllably operable rearwardly directed actuating means horizontally transversely aligned with said front actuation opening for forcible rearward movement therethrough into abutting contact with a bottom merchandise article container adapted to be positioned at the bottom of a front column thereof and for consequent forcible rearward movement of said bottom merchandise article container rearwardly through said merchandise transfer opening and into forcible abutment with a similar merchandise article container adapted to be positioned at the bottom of a rear column of merchandise article containers for forcible discharging thereof through said rear

through said merchandise transfer opening to the bottom of the rear column of merchandise article containers and thereafter being operable as a forwardly and rearwardly reciprocable abutment coupling member and effective extension for said actuating member for sequentially rearwardly abutting the bottom merchandise article container of said rear column thereof for forcibly discharging same through said rear merchandise discharging egress opening in response to each rearward actuation of said actuating member; said gravity-operated engagement means comprising an upwardly recessed, partially cut-away, outwardly projecting engagement plate portion, integrally carried by the outer end of said merchandise article container-simulating follower member being provided with a pair of downwardly directed, laterally spaced engagement hook means shaped and sized for gravity-operated, downward slip-over engagement with respect to said actuating means weighted follower means and inactivation means adapted to rest upon a top merchandise article container in said rear column thereof and to gradually descend said rear stacking guide channel means after each dispensing operation of said rear column of vertically stacked merchandise article containers until it reaches the bottom of said rear stacking guide channel means where it effectively inactivates the actuating means by reason of its being provided with a top edge portion extending upwardly too high to rearwardly pass through said rear merchandise discharging egress opening; said merchandise transfer opening is of a vertical height greater than the vertical height of one vertically stacked merchandise article container but less than the vertical height of two vertically stacked merchandise article containers, said merchandise discharging egress opening being of a vertical height greater than the vertical height of one vertically stacked merchandise article container but less than the vertical height of two vertically stacked merchandise article containers; and being provided with a resilient forcibly outwardly deflectable gate member positioned across said merchandise discharging egress opening.



merchandise discharging egress opening; said bottom floor panel being completely closed and having a completely closed front portion underlying the front one of said pair of stacking guide channel means and having a completely closed rear portion underlying the rear one of said pair of stacking guide channel means, said rear portion of said bottom floor panel being displaced upwardly slightly above the level of said front portion of said bottom floor panel and providing an arrangement such that a second from the bottom merchandise article container adapted to be positioned at the bottom of a rear column thereof will be substantially above the level of a bottom merchandise article container adapted to be positioned at the bottom of a front column thereof whereby forcible rearward movement of a front bottom merchandise article container rearwardly through said merchandise transfer opening and into forcible abutment with a similar merchandise article container adapted to be positioned at the bottom of a rear column of merchandise article containers will positively pass below and not about a second from the bottom rear-positioned merchandise article container; a merchandise article container-simulating weighted follower member adapted to be positioned in gravity-caused top engagement with a top merchandise article container adapted to be stacked in a front column thereof in said front stacking guide channel means and provided with gravity-operated engagement means for engagement with said actuating member when the last merchandise article container in the front column thereof has been transferred

3,342,374
TOWEL DISPENSING MACHINE
Joseph E. Kienel, Acworth, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia
Original application Aug. 10, 1961, Ser. No. 130,635, now Patent No. 3,251,448, dated May 17, 1966. Divided and this application July 21, 1965, Ser. No. 484,500
2 Claims. (Cl. 221-215)

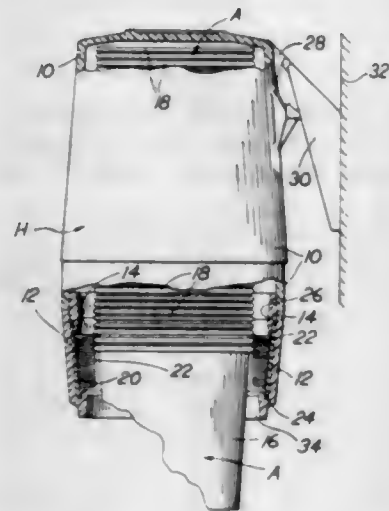


1. In a towel vending machine for dispensing a clean towel in exchange for a dirty towel deposited therein, a cabinet frame having a clean towel dispensing compart-

ment therein, a clean towel support mounted in said frame and having an upwardly facing surface to support a vertical stack of towels, resilient means connected to said frame to bias said support upwardly, a towel transfer assembly connected to said frame for vertical movement above said support and adapted to be held by gravity in engagement with the stack of towels on said support, counterweight means connected to said assembly to reduce the force exerted by said assembly on the stack of towels, a towel transfer drum carried by said assembly and mounted for rotation about a horizontal axis, said drum having a cylindrical peripheral face overlying and movable across said support upon rotation of said drum, said drum having an opening in said peripheral face, a towel pick-up and release mechanism including a radial member mounted for reciprocating radial movement inside of said drum and having at its outer end a pick-up shoe extendable through said opening to engage the uppermost towel on said support and retractable from said opening to release such towel, cam means mounted at the axis of said drum and engageable with said radial member to control the extension and retraction of said pick-up shoe so that rotation of said drum causes said pick-up shoe to be extended to engage the uppermost towel and move it in a vertical arc away from the stack and to retract and release such towel when the shoe is located at a prescribed position along said arc.

3,342,375 DISPENSER

Howard W. Johnson, Park Forest, Elmer J. Knize, Chicago, and Giacinto C. D'Ercoli, Park Forest, Ill., assignors to Solo Cup Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,842
5 Claims. (Cl. 221-308)



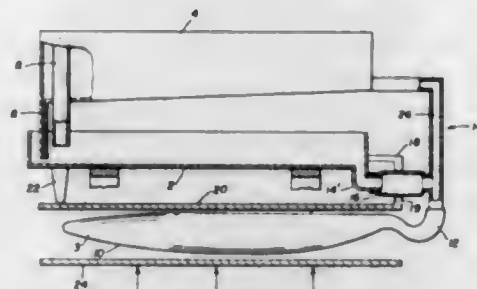
1. A dispenser for removing cups one at a time from a nested stack, said cups having a rim at the top edge thereof, comprising an upper cylinder, a lower cylinder aligned with said upper cylinder and having its top edge adjacent the bottom edge of said upper cylinder, band means disposed within said cylinders at said adjacent edges for securing said cylinders together, the lower edge of the band being spaced from the inner surface of said lower cylinder, said lower cylinder terminating at its lower end in a peripheral seat, a bristle-supporting strip having resilient bristles projecting therefrom, said strip being disposed within said lower cylinder with the bristles extending radially inwardly, the lower edge of the strip being seated in said peripheral seat and the upper edge of said strip being interposed in said space, thereby securing said strip to said lower cylinder, said bristles being sufficiently stiff to support said stack of cups by engaging the rims of several of the lowermost cups in said stack and sufficient-

ly resilient to snap into the space between the rims of adjacent nested cups to separate them when the bristles are rifled by removing the bottom cup from said stack.

3,342,376 LIQUID HANDLING DEVICE

Eric Thomas Smith, Pinner, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

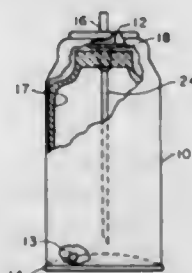
Filed Nov. 26, 1965, Ser. No. 509,980
Claims priority, application Great Britain, Nov. 27, 1964, 48,441/64
7 Claims. (Cl. 222-64)



1. In an apparatus for supplying solution to a tray, the combination comprising:
a reservoir positioned above said tray;
said reservoir defining an opening providing fluid communication with said tray;
means cooperating with said opening for maintaining a predetermined depth of solution in said tray so long as solution is present in said reservoir; and
means for simultaneously supplying solution to said tray and reservoir whereby said tray is filled to said predetermined depth and maintained at said depth by said maintaining means.

3,342,377 DISPENSING CONTAINER

Stephen K. Peredy, Burlington, Mass., assignor to Hewlett-Packard Company, a corporation of California
Filed Apr. 7, 1966, Ser. No. 541,013
7 Claims. (Cl. 222-94)

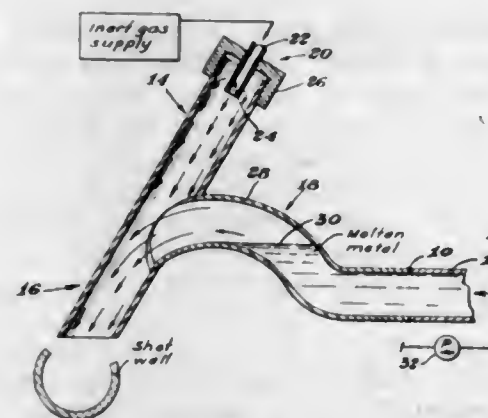


1. A dispensing container for pressure propelled products comprising:
a hollow rigid outer body member having first and second ends,
a discharge opening in said first end,
a passageway extending inwardly from the discharge opening and terminating in an inwardly extending nipple,
an obturator means sealing said discharge opening,
a flat, flexible, pressure-deformable bag having first and second mating side walls continuously joined together at their peripheries, thereby to form a seam having less flexibility than said side walls, and having a discharge opening and a tubular element in said bag discharge opening.

conduit means connected to said nipple, said bag being connected by said tubular element to said nipple, said conduit means extending into said bag when said bag is connected to said nipple, said bag and said container providing a product chamber in the bag and an annular chamber outside the bag whereby to facilitate the complete evacuation of said product chamber when said annular chamber is pressurized and said obturating means is opened.

3,342,378 NOZZLE ATTACHMENT FOR USE IN DIE CASTING

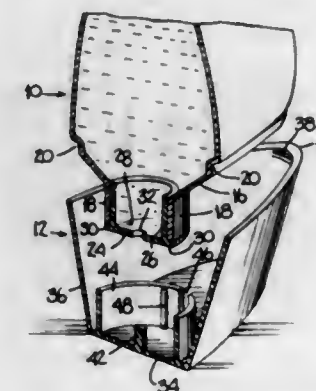
John G. Mezoff, Bay City, and Elton J. Mayer, Sanford, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 15, 1964, Ser. No. 396,541
3 Claims. (Cl. 222-152)



1. A nozzle device adapted to be coupled to a molten metal delivery pipe for use in die casting operations wherein molten metal is intermittently dispensed as shots from a supply of said molten metal through a heated delivery pipe by means of a pump submerged in said supply in communication with said delivery pipe; the nozzle consisting essentially of a three legged internally communicating substantially T-shaped apparatus having a molten metal exit leg, an extended gas-introducing leg including means for introducing inert gas into the device, and a molten metal receiving leg shaped in a downwardly concaved return-bend manner to enable a level of molten metal to be maintained therein at its apex and adapted to direct said shots of molten metal in a positive downwardly direction into the molten metal exit leg.

3,342,379 SQUEEZE BOTTLE AND SUPPORT CAP

James P. Foley, 748 Forest Ave., Larchmont, N.Y. 10538
Filed Oct. 24, 1965, Ser. No. 504,320
6 Claims. (Cl. 222-173)



1. In combination, a squeeze bottle having a neck formed with a constricted discharge opening located at the top of said neck, a cap member comprising a generally

flat expansive base which extends laterally by an amount sufficient to provide stable support for holding said squeeze bottle in inverted neck-down position, a plug element protruding upwardly from a location near the center of said base, said plug element being dimensioned to fit closely into said discharge opening, a plurality of mutually displaced guide elements extending upwardly from said base and encircling and rising above said plug element, a segmented supporting wall on said base and arranged to provide flexible support for said guide elements whereby said guide elements operate as a guide passage for guiding downward movements of the neck of said squeeze bottle such that said plug element enters into said constricted discharge opening in alignment therewith to obtain a complete fluid seal and to avoid permanent distortion of either said opening or said plug element, and buttress means laterally displaced from said supporting wall, said buttress means extending upwardly from said base to engage the lateral expanses of said squeeze bottle in inverted neck-down position to maintain the bottle in such position.

3,342,380 COMBINED SHAKER TOP AND POUR SPOUT CLOSURE FOR CONTAINERS OF FINELY DIVIDED MATERIAL

Richard L. Smith, 5707 S. Westnedge Ave., Kalamazoo, Mich. 49002
Filed May 25, 1966, Ser. No. 552,897
10 Claims. (Cl. 222-189)



1. A combined shaker top and pour spout closure for containers of finely divided material comprising, a first frame having a peripheral edge adapted to engage the edge of a container wall defining an opening, said frame defining a pouring opening having at least two intersecting and diverging sides, a second frame sized to fit in mating engagement with the sides of said first frame, a first hinge connection between one side of said second frame and one of said intersecting sides of said first frame and integral with said frames, an integral wall closing the area within said second frame and defining a plurality of spaced shaker openings, a spout side wall integrally connected by a second hinge connection to a second side of said second frame and extending in a plane generally perpendicular to the plane of said second frame through said opening in said first frame and along the other of said intersecting sides of said first frame, an imperforate closure engageable with said second frame in closing relation over said shaker openings, and a third hinge connection connecting an edge of said closure to an edge of said second frame and integral therewith.

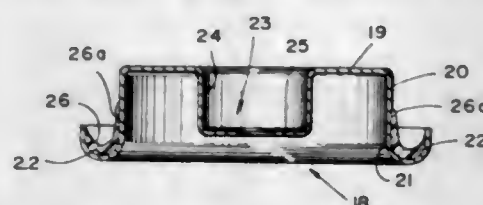
3,342,381 AEROSOL CONTAINER CLOSURES WITH PLASTISOL SEALING GASKETS

Charles W. Simons, Bedford, Joel A. Gribens, Framingham, and Irving J. Arons, Peabody, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Dec. 20, 1966, Ser. No. 603,287
10 Claims. (Cl. 222-402.1)

1. A closure for aerosol containers comprising a panel, a skirt depending from the periphery of the panel, an annular channel extending outwardly from the bottom

portion of the skirt and a gasket of a fluxed plastisol disposed within the channel and having a film portion at least 0.25 mil thick extending upwardly a distance on



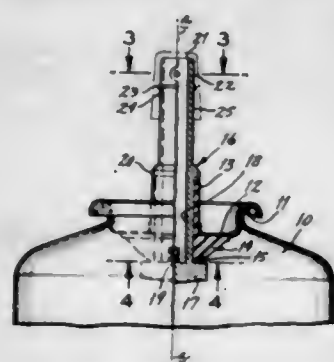
the skirt, gas gasket having a total film volume of at least about 210 cubic millimeters, total film volume being related to a one-inch diameter mounting cup closure.

3,342,382

PRESSURED DISPENSER SPOUT HAVING PLURALITY OF DECORATOR ORIFICES

James K. Huling, Belleville, Ill., assignor to The Clayton Corporation of Delaware, St. Louis, Mo., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,581
2 Claims. (Cl. 222-402.17)



1. A two-piece molded valving spout and sealing decorator tip assembly for selectively sealing and decoratively dispensing extrudable food products, and the like, packed under gas pressure, comprising

a valve spout of the type having a central axis and a parting plane in which said axis lies, and having a stem portion and a head portion at its inner end, and having a lateral inlet into the stem portion adjacent to the head portion, said inlet extending perpendicularly to such parting plane, characterized in

having at the outer end of the stem portion an open tip, a surface adjacent thereto formed as a surface of revolution about such axis, and a lateral dispensing outlet aperture extending perpendicularly to said parting plane through said surface of revolution,

in combination with

a cap-like spout tip sealing member having a surface of revolution fitted complementarily to the stem surface of revolution, and a lateral aperture therethrough,

said tip sealing member being characterized in having an upper cap surface whereby the open tip of the valve spout member is closed, the said combination having integral rotation-permitting means to secure the sealing member in fixed axial position on the spout member with their lateral apertures in axial registration and their said surfaces of revolution in contact, whereby to resist the force of extrusion of such a product, and having

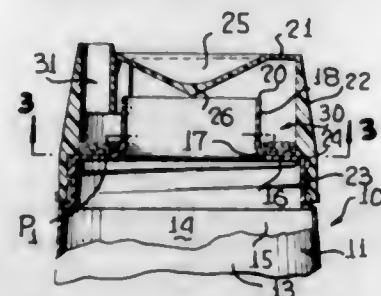
a second axially registering aperture through one of said surfaces of revolution, said second aperture being of decorative configuration.

3,342,383

DISPENSER FOR GRANULAR MATERIALS

Mindaugas J. Klygis, Chicago, and William F. Loddig, Orland Park, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 17, 1965, Ser. No. 487,982
7 Claims. (Cl. 222-454)



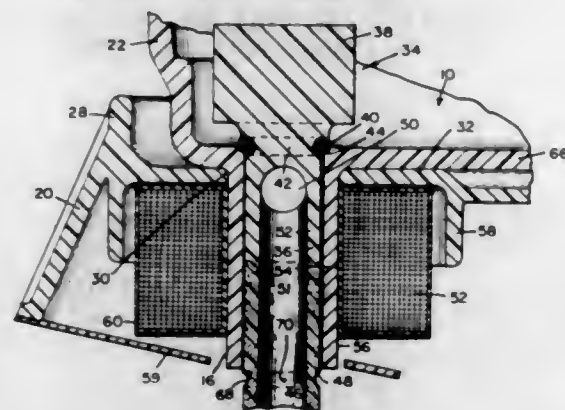
1. A dispenser comprising a container and a closure, said container including a container body having upper and lower body portions, said upper body portion terminating in a tubular portion having a free peripheral edge, means securing said closure to said upper body portion, said closure being provided with an end panel and a depending peripheral skirt defining a first chamber, said tubular portion being directed toward said first chamber with the free peripheral edge thereof terminating short of said end panel whereby granular material in said body flows outwardly of the body through the tubular portion and fills a portion of said first chamber to a height corresponding generally to the distance between the end panel and the free peripheral edge upon the tipping of the dispenser from an upright to an inverted position, said peripheral skirt and tubular portion defining an annular chamber into which flows a predetermined portion of the material from said first chamber upon the subsequent tipping of the dispenser to its upright position, means for dispensing the material from said annular chamber through said closure, means for preventing material from being dispensed directly from said first chamber outwardly of said body when the dispenser is inverted and means for directing material radially outwardly during the passage thereof outwardly of said tubular portion.

3,342,384

DISPENSING VALVE

William H. Jacobs, Brookline, Mass., assignor to Jet Spray Cooler, Inc., Waltham, Mass., a corporation of Massachusetts

Filed Apr. 30, 1965, Ser. No. 452,118
2 Claims. (Cl. 222-481)



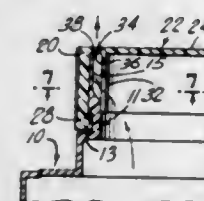
1. In a beverage dispenser, a bowl having a vertically oriented cylindrical discharge spout extending downwardly from its bottom, a magnetic coil mounted about the discharge spout, a valve body having a cylindrical stem made of a mag-

netic material disposed within the spout and a weight made of a nonmagnetic material disposed above the stem within the bowl, said body being raised in response to energization of the coil, a sealing gasket disposed about the stem and resting on the bottom of the bowl to seal the spout closed when the stem is in its lower position assumed when the coil is deenergized, and a passage through the stem with an opening thereto in the stem below the gasket which opening is exposed above the bottom of the bowl when the coil is energized.

3,342,385

CONTAINER WITH CLOSURE AND DISPENSING CAP

Francis J. Knight, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Dec. 20, 1965, Ser. No. 514,848
7 Claims. (Cl. 222-485)



1. A dispenser container comprising: a vertical cylindrical neck having an opening providing access to the interior of the container; a cap having a horizontal, flat, top wall equipped with a dispensing aperture and inner and outer radially spaced, concentric side walls depending from the under surface of said top wall on opposite sides of said aperture; said cap covering the opening in said neck and being in axial alignment therewith, the inner side wall of said cap overlying the inner surface of said neck within said opening and having a vertical slot extending upwardly from the lower edge thereof; said slot being in angular alignment with said aperture about the axis of said cap; said neck being provided on the inner surface thereof with a vertical groove extending downwardly from the upper edge thereof, the upper end of said slot and the lower end of said groove each terminating respectively above and below a common plane horizontal to the axis of said cap; said cap and said neck being relatively rotatable about their axes and having interlocking means therebetween permitting said aperture and said slot to move in a limited rotational path into and out of registry with said groove to permit and prevent dispensing material from said container respectively, and holding means preventing said cap and said neck from moving in an axial direction relative to one another thereby providing a seal between the top wall of said cap and the upper edge of said neck when said aperture and said slot are moved out of registry with said groove.

3,342,386

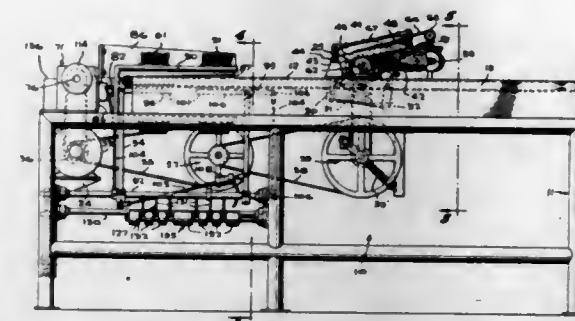
RAG FOLDING MACHINE

Robert E. Rademacher, 7501 Schaaf Drive, Richmond, Va. 23229

Filed Apr. 7, 1964, Ser. No. 357,885
13 Claims. (Cl. 223-37)

1. Rag folding machine comprising parallel laterally spaced, synchronously driven conveyor flights in a common level plane, the upstream ends of said flights being a feeding station for rags manually placed spread, one at a time, across said flights in bridging relation to the space between them, a receiving arm at a distance from said feeding station, its position establishing a folding station, said arm being parallel to said flights, midway

between them and at a slightly lower level, cooperating folding arms mounted to revolve in cylindrical paths of revolution of equal radius, axially parallel to said receiving arm and similarly positioned at opposite sides of said receiving arm so that the adjacent arcs of said paths of revolution pass through the space between said flights, said folding arms being oppositely revoluble and synchronized to maintain the same phase of angular displacement, the direction of revolution being such that



the folding arms descend in said adjacent arcs, said arms when at rest being above and equidistant from the plane of said flights, drive means for intermittently and synchronously revolving said arms in opposite directions, said drive means being activated responsive to the advent of a spread rag at said folding station, whereby the opposite portions of said rag are dragged through said space by said arms at opposite sides of said receiving arm, folding the rag thereupon.

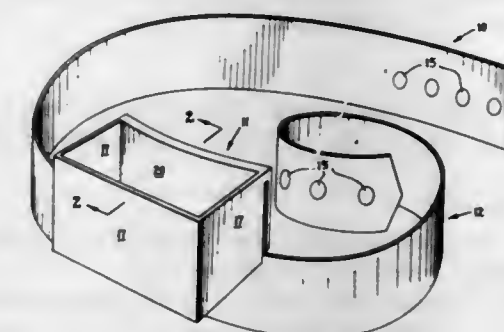
ERRATUM

For Class 223-76 see:
Patent No. 3,342,391

3,342,387

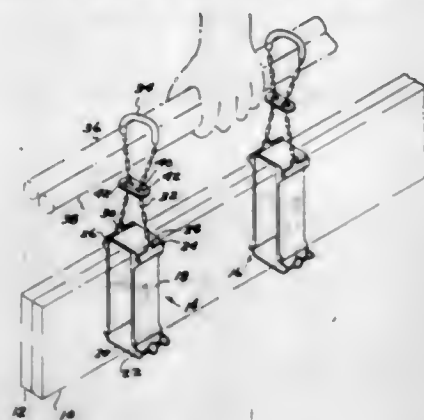
HAIR CLIP CARRIER

Joseph H. Ryan, 5610 Rawls, Indianapolis, Ind. 46219
Filed Apr. 27, 1966, Ser. No. 545,622
1 Claim. (Cl. 224-5)



A hair clip carrier comprising a rigid generally rectangular container, said container having an open top, a closed bottom and three straight vertical sides, said container having a fourth vertical side which is curved inwardly of the container, said closed bottom being flat whereby said container can be removed and positioned on a table in upright condition, a hook adapted to secure the container to a belt, said hook being formed of the same rigid material as said container and being integral with the container and including a downwardly projecting thin rigid portion which is parallel to said fourth vertical side and equally spaced therefrom all the way across said thin rigid portion, said hook being connected to said fourth vertical side at the upper edge thereof, said thin rigid portion overlying said fourth vertical side and being substantially congruent thereto.

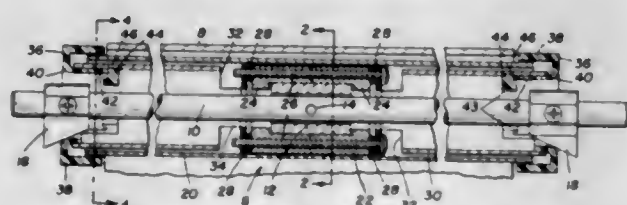
3,342,388
SKI CARRIER
 Glenn C. Duckworth, 32520 W. Haverford,
 Franklin, Mich. 48025
 Filed Sept. 3, 1965, Ser. No. 484,934
 6 Claims. (Cl. 224-45)



1. A retainer and carrier for skis comprising: a pair of elongated resilient straps; male connector means disposed on one end of each of the straps and female connector means disposed on the other end of said straps; a pair of elongated flexible pole retaining members each associated with one of the straps, and each having both of its ends joined to its associated strap at spaced points, equidistant from ends of the strap; and means for forming a loop of variable dimension along the free length of said pole retaining member.

3,342,389
ROLLER TO PROVIDE PROPER TRACKING OF A WEB IN A WEB TRACKING MECHANISM
 Roger A. Drexler, Henrietta, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 12, 1965, Ser. No. 447,321
 4 Claims. (Cl. 226-23)

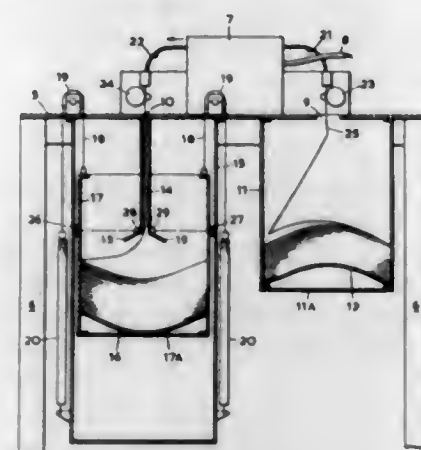


1. In an improved web tracking roller for maintaining a web in a normal tracking position, the combination comprising:

- support means;
- a drum pivotally mounted on said support means for supporting a web trained thereover;
- cam means mounted on said support means in inclined relation with the normal axis of said drum when said web is in its normal position;
- web edge sensing means encircling each end of said drum and slidably mounted thereon for axial movement in response to lateral movement of said web from its normal position;
- a tube mounted coaxially within said drum for interconnecting said web edge sensing means;
- said web edge sensing means having cam followers in engagement with said cam means and cooperating therewith for simultaneously moving said web sensing means axially in the same direction, and transversely to said normal axis in opposite directions in response to lateral movement of said web from its normal position, said movement of said web edge sensing means forcing said tube to tilt and said drum to pivot in a direction to return said web to its normal position.

3,342,390
TAPE OR STRIP HANDLING APPARATUS
 John Frank Winterbottom, John Vernon Panter, and John Alan Jones, London, England, assignors to English Electric-Leo Computers Limited, London, England, a British company

Filed Mar. 1, 1965, Ser. No. 435,986
 Claims priority, application Great Britain, Mar. 5, 1964, 9,433/64; Mar. 9, 1964, 9,929/64
 3 Claims. (Cl. 226-45)

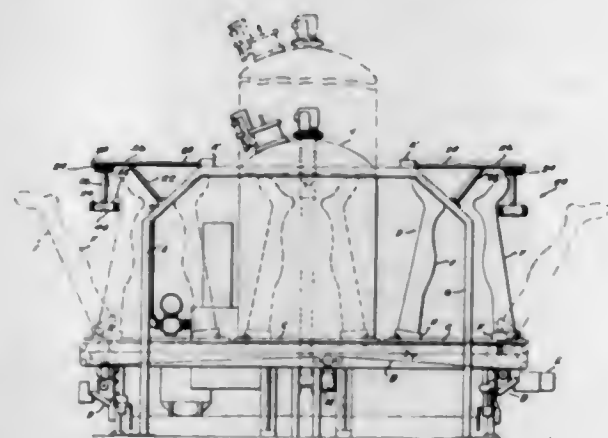


1. In a tape handler for handling a tape having creases in opposite directions at equal distances along the tape, comprising: a first cassette adapted to initially contain the tape; a transducing station; a second cassette; driving means for moving the tape out of the first cassette and through the transducing station, and feeding it substantially squarely from a feed point into the second cassette, thereby causing the tape to form a stack in the second cassette; and distance-controlling means having a limited speed of operation for maintaining the distance between the feed point and the stack in the second cassette at substantially half the distance between successive creases in the tape, the improvement comprising fault-detecting means arranged to detect the presence of the tape in the second cassette in the region around the feed point and further from the stack than the feed point.

3,342,391
GUIDING MEANS FOR FORMS FOR HOSIERY OR THE LIKE

Bernard William Cruse, Jr., Monroe, N.C., assignor to Emle Mills Inc., New York, N.Y., a corporation of North Carolina

Filed Jan. 18, 1966, Ser. No. 521,351
 9 Claims. (Cl. 223-76)



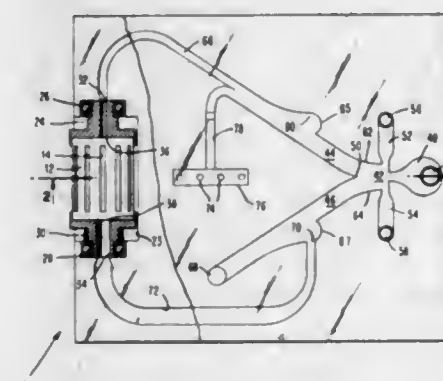
1. In an apparatus for processing hosiery or the like on substantially flat forms arranged in a closely spaced, face-to-face series with the forms successively shiftable

from a transversely offset position into general alignment with the preceding form of the series, means mounted on said apparatus for guiding said forms during transverse shifting to prevent fabric damaging contact of adjacent forms, said guiding means being disposed intermediate the offset and aligned form positions and having a form engaging portion tangent to the path of form shifting for engagement with the leading faces of the forms as they are shifted to restrain movement of each shifting form toward the precedingly shifted adjacent form sufficiently to avoid impact with the adjacent form said form engaging portion having an annular peripheral surface disposed tangent to the path of form shifting and being freely rotatable about an axis parallel to the path of form shifting for free tangential movement of said surface with the forms during form engagement.

3,342,392
FLUID AMPLIFIER VACUUM CAPSTAN CONTROL

Edwin U. Sowers III, Silver Spring, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

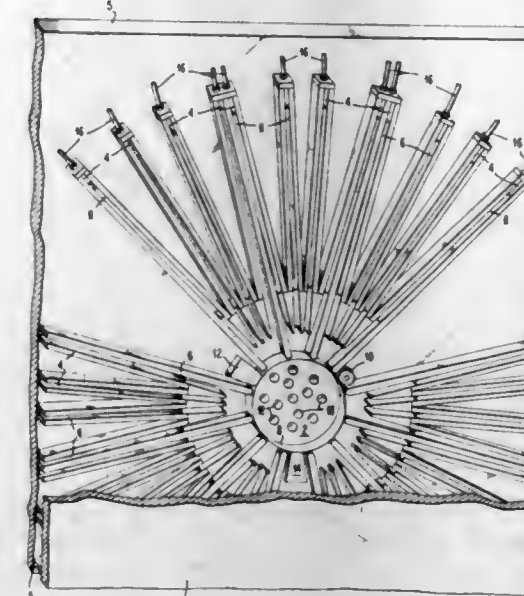
Filed June 9, 1965, Ser. No. 462,502
 15 Claims. (Cl. 226-95)



1. A transfer device for selectively imparting motion to a web situated in a fluid pressure environment, which comprises:

- (a) capstan member means having a movable surface portion adjacent the web and adapted to selectively grasp or release said web according to the presence of a respective first or second polarity fluid pressure differential thereacross;
- (b) first means located in proximity to both said web and said capstan movable surface portion which is adapted to receive fluid pressure of either a first or second magnitude and communicate same to said web for respectively providing said first or second polarity fluid pressure differential thereacross; and
- (c) a digital type fluid amplifier having a power stream input channel, a first power stream output channel with a fluid entrainment offset region, a first fluid channel connected between said offset region and said first means, a second power stream output channel with a dynamic flow outlet, a second fluid channel connected between said flow outlet and said first means, and control signal input means for selectively diverting the power stream to either said first or said second power stream output channel such that a particular one of said first and second magnitude fluid pressures appears in said first fluid channel when power stream flow is through said first power stream output channel, and the other of said first and second magnitude fluid pressures appears in said second fluid channel when power stream flow is through said second power stream output channel.

3,342,393
STORAGE DEVICES
 Lazar Licht, Irvington, David E. Brickl, New York, and Bendix H. Indergard, Croton-on-Hudson, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
 Filed Nov. 16, 1964, Ser. No. 411,432
 28 Claims. (Cl. 226-95)



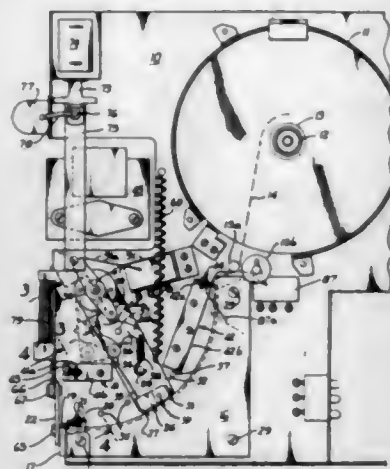
1. An apparatus comprising, in combination: means for inflating a closed portion of flexible material to cause it to assume a generally circular hoop configuration;

- a first circumferentially-located means for applying a composite force to the inflated hoop where the force comprises a tangential component of force which causes the hoop to revolve and a radial component of force which is effective in positioning the hoop; and
- a second circumferentially-located means for applying a substantially radial force to at least one other portion of the revolving inflated hoop to co-act with the composite force to cause the revolving hoop to be stably positioned in the vicinity of the force-applying means.

3,342,394
STAMP VENDING MACHINE
 John L. Surber, 1920 National Bank of Commerce Bldg. 78205; John L. Surber, Jr., 166 Greenhaven 78201; and Edward E. Anderson, 2112 Pleasanton Road 78221, all of San Antonio, Tex.
 Original application Oct. 13, 1964, Ser. No. 403,514, now Patent No. 3,310,211, dated Mar. 21, 1967. Divided and this application July 18, 1966, Ser. No. 578,913
 2 Claims. (Cl. 226-141)

1. A stamp vending machine for vending a predetermined portion of an elongated web of stamps mounted in the machine in a roll, comprising, a track for slidably supporting the end portion of a stamp web and having an inlet end and an outlet end, an arm pivotally mounted for one end thereof to oscillate over the track; means carried by the arm for engaging a stamp web on the track and moving such web toward the outlet end of the track when the arm moves in one direction; stop means for limiting the angle through which the arm can oscillate to thereby determine the distance the web is moved along the track for each oscillation of the arm, and means for oscillating the arm comprising, a shaft mounted to rotate on its longitudinal axis, means responsive to the deposit of a coin or coins for rotating the shaft on its longitudinal axis in one direction, a crank attached to the shaft for rotation therewith, cam means pivotally

mounted on the arm having a first position for engagement by the crank to cause the crank to pivot the arm and move the stamp engaging means carried thereby to move a stamp web toward the outlet of the track, and



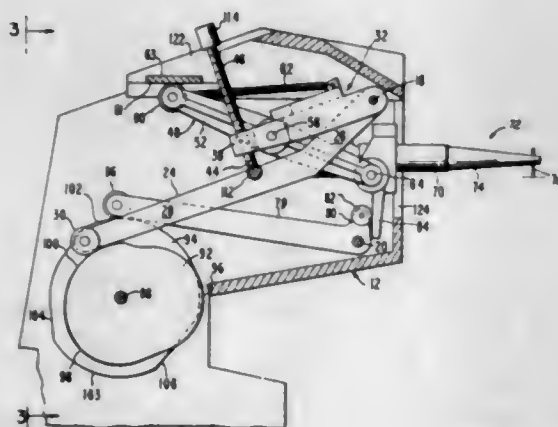
a second position where the crank can move out of engagement therewith, and resilient means for holding the cam in the first position until the arm engages the stop means whereupon the crank pivots the cam to its second position.

3,342,395

PRECISION DRIVE APPARATUS FOR A TOOL MOUNT

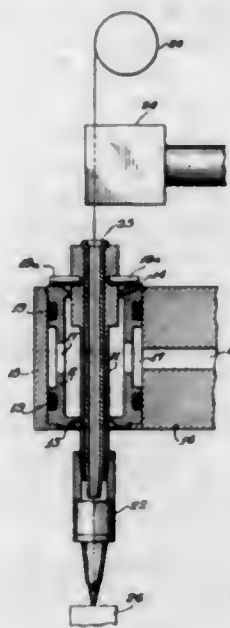
John C. Diepeveen, Sunnyvale, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California

Filed Oct. 10, 1966, Ser. No. 585,366
15 Claims. (Cl. 228-1)



1. In combination: a control member mounted for rotation about a first axis; an elongated actuating member mounted between its ends on said control member for rotation about a second axis parallel to said first axis; an abutment spaced from said axes, one end of said actuating member being in engagement with said abutment and movable along the same in response to the rotation of the actuating member on said control member; said activating member being rotatable in response to rotative movement of said control member; and drive means coupled with said control member for rotating the same in opposed directions, whereby structure coupled with the opposite end of said actuating member will be made to traverse a predetermined path defined by the ratio of the distances of respective ends of the actuating member from said second axis.

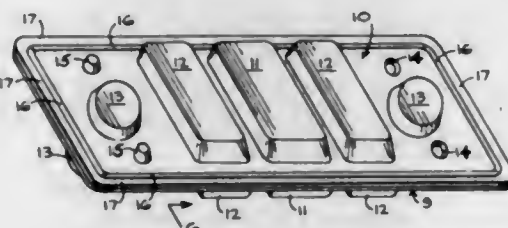
3,342,396
AIR SPINDLE FOR BONDING MACHINES
Charles Frederick Miller, Anaheim, Calif., assignor to Basic Products Corporation, Milwaukee, Wis.
Filed Mar. 8, 1965, Ser. No. 437,980
10 Claims. (Cl. 228-3)



1. Device for developing and controlling mechanical force comprising a housing, openings in said housing adapted to accommodate a rod, a rod extending through said housing and out through said openings, said rod being of greater diameter at one of said openings than at the other, means communicating with said housing for maintaining gas pressure above or below atmospheric in said housing, means for limiting the extent of axial movement of said rod in said housing and means for moving said housing between predetermined limits.

3,342,397

DIVIDED FOOD SERVICE TRAY
Kenneth Duitsman, Washington, Kans. 66968
Filed Jan. 30, 1967, Ser. No. 612,701
5 Claims. (Cl. 229-2.5)

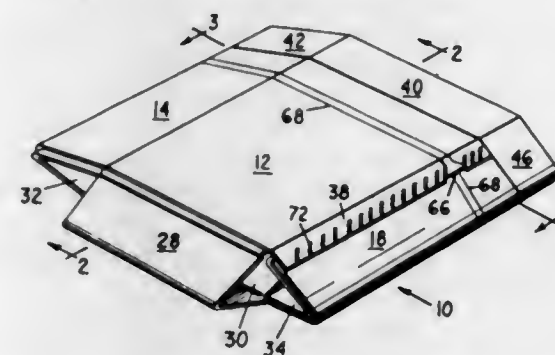


1. The combination of a rectangular and divided food service tray formed within a suitable paperboard blank having a top panel, a lateral flange circumventing the said panel, a rib disposed within the said flange, a plurality of at least five receptacles having a uniform depth, disposed within the said panel and depending therefrom, said receptacles spaced within the perimetric confines of the said rib, said receptacles having their centers transversely by the central and longitudinal axis of the said panel, two of the said receptacles being frusto-conical in shape and identical relative to each other, and the remaining receptacles being rectangular of which each is provided with inwardly inclined side and end walls each having a uniform taper and uniform respectively to the side and end walls of the other respective receptacles, one of the said rectangular receptacles provided with a greater width relative to the width of the other rectangular receptacles, which are identical in size, said identical receptacles spaced equally and in opposed relation from the opposite

elongated sides of the larger receptacle, which is centered transversely the said panel, said frusto-conical receptacles spaced equally and in opposed relation from the outboard and elongated sides of the identical receptacles, said receptacles defining a divided tray with the said panel, of a second identical tray positioned in co-extensive alignment with the first said tray and in co-planar relation therewith, means to pivotally secure said trays to prevent lateral disengagement relative to each other, anchoring means to obviate the said pivotal means to prevent radial movement of said trays relative to each other, a second combination of a first and second said respective pair of identical divided food service trays, said second tray aligned in opposed and superposed arrangement with the first said tray to provide a cellular container therebetween, means to detachably secure said trays in sealing engagement providing to obviate the ingress of air therein, a third combination of a first and a plurality of divided and identical food service trays aligned in telescopic and complementary relation one relative to another defining a stack therewith, air sealing means to obviate the contamination of the pre-sanitary condition of said stack of trays, exclusive of the open face of the top tray therewith.

3,342,398

REINFORCED CONTAINER STRUCTURES
Clifford H. Keith, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Original application Dec. 17, 1962, Ser. No. 246,873, now Patent No. 3,286,900, dated Nov. 22, 1966. Divided and this application Mar. 23, 1966, Ser. No. 536,858
4 Claims. (Cl. 229-16)



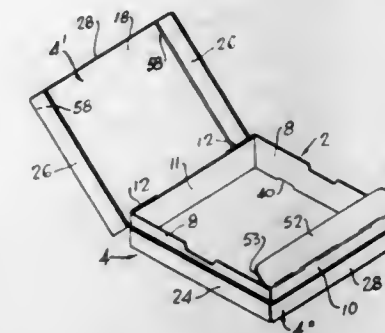
1. A four-sided container comprising a series of four foldably connected side wall means each having a top and a bottom edge, said series defining said four sides of the container, a series of four foldably connected wall liner panels each having a top and a bottom edge, a bottom panel foldably interconnected between one of said side wall means and one of said liner panels, three bottom liner panels each having opposed pairs of side edges and being respectively foldably connected at one of said side edges thereof to the bottom edges of the remaining wall liner panels, said bottom liner panels being superimposed in stacked relation upon said bottom panel, said liner panels being disposed closely adjacent said series of side wall means to provide a container having doubled side walls and quadrupled bottom walls.

3,342,399

HINGED LID CARTON
Albert W. Reynolds, Montreal North, Quebec, Canada, assignor to Lawson Lithographing & Folding Box Company Limited, Montreal, Quebec, Canada
Filed Oct. 1, 1965, Ser. No. 492,002
3 Claims. (Cl. 229-23)

1. A hinged lid carton comprising an outer shell component having top and bottom surfaces and front, rear and side panels, and an inner article carrying tray component positioned completely within the outer shell, and having

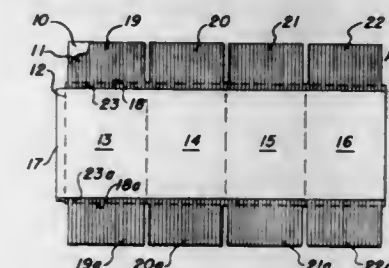
front, side, rear and bottom panels, said tray being inter-engaged with said shell by means of tabs integral with said bottom panel of said tray projecting outwardly past the side panels of said tray, said tabs engaging with corresponding slits positioned along the lowermost edge of the side panels of the outer shell, with the front and side



panels of the outer shell being severed longitudinally in a continuous line to divide the outer shell into upper and lower portions, and a longitudinal line scored in the rear panel of the outer shell forming a hinge whereby the upper portion of the outer shell may be opened to provide access to the articles carried by the tray.

3,342,400

CONTAINER
Ernest R. Kelley, Concord, Calif., assignor to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware
Filed Sept. 22, 1965, Ser. No. 489,130
6 Claims. (Cl. 229-37)



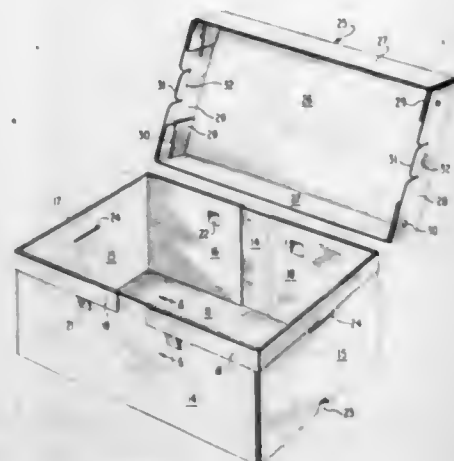
1. A corrugated container comprising superimposed outer, intermediate and inner plies forming horizontally disposed top and bottom closure flaps and vertically disposed panels, outer and inner intermediate plies substantially arranged in coextensive relationship, said inner ply arranged on said panels to terminate short of a scoreline hingedly connecting said top closure flaps to said panels, said inner ply being absent for a distance from said termination at least to said scoreline so that said panels resist crushing when a load is imposed upon said top closure thereby increasing the container stacking strength.

3,342,401

ICED PACK SHIPPING BOX
Thorne C. Kitchell, Spartanburg, S.C., assignor to Union Camp Corporation, New York, N.Y., a corporation of Virginia
Filed May 20, 1966, Ser. No. 551,748
3 Claims. (Cl. 229-35)

1. An improved shipping box for iced edible products comprising:
a body having a bottom, sides hingedly connected to said bottom, locking tabs disposed in said sides, end portions hingedly connected to said bottom, end flaps hingedly connected to opposite side edges of said end portions and disposed in inwardly parallel juxtaposition to said sides, complementary locking tabs disposed in said end flaps in interlocking engaging

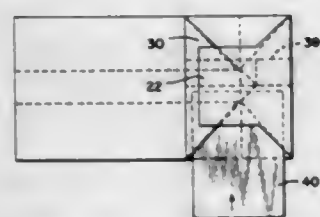
relationship with said locking tabs in said sides, ledge panels connected to the upper edges of said end portions and said end flaps and disposed outwardly and substantially perpendicular thereto, collar flanges connected to the outer edges of said ledge panels and



3,342,402
BAG

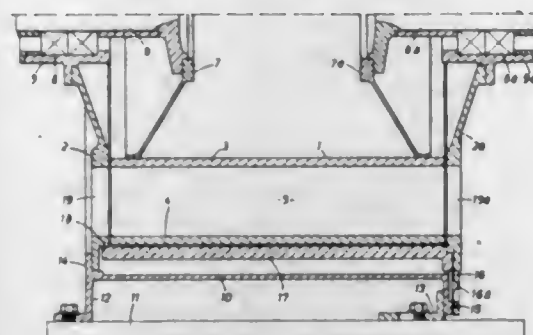
Emanuel S. Kardon, Melrose Park, Pa., assignor to American Bag & Paper Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 17, 1965, Ser. No. 456,141
5 Claims. (Cl. 229—60)



1. A bag comprising a tubular member collapsible to a flattened condition for forming a pair of oppositely disposed walls, a diamond fold at the bottom of the bag forming at its ends a pair of bottom fold portions, said bottom fold portions being folded over along parallel spaced fold lines forming side edges of the bag bottom, the portion of the diamond fold between said fold lines being rectangular, said bottom fold portions being constructed to overlap one another in the folded condition thereof, the outer bottom fold portion being secured to the inner bottom fold portion, which is adjacent the rectangular bottom portion, by adhesive located only in a region where said bottom fold portions overlap and between the opposed faces of the overlapping regions, and an insert member positioned between the rectangular bottom portion and the portions of said bottom fold portions overlapping the same, said insert member and said rectangular bottom portion and said bottom fold portions being unsecured together and being in cooperative frictional engagement for retaining said insert member in the bag bottom while permitting removal of said insert member from its frictionally retained position in the bag without any substantial destruction of the insert member or the bag.

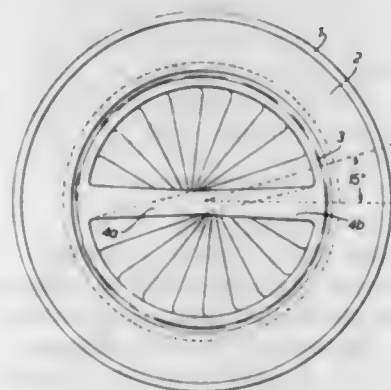
3,342,403
MACHINE HAVING A ROTOR SUPPORTED BETWEEN END-PLATES
James Brown, Fleet, and Alan George Andrews, Farnham, England, assignors to Power Jets (Research & Development) Limited, London, England, a British company
Filed June 7, 1965, Ser. No. 461,676
Claims priority, application Great Britain, June 22, 1964, 25,751/64
15 Claims. (Cl. 230—69)



15. A pressure exchanger including a casing, two end-plates forming part of the casing, a cell ring mounted for rotation between the end-plates with freedom for axial expansion, each end plate being constrained to follow axial movement of the adjacent end of the cell ring relative to the other end-plate whereby the spacing between each end of the cell ring and its adjacent end-plate is maintained substantially constant and supporting means including a deformable element which locates one of the end-plates with respect to another part of the casing, the supporting means permitting axial movement of the end-plate and the adjacent end of the cell ring in relation to the other end-plate while acting to prevent the end-plates from tilting in relation to each other, said supporting means including another deformable element extending between the axial extension and said other part of the casing, the deformable element and the other deformable element each comprising three equi-angularly spaced strips secured at their inner ends to said one end-plate and at their outer ends to said other part of the casing.

3,342,404
ANNULAR ELECTRODES IN DIFFERENTIAL PUMPING TUBES FOR ELECTROSTATIC ACCELERATORS

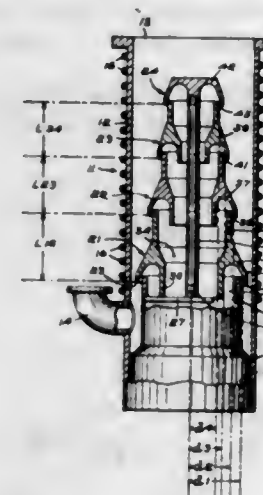
Frederick Albert Howe, Newbury, and Ronald Inch Bell, Basingstoke, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 12, 1965, Ser. No. 507,426
Claims priority, application Great Britain, Nov. 19, 1964, 47,158/64
5 Claims. (Cl. 230—69)



1. In a differential pumping tube for evacuating the high-voltage portion of an electrostatic accelerator in parallel with the accelerating tube and comprising a plu-

ality of annular electrodes spaced apart by annular insulators, the improvement wherein each electrode includes a substantially diametrical bar which intersects the axis of the tube, the two radial halves of said bar being deflected from a plane normal to the tube axis towards one end of the tube to produce an electric field between adjacent electrodes having a component directed towards the tube axis to cause deflection of unwanted electrons into said electrodes.

3,342,405
DIFFUSION VACUUM PUMP APPARATUS
Werner G. Bächler and Hans Joachim Forth, Cologne, Germany, assignors to Leybold Holding AG, Zug, Switzerland, a Swiss joint-stock company
Filed Aug. 9, 1965, Ser. No. 478,338
Claims priority, application Germany, Oct. 17, 1964, L 49,051
2 Claims. (Cl. 230—101)



1. A diffusion vacuum pump apparatus comprising: a pump housing having an inlet aperture adapted to receive pumped gas and an outlet aperture adapted to exhaust pumped gas, a boiler section formed within said pump housing and adapted to contain a pool of pumping fluid, a first jet assembly positioned within said pump housing above said boiler section and adapted to receive a portion of the pumping fluid vapor evaporated therefrom, a second jet assembly mounted above said first jet assembly and adapted to receive a portion of the pumping fluid vapor evaporated from said boiler section, a third jet assembly mounted above said second jet assembly and adapted to receive a portion of the pumping fluid vapor evaporated from said boiler section, a fourth jet assembly mounted above said third jet assembly and adapted to receive a portion of the pumping fluid vapor evaporated from said boiler section;

each of said jet assemblies having a uniform annular mouth gap and being adapted to direct pumping fluid vapor through said mouth gap against the interior surface of said pump housing, the width of said second jet assembly mouth gap being 0.9–1.3 times the width of said first jet assembly mouth gap, the width of said third jet assembly mouth gap being 0.5–0.9 times the width of said first jet assembly mouth gap, and the width of said fourth jet assembly mouth gap being 0.4–0.6 times the width of said first jet assembly mouth gap; said jet assembly mouth gaps being circular and the diameter of said second jet assembly mouth gap being 0.88–0.92 times the diameter of said first jet assembly mouth gap, the diameter of said third jet

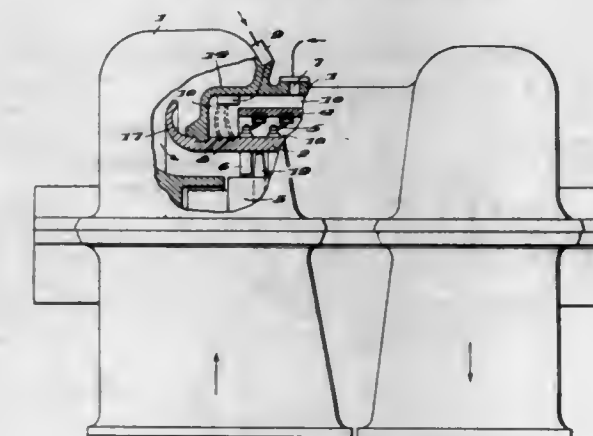
assembly mouth gap being 0.55–0.62 times the diameter of said first jet assembly mouth gap, and the diameter of said fourth jet assembly mouth gap being 0.28–0.3 times the diameter of said first jet assembly mouth gap; and

each of said jet assemblies having a nozzle lip, the distance between said second and third jet assembly nozzle lips being 1.2–3.2 times the distance between said first and second jet assembly nozzle lips, and the distance between said third and fourth jet assembly nozzle lips being 1.7–3.7 the distance between said first and second jet assembly nozzle lips.

3,342,406
METHOD FOR PREVENTING DAMAGE BY CORROSION OF THE ADJUSTABLE MECHANISM OF GUIDE BLADING OF TURBOMACHINES AND TURBOMACHINE WITH CORROSION PREVENTION DEVICE

Hans Baumann and Peter Schmidt-Theuner, Nussbaumen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company

Filed May 20, 1965, Ser. No. 457,450
Claims priority, application Switzerland, June 23, 1964, 8,201/64
6 Claims. (Cl. 230—114)

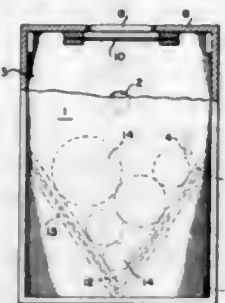


1. A turbomachine such as an axial flow compressor comprising an outer casing, a rotor within said casing having rows of vanes, a guide vane carrier surrounding said rotor, said guide vane carrier supporting rows of adjustable guide vanes between which run the rows of vanes on said rotor, a shift member located in a chamber established between the outer casing and said guide vane carrier, mechanical connections between said shift member and said guide vanes for adjusting the angle of the latter as said shift member is actuated, means for introducing a dust-blocking water vapor containing gas into said chamber, and means for heating the wall parts defining said chamber to prevent cool-off to such temperature as would otherwise result in condensation of the water vapor on said wall parts.

3,342,407
RECEPTACLE FOR CONCEALING VALUABLES
Gerhard O. Riegraf, 59 Winnender Strasse, 7151 Affalterbach, Germany
Filed Feb. 10, 1966, Ser. No. 526,567
6 Claims. (Cl. 232—4)

1. A receptacle for concealing valuables comprising: (a) a box having front, side and rear walls, (b) means positioned centrally relative to said rear wall for suspending said box on a wall, (c) ornamental means positioned on said front wall, (d) said side walls extending beyond said front wall thereby providing mounting means and a frame for said ornamental means, and

(e) said front wall being provided with ridges meeting in the bottom of said box to form an angle whereby



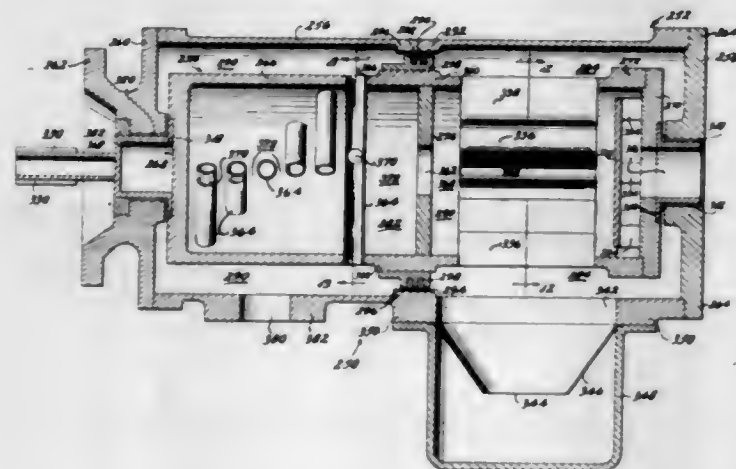
coins will tend to collect at the juncture of said ridges, said juncture being located at approximately the center of the bottom wall of said box.

3,342,408

CENTRIFUGAL SEPARATION SYSTEM

William C. Bergstrom, P.O. Box 48-236, Miami, Fla. 33148; Robert W. Bergstrom, executor of said William C. Bergstrom, deceased

Filed Apr. 10, 1963, Ser. No. 272,019
28 Claims. (Cl. 233-18)



12. A multiple-stage separator for separating a mixture of materials having different densities, said separator including a non-rotatable housing; a hollow rotor journaled inside said housing for rotation around an axis; said rotor including means generally transverse of said axis and dividing the interior of said rotor into a first-stage separation chamber and a second-stage separation chamber, said rotor being spaced from said housing to form a first receiving chamber between said rotor and said housing adjacent said first-stage separation chamber and a second receiving chamber between said rotor and said housing adjacent said second-stage separation chamber; means between said rotor and said housing sealing said first receiving chamber from said second receiving chamber; said rotor including a casing having the shape of a right circular cylinder and covers at its opposite ends, an inlet extending from the exterior of said separator and opening into said first-stage separation chamber for the delivery thereto of a mixture of materials to be separated; means for initially directing said mixture entering said first-stage separation chamber outwardly toward the inner surface of said casing, said transverse dividing means including an aperture at the axis for the passage of partially-purified less dense material from said first-stage separation chamber to said second-stage separation chamber, said aperture having an area that is a small fraction of the cross-sectional area of said casing, said first-stage separation chamber having an unobstructed axial zone between said initially-directing means and said aperture for collecting par-

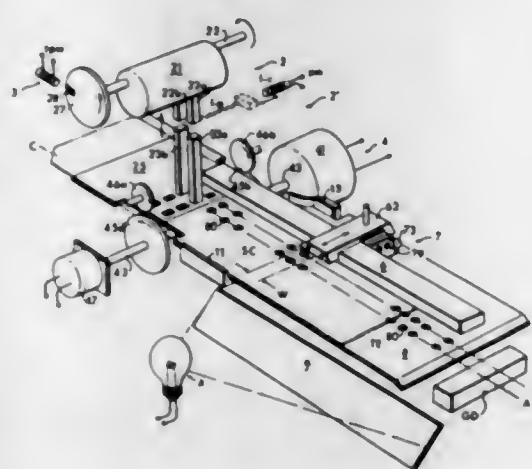
tially-purified less dense material and transmitting it to said aperture, said casing having at least one exit opening formed therein and joining said first-stage separation chamber to said first receiving chamber for the centrifugal outflow of more dense material, said second-stage separation chamber including outlet means for receiving further-purified less dense material at or adjacent said axis and flowing the further-purified less dense material through said casing into said second receiving chamber, said outlet means being the only outlet from said second-stage separation chamber so that additional more dense material separated in said second stage separation chamber collects adjacent the inner surface of said casing in said second-stage separation chamber for removal upon periodic cleaning, said housing having an egress opening formed therein joining said second receiving chamber to the space outside said separator for the outflow of further-purified less dense material.

3,342,409

RECORD HANDLING CONTROL SUBSYSTEM

James R. Relyea, Framingham, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 28, 1965, Ser. No. 475,397
18 Claims. (Cl. 234-22)



1. In a record processing system for advancing record media along a prescribed path past a processing station and operating upon said media with continuous reference to the position thereof, said processing station including indicia impressing means for selectively applying indicia impressions to said media in accordance with the position thereof; timing means adapted to generate timing signals indicating the phase of said impressing means and indicia indicating means for generating indicating signals for controlling said impressing means to apply prescribed indicia pattern to said media at prescribed locations thereon, the combination therewith comprising:

record tracking means disposed along said path in prescribed relation with said station and adapted to develop strobe signals directly indicating prescribed incremental positions of said media relative thereto; strobe-responsive record transport means arranged to advance said media along said path in a prescribed manner as indicated by said strobe signals, said transport means including record engaging means and field-accelerated, low-inertia drive means having the rotatable portion thereof coupled directly to said engaging means; and strobe-responsive control means electrically connected between said tracking means, said indicating means, said impressing means, said timing means, and said drive means, and adapted to logically combine said strobe, timing and indicating signals to responsively generate and apply speed-control signals to said drive means and impression-

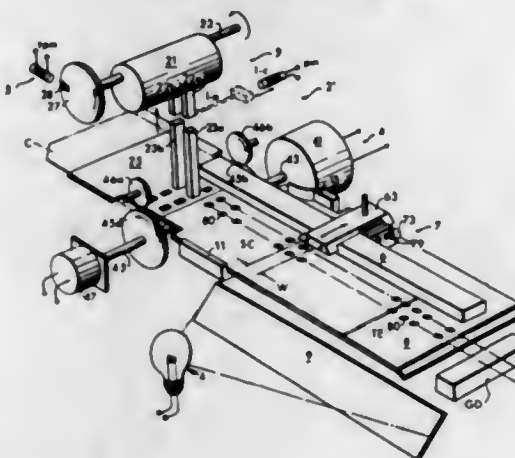
control signals to said impressing means for controlling the operations thereof; said control means comprising data request means connected and arranged to interrogate said indicating means to initiate said indicating signals, speed determination means adapted to apply prescribed velocity signals to control said drive means at prescribed speeds in response to said speed control signals and to prescribed patterns of said indicating signals; said determination means being arranged to apply said signals according to a prescribed order so that said drive means is stopped from a constant low velocity.

3,342,410

RECORD HANDLING CONTROL SYSTEM

Earl E. Masterson, Newtonville, and David W. Bernard, Sherborn, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 12, 1965, Ser. No. 471,050
19 Claims. (Cl. 234-55)



1. A position responsive processing system for advancing unit records along a prescribed path past a processing station and operating upon said records with continuous reference to the position thereof, said system comprising:

record tracking means disposed along said path in prescribed relation with said station and adapted to develop strobe signals directly indicating prescribed incremental positions of said records relative to said station; record transport means arranged to advance said records along said path in a prescribed manner as indicated by said strobe signals, said transport means including record engaging means and field-accelerated, low inertia drive means having the rotatable portion thereof directly coupled to said engaging means; and control means electrically connected between the output of said tracking means and said drive means, being adapted to apply speed-control signals to said drive means in response to said strobe signals.

3,342,411

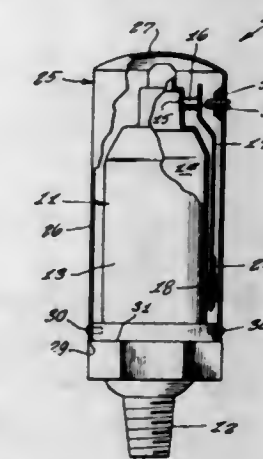
QUICK, LOW-PRESSURE VACUUM VALVE

Gustav Quist, 2866 Philip Ave., New York, N.Y. 10065

Filed Dec. 23, 1964, Ser. No. 420,829
2 Claims. (Cl. 236-66)

1. In a low-pressure vacuum valve for venting steam radiators, the combination of a valve member having a hollow cylindrical element secured on a base having an externally threaded portion for securement to a radiator, said base having a central opening extending therethrough to allow air from said radiator to enter within said hollow element, adjustable means for allowing movement outward of air from within said element and preventing of entry of air thereinto, and an inverted can cover for protecting enclosing said valve member element and said ad-

justable means, said can cover carrying means for selectively regulating the outward movement of said air from said element, said adjustable means comprises an air vent opening in a cylindrical side of said element, and a mechanism for selectively sealing said vent, said mechanism comprising a tapered pin fitted against said vent, said pin being secured to a free end of a thermo-responsive bi-metal



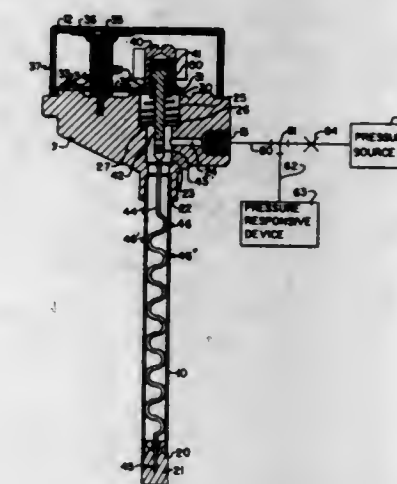
spring, rigidly affixed at its opposite end to a bracket affixed on the side of said element, said bracket having a groove on opposite sides for slidably retaining a slidable plate adjacent the outer side of said spring, a graduated scale on said outer side of said spring for alignment with an edge of said plate, and an opening in said plate for easy pushing of said plate with any object fitted therein.

3,342,412

ROD-AND-TUBE SENSOR

Leo Alamprese, Elmhurst, and Joseph E. Hogel, River Grove, Ill., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,783
5 Claims. (Cl. 236-87)



1. A pneumatic temperature responsive device adapted for connection with a source of fluid pressure, comprising:

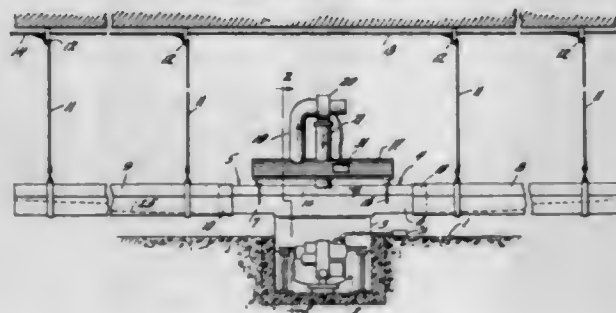
a housing; condition control means cooperating with the housing and including a movable portion for venting the housing in accordance with changes in temperature; tube means having first and second ends, the first end attached to the housing and the second end remote from the housing thereby free to expand and contract axially with changes in temperature, the distance between the second end of the tube means and the movable portion of the condition control means being of a predetermined minimum magnitude; a unitary rod formed with at least one convolution between its ends, the rod having a predetermined length in an unstressed state, said length being less than said minimum distance, the rod connected between the second end of the tube means and the

movable portion of the condition control means so as to be in a state of tension, and thereby impart a force to the movable portion of the condition control means that varies in accordance with the expansions and contractions of the second end of the tube means; biasing means for imparting a force to the movable portion of the condition control means in opposition to the force imparted to the movable portion by the rod; and inlet means communicating with the housing, said inlet means adapted for connection with a pressure source and with a pressure responsive device.

3,342,413

METHOD OF HEATING AND APPARATUS THEREFOR

Reubin E. Mayo, % Florence-Mayo Nuway Company, Farmville, N.C. 27828
Filed Aug. 18, 1965, Ser. No. 480,614
11 Claims. (Cl. 237-3)



1. Apparatus for the distribution of air comprising: enclosure means for containing air under pressure; a plate comprising one wall of said enclosure means; louvers in said wall including a flap portion cut out of said wall and a hinge portion connecting said flap to said wall, whereby said flaps may be bent about the hinge portions to adjust the size of the openings to vary the outlet area for the air under pressure; and at least two of said flaps being arranged with their hinge portions parallel and closely adjacent to each other and extending away from their hinge portions in opposite directions.

3,342,414

TRACTION PLATE

John C. Jureit, Miami, Fla., assignor to Automated Building Components, Inc., Miami, Fla., a corporation of Florida

Filed Sept. 17, 1965, Ser. No. 488,204
9 Claims. (Cl. 238-14)

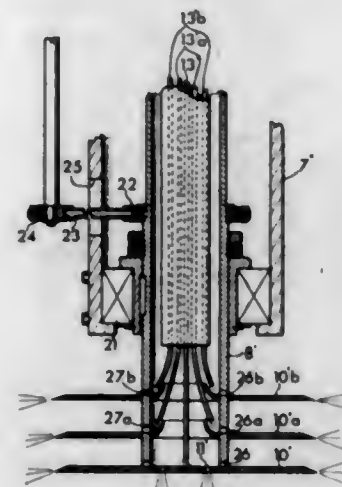


1. A traction plate for a wheeled vehicle having tire treads comprising a sheetmetal plate having rows of teeth struck therefrom and extending substantially perpendicular to one surface of said plate, and having openings struck therein to leave upstanding edges extending from the opposite surface of said plate for engagement with said tires and the treads thereof, said openings being large enough to receive a tread for positive locking of the base of the tread against the inner edge of said rim, said teeth comprising generally triangular bases with the wide base of said triangle attached to the plate, the apexes of the triangles terminating in tooth shanks which extend along the altitude of the triangle, the cross-sectional shape and size of said shanks being substantially uniform over their entire length, said shanks terminating in points which are symmetrically shaped to avoid bending stresses on said teeth, said shanks being generally arcuate in cross-sectional shape.

3,342,415

ELECTROSTATIC COATING SYSTEM

Marcel A. R. Point, Grenoble, Isere, France, assignor to SAMES—Societe Anonyme de Machines Electrostatiques, Paris, France, a French joint-stock company
Filed Feb. 18, 1964, Ser. No. 345,723
Claims priority, application France, Feb. 19, 1963, 925,214, Patent 1,361,917
4 Claims. (Cl. 239-15)

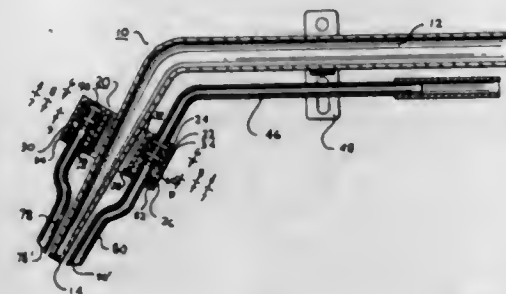


1. An electrostatic coating system comprising, in combination, an overhead store of coating substance, a plurality of generally flat rotary discharge members mounted below said store adjacent the surface of the work to be coated in spaced-apart relationship with each other, each of said discharge members having a sharp peripheral edge, means defining a feed passage leading downwardly from said store to a point overlying each of said discharge members, to feed the coating substance thereto by gravity, each of said members having an open, unobstructed upper face for receiving said coating substance from said passage defining means and for permitting the free discharge and dispersion of said substance in divided form by centrifugal force from the periphery of the corresponding member, a source of high D.C. potential relative to the work to be coated, and means for supplying said potential to said discharge members to electrically charge the particles of said coating substance as they are discharged therefrom, to thereby produce an electrostatic attraction between said particles and the surface being coated.

3,342,416

WELDING TORCH APPARATUS

Randolph Jennings Presley, 1508 Sheldon Ave., Grand Haven, Mich. 49417
Filed June 17, 1966, Ser. No. 558,406
9 Claims. (Cl. 239-132)

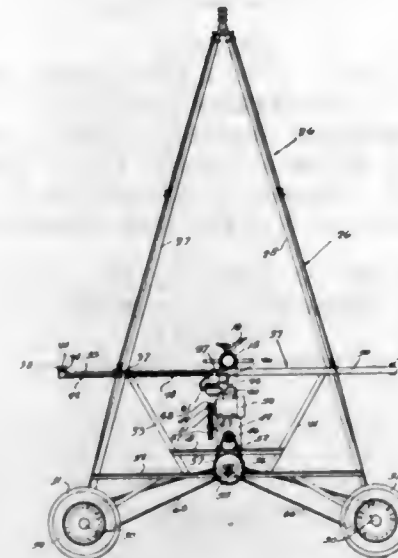


1. A welding torch apparatus comprising a jet for combustible gas, a nozzle for a coolant gas disposed adjacent to said jet, means for supporting said nozzle and for adjusting the position thereof around said jet, and means for varying the flow of coolant gas in accordance with requirements.

3,342,417

SELF-PROPELLED IRRIGATION SYSTEM OF THE CABLE TYPE USING ELECTRIC MOTORS

Leo J. Dowd, 117 South Parkway, Columbus, Nebr. 68601
Filed Aug. 6, 1965, Ser. No. 477,751
9 Claims. (Cl. 239-177)



1. A self-propelled irrigation apparatus comprising an upstanding water-supply pipe, an elongated horizontally-disposed water-distributing pipe having one end pivotally-connected to said supply pipe for movement of said distributing pipe about said supply pipe as an axis, a main mobile support disposed transversely of said distributing pipe adjacent the other end thereof and fixedly-carrying said distributing pipe, a plurality of discharge nozzles spaced along said distributing pipe between its ends thereof for spraying water onto the land as said distributing pipe moves about said supply pipe as an axis, a plurality of intermediate mobile supports arranged transversely of and at spaced positions along said distributing pipe, means on each intermediate support fixedly-carrying the adjacent portion of said distributing pipe, an electric motor drive means on each intermediate support, an elongated flexible member disposed on one side of and in parallel spaced relation with respect to said distributing pipe and extending from said supply pipe to said main support, the ends of said flexible member being attached to said supply pipe and said main support, a control element operatively-connected to the electric motor of each intermediate support and actuating means on each intermediate support forming a guide for longitudinal sliding movement of the flexible member with respect to each of said intermediate supports, said flexible member being operable, upon bending and bearing contact with said actuating means, to move said control element to energize the electric motor and activate its attendant drive means in accordance with lagging behind of the intermediate support and operable, upon straightening of the flexible member to release of bearing contact with said actuating means, to de-energize the electric motor and stop its attendant drive means in accordance with restoration of said intermediate support to a position of alignment with said main support.

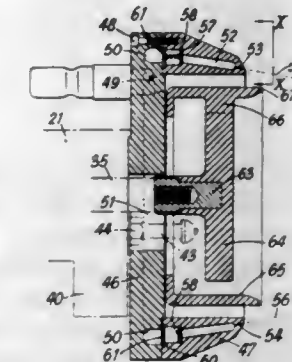
3,342,418

COATING APPARATUS

Neil Rudolph Wallis, Cariad, Goring-on-Thames, England
Filed Aug. 21, 1963, Ser. No. 303,563
Claims priority, application Great Britain, Nov. 15, 1962, 43,218/62
2 Claims. (Cl. 239-296)

1. Apparatus for applying coating material to an article including a rotating head for atomizing the coating material, a shroud surrounding said atomizer head and radially spaced therefrom, an uninterrupted circular pattern

of a large number of very small jet outlets in the forward end of said shroud, said jet outlets directing streams of fluid from said shroud toward said article, said jets converging forwardly toward the axis of rotation of said head and forming angles of convergence therewith, and wherein the angle of convergence of adjacent jets in the circular pattern varies in a predetermined sequence around the circumference of the circle, said jets being of sub-

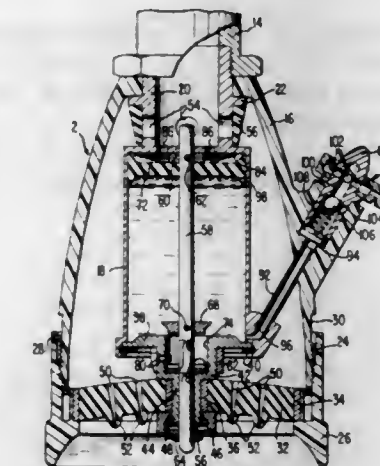


stantially same size and under pressure, and wherein the rotating head is cup-like and the material is atomized from the rim thereof, said rim being forwardly of said jet outlets, and wherein means are provided for introducing material to be atomized into the interior of said head, whereby the large number of converging jets of compressed fluid contact the spiralling atomized particles of coating material, and tend to bend their direction inwardly to aid in producing a coating of uniform thickness.

3,342,419

DISPENSING SHOWER HEAD

Wilfred W. Weese, New York, N.Y., assignor to Harry Swartz, New York, N.Y.
Filed Jan. 4, 1965, Ser. No. 422,946
14 Claims. (Cl. 239-313)



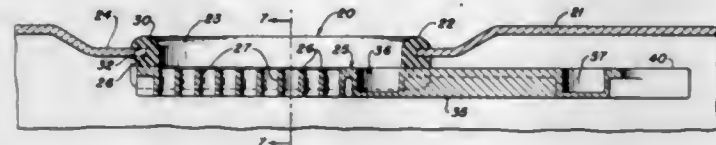
1. A dispensing shower head comprising a hollow body, inlet means for conducting fluid to the interior of said body, wall means dividing the interior of said body into a first fluid chamber and a second fluid chamber, said inlet means communicating with said first and second chambers, means for discharging fluid from said first chamber, piston means in said second chamber, a filling conduit communicating between the exterior of said body and the interior of said second chamber, said inlet means communicating with one side of said piston and said filling conduit communicating with the opposite side of said piston, an outlet conduit communicating between said first chamber and said second chamber on said piston opposite side, valve means for controlling flow through said outlet conduit, and valve means for controlling flow through said filling conduit, whereby movement of said piston displaces fluid from said second chamber through said outlet conduit to said first chamber from which it passes out of said body through said discharge means.

3,342,420

FLOW CONTROL VALVE

Robert F. Roulet, Fremont, and Willis A. Owens, Milpitas, Calif., assignors to W. R. Ames Company, Milpitas, Calif., a corporation of California

Filed Feb. 9, 1965, Ser. No. 431,258
1 Claim. (Cl. 239—395)



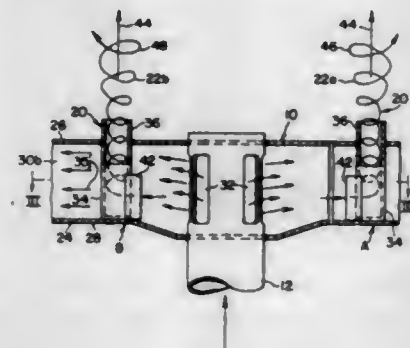
In a flow control valve adapted for insertion in a perforation in the wall of a pipe or like surface, the combination of a rim member defining a flow opening; a radially extending open groove bordering said rim, conforming at its base to the general shape of the perforation in said wall; an open straight groove on the inner surface of one edge of said rim facing, parallel and in the same plane as a second like groove thereon on the opposite edge, the two said grooves forming a support; and a rigid gate member slidably in said last mentioned grooved support to control the flow through said wall, said gate member comprising an elongated central body and side portions attached thereto slidably fitted within said opposite grooves, said central body being thicker than the side portions and having a series of transverse longitudinal spaced apart slots near one end for providing a diffused flow of liquid through the body, an axially open slot at its other end and an unslotted portion between the series of slots and the open slot, and a pair of recesses in the central body spaced apart a distance substantially equal to the distance between opposed walls of the flow opening whereby the gate member can be moved by engaging a finger with one or the other recesses.

3,342,421

VORTEX JET FOR DISHWASHERS

Marlin D. Schutte, Rochester, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 28, 1965, Ser. No. 475,439
3 Claims. (Cl. 239—468)



1. In a domestic dishwasher, a water spray arm comprising:

a conduit through which water is forced longitudinally; a plurality of jet outlets spaced apart from each other along the length of said conduit; each of said outlets comprising a cylindrical tube of substantially uniform cross-section from end-to-end, each said tube having one fully open end and an opposite closed end, and being positioned transversely of the flow of said water through said conduit with the major portion of said tube with said closed end disposed within said conduit, said major portion including a single tangential inlet open in an upstream direction, relative to the direction of flow of said water in said conduit, to admit said

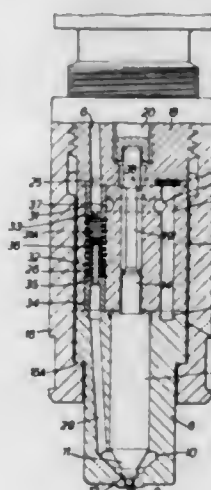
water into said tube to impart a component of angular momentum to said water as it passes through said tube to said open end thereof, said conduit having a generally rectangular cross-section and each said tangential inlet comprises an elongated slot disposed closely adjacent the side wall of said conduit so that the water is directed into said inlet by said side wall.

3,342,422

FUEL INJECTION APPARATUS FOR INTERNAL COMBUSTION ENGINES

Brian Wyatt Millington, Worthing, William Murray Scott, Brighton, and Royston Gordon Freese, Shoreham-by-Sea, England, assignors to Ricardo & Co. Engineers (1927) Limited, London, England, a company of Great Britain

Filed Oct. 22, 1965, Ser. No. 501,836
Claims priority, application Great Britain, Oct. 26, 1964, 43,576/64
6 Claims. (Cl. 239—533)



5. A fuel injection device for an internal combustion engine of the liquid fuel injection compression ignition type, including a nozzle, a valve arranged to control the flow of fuel through the nozzle and to be opened automatically by the fuel pressure in a pressure chamber in the injection device, wherein the injection device includes restricted and relatively unrestricted delivery passages extending between a main fuel delivery passage and the said pressure chamber, the restricted delivery passage having associated with it a piston valve device acted upon by a spring means and arranged to be moved against the action of such spring means by fuel delivered to the main delivery passage so that when such fuel is delivered at an appropriate volumetric rate and in sufficient quantity, such piston valve device will be moved so as first to act as a piston delivering fuel from its delivery chamber through the said restricted delivery passage and then as a valve to open the substantially unrestricted delivery passage while, during the returning movement of the piston valve device under the action of its spring it can draw fuel into its delivery chamber from the main fuel delivery passage.

3,342,423

FLOW REGULATED LIQUID DISCHARGE DEVICE

John O. Hraby, Jr., and Wayne W. Frempter, Burbank, Calif., assignors to Rain Jet Corporation, Burbank, Calif., a corporation of California

Filed Feb. 1, 1965, Ser. No. 429,253
3 Claims. (Cl. 239—580)

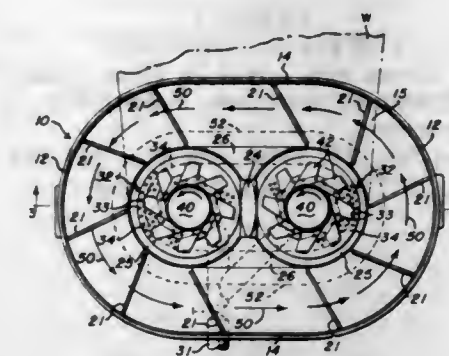
3. A liquid discharging nozzle for use in lawn and garden sprinkling systems and the like consisting of a hollow body having spaced ends and defining therein a chamber having a longitudinal axis, two ends and a fluid

3,342,425

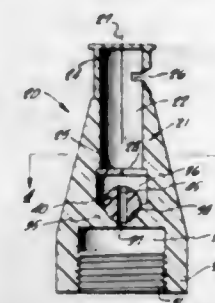
PAPER MACHINERY

David F. Morton, Middletown, Ohio, assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Nov. 1, 1965, Ser. No. 505,867
7 Claims. (Cl. 241—46)



flow passage communicating one end of the chamber with one end of the body, the body being adapted at the one end thereof for connection to a liquid supply pipe, the chamber at the one end having an inlet opening thereto from the passage within the chamber and eccentric of the longitudinal axis of the chamber, the body having an outlet opening from the chamber larger in size than the inlet to the chamber and spaced between the ends of the chamber, and a substantially cylindrical valve member



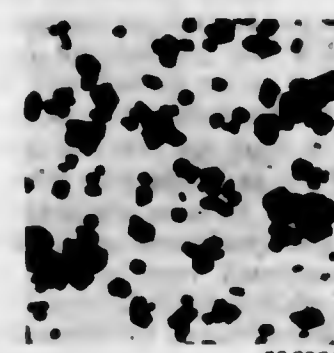
having a hole formed diametrically therethrough and an operating end exposed to the exterior of the body laterally of the passage, the valve member being disposed in the passage in spaced relation to the one end of the chamber for rotation about an axis oriented transversely of the passage and perpendicular to the direction of eccentricity of the chamber inlet opening relative to the longitudinal axis, the valve member being rotatable in the body for varying the fluid flow communication to the chamber through the passage.

3,342,424

TITANIUM DIOXIDE PIGMENT AND PREPARATION

Walter R. Whately, George L. Roberts, Jr., and Gerard M. Sheehan, Lynchburg, Va., and William S. Castor, Jr., Allendale, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Aug. 25, 1965, Ser. No. 482,548
12 Claims. (Cl. 241—21)



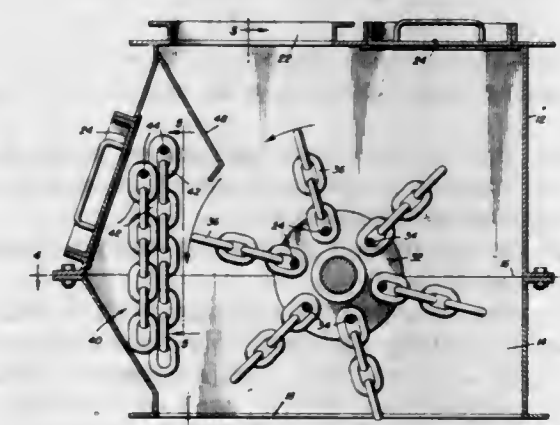
1. A method of imparting both a bluer tint tone and increased tinting strength to a particulate titanium dioxide pigment mixture wherein the ultimate particles are less than 0.4 micron in diameter but which contains substantial amounts of oversize aggregates in the size range of from 0.4 to 4 microns and is substantially free from particles larger than about 4 microns which comprises preparing a slurry in an inert liquid of said pigment mixture together with about 2 to 20 times its weight of inert grinding particles having an average size of about 10 to 40 mesh, subjecting the slurry to mechanical agitation and thereby causing the grinding particles to break down the said oversize aggregates into ultimate particles and smaller size aggregates, continuing the agitation until the body of pigment particles has a materially reduced content of oversize aggregates, its tint tone has become bluer, and its tinting strength has increased materially, and then separating the resulting pigment mixture from the grinding particles, separating it from the inert liquid, and drying it to a pigment powder.

3,342,426

PULVERIZING MILL

Walter J. Sackett, Sr., 3700 Echodale Ave., Baltimore, Md. 21206

Filed Apr. 16, 1965, Ser. No. 448,686
1 Claim. (Cl. 241—189)



A mill for the comminution of coarse material, comprising structure defining a housing having a feed aperture for said coarse material, rotating means positioned within said housing and having a plurality of short lengths of chain, with each length of said chain having one end attached to said rotating means and its opposite end free to extend by centrifugal force upon rotation of said rotating means to strike and thereby comminute said coarse material when passing through said housing, a plurality of chains forming a curtain spaced tangentially from the

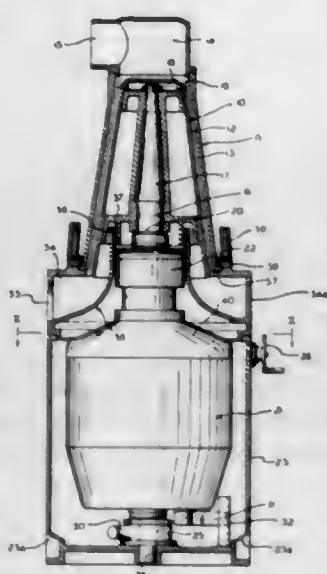
periphery of swing of the free end of each said chain to receive and thereby strike material initially struck by said lengths of chain, and a deflector plate positioned between said feed aperture and said curtain for deflecting said coarse material fed through said feed aperture into said rotating means.

3,342,427

VERTICAL REFINER

Lawrence A. Moore and Loyal H. Hess, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Jan. 31, 1964, Ser. No. 341,580
5 Claims. (Cl. 241-259)

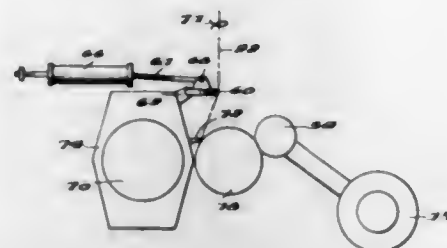


1. In a paper stock refiner having a vertically extending housing, a motor mounted within said housing and having a vertical motor shaft extending upwardly therefrom, an end cap for said housing having an exterior wall conforming generally to the wall of said housing, an annular flange extending inwardly from the top thereof, and an annular interior wall, which with said exterior wall forms an annular chamber for stock, said annular interior wall also having a bearing mounted inwardly thereof and within the limits thereof and forming a bearing for said vertical motor shaft, a port having communication with said annular chamber, a vertical shell mounted on and sealed to said end cap and extending upwardly therefrom and having a frusto-conical interior wall, a port at the top of said shell in communication with the interior thereof, a conical plug mounted on said motor shaft and extending therealong and rotatably driven therefrom and having a frusto-conical surface spaced inwardly of said frusto-conical interior wall of said shell and adapted to have stock passed therealong during rotation of said plug to effect a refining operation, and means preventing the stock passing between said ports and in the space between said plug and hollow interior wall of said shell from contaminating said bearing including said interior annular wall and plug, forming an annular pressure chamber within said interior annular wall, and a water inlet to said pressure chamber supplying water to said chamber to provide a back pressure of water in said chamber, preventing the passage of stock into said chamber.

3,342,428
APPARATUS AND PROCESS FOR CONTINUOUSLY WINDING YARN

James Irvine Smiley, Jr., Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,431
2 Claims. (Cl. 242-18)



1. In a continuous yarn-winding apparatus including a pair of windup chucks cantilevered from opposite ends of a rotatably mounted pivot arm, at least one yarn package rotatably supported on each of the windup chucks, a drive roll positioned to contact and form a nip with a yarn package on the first chuck in winding position while the second chuck is in doffing position remote from the drive roll, yarn forwarding means for receiving the yarn and forwarding it to said nip and thence onto the yarn package on the first chuck until it is a completed package, whereupon, by rotation of the pivot arm, the second chuck and yarn package thereon can be brought into winding position and the first chuck and completed yarn package thereon can be simultaneously removed to doffing position, traverse guide means for directing the yarn onto the package on the chuck in windup position, and centering guide means positioned ahead of the traverse guide means adapted to direct the yarn to the approximate center of the yarn package on the chuck in windup position when the yarn is released from the traverse guide means; the improvement which comprises, in combination, yarn engaging means positioned between the centering guide means and the traverse guide means and biased toward a rest position out of contact with the yarn but adapted to be moved into yarn engaging position in which the yarn engaging means contacts the yarn and releases it from the traverse guide, actuating means for moving the yarn engaging means against the bias from rest position to yarn engaging position, synchronizing means for synchronizing the transfer of the first chuck and completed yarn package thereon from winding to doffing position with activation of said actuation means, and timing means for controlling the duration of time in which said yarn engaging means is maintained in said yarn engaging position.

3,342,429

MOTOR DRIVEN WIRE SUPPLIER

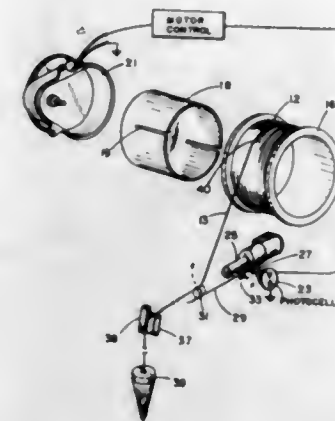
Lee E. Folk and John R. Hugill, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Oct. 22, 1965, Ser. No. 501,608
1 Claim. (Cl. 242-45)

An intermittently operating wire supply apparatus for supplying a fine wire under substantially constant tension to a wire bonding assembly means, the wire bonding assembly means being movable along vertical and horizontal axes and operative to intermittently pull the wire as it is used from a source of slack wire, the wire being supplied to the source from a large diameter spool having wire wound thereon, the improvement including in combination,

drive means selectively rotating the spool for unreeling a given length of wire,

tensioning means intermediate the slack source of wire and wire bonding assembly means for providing a constant drag on the wire as the wire is pulled by the wire bonding assembly means, a light interrupting element, a pivot means freely rotatably supporting said element, a wire guide on said pivot means opposite to said element and balanced about said pivot with respect to said element and movably receiving said wire without tensioning the wire and such that a small force is exerted on said guide by the wire as the slack is removed by intermittent use upsetting the balance in the pivot means for rotating said element about said pivot means,



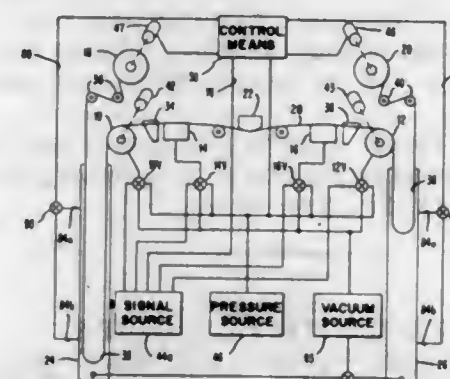
photocell means and a light source supplying light to said photocell means respectively disposed on opposite sides of said element such that said element selectively interrupts the light as said element is rotated for alternately placing said photocell means in activated and deactivated conditions as the wire is intermittently used and supplied, and said drive means being responsive to one of said photocell means conditions to selectively rotate said spool for removing said force from said guide to restore slack into the wire source and further responsive to a photocell means condition other than said one condition to stop said spool.

3,342,430

TAPE FEED SYSTEM

James J. Murphy, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 19, 1965, Ser. No. 473,095
8 Claims. (Cl. 242-55.12)



1. In a magnetic tape system wherein tape is moved in either of two opposite directions from one motor driven tape reel to another motor driven tape reel past magnetic transducer means by capstan drive means, and wherein loops of tape are formed in loop boxes positioned between each reel and the capstan means whereby the capstan

draws tape from the loop in one loop box and feeds it to the loop in the other loop box, the combination therewith of

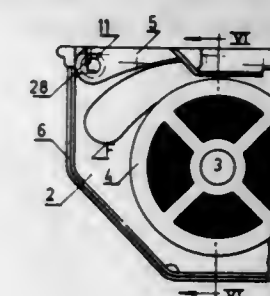
- (A) control means responsive to the length of the tape loops in said loop boxes to control the tape reel motors to drive in forward or reverse directions either to shorten or lengthen the tape loops in the respective boxes to maintain them at an approximate desired length in said loop boxes; said means comprising;
- (a) means for alternately and successively sensing the length of the loop in each of the loop boxes;
 - (b) means responsive to said sensing to convert the tape loop length in each box into a signal whose strength changes with the loop length;
 - (c) means for alternately and successively interconnecting each of the reel motors to the signal produced by the sensing of the respective loop box; and
 - (d) means responsive to certain of the signals produced by said sensing to drive the respective reel motors in a forward direction and to other of the signals to drive the respective reel motors in the reverse direction.

3,342,431

CASE FOR KINEMATOGRAPHIC FILMS

Bob Mouissié, Yverdon, Vaud, Switzerland, assignor to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a corporation of Switzerland

Filed July 16, 1965, Ser. No. 472,474
Claims priority, application Switzerland, Aug. 7, 1964, 10,367/64
5 Claims. (Cl. 242-55.13)



1. A flat case for housing a kinematographic film for cooperation with the mechanism of a kinematographic apparatus, comprising two spaced parallel side walls, means between the side walls revolvably carrying the film, an apertured cover movably carried over the two walls and the film therebetween said cover including film guiding means, and releasable means carried by the cover and adapted to secure the outer end of the film carried inside the case, the aperture in the cover allowing said mechanism to operatively engage the film in the case and to simultaneously release said releasable means.

3,342,432

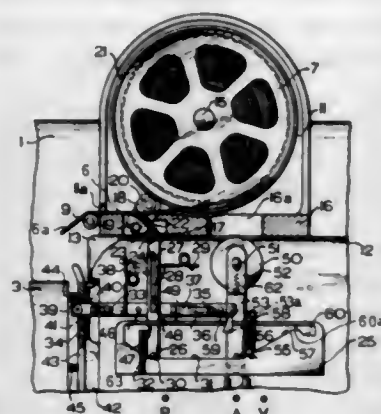
AUTOMATIC BRAKING DEVICE FOR MAGAZINE REEL

Bernd Kaiser, Maichingen, and Albert Stieringer, Calmbach, Germany, assignors to Eugen Bauer G.m.b.H., Stuttgart-Unterturkheim, Germany

Filed Dec. 14, 1965, Ser. No. 513,686
Claims priority, application Germany, Dec. 17, 1964, B 79,767
17 Claims. (Cl. 242-55.13)

1. In an apparatus for reproducing and/or recording intelligence on an elongated carrier, a support; a magazine detachably mounted on said support; a reel rotatably

mounted in said magazine and arranged to accommodate a supply of convoluted carrier, said magazine having an aperture through which the carrier extends; drive means mounted on said support for rotating said reel in a direction to convolute the carrier thereon; and an automatic

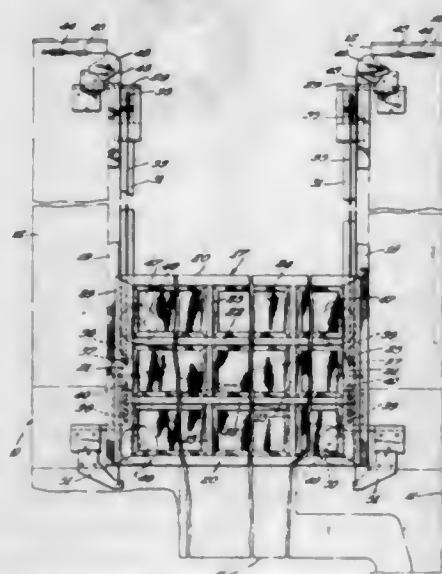


braking device for arresting said reel prior to complete retraction of the carrier into said magazine, including a braking member and means for moving said braking member to and from a braking position in which said member is in simultaneous engagement with portions of said reel and said magazine.

3,342,433

DRUM WINDER AND NIP GUARD THEREFOR
Edward J. Klaczekiewicz, Wilmington, Del., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware

Filed May 20, 1966, Ser. No. 551,579
9 Claims. (Cl. 242-66)



1. In a drum winder for winding webs of paper and the like into rolls,

a winder frame including a pair of parallel spaced posts spaced from opposite ends of the roll of paper, a pair of horizontal winder rolls rotatably mounted in said frame and extending in the space between said posts and rotatably driven by power to support and wind a roll of paper thereon, and means guarding the nip between said winder rolls and the roll of paper thereon and retaining the roll of paper to said winder rolls during the winding operation comprising:
a nip guard extending across said frame in align-

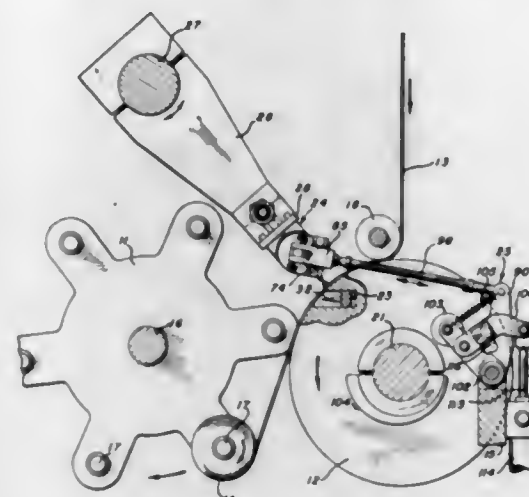
ment with the nip between said winder rolls and the roll of paper thereon and vertically movable to clear a wound roll of paper and accommodate the wound roll to be discharged for further treatment.

3,342,434

WEB WINDING APPARATUS

Frank G. Conrad, Jr., Plattsburgh, N.Y., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

Filed July 23, 1965, Ser. No. 474,410
20 Claims. (Cl. 242-67.1)



1. In a web winding apparatus the combination of:
a frame,
means supported by the frame for winding the web into a roll,
a system for dispensing glue to attach the outer end of the web to the roll,
means for activating said glue dispenser comprising:
cam means synchronized with said winding means to deliver a plurality of mechanical impulses in each web wind,
a cam follower operated by said cam means,
a mechanical linkage directly connecting said cam follower to said glue dispenser,
said mechanical linkage including a control member movable alternately to active and inactive positions, said control member normally being in said inactive position disabling said cam follower from transmitting said impulses to said mechanical linkage, said control member while in said active position providing a positive link in said mechanical linkage and maintaining said cam follower in the path of said cam means so that said linkage actuates said glue dispenser in response to an impulse from said cam means, and
control means to move said control member from said inactive position to said active position near the end of each web wind.

3,342,435

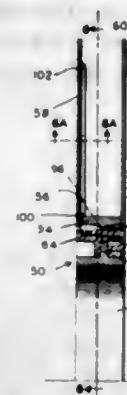
REEL WITH TAPE GUIDE

Anthony L. Gelardi, Cranston, R.I., and Charles T. Conway, South Boston, Mass., assignors to Data Packaging Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Apr. 11, 1966, Ser. No. 541,788
10 Claims. (Cl. 242-71.8)

1. A tape reel comprising:
a hub and a pair of substantially parallel flanges, at least one guide disposed on the inner surface of one of the flanges for positioning each turn of tape on

the reel in a selected position with respect to the flanges,



said guide being movable between operative and inoperative conditions in response to a phase of the winding operation of the tape on the reel.

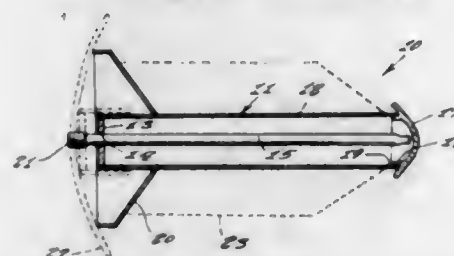
ERRATUM

For Class 242-84.2 see:
Patent No. 3,342,442

3,342,436

BOBBIN HOLDER

Herman Wattenford, P.O. Box 788,
Bridgeport, Wash. 98813
Filed July 11, 1966, Ser. No. 564,278
2 Claims. (Cl. 242-134)



1. In a bobbin holder, the combination of a cylindrical container, an enlarged conical base at one end of said container, an end cap at the other end of said container, said end cap being removable therefrom, said container comprising a cylindrical side wall and an end wall, said end wall providing shaft support means for threadably securing said bobbin holder to a standard sewing machine spool plate, said end wall further providing shaft support means for supporting a plurality of bobbins within said container, said shaft support means comprising said end wall having a central opening therethrough and an elongated shaft extending through said opening into said cylindrical container for supporting said bobbins, the end of said shaft extending outwardly through said container being externally threaded for engagement with said standard sewing machine spool plate, and said cylindrical container having a portion of said cylindrical side wall within said conical base, and said conical base comprising a conical shell diverging outwardly from said cylindrical side wall.

3,342,437

YARN PACKAGE

John Massey, Cheltenham, England, assignor to ICI Fibres Limited, Pontypool, England, a corporation of Great Britain

Filed Jan. 7, 1966, Ser. No. 519,335
Claims priority, application Great Britain, Feb. 2, 1965, 4,443/65

3 Claims. (Cl. 242-178)

1. In a yarn package comprising continuous filament yarn wound on a cylindrical former with a build having tapered end-portions, in which build the innermost layer

of yarn is of maximum length and the length of succeeding layers reduces gradually to a minimum length at the outermost layer, the improvement by which the coils of yarn in each layer of the build vary in mean spacing grad-



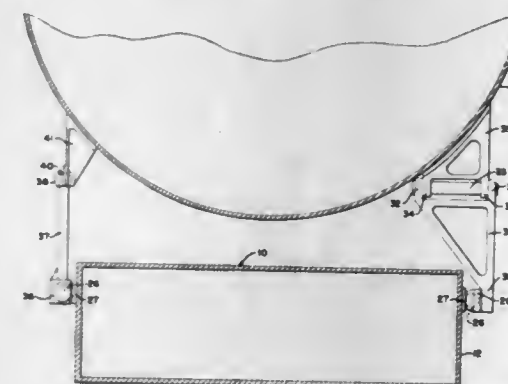
ually from minimum spacing at the one end of the layer to maximum spacing at the other end, whereby the build has a mid-portion with sides tapering towards the end of the package where the coils of yarn have a maximum spacing therebetween.

3,342,438

ENGINE MOUNTING MEANS

Montgomery C. Steele, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

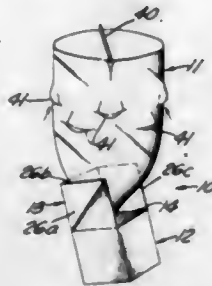
Filed Mar. 24, 1961, Ser. No. 98,066
3 Claims. (Cl. 244-54)



1. A mounting system for operatively connecting an elongated detonation combustion engine to an airframe, said engine having an air inlet and an exhaust nozzle, such mounting system comprising: a first pair of mounting means adjacent said exhaust nozzle, one of said mounting means including a ball element and socket element swivelly receiving the ball element and the other including a trunnion element and a bearing element slidably and rotatably receiving the trunnion element, one element of each mounting means being rigidly connected to the airframe and the other element of each mounting means being rigidly connected to said engine; and a second pair of mounting means adjacent said inlet, one of said mounting means of said second pair including a ball and socket between the engine and a supporting arm, and a ball and socket between said supporting arm and said airframe, and the other of said mounting means of said second pair including a ball and socket between the engine and a second supporting arm and a trunnion connection between said arm and said airframe.

3,342,439 AERIAL DROP ASSEMBLY FOR EMERGENCY SUPPLIES

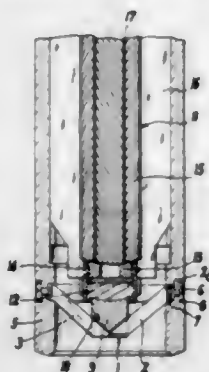
Jack B. Behrendt, 3101 E. Palos Verdes Drive,
San Pedro, Calif. 90732
Filed Aug. 3, 1965, Ser. No. 476,908
18 Claims. (Cl. 244-138)



1. An aerial drop assembly for delivering a carton of material from a flying aircraft comprising, an elongated inverted plastic bag adapted to have a carton of material secured within the inlet end of said bag, an outer carton enclosing said carton of material with the main body of said plastic bag collapsed at the top portion of said assembly, said plastic bag having a plurality of air inlets along the sides thereof and being inflatable by air entering said inlets as the assembly drops from an aircraft and being thereby effective to slow the descent of the assembly as it gravitates to the ground.

3,342,440 SUPPORT FOR NUCLEAR REACTOR FUEL ELEMENTS

Maurice Gauthron, Paris, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed June 28, 1965, Ser. No. 467,241
Claims priority, application France, July 7, 1964, 980,899
3 Claims. (Cl. 248-1)



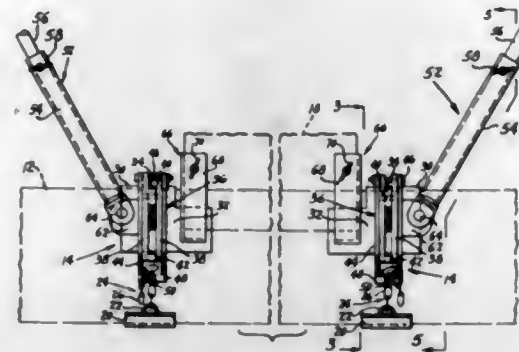
1. Support for nuclear fuel element comprising an annular sleeve, a spider at the lower end of said sleeve supporting a fuel element, a flat center portion for said spider, a plurality of arms laterally extending from said center portion and having vertical edge portions and means for securing the extremities of said arms to said sleeve comprising a screw and nut system.

3,342,441 BUMPER BRACKET

Evald P. Danielson, Rte. 3, Box 868,
Woodland, Calif. 95695
Filed Apr. 4, 1966, Ser. No. 539,895
6 Claims. (Cl. 248-42)

1. A bracket for rapid attachment to a vehicle bumper for carrying an upstanding article thereon comprising: a first hook for receiving the lower edge of the bumper; an elongate flexible member secured to the first hook for placement adjacent the outer surface of the bumper; a second hook for receiving the upper edge of the bumper;

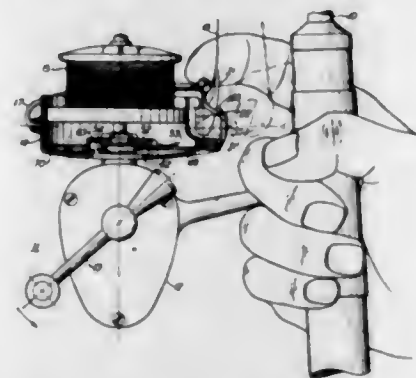
a support affixed to the second hook for residing against the upper section of the bumper; and means interconnecting the flexible member and the support, for tightening the flexible element and securing the hooks to the bumper, said interconnecting means including,



a first lever pivotally mounted on the support having a handle for forcibly pivoting the first lever, and a second lever, pivotally mounted on the first lever, having means receiving the free end of the flexible member; and means on the bracket for holding the upstanding article.

3,342,442 FISHING REEL

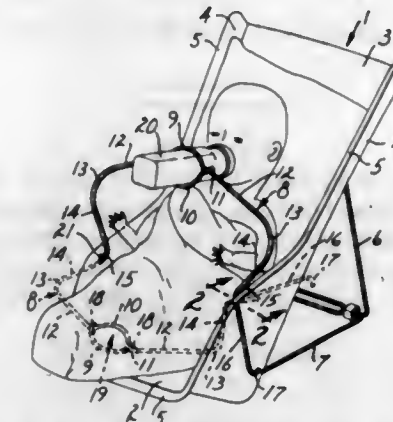
Sigurd Brantingson, 264 White Oak Ridge Road,
Short Hills, N.J. 07078
Filed Jan. 11, 1965, Ser. No. 424,645
5 Claims. (Cl. 242-84.2)



5. A spinning fishing reel comprising: a reciprocable spool; means for winding a fishing line around the spool comprising a rotatable reel bowl and bail wire; means comprising a trigger mechanism for rotating the bail wire between a closed position at which it contacts the fishing line and an open position at which it does not contact the fishing line; said trigger mechanism comprising a rotatable trigger lever mounted on the reel bowl and located closely adjacent the point of contact of the fishing line with the bail wire when the bail wire is in the closed position, whereby the index finger of an operator may simultaneously grasp the fishing line and rotate the trigger lever; said trigger lever being coupled through a linkage mechanism to the bail wire; a spring for biasing the bail wire in the closed position, whereby rotation of the bail wire to open position is made against said spring bias; means comprising a latch mechanism for locking the bail wire in the open position; and means responsive to the rotation of the reel bowl for releasing said latch mechanism, whereby the bail wire is automatically returned to the closed position prior to rewinding of the fishing line about the spool.

3,342,443 BOTTLE HOLDING ATTACHMENT

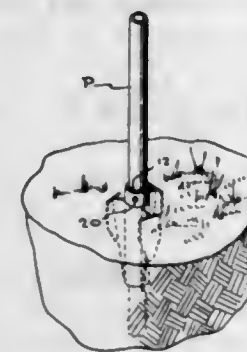
James D. Bennyhoff, Rte. 1, Box 826-E,
Excelsior, Minn. 55331
Filed Mar. 24, 1966, Ser. No. 537,140
4 Claims. (Cl. 248-104)



1. A bottle holding attachment for infant's reclining seats having spaced side walls and bottom and back walls, said attachment comprising a main body and a yoke, said main body being formed from a single relatively long length of somewhat hard resilient metallic wire to provide, a generally U-shaped saddle intermediate its ends, a pair of normally downwardly diverging upper arm portions extending from said saddle and having outer ends forming, and a pair of downwardly converging lower arm portions having lower end portions bent to form a pair of downwardly diverging leg portions, the lower ends of said leg portions terminating in a pair of laterally outwardly projecting foot portions, said yoke comprising a relatively short length of wire bent into arcuate form and having its opposite ends formed into loops encompassing said main body adjacent opposite ends of said saddle, said yoke cooperating with said body to define an opening for reception of an infant's feeding bottle, said foot and leg portions being adapted to project outwardly through openings in the side walls of an infant's reclining seat, said leg portions being disposed a distance apart whereby the resilience of said body yieldingly urges said leg portions toward engagement with said side walls adjacent the openings therein when the legs are projected through said openings.

3,342,444 POST STABILIZER

Walter M. Nelson, Roanoke, Va., assignor to Allen W. Key and Morris P. Crowder, both of Roanoke, Va.
Filed July 12, 1965, Ser. No. 471,126
9 Claims. (Cl. 248-156)

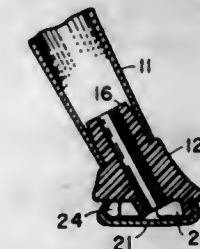


1. A stabilizer for posts and the like comprising: an inner sleeve body, said sleeve being elongated and open at the bottom and top ends, a plurality of radially outwardly extending fins connected to said body,

said fins extending substantially the length of the body and tapering downwardly and inwardly towards the bottom of the body, said fins being positioned substantially 120° apart around the circumference of said body, cross head members secured to the radially outer portions of said fins substantially adjacent the top end of said sleeve, said cross head members being substantially planar and having downwardly tapering sides, whereby said stabilizer sleeve body when surrounding a post substantially inhibits sidewise movement of said post.

3,342,445 PLASTIC FOOT FOR TUBULAR-TYPE CHAIR LEG

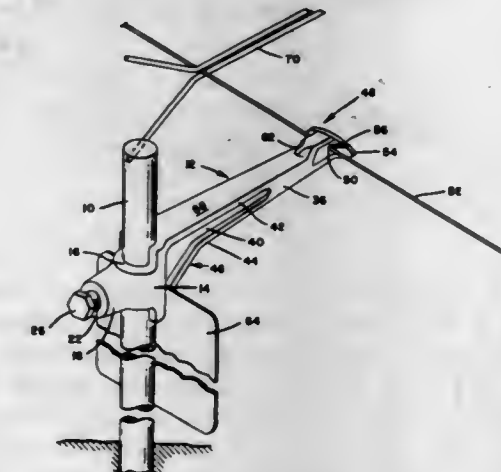
Harvey L. Bouwkamp, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Filed Aug. 23, 1965, Ser. No. 481,683
3 Claims. (Cl. 148-188.9)



1. In combination with an inclined tubular chair leg, a plastic foot having a generally horizontal base and an upwardly- and rearwardly-inclined attachment neck portion received within the leg tube, said neck being divided to provide expansion segments, said foot having an upwardly- and rearwardly-inclined passage therethrough and having a portion thereof extending through said neck narrowed between said expansion segments, a glider anchored to the bottom portion of said foot, and an expansion pin of generally uniform diameter extending through said passage and expanding said neck segments into gripping contact with said tube, said pin extending also downwardly into horizontal alignment with said glider.

3,342,446 GRADE WIRE SUPPORT

John Curlett, Las Gatos, Raymond A. Gurries, San Jose, and Albert H. Rodriguez, Cupertino, Calif., assignors to Gurries Manufacturing Co., San Jose, Calif., a corporation of California
Filed Mar. 29, 1965, Ser. No. 443,253
8 Claims. (Cl. 248-221)



1. A support for a grade-wire adapted to be extended along the path of movement of a road building machine so that the grade-wire may be engaged by a wire fork

mounted to said road building machine, said support comprising:

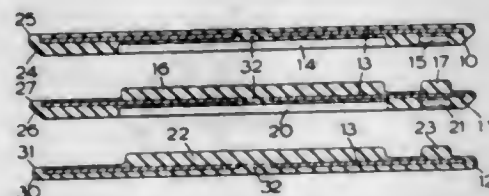
- a vertical stake and
- a wire hanger having

one end portion thereof adjustably connected to said stake, the other end portion of said wire hanger including a short slot adapted to support and retain the grade wire and an intermediate portion linking each end portion and having a level upper surface aligned at an elevation the same as that of the short slot so as to coincide with the elevation of a supported grade-wire.

3,342,447 RESILIENT BEARERS FOR STRUCTURES OR MACHINERY

Sydney W. Marsh, New Malden, Surrey, England, assignor to Andre Rubber Company Limited, Surbiton, Surrey, England

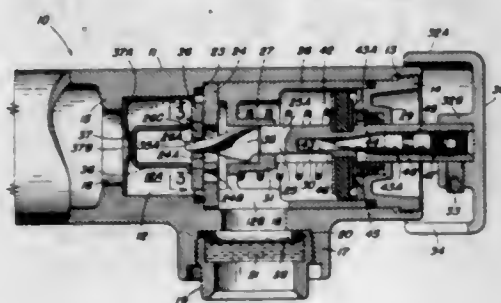
Filed June 28, 1965, Ser. No. 467,240
Claims priority, application Great Britain, June 30, 1964, 26,967/64; 26,968/64; July 17, 1964, 29,333/64
8 Claims. (Cl. 248—350)



1. A resilient load supporting bearing for civil engineering structures which comprises a stack of superimposed separate slabs of elastomeric material, metal plates each bonded to the elastomeric material of one of said slabs for reinforcing the same and the adjacent surfaces of each pair of slabs being shaped to provide keying means therebetween comprising corresponding projections and recesses whereby the contiguous surfaces of each pair of adjacent slabs constitute the only connection between the slabs and at least one of said adjacent surfaces is elastomeric material.

3,342,448 SELF-CLOSING FAUCET

Richard G. Parkison, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
Filed Sept. 16, 1964, Ser. No. 396,843
6 Claims. (Cl. 251—51)

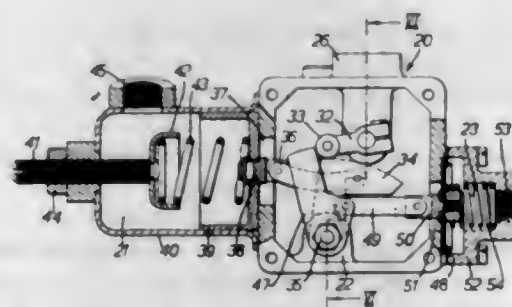


1. A self-closing faucet comprising, a tubular body defining a fluid passageway having an inlet and outlet, a valving means interposed in said passageway between said inlet and said outlet, said valving means comprising a stationary valve seat having a fluid opening therein, and a movable valve member mounted for rotation relative to said stationary seat, said movable valve member having a fluid opening therein adapted to be rotated into and out of alignment with the opening of said stationary seat for communicating said inlet in and out of fluid flow

relationship with said outlet, a reciprocating valve stem mounted in said passageway, and cam means connecting said valve stem to said movable valve member whereby reciprocable displacement of said stem effects rotary movement of said movable valve member for placing the openings in the latter and in the valve seat into and out of alignment with one another and means for biasing said movable valve member against said stationary valve seat, said biasing means including a spring and a co-operating cup interposed between said spring and said movable valve member.

3,342,449 METERING VALVES AND CONTROL DEVICES

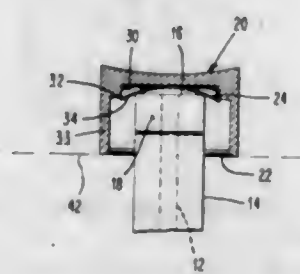
Harold E. Jackson, Devon, England, assignor to Petrol Injection Limited, Devon, England, a British company
Filed Feb. 23, 1965, Ser. No. 434,418
Claims priority, application Great Britain, Feb. 25, 1964, 7,893/64
7 Claims. (Cl. 251—58)



4. A metering valve mechanism including a tubular valve member so mounted in a closely fitting sleeve that the valve member can be rotated relative to the sleeve, the valve member having in its curved surface an elongated slot which extends transversely of the valve member, said elongated slot being symmetrical about an axis parallel to the longitudinal axis of the tubular member and so shaped that the sides of the slot define a straight-sided V-shape when projected onto a plane which contains the said longitudinal axis of the tubular member and the said axis of symmetry of the slot, said valve member being so located in said sleeve that said elongated slot can register with an aperture in the sleeve to define a metering orifice, a control parameter responsive device and means operably coupling said device to said valve member to rotate said valve member in said sleeve and thereby vary the area of said metering orifice in response to variations in said control parameter.

3,342,450 AIR VALVE

Arnold Schonfeld, Levittown, and Marvin Jacoby, Fort Washington, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 483,744
9 Claims. (Cl. 251—75)

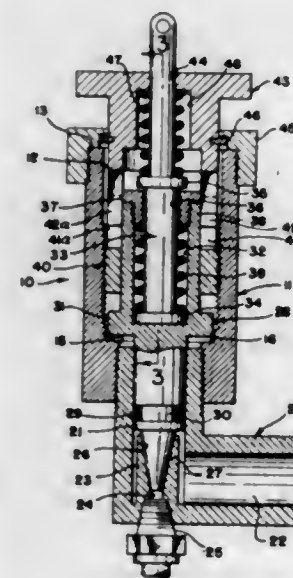


9. A fluid flow control valve comprising:
(A) a fluid input channel having an input port;

- (B) a fluid outlet port;
- (C) a spring leaf valve element positioned over said input port in a manner preventing fluid flow there-through;
- (D) a key positioned over said valve for relative movement therewith; and
- (E) means responsive to movement of said key in a direction toward said valve to cause the valve to assume a shape over said input port opening said input port for fluid flow therefrom to the outlet port.

3,342,451 VALVE

Stephen Matousek, Chelmsford, Mass., assignor to Nupro Company, a corporation of Ohio
Filed Apr. 20, 1964, Ser. No. 360,977
9 Claims. (Cl. 251—77)



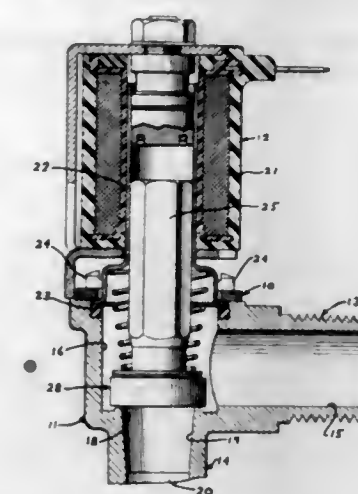
1. A metering valve comprising a valve body having a longitudinally extending central cavity formed wherein: an inlet port communicating with the central cavity; inlet port closure means in the central cavity and being movable toward and away from the inlet port; stem means disposed in the cavity, with one end of said stem projecting exterior of the valve body; and resilient means interposed between the other end of said stem and said inlet port closure means; movement of said stem means in one direction compressing said resilient means between said stem means and said closure means with said resilient means preventing engagement of said stem means with said closure means in said one direction.

3,342,452 VENDING MACHINE VALVES

Howard L. Erickson, Bensenville, and William G. Huley, Palatine, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Apr. 3, 1964, Ser. No. 357,163
3 Claims. (Cl. 251—118)

1. A liquid control valve comprising:
a valve body having a gravity feed inlet and an outlet passage;
a knife-edge seat defining the upstream most portion of said outlet;
a valve member cooperable with said knife-edge to control liquid flow through said valve body; and
a venturi-contoured flow passage in said outlet, said

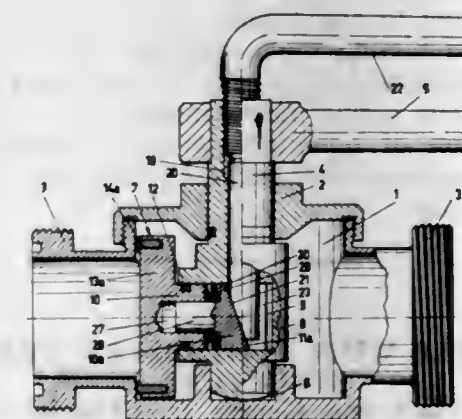
knife-edge seat forming the uppermost portion of the converging portion of said venturi-contoured



flow passage, thereby providing a high flow rate through said outlet.

3,342,453 STOP VALVE

Jouko Viljami Soila and Erkki Pietari Niskanen, Malmi, Helsinki, Finland, assignors to Koltek Oy, Helsinki, Finland
Filed Aug. 12, 1964, Ser. No. 389,035
Claims priority, application Germany, Aug. 19, 1963, N 23,625; Finland, May 26, 1964, 1,133/64
4 Claims. (Cl. 251—184)



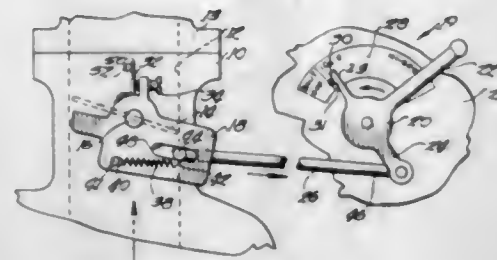
1. A stop valve comprising a valve housing with at least two through passages, a central valve rod pivotally mounted in the valve housing, said valve rod having a cavity therein, a stopping organ slidably mounted in the valve housing for radial movement for closing a selected one of the through passages, said stopping organ including a portion slidably mounted in said cavity of the valve rod, a wedge pin mounted coaxially in the valve rod for axial adjustment therein, said wedge pin having a lower end with an inclined surface exposed in said cavity of the valve rod, a separate member slidably mounted in said cavity, the latter said separate member having a surface with an inclination corresponding to that of the wedge pin and in contact therewith, and elastic means in said cavity between the stopping organ and said separate member urging said stopping organ radially outwards and the separate member against the wedge pin whereby the magnitude of the force of the elastic means acting on the stopping organ is adjustable by displacement of the wedge pin in the valve rod.

3,342,454

AIR CONTROL DEVICE FOR CARBURETED ENGINES

David E. Tutch, Lynd, Minn., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,519
6 Claims. (Cl. 251-288)



1. In an internal combustion engine having an engine fuel and air induction system including a carburetor and an intake manifold, said carburetor having a throat communicatively connected to said intake manifold, a rotatable throttle valve in said throat to restrict the flow of air therethrough, a control arrangement for said valve comprising: a throttle plate rotatably mounted on said carburetor and connected to said throttle valve to rotate said throttle valve; second resilient means being connected between said throttle plate and an associated throttle control lever, said resilient means being adapted to rotate said throttle plate and said associated throttle valve in a first direction tending to close said valve with a predetermined force upon rotation of said control lever in said first direction; first resilient means being mounted on said throttle plate and being adapted to resist movement of said throttle valve in said first direction from an idle position to a completely closed position with a predetermined biasing force relatively greater than the force of said second resilient means; and means to render the first resilient spring means ineffective at a predetermined position of opposition to said second resilient means to completely close said throat to a flow of air and fuel therethrough.

3,342,455

ARTICLE WITH CONTROLLED GRAIN STRUCTURE

Donald G. Fleck and George D. Chandley, Alliance, Ohio, assignors to TRW Inc., a corporation of Ohio
Filed Nov. 24, 1964, Ser. No. 413,438
4 Claims. (Cl. 253-77)

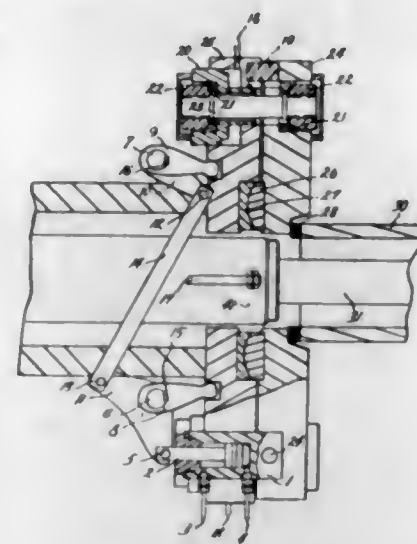


1. A cast article subject in use to varying degrees of stress and thermal shock having a columnar grain structure in those portions which must withstand the greatest amount of stress and thermal shock, and having an equiaxed structure in the portions thereof which must resist high temperature creep.

3,342,456

HYDROMECHANICAL CLAMPS

Robert Nouel, Villejuif, France, assignor to Inventions Finance Corporation, a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,471
1 Claim. (Cl. 254-93)



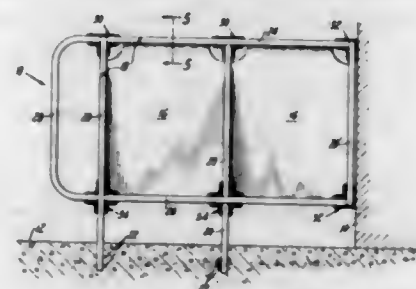
A force-multiplying device comprising first and second pairs of force-multiplying jaws, first driving means for turning one jaw of each pair relatively to the other, and second driving means for displacing the first pair of jaws towards and away from the second pair of jaws, said second driving means comprising linking means interconnecting one jaw of said first pair and one jaw of said second pair for ensuring that movement of said one pair towards or away from said second pair is accompanied by corresponding movement of said second pair towards and away from said first pair, and vice versa.

3,342,457

GUARDRAIL ASSEMBLY

Louis G. Bobrowski, Berlin, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Feb. 1, 1965, Ser. No. 429,528
4 Claims. (Cl. 256-21)



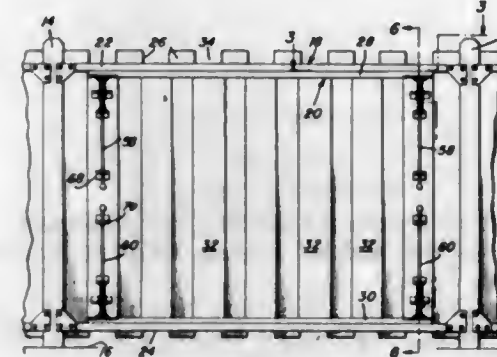
1. A guardrail assembly having a frame comprising a plurality of elongated balusters mounted in an upright position on a support; at least one of said balusters comprising separate first and second baluster portions, a hollow fitting for the balusters having a pair of aligned unidirectional cavities forming a passage extending entirely therethrough and at least one side cavity angularly oriented with respect to said aligned cavities, said fitting slidably receiving a portion of the baluster within said side cavity; and an elongated rail of substantially uniform cross section slidably received within said passage and extending outwardly therefrom whereby the rail rests on and is supported by the baluster, said baluster and

rail being fixedly secured within said fitting against relative movement.

3,342,458

ADJUSTABLE VISION AND BREEZE BARRIER PANEL

James C. Simonton, Star Rte., Box 105, Forest Grove, Ore. 97116
Filed Sept. 7, 1965, Ser. No. 485,245
7 Claims. (Cl. 256-24)



1. An adjustable vision and breeze barrier panel assembly comprising first and second sections each of a plurality of generally parallel and laterally spaced panel-like barrier elements interconnected at corresponding opposite end portions, the barrier-like elements of said sections being arranged relative to each other in similar fashion, means supporting said second section from said first section with the barrier elements of said sections generally paralleling each other and said sections disposed in side-by-side relation, said means including means supporting said second section from said first section for relative lateral movement of said second section toward and away from said first section between portions closely adjacent and appreciably laterally spaced from said first section, respectively, as well as movement of said second section between a position with the barrier elements thereof transversely registered with the barrier elements of said first section and a position with the barrier elements thereof transversely registered with the spacing between adjacent barrier elements of the first section, portions of said assembly also serving to retain said second section in adjusted position relative to said first section.

3,342,459

MIXER WITH DIFFERENT SPEED IMPELLERS

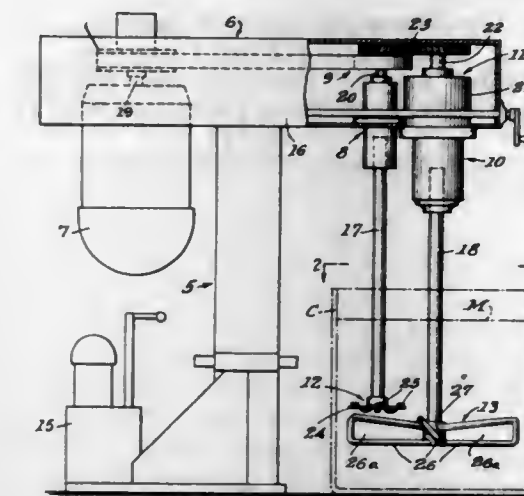
Claude K. Myers, Bell, and Gary A. Myers, Pico-Rivera, Calif. (both of 8376 Salt Lake Ave., Bell, Calif. 90201)

Filed June 27, 1966, Ser. No. 560,643
5 Claims. (Cl. 259-104)

1. A mixer for viscous materials dispersed with agglomerates and contained in a vessel, said mixer comprising:

- (a) an impeller carried by a low speed vertical shaft and comprising a plurality of generally flat radial arms formed as flat loops of rod material framing a passage in each said arm, said impeller, when driven, creating turbulence in the contents of the vessel due to the rod material thereof cutting through said contents,
- (b) and a smaller disc impeller carried by a high speed vertical shaft and spaced from the low speed shaft with the impeller thereon located within the perimeter of the larger impeller and spaced thereabove, and
- (c) agglomerate-dispersing and comminuting portions that are offset on opposite sides of the disc and having radial passages therethrough to comminute agglomer-

ates in the viscous material that is propelled over the faces of the disc by centrifugal force as the same is

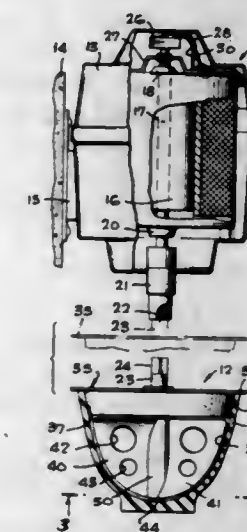


rotated, such centrifugally propelled agglomerates colliding with agglomerates in turbulent portions of said viscous material.

3,342,460

DENTAL MATERIALS MIXING APPARATUS

Michael W. Bolde, Los Angeles County, Calif. (8824 Monogram St., Sepulveda, Calif. 91343)
Filed Oct. 23, 1965, Ser. No. 503,981
10 Claims. (Cl. 259-122)

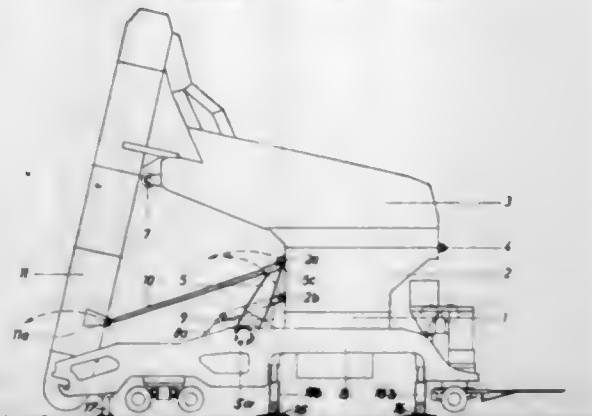


1. Apparatus for stirring and mixing dental materials such as stone in a flexible bowl for holding the materials comprising:

- a high speed impeller coaxially disposed within the bowl in contact with the materials;
- said impeller having a pair of blades radially extending outwardly from a central post;
- an upper and a lower impeller section coaxial with respect to each other and arranged in fixed spaced relationship and extending in planes diagonally disposed with respect to each other;
- said pair of blades formed with the ends of said impeller sections so that said blades drive the material downwardly in the direction of rotation;
- a lid for said bowl having an annular inwardly sloping periphery adapted to sealingly engage with the interior wall surface of the bowl and an undersurface spaced by said blades to provide a substantial gap therebetween; and
- power means for selectively rotating said impeller to thoroughly mix the material held in the bowl and to stir the material so as to effectively remove the presence of entrapped air in the material.

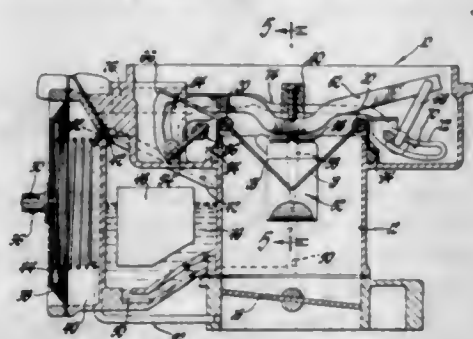
3,342,461 MOBILE SCREENING AND MIXING MACHINE FOR THE PREPARATION OF BITUMINOUS MIXTURES

Carl-Hermann Heise, Kalandstr. 12,
322 Alfeld (Leine), Germany
Filed Apr. 15, 1965, Ser. No. 448,443
Claims priority, application Germany, May 27, 1964,
A 46,141
8 Claims. (Cl. 259—164)



1. In a mobile screening and mixing machine for preparing bituminous mixtures, a frame, a mixing tower on said frame, said tower comprising; a first section fixedly secured to said frame, a second section pivotally joined to said frame and adapted to be pivoted about a horizontal axis from a first position on said frame to a second position above said first section in cooperating engaging relation therewith, a third section pivotally detachably joined to said second section to be moved therewith to be positioned above said second section in cooperating engagement therewith, and actuating means to pivot said second section from said first position to said second position, a hot bucket conveyor having one end detachably pivotally joined to said frame and link means operatively connected to said actuating means for positioning the remaining end of said conveyor in operating relationship with said third section.

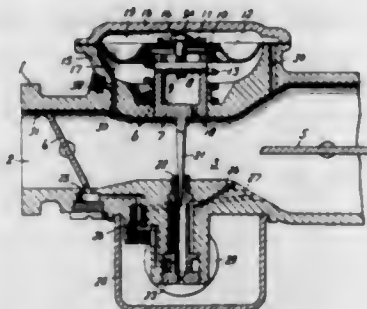
3,342,462
FUEL SYSTEM
Stanley H. Mick, St. Clair Shores, Mich., assignor to
General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,419
1 Claim. (Cl. 261—23)



An internal combustion engine carburetor comprising a downdraft mixture conduit having a rectangular air inlet, a fuel nozzle disposed in said mixture conduit, a fuel bowl, a fuel passage extending from said fuel bowl to a discharge point within said nozzle, a metering orifice in said fuel passage adjacent said discharge point, a metering rod vertically disposed in said mixture conduit and controlling fuel flow through said metering orifice, a shield disposed in said mixture conduit above said nozzle to protect said discharge point from the impact of air flow through said mixture conduit, said shield surrounding said metering rod and having an opening cooperating with said rod to provide a variable air bleed into said nozzle,

a pair of shafts disposed adjacent opposite sides of said air inlet, a pair of downwardly extending air valves secured to said shafts for rotation within said air inlet, said air valves being notched to surround said nozzle, means positioning said air valves to maintain a substantially constant pressure drop thereacross whereby the rotative position of said air valves is indicative of the rate of air flow through said air inlet, means connecting said metering rod to said air valves whereby fuel flow to said mixture conduit is controlled in accordance with air flow through said mixture conduit, and sealing strips secured against said opposite walls of said air inlet, said sealing strips being subject to the pressure drop across said air valves and biased thereby into contact with said shafts to prevent air flow between said shafts and the walls of said air inlet.

3,342,463
CARBURETOR
Tasuku Date and Ryuzo Kajikawa, Tokyo, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Saltama-ken, Japan
Filed Feb. 11, 1966, Ser. No. 526,733
Claims priority, application Japan, Feb. 20, 1965,
40/9,351
6 Claims. (Cl. 261—44)

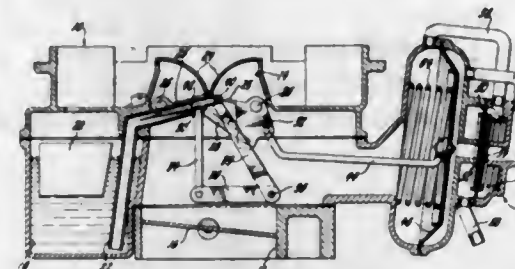


1. A carburetor having an air passage with a reduced portion therein forming a venturi, said carburetor comprising a manually operable throttle valve in said passage on one side of the venturi for controlling air flow through said passage, means at said venturi for the injection of fuel in the air passage in response to the development of negative pressure at said venturi due to air flow through said passage, and means adjacent said passage at said venturi to both reduce the size of the venturi and cooperate with the fuel injection means to adjust the quantity of fuel injected into the venturi all in response to a predetermined negative pressure in the passage, the latter means comprising first means for projecting into the venturi in response to said negative pressure, second means extending from said first means for acting on said fuel injection means to regulate the quantity of fuel injected in relation to the magnitude of projection of the first means into the venturi, a chamber opening into said passage, means subjected to the pressure in said chamber and acting on said first means, and biasing means acting on said first means to urge the same to an initial retracted position in which the first means has no effect on the air and fuel flow in said passage, said biasing means having a particular strength which is overcome when the negative pressure in said chamber reaches a value corresponding to said predetermined negative pressure in the passage.

3,342,464
AIR VALVE CONTROL
Stanley H. Mick, St. Clair Shores, Mich., assignor to
General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,420
5 Claims. (Cl. 261—44)

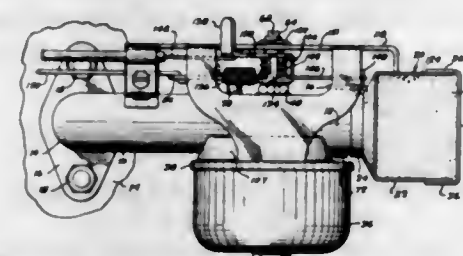
1. An internal combustion engine fuel system including an air flow inlet, a fuel flow inlet, fuel metering means regulating flow through said fuel inlet, and air flow sens-

ing means controlling said fuel metering means to regulate fuel flow in accordance with air flow, said air flow sensing means comprising air valve means variably positioned within said air inlet, a first flexible pressure responsive diaphragm connected to said air valve means to control the position thereof, pressure connections subjecting opposing sides of said diaphragm respectively to the first pressure in said air inlet upstream of said air valve means and to the second pressure in said air inlet downstream of said air valve means whereby a pressure differential is created across said diaphragm to move said air valve



means, said pressure connections including control means to substantially equalize the pressures on opposite sides of said diaphragm and maintain the pressure differential across said air valve means substantially constant whereby said air valve means are positioned in accordance with air flow through said air inlet, and closing means biasing said diaphragm and air valve means with only sufficient force to close said air valve means when the pressures on opposing sides of said diaphragm are substantially equal whereby said closing means does not add appreciably to hysteresis in said air flow sensing means.

3,342,465
CARBURETOR
Jesse L. Szwargulski, Florissant, and Raymond G. Henne-mann, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 426,466, Dec. 31, 1964, which is a continuation of application Ser. No. 101,706, Apr. 10, 1961. This application June 17, 1966,
Ser. No. 558,516
6 Claims. (Cl. 261—52)

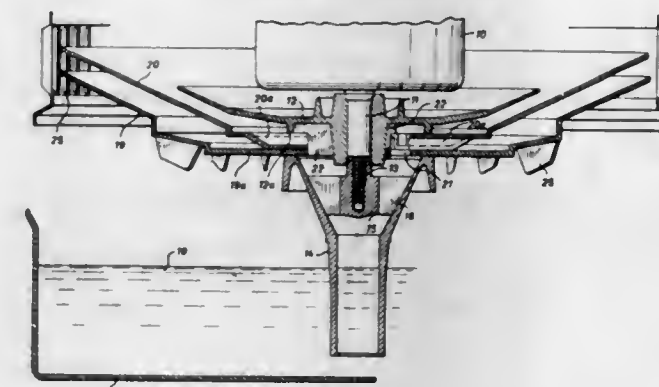


1. A carburetor for an internal combustion engine including:

- (A) a fuel bowl,
- (B) a wall defining a tubular mixture conduit,
- (C) a throttle valve, mounted in said mixture conduit and including:
 - (1) a throttle shaft having one end thereof extending through said wall of said mixture conduit.
- (D) a choke valve mounted in said mixture conduit and including:
 - (1) a choke valve shaft having one end thereof extending through said mixture conduit wall,
- (E) a bolt assembly including:
 - (1) a shank disposed transversely through said mixture conduit and said fuel bowl respectively,

- and a bolt carried on the shank urging said conduit and fuel bowl into engagement one to the other,
- (2) said shank having an elongated passage extending at least partially therethrough and having an outlet port communicating with said mixture conduit, whereby fuel may be directed from said fuel bowl to said mixture conduit,
- (F) said shank having a head portion extending from said wall of said mixture conduit,
- (G) a valve shaft actuating means rotatably carried on said shank head portion, and
- (H) connecting means operably engaging said valve shaft actuating means with said throttle shaft and said choke shaft, respectively, whereby said shaft actuating means may be adjusted to simultaneously actuate said throttle and said choke valves for regulating the mixture flow passing through said mixture conduit.

3,342,466
AIR HUMIDIFIER
Karl Flury, Adliswil, Zurich, Switzerland, assignor to
Defensor, Zurich, Switzerland
Filed Feb. 23, 1965, Ser. No. 434,264
Claims priority, application Switzerland, Feb. 29, 1964,
2,573/64
5 Claims. (Cl. 261—91)

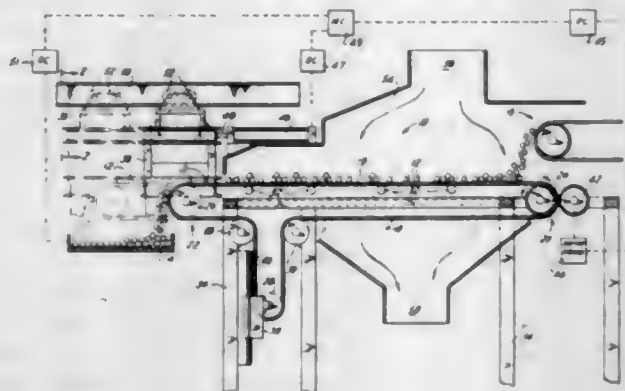


1. An air humidifier comprising at least two centrifugal distributor discs spaced axially apart one above the other and with a central opening, a suction pipe connected to the central opening of the lowermost of the discs and extending into a tank of liquid, a motor in driving connection with the discs to rotate same, the inner peripheral portion of at least one of the distributor discs, adjacent to the central opening, being of undulating form around the inner periphery and bearing against the inner peripheral portion of another one of the distributor discs, said undulating portion serving to maintain a space between the remaining portions of the said distributor discs and at the same time to distribute to the discs the flow of liquid entering through the suction pipe.

3,342,467
RECIPROCATING FEEDER AND
MOVING GRATE
Harold T. Stirling, 249 Roycroft Ave.,
Pittsburgh, Pa. 15234
Filed Apr. 21, 1965, Ser. No. 449,773
9 Claims. (Cl. 263—6)

1. A conveyor for feeding material evenly and uniformly transversely to the direction of travel of a receiving device comprising a belt having a feeding end portion adapted to reciprocate laterally across the width of the receiving device, a laterally reciprocating head pulley supporting said feeding end portion of said belt for travel thereabout, a laterally stationary tail pulley for supporting the other end of said belt for travel thereabout, a

floating pulley for taking up slack in said belt as said head pulley moves toward said tail pulley, means to reciprocate said head pulley, and a belt driving means which com-



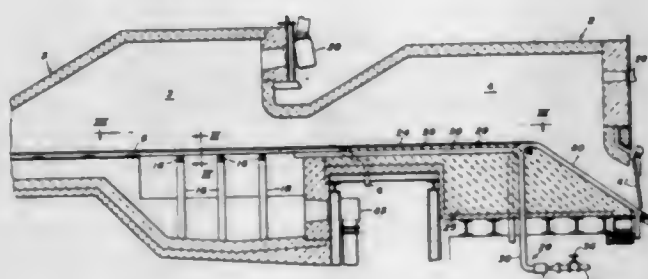
prises a drive roller positioned on the outer side of said belt at its tail end to cooperate with said tail pulley to drive said belt therebetween.

3,342,468

APPARATUS FOR REMOVING COLD SKID MARKS FROM OBJECTS

Clarence W. Sidwell, Rich Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of Delaware

Filed June 30, 1964, Ser. No. 379,185
6 Claims. (Cl. 263-6)



5. In a furnace for reheating objects having a heating zone and a soaking zone, said heating zone having an opening at one end for introducing said objects thereinto and an opening at its other end communicating with said soaking zone, the combination comprising water-cooled skids extending through said heating zone for supporting said objects and having sliding engagement with portions of the bottom surfaces of said objects, means for heating said objects while supported on said water-cooled skids, a refractory hearth in said soaking zone, radiant tubes composed of a high-strength, heat conducting material, said radiant tubes being fully embedded beneath the top surface of said hearth and substantially aligned with said water-cooled skids, and means for directing hot gases through said tubes so as to direct localized heat to the said portions of said objects engaged by said water-cooled skids.

3,342,469

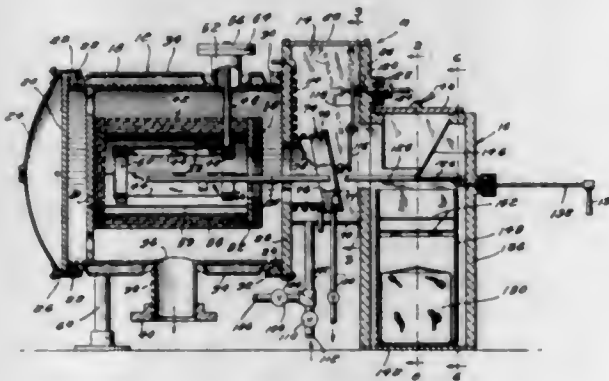
SEALING DEVICE FOR HIGH VACUUM FURNACE

Herbert W. Western, Barrington, R.I., assignor to C. I. Hayes, Inc., Providence, R.I., a corporation of Rhode Island

Filed Feb. 8, 1965, Ser. No. 430,989
3 Claims. (Cl. 263-36)

1. In a furnace for use in heat treating metallic articles, a heating chamber in which said articles are heat treated at relatively high temperatures, a compartment communicating with said heating chamber and receiving said articles prior to introduction into said heating cham-

ber and after the heat treating operation, a metal sealing member located between said heating chamber and compartment and having a bore formed therein that provides communication between said heating chamber and compartment when said articles are moved to and from said heating chamber, said metal sealing member being subjected to the high temperatures generated in said heating chamber, means for controlling the pressure in said heating chamber and compartment during the heating cycle of said articles wherein the pressure in said heating chamber is the same as that maintained in said compartment, a metal sealing plate that is movable into engaging relation with said sealing member when said bore is to be sealed for maintaining the temperature and pressure in said heating chamber, the face of said sealing member with which said sealing plate engages having a cavity formed therein, a vacuum source communicating with



said cavity for imposing a negative pressure therein when said plate is in engagement with said sealing member, wherein a vacuum seal is formed across the engaging portions of said sealing member and plate, said sealing member being free of sealing materials so that there is only metal-to-metal contact between said plate and sealing member and the heat to which the sealing member is subjected is transferred to said sealing plate, means for introducing a gaseous medium into said compartment after said plate has been placed in contact with said sealing member for increasing the pressure in said compartment, said sealing plate being sealed to said sealing member by the differential pressure between the heating chamber and compartment when said sealing plate is engaged with said sealing member, and means for moving said plate into and out of contact with said sealing member.

3,342,470

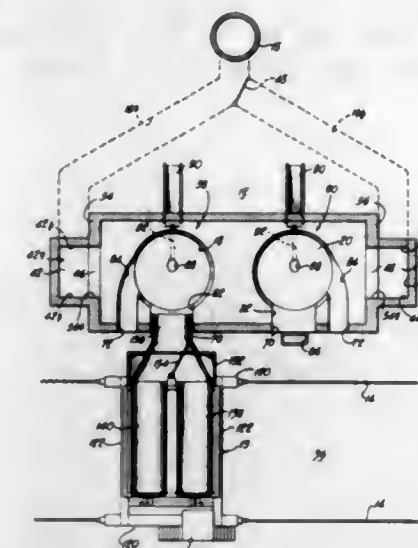
METHOD AND APPARATUS FOR MAKING STEEL

William A. Morton and Alfred S. Sobek, Pittsburgh, Pa., assignors, by mesne assignments, to Sunbeam Corporation, a corporation of Illinois

Filed Dec. 4, 1963, Ser. No. 328,067
21 Claims. (Cl. 266-9)

1. Apparatus for making steel comprising a furnace having a single chamber, said chamber having a pair of adjacent charge receiving receptacles lined with refractory material, said receptacles being large in volume relative to surface area when contrasted with a conventional open hearth whereby all of the metal contained within said receptacles may be successfully refined by blowing with oxygen lance means, a pair of cover members, one disposed over each of said receptacles and together forming a single unobstructed uncomparted common combustion space, the cross sectional area of said combustion space between the two receptacles taken transversely of the length of the furnace being substantially equal to the cross sectional area of said combustion space

at the transverse center lines of the receptacles, oxygen lance means movably mounted into each one of said cover members for alternately blowing the charge in each receptacle, and damper means for directing hot gases emitted from each receptacle during the blowing of the charge



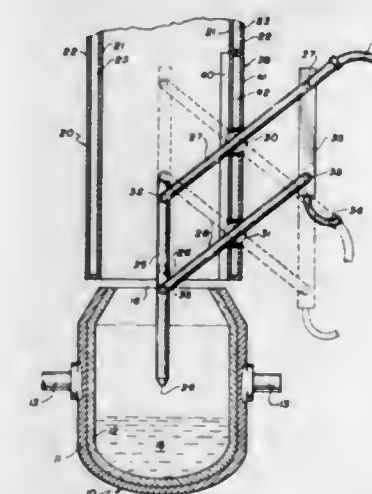
contained therein into intimate contact with the adjacent receptacle for preheating material disposed therein, the depth of said receptacles being sufficient to prevent excessive deterioration of said receptacles during the oxygen blowing operation.

3,342,471

OXYGEN LANCE ASSEMBLY

Martin Preston, Oakland, Calif., assignor to Kaiser Industries Corporation, a corporation of Nevada

Filed June 22, 1964, Ser. No. 376,718
7 Claims. (Cl. 266-34)

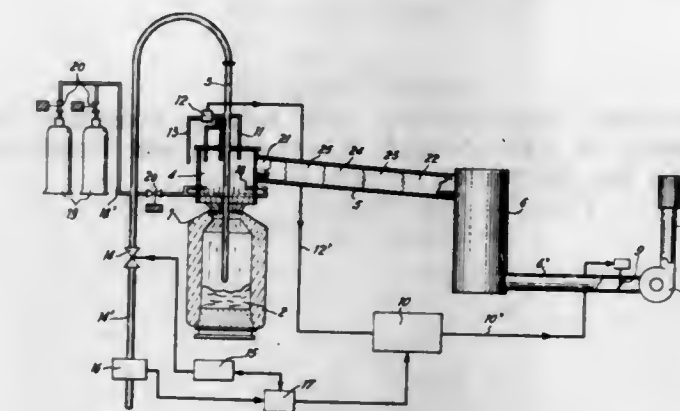


1. A lance assembly for introducing fluid into an open mouthed converter having an enclosure in gas-collecting position with respect to the open mouth comprising a vertical lance, two holding elements each pivotally connected at one end to the lance and extending parallel to each other toward and through rotatable means in said enclosure, at least one holding element carrying fluid into said lance, each of said holding elements also being connected pivotally at points lying on a line parallel to said lance and spaced the same distance from each other as the pivotal connections on said lance, and means for introducing said fluid into the fluid carrying holding element.

3,342,472

APPARATUS FOR RECOVERING WASTE GASES FROM A METAL REFINING ZONE

Gérald Namy, Saint-Etienne, and Jacques Dumont Fillon, Metz Queulen, France, assignors to Institut de Recherches de la Siderurgie Française, Saint-Germain en Laye, Seine-et-Oise, France, a professional institution of France, and Compagnie des Ateliers & Forges de la Loire (St. Chamond, Firminy, St. Etienne, Jacob Holtzer), St. Etienne (Loire), France, a French company
Original application July 17, 1962, Ser. No. 210,371, now Patent No. 3,190,747, dated June 22, 1965. Divided and this application Mar. 29, 1965, Ser. No. 452,436
Claims priority, application France, July 27, 1961, 869,205, Patent 1,223,518
1 Claim. (Cl. 266-35)



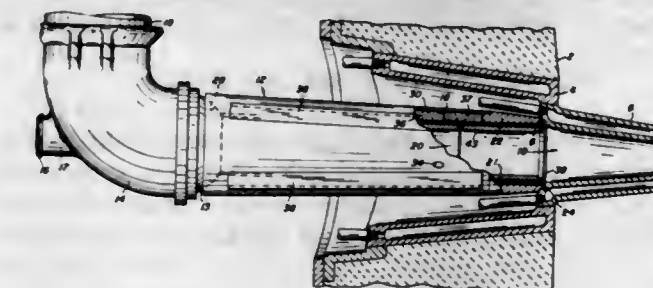
An apparatus for recovering waste gases emanating from a converter, comprising a hood spaced from the converter, the space between the converter and the hood being surrounded by air of the atmosphere and said hood being in free communication with the atmosphere through said space, an exhaust conduit leaving said hood, an exhaust draft control valve means mounted in said conduit remote from said hood, a pneumatic control circuit including pneumatic control means arranged to operate the control valve means, said control circuit including means for determining any pressure differential between the pressure inside the hood and the atmosphere surrounding the hood and any such pressure differential normally causing the pneumatic control means to operate the exhaust draft control valve means so as to equalize said pressures, and a timing unit operable at the start and the end of each refining cycle, said timing unit actuating the pneumatic control means to open said valve means to its maximum.

3,342,473

APPARATUS FOR DELIVERING AIR AND FUEL TO A BLAST FURNACE

Herbert A. White, Jr., 2048 Frankella Ave., Pittsburgh, Pa. 15221

Filed Jan. 20, 1964, Ser. No. 338,769
12 Claims. (Cl. 266-41)



1. A blowpipe for insertion between the tuyere and tuyere stock of a blast furnace comprising an inner tube, outer tube surrounding said inner tube in spaced relationship therewith, an end piece at each end of said tubes, means for holding said tubes in assembled position with

said end pieces, insulation in the space between said tubes, a plurality of refractory sleeves fitting snugly within said inner tube and extending substantially the full length thereof in abutting relationship, means for preventing axial movement of said sleeves toward the tuyere end of said inner tube, a third tube fastened to the end piece at the tuyere stock end of the blowpipe, said third tube having the same outside diameter as the inner tube, said inner tube being of such length as to provide a space between its tuyere stock end and said third tube, a fourth tube having an inside diameter slightly greater than the outside diameter of said inner tube, said fourth tube surrounding and overlapping said inner and third tubes, and a weld connecting the tuyere stock end of said inner tube to said fourth tube.

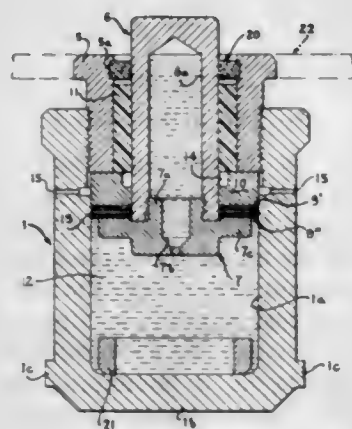
3,342,474

LIQUID SPRINGS

Karl Bittel, Markkleeberg, near Leipzig, Germany, assignor to VEB Zentrale Entwicklung und Konstruktion Zek Hydraulik, Leipzig, Germany

Filed May 28, 1965, Ser. No. 459,667

8 Claims. (Cl. 267—1)



1. A liquid spring, comprising a cylinder member having an open end and defining a liquid-filled chamber; a hollow piston member reciprocally extending into said cylinder member and having a liquid-filled chamber in communication with the chamber of said cylinder member; annular sealing means interposed between said members to at least reduce leakage of liquid from said chambers, at least one of said members being movable axially with reference to the other member to compress the liquid in said chambers; and at least one removable rigid insert provided in at least one of said chambers to determine the maximum amount of liquid in said chambers.

3,342,475

HYDROPNEUMATIC SUSPENSION DEVICE

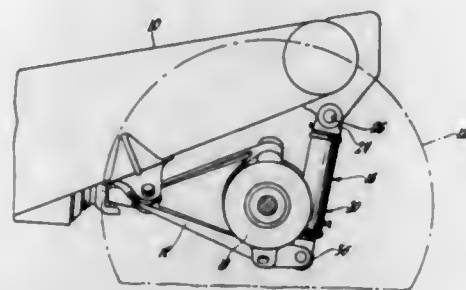
Manuel Naddell, Los Angeles, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 4, 1965, Ser. No. 492,809

5 Claims. (Cl. 267—64)

1. A hydropneumatic suspension device for supporting a vehicle chassis on a wheeled axle, said device comprising a cylinder member housing having a relatively movable primary piston member, said cylinder member being closed at one end thereof, said primary piston member having a hollow rod extending from the other end of said cylinder member, the inner end of said primary piston member formed with a head portion circumferentially and sealingly engaging the inner wall of said cylinder member, a secondary piston member slidably located in said rod portion and sealingly engaging the inner wall thereof, a first chamber filled with a compressible gas and defined by

the closed end of said cylinder member and one side of said head portion, a second chamber filled with an incompressible fluid and defined by the other side of said head portion, the inner wall of the cylinder member, and the outer wall of the rod portion, a third chamber located in said rod and defined by one side of the secondary piston and said other side of said head portion, a passage formed in said rod portion for permitting said incompressible fluid to move between said second and third chambers during expansion and contraction of the suspension device, a



fourth chamber located in said rod on the other side of the secondary piston and filled with a compressible gas, a check valve assembly attached to said other side of said head portion, said valve assembly comprising means for restricting fluid flow between said second and third chambers when said suspension device is expanded, and a spring biased valve adapted to provide an increase rate of flow between said second and third chambers under the influence of the compressed gas in said fourth chamber when said suspension device is contracted.

3,342,476

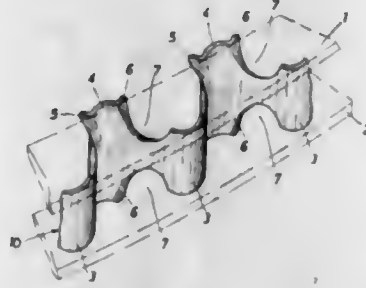
STRESSING ELEMENT FOR PISTON RINGS

Paul Vossieck, Burscheld, Cologne, Germany, assignor to Goetzwerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany

Filed May 21, 1965, Ser. No. 457,691

Claims priority, application Germany, June 26, 1964, G 40,936

4 Claims. (Cl. 267—1.5)



1. In a band-like tangentially and radially resilient spring member of the type used for supporting a pair of washer-like oil stripping rings in respectively opposite axial ends of a groove provided therefor in a piston, said spring member having radially inner and radially outer reverse bends therein and web portions extending between said bends so as to form an annular undulating member, notches in the tops and bottoms of said web portions, the axial length of the spring member at the radially outer reverse bends being substantially equal to the axial spacing between the adjacent faces of said rings, the axial length of the spring member in the region of the radially inner reverse bends being greater than the axial spacing between the inner faces of said rings, and ring engaging lug means on said spring member engaging the inside inner

edges of said rings, said lug means comprising bent back regions of said web portions at the radially inner ends of said notches in said web portions.

3,342,477

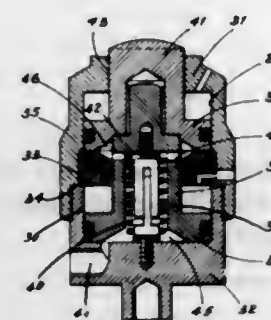
EXTENSIBLE HYDRAULIC CONTROL ELEMENT FOR LOCKING MOUNTINGS

Edouard Torossian, Bollestr. 50, Zurich, Switzerland

Filed Dec. 14, 1964, Ser. No. 417,876

Claims priority, application Switzerland, Dec. 14, 1963, 15,382/63

8 Claims. (Cl. 269—25)



1. Fluid-actuated clamp comprising a cylinder, a displaceable piston located in said cylinder, a thrust member connected to said piston for displacement therewith and being formed with a chamber for receiving pressure fluid, said piston and thrust member being displaceable in said chamber from an initial non-clamping position to a final clamping position by the action of pressure fluid supplied to said chamber, and tension spring means disposed in said chamber and connecting said thrust member and said cylinder for biasing said thrust member and piston in a direction back from said final position to said initial position thereof.

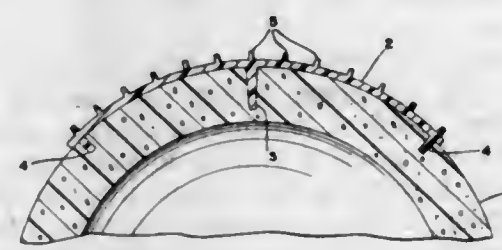
3,342,478

MEANS FOR SUPPORTING WIGS

Richard B. Shaw, Beachwood, Ohio, and Gerald Stockton, 4437 Silsby Road, University Heights, Ohio 43210; said Shaw assignor to said Stockton

Filed Apr. 5, 1965, Ser. No. 445,676

1 Claim. (Cl. 269—53)



In combination with a manikin head of a porous plastic penetrable material adapted for the support of a wig, means for retaining said wig on said manikin head and for securing said wig on said head against shifting while work is being performed on the wig, said means comprising a member of relatively thin flexible plastic material conformable to the shape of said head and having upper and lower surfaces, said member having relatively long prongs formed integrally with said member extending from its lower surface and penetrating said manikin head for securing said member to said head, and said member having a multiplicity of spaced prongs formed integrally with said member and projecting from the upper surface of said member and adapted to penetrate said wig for the purpose of securely holding the wig against slipping or shifting relatively to said head, while such work is being performed.

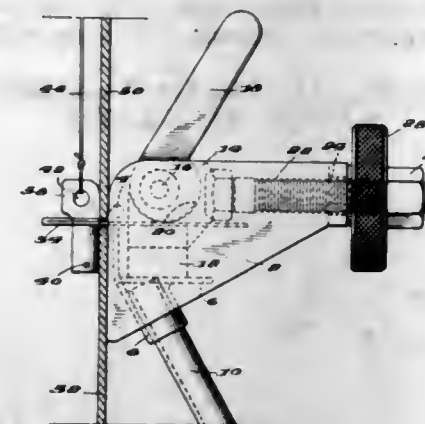
3,342,479

WELDING CLAMPS

Thomas W. Howe, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Jan. 14, 1964, Ser. No. 337,573

9 Claims. (Cl. 269—204)



1. A clamp comprising a frame, a flat strip, said strip having one end folded in overlapping relation with a portion of the remainder of the strip and having a hole in the folded end in axial alignment with a hole in said remainder portion, a pin extending through the hole in the folded end and the hole in the remainder portion, means in the frame for gripping the remainder portion of the strip, means for adjusting the distance between the pin and the frame, and means for selectively breaking the remainder portion of the strip, whereby the pin is retained in the folded end when the strip is broken.

3,342,480

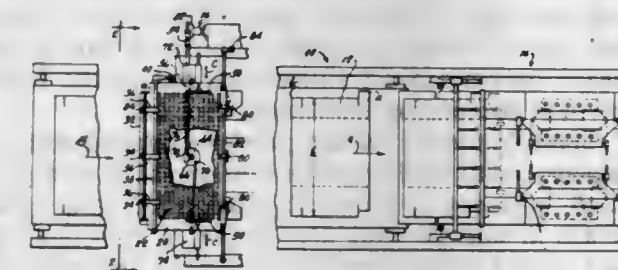
ALIGNMENT MECHANISM

Giorgio Camerini, deceased, late of Milan, Italy, by Laura Ved Camerini Nasso, Milan, Anna Maria Vigevani Camerini, Milan, Luisella Ved Bosio Camerini, Milan, Franco Camerini, Milan, and Gianni Camerini, Milan, and Margherita Camerini, in Violin, Rome, Italy, heirs, assignors to Natro Cellulosa S.p.A., Industria Imballaggi Carta, Milan, Italy, a corporation of Italy

Filed Mar. 4, 1965, Ser. No. 440,061

Claims priority, application Italy, Mar. 6, 1964, 5,079/64

9 Claims. (Cl. 271—58)



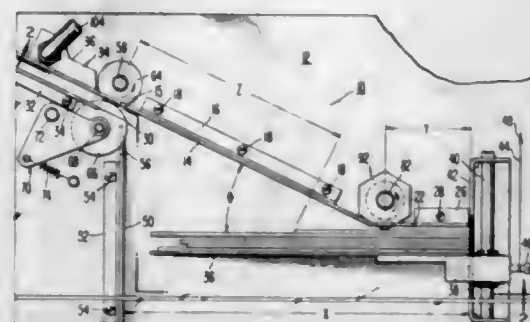
1. Apparatus for centering and aligning flattened bag blanks for processing in a bag forming machine, said apparatus comprising a support base having a porous plane surface and mounted so as to be adjustable in inclination, means for blowing a continuous stream of air through said porous plane surface, said surface extending over an area, the width of which is sufficiently large to permit the blown air to act uniformly over the entire under surface of the bag blank with sufficient intensity to create an air cushion between such bag blank and said support base, centering means and alignment means adapted to act on the edges of said bag element in order to shift its position over said support base according to

its particular offset, while the bag blank is resting upon the air cushion developed by the passage of air through said porous plane surface.

3,342,481 SHEET ITEM HANDLING AND STACKING APPARATUS

Donald E. Kaplan, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 14, 1964, Ser. No. 418,071
5 Claims. (Cl. 271-71)



1. Item handling and stacking apparatus comprising:
 - (a) means forming a stacking area into which items are directed at high speed,
 - (b) means for driving items into said stacking area,
 - (c) means adjacent to said driving means for directing a stream of air at high velocity at an acute angle relative to said items into said stacking area,
 - (d) rigid, stationary guiding means adjacent to said driving means extending from said driving means into said stacking area adjacent to said air directing means and operably associated therewith so that exiting high velocity air is caused to strike each item at an acute angle relative to the surface of such item effective to induce a Bernoulli effect between said guiding means and said item whereby a pressure differential is created between said guiding means and said item effective to produce a thin film of air between said item and said guiding means so as to cause said item to move on the thin film of air moving along the surface of said guiding means in close proximity thereto until the item is beyond said driving means whereupon said air directing means is effective to cause said high velocity air to strike the trailing edge of said item and thereby to deflect the trailing edge of said item through an angle relative to said guiding means moving said trailing edge out of the path of the next succeeding incoming item, and
 - (e) rotatable means having portions intermittently engageable with said items as said means is rotated, located adjacent a terminal portion of said guiding means in said stacking area operably associated with said rigid guiding means for aligning and registering said items as they are directed thereinto at high speed.

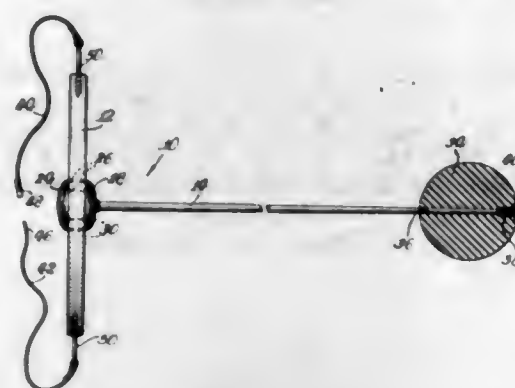
3,342,482 WAIST-MOUNTED GYRATORY ROD RECREATIONAL DEVICE

Ernest A. Paolone, 10410 Ave. O,
Chicago, Ill. 60617

Filed Jan. 20, 1964, Ser. No. 339,023
8 Claims. (Cl. 272-57)

1. A recreational device comprising a normally substantially straight elongated rod readily flexible in all directions transversely of the longitudinal axis thereof, means for securing one end of said elongated flexible rod to the waist of a person with said elongated flexible rod

being positioned to extend generally forwardly therefrom, an enlargement fixed at the other end of said elongated flexible rod, and said enlargement being of sufficient

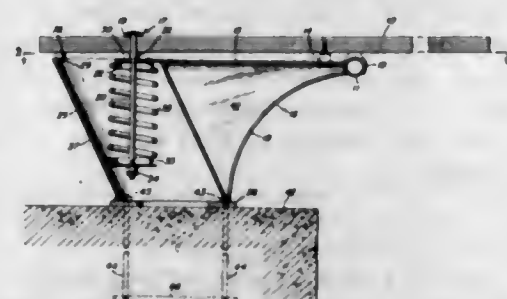


weight and said rod being of sufficient flexibility to cause said enlargement to describe spatial paths when said waist securing means is oscillated.

3,342,483 DIVING BOARD

Roger L. Erickson and Maurice W. Cole, Austin, Tex., assignors to The Perry Company, Austin, Tex., a corporation

Filed Sept. 28, 1964, Ser. No. 399,504
1 Claim. (Cl. 272-66)



In combination, a diving board supported between its ends and adapted to extend over a portion of a swimming pool, a housing including a rearwardly leaning support cylinder, a cantilever extension therefrom including a generally triangular steel plate with a straight strap at the top and a curved strap at the bottom of the plate to form strengthening flanges, a horizontal fulcrum member supporting the diving board and secured to both straps at their point of juncture, a channel member secured to the diving board with its downwardly extending parallel arms bracketing the straight strap to limit side-wise movement of the board on its fulcrum, a flat transverse bar welded to the top strap and secured to the top of the cylinder to form an anchoring member, a bolt having a transverse head secured to the diving board near its two opposite sides, and a helical spring adjustably mounted on the stem of the bolt urging the inner end of the diving board downwardly toward the anchoring member.

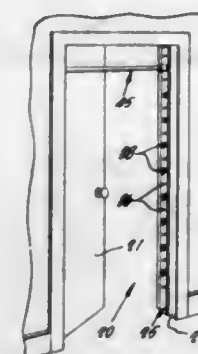
3,342,484 ADJUSTABLE AND LOCKABLE GYMNASIUM APPARATUS

Ahlmann C. Christensen, deceased, late of Phoenix, Ariz., by Julia M. Christensen, executrix, 2526 N. 52nd St., Phoenix, Ariz. 85035

Filed July 18, 1963, Ser. No. 296,131
6 Claims. (Cl. 272-85)

1. Gymnasium apparatus comprising, in combination, a pair of substantially identical anchor members secured to the opposing surfaces of the jambs of a doorway and the like along substantially the entire vertical extent of

the doorway opening, each anchor member having a substantially rectangular cross-sectional configuration, each anchor member defining an internal cavity along its entire elongate extent and having formed therein at spaced apart locations along its elongate extent a plurality of aligned identical apertures communicating to the cavity, said apertures opening toward and being aligned with each other across said doorway opening, each aperture constituting an elongated slot aligned with the elongate extent of the anchor member and each slot having a circularly con-

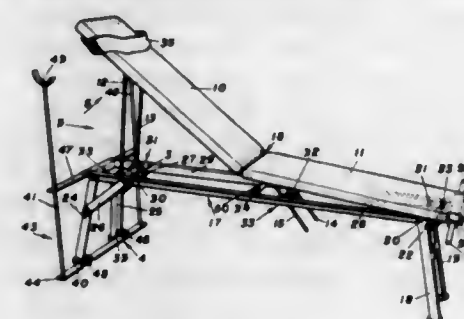


figured portion intermediate its ends of diameter greater than the width of the slot, an elongated chinning bar, and connecting means at each of the opposite ends of the chinning bar releasably and interlockably engageable with a single one of the apertures in a respective one of the anchor members for connecting the chinning bar between the anchor members, the connecting means including laterally lugged means at each end of the chinning bar and means securing the chinning bar from rotation relative to the anchor members.

3,342,485 EXERCISING BENCH COMPRISING HINGED AND ADJUSTABLE SEATING PORTIONS

Martin Gaul, 1524 Bathurst St., Apt. 403,
Toronto 10, Ontario, Canada

Filed Mar. 18, 1965, Ser. No. 440,775
4 Claims. (Cl. 272-58)



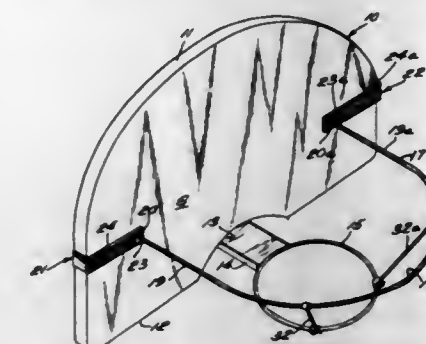
1. An exercising bench apparatus comprising:
 - two seating portions hinged together and adjustably mounted on a fabricated support frame;
 - adjusting rods hinged to the underside of said seating portions;
 - bracing means fastened laterally to said support frame and having holes formed therein to receive said adjusting rods;
 - fastening means associated with said bracing means for releasably locking said adjusting rods;
 - a plurality of holes formed in said adjusting rods for alignment with holes formed in said bracing rods at an angle to said holes for said adjusting rods;
 - locking pins for securing said adjusting rods with said bracing rods;
 - legs at one end of said support frame retractably hingedly mounted thereon and securely lockable in their extended position;

legs at the other end of said support frame being bolted into position to allow for disassembly; and, a barbell rest attachment releasably engageable with said exercising bench.

3,342,486 PRACTICE RAIL ATTACHMENT FOR A BASKETBALL BACKBOARD

William E. Farley, 204 E. Taylor St.,
De Kalb, Ill. 60115

Filed June 17, 1965, Ser. No. 464,780
2 Claims. (Cl. 273-1.5)

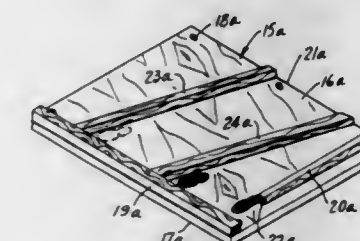


2. A practice attachment for a basketball backboard, comprising a generally U-shaped rail having parallel legs and a curved bight portion connecting said legs, the distance between said legs being substantially greater than the diameter of a standard basket ring, means extending downwardly from said rail for attachment to a basket ring, and means connected to the ends of said parallel legs for attaching said rail to a backboard with said legs in a horizontal plane.

3,342,487 BASEBALL STANCE AND STRIDE PRACTICE PLATE

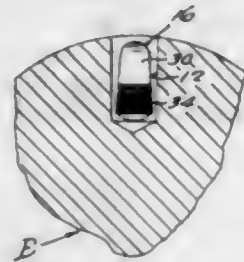
David J. David, 1025 Nottingham,
Grosse Pointe Park, Mich. 48236

Filed Dec. 14, 1964, Ser. No. 418,224
2 Claims. (Cl. 273-26)



1. A stance and stride practice plate for a baseball hitter, for use with a home base, comprising:
 - (a) a flat plate;
 - (b) a first generally straight foot guide member secured adjacent one edge of the plate adapted to be disposed in a parallel position with the adjacent edge of a home base;
 - (c) a second foot guide member secured adjacent one side edge of the plate in perpendicular relationship to said first guide member; and,
 - (d) at least a pair of foot guide members on the plate in laterally spaced apart positions from said second foot guide member and from each other diagonally disposed across said plate, the ends adjacent said first guide member being a substantially greater perpendicular distance from said second guide member than the opposite ends thereof.

3,342,488
BOWLING BALL AND FINGER HOLE GRIPPING INSERT
 George F. Novatnak, 3 3rd St., Beaver Meadows, Pa. 18216
 Filed Oct. 13, 1964, Ser. No. 403,605
 7 Claims. (Cl. 273-63)



1. An insert for a substantially cylindrical, finger hole of a bowling ball and particularly a thumb hole, comprising an elongated, rigid body formed of a material incompressible under normal finger pressure, said body having a convex side adapted to engage and be secured to the cylindrical wall of a bowling ball hole and an opposite planar side adapted to be engaged by the finger of a bowler, both said convex and planar sides extending substantially the entire length of the body and intersecting to form straight-line, lateral, longitudinal edges of said body, and said planar side being inclined with respect to said convex side so that said body has a small thickness at one end thereof and a greater thickness at the other end thereof.

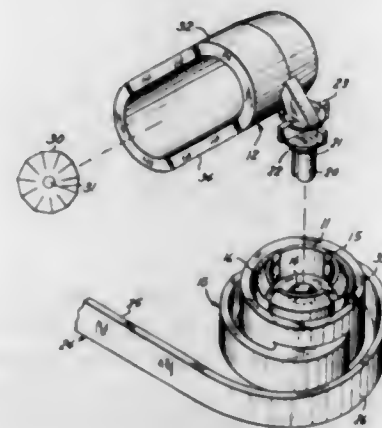
3,342,489
WEIGHTED HANDLE FOR A BILLIARD CUE
 Russ K. Waldo, 7926 12th Ave., SW., Seattle, Wash. 98106
 Filed Mar. 10, 1964, Ser. No. 350,780
 2 Claims. (Cl. 273-68)



1. A handle formed at its rear end with a cylindrical seat having a length which is a multiple of a given module and providing within the length of said seat circumferential grooves separating the several modular sections, elastic O-ring means adapted to fit a selected one of said grooves, and a set of sleeve means sized to fit the seat and slidably applied thereto from the rear end of the handle, the sleeves being used singly or in combinations to vary the weight of the handle, the set having a combined length corresponding to the length of the seat, the sleeve means in said set each having a different length with that of one corresponding to the module and the length of the others being

evenly stepped multiples of said module, the O-ring means being lodged in an exposed one of said grooves to bear against and serve a keeper function for the applied weighting sleeve means.

3,342,490
TORSIONAL IMPELLING DEVICE FOR GAME PROJECTILES
 Calvin L. Payne, Jr., Yonkers, N.Y., assignor to Tudor Metal Products Corporation, Brooklyn, N.Y., a corporation of New York
 Filed June 26, 1963, Ser. No. 290,839
 2 Claims. (Cl. 273-89)

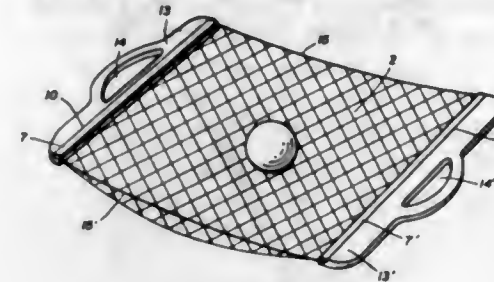


1. In an indoor game including a panel representing the playing area of the game and which is mounted on a border frame, a torsion device mounted for rotation in the panel and projecting therethrough, a player member representing one of the elements of the game, said player member having means for impelling a game projectile, interengageable means carried by said player member and said torsion device releasably connecting said player member to said torsion device for movement with said torsion device and with the player member disposed vertically above said panel, and a manually actuated member including an arcuately curved inner spring portion connected with said torsion device and an outer portion means directly connected to said spring portion and freely protruding through said frame and adapted to be pulled outwardly for unwinding said spring portion which upon release of said actuating member functions to rotate the torsion device and the player member mounted thereon, said panel having an arcuate slot and said torsion device having a lug disposed in said slot with one end of the slot constituting a stop means for said player member.

3,342,491
PROJECTING AND CATCHING DEVICE WITH RESILIENT NET
 Dominique Rene Padovani, 36 Rue de la Coste, Aurillac, France
 Original application Jan. 29, 1963, Ser. No. 254,654, now Patent No. 3,209,443, dated Oct. 5, 1965. Divided and this application Aug. 2, 1965, Ser. No. 476,232
 1 Claim. (Cl. 273-96)

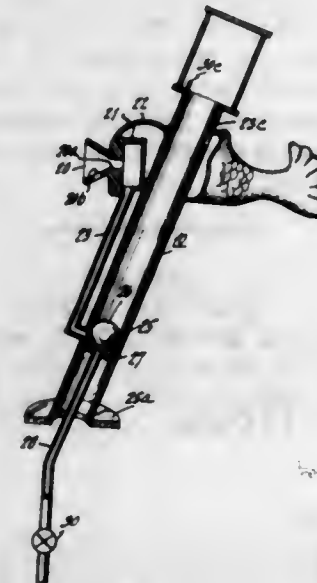
A game implement, comprising
 (a) a net comprising a plurality of strands having a given thickness and a given elasticity, said net having two opposed sides and two edges;
 (b) two strings having a thickness greater than said given thickness, and an elasticity less than said given elasticity and ends, said strings extending along said edges;
 (c) two flat elongated handle support elements provided with first uneven surfaces, said surfaces carrying said opposed sides of said net and said ends of said strings;

(d) net clamping parts provided with second uneven surfaces interlockable with said first uneven surfaces; and



(e) means rigidly securing said net clamping parts to said support elements through said uneven surfaces and over said opposed sides and said ends.

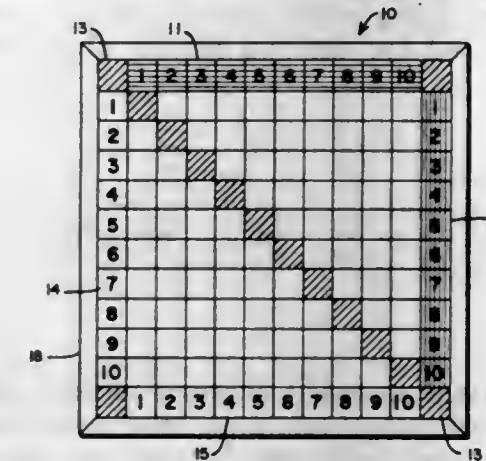
3,342,492
WATER GUN TARGET WITH DISPLACEABLE ELEMENT
 Thomas Barrett, Jersey City, N.J., assignor to International Exhibits, Inc., Asbury Park, N.J., a corporation of New Jersey
 Filed Nov. 30, 1964, Ser. No. 414,737
 10 Claims. (Cl. 273-102.1)



1. A competitive water game system including at least one water gun comprising,
 at least one target tube,
 a ball float floatingly mounted in said tube,
 the lower end of said tube forming a discharge opening, said tube having a closed upper end and at least one opening formed adjacent the upper end of said tube, and a water intake disposed exterior to said tube and at a lower elevation than said opening adjacent the upper end of said tube, fluid connection means in addition to said target tube for conducting fluid between said water intake and an additional opening in said tube formed substantially below said opening formed adjacent said upper end, and
 said water gun having water under pressure supplied thereto which a player may control to direct a water stream into said water intake to fill said tube until said ball presents a target in said opening whereby when said water stream is directed at said ball water then flows out of said water intake lowering the water level thereby requiring said player to aim

said water stream back and forth between said water intake and said opening until said ball is ejected from said tube.

3,342,493
MATHEMATICS GAME BOARD
 James W. Lang, P.O. Box 224, Mound, Minn. 55364
 Filed Feb. 13, 1964, Ser. No. 344,629
 1 Claim. (Cl. 273-135)

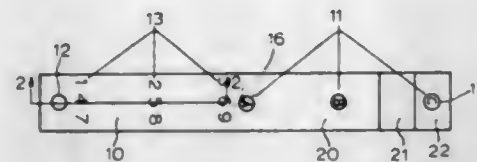


A mathematical game board apparatus comprising game board means having horizontally and vertically disposed lines defining a playing area with a plurality of horizontally and vertically disposed squares with an outer edge periphery arranged therearound, a diagonal line between oppositely disposed corners of said game board means dividing the board into two opposing playing fields on either side thereof with the squares disposed along said diagonal line being common to each playing field, a plurality of tokens adapted to be disposed within the area defined by each of said squares, indicia means arranged adjacent said rows and said columns and being disposed outwardly from said outer edge periphery with each indicia representing a certain mathematical factor, the square at the intersection of a projection extending inwardly from each row and from each column being adapted to represent a certain predetermined resultant quantity in which each mathematical factor is an input function, said plurality of tokens consisting of an even number of tokens, one token having no indicia thereon and playable in any of said squares, the remaining tokens having indicia thereon representing individual of said certain resultant quantities and totalling the number of squares included in one of said playing fields and said common squares, said remaining tokens carrying indicia such that all of said remaining tokens are playable in either one of said playing fields, including said common squares, so as to completely fill the same.

3,342,494
SIMULATED GOLF COURSE
 Royal Bradsha Talley, Jr., Garner, N.C., assignor to D. C. May-Ma-Crepe Corporation, a corporation of North Carolina
 Filed July 20, 1964, Ser. No. 383,659
 1 Claim. (Cl. 273-176)

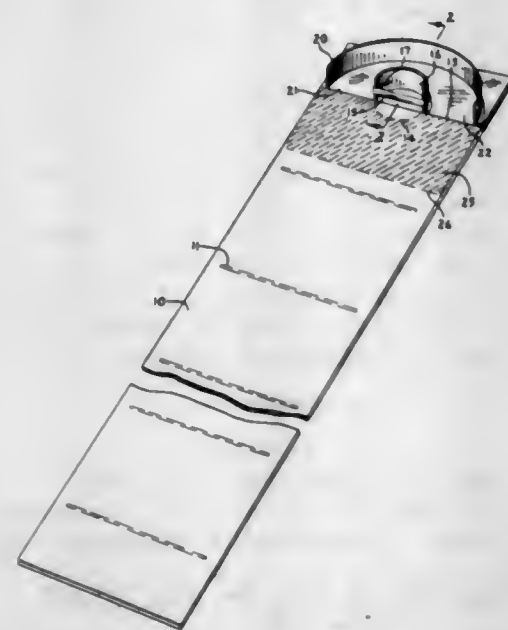
A simulated golf game comprising an elongated rectangular strip of flexible sheet material having a length at least several times greater than its width and being of uniform thickness forming a "fairway-green" combination capable of supporting the players and having a surface approximating a real golf course surface, a hole adjacent one end of and cut through said strip, said surface including a plurality of laterally spaced first shot tee markings adjacent said one end of said strip, at least another

plurality of laterally spaced first shot tee markings located in longitudinally spaced relation to said first plurality of tee markings, said tee markings simulating the various tees of a real golf course, said strip including a plurality of widthwise extending lines dividing said strip into a plurality of areas at successively longer distances from said tee markings, said strip including a longitudinal row of spaced spot markings located at different distances from said cut through hole, each of said spot markings defining a location from which a first shot ball may be directed back to said cut through hole, at least one of said spot markings being located adjacent the end of said strip opposite to said one end and defining also a simulated



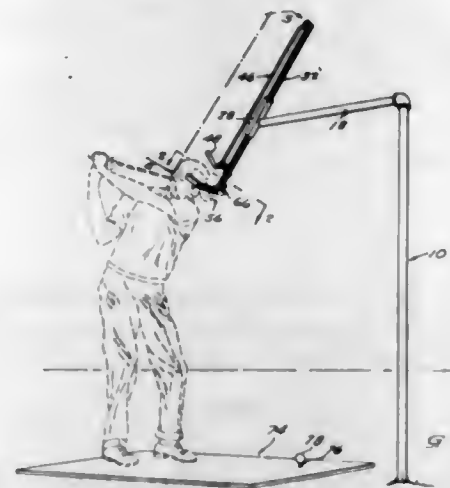
golfing hole, the successive distances between said simulated hole and each of said areas being substantially less than the successive distances between said cut through hole and said spot markings, whereby a golfer may (1) direct a first shot golf ball from any one of said tee markings toward said simulated hole, (2) observe the degree of closeness of said first shot ball to said simulated hole by observing in which of said areas said ball has come to rest, (3) place the ball on the one of said spot markings which relatively is as close to said cut through hole as the area in which said first shot ball has stopped is to said simulated hole and (4) direct the remaining shots to said cut through hole.

3,342,495
PRACTICE PUTTING DEVICE
Roy E. Wasley, Portland, Oreg.
(54 Clinton St., Redwood City, Calif. 94061)
Filed May 28, 1965, Ser. No. 459,827
7 Claims. (Cl. 273-176)



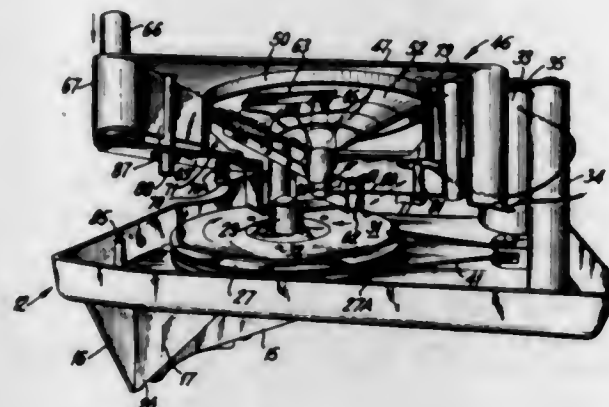
5. A practice putting device comprising a plastic foam mat, a semicircular half cup upstanding from said mat, a transversely curved strip of stiff spring material spanning the open side of said half cup, and a semicircular wall spaced from and concentrically surrounding said half cup with the ends of said cup and said wall disposed on a common diametral line.

3,342,496
GOLFER'S HEAD RESTRAINING DEVICE
Alfred L. Evans, 115 Allenwood Drive,
Clarksville, Tenn. 37040
Filed Dec. 31, 1964, Ser. No. 422,785
10 Claims. (Cl. 273-190)



1. A device of the character described comprising a support, and a golfer's head restrainer mounted on the support, said head restrainer consisting essentially of a substantially straight horizontal portion terminating at one end in a curved portion, said head restrainer being so connected to said support that said straight portion extends horizontally and may be engaged by the forehead of a golfer in position to swing on a golf ball and said curved portion may, when said golfer is in said position, engage his head on one side thereof and restrict the movement of his head to said side.

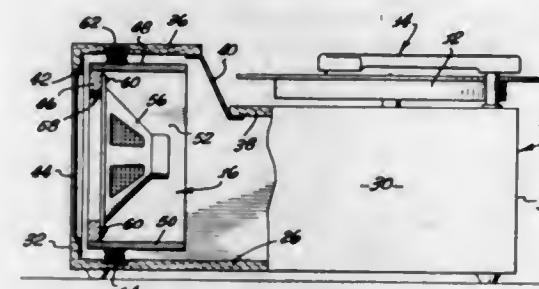
3,342,497
PHONOGRAPH
John F. Castagna, Brooklyn, N.Y., assignor to Stelber Cycle Corporation, Elmhurst, N.Y.
Filed Aug. 26, 1965, Ser. No. 482,734
16 Claims. (Cl. 274-1)



7. A phonograph device comprising a casing, a record turntable, means on said casing for mounting said turntable for rotation, means for rotating said turntable, record means on said turntable, a speaker cone, means for mounting said speaker cone with the apex portion thereof extending downwardly toward said turntable, a bushing on said apex portion of the speaker cone, a stylus member slidably and rotatably mounted in said bushing, said stylus member having opposite end portions respectively projecting beyond the opposite ends of said bushing, tone arm means extending radially from the lower end of said stylus member, needle means fixed in the outer end of said

tone arm, resilient means engageable with the upper end of said stylus member for biasing said stylus member downwardly to bring said needle means into engagement with a groove portion on said record means, movable means having a portion thereof engageable with the lower end of said stylus means for lifting said stylus means upwardly, coacting means on said bushing and said stylus means operative to rotate said stylus means in response to the lifted movement of said stylus means, means for controlling said turntable rotating means, said controlling means being engageable by said tone arm during the rotary movement of said stylus means for actuating said controlling means.

3,342,498
PORTABLE PHONOGRAPH
Ronald G. Eberhardt, La Habra, Calif., assignor to Newcomb Electronics Corp., Los Angeles, Calif., a corporation of California
Filed May 13, 1965, Ser. No. 455,552
2 Claims. (Cl. 274-2)

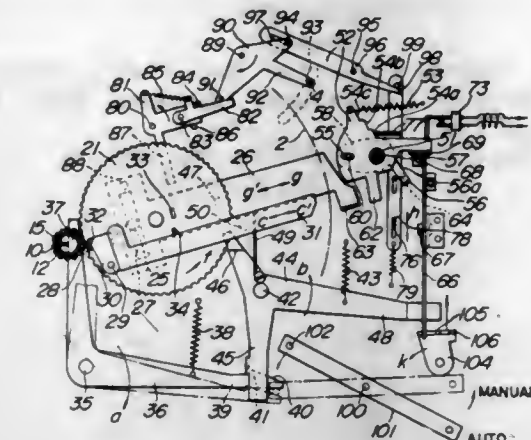


1. In a phonograph having a case, a turntable and a pickup assembly mounted in the case, said case having a speaker opening, and top, bottom and side walls surrounding the speaker opening, the combination therewith of: a speaker assembly including a front panel having a port; a speaker mounted on said panel in registry with said port; wall means forming an open box-like structure surrounding the speaker; said wall means having an opening opposite said panel exposed to the interior of said case; and acoustic damping means suspending the speaker assembly in the case with the front panel aligned with said speaker opening and said wall means substantially paralleling the top, bottom and side walls of said phonograph case and having small clearance with respect to said case walls to define a restricted air path between the front of said panel and the rear of said panel, the interior cross-sectional area of said case in a plane through said wall means being only slightly greater than the corresponding exterior cross-sectional area of said wall means.

3,342,499
AUTOMATIC RECORD PLAYER
Fumio Fukuda, Dalto-shi, Tadashi Watanabe, Fuse-shi, and Uneho Niimi, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Japan
Filed Oct. 20, 1964, Ser. No. 405,091
Claims priority, application Japan, Dec. 2, 1963, 38/65,730; Dec. 10, 1963, 38/66,943; Dec. 11, 1963, 38/69,313, 38/95,812; Dec. 12, 1963, 38/93,846; Dec. 26, 1963, 38/98,722; Jan. 13, 1964, 39/2,781
6 Claims. (Cl. 274-9)

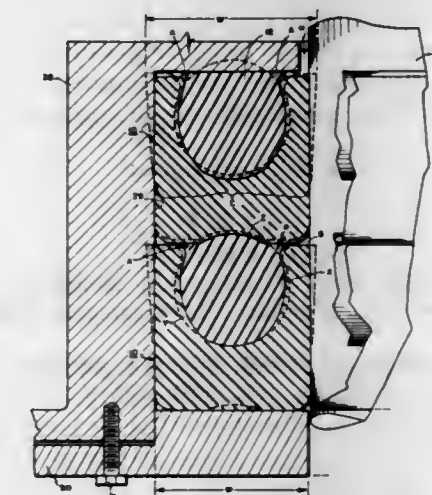
1. In an automatic record player including a frame, a center shaft mounted on said frame, and a turntable rotatably supported on said shaft; the improvement comprising detecting means for detecting the outer diameter of the record, a tonearm pivotally mounted with respect to said frame and having pickup means at one end thereof; a start lever arranged within said center shaft for

vertical and rocking movement with respect thereto in response to records being placed on said shaft, transmission means engaging said start lever and adapted to move in response to said start lever movement, drive means responsive to movement of said transmission means for



driving said turntable, and means responsive to movement of said transmission means for swinging said tone-arm into an angular position corresponding to the detected record diameter for automatic playing, and back into a rest position at the end of the automatic playing.

3,342,500
PACKING CONSTRUCTION
Charles B. Knudson, Salt Lake City, Utah, assignor, by mesne assignments, to Seal Craft Corporation, Salt Lake City, Utah, a corporation of Utah
Filed Aug. 13, 1964, Ser. No. 389,444
2 Claims. (Cl. 277-124)



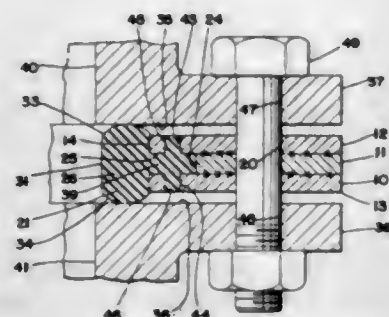
1. A composite packing comprising a deformable substantially noncompressible elongated packing member having in transverse cross-section a base of width W from which extends a bifurcated portion defined by spaced apart legs forming a groove for receiving an O-shaped member, the surfaces of said legs adjacent the edges of said groove being formed to flare outwardly from a tangential intersection with the inner surfaces of said legs, a deformable substantially noncompressible O-shaped member of durometer less than said packing member snap seated in said groove in surface contact with the inner surfaces of said legs and normally holding said bifurcated portion spread to a width greater than W, said O-shaped member having a diameter exceeding the length of said legs whereby a portion of said O-shaped member extends from said groove, the flared edges of said groove defining with the adjacent surface of said O-shaped member, relief areas, whereby when said legs are constrained to an unspread configuration and said O-shaped member is diametrically compressed to a dimension approaching

the length of said legs, a portion of said O-shaped member is displaced into said relief areas, said relief areas being substantially equal to the area of the displaced portion of said O-shaped member.

3,342,501 GASKET

George F. Meyer, Playa Del Rey, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 13, 1965, Ser. No. 455,410
5 Claims. (Cl. 277-180)

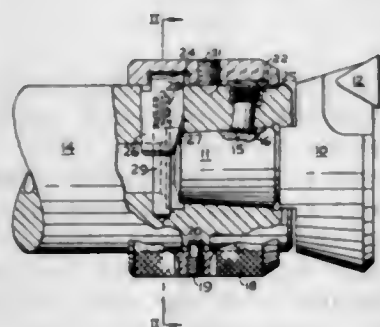


1. A gasket comprising a pair of opposed relatively non-deformable plate members, one of said members having at least one opening therethrough aligned with an opening through the other member, a third relatively non-deformable plate member between said opposed members and having an opening therethrough aligned with but larger than the openings of said opposed members so as to provide a space between said opposed members, a sealing element of resilient material having a sealing portion within said openings and extending axially outwardly beyond at least one of said opposed members, said sealing portion having a flange extending radially outwardly therefrom into said space said plate members being in contact with each other and relatively incompressible in an axial direction.

3,342,502 TOOL CHUCK

Teddy R. Young, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Apr. 15, 1965, Ser. No. 448,509
1 Claim. (Cl. 279-81)



A generally cylindrical chuck with a tapered socket to receive a tapered tool shank, a radial opening in the chuck intersecting the inner end of the shank, a pin slidable in the radial opening and having an inclined end engageable with the end of a tool shank in the socket, a collar rotatable on the chuck and having an eccentric groove receiving the outer end of said pin whereby the collar can be rotated to move the pin inwardly and disengage the shank from the socket, said shank having a

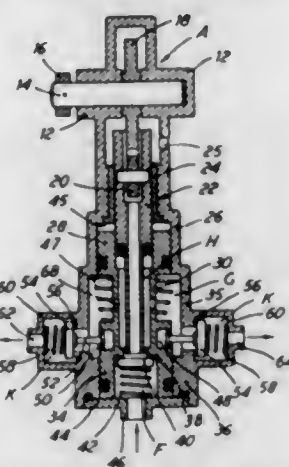
flat on one side, said chuck having a second radial opening, a second pin slidable in the second opening to engage the flat for retaining the shank in the chuck, said collar having a second eccentric groove receiving the outer end of the second pin, said eccentric grooves being arranged to release the second pin and engage the first upon rotation of the collar in one direction.

3,342,503 DEVICE FOR RENDERING INDEPENDENT VEHICLE PNEUMATIC SUSPENSIONS CONTROLLED BY LEVELLERS

Giuseppe Alfieri and Roberto Moriondo, Milan, Italy, assignors to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation of Italy

Filed June 3, 1965, Ser. No. 461,007
Claims priority, application Italy, June 5, 1964,
47,983/64

6 Claims. (Cl. 280-6.1)



1. A servo actuatable leveller for a vehicle, said leveller comprising a pneumatic pressure responsive suspension system for each wheel of at least one pair of wheels of the vehicle, the wheels of each pair being located on opposite sides of the vehicle; a collecting chamber adapted to be connected to a source of high pressure fluid and to a source of low pressure fluid; a passage connecting each of said suspension systems to said chamber; a shut-off valve means disposed in each of said passages and normally preventing the flow of fluid therethrough; control means to open said valve means and thereby connect said suspension systems to said chamber and to each other, said control means comprising a cylinder and a piston slidable in said cylinder to operatively engage said valve means, and means responsive to the actuation of said control means and to the height of at least a portion of said vehicle with respect to said wheels for selectively connecting said chamber to said source of high pressure fluid or to said source of low pressure fluid.

3,342,504 CONDUIT SKID

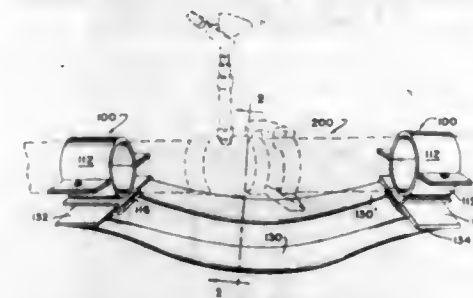
John C. Seaton and Clayton H. Littlefield, both of 1203 W. Main St., Brownfield, Tex. 79316

Filed Mar. 9, 1966, Ser. No. 532,910
4 Claims. (Cl. 280-12)

1. Means for engaging and disengaging a skid to and from coupled together conduit sections of irrigation pipe without necessitating uncoupling the conduit sections of the pipe, said means comprising:

- (A) a pair of skid engageable yokes each adapted to be applied detachably about an irrigation pipe from a direction transversely of the pipe to be slidable along the pipe,
- (B) clamping means on each of said yokes for fixedly clamping said yokes to said pipe in longitudinally adjusted position thereon and for unclamping said yokes from the pipe, and

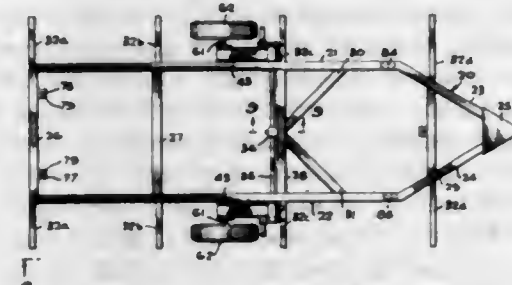
(C) each of said yokes having locking means slidable with the yokes longitudinally of the pipe into and out of locking engagement with the said skid disposed



beneath the pipe, the said locking means on the respective yokes including a horizontally open locking hook with the openings of the respective hooks facing in opposite directions longitudinally of the pipe.

3,342,505 TRAILER SUSPENSION

Alan V. Diehl, Granada Hills, Calif.
(11144 Wystone Ave., Northridge, Calif. 91324)
Filed Feb. 12, 1964, Ser. No. 344,493
18 Claims. (Cl. 280-43.18)



1. A vehicle suspension for supporting a vehicle frame on wheels comprising:
torsion bar means connected with said frame;
wheel supporting means connected with said torsion bar means and carrying the vehicle wheels;
means for rotatably mounting said wheel supporting means on said frame; and
releasing means for permitting rotative movement only of said wheel supporting means upwardly relative to said vehicle frame without bodily movement of said wheel supporting means sideways of said frame in order to lower the vehicle frame.

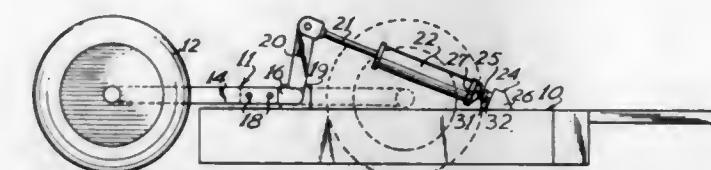
3,342,506 SHOCK ABSORBING SUSPENSION SYSTEM FOR FARM IMPLEMENTS

Carroll J. Whitfield and Walter F. Godwin, Albany, Ga., assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia

Filed Apr. 1, 1965, Ser. No. 444,585
8 Claims. (Cl. 280-43.23)

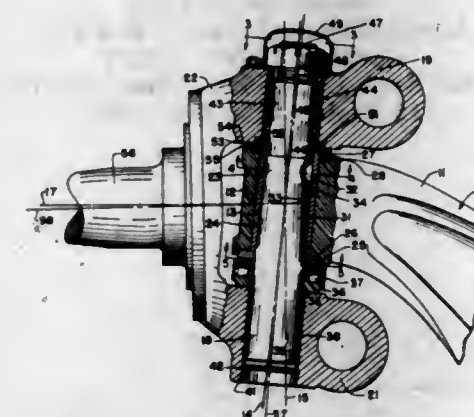
1. A suspension system for wheeled farm implements including a support frame, a support shaft pivotally connected to said frame, wheel support arms rigidly connected to said support shaft and constructed to extend either forwardly or rearwardly of said frame, a connector link rigidly connected to said support shaft, an hydraulic cylinder connected to said connector link, a transmitting rod connected at one of its ends to said hydraulic cylinder, a bumper plate defining an aperture therein rigidly connected to said frame, the other end of said transmitting rod extending through the aperture in said bumper plate, elastic compression members loosely connected to said transmitting rod on both sides of said bumper plate, and rigid compression members rigidly connected to said transmitting rod on the sides of the elastic compression

members remote from said bumper plate so that when the wheel support arms extend forwardly of the frame and the wheels of the frame engage an obstruction, the transmitting rod will be moved in a first direction through the bumper plate aperture and one of said elastic compression members will be compressed between the bumper plate and one of the rigid compression members, and when the



wheel support arms extend rearwardly of the frame and the wheels of the frame engage an obstruction, the transmitting rod will be moved in the opposite direction through the bumper plate aperture and the other of said elastic compression members will be compressed between the bumper plate and the other of the rigid compression members.

3,342,507
STEERABLE AXLE ASSEMBLY HAVING
CAMBER ADJUSTMENT MEANS
Kenneth M. Koch, Dearborn, and William E. Rice, Ferndale, Mich., assignors to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 2, 1965, Ser. No. 484,519
19 Claims. (Cl. 280-96.1)



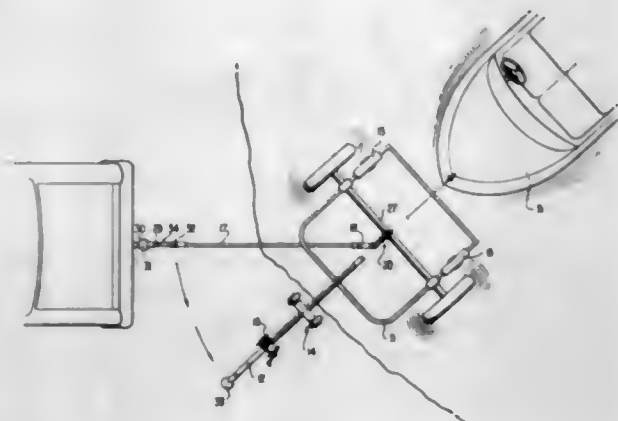
1. In a steering knuckle and king pin assembly for a steerable axle of the type characterized by a rigid axle beam supported at both ends by ground engaging wheels mounted on said steering knuckle and pivoted upon a king pin, said king pin mounted on said axle beam in substantially vertical angular position, the improvement which comprises means cooperating with said king pin mounting providing adjustment of the vertical angular position of the king pin in regard to the axle beam by rotation of said king pin about its longitudinal vertical axis for infinitely varying said vertical angular position to correspondingly vary the wheel camber.

3,342,508 AUXILIARY UNIVERSAL TOW-BAR FOR BOAT TRAILERS

Gerald I. Thomas, Panama City, Fla., assignor, by mesne assignments, of one-half to Small Business Assistance Corporation of Panama City, Panama City, Fla., a corporation of Florida, and one-half to D. H. Morris III, and John H. Harris, Jr., both of Geneva, Ala.
Filed Jan. 13, 1966, Ser. No. 520,418

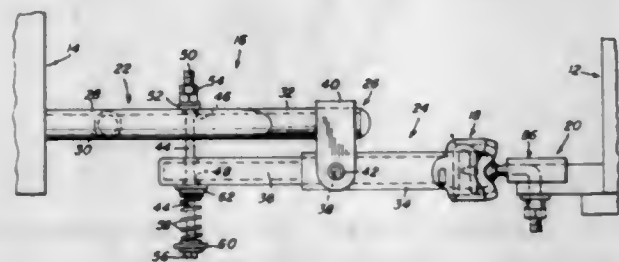
10 Claims. (Cl. 280-414)
1. A boat trailer, comprising in combination a trailer frame, wheeled axle means attached to said frame, a first drawbar rigidly attached to said frame, hitch means on

the free end of said first drawbar, a second drawbar of longer length than said first drawbar, means attaching the rear end of said second drawbar to the trailer frame adjacent said axle means, universal connection means intermediate said attachment means and said rear end of the drawbar permitting pivotal movement in both horizontal



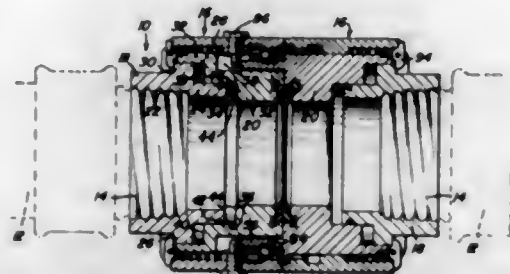
and vertical planes between said trailer frame and said second drawbar, hitch means on the forward end of said second drawbar for attachment to a towing vehicle, and cooperating hitch means on and intermediate the ends of said second drawbar for attachment to the hitch means on the end of said first drawbar.

3,342,509
TRAILER HITCH
Aurelio Sancioni, Rte. 1, Box 277,
Corning, Calif. 96021
Filed Sept. 13, 1965, Ser. No. 486,711
13 Claims. (Cl. 280—489)



1. A trailer hitch comprising a first elongate support having a longitudinal axis extending generally along the direction of intended travel providing means for connection to a towed vehicle, a second elongate support having a longitudinal axis extending generally along the direction of intended travel providing means for connecting said hitch to a towing vehicle, a portion of said second support underlying a portion of said first support, means pivotally mounting said first support on said second support including a depending band secured proximate the distal end of said first support pivotally mounting and intermediate point of said second support for pivotal movement about a horizontal axis substantially perpendicular to said direction of travel, and means connecting an intermediate point on said first support and the end portion of said second support for biasing said supports together including a vertically disposed shaft slidably received by said first and second supports extending outwardly from one of said supports carrying a spring member bearing against said one of said supports.

3,342,510
COUPLING
Tom Walters, Mason Blvd., Point Pleasant,
W. Va. 25550
Filed Sept. 22, 1964, Ser. No. 398,261
6 Claims. (Cl. 285—83)



1. A coupling assembly including a pair of cooperating complementary coupling components each secured to one end of one of a pair of conduit sections which are to be releasably coupled, each component including an anchor member and a coupling member slidably mounted upon said anchor member, seal means mounted by the coupling and anchor members for maintaining the coupling assembly fluid tight, retaining means mounted by the coupling member and engageable with the anchor member for retaining the anchor member within the coupling member, each coupling member having on one end thereof projections and recesses cooperatively engageable respectively with the recesses and projections on the cooperating complementary coupling component, lock means on at least one coupling member movable into said recesses for locking engagement with locking surfaces on the projections of the cooperating coupling member, control means movably mounted on the exterior of said one coupling member and operatively engaging the corresponding lock means for holding the same in locking engagement, a pressure lock means responsive to the existence of fluid pressure within said coupling assembly when the latter is in coupled engagement for preventing operation of said control means to release said lock means, said pressure lock means including pressure surfaces on said anchor and coupling members exposed to fluid pressure in said coupling assembly and biasing said anchor and coupling members apart, said retaining means including a lock lever pivoted on one of said members and engaging the other member, the retaining means thereby preventing relative unlocking movement of the control means from locking engagement with the lock means and retaining the anchor members and coupling members in assembled relationship.

3,342,511
COUPLING DEVICE FOR TUBULAR MEMBERS
William H. Galloway, 326 Arcadia Court,
Fort Wayne, Ind. 46807
Filed Mar. 8, 1967, Ser. No. 621,591
3 Claims. (Cl. 285—177)

1. A coupling device for first and second tubular members having first and second respective inside diameters, comprising:
(a) first and second substantially similar locking sections;
(b) each of said locking sections having first and second semi-cylindrical portions with respective first and second wall thicknesses;
(c) each of said first semi-cylindrical portions having a first outside diameter that is slightly less than said first inside diameter of said first tubular member, and each of said second semi-cylindrical portions having a second outside diameter that is slightly less than said second inside diameter of said second tubular member;

(d) each of said locking sections having an intermediate portion between said first and second semi-cylindrical portions;
(e) each of said intermediate portions having a semi-cylindrical shape that varies in outside diameter between said first outside diameter of said first semi-cylindrical portion and said second outside diameter of said second semi-cylindrical portion;

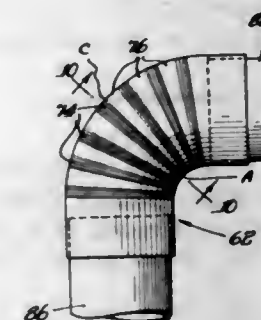


(f) and said intermediate portion of one of said locking sections having a threaded opening for receiving a screw therein, the axis of said threaded opening being substantially a cord of a great circle located in said intermediate portion and disposed normal to the surface at its inner point of emergence, said point being centered between the radial centers of said first and second wall thicknesses of said one locking section, said threaded opening passing completely through the wall of one of said intermediate sections so that said screw may be threaded into said opening from the outer surface of said intermediate portion and engage the other of said locking sections to cause said locking sections to separate and engage the interiors of said tubular members over substantially the entire outer surface of said first and second semi-cylindrical portions, said intermediate portion of each of said locking sections has a first shoulder adjacent said first semi-cylindrical portion and a second shoulder adjacent said second semi-cylindrical portion, each of said shoulders having a surface lying in a plane that is substantially perpendicular to the longitudinal axis of said coupling device.

3,342,512
CONDUIT BEND
Frank L. Pellizzari, Bartlett, Ill., assignor to Calumet & Hecla, Inc., Evanston, Ill., a corporation of Michigan
Original application Feb. 5, 1962, Ser. No. 171,002, now Patent No. 3,247,581. Divided and this application Sept. 7, 1965, Ser. No. 485,259
1 Claim. (Cl. 285—183)

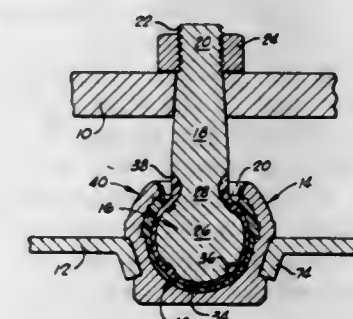
A fitting adapted to connect two conduits disposed at an angle with respect to each other, said fitting comprising an integral conduit comprised of a plurality of substantially smooth-walled, tubular sector shaped sections stressed in tension and compression successively arranged in angulated relationship to define at least one bend, said fitting formed from said plurality of tubular sections having substantially continuous smooth inner and outer surfaces, each of said tubular sections including a first and a second plurality of annular wall portions coadunated in alternate relationship, said first plurality of wall portions having different, circumferential, continuous vestigial stresses than said second plurality of wall portions, said fitting being so constructed and arranged that if excessive

inward bending occurs said first plurality of wall portion having said vestigial stresses forms a plurality of folds in the inner wall of the bend, said fitting having progressively greater tensile and yield strengths measured



from the inner curve to the outer curve of the juncture between said sections and the wall sections of said fitting at regions of relatively greater tensile and yield strength being at least no thicker than wall sections of relatively lesser tensile and yield strength.

3,342,513
BALL AND SOCKET JOINT
James O. Melton, 1208 Cruce St., Norman, Okla. 73069;
and Thomas B. Wilkinson, 5925 S. Eggleston 73109;
and James H. Jackson, 1730 N. Shawnee 73107, both
of Oklahoma City, Okla.
Filed Oct. 22, 1964, Ser. No. 405,771
1 Claim. (Cl. 287—90)



A ball and socket joint assembly comprising:
first and second members adapted for movement relative to each other;
a metallic socket connected to said first member and having a frusto-spherical cavity therein and having an aperture in one side thereof entering said frusto-spherical cavity, said socket having an annular shoulder formed therein extending in a plane containing a diameter of said frusto-spherical cavity and defining the end thereof, and extending parallel to the plane truncating the cavity to impart frusto-spherical configuration thereto, said shoulder facing toward said aperture, and said metallic socket further having a plurality of grooves formed therein between said shoulder and said aperture in said frusto-spherical cavity;
a substantially spherical and unitary synthetic resin liner in said frusto-spherical cavity having a shoulder on its outer periphery engaging said first mentioned shoulder and having ribs on the external peripheral surface thereof extending into, and interlocking with, the grooves in said cavity, said synthetic resin liner having an aperture therein aligned with the aperture in said socket, and having a smooth frusto-spherical internal surface;

a ball member positioned inside the liner and including a generally spherical metallic portion and a synthetic resin sheath completely surrounding said metallic portion and secured thereto by interlocking ribs and grooves; and

a spindle connected at one of its ends to said ball member and extending therefrom through said apertures and connected at its other end to said second member.

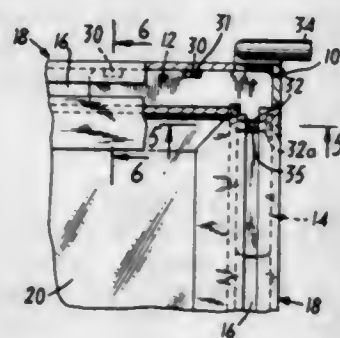
3,342,514

FRAME CORNER STRUCTURE

Herman Ivanhoe, Tenafly, Joseph Ceder, Bloomingdale, and Jerald Greenglass, Oradel, N.J., assignors to Win-Chek Industries, Inc., Moonachie, N.J., a corporation of New Jersey

Filed Mar. 31, 1965, Ser. No. 444,280

2 Claims. (Cl. 287-189.36)



1. A corner structure for window frames and the like comprising a bracket having angularly disposed legs, each of the legs being solid and having faces and edges, frame members having longitudinally extending rectangular channels formed by opposed sides and faces for slidably receiving the legs of the bracket, one of said legs having at least one notch in one of the edges thereof, the other of said legs having a least one groove in at least one of the faces and extending transversely to the direction of the length thereof, first fastening means engaging the notch and one of the faces of a frame member, and second fastening means engaging the groove and the sides of the other frame member, said second fastening means frictionally engaging the face of said other frame member to thereby urge the other face of the other bracket leg into contact with the inner surface of the opposed face of said other frame member, said other bracket leg having a notch in the outer edge thereof communicating with said groove, said notch accommodating any deformation of the outer side of said other frame member caused by said second fastening means.

3,342,515

RUNNER JOINT FOR SUSPENDED CEILING SYSTEM

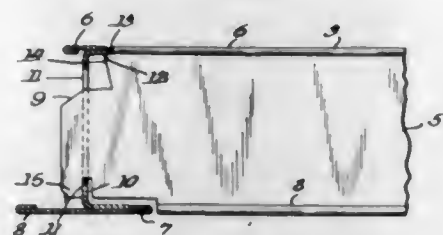
Martin D. Jahn, Chicago, Ill., assignor to Chicago Metallic Sash Company, Chicago, Ill., a corporation of Illinois

Filed June 1, 1965, Ser. No. 460,010

10 Claims. (Cl. 287-189.36)

1. In an interlocking joint for suspended ceiling systems comprising main and cross runners on which ceiling panels are supported, in which the ends of the cross runners are connected to main runners intermediate the ends of the latter, and in which each of said cross and main runners have a vertical intermediate portion, from the lower edge of which aligned flange members extend outwardly in opposite directions, upon which flange members the ceiling panels are supported, said main runner having a bead portion, each cross runner having a tongue extending from a free end thereof, the vertical inter-

mediate portion of the cooperable main runner having a vertically extending slot therein of a size to receive the tongue of the cross runner, said tongue having a locking tab extending downwardly below the lower edge of said tongue at the free end thereof disposed for interlocking connection with the intermediate portion of the main runner below said slot therein when the runners are in their assembled positions, for preventing move-



ment of the cross runner in a disengaging direction relative to the main runner, means formed on said cross runner at said tongue disposed for interlocking engagement with said bead portion of said main runner for restricting undesired linear and angular movement in either of the vertical directions of the cross runner relative to the main runner to prevent disengagement of said tab with the intermediate portion of said main runner and thus prevent withdrawal of said tongue from said slot.

3,342,516

CASKET LATCHING MECHANISM

Donald A. Morand, Danville, Ill., assignor to Estad Products, Inc., Portland, Oreg., a corporation of Oregon

Filed Oct. 24, 1965, Ser. No. 504,763

4 Claims. (Cl. 292-6)



1. A casket latching mechanism for releasably retaining a casket cap in closed position and adapted to cooperate with an apertured latch plate, said mechanism comprising a body bracket having one face forming a striker surface and another face depending therefrom pivotally mounting at least one latching hook, said latching hook having a latching abutment at its free end, said pivotal mounting comprising a slot in said depending body bracket face normal to said striker face and a pin freely accommodated within the slot and extending from said latching hook whereby the latching hook may be rectilinearly shifted with relation to said striker surface by displacement of said pin within said slot, an arm extending from said latching hook having an abutment thereon and adapted to rotate the latching hook with relation to said striker surface when said arm is displaced rectilinearly with relation to said striker surface, and a slide member disposed adjacent said depending face of the body bracket and adapted for rectilinear motion with relation thereto, said slide member having a first generally Z-shaped slot therein through which said latching hook mounting pin extends and having a second generally Z-shaped slot into which said arm abutment extends, the orientation of said slots with relation to each other being such that upon movement of said slide from a first extreme position to a second extreme position said pin and said arm abutment travel said first and second generally Z-shaped slots respectively, thereby simultaneously moving said latching hook upwardly and rotating the end of said latching hook

away from the center of said body bracket, placing the tip of said hook in latching engagement with said latch plate.

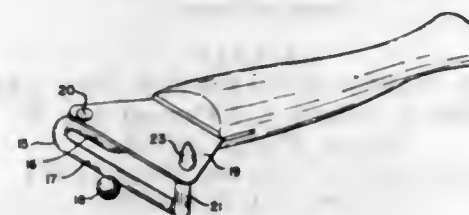
3,342,517

DETACHABLE HANDLES

Vaughn K. Pryce, 417 4th St., Derry, Pa. 15627

Filed Jan. 18, 1965, Ser. No. 426,347

4 Claims. (Cl. 294-16)



1. A detachable handle for use on cooking vessels having an outstanding horizontal lug on the vessel sidewall and a depending lip on the lug remote from the vessel comprising an elongated hand gripping portion, a fixed gripping jaw fixed in said hand gripping portion, said fixed jaw being in the form of U-shaped wire member bent in a plane transverse to the length of the hand gripping portion and adapted to slide parallel to the plane of the lug over the lug of a cooking vessel to engage the top and bottom of the lug between the vessel and the depending lip with the side of the lug in the bottom of the U-shaped member, and spacing means on the jaw beneath the lug abutting the vessel body.

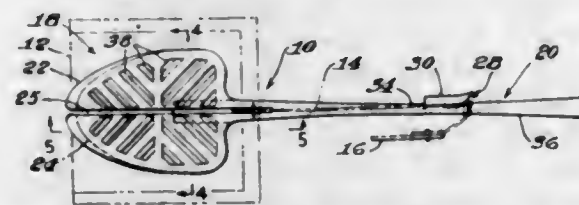
3,342,518

TEA BAG SERVER AND SQUEEZER

Thomas S. Gorton, Jr., 82 Larchwood Drive, Cambridge, Mass. 02138

Continuation of application Ser. No. 292,237, July 2, 1963. This application Oct. 22, 1965, Ser. No. 506,442

7 Claims. (Cl. 294-16)



1. A tea bag server for supporting a tea bag for use in preparing tea, and server comprising a member having a grooved bag supporting portion defined by opposed side walls between which the bag is snugly frictionally received and supported, said grooved portion being closed at its upper end and open at the sides and the lower end, and an elongated handle extended from a point medially of and in substantially the same plane as the bag supporting portion, and by which the tea bag may be immersed in water and manipulated in the manner of a spoon to effect infusion of the tea, said inner faces of said side walls being provided with longitudinally extended rib portions arranged to frictionally engage the sides of the bag to prevent lateral displacement of the bag held therebetween.

3,342,519

FLUORESCENT TUBE CHANGING DEVICE

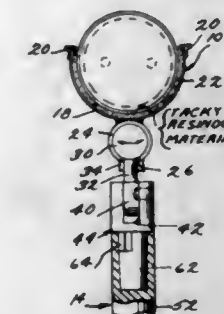
Joe B. Hunt and Nina E. Hunt, both of 6591 E. Stallion Road, Scottsdale, Ariz. 85251

Filed Dec. 27, 1965, Ser. No. 516,519

9 Claims. (Cl. 294-21)

1. A device for changing fluorescent tubes and the like comprising a generally semicylindrical head having interior surface means of the same size as the exterior

periphery of a fluorescent tube arranged to be engaged therewith in response to transverse movement of said head toward the tube, said interior surface means having a tacky resinous material thereon capable of sticking to the exterior periphery of the tube when contacted therewith so as to prevent sliding movement of said interior surface means with respect to the exterior periphery of the tube but to permit ready disengagement of said interior surface means from the exterior periphery of the tube in response to transverse movement of said head



away from the tube, and elongated handle means connected with said head for effecting transverse movement of said head into engagement with the exterior periphery of a tube to be changed and a subsequent movement of said head with the tube engaged therewith to release the latter from its fixture and for effecting movement of a replacement tube engaged with said head into securement with the fixture and subsequent transverse movement out of engagement with the secured tube in the fixture.

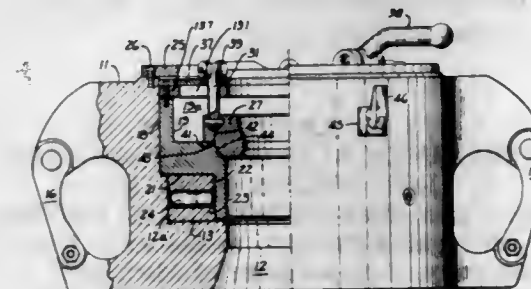
3,342,520

PIPE ELEVATOR

Charles W. Haynes, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex.

Filed May 12, 1966, Ser. No. 549,569

7 Claims. (Cl. 294-90)



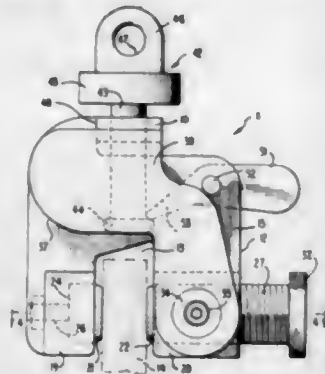
1. A pipe elevator comprising, in combination, body means having portions thereof shaped to receive bails or the like for suspending the elevator from a lifting means, said body means including a slip carrier portion having an inner surface and providing a slip receiving space upwardly and outwardly of said inner surface, at least one pipe engaging slip within the slip carrier portion and having an outer surface complementary to said inner surface so as to mate therewith when the slips are in pipe engaging position, a rotatable member carried by said body means above the slip, a cam and cam follower for the slip, one of the cam and cam follower being carried by the rotatable member and the other being attached to the slip, the cam having a cam surface engaged by the follower such that as the rotatable member is rotated in one direction, the cam's surface causes the slip to be raised vertically out of engagement with said inner surface and then moved laterally outwardly into said slip receiving space.

3,342,521

TORQUE GRIP LIFTING CLAMP

Raymond L. Renfro, Jacksonville, Fla., assignor to J. C. Renfro & Sons, Inc., Jacksonville, Fla., a corporation of Florida

Filed July 23, 1965, Ser. No. 474,403
17 Claims. (Cl. 294-92)



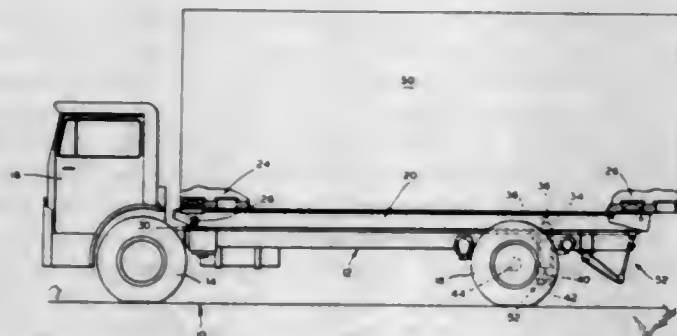
1. A lifting clamp comprising a clamp body defining a vertical slot having an open lower end to receive an article to be lifted, a pair of opposed jaws connected to said body on opposite sides of said slot fixed against horizontal movement during lifting, said jaws having a horizontal axis, one of said jaws being fixed and the other of said jaws being movable along said axis, a shackle member pivotally connected to said body on one side thereof at a pivot having a horizontal axis horizontally offset from said slot on the same side of said slot as said movable jaw, said shackle member being normally free for pivotal movement in a vertical plane which includes the axis of said jaws, and a lifting connection attached to said shackle member so that a lifting force applied to said connection normally causes said jaws to exert a substantial torque gripping action on the article in various positions to which said shackle member may pivot during lifting, said pivot axis being not substantially higher than the axis of said jaws so that the lifting clamp may be rotated to move said slot from a horizontal to a vertical position while lifting an article without reversing said torque gripping action.

3,342,522

CONTAINER SUPPORT APPARATUS FOR TRUCK FRAME

Richard L. Palen, New Buffalo, Mich., and Ronald L. Zubko, Michigan City, Ind., assignors to Clark Equipment Company, a corporation of Michigan

Filed Dec. 29, 1964, Ser. No. 421,982
3 Claims. (Cl. 296-35)



1. In a mobile material handling apparatus having an operator's station and a wheeled chassis, a load supporting frame mounted on the chassis, actuator means connected between the chassis and frame for selectively elevating said frame relative to the chassis, and a load equalizer means interconnecting the chassis and frame tending to equalize the loads carried by opposite sides

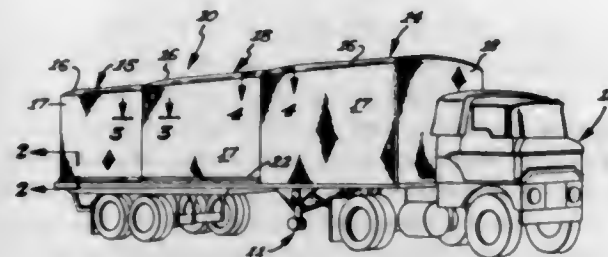
of the frame comprising a torsion bar extending transversely of the chassis and supported thereby for pivotal movement relative thereto, linkage means rigidly connected to opposite ends of the torsion bar and pivotally connected to the opposite side portions of the frame and effective at any elevated position of said frame to transmit forces on one side of the frame to the opposite side thereof through said torsion bar responsive to the difference in load carried by the opposite sides of the frame.

3,342,523

SECTIONAL COVER APPARATUS FOR VEHICLES

Charles J. Lutgen, 632 Central Ave. N., Osseo, Minn. 55369

Filed Oct. 24, 1965, Ser. No. 504,751
3 Claims. (Cl. 296-100)



1. An extensible and retractable sectional cover apparatus for vehicles having an upwardly exposed floor, said apparatus comprising a plurality of cover sections including a fixed section fixedly mounted on said vehicle, a plurality of movable sections including an intermediate movable section and an end movable section, each of said sections being comprised of a rigid top wall having side walls integrally formed therewith and depending therefrom,

a plurality of rollers affixed to the lower edge portions of the side walls of each movable section,

a plurality of pairs of elongate longitudinally extending channel-shaped tracks affixed to the vehicle adjacent opposite sides thereof, one of said pairs of tracks receiving the rollers of the intermediate movable section therein, and another pair of said tracks receiving the rollers of said movable end section therein, the tracks for said intermediate movable section being laterally offset with respect to the tracks of said movable end section, said movable sections being shiftable relative to said fixed section longitudinally of the vehicle between an extended position and retracted position,

said sections being disposed in telescoping relation when in said retracted position, said fixed section and said movable end section each having a continuous transversely extending flange at one end thereof and said intermediate movable section having flanges at opposite ends thereof, the flanges on one of said sections being disposed in obstructing interlocking relation with the flanges on the next adjacent section when said sections are in the extended position, yieldable compressible seal means on the flange of one of said sections engaging the flanges of the other sections when these sections are in extended position to form a seal between adjacent of said sections.

3,342,524

CONVERTIBLE TOP MECHANISM

Joseph Adamski, Brooklyn, Mich., assignor to Dura Corporation, Oak Park, Mich., a corporation of Michigan

Filed Feb. 14, 1966, Ser. No. 527,296
6 Claims. (Cl. 296-117)

1. In a convertible top operating mechanism for automotive vehicles including a front rail, and a center rail articulately interconnected, a rear rail, means pivotally

connecting said rear rail to said center rail, a vehicle mounted bracket, means pivotally connecting the lower end of said rear rail to said vehicle mounted bracket, a control link, means pivotally connecting one end of said control link to said center rail, means pivotally connecting the other end of the control link to the vehicle mounted bracket for pivotal movement about an axis spaced from the pivotal axis between the rear rail and said bracket, a swing link, means pivotally connecting one end of the swing link to the rear rail and the other end to the control link adjacent the pivotal connections between the rear rail and the bracket and the control link and the bracket, a linear actuator, means pivotally connecting one end of



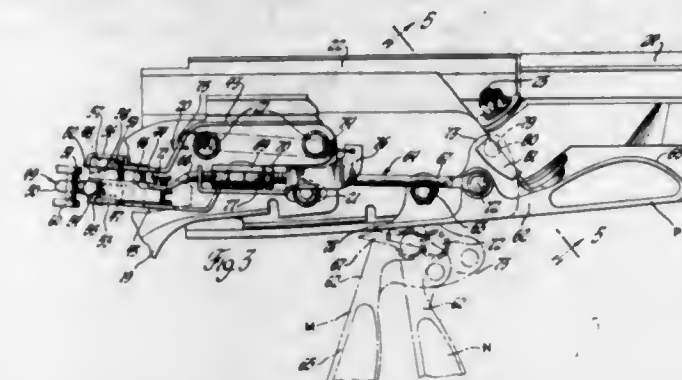
the linear actuator to the swing link intermediate its ends, means pivotally mounting another portion of the linear actuator to the bracket such that a line through the two pivotal connections on said linear actuator is generally normal to a line through the pivotal connections at the ends of the swing link, said pivotal connections at the ends of the swing link being so positioned relative to the pivotal mountings of the rear rail and the bracket and the control link and the bracket that a line through the pivots at the ends of the swing link is substantially parallel to a line through the pivotal connections between the bracket and the control link and the rear rail and on opposite sides thereof during movement of the top between its extended and retracted positions.

3,342,525

CONVERTIBLE TOP LATCH MECHANISM

Henry W. Griffin, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 23, 1965, Ser. No. 466,217
3 Claims. (Cl. 296-121)



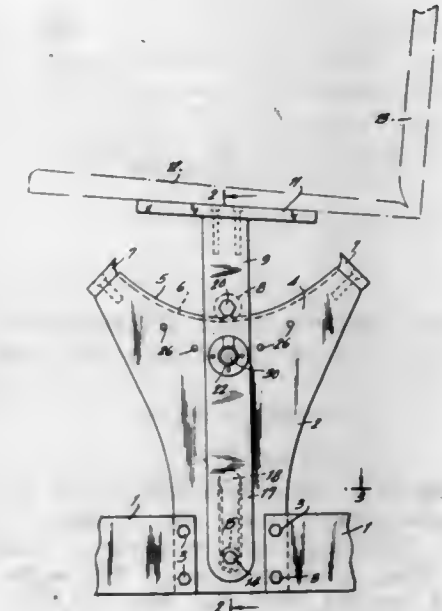
1. In combination, a vehicle body having a convertible top movable between raised and lowered positions relative to a top support, the top including a header member, a side rail member, means pivotally interconnecting the header member and the side rail member, latch means mounted on one of the members and movable between a latched position to latch the header member to the top support and an unlatched position to unlatch the header member from the top support, and cooperating

3,342,526

ROCKING CHAIR

Josef Sereda, 355 E. 61st St., New York, N.Y. 10021

Filed Jan. 26, 1966, Ser. No. 523,166
5 Claims. (Cl. 297-258)



1. A rocking chair comprising, a supporting base stationarily resting upon a floor or similar surface, an upright member extending from the base, a seat-carrying frame pivotally attached to the upright member, said frame having a pivotal as well as an up-and-down movement relatively to the base, a concavity in the base defining a track, and roller means carried by the frame and riding in the track and causing the up and down movement of the frame and seat as the frame is rocked back and forth.

3,342,527

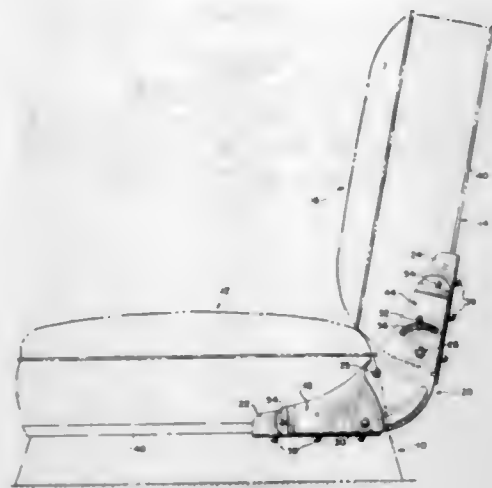
SEAT BACK HINGE-LATCH

Robert C. Bencene, Jamestown, N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.

Filed June 30, 1966, Ser. No. 561,818
4 Claims. (Cl. 297-379)

1. A combination seat back hinge and latch mechanism comprising, a pair of hinge blades adapted to be mounted respectively on a chair seat frame and a chair back frame, hinge means pivotally interconnecting said hinge blades for relative rotation about a first axis, a lock abutment extending from one of said blades in spaced relation to said first axis, a latch bar pivotally mounted upon the other of said hinge blades about a second axis spaced from said first axis so that relative rotation between said hinge blades to lower the back frame moves said second axis toward said abutment, said latch bar being formed with a laterally extending manual control arm portion and being formed with a plurality of recesses adapted to receive with said lock abutment therein, spring means biasing said latch bar to move into engagement with said lock abutment, the parts being so dimensioned and relatively arranged that said latch bar is operable to hold the seat back in a selected one of a series of predetermined vertically inclined attitudes,

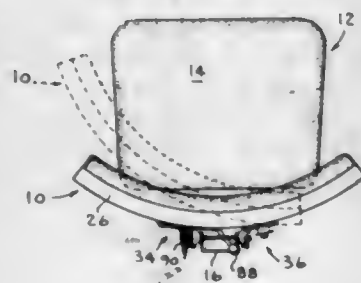
at least one of said recesses being shaped to present a shoulder to engage against and prevent release from



said locking abutment unless the seat back is pulled forwardly prior to manual adjustment of said control arm.

3,342,528

SIDEWARDLY ADJUSTABLE SEAT BACK
Arthur O. Radke, Shorewood, and William L. Wilton, New Berlin, Wis., assignors to Bostrom Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 13, 1965, Ser. No. 513,176
4 Claims. (Cl. 297—383)

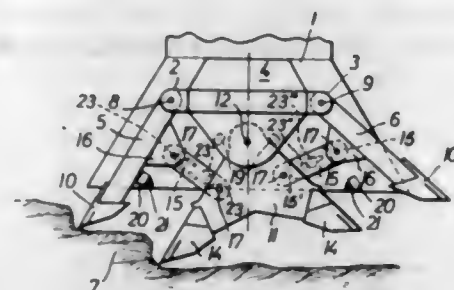


2. In a vehicle seat, a seat part, a back part, frame means connecting said back part to said seat part, connecting means connecting said back part to said frame means for motion in a generally horizontal plane between a normal back-supporting position and a partial slide and back supporting position; said connecting means being comprised of a first and a second connecting member; both of said members being connected to said back part by anti-friction means to permit relative horizontal movement between said back part and said members; the first of said members being pivotally attached to said frame means to permit said back part to be pivoted in respect to said frame means at the point of attachment between said first member and said frame means; and the second of said members being pivotally attached to said frame means and including a hinge joint intermediate its points of attachment to said frame means and said back part to thereby permit said back part to move towards and away from said frame means as it is pivoted at said connection of said first member and said frame means.

3,342,529
MINING PLANER WITH PIVOTAL LATERAL AND CENTRAL CUTTING MEMBERS

Willy Heyer, Bochum-Gerthe, and Oswald Breuer, Dortmund-Husen, Germany, assignors to Gewerkschaft Eisenhütte Westfalia, Wethmar, near Lunen, Westphalia, Germany, a corporation of Germany
Filed Oct. 23, 1965, Ser. No. 503,167
Claims priority, application Germany, Nov. 2, 1964, G 31,066

6 Claims. (Cl. 299—34)

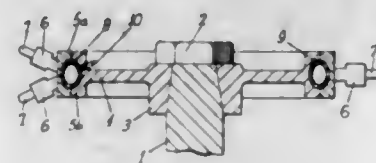


1. Mining planer adapted to be conducted in a longitudinal direction back and forth along a mine face in extractive engagement therewith for the removal of mineral therefrom, which comprises longitudinally extending base means having a side portion adapted to be disposed adjacent such mine face, a pair of lateral members pivotally mounted on said base means with the free ends of said lateral members outwardly diverging transversely beyond said side portion of the base means, a central member disposed between said outwardly diverging free ends and pivotally mounted on said base means for limited pivotal movement, said lateral members having cutting tools on said free ends and said central member having a pair of correspondingly outwardly diverging cutting tools thereon, all of said tools extending outwardly beyond said side portion of said base means and the cutting tools on said central member extending correspondingly beyond the cutting tools on said free ends, and a pair of rigid spacer means pivotally interconnecting said lateral members respectively with said central member yet maintaining said lateral members at a predetermined distance from said central member at any point of limited pivoting of said central member.

3,342,530
CUTTING WHEELS FOR MINING MACHINES AND THE LIKE WITH REPLACEABLE CUTTER BEARING RIMS

Claude B. Krekeler, Hamilton County, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 17, 1964, Ser. No. 397,098
8 Claims. (Cl. 299—89)



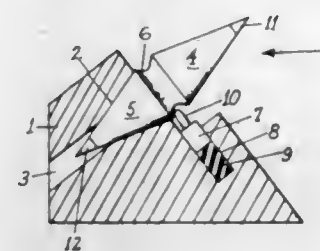
1. In a cutting device for attachment to a driven shaft of a mining machine, a wheel-like element having a hub for engaging the shaft, a rim, and means interconnecting the rim and hub, an outer rim surrounding the first mentioned rim and resilient means interposed between the said rims for driving the outer rim from the first mentioned rim, cutter elements associated with and driven by said outer rim, said resilient means comprising a hollow annular member located between said rims and partially engaging in hollows in the approaching faces of the said rims, said approaching faces of said rims lying adjacent

to one another, said resilient member being of rubber-like composition and provided with a valve whereby it may be inflated and deflated with fluid pressure, said resilient means being flexible and capable when deflated of lying substantially wholly within one of said hollows.

3,342,531
CONICAL CUTTER BITS HELD BY RESILIENT RETAINER FOR FREE ROTATION

Claude B. Krekeler, Hamilton County, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 16, 1965, Ser. No. 432,981
16 Claims. (Cl. 299—92)

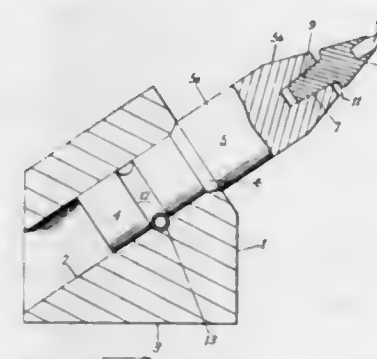


1. In a mining machine, a bit comprising a head means, said head means having a hard cutting point and being substantially conical in shape, lug means for moving said head means in a cutting direction against the face of a mineral to be cut, means for connecting said head means and said lug means, a resilient retainer providing a snap-on, pry-off connection between at least two of said means, said head means being maintained in a position in which its axis lies at an angle of less than 90° to the direction of said motion, the relationship of said head means and said lug means when connected being such as to permit free rotation of said head means with respect to said lug means.

3,342,532
CUTTING TOOL COMPRISING HOLDER FREELY ROTATABLE IN SOCKET WITH BIT FRICTIONALLY ATTACHED

Claude B. Krekeler, Hamilton County, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio

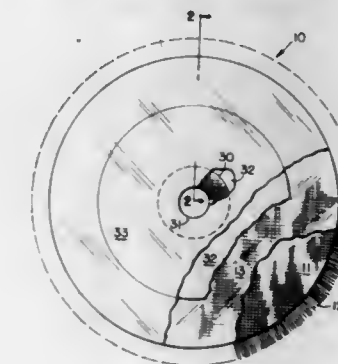
Filed Mar. 15, 1965, Ser. No. 439,586
12 Claims. (Cl. 299—92)



1. A cutting tool for use in mining machines of the type having means for mounting a plurality of cutting tools and for moving said cutting tools in a cutting direction against the face of a mineral to be cut, said mounting means having shank receiving perforations therein, and shank retaining means in association therewith, said cutting tool comprising a replaceable bit and a bit holder, said bit holder having axially aligned shank and head portions, said shank portion having a circular cross section and being so configured as to be received in and freely

rotatable within a shank receiving perforation of said mounting means, said bit having a body with an outer end, an outer surface on said bit body tapering toward said outer end, a hard cutting point at said outer end of said body, coating means on said bit holder head and said bit for frictionally engaging said bit with said bit holder head, and cooperating surfaces on said bit body and said bit holder head spaced from each other for the insertion therebetween of a prying tool for the removal of said bit from said bit holder.

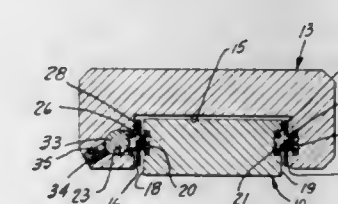
3,342,533
METHOD OF MAKING POLISHING BUFF
Edward F. Engel, Henrietta, and Harry S. Scherzer, Fairport, N.Y., assignors to The Schlegel Manufacturing Company, Rochester, N.Y., a corporation of New York
Filed June 14, 1965, Ser. No. 463,832
16 Claims. (Cl. 300—21)



1. A method of making a polishing buff, said method comprising:

- cutting a fabric backing material to form a general disk shape;
- tufting a pile onto said disk so that said pile tufts are anchored closely to the back of said disk and said pile extends from the face of said disk; and
- fusing synthetic thermoplastic material into the back of said tufted disk to fill the interstices in said disk and said anchored tufts and to overlie the back of said disk and said anchored tufts to secure said tufts in place and to stiffen and support said buff in a generally disk shape.

3,342,534
BALL SLIDE ASSEMBLY
Francis N. King, Farmington, Mich., assignor to Grace & Hornbrook Manufacturing Co., Southfield, Mich., a corporation of Michigan
Filed Apr. 12, 1965, Ser. No. 447,325
2 Claims. (Cl. 308—6)



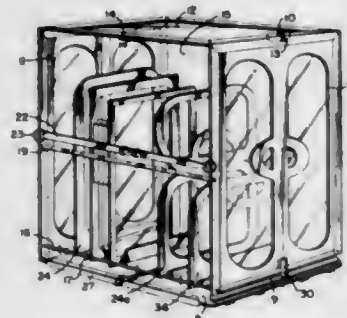
1. A ball slide assembly comprising: an elongated base; a slide movably supported on the base by a pair of ball bearing means; each of said ball bearing means comprising a first pair of generally cylindrical guide rods mounted on the base, a second pair of generally cylindrical guide rods mounted on the slide, and a plurality of ball bearings rollably mounted between the two pair of guide rods; and, adjustment means maintaining a pre-load on

the pair of ball bearing means including an elongated cylindrical adjustment rod disposed in an elongated recess in the base, and having the curved inner side thereof in engagement with the curved outer sides of one pair of guide rods in one of the pair of ball bearing means, said elongated recess having parallel plane upper and lower walls; said one pair of guide rods engaged by the adjustment rod being disposed in said recess and having their curved inner sides engaged with the ball bearings; and, means in said base engageable with the outer side of the adjustment rod for moving the adjustment rod perpendicularly toward and away from the guide rods to adjust the pre-load on the ball bearing means.

3,342,535

HOLDER AND CARRIER

Wilson Perkins Ashley, Sr., 3648-52 E. Stratford Road, Rte. 1, Bayside Borough, Virginia Beach, Va. 23455
Filed Mar. 30, 1964, Ser. No. 355,967
8 Claims. (Cl. 312-6)

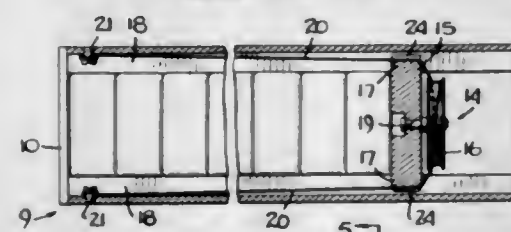


1. A collapsible, multi-purpose structure having a reinforced, base-piece with a multiplicity of rows of anchor peg holes, a base support bar and locking device removably engaged on each side of said base-piece, a removable, transparent rear-piece attached to said base-piece by means of anchor pegs extending into anchor peg holes on the base-piece, a transparent, rigid front-piece connected to the base-piece by means of a hinge, a locking means connected to the front-piece and engageable with the base-piece to prevent the front-piece from collapsing upon the base-piece, except when the locking means is disengaged from the base-piece, a top-piece connected to the top of the rear-piece by a hinge, said top-piece being a rigid, reinforced, transparent member which, when opened, allows access to the structure, side-pieces hinged on a rod structure between the front-piece and rear-piece allowing access to the structure from either side thereof, and locking means near the tops of the side-pieces to hold the side-pieces in a closed position, said locking means acting in conjunction with the top-piece.

3,342,536

CONTAINER

Samuel L. Cohen, 1102 Briar Way, Palisades, N.J. 07024
Filed July 23, 1965, Ser. No. 474,317
3 Claims. (Cl. 312-71)



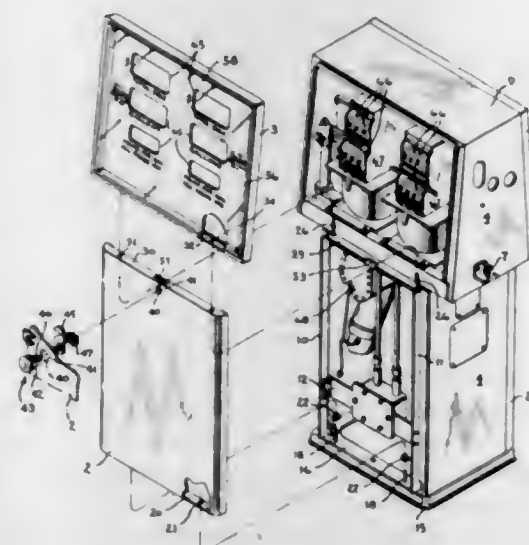
1. A dispensing container for packages comprising an elongated hollow housing having top and bottom walls and side walls terminating in a dispensing mouth, a pressure plate mounted for movement within said housing, a drum rotatably mounted on the plate, the axis of rota-

tion of said drum being substantially perpendicular to the plane of said pressure plate, means for rotating the drum with respect to the pressure plate, string means wound about the drum and extending along said side walls and means for anchoring said string means adjacent the dispensing mouth whereby the pressure plate exerts a force tending to push the packages toward the dispensing mouth.

3,342,537

LIQUID DISPENSING APPARATUS

Lowell F. Nelson and Louis Hanson, Muskegon, Mich., assignors to John Wood Company, East Orange, N.J., a corporation of Delaware
Filed Apr. 7, 1965, Ser. No. 446,169
5 Claims. (Cl. 312-100)



5. In liquid dispensing apparatus which includes a base member, a support frame comprised of spaced apart vertical members rigidly connected at their bottom ends to said base member and spaced apart horizontal members rigidly connected to said vertical members, and at least one meter adapted to be connected at its inlet by suitable conduit means to a source of liquid supply, said meter including an outlet connected to an outlet conduit adapted to be connected to dispensing means, and said meter having an output drive shaft operatively connected to a number wheel counter mechanism, all of the aforesaid meter, conduit means, counter mechanism elements being well-known and rigidly mounted within said support frame in a manner old and well-known in the art; a housing surrounding said support frame, wherein said housing comprising:

- (a) side and top members rigidly connected to said support frame;
- (b) a removable lower front door closure having a bottom inwardly turned flange portion and a top inwardly turned flange portion;
- (c) vertically upwardly extending spaced apart positioning pin members rigidly mounted in said base member;
- (d) spaced apart openings through said bottom inwardly turned flange portion of said lower front door closure, said openings being adapted to receive therethrough said vertical spaced apart positioning pin members in said base member;
- (e) spaced apart openings through said top inwardly turned flange portion of said lower front door closure;
- (f) a rigidly fixed horizontal frame member having vertical spaced apart positioning pin members adapted to extend through said spaced apart openings in said top inwardly turned flange portion of said lower front door closure;

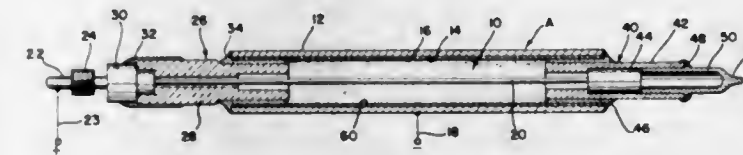
- (g) a removable upper front door closure comprising a rectangular frame having top, side, and bottom inwardly and front and rear turned flange portions forming a generally rectangular opening;
- (h) spaced apart openings through said bottom inwardly turned flange portion of said upper door closure; said last named spaced apart openings being adapted to receive therethrough said vertical spaced apart positioning pin members extending through said openings in said top inwardly turned flange portion of said lower front door closure, wherein said upper front door closure and said lower front door closure are commonly secured to said horizontal frame member;
- (i) means at the top portion of said upper door closure for removably maintaining said upper door closure in closed position;
- (j) a transparent member of greater width and length dimensions than said opening in said upper door frame, the perimeter of said transparent member being adapted to be sealingly engaged with the rearward side of said front flange portion of said upper door frame;
- (k) a dial member, having openings therein through which said number wheels of said counter mechanism may be observed, adapted to be sealingly engaged at its perimeter with the perimeter of the rearward side of said transparent member; and
- (l) a multiplicity of spaced apart spring clips, one end of each of which is engaged with the rearward perimeter of said dial member and the opposite end of each of said spring clips engaging the said inwardly turned flange portion of said frame of said upper door closure; said spring clips being of the type which may be facily and quickly snapped into holding position to maintain said dial and transparent member firmly against said upper door closure frame and which may be quickly removed to permit removal of said dial and transparent member from said frame.

3,342,538

METHOD OF INCREASING THE MAXIMUM OPERATING TEMPERATURE OF A RADIATION DETECTION DEVICE

Nicolas Mitrofanov, Cleveland, Ohio, assignor to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware

Filed June 24, 1966, Ser. No. 560,220
30 Claims. (Cl. 316-22)



1. A method of increasing the maximum operating temperature of a radiation detection device including a chamber, a large area electrode surface formed from a selected metal and located in said chamber, and an electrode in said chamber and spaced from said surface, said method comprising the following steps:

- (a) filling said chamber with a gaseous material including at least some halogen gas;
- (b) passing an electrical current between said electrode and said electrode surface to cause said halogen gas to be absorbed by said selected metal;
- (c) purging said gaseous material from said chamber;
- (d) filling said chamber with a second gaseous material which is to be ultimately used in said chamber, said second gaseous material including at least some of said halogen gas;
- (e) sealing said chamber;

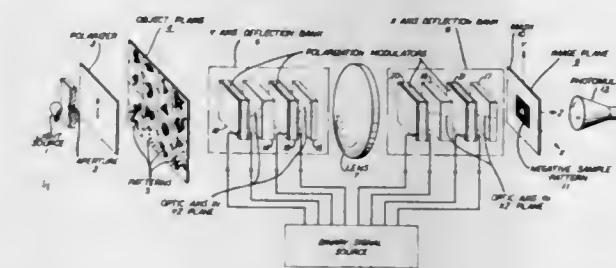
- (f) heating said device gradually to a temperature t_1 and allowing said device to cool; and,
- (g) repeating said heating and cooling step n times with said heating being to successively higher temperatures t_2, \dots, t_n , with n being at least 3 and t_n being a temperature generally equal to or higher than the desired maximum operating temperature for said device.

3,342,539

DIGITALLY RESPONSIVE PATTERN RECOGNITION SYSTEMS

Terence J. Nelson, Ames, Iowa, and Henry E. D. Scovill, New Vernon, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 24, 1963, Ser. No. 333,028
3 Claims. (Cl. 350-150)



1. In a light-deflecting apparatus of the type including a source of divergent plane polarized light and a plurality of aligned cascaded beam-deflecting stages, each having in the order of the incoming beam of light

means for rotating the plane of polarization of the beam of light transmitted into one of two mutually orthogonal planes and birefringent means for transmitting the beam of light along one of two different paths dependent on the plane of polarization of the light,

the combination comprising a plurality of partially transmissive substantially planar patterns arranged to be illuminated by said divergent light between said source and said plurality of stages, output means having a fixed aperture proportioned to admit light from only one of said patterns, means for applying signals to said rotating means in said plurality of stages to select the light transmitted through one of said patterns to be transmitted through said aperture, and

a converging lens disposed between the plurality of patterns and the output means to focus light from said patterns onto said output means,

said combination being characterized in that the plurality of partially transmissive patterns form an array in a common plane that is tilted with respect to the normal to the direction of the beam in a sense and by an amount that provides substantially the same magnification of every one of said patterns whenever said one pattern is deflected to pass through said aperture.

3,342,540

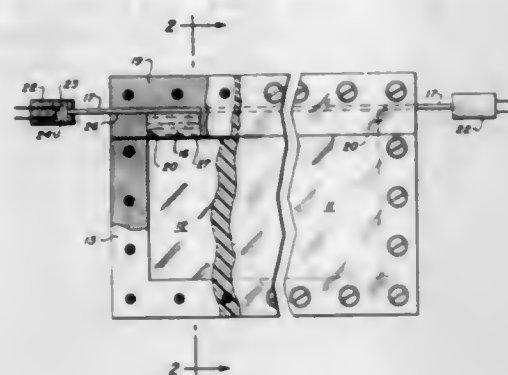
ANTIFLASH DEVICE

Moroni Taylor Abegg and William B. Leslie, Albuquerque, N. Mex., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 8, 1962, Ser. No. 179,519
7 Claims. (Cl. 350-267)

1. A device of the character described comprising in combination a pair of light-transmitting members, means

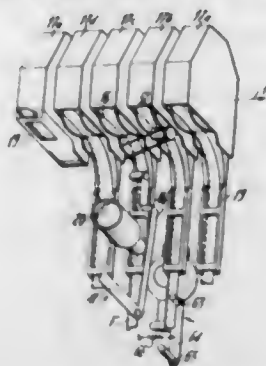
fixedly secured to said members for spacing the latter apart from each other and for forming with said members a normally light-transmitting chamber, said means fixedly secured to said members being provided with groove means communicating with said chamber, an opaquin medium normally disposed in said groove means, retaining means intermediate the opaquin medium and said chamber for normally maintaining said opaquin medium in said groove means and apart from said chamber, explosive means disposed in close proximity to said groove



means and said opaquin medium for forcibly ejecting the opaquin medium through the retaining means and into the chamber to effect the dispersal of the opaquin medium throughout said chamber and thereby rendering the latter essentially impervious to the transmission of light.

3,342,541 CINEMATOGRAPHIC PROJECTOR WITH INDEXING LOADER

Bob Mouissie and Claude Devenoges, Yverdon, Vaud, Switzerland, assignors to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a company of Switzerland
Filed July 8, 1966, Ser. No. 565,349
6 Claims. (Cl. 352-123)



1. A cinematographic projector comprising:
 - (1) a body;
 - (2) a light source, an objective lens, a film driving mechanism, means for feeding the film to be projected, receiving means for receiving the projected film and a loader support for receiving several spools placed in at least one loader, mounted on the body;
 - (3) indexing means for displacing the loader and indexing each spool in a projection position;
 - (4) rewinding means for simultaneously returning a projected film from the receiving means to its original spool in the loader while another film is fed to the receiving means.

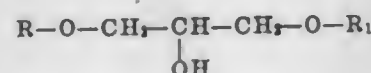
CHEMICAL

3,342,542 DYEING AND PRINTING OF POLYESTER AND TRIACETATE FIBERS WITH A GLYCEROL DIARYLETHYER CARRIER

Max Morf, Riehen, and Gerhard Koegel, Reinach, Basel, Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,202
Claims priority, application Switzerland, Nov. 25, 1964, 15,244/64

6 Claims. (Cl. 8-55)

1. Process for coloring textile materials from fibers selected from the group consisting of polyester and triacetate fibers with at the most sparingly water-soluble dye-stuffs, which process comprises using coloring preparations containing at least one carrier of the formula



wherein R and R₁ stand for radicals selected from the group consisting of identical and different aryl radicals.

3,342,543 GLUTARALDEHYDE STABILIZED WOOL

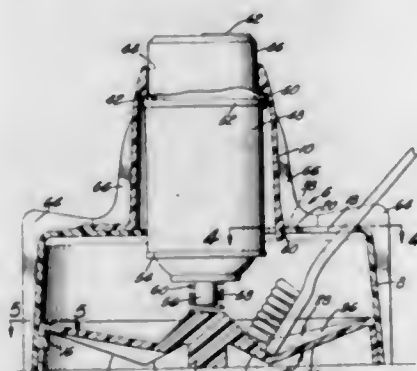
William F. Happich, Jenkintown, Wallace Windus, Meadowbrook, and Joseph Naghsli, Wyndmoor, Pa., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Nov. 4, 1964, Ser. No. 409,029
3 Claims. (Cl. 8-128)

1. A method for preparing wool of enhanced stability comprising impregnating wool with an aqueous solution of glutaraldehyde at a pH in the range of about 4 to 9

until reaction of glutaraldehyde with wool is substantially complete.

3,342,544 TOOTHBRUSH SANITIZER

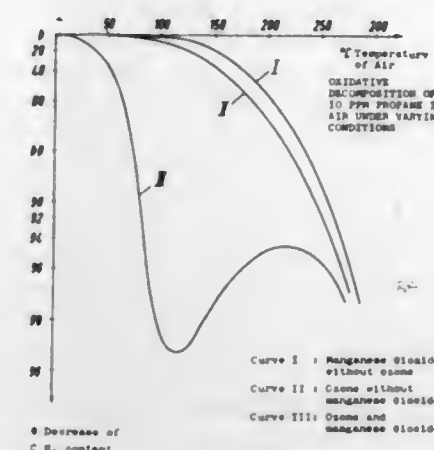
Raymond F. Curiel, 308 Lake St., Bakersfield, Calif. 93305
Filed July 20, 1964, Ser. No. 383,618
10 Claims. (Cl. 21-83)



6. In a toothbrush sanitizer, a casing having an aperture in its top, a trigger in the casing below said aperture, a downwardly yieldable support in the casing below said aperture, an aerosol container unit supported by said downwardly yieldable support and having a downwardly disposed aerosol valve upwardly spaced relative to said trigger, said container unit projecting upwardly through said aperture and movable downwardly under manual pressure to engage said valve with said trigger to open the valve, and said casing having means for supporting a toothbrush therein with its bristles in the path of flow of aerosol from said valve.

3,342,545 METHOD OF REMOVING PROPANE AND OTHER HYDROCARBONS FROM GASES

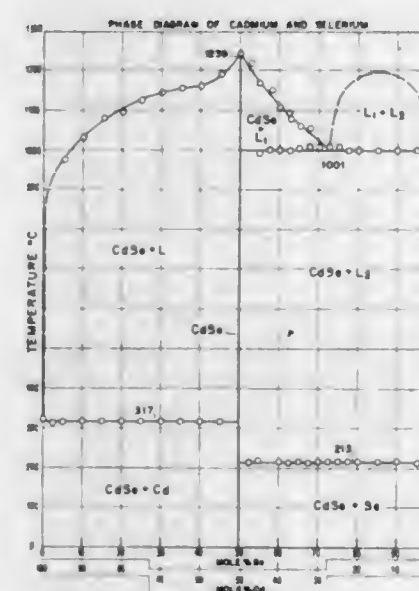
Karl Jaeger, Munich, Germany, assignor to Linde A.G., Wiesbaden, Germany
Filed Oct. 13, 1965, Ser. No. 505,096
Claims priority, application Germany, Oct. 14, 1960, G 30,704
13 Claims. (Cl. 23-4)



4. A process for removing propane from air by combustion prior to the separation of air by low temperature rectification, and comprising the steps of compressing air containing propane to the pressure at which the air is to enter a low temperature rectification installation to raise the temperature of the air, mixing ozone with the heated air, and burning the mixture of heated air and ozone at 30-150° C. in the presence of manganese dioxide catalyst.

3,342,546 PROCESS FOR CONTROLLING THE PREPARATION OF BINARY COMPOUNDS

Arnold Reisman and Melvin Berkenblit, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1961, Ser. No. 163,223
12 Claims. (Cl. 23-50)



1. A method for preparing a binary compound by the direct combination of exothermic reacting elements, said compound having a melting point temperature significantly higher than its constituent elements, and being relatively insoluble in a solution of its constituent elements and is formed at a temperature below its melting point temperature, comprising the steps of:

- (a) comminuting the reacting elements, with the higher melting point temperature element being comminuted to a particle size of no greater than 44 microns,

- (b) mixing the comminuted elements,
- (c) inserting the mixture into an ampoule,
- (d) heating the mixture at a rate of from about 0.1° C. per minute to 5° C. per minute, to a temperature of about the melting point temperature of the higher melting element at which temperature the reaction goes to completion.

3,342,547 METHOD FOR THE PRODUCTION OF HIGH PURITY DENSE NICKEL OXIDE AND THE PRODUCT THEREOF

Alexander Illis, Copper Cliff, Ontario, Hans Joachim Koehler, Lively, Ontario, and Bernardus J. Brandt, Thompson, Manitoba, Canada, assignors to The International Nickel Company, Inc., New York, N.Y., a Corporation of Delaware
Filed July 13, 1964, Ser. No. 382,208
Claims priority, application Canada, June 10, 1964, 904,820

23 Claims. (Cl. 23-61)

1. As a new article of manufacture, an active black nickel oxide having an oxygen content at least about 1 atomic percent and up to about 5 atomic percent oxygen in excess of the amount required to satisfy the stoichiometric ratio expressed by the formula NiO and being characterized by a packed bulk density of at least 90 to about 200 pounds per cubic foot, by an impurities content less than 0.5%, by a particle size such that the product will pass a 325 mesh screen almost entirely but about 70% of the particles are greater than 10 microns and by substantially 100% solubility in mineral acids.

2. The process for preparing a readily filterable nickel carbonate precipitate from an ammoniacal nickel carbonate solution containing at least about 10 and up to about 60 grams per liter of nickel which comprises heating said solution in the temperature range of about 170° F. to about 250° F. to drive off ammonia and carbon dioxide contained therein and precipitating nickel therefrom at a controlled precipitation rate of about 0.2 to about 2 grams of nickel per liter per minute to precipitate at least about 70% up to about 99% of the nickel content of said solution as a readily filterable nickel carbonate containing at least about 7% carbon dioxide.

3,342,548 PROCESS FOR THE RECOVERY OF LITHIUM AND POTASSIUM FROM GREAT SALT LAKE BRINE

James G. Macey, Salt Lake City, Utah, assignor to Signal Oil and Gas Company, Los Angeles, Calif., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,162
3 Claims. (Cl. 23-89)

1. A process for the isolation of lithium and potassium values from Great Salt Lake brine, said process comprising:

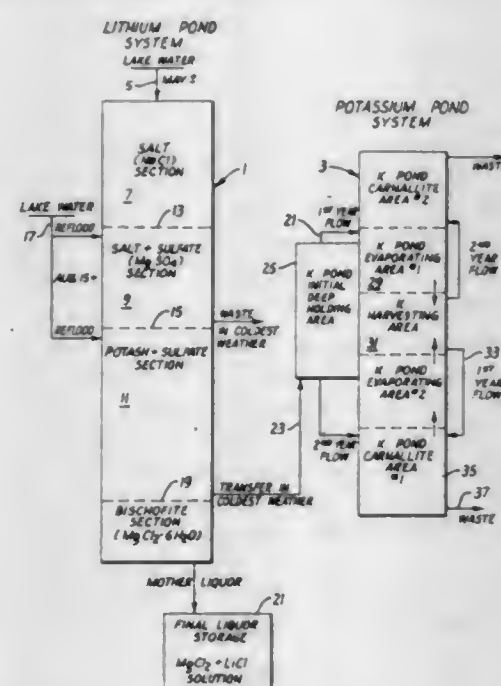
- (a) Providing a lithium pond system consisting of a series of connected ponds for the recovery of lithium value;
- (b) Providing a potassium pond system consisting of a series of connected ponds for the recovery of potassium values from effluent from said lithium pond system;
- (c) Flowing brine from said lake into one end of said lithium pond system at ambient temperature of at least about 85° F.;
- (d) Regulating the rate of flow of said brine through said lithium pond system while maintaining said temperature at at least about 85° F., said temperature being sufficient to progressively evaporate said brine so that there is successively precipitated from the brine in individual ponds of said lithium pond system (1) sodium chloride (NaCl); (2) magnesium sulfate (MgSO₄) together with sodium chloride; (3)

magnesium sulfate together with sylvinit (a mixture of sodium chloride and potassium chloride); and (4) bischofite ($\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$), whereby the resulting liquor in the pond (4) containing the precipitated bischofite is rich in dissolved lithium chloride (LiCl) and magnesium chloride (MgCl_2);

- (e) Removing said liquor from pond (4) containing said precipitated bischofite and recovering lithium values from said liquor by calcining said liquor;
- (f) Reflooding pond (2), containing the precipitated magnesium sulfate together with sodium chloride, with fresh lake water and dissolving said magnesium sulfate in said lake water while maintaining said temperature at at least about 85°F ., maintaining said magnesium sulfate in solution until it reacts with the sodium chloride in said solution to form sodium sulfate (Na_2SO_4) and thereafter lowering the temperature of said solution to precipitate the major portion of said sodium sulfate as mirabilite



in said pond (2), and thereafter discarding the supernatant liquid from pond (2);



- (g) Reflooding pond (3) of said lithium pond system, said pond containing precipitated magnesium sulfate together with sylvinit, with lake water at a temperature sufficient to redissolve said magnesium sulfate and sylvinit and permitting said magnesium sulfate to remain in solution until it reacts with sodium chloride also in solution to form sodium sulfate, thereafter decreasing the temperature of said solution to precipitate the major portion of said sodium sulfate from said solution as mirabilite, and transferring the resultant supernatant liquid to the initial pond of said potassium pond system while maintaining said sodium sulfate in said pond (3) in precipitated mirabilite form;
- (h) Passing said resultant supernatant liquid now containing sylvinit but relatively free of sulfate from the initial pond of said potassium pond system into an evaporating pond of said potassium pond system and evaporating said liquid therein until a major proportion of the potassium chloride present in said liquid is precipitated therefrom as sylvinit; and,
- (i) Flowing the supernatant from said evaporating pond of said potassium system and thereafter harvesting the precipitated sylvinit from said evaporating pond; and
- (j) Repeating the steps of paragraphs (c) through (i) in sequence.

3,342,549 PROCESS FOR REFINING PHOSPHORIC ACID PREPARATIONS

Toshio Sakomura and Mitsuo Kikuchi, Tsuno-gun, Yamaguchi-ken, and Hiroshi Shimizu, Tokyo, Japan, assignors to Togo Soda Mfg. Co., Ltd., and Japan Organo Co. Ltd., Tokyo, Japan

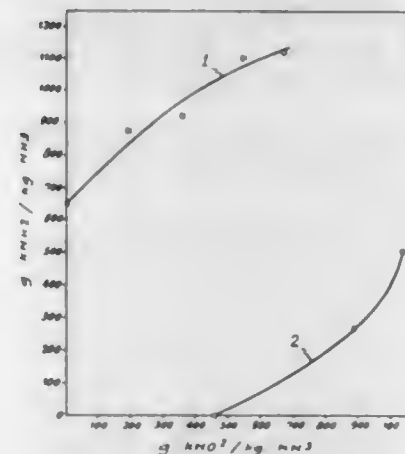
Filed Dec. 21, 1965, Ser. No. 515,335
Claims priority, application Japan, Nov. 10, 1960, 35/45,131; Aug. 18, 1961, 36/29,894
2 Claims. (Cl. 23—165)

1. A process for removing iron and arsenic from crude phosphoric acid, which comprises charging said crude phosphoric acid with hydrochloric acid, mixing strongly basic anion exchange resin with the resultant mixture, separating the strongly basic anion exchange resin containing substantially all the iron impurity and part of the arsenic impurity from the partially purified phosphoric acid mixture, and concentrating said partially purified phosphoric acid mixture by evaporation, thereby removing substantially all the hydrochloric acid and remaining arsenic by evaporation to produce concentrated phosphoric acid.

3,342,550 AMMONIA-HYDROGEN ISOTOPIC EXCHANGE PROCESS

Yves Bourgeois, Vermelles, Bernard Lefrançois, Noeux-les-Mines, and Charles Moreau, Faches-Thumesnil, France, assignors to Houillères du Bassin du Nord et du Pas-de-Calais—Commissariat à l'Energie Atomique—Compagnie de Construction Mécanique, Procédés Sulzer and l'Air Liquide, Société pour l'Étude et l'Exploitation des Procédés Georges Claude, Douai, Nord, and Paris, Seine, France

Filed Mar. 26, 1964, Ser. No. 355,026
2 Claims. (Cl. 23—193)



1. In an ammonia-hydrogen isotopic exchange process wherein the exchange is carried out in liquid ammonia employing an alkali metal amide as catalyst, the improvement of dissolving an alkali metal nitrite in said liquid ammonia to increase the solubility of said alkali metal amide therein.

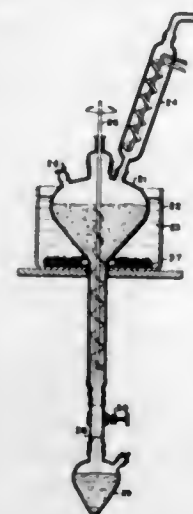
3,342,551 METHOD AND APPARATUS FOR PRODUCING A SEMICONDUCTING COMPOUND OF TWO OR MORE COMPONENTS

Richard Dötzer, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Sept. 28, 1961, Ser. No. 141,488
Claims priority, application Germany, Sept. 28, 1960, S 70,592
11 Claims. (Cl. 23—204)

1. A method of producing an $\text{A}^{\text{III}}\text{B}^{\text{V}}$ semiconductor compound, comprising introducing alkyl compounds of

said components into a reaction vessel and thermally dissociating said alkyl compounds to form said $\text{A}^{\text{III}}\text{B}^{\text{V}}$ semi-



conductor compound by heating said compounds at least to the dissociation temperature of the thermally more stable compound.

3,342,552 METHOD FOR PRODUCING PHOSPHOROUS PENTASULFIDE

Hermann Niermann, Bruhl, near Cologne, Heinz Harnisch, Lovenich, near Cologne, and Joseph Cremer, Hermulheim, near Cologne, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Jan. 31, 1964, Ser. No. 341,635
Claims priority, application Germany, Mar. 23, 1963, K 49,315
8 Claims. (Cl. 23—206)

1. A method for producing phosphorus pentasulfide by reacting phosphorus with sulfur which comprises introducing into a reaction zone at a temperature above 300°C . the phosphorus and the sulfur as the starting components in such a proportion that about 28.1 to 28.9% by weight of the phosphorus pentasulfide produced is phosphorus and the balance is sulfur, the said starting components being so introduced that an excess of sulfur over the stoichiometric proportion, referred to P_2S_5 , is present during the reaction until all the sulfur has been introduced, the balance phosphorus being added subsequently, and removing the reaction product from the reaction zone and quenching.

3,342,553 PROCESS FOR MAKING VANADIUM CARBIDE BRIQUETTES

Donald O. Buker, New Concord, and Timothy W. Merrill, Cambridge, Ohio, assignors to Vanadium Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,765
12 Claims. (Cl. 23—208)

1. A method for producing a compacted and sintered vanadium carbide addition alloy from fused and crushed vanadium pentoxide comprising:

- (a) subjecting said pentoxide to a temperature of from about 1050°F . to 1150°F . in a gaseous hydrocarbon reducing atmosphere so as to convert said pentoxide to vanadium tetraoxide;
- (b) subjecting said vanadium tetraoxide to a temperature of at least 1900°F . in a gaseous hydrocarbon reducing atmosphere so as to convert said tetraoxide to vanadium oxycarbide;
- (c) cooling said vanadium oxycarbide to substantially ambient temperatures from said at least 1900°F . in a nonoxidizing environment;

- (d) mixing a carbon source material with said vanadium oxycarbide in amounts to effect a stoichiometric balance of carbon to oxygen within said mixture as to render in the alloy an excess carbon content which when combined with the vanadium content alone consists of from about 8% to about 15% (by weight) carbon;
- (e) briquetting said mixture;
- (f) subjecting said briquettes to a temperature of from about 2500°F . to 2700°F . while continuously withdrawing the evolving gases until the evolution of gas substantially stops; and
- (g) cooling said briquettes to substantially ambient temperatures in a nonoxidizing environment.

3,342,554 CARBON BLACK PRODUCT AND METHOD OF PREPARATION THEREOF

Merrill E. Jordan and Harvey M. Cole, Walpole, William G. Burbine, Whitman, and David L. Petterson, Wollaston, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed June 20, 1963, Ser. No. 289,350
7 Claims. (Cl. 23—209.2)

1. A process for making carbon black comprising (a) electrically inducing heating of a stream of inert gas to a thermal plasma state of at least about one atmospheric pressure wherein from about 10 to about 50% of said gas is in an ionized state, thereby forming a zone suitable for carrying out high temperature reaction and (b) continuously feeding a fluid hydrocarbon into said zone thereby causing the decomposition of said hydrocarbon to form carbon black.

3,342,555 PROCESS FOR THE PREPARATION OF LIGHT WEIGHT POROUS CARBON

William J. McMillan, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 19, 1961, Ser. No. 117,796
6 Claims. (Cl. 23—209.4)

1. A process for the preparation of a porous carbon material which comprises preheating a foamed polymer in an inert atmosphere to 800°C . at a rate less than 20°C . temperature rise per minute and thereafter heating the preheated foam to a temperature in the range of 800° to 1700°C ., thereby to carbonize the foam, said foamed polymer being formed by intermixing monomers to form a polymer having benzene rings bonded together on the average by not less than 2.5 bonds per benzene molecule by bonding groups consisting of at least 65 percent of carbon groups not exceeding one carbon atom, foaming the intermixed monomers into fine celled foam, and subjecting the foam to a sufficient temperature to effect the polymerization reaction of the foamed monomers to form the foamed polymer.

3,342,556 METHOD AND APPARATUS FOR MANUFACTURING CARBON BLACK

Theodore A. Ruble, Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware

Filed Aug. 20, 1964, Ser. No. 390,975
20 Claims. (Cl. 23—209.4)

1. In a furnace process for manufacture of carbon black wherein a carbon black producing hydrocarbon feedstock is continuously introduced into a turbulent burning mixture of fuel gas and air at one end of an

elongated reaction zone to produce a reaction zone effluent of carbon black suspended in by-product combustion and dissociation gases from which the carbon black is subsequently removed; the improvement of

continuously vapor stripping a liquid hydrocarbon mixture having a carbon-to-hydrogen ratio of from about 0.75 to about 1.25, an API gravity less than about 30, a mean molecular weight of from about 140 to about 550, and having less than about 40 weight percent of the hydrocarbon mixture boiling below 550° F.; then

introducing the vaporous overhead from said vapor stripping step as fuel gas into said reaction zone while simultaneously charging to said reaction zone the stripped liquid hydrocarbon mixture as said feed-stock.

3,342,557

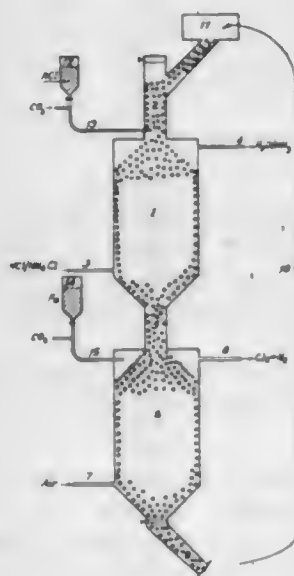
PROCESS OF REGENERATING GRANULAR MATERIALS IMPREGNATED WITH ACTIVE COMPONENTS IN A CYCLIC PROCESS OF PRODUCING CHLORINE

Paul Metaizeau, Dombasle, France, assignor to Solvay & Cie, Brussels, Belgium

Filed Aug. 7, 1963, Ser. No. 300,613

Claims priority, application France, Aug. 10, 1962, 906,704

5 Claims. (Cl. 23—219)



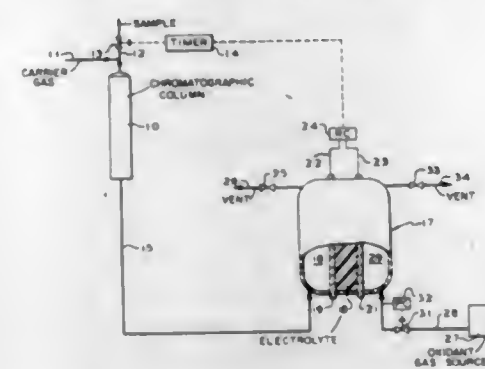
1. In a cyclic process of producing chlorine from a material selected from the group consisting of hydrogen chloride and ammonium chloride, wherein a gravity-flow moving bed of granular materials is passed through superimposed chloridation and oxidation zones in which the reacting masses moving downwardly therethrough meet countercurrents of hydrogen chloride and of a molecular oxygen-containing gas respectively, while maintaining the chloridizing zone at a temperature of about 350–500° C. and the oxidation zone at a temperature of about 500–600° C., said granular materials comprising solid granular supports impregnated with active components which are selected from the group consisting of compounds of K, Fe and Cu, and wherein during said process there is a decrease in the concentration of active components on said granular supports, the improvement which comprises injecting particulates of said active components into said moving bed at a zone in the process where the active components which impregnate the supports are substantially in a sticky condition, so that the injected particulates of active components adhere to the granular materials of the moving bed.

3,342,558 ELECTRICAL MEASURING SYSTEM UTILIZING A FUEL CELL

Marvin E. Reinecke, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 18, 1962, Ser. No. 188,409

3 Claims. (Cl. 23—232)



3. A method of detecting the presence of combustible gases in a fluid the composition of which can vary due to the presence of said combustible gases, comprising supplying a sample of said fluid to the fuel electrode of a fuel cell, supplying an oxidant to the oxidant electrode of said fuel cell, and measuring the electrical output between said fuel electrode and said oxidant electrode, whereby an increase in said electrical output is indicative of the presence of combustible gases in said fluid.

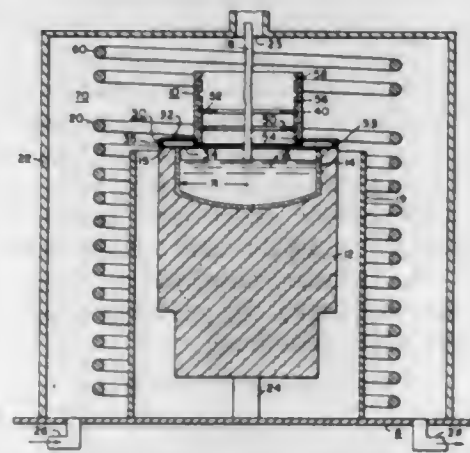
3,342,559

APPARATUS FOR PRODUCING DENDRITES

Steven N. Dermatis, Waltham, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 27, 1964, Ser. No. 362,592

4 Claims. (Cl. 23—273)



1. A top hat cover for an apparatus comprising a crucible from which semiconductor material in dendritic crystalline form is produced by the continuous withdrawal thereof from a substantially circular supercooled melt of the material, the cover comprising (1) a first brim-like reflecting means comprising at least two substantially flat metal washer-like members slightly spaced apart, the lower first extending from the outer periphery of the crucible radially inwardly so as to cover about the outer 13 to 19% of the melt diameter while the second upper washer member has a slightly smaller inside aperture cooperating to reflect heat downward into the melt primarily into the outer 25 to 35% of the melt diameter, the reflective members being of a metal being a reflectivity of at least 80%, (2) a hollow circular thermally insulating cylinder extending upwardly from the inside of the said second upper washer member, the insulating member having an inside diameter of approximately 2/3 the melt diameter and extending upwardly from the first reflecting means by an amount of about half the melt

diameter, and (3) a second reflecting means comprising at least one substantially flat washer-like metal member of a reflectivity of at least 80% and having an aperture of a diameter equal to about the radius of the melt and being disposed within said insulating cylinder so as to lie in a plane substantially parallel to the surface of the melt and means for positioning the second reflecting means vertically along the length of the insulating cylinder such that (a) heat is reflected thereby into the outer portions of the melt and (b) cooperating with the said insulating cylinder to control the thermal gradient along the dendrite as it is withdrawn from the melt.

3,342,560

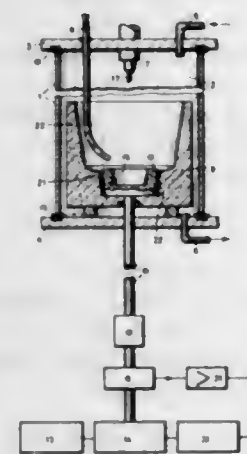
APPARATUS FOR PULLING SEMICONDUCTOR CRYSTALS

Dietrich Eckardt, Starnberg, and Friedrich Adolf Mentzel and Heinz Reinke, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Oct. 22, 1964, Ser. No. 405,892

Claims priority, application Germany, Oct. 28, 1963, S 88,061, S 88,062; July 8, 1964, S 91,935

9 Claims. (Cl. 23—273)



1. Apparatus for pulling semiconductor crystals, comprising crystal pulling means defining a vertical axis, two upwardly open cup-shaped vessels of different volumetric sizes respectively for containing different amounts of molten semiconductor material, said two vessels being mounted coaxially beneath said pulling means and said smaller vessel being located inside said larger vessel, said larger vessel being stationary and said smaller vessel being rotatable, rotational drive means connected to said smaller vessel for maintaining it in rotation during crystal pulling operation, said larger vessel having a bottom recess of smaller diameter than in the upper portion of said vessel, said recess having a depth approximately equal to the height of said smaller vessel and a diameter adapted with clearance to the diameter of said smaller vessel so as to permit said smaller vessel to be lowered into said recess.

3,342,561

SYSTEM FOR HYDROGEN PRODUCTION BY CATALYTIC DECOMPOSITION OF A HYDROCARBON STREAM

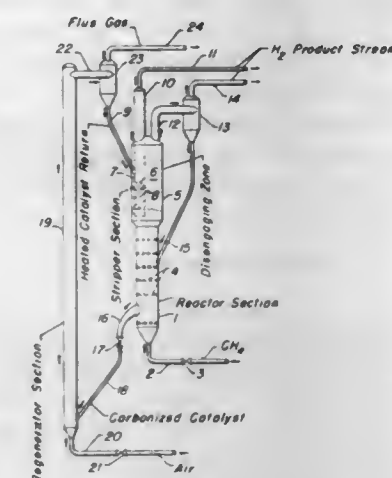
Jack B. Pohlenz, Arlington Heights, and Norman H. Scott, Villa Park, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Original application Jan. 22, 1963, Ser. No. 253,085, now Patent No. 3,284,161, dated Nov. 8, 1966. Divided and this application June 29, 1966, Ser. No. 561,586

4 Claims. (Cl. 23—288)

1. An apparatus for catalytically converting a hydrocarbon stream which comprises in combination, a vertically elongated reaction section having a reactant stream

inlet at the lower end thereof and a product stream outlet from the upper portion thereof, a vertically elongated stripping section disposed above said reactor section, a particle inlet passageway at the upper end portion of said reactor section in open communication with the lower end portion of said stripping section, whereby subdivided catalyst particles may pass in a gravity flow downwardly from said stripping section to the reactor section, a vertically elongated regenerator section, a particle outlet from the lower end portion of said reactor section and conduit means connecting the same with the lower end portion of said regenerator section, gas inlet means to the lower end of said regenerator section and gas-particle outlet means at the upper end portion thereof, whereby catalyst par-



ticles may be continuously contacted in an upflowing fluidized column, particle separating means disposed at a higher elevation than said stripping section and connective with said outlet means from said regenerator section and having separate gas and particle outlets therefrom, conduit means connecting the particle outlet means from said separating means with said vertically elongated stripping section whereby particles may pass in gravity flow through said stripping section countercurrently to a stripping gas stream received from the upper end portion of said reaction section as a part of the product stream therein, and stripping gas outlet means at the upper end portion of said stripping section and disposed externally of said reactor section.

3,342,562

HIGH DENSITY URANIA FUEL ELEMENTS

Philippe D. S. St. Pierre, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Original application Oct. 28, 1960, Ser. No. 65,609, now Patent No. 3,168,371, dated Feb. 2, 1965. Divided and this application June 1, 1964, Ser. No. 371,745

4 Claims. (Cl. 23—355)

1. A process for the production of a uranium dioxide compact having at least 95 percent density, which comprises: compacting ammonium diuranate under a pressure sufficient to form a green compact, heating in a reducing atmosphere to the decomposition temperature of ammonium diuranate, continuing the heating to a sintering temperature and allowing the compact to cool.

3,342,563

CELLULAR MATERIAL AND METHOD FOR MAKING

William R. Butts, Milford, Ohio, assignor to General Electric Company, a corporation of New York

Filed Jan. 3, 1967, Ser. No. 606,656

6 Claims. (Cl. 29—182)

1. An improved cellular material comprising a plurality of hollow, substantially spherical particles of a metallic aluminide bonded together to form a cellular material.

3,342,564

COMPOSITE CASTINGS

Charles W. Schwartz, Whitehall, Mich., and Harold L. Wheaton, Prospect Heights, Ill., assignors to Martin Metals Company, a corporation of Delaware
No Drawing. Filed Jan. 22, 1965, Ser. No. 427,506
9 Claims. (Cl. 29—183)

1. A structural member for use at elevated temperatures comprising a preformed metallic base, a cast metallic portion of at least about 0.08" thickness and a transition zone which is an interalloy of intermediate composition consisting essentially of a solid solution matrix of metallic elements together with dispersed second phase particles, said elements of the matrix and dispersed particles being from both the preformed base and cast metallic portion, said transition zone being in the solid state and being produced during formation of said structural member by the contacted portion of said preformed metal base being taken into liquid solution upon contact with cast metal poured, under protective atmosphere, at a temperature in the range between about 2450° F. and 3000° F. and under conditions providing a solidification gradient of 200° F. to 1200° F.

3,342,565

ALUMINIUM BASE CLAD WITH A MAGNESIUM-SILICON-ALUMINIUM ALLOY

John Worthington Munday, Slough, and Jeffrey Ernest Tomlinson, Chalfont St. Giles, England, assignors to British Aluminium Company Limited, London, England, a company of Great Britain
No Drawing. Filed Mar. 1, 1966, Ser. No. 530,767
Claims priority, application Great Britain, Dec. 18, 1961, 45,272/61
5 Claims. (Cl. 29—183.5)

1. A clad aluminium alloy material characterised by proof stress, tensile strength and creep resistance at elevated temperatures of the order of 150° C. comprising a core of a heat-treatable aluminium alloy having a grain size coarser than 600/750/1000 grains per linear inch in the three mutually perpendicular directions of lengthwise of the sheet, width of the sheet and thickness of the sheet respectively, and a cladding on at least one face of the core having a strength approaching that of the core material, thereby improving the fatigue strength of the composite material, which cladding is composed of aluminium alloyed with from 0.4–1.5% magnesium, 0.3–1.3% silicon, 0–1.5% zinc and a total of 0–1% of at least one of the elements manganese and chromium, all percentages being by weight.

3,342,566

PROCESS FOR THE ELECTRODEPOSITION OF A DECORATIVE CORROSION RESISTANT NICKEL-CHROMIUM COATING AND PRODUCTS THEREOF

Adolf E. Schwedhelm, Wiener Strasse 42, and Friedrich Karl Küll, Lerchenstrasse 44, both of Solingen, Germany
No Drawing. Filed Dec. 7, 1964, Ser. No. 416,606
Claims priority, application Germany, Dec. 24, 1963, K 51,724
2 Claims. (Cl. 29—194)

1. A metal article having thereon a corrosion resistant coating which comprises a coating of electrodeposited nickel containing uniformly dispersed, finely divided carbon particles of a size on the order of 20 to 100 Å., and an outer coating of electrodeposited chromium on said nickel.

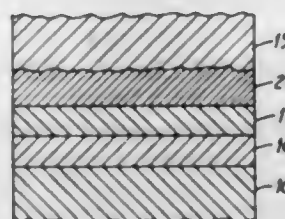
2. The process of producing a corrosion resistant coating on a base metal, comprising electrodepositing nickel upon said base metal acting as a cathode from an aqueous solution containing at least one nickel salt and dispersed carbon particles of a size on the order of 20 to 100 Å. in the amount of approximately 0.5 to 2.0 grams per liter,

and electrodepositing chromium to form a layer on said nickel.

3,342,567

LOW RESISTANCE BONDS TO GERMANIUM-SILICON BODIES AND METHOD OF MAKING SUCH BONDS

Andrew G. F. Dingwall, Bloomfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 27, 1963, Ser. No. 333,895
20 Claims. (Cl. 29—195)



19. A device comprising a germanium-silicon alloy body joined to a tungsten body, the joint between said bodies comprising, in order between said alloy body and said tungsten body:

- a zone comprising germanium-enriched germanium-silicon alloy;
- a zone comprising a mixture of silicon carbide and tungsten silicides; and
- a zone of tungsten carbide.

3,342,568

COMPOSITE MATERIAL OF A CERAMIC SILVER GOLD ALLOY, AND A NICKEL ALLOY

Edward A. Capillon, Attleboro, Mass., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Mar. 16, 1965, Ser. No. 440,291
3 Claims. (Cl. 29—195)

1. A material comprising glass bonded to a composite material comprising a core composed of a nickel-rich alloy clad with a silver-gold alloy containing essentially from 25–90% silver.

3,342,569

ALKANOL GELS

Garland George Corey, Milltown, and Edward Joseph Kenney, Bernardsville, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 18, 1963, Ser. No. 324,246
9 Claims. (Cl. 44—7)

1. A stable alcohol gel composition comprising a major proportion of at least one aliphatic monohydroxy alcohol, a minor proportion, sufficient to form a gel with said alcohol, of nitrocellulose, about 15 to about 30 percent of water, and about 0.2 to 1.0 percent of at least one hydrophilic-hydrophobic polyoxyalkylene polyoxypropylene in which the polyoxypropylene moiety has a molecular weight of at least 900 and constitutes about 50 to 90 percent of the said polyoxyalkylene polyoxypropylene.

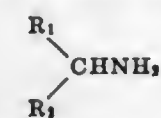
3,342,570

DETERGENT GASOLINE COMPOSITION CONTAINING 2-AMINO STRAIGHT-CHAIN ALKANES

George J. Kautsky, El Cerrito, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed June 8, 1964, Ser. No. 373,509
3 Claims. (Cl. 44—69)

1. An improved detergent gasoline composition comprising a major proportion of a hydrocarbon base fuel boiling in the gasoline boiling range, lead alkyl antiknock

agent in amount sufficient to enhance the octane number and from about 0.0001 to 1.5 percent by weight of branched-chain alkyl primary amine having from about 9 to 24 carbon atoms in the alkyl group of the formula:



in which one of the branches, R_1 , is a straight-chain alkyl group of from 1 to 3 carbon atoms and the other branch, R_2 , is a straight-chain alkyl group of 5 to 22 carbon atoms.

3,342,571

GASOLINE COMPOSITION CONTAINING n-ALKYLTRIMETHYLLEAD

Maurice R. Barusch, Richmond, Wallace L. Richardson, Lafayette, and George J. Kautsky, El Cerrito, Calif., assignors to Chevron Research Company, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 397,324, Sept. 17, 1964, which is a continuation of application Ser. No. 25,526, Apr. 29, 1960. This application June 9, 1966, Ser. No. 556,523
2 Claims. (Cl. 44—69)

1. A hydrocarbon base fuel, boiling in the gasoline boiling range, adapted for use in spark ignition internal combustion engines, having a clear Research octane number of at least 95, said fuel being characterized in that the hydrocarbon composition contains from 20 to 60% by volume of aromatic hydrocarbons, not more than 30% by volume of olefinic hydrocarbons and not more than 60% by volume of paraffinic and naphthenic hydrocarbons, said fuel containing from about 0.5 to about 4 ml. of n-alkyltrimethyllead per gallon, said n-alkyl group containing from 3 to 8 carbon atoms, said fuel having a Motor Method octane number greater than the corresponding octane number of a mixture of said hydrocarbon composition containing a molar equivalent of tetraethyllead.

3,342,572

METHOD OF MAKING CELLULAR PHOSPHATE GLASS

Thomas C. MacAvoy, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,608
6 Claims. (Cl. 65—22)

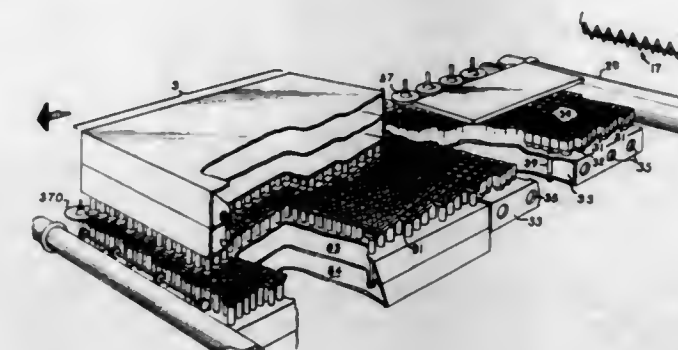
1. A method for making cellular glass wherein the cell walls thereof are coated with elemental phosphorus which comprises:

- (a) compounding a batch for a phosphorus-containing glass having a viscosity of between about 10^5 – 10^{11} poises at temperatures in the range of 280°–900° C. selected from the group consisting of alkali phosphate glasses, alkaline earth phosphate glasses, and aluminophosphate glasses, wherein P_2O_5 constitutes greater than 50 mol percent of the network forming constituents, said batch being free from compounds containing metals more readily reducible than phosphorus;
- (b) melting said batch with a reducing agent;
- (c) exposing the melt to a temperature in excess of 900° C.;
- (d) cooling said melt to a temperature at least below that at which the glass has a viscosity of about 10^5 poises;
- (e) exposing the glass to a temperature between about 280°–900° C. at which the viscosity of the glass is between about 10^5 – 10^{11} poises for a period of time sufficient to attain cellulation; and then
- (f) cooling the cellulated glass to room temperature to coat elemental phosphorus on the cell walls.

3,342,573

METHOD OF HEAT TREATING GLASS SHEETS ON A GASEOUS SUPPORT BED

James C. Fredley, Tarentum, and George E. Sleighter, Natrona, Heights, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Nov. 9, 1962, Ser. No. 236,676, now Patent No. 3,223,501, dated Dec. 14, 1965. Divided and this application Dec. 13, 1965, Ser. No. 513,378
1 Claim. (Cl. 65—25)



In a method of heating glass sheet at a deformation temperature while the sheet is disposed on a fluid support bed having a plurality of outlets to which support fluid is supplied, the improvement which comprises supplying said fluid to part of said outlets at a pressure greater than the fluid is supplied to others of said outlets.

3,342,574

MANUFACTURE OF FLAT GLASS ON IMPROVED MOLTEN METAL BATH

Ronald Colgan Jewell, Ormskirk, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed May 13, 1964, Ser. No. 367,115
Claims priority, application Great Britain, May 16, 1963, 19,585/63
7 Claims. (Cl. 65—32)

1. In the manufacture of flat glass in ribbon form, advancing the glass over a molten alloy of tin and a noble metal selected from the group consisting of silver, gold, platinum, palladium and rhodium, which noble metal is present in amounts from about 50% to about 1% of the bath and in a proportion to form a tin alloy having a melting point below 700° C., and forms at the operating temperature an oxide which is much less thermodynamically stable than an oxide of tin and maintaining a plenum of protective atmosphere over the molten alloy.

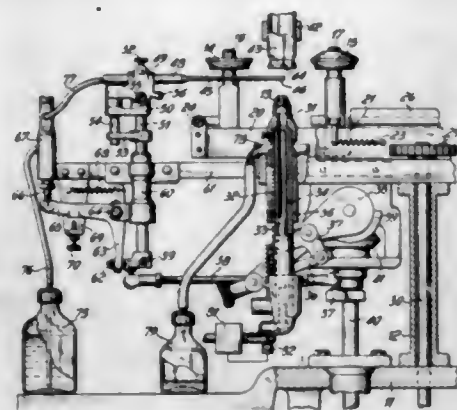
3,342,575

MACHINE FOR RESHAPING THE NECK PORTION OF SMALL GLASS BOTTLES WITH LUBRICATING MEANS

Jakob Dichter, Waldmeisterstrasse 4, Berlin-Dahlem, Germany
Filed Sept. 18, 1963, Ser. No. 309,828
Claims priority, application Germany, Sept. 18, 1962, D 39,869
9 Claims. (Cl. 65—170)

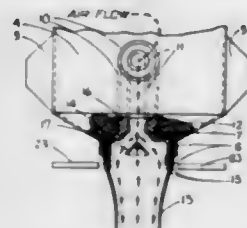
1. A machine for manufacturing small glass bottles from glass tubing, including heating means for softening an open end portion of a glass tubing section, means for revolving said section about its longitudinal axis, shaping elements to press laterally against said end portion, a mandrel to extend into and position the open end of said end portion during the operation of said shaping elements, and means for moving said mandrel alternately to its working position and to an idle position away from said section, said machine further comprising displaceable means for applying lubricant to the working surface of said mandrel, including a lubricant transporting means

having a lubricant applying device and being carried by a support that is displaceable to move said transporting means and thereby said device to and from a working position over said mandrel in idle position, and lubricant



feeding means operated with movement of said displaceable means to feed a predetermined quantity of lubricant to said applying device and from the latter to said mandrel in timed relationship to the movements of said mandrel.

3,342,576
APPARATUS FOR PRODUCING GLASS FLAKES
Robert Z. Schreffler, Brigham City, Utah
(12817 Richmond St., Chester, Va. 23831)
Filed July 5, 1963, Ser. No. 292,931
2 Claims. (Cl. 65—187)



1. A feeder in a melter-feeder for producing glass flakes, said feeder including a chamber, said chamber having a generally annular metering outlet, said outlet defined by two generally concentric walls depending downwardly from said chamber, and means for conveying a fluid current generally parallel to the innermost surface of the innermost of said dependent concentric walls, the lowermost portions of said dependent walls positioned below the outlet of the fluid current means, whereby molten glass flowing outwardly from the outlet is exuded in the form of a continuous thin walled cylinder formed by flowing between the two concentric walls and whereby fluid current thermally conditions molten glass flowing from the chamber outlet.

3,342,577
SULFUR-COATED FERTILIZER PELLET HAVING CONTROLLED DISSOLUTION RATE AND INHIBITED AGAINST MICROBIAL DECOMPOSITION

Glenn M. Blouin, Florence, and Donald W. Rindt, Sheffield, Ala., assignors to Tennessee Valley Authority, a corporation of the United States
Filed Dec. 12, 1966, Ser. No. 601,178
4 Claims. (Cl. 71—3)

1. In an improved process of manufacturing fertilizer adapted for use in promoting survival and health in crop plants and containing specifically proportioned amounts of plant nutrients encased in a nearly impervious shell, whereby the dissolution rate of said plant nutrients in soil solution is controlled, thereby insuring the availability of plant nutrients to the crop plants during a substantial

proportion of the growing season, the instant improvement relating to further enhancement of the degradation characteristics of said nearly impervious shell, which process comprises applying a coating of elemental sulfur to fertilizer pellets in quantity such that said sulfur contributes in the range from about 5 percent to about 50 percent by weight of the total coated fertilizer pellet; subsequently topcoating the resulting coated pellet with a sealant material characterized by its oily nature, said material selected from the group consisting of petrolatums, petroleum softwaxes, petroleum oils, wood rosins, paraffins, and mixtures thereof, in quantities such that said oily material contributes in the range from about 1 percent to about 8 percent by weight of the total weight of the coated fertilizer pellet, and said quantity of oily material sufficient only to impregnate any cracks and voids in said sulfur coating; the improvement in combination therewith for further enhancement of the sealant characteristics of the nearly impervious shell, particularly those characteristics related to the microbiological degradation of the composite coating, which improved process comprises the additional step of adding to the topcoating of sealant material in the range from about 0.1 percent to about 10 percent by weight of the total sealed and coated fertilizer pellet a microbially-toxic agent selected from the group consisting of pentachlorophenol, sodium pentachlorophenate, coal tar oil, cresol, cupric chloride, borax, boric acid, sodium azide, potassium azide, ethylene polysulfide, streptomycin, calcium cyanamide, camphor, and mixtures thereof, and said improved process characterized by the fact that the addition of the microbially-toxic agent to the sealant material substantially reduces the deleterious microbiological activity on the composite coating when the coated and sealed fertilizer pellet is subsequently exposed to its intended environment in a soil solution.

3,342,578
BULK-BLENDED FERTILIZER COMPRISING NITROGENOUS MATRIX PELLET
Albert G. Harshman, Clark, N.J., and Robert L. Stansbury, Littleton, Colo., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 11, 1966, Ser. No. 532,022
6 Claims. (Cl. 71—29)

1. An N-P or N-P-K bulk fertilizer, comprising a blend of N-P or N-P-K plant nutrients including a deliquescent nitrogen compound that lowers the critical relative humidity of the blend as compared to the critical relative humidity of the individual components of the blend, said deliquescent nitrogen compound being provided in the form of a matrix pellet consisting of from about 2% to about 25% by weight, based on the matrix pellet, of a thermoplastic material as a binder and from about 75% to about 98% by weight, based on the matrix pellet, of said deliquescent nitrogen compound, said deliquescent nitrogen compound being selected from the group consisting of urea, ammonium nitrate, ammonium sulfate, sodium nitrate, potassium nitrate, magnesium nitrate, calcium nitrate, and mixtures thereof.

3,342,579
SLOWLY SOLUBLE AMMONIUM POLYPHOSPHATE AND METHOD FOR ITS MANUFACTURE
Alva W. Frazier, Florence, Ala., assignor to Tennessee Valley Authority, a corporation of the United States
Filed Oct. 12, 1964, Ser. No. 403,414
7 Claims. (Cl. 71—34)

1. In a process for producing a high-analysis ammonium polyphosphate fertilizer material from anhydrous ammonia and highly concentrated superphosphoric acid, wherein is maintained in a closed reaction vessel at a temperature in the range from about 300° F. to about 600° F.

and under a constant pressure in the range of about 10 p.s.i.g. to about 1000 p.s.i.g. a mass of molten material of low viscosity previously formed by combining such materials therein, wherein relatively small streams of said materials are continuously combined into said mass and said mass is continuously subjected to vigorous agitation, thereby keeping substantially the entire mass agitated and effecting immediate ammoniation of said inflowing acid, and wherein a mass of surplus molten ammonium phosphate material is withdrawn from the lower portion of said reaction vessel, the improvement therein which comprises the manufacture of a high-analysis, slowly soluble ammonium polyphosphate material from anhydrous ammonia and superphosphoric acid, said superphosphoric acid having a minimum concentration of 83% P₂O₅, said improvement combining with said aforementioned steps the following steps which comprise statically cooling said surplus molten ammonium polyphosphate material withdrawn from the lower portion of said reaction vessel from a temperature in the range of about 300° F. to about 600° F. down to a temperature in the range from about 100° F. to 0° F.; subsequently contacting the resulting gelatinous-like mass with aqueous medium, thereby effecting the precipitation of an insoluble long-chain ammonium polyphosphate salt; and recovering as product said salt.

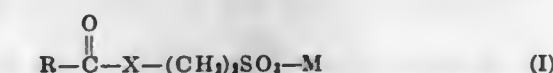
3,342,580
PRODUCTION OF PHOSPHATES FROM PHOSPHATE ROCK BY SOLVENT EXTRACTION
Abraham H. de Rooij, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Nov. 6, 1963, Ser. No. 321,753
Claims priority, application Netherlands, Nov. 9, 1962, 285,346
5 Claims. (Cl. 71—39)

1. A process for producing from phosphate rock dicalcium phosphate of animal feed grade comprising (1) decomposing said phosphate rock with an aqueous solution of nitric acid to form an aqueous solution containing calcium nitrate, phosphoric acid and nitric acid and containing 135–200 grams of P₂O₅ per liter of solution, (2) separating the acid values of said aqueous solution from said calcium nitrate by extracting said acid values with a polar organic solvent having limited miscibility with water the volume ratio of polar organic solvent to aqueous solution being by volume at least 1:1 thereby leaving the major portion of calcium nitrate in said aqueous phase, (3) washing the polar organic solvent with a washing medium selected from the group consisting of water and an aqueous solution of phosphates and nitrates to regenerate said polar organic solvent, thereby producing a substantially acid-free polar organic solvent phase and an acid-containing aqueous phase, (4) recycling said substantially acid-free polar organic solvent phase to said extraction in step 2, (5) neutralizing said acid-containing aqueous phase with a lime-containing material to correct the molar CaO/P₂O₅ ratio to 2:1 thereby removing impurities therefrom as a precipitate, (6) adding ammonia to said neutralized aqueous phase thereby precipitating dicalcium phosphate and (7) separating said dicalcium phosphate from said ammonia-treated aqueous phase.

3,342,581
PESTICIDAL WETTABLE POWDER FORMULATION
Fred E. Woodward, Plainfield, N.J., and Andrew Stefcik, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 20, 1963, Ser. No. 281,801
12 Claims. (Cl. 71—65)

1. A pesticidal wettable powder formulation comprising (A) a water-insoluble pesticidal powder, (B) from about 0.3 to about 25 parts by weight per 100 parts said powder

of a dispersing agent selected from the group consisting of water-soluble lignin sulfonates and alkyl naphthalene sulfonates, and (C) from about 0.3 to about 25 parts by weight per 100 parts said powder of a wetting agent consisting of a mixture of (1) a surface-active substance of the formula



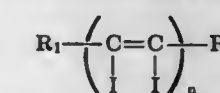
wherein R is an acyclic hydrocarbon radical, said surface-active substance having an average of from about 10 to about 22 carbon atoms per molecule in R, M is an alkali metal, and X is selected from the group consisting of —O— and



wherein R₁ is selected from the group consisting of hydrogen, alkyl having from 1 to about 6 carbon atoms, and cycloalkyl having from 3 to about 8 carbon atoms; (2) from about 5 to about 50 parts per 100 parts of said surface-active substance of a nonionic surfactant; and (3) from 0 to about 50 parts by weight per 100 parts of said surface-active substance of an acid material having an average of from about 12 to about 20 carbon atoms per molecule selected from the group consisting of rosin acids, higher fatty acids, alkali metal soaps of said acids, and mixtures thereof.

3,342,582
PLANT DEFOLIATION PROCESS AND COMPOSITION
Hyman Iserson, Erdenheim, Pa., and Herbert Q. Smith, Trenton, N.J., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 8, 1964, Ser. No. 336,357
14 Claims. (Cl. 71—70)

1. The process of treating plants to obtain a defoliative effect which comprises contacting said plants with a defoliating amount of material characterized by the structure



wherein R₁ is a member selected from the group consisting of hydrogen, hydroxy methyl and halomethyl, R₂ is a member selected from the group consisting of hydroxymethyl and halomethyl and n is an integer from 1 to 2.

3,342,583
METHOD OF CONTROLLING THE GROWTH OF UNDESIRABLE PLANTS
Erik A. Regel, Mission, Kans., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Jan. 23, 1964, Ser. No. 339,610. Divided and this application May 3, 1966, Ser. No. 560,343
18 Claims. (Cl. 71—87)

1. A method of controlling the growth of undesirable plants comprising applying to the situs of such plants a herbicidally effective amount of a compound having the formula



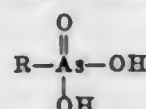
where R₁ is selected from the group consisting of lower alkyl, lower haloalkyl, lower alkoxyphenyl, nitrohalophenyl, phenyl, lower alkylphenyl, benzyl, halophenyl, where the halogen has an atomic weight between 35 and 80, and acyloxyethyl; R₂ is selected from the group consisting of hydrogen, lower alkyl and halogen and X is selected from the group consisting of halogen of atomic weight between 35 and 80 and —NCS.

3,342,584

METHOD FOR KILLING BROADLEAF AND GRASSY WEEDS IN COTTON

Robert C. Harnden, Memphis, Tenn., and John O. Moore, West Helena, Ark., assignors, by mesne assignments, to The Ansul Company, a corporation of Wisconsin
No Drawing. Filed July 10, 1963, Ser. No. 294,188
16 Claims. (Cl. 71-97)

1. A method for killing broadleaf and grassy weeds in areas containing such weeds and cotton plants which comprises applying to said areas and contacting said broadleaf and grassy weeds and said cotton plants with a phytotoxic amount with respect to said weeds and non injurious amount with respect to said cotton plants of a composition comprising as an active herbicidal ingredient an arsonic acid compound selected from the group of compounds corresponding to the structural formula:



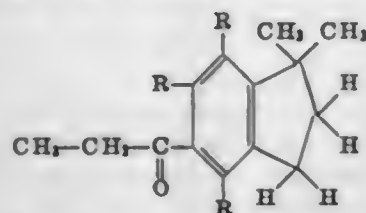
wherein R is an aliphatic radical containing 1 to 5 carbon atoms, and salts of said compounds and wherein at least one of the hydrogen atoms in said formula is replaced by a member selected from the group consisting of sodium, potassium, lithium, calcium, barium, magnesium, iron, cobalt, cadmium, aluminum, zinc, lead, nickel, ammonium ethanolamine and morpholine, and mixtures of the foregoing.

3,342,585

HERBICIDAL COMPOSITIONS AND PROCESS

Dean A. Brown, Hatboro, and Richard D. Hart, Gwynedd, Pa., assignors to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
No Drawing. Filed June 21, 1965, Ser. No. 465,711
12 Claims. (Cl. 71-118)

1. A herbicidal composition comprising N-(3',4'-dichlorophenyl)-cyclopropane carboxamide and an indane compound having the formula:



wherein R is selected from the group consisting of hydrogen and alkyl radicals of from 1 to 3 total carbon atoms, with the provision that at least two of the R substituents are alkyl radicals, the amount of the indane compound being from 0.1 to 10 parts thereof per part of the cyclopropane carboxamide.

3,342,586

PROCESS OF KILLING WEEDS EMPLOYING ACYLATED UREA DERIVATIVES

Jean Leheureau and Pierre Poignant, Saint-Rambert-l'Île-Barbe, France, assignors to Societe Progil, Paris, France
No Drawing. Filed Mar. 6, 1963, Ser. No. 263,138
Claims priority, application France, Mar. 8, 1962, 890,397

8 Claims. (Cl. 71-120)

1. A process of killing plants comprising applying to the habitat of the plants a herbicidally effective amount of a substituted urea selected from the group which consists of: N-phenylacetyl N-(3,4-dichlorophenyl) N',N'-dimethyl urea; N-phenoxyacetyl N-(3,4-dichlorophenyl) N',N'-dimethyl urea; N-(2,4-dichlorophenoxyacetyl) N-(4-chlorophenyl) N',N'-dimethyl urea; N-(2,4-dichlorophenoxyacetyl) N-(3,4-dichlorophenyl) N',N'-dimethyl urea; N-(2,4-dichlorophenoxyacetyl) N-(3,4-dichlorophenyl) N'-methoxy N-methyl urea; N-(2,4,5-trichlorophenoxyacetyl) N-(3,4-dichlorophenyl) N',N'-dimethyl

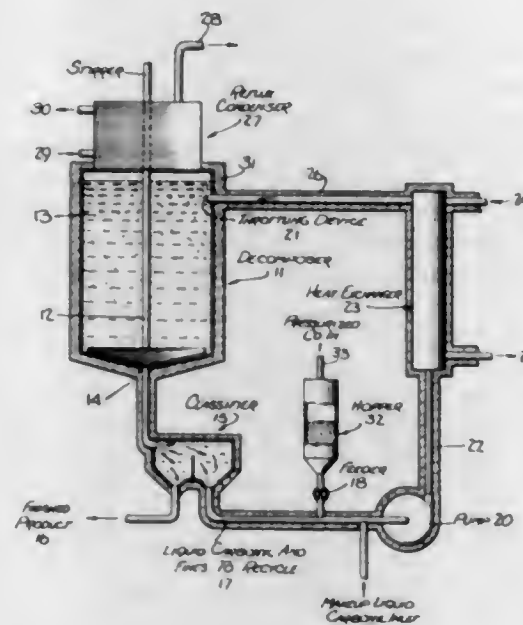
urea; N-(2-(2,4-dichlorophenoxy)propionyl) N-(3,4-dichlorophenyl) N',N'-dimethyl urea; N-(2(2,4,5-trichlorophenoxy) propionyl) N-(3,4-dichlorophenyl) N',N'-dimethyl urea.

3,342,587

METHOD FOR THE PRODUCTION OF METAL AND METAL-COATED POWDERS

Charles B. Goodrich, Charles E. Manilla, and Ted Kirk, Huntington, W. Va., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 25, 1964, Ser. No. 369,743
10 Claims. (Cl. 75-5)



1. The method for decomposing a metal carbonyl from the group consisting of iron carbonyl and nickel carbonyl which comprises establishing a body of liquid metal carbonyl in a decomposing zone, dispersing particulate material in said body, subjecting said liquid metal carbonyl in said decomposing zone to pressure-temperature conditions such that said liquid metal carbonyl does not exceed the boiling point thereof, circulating a portion of said liquid metal carbonyl containing said dispersed particulate material to a pressurizing and heating zone wherein the pressure and temperature of said circulated metal carbonyl are elevated as compared to the pressure and temperature conditions in said decomposing zone but such that the boiling conditions for said circulated metal carbonyl in said pressurizing and heating zone are not exceeded, and injecting further heated and further pressurized metal carbonyl from said pressurizing and heating zone into said decomposing zone while stirring the liquid metal carbonyl in said decomposing zone to cause decomposition of metal carbonyl in said decomposing zone.

3,342,588

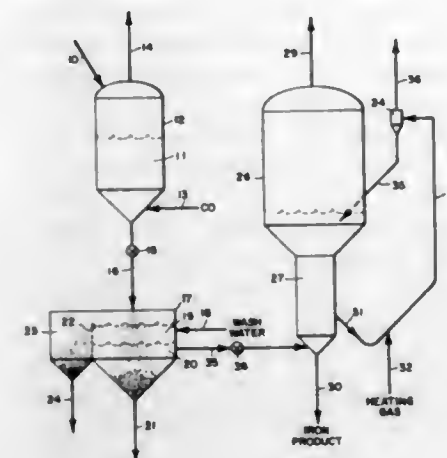
PURIFICATION OF IRON

Ralph Burgess Mason, Denham Springs, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 30, 1966, Ser. No. 598,024
14 Claims. (Cl. 75-5)

1. A process for purifying a mixture of particles of iron and impurities comprising forming a moving bed of said particles, adding the mixture to the top of the bed, passing carbon monoxide-containing gas upwardly through the bed at a rate sufficient to maintain said particles as a moving bed but insufficient to fluidize the bed,

reacting the iron and carbon monoxide to form iron carbonyl, withdrawing said impurities from the bottom of the moving bed, and



withdrawing said iron carbonyl from the moving bed and decomposing the carbonyl to form high purity iron and carbon monoxide.

3,342,589

METHOD FOR REFINING METALS AND ALLOYS WITH A MANGANESE-GERMANIUM TREATING AGENT

Yukio Ichinose, Kokubunji-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan

Filed Mar. 8, 1965, Ser. No. 437,955

Claims priority, application Japan, Mar. 11, 1964, 39/13,340

5 Claims. (Cl. 75-49)

1. A method for refining metals and alloys for use in combination with the vacuum melting thereof, comprising melting the metal or alloy in a vacuum and adding to the melt a refining agent consisting of manganese and germanium.

3,342,590

PRECIPITATION HARDENABLE STAINLESS STEEL

Clarence George Bleber, Ramsey, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,771

14 Claims. (Cl. 75-124)

2. A precipitation hardenable stainless steel characterized by a good combination of strength and toughness and consisting essentially of about 11% to 13% chromium, about 9% to about 11% nickel, about 1.5% to 3% molybdenum with the proviso that the sum of 0.8 times the chromium content plus the nickel and molybdenum content is at least about 20% and not more than about 23%, at least one metal selected from the group consisting of titanium and columbium, the titanium being from about 0.1% to not more than 0.5% and the columbium being from 0.1% to 1%, about 1% to 1.6% aluminum with the proviso that the sum of the aluminum and any co-present titanium does not exceed 1.9% and with the further proviso that the ratio of nickel to the sum of aluminum and any co-present titanium is at least 5 to 1, carbon in an amount up to 0.03%, up to 0.2% manganese, up to 0.2% silicon, up to 0.5% vanadium, up to 1% tantalum, up to 0.5% copper, up to 0.1% beryllium, up to 0.01% boron, up to 0.05% zirconium and the balance essentially iron.

3,342,591

FERROMAGNETIC COMPOUNDS AND METHOD OF PREPARATION

Richard J. Gambino, Yorktown Heights, Frederic Holtzberg, Pound Ridge, and Siegfried J. Methfessel, Montrose, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,388
14 Claims. (Cl. 75-152)

1. A rare earth compound selected from the group consisting of Gd₂Bi, Gd₂Sb and Dy₂Sb.

3,342,592

PHOTOGRAPHIC COLOR FILMS AND PROCESSES

Victor Fu-Hua Chu, East Brunswick, and Jacob Quentin Umberger, Holmdel, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 14, 1963, Ser. No. 287,746
4 Claims. (Cl. 96-22)

1. A color reversal process which comprises:

- (a) exposing imagewise to a multicolor scene a multi-layer photographic color film comprising
 - (1) a transparent film base bearing
 - (2) three water-permeable colloid-silver halide emulsion layers and
 - (3) a yellow filter layer

said layers so arranged and sensitized with the blue-sensitive layer outermost that each silver halide layer is adapted to record light from a different primary color region, blue, green and red, of the visible spectrum and contains a non-diffusing color-former which upon chromogenic development of the exposed silver halide with a primary aromatic amino color developing agent forms a dye complementary in color to the utilized sensitivity of the emulsion layer; said multilayer color film being characterized in that the outer blue-sensitive layer has a coating weight not more than about 3/5 of the silver halide coating weight of either of the green-sensitive and red-sensitive silver halide layers,

- (b) developing the original images formed in the multilayer color film during step (a) in a black-and-white silver halide developer solution, then

- (i) exposing the developed element to blue light impinging first upon the outermost blue-sensitive layer and color-developing said layer substantially to completion in a high-energy silver halide developer solution containing a primary aromatic amino color-developing agent and a relatively low quantity of an alkali metal sulfite, and then

- (ii) exposing the green-sensitive and red-sensitive layers to white or yellow light, and developing the exposed green- and red-sensitive layers in a low-energy silver halide developer solution containing a primary aromatic amino color-developing agent and a relatively high quantity of an alkali metal sulfite.

3,342,593

PHOTOPOLYMERIZATION PROCESS

Marion Burg, Metuchen, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 24, 1963, Ser. No. 311,229
12 Claims. (Cl. 96-28)

1. In a process for image production which comprises (A) exposing, until polymerization occurs, a photopolymerizable element with actinic radiation, imagewise and under atmospheric conditions, said photopolymerizable element having a support bearing a photopolymerizable stratum which is solid below 40° C. and thermally transferable by having a stick temperature above 40° C. and

below 220° C., said stratum comprising (1) an addition polymerizable, non-gaseous, ethylenically unsaturated compound containing at least one terminal ethylenic group, having a boiling point above 100° C. at normal atmospheric pressure and being capable of forming a high polymer by free-radical initiated, chain-propagating addition polymerization, (2) from 0.001 to 10 or more parts per hundred parts by weight of component (1) of a free-radical generating polymerization initiator system activatable by actinic radiation and (B) heating said exposed element to a temperature above said stick temperature and (C) transferring the unexposed polymer to a receptor, the improvement which comprises pre-heating said exposed element to a temperature above 35° C. but below the stick temperature of the underexposed areas, said process being further characterized in that said exposure step (A) must be sufficient that, after said pre-heating step, there must be provided a difference of at least 10° C. in the stick temperatures of said exposed and unexposed areas.

3,342,594 METHOD FOR MAKING COLOR PHOSPHOR SCREENS

Sam H. Kaplan, Chicago, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,400
8 Claims. (Cl. 96—36.1)

1. The method of producing on a substrate a mosaic type color phosphor screen having a plurality of interspersed elemental areas of different phosphor materials each exhibiting a unique color response characteristic, while preventing substantial cross-contamination between said phosphor materials, which method comprises:

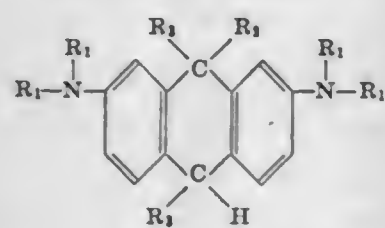
- depositing phosphor particles of a first predetermined type on preselected areas of said substrate;
- applying to said substrate a slurry coating including phosphor particles of a second predetermined type contained in a photosensitive organic gel;
- exposing selected areas of said coating to actinic rays in a predetermined pattern to establish a latent design image in said coating;
- developing the partially exposed coating to remove certain portions thereof as determined by said latent image;
- and including an organic amine in said slurry coating as applied to said substrate.

3,342,595 NON-SILVER PHOTOSENSITIVE PRINTOUT COMPOSITIONS

Robert H. Sprague, Chagrin Falls, and Juergen H. Keller, Brookpark, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey
No Drawing. Filed Sept. 11, 1964, Ser. No. 395,903
11 Claims. (Cl. 96—48)

1. A composition which prints out a visible image directly as a result of exposure to visible light said composition being an intimate mixture consisting essentially of

- (1) at least one colorless anthracene compound represented by the general formula

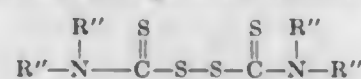


wherein each R₁ is a monovalent radical selected from the group consisting of —H, lower alkyl, aryl,

and the several R₁'s may be the same or different and R₂ is a monovalent radical selected from the group consisting of H and alkyl and R₃ is a monovalent radical selected from the group consisting of aryl, substituted aryl, alkyl and H; and

- (2) at least one activator selected from the group consisting of (a) organic bromine compounds represented by the general formula A—C—Br₃ wherein A represents a monovalent radical selected from the group consisting of H, Cl, Br, alkyl, haloalkyl, aryl and aroyl and (b) colorless non-toxic sulfur containing organic compounds selected from the group consisting of

- 1. mercapto compound represented by the general formula R—SH wherein R is a heterocyclic nucleus of the type commonly used in cyanine dye chemistry;
- 2. disulfides represented by the formula R—S—S—R wherein R has the same meaning as in 1 above;
- 3. disulfides of the general formula



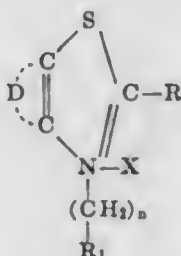
wherein R'' is selected from the group consisting of H, lower alkyl and aryl;

- 4. sulfides wherein the sulfide is attached to a carbon atom in a heterocyclic ring wherein the same carbon atom is attached to two non-carbon atoms; and
- 5. thiourea and substituted thioureas; and
- 6. acrylic thioacetanilides said activator being present in said mixture in amounts ranging between 0.1 and 10 parts by weight for each part by weight of said anthracene compound.
- 9. The process of producing a direct print-out image from originally colorless compounds which comprises preparing the composition of claim 1 in the form of a thin layer, exposing said layer to a pattern of visible light whereby a image prints out directly as a result of said exposure.
- 10. The process of claim 9 wherein the visible image is fixed by heating the layer containing the visible image.
- 11. The process of claim 9 wherein the visible image is fixed by washing the layer containing the visible image with a solvent for at least some of the constituents present in the photosensitive composition before exposure.

3,342,596 BENZOTHAZOLIUM COMPOUNDS FOR CONTROLLING OVERDEVELOPMENT

James L. Graham, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 11, 1964, Ser. No. 351,218
25 Claims. (Cl. 96—50)

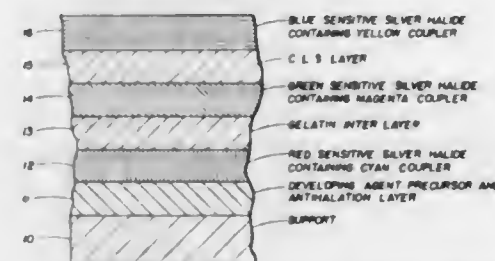
11. A hardening composition for use in an aqueous pre-hardener bath for treating a photographic element having at least one gelatino-silver halide emulsion layer comprising a gelatin hardening agent and a compound for preventing overdevelopment of the top emulsion layer and having the following general formula:



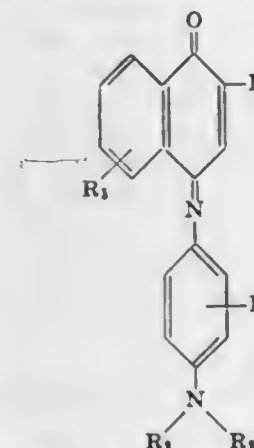
wherein R represents a member selected from the class consisting of a hydrogen atom and a lower alkyl group,

R₁ represents a member selected from the class consisting of a hydrogen atom, an aryl group and an arylethiazolyl group, D represents the non-metallic atoms necessary to complete an aromatic nucleus, X represents an acid radical and n represents a positive integer of from 1 to 26 when R₁ represents a member selected from the class consisting of a hydrogen atom and an arylethiazolyl group, and n represents a positive integer of from 1 to 3 when R₁ represents an aryl group.

3,342,597 COLOR DEVELOPER PRECURSOR Donald P. Harnish and Richard L. Reeves, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey Filed June 8, 1964, Ser. No. 373,278 20 Claims. (Cl. 96—55)



1. An unexposed light sensitive silver halide emulsion having uniformly dispersed therein, a paraphenylenediamine precursor having the following general formula:



in which R is an electron withdrawing group selected from the class consisting of —COCH₃, —COOC₂H₅ and —CONHR₄, wherein R₄ is selected from the class consisting of hydrogen, alkyl (1-4 carbon atoms),

- CH₂CH₂SO₃H, —CH₂CH₂OH, —CH₂CH₂COOH
- CH₂CH₂NHSO₃CH₃, —CH₂CH₂SO₂NHCH₃, phenyl,
- C₆H₄SO₃H, —C₆H₄COOH, —C₆H₃(OH)₂

and —C₆H₃(COOH)₂, R₁ is selected from the class consisting of hydrogen, alkyl (1-4 carbon atoms), substituted alkyl, alkoxy and substituted alkoxy groups, R₂ and R₃ are selected from the class consisting of alkyl (1-4 carbon atoms) and substituted alkyl and R₅ is selected from the class consisting of hydrogen and solubilizing groups such that the total number of carbon atoms comprising R, R₁, R₂, R₃ and R₅ is less than 16.

3,342,598 PHOSPHOROUS AND MALEIC ACID BUFFERS FOR FERRICYANIDE PHOTOGRAPHIC BLEACHES Charleton C. Bard, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey Filed June 14, 1965, Ser. No. 463,698 19 Claims. (Cl. 96—60)

18. In a photographic process of silver halide color photography in which a silver image and a color image

are produced by color development and then subsequently the said silver image is converted to a silver salt image by a bleaching step and then the said silver salt image is removed by a fixing step, the improvement comprising the use in the said bleaching step of a buffered bleach solution that is strongly buffered in the 6 to 7 pH range with increasing buffer capacity as the pH is forced toward 6, said solution comprising:

- (1) from about 5 to about 200 grams per liter of a water-soluble ferricyanide, and
- (2) up to about 100 grams per liter of a buffer selected from the class consisting of phosphorous acid, water-soluble salts of phosphorus acid, maleic acid and water-soluble salts of maleic acid.

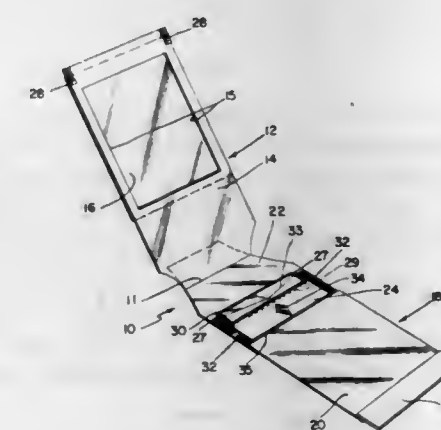
3,342,599 SCHIFF BASE DEVELOPING AGENT PRECURSORS

Richard L. Reeves, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 7, 1965, Ser. No. 461,698
17 Claims. (Cl. 96—66.2)

1. In a dry silver halide developing composition adapted to be mixed with water for developing a latent image in a silver halide emulsion the improvement comprising, as a developing agent precursor, a Schiff base which is a condensate of a salicylaldehyde with a silver halide developing agent, said condensate having at least one salicylideneamino group and having the property of hydrolyzing rapidly in alkaline medium at a pH above 9 to release a primary amino silver halide developing agent.

3,342,600 PHOTOGRAPHIC FILM UNIT

Rogers B. Downey, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 25, 1963, Ser. No. 298,001
14 Claims. (Cl. 96—76)



- 1. A photographic film unit comprising:
 - (a) a first element having a photosensitive portion adapted to be exposed and thereafter processed;
 - (b) a second element having a portion adapted after exposure of said photosensitive portion to be superposed with at least said exposed photosensitive portion of said first element, whereby a processing fluid may be distributed between said elements;
 - (c) an elongated flexible rupturable container releasably carrying said fluid and located between said element so as to extend transversely thereacross;

- (d) a frangibly-closed mouth extending substantially along the length of said container through which said fluid is discharged from said container in response to the progressive application of a compressive force to the walls thereof;
- (e) said container being mounted on one of said elements with said mouth facing said photosensitive portion of said first element; and
- (f) means for controlling the distribution of said fluid between said elements, said means including a sheet-like member extending transversely substantially across the width of said film unit and overlying at least the mouth of said container and a portion of said one element upon which said container is mounted, said member being secured to said one element at a central area of given configuration and at its extreme transverse marginal areas whereby, during said progressive application of a compressive force, said fluid, upon release from said container, is obstructed against passage at said secured areas, is first tunneled by said overlying sheet-like member and said one element to which it is secured along two paths, one at each side of said secured central area, and is merged into a continuous mass immediately beyond said secured central area prior to introduction thereof to said photosensitive portion of said first element, whereby said fluid is predominantly advanced in a direction generally parallel to the direction of progressive compression with a fluid front substantially normal to said direction and is distributed between and completely throughout the superposed facing unsecured portions of said elements.

3,342,601

LITHOGRAPHIC PRINTING PLATE

James F. Houle and Gilden R. Van Norman, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 27, 1964, Ser. No. 347,931

14 Claims. (Cl. 96—86)



1. A presensitized planographic printing plate comprising a support having on at least one side a hydrophilic surface provided by coating with an aqueous solution consisting essentially of a complex of an alkyl titanate and a solubilizing amount of at least one solubilizing component selected from the class consisting of fluosilicic acid, hydrofluoric acid, fluoboric acid, hydrogen peroxide and a mixture of hydrogen peroxide and phosphoric acid, and having thereon a light-sensitive coating.

3,342,602

NON-SILVER PHOTOSENSITIVE PRINTOUT COMPOSITIONS

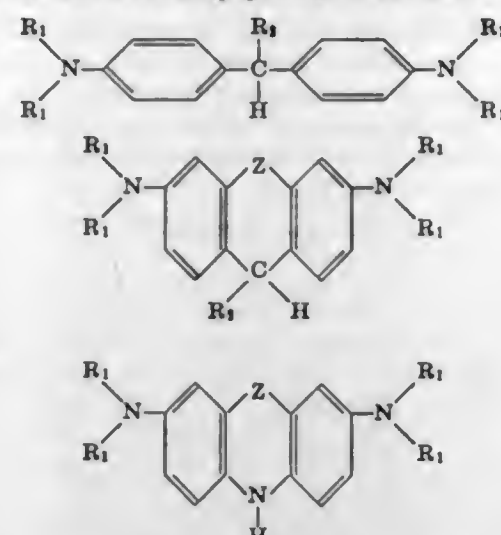
Robert H. Sprague, Chagrin Falls, John A. Stewart, Parma, and James M. Lewis, Cleveland, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,097

9 Claims. (Cl. 96—90)

1. A composition which prints out a visible image directly as a result of exposure to visible light said composition being an intimate mixture consisting essentially of

- (1) at least one leuco compound selected from the group consisting of leuco compounds represented by one of the following general formulas



and

wherein each R_1 is selected from the group consisting of H, lower alkyl and aryl and not all of the R_1 's need be the same; R_2 is selected from the group consisting of H, lower alkyl and aryl; and Z represents a member selected from the group consisting of $>A$, $>S$, $>Se$, and $>NH$; and

- (2) an activator for said leuco compound consisting essentially of

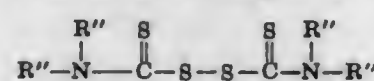
- (a) at least one organic halogen compound represented by the general formula $A-C-X$, wherein A represents a member of the group selected from alkyl, aryl, aroyl, aralkyl, H, haloalkyl, Cl and Br and each X is Cl or Br; and

- (b) at least one colorless non-toxic sulfur compound selected from the group consisting of

- (1) mercapto compounds represented by the formula $R-SH$ wherein R is a heterocyclic nucleus of the type commonly used in cyanine dye chemistry;

- (2) disulfides represented by the formula $R-S-S-R$ wherein R has the same meaning as in 1 above;

- (3) disulfides of the general formula



wherein R'' is selected from the group consisting of H, lower alkyl and aryl;

- (4) cyclic sulfur compounds wherein the sulfur is attached to a carbon atom in a heterocyclic ring wherein the same carbon atom is attached to two non-carbon atoms;

- (5) thiourea and substituted thioureas; and

- (6) acyclic thioacetanilides said activators being present in the relative proportions of between 1.0 and 100 parts by weight of organic halogen compound per part by weight of leuco compound and between 0.1 and 10 parts by weight of sulfur compound per part by weight of leuco compound.

3,342,603

NON-SILVER PHOTOSENSITIVE PRINTOUT COMPOSITIONS

Robert H. Sprague, Chagrin Falls, and John A. Stewart, Parma, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,859

12 Claims. (Cl. 96—90)

1. A composition which prints out a visible image directly as a result of exposure to visible light, said composition being an intimate mixture consisting essentially of

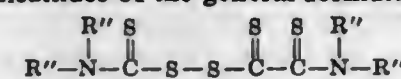
- (1) a dye base selected from the group consisting of styryl dye bases and cyanine dye bases; and

- (2) an activator for said dye base consisting of (a) at least one organic halogen compound represented by the general formula $A-C-X$, wherein A represents a monovalent radical selected from the group consisting of alkyl, aryl, aroyl, aralkyl, haloalkyl, H, Cl and Br and each X is a halogen atom selected from the group consisting of Cl and Br and (b) at least one colorless non-toxic sulfur-containing compound selected from the group consisting of the following:

- (a) mercapto compounds represented by the formula $R'-SH$ wherein R' is a heterocyclic nucleus of the type commonly used in cyanine dye chemistry;

- (b) disulfides represented by the general formula $R'-S-S-R'$ wherein each R' has the same meaning as in (a);

- (c) disulfides of the general formula



wherein R'' represents H, alkyl and aryl;

- (d) thiourea compounds;

- (e) acyclic thioacetanilides;

- (f) rhodanines

3,342,604

NON-SILVER PHOTOSENSITIVE PRINTOUT COMPOSITIONS

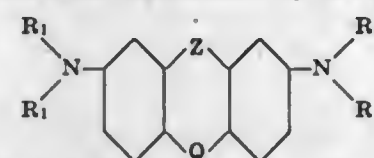
Robert H. Sprague, Chagrin Falls, John A. Stewart, Parma, and James M. Lewis, Cleveland, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,892

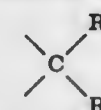
12 Claims. (Cl. 96—90)

1. A non-silver composition which prints out a visible image directly as a result of exposure to visible light said composition consisting essentially of

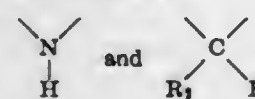
a leuco compound represented by the general formula



wherein each R_1 is selected from the group consisting of H, lower alkyl, and aryl, and the several R_1 's need not all be the same; Z is selected from the group consisting of $>O$, $>S$, $>Se$ and



wherein R represents H or alkyl; and Q is selected from the group consisting of



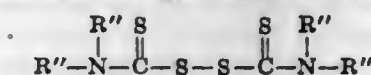
wherein R_2 is H, alkyl or aryl;

an activator consisting of (a) at least one organic halogen compound represented by the general formula $A-C-X$, wherein A represents a monovalent radical selected from the group consisting of H, Cl, Br, unsubstituted alkyl, substituted alkyl (particularly haloalkyl), aralkyl, unsubstituted aryl, substituted aryl, and aroyl; and each X is a halogen atom selected from the group consisting of Cl and Br and (b) at least one organic sulfur compound selected from the group consisting of:

- (1) mercapto compounds represented by the formula $R-SH$ wherein R is a heterocyclic nucleus represented by the formula commonly used in cyanine dye chemistry;

- (2) disulfides of the type $R-S-S-R$ wherein R has the same meaning as in 1 above;

- (3) disulfides of the general formula



wherein R'' is selected from the group consisting of H, lower alkyl and aryl;

- (4) sulfides wherein the sulfide is attached to a carbon atom in a heterocyclic ring wherein the same carbon atom is attached to two non-carbon atoms;

- (5) thiourea and substituted thioureas;

- (6) acyclic thioacetanilides; and

- (7) rhodanines;

and a dye base selected from the group consisting of styryl dye bases and cyanine dye bases.

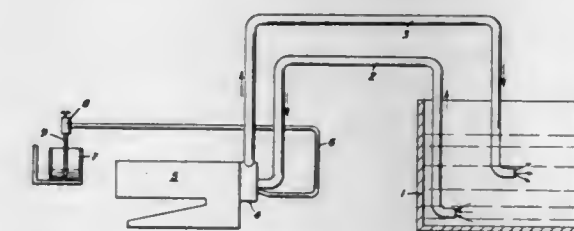
3,342,605

INCORPORATION OF CERTAIN ADDENDA INTO AQUEOUS GELATIN SOLUTIONS

Fred C. McCrossen and James M. Owens, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 7, 1963, Ser. No. 314,314

5 Claims. (Cl. 96—94)



2. A method of incorporating into gelatin-silver halide photographic emulsions, solutions of addenda prone to cause the formation of coagulated particles therein, said method being characterized by simultaneously supplying separate flows of the photographic emulsion and the addenda solution to a common junction point where they are instantly subjected to violent intermixing upon coming in contact whereby a mixture is obtained without any substantial formation of coagulated gelatin particles, and wherein the rate of flow of the photographic emulsion is at least 15 times that of the addenda solution.

3,342,606

PHOTOGRAPHIC RESIN COMPOSITIONS

Julius L. Silver, Somerset, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 23, 1966, Ser. No. 574,293

21 Claims. (Cl. 96—114)

1. A photographic composition comprising a phenolic resin and silver nitrate wherein the silver nitrate is present in a ratio of from about 1 part per 30 parts phenolic resin to 1 part to about 7 parts phenolic resin.

8. A photographic plate comprising a thermally modified coating of the composition of claim 7 on a suitable substrate.

3,342,607

METHOD OF PROCESSING CEREAL GRAIN

Frank D. Hickey, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Aug. 1, 1966, Ser. No. 569,361

6 Claims. (Cl. 99—2)

1. A method of processing cereal grain comprising the steps of cooking the grain at its normal initial moisture content of from about 9 to 13 percent by weight with steam at superatmospheric pressure of at least about 20 p.s.i.g. for a time sufficient to raise the moisture content

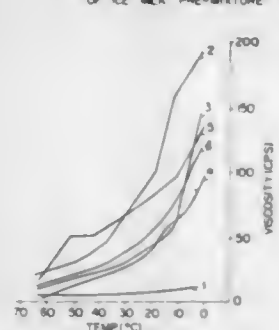
of the grain to not more than 25 percent by weight, drying the cooked grain to reduce its moisture content to not more than about 13 percent by weight, reconstituting the dried grain by steaming it to increase its moisture content from about 15 percent to 25 percent by weight and convert it into a pliable condition, and deforming the reconstituted grain before it has cooled to ambient temperature to disorganize its tissue structure and enhance enzymatic conversion of its starch into dextrose.

3,342,608

PRODUCT AND METHOD FOR IMPROVING FROZEN DESSERTS

Osamu Shoji, Ikeda-shi, Osaka-fu, Kazuo Wada, Sakai-shi, Osaka-fu, Atsushi Tamura, Toyonaka-shi, Osaka-fu, and Keiichi Wada, Nishiyodogawa-ku, Osaka, Japan, assignors to Dainippon Pharmaceutical Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Sept. 23, 1963, Ser. No. 310,710
Claims priority, application Japan, Sept. 25, 1962, 37/42,109
4 Claims. (Cl. 99—136)

COOLING EFFECT ON THE VISCOSITY OF ICE MILK PRE-MIXTURE

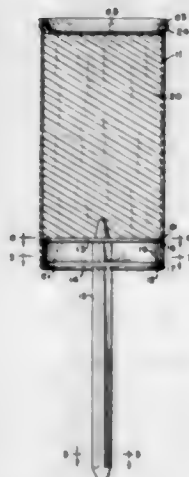


1. The method of producing a frozen dessert which comprises adding to the mix for said dessert selected from the group consisting of ice cream, ice milk, fruit sherbet and water ice from 0.05 to 0.5 percent based on the total weight, of tamarind seed gelose as a stabilizer.

3,342,609

CONTAINER

Herbert Bank and Paul H. Carter, Baltimore, Md., assignors to Maryland Cup Corporation, Owings Mills, Md., a corporation of Maryland
Filed Mar. 28, 1966, Ser. No. 538,095
2 Claims. (Cl. 99—137)



1. A novelty confectionery container comprising a smooth walled cylindrical shell of a transparent resiliently flexible material open at either end, one open end having an intumed edge and the opposite end being outwardly flared, a pair of discs slidably mounted within the shell,

said discs being relatively rigid and having their outer edges undercut to a knife edge and in forcible contact with the interior surface of the shell, said discs being disposed in spaced relation to each other and a handle integral with said discs to hold them in fixed spaced relation and to facilitate manually sliding them axially in the shell, the disc adjacent the intumed edge being adapted to abut the intumed edge in one of its extreme end positions, whereby a predetermined volume of space is established in the shell between the other disc and the other end of the shell for measuring and holding a given quantity of material to be carried by the container.

3,342,610

METHOD AND COMPOSITION FOR PRESERVATION OF MUSHROOMS

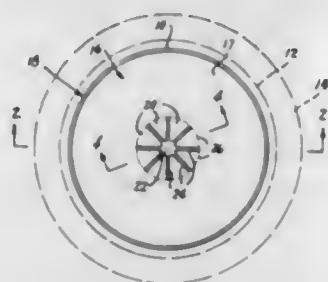
Clinton Clair Molsberry, 15763 96th Ave., Surrey, British Columbia, Canada
No Drawing. Filed Dec. 2, 1963, Ser. No. 327,509
7 Claims. (Cl. 99—154)

1. A composition for treating mushrooms to retain their delicate texture and flavor, the composition comprising a mixture of sodium sulphate (anhydrous) 27.5% by weight, disodium phosphate (anhydrous) 25.8% by weight and sodium metabisulphite 45.7% by weight.

3,342,611

METHOD AND MEANS OF PACKAGING FOOD

Henry B. Hunter, Jr., Norfolk, Va., assignor to H. B. Hunter Company, Inc., Norfolk, Va.
Filed June 3, 1964, Ser. No. 372,255
4 Claims. (Cl. 99—154)



1. An article for maintaining a constant surplus of sugar syrup in the head space of a hermetically sealed food container which comprises a reservoir member, said reservoir member being formed of relatively inert material, said reservoir member having a substantially flat bottom portion and an annular upstanding rim portion, said bottom portion being of substantially the same cross section as the portion of said container defining said head space, said bottom portion having a liquid metering means therein permitting gradual downward flow of a portion of said sugar syrup, said annular upstanding rim portion being of substantially the same height as the head space in said food container, said liquid metering means comprising a plurality of centrally disposed metering members, said metering members defining a centrally disposed aperture and a plurality of slots radiating from said aperture, said aperture and said slots being dimensioned to feed sugar syrup from said reservoir member as the food absorbs the sugar syrup therebelow.

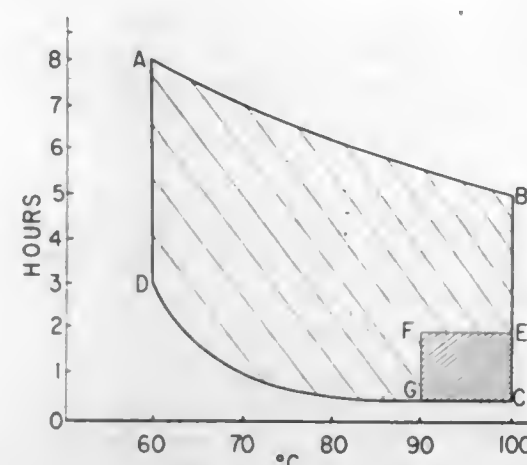
3,342,612

DESSERT GEL

Stanley E. Foster, Thomaston, Maine, and Arthur L. Moirano, Mountainside, N.J., assignors to Marine Colloids, Inc., Springfield, N.J., a corporation of Delaware
Filed Jan. 26, 1965, Ser. No. 428,171
17 Claims. (Cl. 99—131)

1. A water-soluble product in solid form adapted to be dissolved in water to form a gel which comprises as a

gelling agent carrageenin, a major proportion of said carrageenin being carrageenin extracted from a sea plant selected from the group consisting of *Eucheuma spinosum* and *Agardhiella tenera*, a 1% water solution of which is responsive to the presence of calcium cations to form a

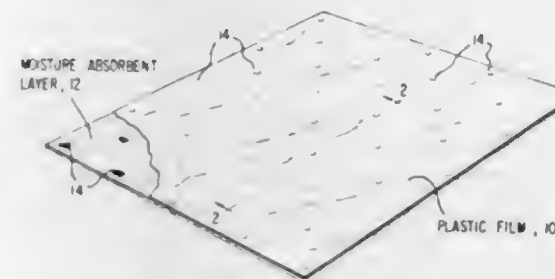


gel having a gel break force of at least 80 gms. and a minor proportion of said carrageenin being carrageenin extracted from a sea plant other than *Eucheuma spinosum* and *Agardhiella tenera*, a 1% water solution of which is responsive to the presence of potassium cations to form a gel having a gel break force of at least 80 gms.

3,342,613

CONSTRUCTION OF A BLANKET FOR MOISTURE-PAK POULTRY SHIPPING SYSTEM

Frederick B. Schelhorn, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Sept. 9, 1963, Ser. No. 307,387
3 Claims. (Cl. 99—171)



1. A blanket for enclosing comestibles having protruding segments within a high moisture environment for storage under refrigeration comprising a sheet of highly coherent, water absorbent, single ply paper, a thin film of moisture impermeable, stretchable plastic material overlying said sheet, and spots of water-proof adhesive between said single ply sheet and stretchable film at widely spaced intervals approximating two inches between centers bonding said sheet to said film at said spots with the bonded areas being substantially less than the unbonded areas and each unbonded area between adjacent bonded spots having a larger area than the cross section of the protruding segments of the comestibles, each said bond being a tight, integral structure developing substantially the tear strength of the full thickness of said single ply sheet and adjacent bonds being anchor points between which said unbonded areas of film move independently and stretch relative to said underlying unbonded areas of paper sheet to accommodate protruding segments of the wrapped comestible and not puncture the blanket.

3,342,614

FIRE RESISTANT ASPHALTIC COMPOSITIONS

Russell E. Koons, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 8, 1961, Ser. No. 158,130
2 Claims. (Cl. 106—15)

1. A fire resistant composition consisting essentially of 80 to 97 percent by weight of an asphalt having a penetration of 0 to 35 at 77° F. and a softening point of 130 to 300° F. and 3 to 20 percent by weight of a fire retardant chemical, wherein the fire retardant chemical is a chlorinated paraffin.

3,342,615

MANUFACTURE OF KILN FURNITURE

Eldon D. Miller, Jr., Bridgeville, Pa., assignor to Harblson-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,283
12 Claims. (Cl. 106—44)

1. A batch consisting essentially of finely divided silica, at least 1%, by weight, of the batch being volatilized silica, silicon carbide, and a high alumina refractory material selected from the group consisting of alumina, aluminum ores, and mixtures thereof containing at least about 50% Al_2O_3 , by analysis; and hydrated alumina, the silicon carbide constituting from about 50 to 70%, by weight, of the refractory and the major portion thereof being about —4+48 U.S. standard mesh screen sizing with not more than about 20% of the silicon carbide passing a 70 U.S. standard mesh screen, from about 0.2 to 10% of the hydrated alumina, substantially all said hydrated alumina being —325 mesh, the high alumina material and silica constituting the remainder of the batch and being present in a weight ratio of alumina to silica between about 90/10 and 60/40, the silica substantially all being —200 mesh, total silica being between 1 and 10%, the alumina material being size graded to prepare a brickmaking batch.

3,342,616

REFRACTORY WITH PERICLASE-BASED STABILIZED SOLID SOLUTION

Allen M. Alper, Corning, and Robert C. Doman, Horseheads, N.Y., assignors to Corhart Refractories Company, Louisville, Ky., a corporation of Delaware

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,772
7 Claims. (Cl. 106—59)

1. A basic refractory comprising essentially a stabilized solid solution phase of Li_2O and selected R_2O_3 oxide in a periclase type crystal lattice of RO oxide, at least 50% by weight of said RO oxide being MgO and 0% to 50% by weight of said RO oxide being selected from the group consisting of CaO , MnO , FeO , CoO , NiO , CuO , ZnO , CdO and mixtures thereof, said selected R_2O_3 oxide being selected from the group consisting of Al_2O_3 , Cr_2O_3 , Mn_2O_3 , and combinations thereof, and said refractory as a whole consisting of, analytically by weight:

- 0.1% to 15% Li_2O
- at least 6% of the aforesaid selected R_2O_3 oxide
- at least 35% of the aforesaid RO oxide
- the sum of (a) plus (b) plus (c) being at least 90%
- 0% to 7% fluorine
- 0% to 8% SiO_2
- 0% to 10% TiO_2
- 0% to 2% other incidental impurities naturally occurring in the raw mineral materials employed therefor.

ERRATUM

For Class 106—287 see:
Patent No. 3,342,620

3,342,617

NACREOUS PIGMENT COMPOSITIONS

Julius Jackson, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,283
13 Claims. (Cl. 106—291)

1. A stabilized, light-fast, non-reactive nacreous flake pigment composition consisting essentially of a flake substrate coated with a hydrous metal oxide layer having a thickness of from 20–250 millimicrons and on which an impervious, transparent coating of from 3–66%, by weight, based on the total weight of the pigment of an insoluble metal pyrophosphate selected from the group consisting of manganous and ferric pyrophosphate is superimposed.

3,342,618

THERMOGRAPHIC COPYING MATERIAL

Warner L. Peticolas, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,308
14 Claims. (Cl. 117—36.7)

1. An improved thermographic copying method, which method comprises:

selectively heating areas, corresponding to the areas of an image to be copied, of a copying medium comprising a film of organic resinous film-forming material having uniformly dispersed therein inclusion compounds of host molecules containing guest molecules, said inclusion compounds being decomposed by heat to release the guest molecules from the host molecules, said guest molecules being capable of disrupting said film upon release from the host molecules,

only said heating in the selected areas being carried out above the decomposition point of said inclusion compounds to cause the release of said guest molecules and thereby disruption of the film-forming material to form the image in the copying medium.

5. An improved thermographic copying medium comprising a normally solid film of organic resinous film-forming material and inclusion compounds substantially uniformly distributed adjacent a surface of said film,

said inclusion compounds comprising clathrates formed of crystalline hydroquinone host molecules containing carbon dioxide guest molecules, said clathrates being decomposed by heat to release the carbon dioxide guest molecules from the crystalline hydroquinone host molecules, said carbon dioxide guest molecules being capable of disrupting said film upon release from the crystalline hydroquinone host molecules,

said film comprising a synthetic thermoplastic vinylidene chloride polymer and is disposed as a solid coating on the surface of a transparent synthetic polymeric substrate having a higher softening point than said film.

3,342,619

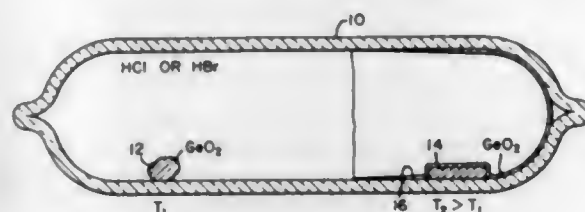
METHOD FOR GROWING GERMANIA FILMS

Ting Li Chu, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 16, 1964, Ser. No. 360,266
8 Claims. (Cl. 117—201)

1. In a method of forming a layer of germania on a substrate, the steps comprising: heating a germania source at a first temperature in an atmosphere containing at

least one member of the group consisting of hydrogen chloride and hydrogen bromide; heating a substrate at a second temperature greater than said first temperature



in said atmosphere to cause gaseous products from said germania source to be transported to said substrate and to form germania thereon.

3,342,620

PLASTIC SULPHUR COMPOSITION

Georges Molinet, Lacq, and Bernard Audouze, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

No Drawing. Filed May 4, 1964, Ser. No. 364,830
Claims priority, application France, May 6, 1963, 933,847; Nov. 12, 1963, 953,326
8 Claims. (Cl. 106—287)

8. A process of preparing a plastic composition comprising elemental sulfur and an organic substance selected from the group consisting of polythioformaldehyde of formula $HS(CH_2S)_nH$ which contains 62 to 76% by weight of combined sulphur wherein the average value of n ranges from 3 to 7, and a condensation product of said polythioformaldehyde with an organic compound selected from the group consisting of a ketone having 2 or 12 carbon atoms in its molecule beside the carbon of the ketonic CO group, phenol, urea, thiourea, dicyanamide, styrene and maleic acid, said process comprising the steps of treating and homogenizing at a temperature ranging from 145° to 170° C. 85 to 98 parts by weight of elemental sulfur with 15 to 2 parts by weight of said organic substance in order to obtain a homogeneous melt.

3,342,621

ELECTROSTATIC PRECIPITATION PROCESS

Marcel A. R. Point, Grenoble, and Guy Nicolas, Meylan, France, assignors to SAMES—Societe Anonyme de Machines Electrostatiques, Grenoble, France, a joint-stock company of France

Filed Aug. 5, 1963, Ser. No. 299,758
Claims priority, application France, Aug. 3, 1962, 905,977, Patent 1,347,012
1 Claim. (Cl. 117—17)



In a method for electrostatically coating a surface, in combination, electrically charging a series of particles of given resistivity to a predetermined D.C. potential, applying a cloud of the charged particles at room temperature to the surface to be coated to form a coating thereon, heating a liquid having a resistivity lower than that of said particles to vaporize the same, directing the vapor into contact with said surface, and condensing said vapor

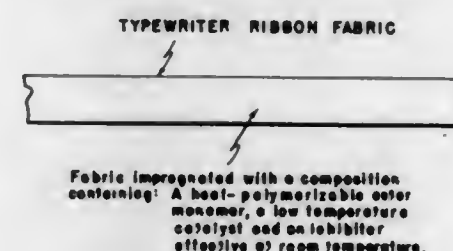
on said surface during the application of the particles thereto, to thereby facilitate the progressive evacuation of the charges on said particles from said coating.

3,342,622

TYPEWRITER RIBBON IMPREGNATED WITH INK COMPRISING HEAT-POLYMERIZABLE ESTER MONOMER

John Henry Croker, Broxbourne, England, assignor to Gestetner Limited, London, England, a British company

Filed Aug. 10, 1964, Ser. No. 388,680
4 Claims. (Cl. 117—36.1)



1. A typewriter ribbon impregnated with an ink comprising a heat-polymerizable ester monomer selected from the group consisting of methyl methacrylate, butyl methacrylate, monomethyl ethylene glycol acrylate, decyl acrylate, di-allyl phthalate, and di-allyl isophthalate, a low temperature catalyst to allow polymerization of the monomer at low temperatures and a polymerization inhibitor which is effective at room temperature but substantially ineffective at elevated temperatures.

3,342,623

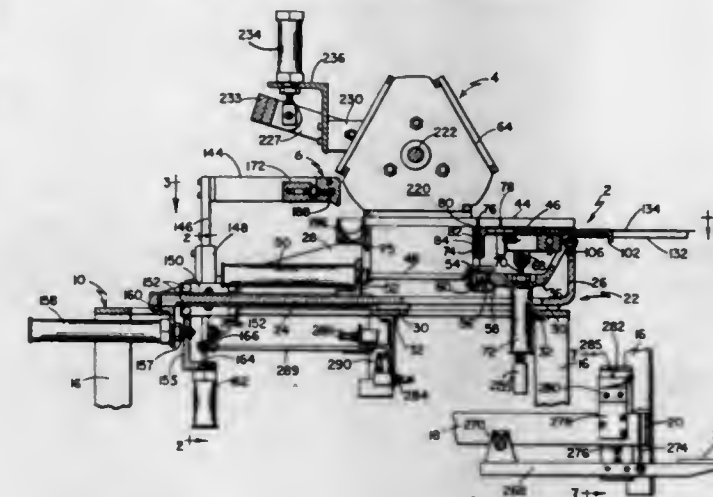
HEAT-SENSITIVE ELEMENTS FOR USE IN THERMOGRAPHY

William J. Dulmage, William A. Light, and Sterling S. Sweet, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed June 11, 1965, Ser. No. 463,354
The portion of the term of the patent subsequent to July 12, 1983, has been disclaimed
8 Claims. (Cl. 117—36.1)

1. A coated thermographic element comprising a flexible supporting sheet and coated thereon an outer layer of thermoplastic polymeric resin in highly crystallized state having an original first order transition temperature in the range from 50°–200° C. and at least 50° C. above the glass transition temperature of the resin film, said resin film in said original crystallized state being essentially nontacky and nonviscous and essentially nontransferable by pressure at temperatures below said original first order transition temperature, said resin film having melt viscosity at said original first order transition temperature greater than 100 poises and having the property of remaining, for a period of at least one minute after first order transition, in a transferable state in which resin can be transferred from the coated layer by pressure at a transfer temperature at least 15° C. below said original first order transition temperature, the melt viscosity of the resin film in said transferable state at said transfer temperature being in the range from 100 to 50,000 poises, the thickness of said resin film being in the range from about 0.05 to about 0.3 gram per square foot, said layer having incorporated therein a compatible colorant, said entire element being nonabsorptive of infrared radiation to the extent that less than 20 percent of incident radiation in the range from 1.0 to 1.5 μ is absorbed by the element, the polymeric thermoplastic resin of such layer being a member selected from the group consisting of linear condensation polyesters of aliphatic and cycloaliphatic diols with aliphatic and cycloaliphatic dicarboxylic acids having molecular weights corresponding to intrinsic viscosity in η range from about 0.25 to about 0.70.

3,342,624
METHOD AND APPARATUS FOR COATING SHOE PARTS

Jacob S. Kamborian, 70 Crestwood Road, West Newton, Mass. 02165
Filed May 11, 1964, Ser. No. 366,513
24 Claims. (Cl. 117—38)



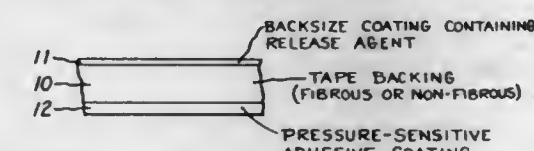
1. A method of coating a portion of a shoe part with a stiffener having a predetermined contour comprising: providing a stencil plate with a portion having an opening corresponding in shape to said contour; supporting said shoe part so that it is in engagement with the under surface of the stencil plate with said shoe part portion lying beneath said opening; depositing coating material on the upper surface of at least one of said portions; and causing a scraper blade to intersect the deposited material and move across the upper surface of the stencil plate and over the opening while it is bearing against the upper surface of the stencil plate to thereby force the coating material into the opening and cause the coating material to fill the opening and adhere to said shoe part portion.

7. An apparatus for coating a portion of a shoe part with a stiffener having a predetermined contour comprising: a stencil plate with a portion having an opening corresponding in shape to said contour; means for supporting said shoe part so that it is in engagement with the under surface of the stencil plate with said shoe part portion lying beneath said opening; a scraper blade mounted for movement in a path across the upper surface of the stencil plate and over the opening; means for depositing coating material on the upper surface of at least one of said portions within the path of movement of the scraper blade; and means for effecting said movement of the scraper blade while it is bearing against the upper surface of the stencil plate whereby the scraper blade intersects the deposited coating material and forces it into the opening and causes the coating material to fill the opening and adhere to said shoe part portion.

3,342,625

MALEAMIC ACID-VINYL COPOLYMER RELEASE AGENT FOR PRESSURE-SENSITIVE ADHESIVE TAPE

Richard F. Grossman, Albany, and Charles S. Webber, Loudonville, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Aug. 11, 1964, Ser. No. 388,907
4 Claims. (Cl. 117—68.5)



1. A pressure-sensitive adhesive tape comprising:
(a) a flexible backing member;

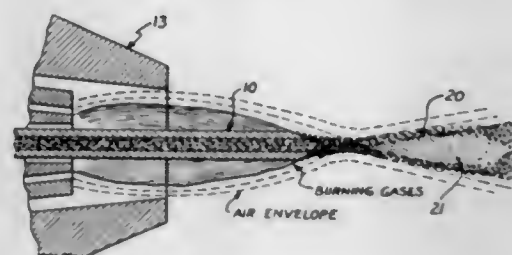
- (b) a pressurized-sensitive adhesive coating on one surface of said backing member; and
- (c) a release coating on the opposite surface of said backing member, said release coating containing as the active release component thereof a copolymer of an N-substituted long chain alkyl maleamic acid having a chain length of at least 16 C atoms with a vinyl co-monomer having a polar pendant group, the mol ratio of alkyl maleamic acid to vinyl co-monomer ranging from 1:3 to 3:2.

3,342,626

FLAME SPRAY METALLIZING

Clyde S. Batchelor, Trumbull, and Warren R. Jensen, Stratford, Conn., assignors, by mesne assignments, to Avco Corporation, Westboro, Mass., a corporation of Delaware

Filed Oct. 2, 1963, Ser. No. 313,355
8 Claims. (Cl. 117-105.2)



1. The method of coating a substrate with a metal matrix and an inorganic particle inclusion which comprises flame spraying said substrate in a direction substantially normal thereto with composite flame spraying wire composed of a metallic tube and discrete particles of ceramic oxide and carbide modifying material dispersed in a thixotropic suspending medium substantially filling the confines of said tube, said suspending medium being disintegrable under flame spraying conditions and concomitantly providing a barrier against substantial disintegration of said inorganic material or substantial alloying thereof with the tube metal.

3,342,627

METHOD FOR IMPREGNATING GRAPHITE BODIES AND THE ARTICLE PRODUCED THEREFROM

Ralph R. Paxton and George I. Beyer, St. Marys, Pa., assignors to Pure Carbon Company, Inc., St. Marys, Pa., a corporation of Pennsylvania

No Drawing. Filed May 5, 1964, Ser. No. 365,152
23 Claims. (Cl. 117-113)

1. The method for improving the oxidation resistance of a porous carbon body which comprises impregnating said body with a fluid molten composition of an inorganic phosphate at a pressure of from about 125 to 500 atmospheres at a temperature of from about 400 to 1500° C. to fill a substantial amount of the open cells of said body with said composition, said phosphate having a M_xO_y to P_2O_5 mol ratio of from about 4:1 to 1:4, where M is a cation, x is the number of atoms of M and y is the number of atoms of O.

3,342,628

ALLOY DIFFUSION PROCESS

John R. Sinclair, Vienna, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,577
2 Claims. (Cl. 117-114)

1. A process for forming a Pt-Fe alloy diffusion coating on a ferrous metal article comprising contacting said article in a molten bath containing an admixture of calcium and calcium chloride and a source of platinum;

wherein the amount of calcium is in the range of from 0.5-50% by weight of said admixture; and wherein said contacting is carried out at a temperature between about 800° C. and the melting point of said article.

3,342,629

WOOD TREATING PROCESS AND PRODUCT THEREOF

George A. Martin, Tullahoma, Tenn., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 24, 1963, Ser. No. 318,527
6 Claims. (Cl. 117-136)

1. A method of treating and protecting wood which comprises impregnating wood which is not substantially below its fiber saturation point with a tri(lower)alkyl borate.

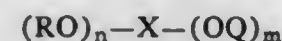
3,342,630

SILICATE AND TITANATE ORTHOESTERS AND SOIL-PROOFED TEXTILE MATERIALS

Domenick Donald Gagliardi, East Greenwich, R.I., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 13, 1963, Ser. No. 308,639
7 Claims. (Cl. 117-139.5)

1. Waxy solids having a composition corresponding to the formula



where R is an alkyl group having one to six carbon atoms, Q is the fluorinated alkyl group of an aliphatic alcohol having one to twenty-two carbon atoms and three to forty-five hydrogen atoms of which at least 70 percent has been replaced by fluorine and the terminal group is selected from CHF_2 and CF_3 ; n is 0 to 3; m is 4 to 1; and x is selected from the group consisting of Si and Ti.

3. Textile material having affixed thereto in soil repellent amount a waxy solid as defined in claim 1, where R is an alkyl group having one to six carbon atoms, Q is the fluorinated alkyl group of an aliphatic alcohol having one to twenty-two carbon atoms and three to forty-five hydrogen atoms of which at least 70 percent has been replaced by fluorine and the terminal group is selected from CHF_2 and CF_3 ; n is 0 to 3; m is 4 to 1; and X is Si or Ti.

3,342,631

METHOD OF FORMING SUPERCONDUCTIVE METAL LAYERS ON ELECTRICALLY NON-CONDUCTIVE SUPPORTS

Cornelis van de Stolpe and Jean Francois Marchand, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1963, Ser. No. 330,514
Claims priority, application Netherlands, Dec. 21, 1962, 287,163

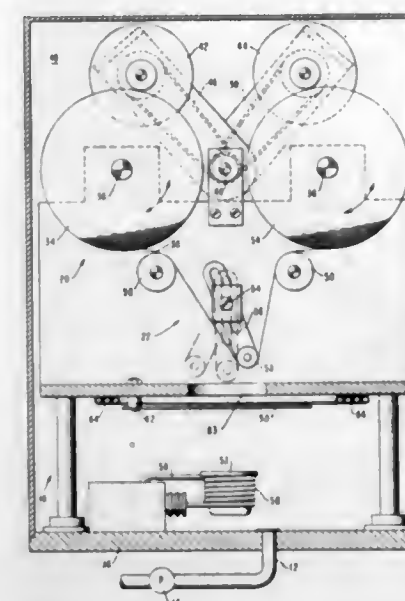
3 Claims. (Cl. 117-217)

1. The method of forming a superconductive metal layer on an electrically non-conductive support comprising the steps, forming a copper layer on said support and then treating at least part of said copper layer with an alkaline solution containing cyanide ions and a metal ion selected from the group consisting of plumbate and stannate ions to thereby replace at least part of the copper layer with a metal layer selected from the group consisting of lead and tin.

3,342,632

MAGNETIC COATING

Geoffrey Bate and Dennis E. Speliotis, Poughkeepsie, and John R. Morrison, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,589
18 Claims. (Cl. 117-217)

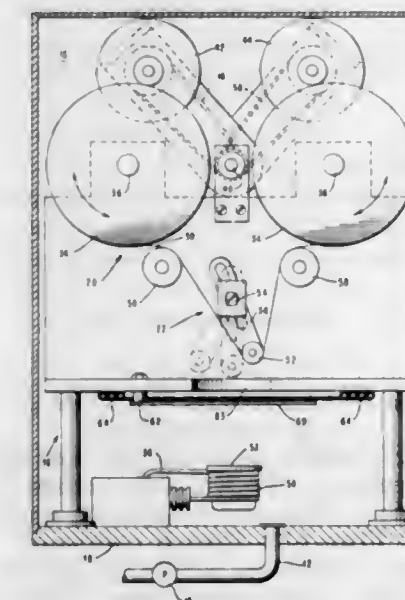


1. The method of fabricating a high coercivity magnetic recording member comprising: heating a body of ferromagnetic metal in a vacuum to a temperature sufficiently high to volatilize the said metal; directing and condensing said volatilized metal onto a suitable substrate at an angle of incidence of greater than about 45 degrees from the normal to the said substrate to form a condensed ferromagnetic metal layer; and cooling said condensed metal to room temperature.

3,342,633

MAGNETIC COATING

Geoffrey Bate and Dennis E. Speliotis, Poughkeepsie, and John R. Morrison, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,611
9 Claims. (Cl. 117-217)



1. The method of fabricating a high coercivity magnetic surface having controlled anisotropy comprising: heating a body of ferromagnetic metal in a vacuum to a temperature sufficiently to volatilize the said metal;

directing and condensing said volatilized metal onto a suitable substrate at a substantially normal angle of incidence to form a first ferromagnetic layer; cooling said condensed metal to room temperature; vacuum depositing a second ferromagnetic layer onto said first layer by heating a body of ferromagnetic metal to volatilize said metal, and directing and condensing said metal onto said first layer at an angle of incidence of greater than about 45 degrees from the normal to said substrate; and cooling said deposited second layer substantially to room temperature in a non-oxidizing atmosphere.

3,342,634

METHOD OF PRODUCING BLACK, METAL-CONTAINING SURFACE LAYERS

Henri Provisor, St. Maurice, Suresnes, France, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 14, 1963, Ser. No. 316,152
Claims priority, application France, Oct. 17, 1962, 912,501

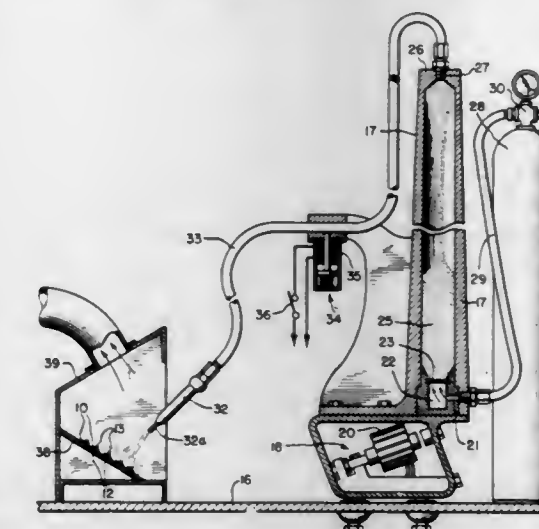
4 Claims. (Cl. 117-223)

2. A method of forming a black surface layer on a metal substrate comprising the steps of applying a layer of a compound selected from the group consisting of molybdates and tungstates of an element selected from the group consisting of Li, Na, K, Rb, and Cs, to at least a portion of the surface of said substrate, and heating said surface layer in a reducing atmosphere to a temperature of about 600° C. to convert said layer to a black surface layer consisting of an oxidic compound of a metal selected from the group consisting of molybdenum and tungsten and one of said elements.

3,343,635

THERMIONIC CATHODE FORMING PROCESS USING ELECTROSTATIC CHARGE ATTRACTION

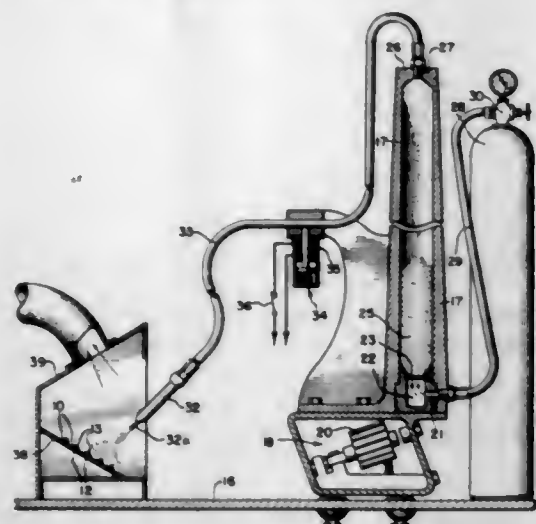
Irwin Kachel, Skokie, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 24, 1964, Ser. No. 354,251
4 Claims. (Cl. 117-223)



1. A process for the preparation of a thermionically emissive coating on an electrically conductive cathode substrate comprising the following steps: exposing said substrate to electrostatically charged particles of dry cathode-forming pulverulent material comprising an alkaline earth carbonate whereupon said charged particles are bound to said substrate by electrostatic charge attraction to form a coating of said cathode-forming material on said substrate; and thereafter heating said substrate with its coating of cathode-forming material to provide a thermionically emissive coating on said substrate.

3,342,636 IMPACTION PROCESS OF FORMING THERMIONIC CATHODE

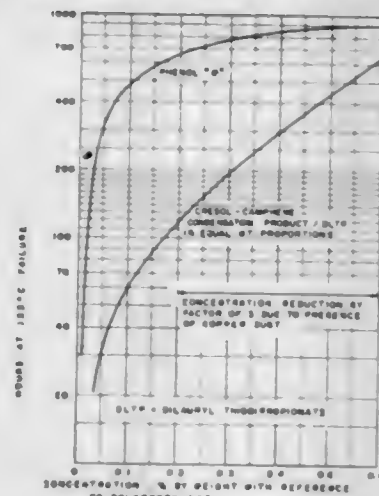
Serge Pakswier, Elmhurst, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 24, 1964, Ser. No. 354,252
4 Claims. (Cl. 117—223)



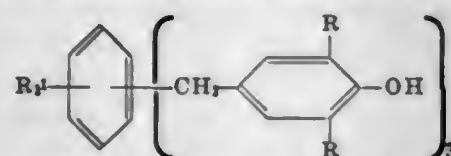
1. A process for the preparation of a thermionically emissive coating on an electrically conductive cathode substrate comprising the steps of applying a high velocity pulverulent jet of dry cathode-forming alkaline earth carbonate to said substrate to cause said alkaline earth carbonate to adhere to said substrate by impaction thereon, and thereafter heating said cathode-forming material to provide a thermionically emissive coating on said substrate.

3,342,637 STABILIZED POLYPROPYLENE COATED COPPER AND METHOD

Gunter S. Jaffe, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 31, 1963, Ser. No. 334,758
6 Claims. (Cl. 117—232)



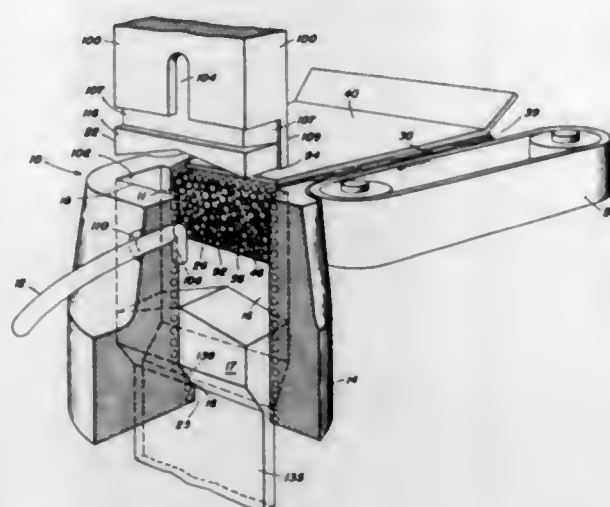
1. A method of coating copper articles which comprises coating said copper articles with a composition comprising isotactic polypropylene and from about 0.01% to about 10% by weight with reference to the polypropylene of a sterically-hindered phenol of the formula



wherein R and R¹ are alkyl radicals of from 3 to 10 carbon atoms, characterized in that at least one of the R's attached adjacent to the hydroxy groups is a branched-chain alkyl radical branched on the alpha carbon atom.

3,342,638 PROCESS AND APPARATUS FOR SEPARATION AND RECOVERY OF INSULATION MATERI- ALS AND METALS

Fritz W. Wanzenberg, 9 Campbell Lane,
Larchmont, N.Y. 10538
Filed Oct. 25, 1963, Ser. No. 318,847
30 Claims. (Cl. 134—9)



1. A process for treating a mass of insulated metal to separate the insulation and metal components which comprises heating the mass to a temperature sufficient to soften the insulation without causing its combustion and compressing the heated mass to extrude the insulation therefrom while compacting the metal component.

3,342,639 SEALED ALKALINE CELLS AND ELECTROLYTES THEREFOR

Jean-Pierre Louis Rodolphe Harivel, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France

Filed July 7, 1964, Ser. No. 380,777
Claims priority, application France, July 8, 1963,
940,759, 940,760
6 Claims. (Cl. 136—6)

1. In a secondary nickel-cadmium alkaline storage cell comprising a sealed container, a positive electrode, a negative electrode, and a porous separator separating said electrodes, the distance between said electrodes being in the range of about 0.1 to 0.3 mm., the improvement in combination therewith comprising an alkali metal hydroxide electrolyte having at ambient temperature a concentration of from at least 11 N to the limit of solubility in water thereof and containing a compound selected from the group consisting of zinc hydroxide and cadmium hydroxide in a concentration sufficient to obtain an electro-deposited metal layer on the cathode for catalyzing the dissolution of electrolysis products formed during overcharge and overdischarge without causing precipitation of conductive crystals capable of short-circuiting the cell.

3,342,640 ACTIVE ELECTRODE MATERIAL FOR ALKALINE CELLS

Charles Victor Herold and André Léon Kahn, Paris, France, assignors to Société des Accumulateurs Fixes et de Traction (Societe Anonyme), Pont-de-la-Folle, Romainville, France, a French company

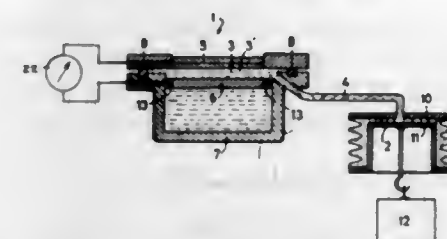
No Drawing. Filed Dec. 5, 1963, Ser. No. 328,206
Claims priority, application France, Dec. 8, 1962,
918,003, 918,004
3 Claims. (Cl. 136—28)

1. In an alkaline storage battery comprising in combination therewith a carrier for active material, said carrier containing as the active material a hydrated nickel

aluminate consisting essentially of 50 to 65% by weight NiO, 5 to 20% by weight Al₂O₃, balance essentially water.

3,342,641 FUEL CELL WITH NEGATIVE PRESSURE MEANS

Friedrich Burhorn and Philipp Jäger, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany
Filed Sept. 11, 1963, Ser. No. 308,132
Claims priority, application Germany, Sept. 12, 1962,
S 81,412
4 Claims. (Cl. 136—86)

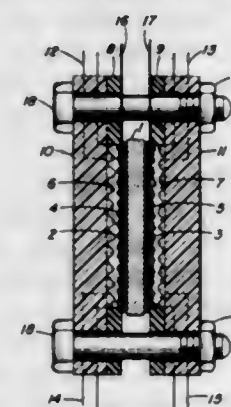


1. A fuel cell system comprising two electrode means one of which is of the gas diffusion type, an electrolyte contacting each electrode means, said two electrode means being exposable to a fuel and an oxidizing gas respectively, and vacuum forming means connected with said electrolyte for subjecting the electrolyte to a negative pressure, said vacuum forming means including an acid-resistant and alkali-resistant elastic chamber having expandable walls so as to be expandable to a specific volume and force means for applying to the walls a constant expanding force.

3,342,642 FUEL CELL ELECTROLYTE MATRIX

William Austin Barber, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Dec. 10, 1964, Ser. No. 417,282
3 Claims. (Cl. 136—86)



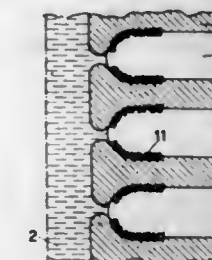
1. A fuel cell, wherein the matrix positioned between electrodes is a substantially self-sustaining, alkali-saturated matrix consisting of: a minor amount of cross-linked, water-insolubilized, fibrillated, polyvinyl alcohol fibers and a major amount of alkali-stable, unfused fibrillated asbestos.

3,342,643 FUEL CELL CONSTRUCTION

Raymond Le Bihan, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie San Fil, Paris, France
Filed Oct. 9, 1964, Ser. No. 402,823
Claims priority, application France, Oct. 18, 1963,
951,040; May 26, 1964, 975,845
5 Claims. (Cl. 136—120)

5. A fuel cell electrode comprising a nickel plate provided with regular, substantially straight, transverse pores, the walls of said transverse pores being at least partially

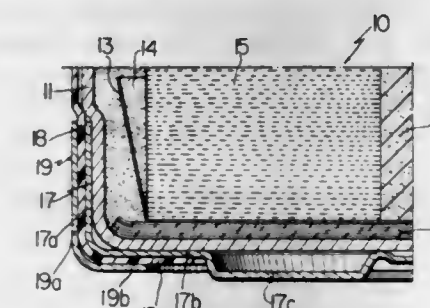
covered with a spongy aluminum layer, said layer containing minor, non-transverse pores of a mean diameter much smaller than that of said transverse pores, said electrode comprising a submerged portion for contact with an electrolyte and a non-submerged portion, said spongy layer of the transverse pores defining a channel of such



a diameter as to form a liquid-gas interface across said channel at the submerged portion thereof, the non-transverse pores of the spongy layer of said non-submerged portion being at least partially wettable by the capillary action of said electrolyte on the submerged portion of the electrode.

3,342,644 SEALED ELECTROCHEMICAL CELLS

Jean Firmin Jammot, Pottiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Jan. 28, 1965, Ser. No. 428,714
Claims priority, application France Aug. 4, 1964,
984,121
1 Claim. (Cl. 136—133)



A leak-resistant electrochemical cell comprising a cylindrical electrode cup having a closed bottom, a cylindrical metallic sealing cup also having a closed bottom mounted on said electrode cup with the bottoms in contact and having finally reduced dimensions to effect permanent assembly of the two cups with intimate electric contact therebetween, an insulative cylindrical casing of plastic material telescopically mounted on the assembled cups and having serrations at its lower end that are turned inwardly without thickening to lie against the bottom of said sealing cup, a metallic ring member of substantially L-shaped one-half section having a tubular part and a lateral flange part mounted on said casing adjacent said bottoms with the tubular part of finally reduced dimensions equal substantially to the outer dimensions of the cylindrical electrode cup to effectively squeeze and compress the casing between itself and the underlying portion of the sealing cup and thus to provide a substantially unbroken straight line profile to the cell as well as maintain rigid sealing engagement between the casing compressed between walls of the ring and sealing cup even when the electrode cup has been consumed and with the flange part effectively squeezing the serrations against the bottom of said sealing cup thereby providing a substantially leak-proof seal for said cell in the region of said casing covered by said ring member which is independent of corrosion and the extent of consumption of said electrode cup during use of said cell.

3,342,645

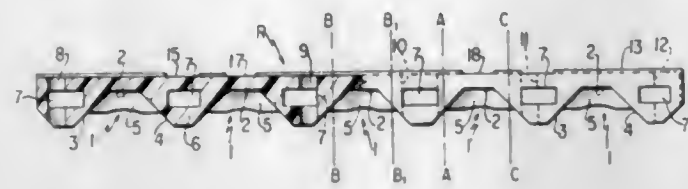
BATTERY OF GALVANIC CELLS AND MEANS OF ASSEMBLY

Pierre Godard, Livry-Gargan, and Jacques Leon Amand Goix, Vincennes, France, assignors to Societe des Accumulateurs Fixes et de Traction (Société Anonyme), Romainville, France, a company of France

Filed June 2, 1965, Ser. No. 460,710

Claims priority, application France, June 16, 1964, 978,512

10 Claims. (Cl. 136—173)



1. A battery comprising a plurality of electric cells, a pair of rods each having flared prismatic recesses defined by a plane parallel with the axial length of the rod and oppositely flaring planes intersecting said first-named plane facing each other positioned at at least one end of each of said cells and also having ledges in said recesses for abutment with said end of each of said cells, and means for clamping said rods together against said cells to maintain them rigidly as a battery.

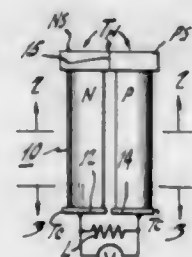
3,342,646

THERMOELECTRIC GENERATOR INCLUDING SILICON GERMANIUM ALLOY THERMOELEMENTS

Andrew G. F. Dingwall, Bloomfield, and Carel W. Horsting, Caldwell, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 19, 1963, Ser. No. 259,630

6 Claims. (Cl. 136—205)



3. A thermoelectric device comprising: N-type and P-type silicon-germanium thermoelements, a P-type silicon semiconductor hot strap heavily doped to have a low electrical resistivity bonded to said P-type thermoelement, and said hot strap being bonded to said N-type thermoelement.

3,342,647

METHOD OF PROVIDING A COPPER ARTICLE WITH A SURFACE LAYER PROMOTING THE ADHERENCE OF ADHESIVES

Thomas Coe, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

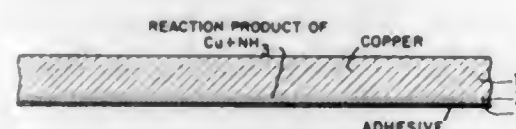
Filed June 27, 1960, Ser. No. 38,986

Claims priority, application Netherlands, July 17, 1959, 241,397

5 Claims. (Cl. 148—6.14)

1. A method of producing an adhesive coated copper sheet particularly suitable for laminating to other objects comprising the steps of coating a surface of said copper

sheet with a solution of an organic nitrogen compound selected from the group consisting of urea, formamide and hexamethylenetetramine, heating the thus coated surface to a temperature above the decomposition temperature of said organic nitrogen compound for a time sufficient



to fully decompose said organic nitrogen compound, said decomposition temperature being above the evaporation temperature of the solvent employed in said solution and then coating said surface with a synthetic resin containing adhesive.

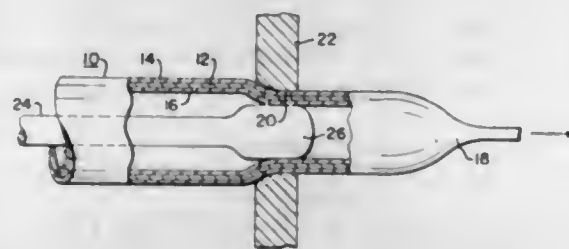
3,342,648

PRODUCTION OF TUBING

David Zucker, Pittsburgh, and Robert A. Jackson, Finleyville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 22, 1963, Ser. No. 274,549

10 Claims. (Cl. 148—11.5)



10. In a method of producing relatively smaller sized tubing of a predetermined cross-sectional configuration from a relatively larger sized tubular stock selected from the group consisting of zirconium and its alloys and titanium and its alloys, the steps comprising cladding the interior and exterior surfaces of said tubular stock with tubular clad members selected from the group consisting of iron and its alloys and copper to form a workpiece, swaging said workpiece to cause intimate contact of adjacent surfaces of said stock and said tubular clad members, passing said workpiece through an opening of the desired cross-sectional configuration, annealing said workpiece in air after passing said workpiece through said opening at least once, said annealing step being performed at a temperature between 1300 and 1550° F. for a time from 5 to 60 minutes, said annealing time being dependent upon the annealing temperature, and removing said clad material.

3,342,649

HEAT TREATMENT OF METALLIC STRIP MATERIAL

Robert Frederic Jenkin Morgan, Stockton-on-Tees, England, assignor to Davy and United Engineering Company, Limited, Yorkshire, England

Filed Oct. 13, 1964, Ser. No. 403,567

Claims priority, application Great Britain, Oct. 29, 1963, 42,575/63

8 Claims. (Cl. 148—16)

1. In the method of continuously heating elongate metallic strip material wherein the heated material is passed between a plurality of cooling gas streams directed against the strip surfaces and having a component of motion opposite to that of the motion of the strip, the improvement

3,342,651

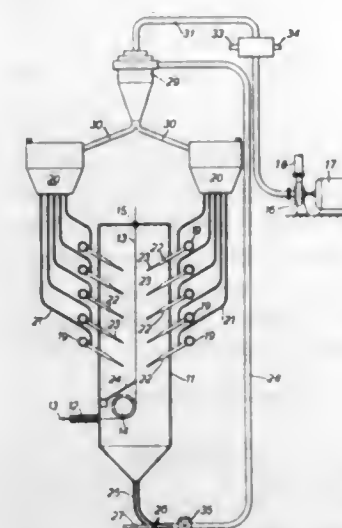
METHOD OF PRODUCING THYRISTORS BY DIFFUSION IN SEMICONDUCTOR MATERIAL

Kurt Raltheil, Uttenreuth, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin - Siemensstadt, Germany, a corporation of Germany

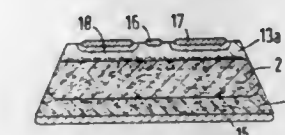
Filed Mar. 16, 1965, Ser. No. 440,162

Claims priority, application Germany, Mar. 18, 1964, S 90,097; Aug. 8, 1964, S 92,536

2 Claims. (Cl. 148—188)



any laminar sub layer of gas which forms adjacent the strip surface thus improving the heat transfer coefficient between the gas and the material.



1. The method of producing a pnpn-thyristor having a monocrystalline silicon wafer with four regions of alternatingly opposed conductance type forming three p-n junctions with each other, which comprises covering one flat side of the wafer with a gold coating of 0.1 to 0.5 micron thickness, heating the coated wafer to a diffusion temperature of approximately 820° C. until the gold has diffused into the wafer down to the depth of the intermediate one of said p-n junctions, and then abruptly cooling the wafer at a rate of more than 50° C. per minute.

3,342,650

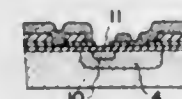
METHOD OF MAKING SEMICONDUCTOR DEVICES BY DOUBLE MASKING

Takeo Seki and Shoji Tauchi, Kokubunji-shi, and Takeshi Takagi, Musashino-shi, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Feb. 2, 1965, Ser. No. 429,865

Claims priority, application Japan, Feb. 10, 1964, 39/6,717

7 Claims. (Cl. 148—187)



1. A method of fabricating a semiconductor device comprising the steps of:

- forming a first electric insulator film on the surface of a semiconductor substrate;
- forming a plurality of perforations through said film, said perforations terminating at the surface of said substrate;
- depositing a second film on said first insulator film to cover it and portions of the surface of said substrate which have been exposed by said perforations, said second film having a higher rate of etching by the same etchant than said insulator film and being effective for shielding against diffusion of active impurities;
- forming at least one opening through said second film, said opening terminating at the surface of said substrate by way of at least one of said perforations, extending through said insulator film while the remaining perforations are still covered by said second film;
- selectively diffusing an active impurity into said semiconductor substrate through said opening extending through said second film; and
- removing said second film to reestablish said perforations through said insulator film, thereby to reexpose portions of the surface of said substrate through said perforations.

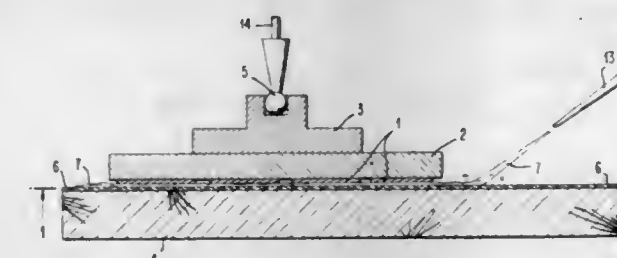
3,342,652

CHEMICAL POLISHING OF A SEMI-CONDUCTOR SUBSTRATE

Arnold Reisman, Yorktown Heights, and Robert L. Rohr, Scarsdale, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 2, 1964, Ser. No. 356,793

5 Claims. (Cl. 156—17)



1. The method of chemically polishing a surface of a single crystal semi-conductor wafer selected from the group consisting of Ge and GaAs to obtain a damage-free, planar surface comprising the steps of:

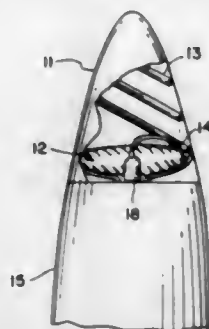
- positioning said surface of said wafer in close adjacency to a flat fabric polishing medium;
- providing a predetermined relative motion between said wafer and said polishing medium parallel to said surface;
- periodically injecting a solution of a metal oxyhalide selected from the group consisting of KOCl and NaOCl in predetermined quantity and in predetermined concentration between the wafer and the surface of the polishing medium so as to maintain a liquid layer of said solution in contact with said medium and said wafer and
- removing waste products resulting from polishing.

3,342,653

METHOD OF MAKING INFLATABLE HONEYCOMB

Emmanuel Schnitzer, Newport News, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Original application Apr. 23, 1962, Ser. No. 189,648, now Patent No. 3,170,471, dated Feb. 23, 1965. Divided and this application Aug. 6, 1964, Ser. No. 395,348
3 Claims. (Cl. 156-60)



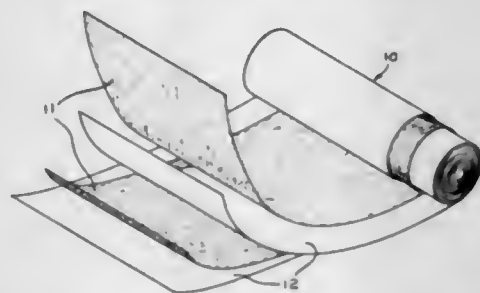
1. A method of forming a folded inflatable panel, comprising the steps of: positioning a first skin member on a flat work area, coating the exposed surface of said first skin member with an adhesive, attaching a vertically disposed peripheral wall about the periphery of said first skin member, securing a plurality of interconnecting vertically disposed honeycomb cells to the adhesive coating of said first skin member within said peripheral wall member, positioning an inflating means in fluid communication with at least one of said honeycomb cells, attaching a second adhesive coated skin member in fluid tight relationship with said honeycomb cells and said peripheral wall member, and folding the resultant structure end to end, into a compact packaged configuration.

3,342,654

PROCESS FOR PRODUCING WOUND CAPACITORS HAVING A BIAXIALLY ORIENTED, THERMOPLASTIC, DIELECTRIC MEDIUM BETWEEN ALTERNATE ELECTRODES

Edward J. Golonka, Hillside, and John B. O'Brien, Westchester, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 21, 1964, Ser. No. 346,423
9 Claims. (Cl. 156-85)



1. A process for producing capacitors wherein wound layers of biaxially oriented, thermoplastic, dielectric material are heated to shrink them into an intimate physical bonding relationship with alternate layers of an electrode material thereby to form an electrically stable capacitor of desired final capacitance value, which comprises the steps of:

- measuring the thickness and the relieving force characteristics of a homogeneous unit of the biaxially oriented material;
- classifying the unit of material according to its two measurements into an individual one of a plurality of classification groups;

winding alternate layers of the biaxially oriented material and the electrode material to form a capacitor having an initial capacitance value bearing a relationship to the final desired capacitance value predicated upon the individual classification group into which the material falls; and

subjecting the wound capacitor to heat treatment to effect a substantially complete cure of the dielectric material and a shrinking of the material into an intimate physical bonding relationship with the electrode material, the capacitance of the capacitor reaching a predetermined percentage of the final value desired at the end of the heat treatment such that a subsequent cooling of the capacitor results in the production of an electrically stable capacitor of desired final capacitance value.

3,342,655

COMPOSITION AND METHOD FOR ELECTRODING DIELECTRIC CERAMICS

Joseph Wirt Crownover, San Diego, Calif., assignor to Electro Materials Corporation, La Jolla, Calif.

Original application Dec. 3, 1962, Ser. No. 241,977, now Patent No. 3,223,494, dated Dec. 14, 1965. Divided and this application June 24, 1964, Ser. No. 377,564
13 Claims. (Cl. 156-89)



8. The method of producing a multi-layer dielectric ceramic comprising the steps of:

- (a) mixing a first slurry of a raw dielectric ceramic with a thermoplastic resin of the acrylate and methacrylate group, dissolved in a suitable solvent;
- (b) casting said liquid slurry into a sheet and permitting said solvent to evaporate, thereby forming a sheet of raw ware;
- (c) mixing a second slurry having substantially the same composition as said first slurry;
- (d) mixing into said second slurry a finely powdered metal of high conductivity in the relative proportions of from 20% to 8% by weight of ceramic to from 80% to 92% by weight of powdered metal to produce a liquid electroding mixture;
- (e) applying said electroding mixture to coat a surface of said sheet of raw ware and permitting the solvent to evaporate from said electroding mixture;
- (f) assembling a plurality of coated sheets of raw ware in a stack, each sheet prepared in accordance with steps (a) through (e) above;
- (g) applying pressure to said stack of coated sheets of raw ware to compact the said stack; and
- (h) firing said stack of coated sheets of raw ware through a firing and cooling cycle of predetermined temperature relative to time.

3,342,656

METHOD OF SPLICING BELT ENDS IN FORMING AN ENDLESS BELT

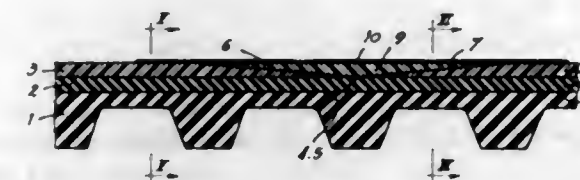
Démètre Papageorges, Liege, Belgium, assignor to Eta-Belissements Theodore Houben Société Anonyme, Verviers, Belgium, a Belgian company

Filed Dec. 16, 1963, Ser. No. 330,765
Claims priority, application Belgium, Dec. 17, 1962, 626,218; Dec. 3, 1963, 640,726
3 Claims. (Cl. 156-159)

1. Method for the splicing of belts, made more particularly of rubber, the external surface of which consists of a layer of fibre-forming polymer selected from the

class consisting of a polyamide and polyester resin, characterized by the fact that it consists in cutting the two ends to be joined in such a manner as to obtain two identical surfaces with a similar slant, trimming both ends of the outer layer in such a way as to form two relatively

strips into face-to-face engagement in such a way that the direction of the lines of orientation of one of said strips is substantially at right angles to the direction of the lines of orientation of the other of said strips and laminating said strips together.



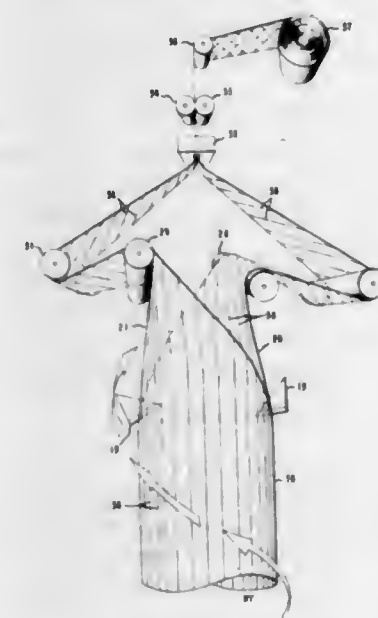
long inclined surfaces thus forming a depression of triangular shape, filling up aforesaid depression with a material similar to that of the outer circumference, covering the splice thus formed with a thin strip of self-adhesive synthetic material and polymerizing the splice by the effects of pressure and heat.

3,342,657

PROCESS AND APPARATUS FOR PRODUCING LAMINATED ORIENTED THERMOPLASTIC FILM

Gerald B. Dyer, Kingston, Ontario, Canada, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 24, 1963, Ser. No. 333,141
Claims priority, application Great Britain, Dec. 31, 1962, 49,074/62
8 Claims. (Cl. 156-163)



4. A process for producing a continuous strip of reinforced thermoplastic polymeric film which comprises: extruding a tube of thermoplastic polymeric material in its formative state from a rotating annular die; rotating said tube as it is advanced from said die; passing the rotating tube over a cooled internal mandrel to cool said tube to a temperature which is below the temperature of said material in its formative state; maintaining sufficient pressure within said rotating tube to at least prevent collapse of said tube; advancing said rotating tube at a predetermined initial rate, heating said rotating tube to the orientation temperature range by passing said tube over a heated internal mandrel; pulling said rotating tube at a rate of from 2 to 5½ times the initial rate to longitudinally monaxially orient said tube; cooling said rotating tube so oriented to a temperature which is below the temperature of said material in the formative state by passing said tube about a cooled internal mandrel; slitting said rotating oriented tube into two strips along helical lines substantially at 45° to the axis of said tube; bringing said

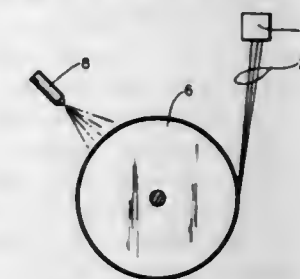
3,342,658

METHOD OF MAKING FILAMENTOUS MATS

Robert L. Jackson, Jr., Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Dec. 11, 1963, Ser. No. 329,714

6 Claims. (Cl. 156-174)



1. The method of making a filamentous mat, comprising:

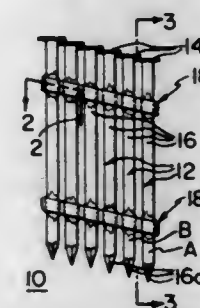
- (a) winding a plurality of filaments back and forth upon a rotating drum to form a cylindrical compact filamentous mat of a series of overlying layers having filaments in each layer lying in crossing relation to filaments in adjacent layers;
- (b) applying a binder to the filaments wound in a selected portion, including at least one layer of filaments, of said mat while said portion is being formed, so that said mat includes at least one layer of binder wetted filaments and at least one stratum of filaments which are devoid of binder;
- (c) slitting said cylindrical mat in a direction generally transverse to the lay of said filaments and upwrapping the mat as a whole from said drum to form a planar compact mat;
- (d) stretching said planar mat in a direction generally transverse to the lay of said filaments to expand said mat; and,
- (e) applying a binder to said expanded mat.

3,342,659

METHOD OF MAKING ASSEMBLED FASTENER STRIPS

William H. Baum, Westchester, and John Mosetich, Elmhurst, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Original application Oct. 3, 1963, Ser. No. 313,511, now Patent No. 3,212,632, dated Oct. 19, 1965. Divided and this application Mar. 26, 1965, Ser. No. 442,977
15 Claims. (Cl. 156-296)



1. A method of making an assemblage of fasteners of the type having elongated shanks comprising the steps of positioning said fasteners with the shanks thereof in spaced side-by-side relation; applying strips of thermoplastic material transversely across the shanks on opposite sides thereof; placing the opposed strips in contact

with each other in spaces between the shanks of adjacent fasteners; and uniting the contacting portions of opposed strips to form a single integral body holding the fasteners spaced in side-by-side relation.

3,342,660

BONDING OF RUBBER TO METAL

Gerd Angerer and Erhard Klotzer, Hanau am Main, and Werner Kern, Mainz, Germany, assignors to Dunlop Rubber Company Limited, London, England, a British company

No Drawing. Filed Oct. 10, 1963, Ser. No. 315,385
6 Claims. (Cl. 156—330)

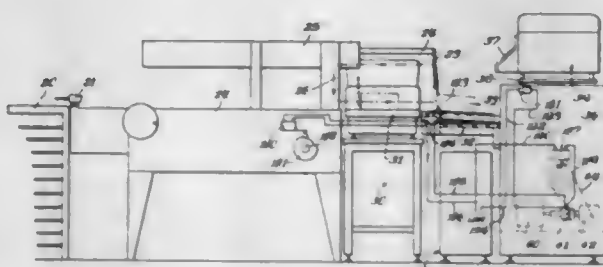
1. A method of bonding a rubber composition to a metal surface which comprises vulcanizing a vulcanizable rubber composition containing a minor proportion of an epoxidized rubber polymer, said composition being in contact with said metal surface during the vulcanization, the amount of said epoxidized rubber polymer being sufficient to provide the vulcanizable rubber composition with an epoxide oxygen content of about 0.1 to 1.3% by weight based on the total rubber content of said vulcanizable rubber composition.

3,342,661

PACKAGE LABELLING EQUIPMENT

Bengt A. Arvidson, Villa Park, and Fritz F. Treiber, Niles, Ill., assignors to Corley-Miller, Inc., a corporation of Ohio

Filed Apr. 29, 1965, Ser. No. 451,742
13 Claims. (Cl. 156—360)



1. In a package weighing and labeling apparatus comprising, in combination, a scale having a scale platform for receiving a package, a package labelling station adjacent the scale platform to receive a package delivered from the scale platform, a label printing means at said station having a label delivering chute for delivering a label having indicia derived from the weighing of a package, label applying means at the labelling station for receiving a label from the chute and placing the label on the package, the improvement comprising means mounting the printing means for pivotal movement to aim the chute away from the label applying means and to an unobstructed position for hand labelling.

3,342,662

LABEL DISPENSER

Josef Grasmann, Post Frankenfels, Austria, assignor to Tiox-Tinten- und Klebstoffwerk Gesellschaft m.b.H., Vienna, Austria, a corporation of Austria

Filed Nov. 22, 1963, Ser. No. 325,736
Claims priority, application Austria, Oct. 23, 1963,
A 8,503/63
10 Claims. (Cl. 156—384)

1. A device for the repeated dispensing of predetermined lengths of a band from a supply roll thereof, said dispenser comprising:

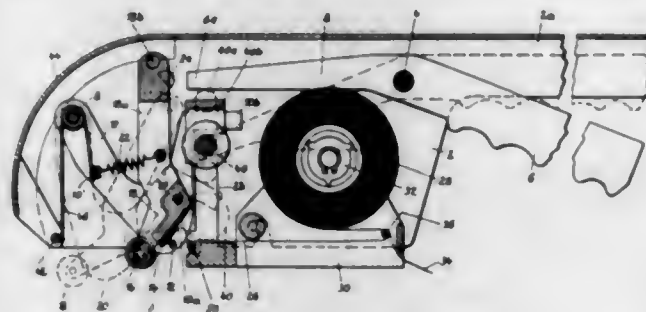
housing means for receiving said roll;

a pair of levers pivotally connected to one another and forming a pair of clamping tongs swingably mounted in said housing means, one of said levers being provided with a backing member and the other of said

levers being provided with a blade member co-operating with said backing member for clamping a length of said band between said members to withdraw a predetermined length of said band from said roll and advance it from said housing means upon swinging movement of said tong in said housing means;

actuating means movably mounted on said housing means and co-operating with said tongs for swinging same; and

cam means in said housing means co-operating with at least one of said levers for relative angular displacement of said levers to initially clamp said band between said members at relatively low pressure for withdrawal of said predetermined length of band from said roll and thereafter increasing the pressure applied between said members.



3. The device defined in claim 1 wherein said housing means is provided with pivot means at a fixed location thereon for swingably supporting one of said levers and said actuating means engages said one of said levers remote from said location for swinging said tongs within said housing means, said cam means being fixedly positioned within said housing and engageable by the other of said levers.

7. The device defined in claim 3 further comprising guide means in said housing means engaging an arm of said one of said levers, said actuating means including a manually rotatable lever acting upon said guide means for swinging said tongs.

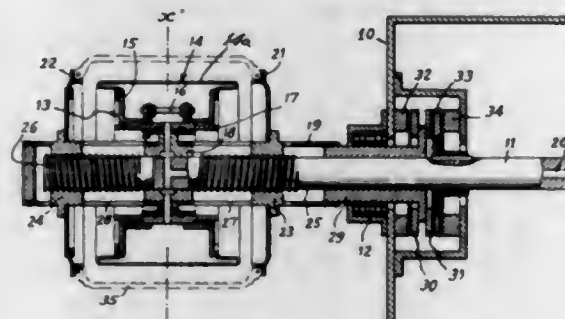
8. The device defined in claim 7 wherein said guide means is provided with a stamping device co-operating with said band rearwardly of said members in the direction of advance of said band for imprinting same.

3,342,663

MACHINE FOR SHAPING PNEUMATIC TYRES

Jacques Pouilloux, Saint Gratien, France, assignor to Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber Colombes, Colombes, Seine, France, a corporation of France

Filed Dec. 28, 1964, Ser. No. 421,217
Claims priority, application France, Dec. 26, 1963,
958,571
9 Claims. (Cl. 156—416)



1. A machine for shaping and finishing a pneumatic tyre, comprising a drum having its cylindrical surface formed by a tubular diaphragm which can be radially expanded by the admission of compressed air into the drum, said diaphragm being reinforced with inextensible

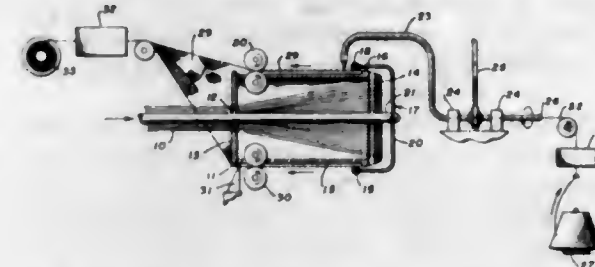
longitudinal cables, means for securing said tubular diaphragm along its circumferences, the planes of said circumferences being separated along their common axis by a distance substantially equal to the distance between the beads of the tyre after shaping, symmetrically movable securing and centring rings for the beads of the tyre, and means for axially moving said rings to and from said planes and for axially securing said rings.

3,342,664

APPARATUS FOR PRODUCING NONWOVEN FABRIC

Frank Stutz, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed June 15, 1964, Ser. No. 374,937
2 Claims. (Cl. 156—441)



1. An apparatus for aligning continuous fibers in grid form comprising:

a. a drum, said drum having a restriction at one end through which enter a number of continuous fibers,
b. a separator mounted at one end of said drum, said separator receiving and distributing said continuous fibers over the surface of said drum in an alignment parallel with the axis thereof,

c. a receptacle containing a solvent positioned to bathe said continuous fibers before proceeding through said restriction of said drum,

d. a crooked tube mounted for rotation and having a portion thereof cut away, said crooked tube providing a passageway for a second continuous fiber which is laid on said continuous fibers perpendicular to all of said continuous fibers at the point of contact thereby forming a fabric,

e. a solvent supply pipe mounted so as to supply said solvent to said second continuous fiber through said cutaway portion of said crooked tube,

f. pairs of positively driven rollers mounted on said drum, each pair positioned to engage and advance said fabric, and

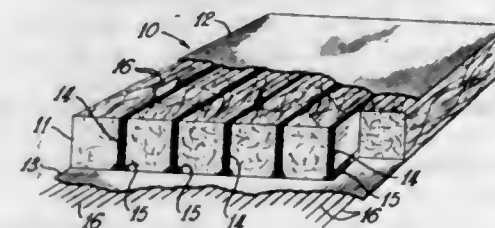
g. an evaporator positioned to receive said fabric and functioning to remove any solvent which remains thereon.

3,342,665

REINFORCED STRUCTURAL PANELS

Richard F. Shannon, Lancaster, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Feb. 19, 1962, Ser. No. 174,064
3 Claims. (Cl. 161—36)



1. A lightweight structural panel comprising a core of intermeshed glass fibers, a plurality of spaced masses of hardened inorganic cementing material having good core penetrating characteristics extending into said core from one surface thereof and terminating a distance from the

opposite surface, and a penetrated area of hardened cementing material extending from the innermost end of each of said masses to the opposite surface of said core.

3,342,666

CELLULAR HONEYCOMB PRODUCT AND METHOD

Harold Robert Hull, San Leandro, Calif., assignor to Hexcel Products Inc., Berkeley, Calif.
Filed Sept. 18, 1963, Ser. No. 309,725
10 Claims. (Cl. 161—135)



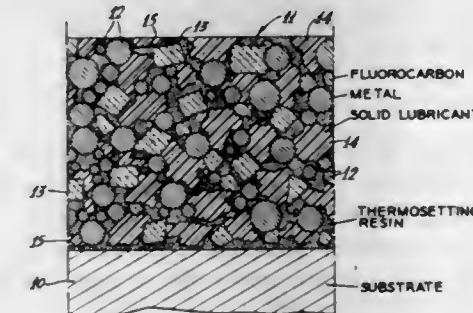
6. A laminated structure comprising: a plurality of superposed sections of sheet material, each section being formed with a plurality of alternating short and tall corrugations; each tall and short corrugation being nested within the short and tall corrugations respectively of the adjacent sheets, and bonding means operably connecting the interfaces between the protruding surface of selected evenly spaced tall corrugation to the recess surface of the nested adjacent short corrugation whereby the sections of sheet material are expandable to form an open cellular honeycomb structure.

3,342,667

DRY FLUOROCARBON BEARING MATERIAL

William L. Berlinghof, Jr., Abington, Pa., assignor to Woodmont Products, Inc., Huntingdon Valley, Pa., a corporation of Pennsylvania

Filed Aug. 23, 1963, Ser. No. 304,170
5 Claims. (Cl. 161—186)



1. A bearing material comprising: metallic heat-conducting particles selected from the group consisting of bronze, copper, silver, lead in a range of 18% to 52% by volume; a solid lubricant selected from graphite and molybdenum disulphide in a range of 12% to 32% by volume; a sintered fluorocarbon in a range of 14% to 32% by volume; and a thermosetting resin selected from the group consisting of epoxy and polyester in a range of 21% to 39% by volume.

3,342,668

PROCESS FOR PRODUCING INSCRIPTIONS AND DECORATIONS ON PLATES OF ACRYLIC RESINS AND DERIVATIVES, DIRECT DURING THEIR FORMATION, AND PLATES SO PRODUCED

Antonio Dario, Via Borgonuovo 10, Milan, Italy
No Drawing. Filed Mar. 29, 1963, Ser. No. 269,173
Claims priority, application Italy, Apr. 3, 1962,
Patent 665,973
2 Claims. (Cl. 161—242)

1. A process for the production of decorated plates of acrylic resins by casting which comprises applying a paint consisting of at least one pigment dispersed in a

solution of isomerized rubber in a solvent to at least one of the internal surfaces of a cell for the casting and polymerization of the acrylic resin, subsequently pouring the unpolymerized acrylic resin into the cell and polymerizing the acrylic resin in the cell.

3,342,669

STEREOTYPE MAT CONTAINING A PHOSPHATE PIGMENT AND SILICATE PIGMENT
Winfred Doyle Boggess, Indianapolis, Ind., assignor to The Beveridge Paper Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed June 10, 1964, Ser. No. 374,166
3 Claims. (Cl. 162—181)

1. A stereotype dry mat comprising a co-felted mixture of a pigment and cellulose fibers in the ratio of from 10 to 40 parts of pigment particles per 100 parts of cellulose fibers, said pigment consisting of a mixture of from 20% to 60% of calcium aluminum phosphate and 40% to 80% of a member of the group consisting of calcium silicate, hydrous silicon oxide and a double silicate of an alkali metal and an amphoteric metal, said particles of said pigment having a surface area of at least 10 square meters.

3,342,670

COMBINATION OF ORGANIC MERCURY COMPOUNDS AND 1,2-PROPYLENE-BIS-DITHIOCARBAMIC ACID SALTS AS FUNGICIDES FOR RICE PLANTS

Herbert Ferdinand Jung, Tokyo, Japan, and Hans Scheinpflug, Leverkusen, and Ferdinand Grewe, Burscheid, Bezirk Düsseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Nov. 3, 1964, Ser. No. 408,653
Claims priority, application Germany, Nov. 13, 1963, F 41,265

8 Claims. (Cl. 167—22)

1. A method for controlling fungus diseases in rice which comprises contacting the plants with a fungicidal composition containing as active ingredients

(1) a compound of the formula



wherein R is a member selected from the group consisting of phenyl, methylphenyl, chlorophenyl and alkyl of 1-6 carbon atoms; and

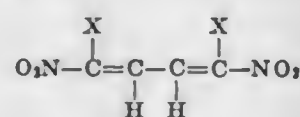
X is a member selected from the group consisting of an inorganic acid radical, acetyl and sulphenic acid radicals; and

(2) a member selected from the group consisting of zinc and nickel salts of 1,2-propylene-bis-dithiocarbamic acid and a zinc/manganese mixed salt of 1,2-propylene-bis-dithiocarbamic acid; the percent by weight of composition of (1) and (2) being about .002% and .025%.

3,342,671

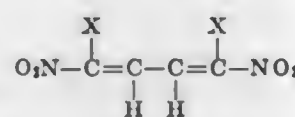
1,4-DIHALO-1,4-DINITRO-1,3-BUTADIENE FOLIAGE FUNGICIDES AND BACTERICIDES
Anthony A. Sousa and Harvey W. Spurr, Jr., Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,063
17 Claims. (Cl. 167—22)

1. A pesticidal composition comprising a minor amount of a 1,4-dihalo-1,4-dinitro-1,3-butadiene of the formula:



wherein X is a halogen and a major amount of an inert pulverulent solid dust carrier therefor.

7. A method for controlling fungi and bacteria which adversely affect plant life which comprises subjecting said fungi and bacteria to an effective amount of a 1,4-dihalo-1,4-dinitro-1,3-butadiene of the formula:



wherein X is a halogen.

3,342,672

COMBINATION PROPELLANT SYSTEM USING NITROUS OXIDE

Robert C. Webster, Madison, Wis., John S. Hinn, Minneapolis, Minn., and Patricia A. Lychalk, Des Plaines, Ill., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1964, Ser. No. 365,609
6 Claims. (Cl. 167—39)

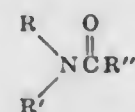
3. A pressurized dispenser comprising a container and a non-aqueous composition therein said composition consisting essentially of about 20% by weight of the product to be dispensed in the form of particles which will substantially remain in the atmosphere without settling out of said atmosphere, about 55% by weight of methyl chloroform, about 25% by weight of dichlorodifluoromethane for breaking up said product into said particles upon dispensing, and nitrous oxide compressed gas added to the composition within the container to effect an equilibrium pressure within the container of up to about 100 p.s.i.g.

3,342,673

SOLVENT SYSTEM FOR FORMULATING CARBAMATES

Harold A. Kaufman, Piscataway Township, Middlesex County, and Edward J. Broderick, Edison, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Sept. 11, 1964, Ser. No. 395,889
9 Claims. (Cl. 167—42)

1. A dilutable concentrate of a carbamate pesticide comprising between about 5 percent and about 40 percent, by weight of said concentrate of a carbamate pesticide dissolved in an amide having the formula:



wherein R and R' are selected from the group consisting of hydrogen and alkyl groups having 1 to 4 carbon atoms and R'' is an aliphatic group containing between about 5 and about 17 carbon atoms.

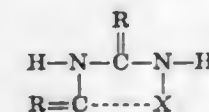
3,342,674

STERILIZING, SANITIZING, AND/OR DISINFECTING SHAPES

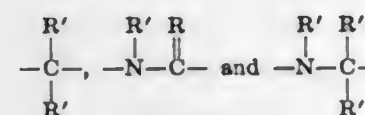
Xavier Kowalski, Creve Coeur, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 3, 1965, Ser. No. 436,920
9 Claims. (Cl. 167—42)

1. A sterilizing, sanitizing, and disinfecting composition, in compressed solid dosage unit form, consisting essentially of a mixture of (1) a non-deliquescent, solid, chlorine containing compound which will release available chlorine upon contact with water selected from the group consisting of trichloroisocyanuric acid and calcium hypochlorite, (2) from about .25% to 2.0% by weight, based on the weight of the composition, of a metal salt of an aliphatic carboxylic acid having at least 10 carbon

atoms in the aliphatic group, and (3) an organic compound having in one tautomeric form the structural formula:



where X is selected from the group consisting of



where R is selected from the group consisting of oxygen and NH and R' is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 10 carbon atoms.

3,342,675

2,4,5-TRICHLOROPHENOL-LOWER-ALKYLAMINE REACTION PRODUCTS AS SKIN GERMICIDES

Marie Adele Joseph Bouillenne-Walrand, Liege, Belgium, and Georges Wetroff, Le Thillay, and Jean Emile Khaladji, Paris, France, assignors to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France
No Drawing. Filed June 7, 1962, Ser. No. 200,636
Claims priority, application France, June 9, 1961, 864,447

14 Claims. (Cl. 167—58)

4. A germicidal composition for topical application to render the skin germicidal, the essential component of which consists of the product of the reaction of 2,4,5-trichlorophenol and a lower-alkylamine reacted in approximately equal molecular proportions and a non-toxic pharmaceutical carrier, wherein the reaction product is present in an amount within the range of 0.001 to 5.0 percent by weight of the composition.

3,342,676

DERMATOLOGICAL COMPOSITION CONTAINING 21-DESOXY-9-ALPHA-FLUORO-6-METHYL PREDNISOLONE

Ladislav Desiderius Aladar Szabo and Birgit Yrsa Keimer, Copenhagen, Denmark, assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 25, 1964, Ser. No. 413,977
3 Claims. (Cl. 167—58)

1. A steroid composition for dermatological use which comprises 0.01-0.25 part by weight of 21-desoxy-9α-fluoro-6-methylprednisolone, 75 to 99.99 parts by weight of a solvent selected from the group consisting of diethyleneglycol monoethylether, and polypropyleneglycol 400, and zero to 25 parts by weight of a fatty substance selected from the group consisting of wool fat, wool alcohol, and almond oil.

3,342,677

ANTIBACTERIAL COMPOSITIONS COMPRISING ALPHA-AMINOTHENYLPENICILLINS

Lee C. Cheney, Fayetteville, N.Y., and Yvon G. Perron, Ville d'Anjou, Quebec, Canada, assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 5, 1963, Ser. No. 293,185
4 Claims. (Cl. 167—65)

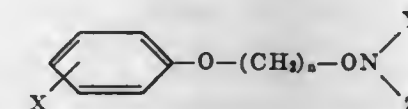
1. A method for the treatment of bacterial infections which comprises administering to the infected host a nontoxic, therapeutically effective amount of 6-[(—)-α-amino(2-thienyl)acetamido]penicillanic acid or a nontoxic, pharmaceutically acceptable salt thereof.

3,342,678

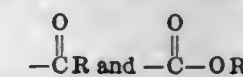
LOWERING BLOOD CHOLESTEROL LEVELS IN WARM-BLOODED ANIMALS WITH PHENOXY-ETHOXY OR PHENOXY-PROPOXY AMINE DERIVATIVES

Frank M. Berger, Princeton, Friedrich Dürsch, Freehold, and Bernard J. Ludwig, North Brunswick, N.J., assignors to Carter-Wallace, Inc., a corporation of Maryland
No Drawing. Filed Feb. 10, 1964, Ser. No. 343,505
7 Claims. (Cl. 167—65)

1. A method of reducing the blood cholesterol content of a warm-blooded animal which comprises administering internally to said animal a pharmaceutically effective amount of a compound selected from the group consisting of:



wherein X is selected from the group consisting of hydrogen, halogen and lower alkyl; n is an integer of 2 to 3; Y is selected from the group consisting of hydrogen,



wherein R is selected from the group consisting of lower alkyl and phenyl; and Z is selected from the group consisting of hydrogen, phenylalkyl and phenoxyalkyl; and physiologically acceptable salts thereof.

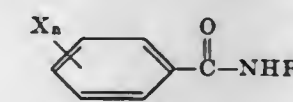
3,342,679

METHODS FOR THE CONTROL OF CONVULSIVE SEIZURES

Marvin Paulshock, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Mar. 15, 1962, Ser. No. 180,000. Divided and this application June 9, 1964, Ser. No. 373,880

8 Claims. (Cl. 167—65)

1. A method for the control of convulsive seizures, said method comprising administering to a warm-blooded animal subject to said seizures, in an amount sufficient to exert anticonvulsive activity, at least one compound of the formula



where

X is selected from the group consisting of hydrogen, fluorine, chlorine and bromine;

R is selected from the group consisting of primary alkyl containing from 1 to 5 carbon atoms, secondary alkyl containing from 3 to 5 carbon atoms, primary hydroxy alkyl containing from 2 to 5 carbon atoms, secondary hydroxy alkyl containing from 3 to 5 carbon atoms, primary methoxy alkyl where the alkyl contains from 2 to 5 carbon atoms, secondary methoxy alkyl where the alkyl contains from 3 to 5 carbon atoms, and Z—NR₁R₂ where

Z is selected from the group consisting of methylene and ethylene, and

R₁ and R₂ are selected from the group consisting of hydrogen and alkyl containing from 1 to 3 carbon atoms; and

n is a whole positive integer of 1 to 5.

3,342,680

ISOSORBIDE AS AN ORAL OSMOTIC DIURETIC
Joseph F. Treon, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 21, 1964, Ser. No. 420,207
2 Claims. (Cl. 167—65)

1. The process of producing diuretics in mammals by the oral administration of isosorbide.

3,342,681

ANTIBIOTIC ARMENTOMYCIN AND A PROCESS FOR PRODUCING THE SAME

Alexander D. Argoudelis and Ross R. Herr, Kalamazoo, and Donald J. Mason, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed Apr. 16, 1965, Ser. No. 448,611
8 Claims. (Cl. 167—65)

1. An antibiotic assaying at least 213 biounits/ml. of armentomycin, a compound which
 - (a) is effective in inhibiting the growth of Gram-negative bacteria; and in its essentially pure crystalline form
 - (b) is soluble in water, methanol, and ethanol; and relatively insoluble in methylene chloride;
 - (c) has the following elemental analyses: C, 28.39; H, 4.44; N, 9.09; Cl, 40.60; O, 17.48 (by difference);
 - (d) has a calculated molecular weight of 172;
 - (e) has no ultraviolet absorption maxima between 220 and 400 mμ;
 - (f) has an optical rotation $[\alpha]_D^{25} = +6.7^\circ$ (c. 0.74, water) and $[\alpha]_D^{25} = +26.24^\circ$ (c. 0.74, pH 1, water);
 - (g) has a pKa' of 8.28; and
 - (h) has a characteristic infrared absorption spectrum as shown in FIG. 1 of the accompanying drawing.
6. A process which comprises cultivating an armentomycin-producing strain of *Streptomyces armentosus* var. *armentosus* nov. sp. in an aqueous nutrient medium under aerobic conditions until substantial activity is imparted to said medium by the production of armentomycin.

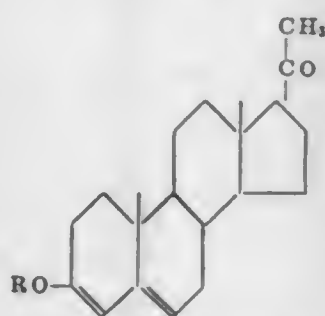
3,342,682

ORAL COMPOSITIONS CONTAINING 3-ENOL ETHERS OF PROGESTERONE OR 6-METHYL DERIVATIVES THEREOF AND METHOD OF USING THE SAME

Alberto Ercoli, Milan, Italy, assignor to Francesco Vismara S.p.A., Casatenovo Como, Italy
No Drawing. Original application May 4, 1960, Ser. No. 26,712, now Patent No. 3,240,671, dated Mar. 15, 1966. Divided and this application Dec. 11, 1962, Ser. No. 243,743

Claims priority, application Italy, Feb. 6, 1960, 2,100/60
7 Claims. (Cl. 167—74)

1. An oral composition in dosage unit form comprising from 1 mg. to 80 mg. of at least one compound selected from the group consisting of a compound of the formula



in which R is a saturated cyclic chain hydrocarbon radical of 4 to 6 carbon atoms or cyclohexenyl and the 6-methyl derivatives of said compound of said formula together with a non-toxic pharmaceutical carrier.

3,342,683

HEPARIN FROM WHALE TISSUE AND METHOD OF PREPARING SAME

Koroku Hashimoto, Kamakura, Zensaku Yosizawa, Sendai, and Tetsuo Shibata, Yokohama, Japan, assignors to Taiyo Gyogyo Kabushiki Kaisha, Tokyo, Japan

Filed Feb. 25, 1964, Ser. No. 347,286

2 Claims. (Cl. 167—74)

1. ω -Heparin sodium isolated from whale tissue taken from the lungs and digestive tracts of whales and being a

white substance containing carbon, hydrogen, oxygen, sulfur, sodium and nitrogen; forming amorphous barium salt; being soluble in water and insoluble in ethanol, acetone and ether; having analytical values of 2.51% nitrogen, 50.2% glucuronic acid, 34.2% glucosamine, 9.0% sulfur, 1.96% acetyl and 13.1% ash calculated as Na; having a molecular weight of about 12,000–13,000; having a specific rotation $[\alpha]_D^{20} = 65.4^\circ$ (1% in water); containing acetyl group in the molecule; and showing infrared absorption bands at frequencies 3470, 2970, 1620, 1560, 1420, 1375, 1330, 1230, 1145, 1030, 993, 940, 890, 817, 792, 755 and 700 in terms of reciprocal centimeters.

3,342,684

BRUCELLOSIS ANTIGENS

Andreas Lembke and Karl-Ernst von Milczewski, both of Sielbeck, near Eutin, Germany

Filed July 21, 1965, Ser. No. 473,664

7 Claims. (Cl. 167—78)

1. A substantially non-toxic and non-agglutinating immunogenic substance, identified as Antigen A₁₂, which is useful in conferring immunity against brucellosis, in a physiologically acceptable injectable carrier, said immunogenic substance being a substantially pure glycolipo-protein characterized by the following properties: soluble in water (>1 g./100 ml.); substantially free of nucleic acids; positive responses to the Molisch reaction for carbohydrates, xanthoprotein reaction for amino acids containing aromatic structures, and biuret reaction for proteins and polypeptides; strongly positive response for lipid content; containing about 41–46% "glucose units" and chromatographically showing approximate sugar contents of about 10% galactose, about 2% glucose, about 1.5% mannose, about 1% xylose, an unidentifiable fast-running component, and a positive response for amino-sugars; optical rotation (1.14% in distilled water) of

$$[\alpha]_{20}^D = +12(\pm 1.2^\circ)$$

an elemental analysis of about 30.5–34.5% carbon, about 5.0–5.5% hydrogen, about 2.0–4.0% nitrogen, about 1.0–2.0% phosphorus, about 4.5–6.0% sodium, about 2.0–4.0% H₂O and about 6.0–8.0% volatiles; shows only a weak maximum of absorption at 258 mμ in the ultraviolet region of the spectrum, and in the infrared region exhibits no characteristic sharp bands; a sedimentation constant (1% solution in 1/15 M phosphate, pH 7.0 of $s_{20} = 1.4$ –1.5S; insignificant agglutination titres in rabbits at 5–80 micrograms/kg. body weight; and an LD₅₀ in mice >200 mg./kg. body weight.

3,342,685

VITAMIN-CATION EXCHANGE RESIN THERAPY AND METHOD OF ELIMINATING DRUG ODOR

Stephen Paul Rety, Wilfred Herbert Linnell, and Herbert Timmington, Richmond, England, assignors to Clinical Products Limited, Slough, England, a British company

No Drawing. Filed Oct. 1, 1958, Ser. No. 764,487

Claims priority, application Great Britain, Oct. 3, 1957, 31,020/57

7 Claims. (Cl. 167—81)

1. A method of changing the odor of a drug which is normally odorous per se and rendering it more suitable for oral use, which comprises the step of adsorbing said drug upon cation exchange resin.
7. A method of thiamine therapy which comprises administering a thiamine product while said product is adsorbed upon cross-linked sulfonated polystyrene cation exchange resin.

3,342,686

PROCESS AND COMPOSITIONS FOR MENDING FINGERNAILS

Paul W. Jewel, North Hollywood, and James Murray, Hollywood, Calif., assignors to Max Factor & Co., Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed June 11, 1962, Ser. No. 201,257

20 Claims. (Cl. 167—85)

1. A fingernail repair composition comprising a fluid mixture of lacquer comprising nitrocellulose, short-length fibers and water, said fibers having a length and diameter such that they are not readily visible to the naked eye, and being present in an amount from about 0.1 to about 5% by weight of the composition.
9. The composition of claim 1 wherein the composition also comprises a wetting agent.

3,342,687

ORAL PREPARATION

David Huntington Gould, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 25, 1964, Ser. No. 378,075

18 Claims. (Cl. 167—93)

1. A composition comprising a topical oral preparation containing a polishing agent and an effective amount up to about 25% by weight of said topical oral preparation of an antimicrobial substance selected from the group consisting of a nitrogenous base and acid-addition salts thereof, said base having the following properties: soluble in methanol, ethanol, chloroform, ethyl acetate, and benzene but insoluble in saturated hydrocarbons; an ultraviolet absorption spectrum in chloroform exhibiting a maximum of

$$E_{1\%}^{1\text{cm}} = 280$$

at 279 millimicrons and a minimum of

$$E_{1\%}^{1\text{cm}} = 29$$

at 232 millimicrons; exhibiting strong absorption in the infrared of the spectrum when suspended in a 7% chloroform solution at the following frequencies expressed in reciprocal centimeters: 2933, 1727, 1597, and 1163; having an optical rotation $[\alpha]_D^{25} = -40^\circ$ (1% in chloroform); an empirical formula of C₃₈H₆₁NO₁₄; an elemental analysis of 60.37% carbon, 8.21% hydrogen, 1.91% nitrogen and 29.51% oxygen by difference; a calculated molecular weight of 756 and a pKa of 6.7 when titrated in 50% aqueous ethanol solution.

3,342,688

NUCLEAR REACTOR CONTROL MECHANISMS

Ronald Scott Challender, Appleton, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England

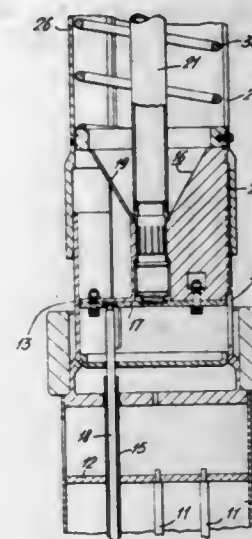
Filed Dec. 16, 1965, Ser. No. 514,326

Claims priority, application Great Britain, Dec. 30, 1964, 52,914/64

6 Claims. (Cl. 176—36)

1. A nuclear reactor control mechanism for normal control movement of a control rod relative to a reactor core and releasable to allow for rapid movement of the rod in a direction to reduce reactivity of the core, the mechanism comprising a drive member engaging, on one side of a gland, a driven member which extends through the gland, first means for restraining the driven member against rotation during normal control movement, said first means comprising a restraint member keyed to the driven member and means for applying fluid pressure to hold the restraint member against rotation during normal control movement, said fluid pressure applying means having a piston in cam engagement with the restraint member, the piston being adapted to be held at one limit

of its travel by the applied fluid pressure, a releasable mechanical coupling between the driven member and a control rod carrier on the other side of the gland, and



second means for effecting limited rotation of the driven member to release the coupling so as to allow for rapid movement of the carrier in the direction to reduce reactivity of the core.

3,342,689

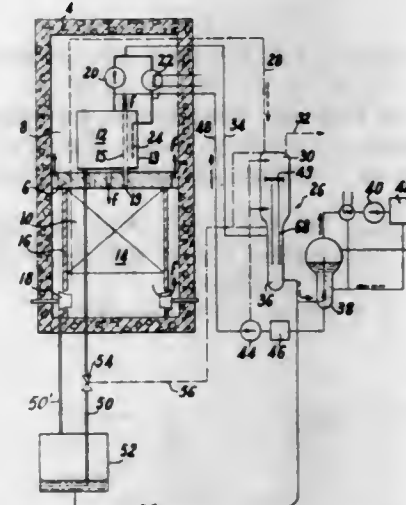
LIQUID-MODERATED, GAS-COOLED NUCLEAR REACTOR AND PRESSURE EQUALIZATION SYSTEM

Jean-Claude Gaudet, Gif-sur-Yvette, and Roland Roche, Clamart, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Aug. 17, 1965, Ser. No. 480,267

Claims priority, application France, Aug. 28, 1964, 986,578, 986,579

7 Claims. (Cl. 176—52)



1. Liquid-moderated, gas-cooled nuclear reactor comprising a tank receiving said moderator and located in a pressure vessel, vertical calandria tubes traversing said tank and receiving fuel elements, a heat exchanger in said pressure vessel, blowing means for circulating said gas coolant inside said pressure vessel along a heat exchange circuit including said calandria tubes and heat exchanger and means for equalization of the minimum pressure of the coolant gas upstream of said blowing means with the maximum pressure of the liquid moderator in said tank, said tank being suspended from said calandria tubes.

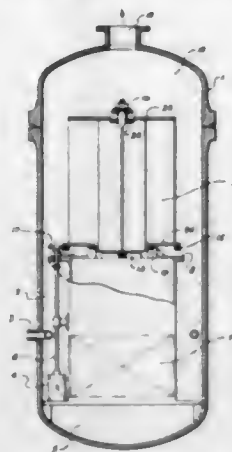
3,342,690

INTERNAL STEAM SEPARATION, PUMPING AND FLOW PATH IN BOILING WATER REACTORS

Fred M. Stern, West Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 30, 1964, Ser. No. 422,294

8 Claims. (Cl. 176-54)



1. A boiling water reactor organization comprising: a reactor core; means for passing water through the core and evaporating at least a portion of the water; a rotatably mounted steam water separator having a configuration such that fluid discharging therethrough is centrifugally discharged with the resultant tangential force being exerted on the separator by the discharging fluid; said separator mounted so as to receive the effluent from the core; means resisting the rotation of the separator which are a function of the rate of rotation of the separator, whereby when a high quantity of effluent is passing through the separator it rotates rapidly therefore effectively imparting a relatively low centrifugal action to the effluent, while when a low quantity of effluent is passing through the separator it rotates relatively slowly imparting a high centrifugal action to the effluent passing therethrough.

3,342,691

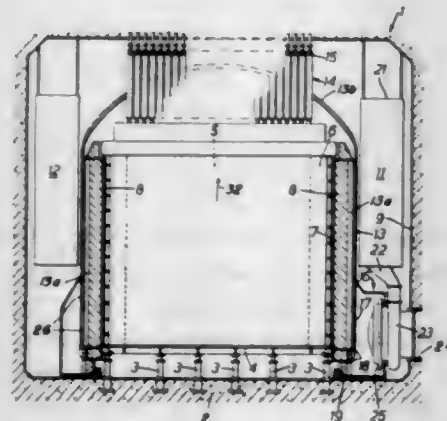
GAS-COOLED, GRAPHITE-MODERATED NUCLEAR REACTOR

Philip Cloudesley Warner, Wimbledon, London, and John Charles Bennett, Northfleet, Kent, England, assignors to United Power Company Limited, London, England, a British company

Filed Aug. 26, 1965, Ser. No. 482,849

Claims priority, application Great Britain, Sept. 8, 1964, 36,760/64

6 Claims. (Cl. 176-60)



1. A gas-cooled, graphite-moderated nuclear reactor comprising in combination a pressure vessel, a nuclear core inside said vessel, a gas-tight enclosure inside said vessel, said enclosure housing said core and spaced therefrom by a flow path for coolant, said housing also being

spaced from said vessel, a plurality of heat exchangers located outside said enclosure and inside said vessel, a plurality of charge tubes passing into said enclosure from outside said pressure vessel to permit movement of nuclear fuel to and from said core, apertures in the walls of said tubes, said apertures being located externally of said enclosure but within said vessel, and, coolant circulators for circulating gaseous coolant from said apertures in said charge tubes, through said heat exchangers into said enclosure, through said flow path and said core into said charge tubes.

3,342,692

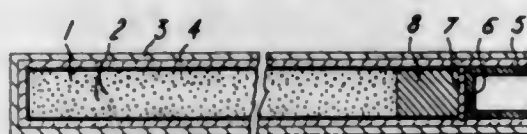
MODERATOR-FUEL ELEMENT

André Bourrasse, Essonne, Yvette Carteret, Paris, Jean Elston, Essonne, and Renée Lucas, Le Plessis-Robinson, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Apr. 6, 1966, Ser. No. 540,594

Claims priority, application France, Apr. 26, 1965, 14,664

4 Claims. (Cl. 176-69)



1. Moderator-fuel element containing refractory-fuel particles dispersed in a solid moderator consisting of yttrium hydride, said refractory-fuel particles being coated with a layer of molybdenum.

3,342,693

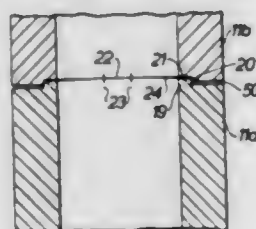
GRAPHITE BRICK STRUCTURES

Geoffrey William Triggs, Stockton Heath, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Nov. 26, 1965, Ser. No. 509,974

Claims priority, application Great Britain, Dec. 4, 1964, 49,530/64

3 Claims. (Cl. 176-84)



1. For a nuclear reactor a graphite brick moderator structure comprising juxtaposed columns of graphite bricks, the bricks in each column being each engaged with their neighbours in the column by co-operating projections and recesses provided on adjacent faces of the bricks, the projections having a curved working surface including a central minor portion defining a pair of parallel straight edges disposed so that a vertically contiguous brick can pivot about either of said straight edges.

3,342,694

PROCESS FOR THE PREPARATION OF STEROIDS

Elisabeth Becher, Basel, Hans Els, Binningen, Andor Fürst and Gisela Gross, Basel, and Pierre Reusser, Riehen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed May 19, 1964, Ser. No. 368,693

Claims priority, application Switzerland, May 22, 1963, 6,407/63

3 Claims. (Cl. 195-51)

1. A process for the preparation of oxygenated retrosteroids comprising contacting a 20-ketone-steroid of the retropregnane series saturated in the 1,2-position, having a

keto group in each of positions 3 and 20 and a double bond in the 4,5-position, with the microorganism *Fusarium solani* under aerobic conditions and isolating the oxygenated retrosteroid.

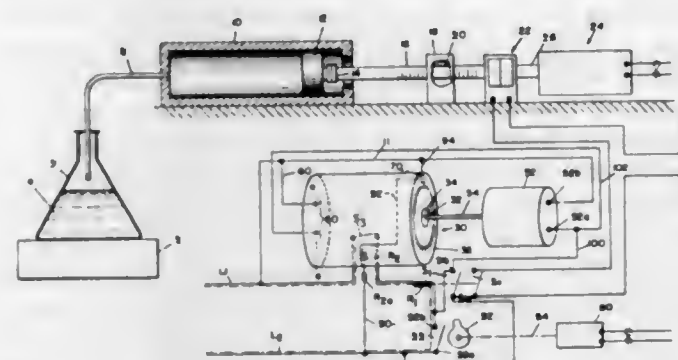
3,342,695

EXPONENTIAL FEED METHOD AND APPARATUS

Gary Felsenfeld, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare

Filed July 14, 1964, Ser. No. 384,034

15 Claims. (Cl. 195-102)



1. A method of obtaining successive exponentially increasing operating time periods, said method comprising the steps of:

- initially positioning a first movable member at a first position located a first distance from a given reference position;
- initially positioning a second movable member at a corresponding first position located a corresponding first distance from a corresponding given reference position;
- at the end of a predetermined time interval, moving said second member at a given constant rate toward said corresponding reference position while simultaneously moving said first member further away from the first mentioned reference position at a constant rate less than said given constant rate;
- stopping the first and second members when said second member reaches said corresponding reference position whereby said first member is stopped at a second position;
- moving said second member to a corresponding second position while maintaining said first member at said second position;
- at the end of successive predetermined time intervals, equal to the first mentioned predetermined time interval, repeating steps (c), (d) and (e); and,
- using the periods of movement of said second member as operating times.

3,342,696

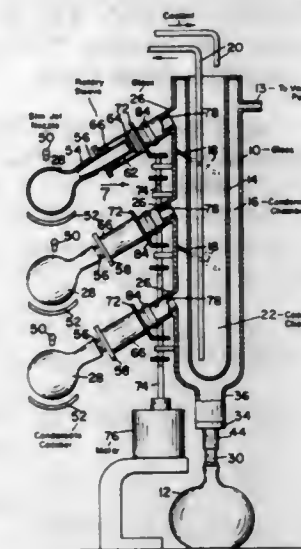
MULTIPLE ROTARY EVAPORATOR

Ian E. Bush, 30 Grafton St., Shrewsbury, Mass. 01545

Filed Mar. 16, 1965, Ser. No. 440,208

14 Claims. (Cl. 202-172)

1. A multiple rotary evaporator structure comprising a relatively elongated tubular condensing chamber, a series of sleeves arranged along an exterior surface of said condensing chamber, each sleeve being open to the chamber, means for detachably and operatively securing a distilling flask with respect to each sleeve, means for rotating said last-named means and thereby said distilling flasks, a source of power, means operatively connecting the power source to each one of said flask-attaching means



for rotating the same in unison, heating means for each flask to provide for evaporation of the contents and trans-

fer of the distillate to the condensing chamber, each flask having a free and clear path to the latter.

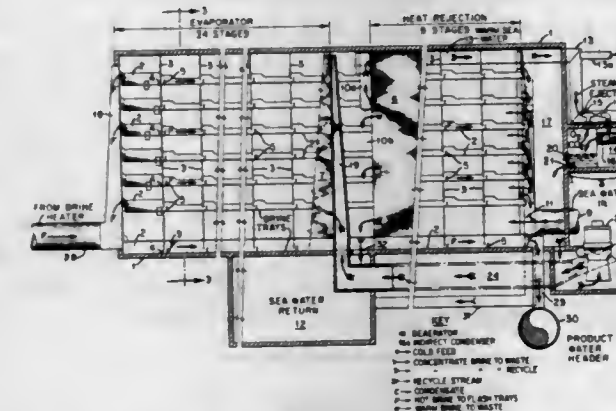
3,342,697

MULTISTAGE FLASH EVAPORATOR

Roland P. Hammond, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed July 28, 1964, Ser. No. 385,814

2 Claims. (Cl. 202-173)



1. A multistage-multilevel evaporator comprising a concrete shell defining a chamber, a plurality of trays disposed in both vertically stacked arrays and in longitudinal rows in said chamber, means for distributing heated brine for flashing to each of said trays to flow from one end longitudinally to the other end of said chamber, a plurality of condenser tubes disposed in tube banks on opposite lateral sides of and spaced apart from said trays and extending from above the topmost tray row to the bottommost tray row in said arrays, means for pumping cooling sea water through said tube banks from said other end to said one end at least one channel in the bottom of said shell for collecting condensed flush vapor by gravity from the surfaces of said coils, a plurality of transverse downwardly extending vertical baffles aligned to divide said chamber into a series of longitudinally separated compartments of gradually decreasing temperature and pressure, said baffles depending from the shell roof and the bottom of said trays to a point below the normal trays level in the liquid therebelow, a plurality of up-standing vertical baffles carried by the bottoms of said trays and the floor of said shell, said last-named baffles being coplanar vertically and being offset downstream from said downwardly-extending baffles to form weirs for said liquid between compartments, means for collecting brine from the ends downstream of said trays for partial recycling, and means to collect said condensed vapor connected to the last of said compartments.

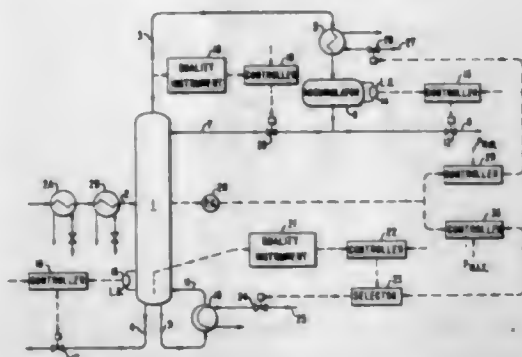
3,342,698
METHOD AND APPARATUS FOR THE CONTROL
OF A CONTINUOUSLY OPERATING SUPERAT-
MOSPHERIC DISTILLATION PROCESS

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assign-
 or to Shell Oil Company, New York, N.Y., a corpora-
 tion of Delaware

Filed Dec. 16, 1963, Ser. No. 330,753

Claims priority, application Netherlands, Dec. 19, 1962,
 286,980

13 Claims. (Cl. 203-1)



1. In a process for the continuous distillation of a stream of an intake mixture at superatmospheric pressure in a multistage distillation column in which overhead vapors are removed and condensed in a top product condenser, collected in an accumulator and both reflux in the upper portion and re-evaporation in the bottom portion of the column occur, and wherein the amount of reflux, the degree of re-evaporation, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level are adjusted to predetermined levels and the desired quality of the top and bottom products attained, the improvement comprising: controlling the flow of cooling medium supplied to the condenser, said control being in a direction to supply the maximum possible quantity of cooling medium to the condenser; measuring the pressure in the column; and only decreasing said supply of cooling medium when said measured pressure substantially equals the minimum permissible pressure in the column.

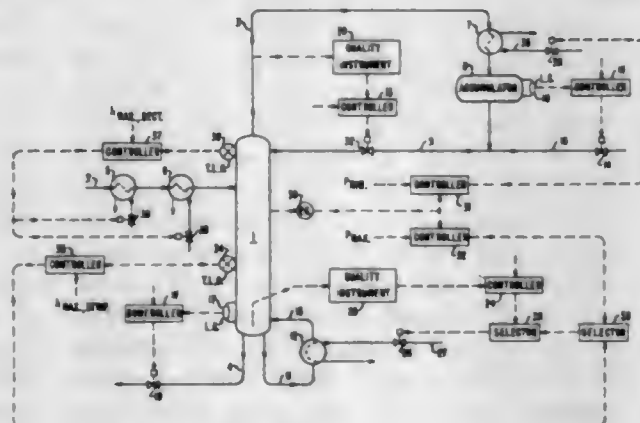
3,342,699
CONTINUOUSLY OPERATING SUPERATMOS-
PHERIC DISTILLATION PROCESS CONTROL
AND APPARATUS THEREFOR

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assign-
 or to Shell Oil Company, New York, N.Y., a corpora-
 tion of Delaware

Filed Jan. 20, 1964, Ser. No. 338,765

Claims priority, application Netherlands, Feb. 27, 1963,
 289,505

12 Claims. (Cl. 203-1)



1. In a process for the continuous distillation of a stream of an intake mixture which is carried out at superatmospheric pressure in a multi-tray distillation column having both a rectifying and a stripping section, wherein

the overhead vapors from the column are condensed in a condenser and collected in an accumulator and both reflux in the upper portion and re-evaporation in the bottom portion of the column are used, and wherein the amount of reflux, the degree of re-evaporation, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level in the column are adjusted to predetermined respective levels and the desired quality of the separation is attained, the improvement comprising: allowing the pressure in the column to freely adjust itself between the maximum and minimum permissible operating pressures for the column; supplying the maximum possible quantity of cooling medium to the condenser, decreasing the supply of cooling medium when the column pressure substantially equals the minimum permissible pressure; preheating said stream of intake mixture with the maximum possible quantity of heat, decreasing the supply of preheat when the loading on the trays of the rectifying section of the column substantially equals the maximum permissible loading; and, decreasing the degree of re-evaporation whenever the maximum permissible load on the column trays of the stripping section of the distillation column is exceeded; whereby the costs of operating the distillation process are minimized when the distillation takes place in a pressure range where the tray load increases with increasing pressure and where the cost of the heating medium used for preheating is relatively cheap in comparison with the heating medium used for re-evaporation.

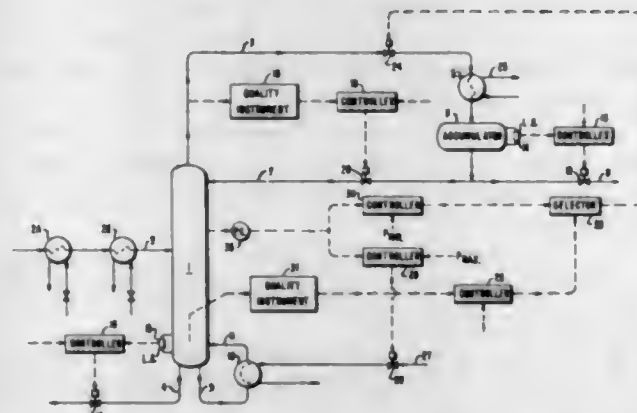
3,342,700
METHOD AND APPARATUS FOR THE CONTROL
OF A CONTINUOUSLY OPERATING SUPERAT-
MOSPHERIC DISTILLATION PROCESS

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assign-
 or to Shell Oil Company, New York, N.Y., a corpora-
 tion of Delaware

Filed Jan. 20, 1964, Ser. No. 338,835

Claims priority, application Netherlands, Jan. 28, 1963,
 288,248

13 Claims. (Cl. 203-1)



1. In a process for the continuous distillation of a stream of an intake mixture at superatmospheric pressure in a multistage distillation column in which overhead vapors are condensed a top product condenser and both reflux in the upper portion and re-evaporation in the bottom portion of the column occur, and wherein the re-evaporation is provided from a heat supply which is regulated by a control valve, and wherein the amount of reflux, the degree of cooling, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level are adjusted to predetermined respective levels and the desired quality of the top and bottom products attained, the improvement comprising:

operating the column while permitting the pressure to freely vary between the maximum and minimum pressure limits for the column;

completely opening the control valve in the heat supply for re-evaporation of the bottom portion of the column;
 measuring the pressure in the column to obtain a signal related to said pressure; and
 closing said control valve in response to said signal when the pressure in the column approaches said maximum pressure limit.

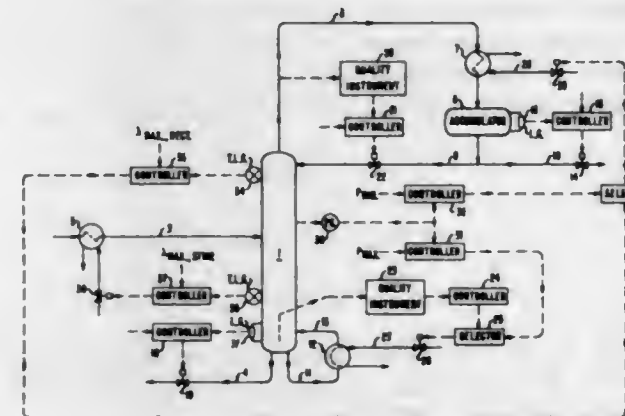
3,342,701
CONTINUOUSLY OPERATING SUPERATMOS-
PHERIC DISTILLATION PROCESS CONTROL
AND APPARATUS THEREFOR

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assign-
 or to Shell Oil Company, New York, N.Y., a corpora-
 tion of Delaware

Filed Feb. 24, 1964, Ser. No. 346,781

Claims priority, application Netherlands, Mar. 19, 1963,
 290,361

8 Claims. (Cl. 203-2)



1. In a process for the continuous distillation of a stream of intake mixture which is carried out at superatmospheric pressure in a multistage distillation column having both rectifying and stripping sections, wherein the overhead vapors are condensed in a condenser and collected in an accumulator; wherein both reflux in the upper portion and re-evaporation in the bottom portion of the column are used; and wherein the amount of reflux, the degree of re-evaporation, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level in the column are adjusted to predetermined respective levels and the desired quality of the separation is attained, the improvement comprising: allowing the pressure in the column to freely adjust itself between the maximum and minimum permissible operating pressures for the column; controlling the flow of cooling medium to the condenser, said control being in a direction to supply the maximum amount of cooling to the condenser; measuring the pressure in said column, reducing said flow of cooling medium only when said measured pressure equals the minimum permissible column pressure; providing preheating for the stream or intake mixture to the column, said control being in a direction to supply a minimum quantity of preheat; measuring the load on the trays of the stripping section of said column, increasing the preheat only when said measured load equals the maximum permissible load on the trays of the stripping section; measuring the load on the trays of the rectifying section of the column, reducing the flow of cooling medium only where said measured load equals the maximum permissible load on the trays of the rectifying section; whereby the costs of operating the distillation column are minimized when the distillation takes place in a pressure range where the tray load decreases

with increasing pressure and where the cost of the heating medium used for preheating the feed is relatively expensive in comparison with the heating medium used for re-evaporation.

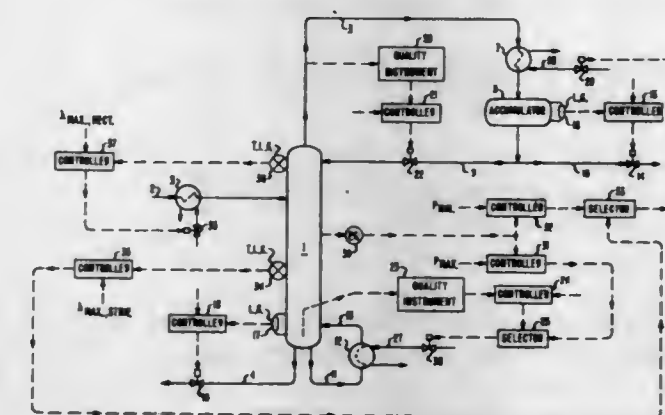
3,342,702
CONTROL PROCESS AND APPARATUS FOR CON-
TINUOUSLY OPERATING SUPERATMOSPHERIC
DISTILLATION

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assign-
 or to Shell Oil Company, New York, N.Y., a corpora-
 tion of Delaware

Filed Mar. 6, 1964, Ser. No. 349,922

Claims priority, application Netherlands, Apr. 11, 1963,
 291,457

10 Claims. (Cl. 203-2)



1. In a process for the continuous distillation of a stream of intake mixture which is carried out at superatmospheric pressure in a multistage distillation column having both rectifying and stripping sections, wherein the overhead vapors are condensed in a condenser and collected in an accumulator; wherein both reflux in the upper portion and re-evaporation in the bottom portion of the column are used; and wherein the amount of reflux, the degree of re-evaporation, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level in the column are adjusted to predetermined respective levels and the desired quality of the separation is attained, the improvement comprising: allowing the pressure in the column to freely adjust itself between the maximum and minimum permissible operating pressures for the column; circulating the maximum possible quantity of cooling medium through the condenser, reducing the amount of the cooling medium circulated only when the column pressure equals the limits of the permissible operating range; preheating the intake mixture to the distillation column with the maximum possible quantity of heat, reducing said preheating only when the trays of the rectifying section of the column overload; and, decreasing the circulation of condenser cooling medium whenever the maximum permissible load on the trays of the stripping section of the distillation column is exceeded.

3,342,703
METHOD AND PISTON MEANS FOR REMOVING
PRECIPITATE FROM A CLOSED CHAMBER

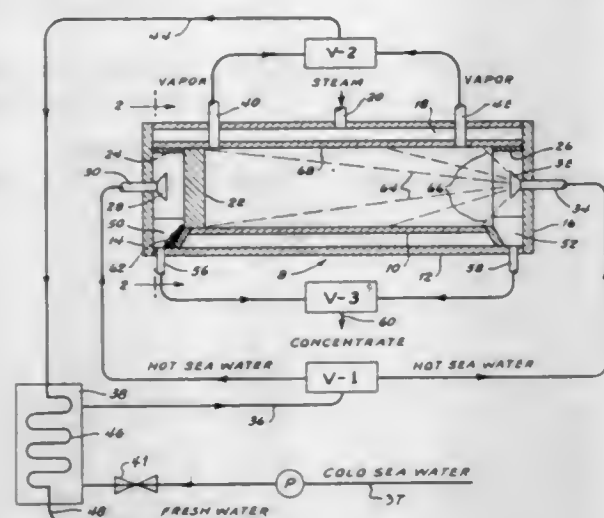
John M. Leach, P.O. Box 350, Port Jefferson,
 N.Y. 11777

Filed Nov. 29, 1963, Ser. No. 326,884

2 Claims. (Cl. 203-4)

1. The process of removing undesired substances from a material which substances precipitate upon change in temperature of the vehicular material comprising directing the material into a closed chamber alternately on opposite sides of a movable partition wall within the chamber, changing the temperature of the material within

the chamber to precipitate the material onto a surface on the interior of the chamber, utilizing the pressure of the material entering the chamber to move the movable wall in wiping relation to the surface to remove the precipitate therefrom and deposit the concentrated precipitate in a removal area completely isolated from the precipitation



surface and said area being provided with an exit from the chamber, introducing a controlled quantity of the material to remove the concentrated precipitate from the removal area and out of the chamber through the exit, and separately removing the precipitate-free material from the chamber.

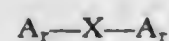
3,342,704

ELECTROLYTIC RECORDING MEDIUM CONTAINING A POLYNUCLEAR PHENOL

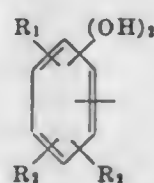
Marcel A. Gradsten, Demarest, N.J., and Irving Lieblich, Elmhurst, N.Y., assignors to Hogan Faximile Corporation, New York, N.Y.

No Drawing. Filed July 3, 1964, Ser. No. 380,124
13 Claims. (Cl. 204-2)

1. An electrolytic recording medium comprising an impregnated sheet containing in an electrolytically conducting solution at least one polynuclear phenol composed of two aromatic rings linked by an aliphatic group, at least one of the aromatic rings containing two hydroxy groups ortho to each other, such polynuclear phenol being selected from the class represented by the following general formula:

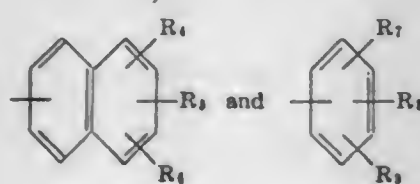


where A_r is



where R_1 , R_2 , and R_3 are selected from the group consisting of H, OH, OR^e, SO₃H, COOH, Cl, Br, and lower aliphatic groups having one to six carbon atoms, where R^e is a lower aliphatic group having one to six carbon atoms; (OH)₂ designates two hydroxy groups ortho to each other;

where A_r' is selected from the group consisting of A_r ,



where R_4 and R_5 are selected from the group consisting of SO₃H, OH, and COOH, R_6 and R_7 are selected from the group consisting of H, SO₃H, OH, and COOH, R_8 is selected from the group consisting of H, SO₃H and COOH, and R_9 is selected from the group consisting of H, SO₃H and COOH;

and where X is selected from the group consisting of C_nH_{2n}, C_nH_{2n-1}Y, where n is 1 to 6, Y is Cl, Br, and r has a value from 1 to 2n.

3,342,705

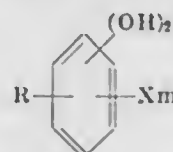
ELECTROLYTIC RECORDING MEDIUM CONTAINING A HALOGENATED POLYHYDRIC PHENOL

Irving Lieblich, Elmhurst, N.Y., and Marcel A. Gradsten, Demarest, N.J., assignors to Hogan Faximile Corporation, New York, N.Y.

No Drawing. Filed July 3, 1964, Ser. No. 380,132

12 Claims. (Cl. 204-2)

1. An electrolytic recording medium comprising an impregnated sheet containing in an electrolytically conducting solution a halogenated polyhydric phenol in which at least two of the phenolic hydroxyl groups are ortho to each other and selected from the class consisting of:



where R is selected from the group consisting of H, OH and CH₃; X is halogen, m is 1 or 2; and (OH)₂ denotes two ortho phenolic hydroxyl groups.

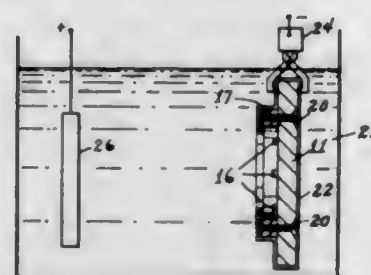
3,342,706

METHOD OF CONSTRUCTING EVAPORATION MASKS

William Liben, 11404 Monticello Ave., Silver Spring, Md. 20902; Arnold Alexander, 122 4th Ave., Lansdowne, Md. 21227; and George A. Hillman, 125 Quackenbos St. NW., Washington, D.C. 20011

Filed Jan. 23, 1964, Ser. No. 339,632

6 Claims. (Cl. 204-11)



1. A method of fabricating a peripherally reinforced, substantially unitary evaporation mask comprising depositing a resist pattern on a matrix plate, said matrix plate having a passivated surface to which plating is non-adherent, and said resist pattern comprising resist material deposited on said surface, detachably bolting a rigid metal frame ring to said matrix plate surrounding said resist pattern and in contact with said surface, electroplating a film of the same metal as said ring adherently onto the inside of the ring and across the central aperture of the ring, whereby to cover the surface inside the ring except for said resist material, and then unbolting and removing the matrix plate.

3,342,707

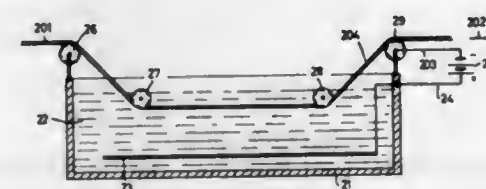
METHOD OF PRODUCING A BODY WITH EMBEDDED SUPERCONDUCTING METAL FILAMENTS

Hans-Joachim Bode, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a German corporation

Filed Jan. 23, 1964, Ser. No. 339,658

Claims priority, application Germany, Jan. 30, 1963, S 83,491

9 Claims. (Cl. 204-20)



1. The method of producing an electric conductor member having embedded filaments of superconductive metal, which comprises immersing a non-conductive porous body having intercommunicating pores traversing the body, in an electrolyte bath containing ions of said metal; applying voltage between a cathode which contacts said body outside the bath and an anodic electrode in said bath, with contact between cathode and anode being through electrolyte capillary drawn into the pores, and thereby electrolytically producing filament-shaped depositions of the metal from the electrolyte in the pores of the body.

3,342,708

PROCESS FOR LUBRICATING A BEARING SURFACE

Earl W. Turns, Johnny W. Head, Harold C. Hoffman, and Arthur C. Porter, Fort Worth, Tex., assignors to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,804

2 Claims. (Cl. 204-32)

1. A process for lubricating the bearing surface of a base metal, comprising:

- (A) preparing the surface of the base metal for receiving a solid lubricant deposit,
- (B) intimately adhering a bimetallic surface lubricant to the exposed surface of said base metal; said adherence of said bimetallic lubricant being effected by the steps of:

(1) electro-depositing a silver matrix alloy upon the exposed surface of the base metal to a thickness of from .0001 of an inch to about .0015 of an inch by immersing said base metal as cathode in an aqueous solution for from about 5 minutes to about 60 minutes at a current density of from about 1.0 amp. per square decimeter to about 13.5 amps. per square decimeter at a temperature of from about 10° C. to about 52° C.; said aqueous solution consisting essentially of:

- (a) potassium cyanide (KCN) from about 60 grams per liter to about 125 grams per liter,
- (b) potassium carbonate (K₂CO₃) from about 3 grams per liter to about 75 grams per liter,
- (c) silver cyanide (AgCN) from about 3 to about 7 grams per liter, and
- (d) a soluble metal salt consisting of an alkali metal compatible rhenate salt from about .75 to about 1.25 grams per liter.

2. A process for lubricating the bearing surface of a base metal, comprising:

- (A) preparing the surface of the base metal for receiving a solid lubricant deposit,
- (B) intimately adhering a bimetallic surface lubricant to the exposed surface of said base metal; said adherence of said bimetallic lubricant being effected by the steps of:

(1) electro-depositing a silver matrix alloy upon the exposed surface of the base metal to a thickness of from .0001 of an inch to about .0015 of an inch by immersing said base metal as cathode in an aqueous solution for from about 5 minutes to about 60 minutes at a current density of from about 1.0 amp. per square decimeter to about 13.5 amps. per square decimeter at a temperature of from about 10° C. to about 52° C.; said aqueous solution essentially consisting of:

- (a) potassium cyanide (KCN) from about 60 grams per liter to about 125 grams per liter,
- (b) potassium carbonate (K₂CO₃) from about 3 grams per liter to about 75 grams per liter,
- (c) silver cyanide (AgCN) from about 3 grams to about 7 grams per liter, and
- (d) a soluble salt consisting of an alkali metal compatible sodium molybdate (Na₂MoO₄) from about .75 to about 1.25 grams per liter.

3,342,709

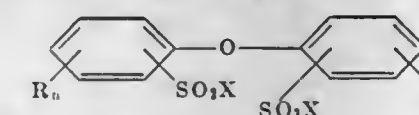
ELECTRODEPOSITION OF CHROMIUM AND ANTI-MISTING AGENTS THEREFOR

Andy Albert Johnson, Oak Park, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

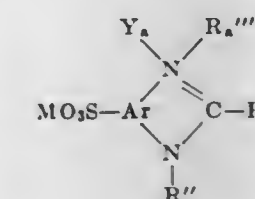
No Drawing. Filed Sept. 24, 1963, Ser. No. 311,243

21 Claims. (Cl. 204-51)

2. A novel composition characterized by its ability to controllably develop and maintain over an extended period of time a fixed predetermined blanket of foam which consists essentially of (a) 5-95 parts of a disulfonated alkyl diphenyl oxide having the formula



wherein R is an alkyl group containing 6-18 carbon atoms; X is a cation selected from the group consisting of hydrogen, ammonium and metals; and n is 0-1; and (b) 5-95 parts of a compound having the formula



wherein Ar is selected from the group consisting of phenyl and naphthyl rings, said ring being incorporated into the imidazole structure through vicinal carbon atoms of said ring; M is a cation selected from the group consisting of hydrogen, ammonium and metals; R' is a non-aromatic hydrocarbon containing 3-18 carbon atoms; R'' is selected from the group consisting of omega-sulfonated lower alkyl, sulfonated phenyl and sulfonated benzyl; R''' is selected from the group consisting of hydrogen, lower alkyl and benzyl; Y is a water-soluble anion; and a is 0-1.

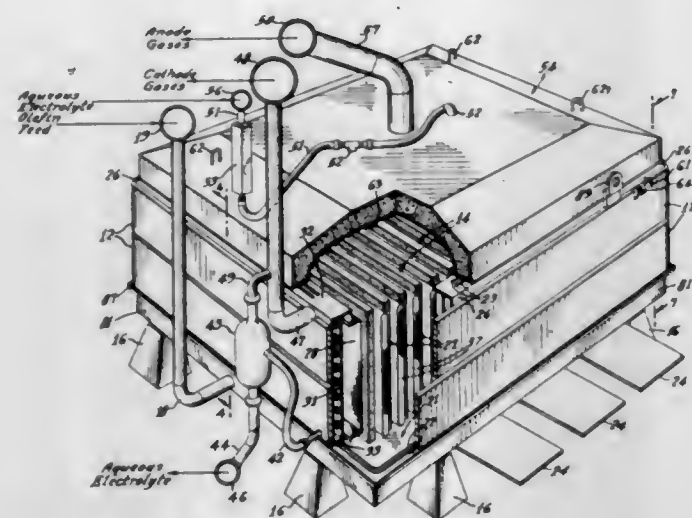
9. In the process for electroplating chromium from a chromium plating bath, the improvement which comprises

support member with portions of the rod exposed outside the support member at spaced intervals along the length of the rod, and means for supplying electric power to the rod, said means including a second rod of electrically conductive metal completely embedded in the support member parallel to and in contact with the first mentioned rod.

3,342,717

ELECTROCHEMICAL CELL

Joseph Adrien M. Leduc, Short Hills, N.J., assignor to Pullman Incorporated, a corporation of Delaware
Filed Aug. 2, 1963, Ser. No. 299,519
33 Claims. (Cl. 204-265)



1. An electrochemical cell for the production of olefin oxide from an olefinic compound, water and electrical energy which comprises in combination: at least one anode compartment adjacent to a cathode compartment and in fluid communication therewith by means of a foraminous cathodic surface having a fluid permeable diaphragm in association therewith; a cell base within which there is secured at least one anode comprising porous side walls and being in the form of a plurality of contiguous tubes each of said contiguous tubes having an inner hollow chamber, said anode extending upwardly from said base into said anode compartment such that said anode is in spaced relationship to said foraminous cathodic surface, said base being provided with means adapted to feed an olefinic reactant to the inner chambers of said anode; inlet means for supplying an aqueous electrolyte medium to said anode compartment; and means adapted to withdraw an effluent stream comprising olefin oxide produced in said cathode compartment from said cell.

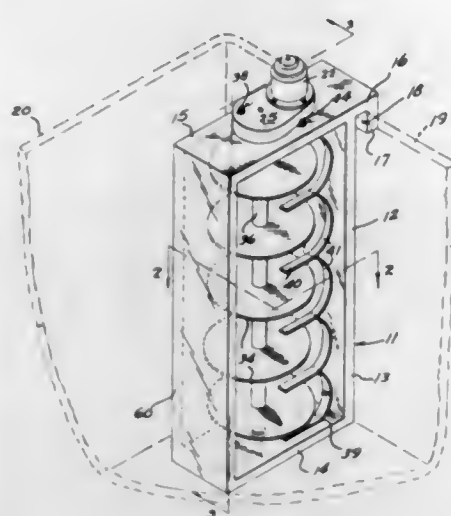
3,342,718

APPARATUS FOR THE RECOVERY OF SILVER FROM USED PHOTOGRAPHIC FIXING SOLUTIONS BY ELECTROLYSIS

William M. Adams, Santa Clara, Calif.
(3253 Oahu Ave., Honolulu, Hawaii 96822)
Filed Jan. 21, 1964, Ser. No. 339,293
2 Claims. (Cl. 204-273)

1. An electroplating cell for recovering silver from photographic fixing solutions comprising a rigid support including a vertical main wall and parallel top and bottom horizontal walls, a hooked flange projecting rearwardly from the top corner defined between said top wall and main wall and having a depending portion extending parallel to said main wall and defining therewith a downwardly facing channel adapted to receive the top edge of the wall of a fixing solution tank, whereby to suspend the support in the tank with said main wall adjacent to

the tank wall, leaving the two sides open, a vertical shaft journaled at its top and bottom ends in said top and bottom walls, a plurality of metal cathode discs secured on said shaft, a substantial number of said discs being non-perpendicular to the shaft, a cathode terminal on the



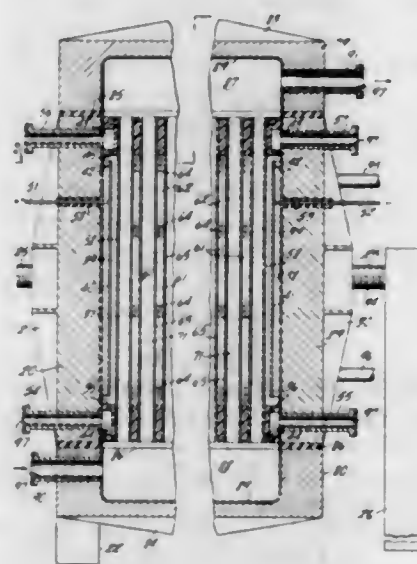
support electrically connected to said discs, an anode member secured to said support and extending adjacent said plate members, an anode terminal on the support electrically connected to said anode means, means for applying a DC voltage to said terminals, and means for driving said shaft, whereby to rotate said discs in the fixing solution.

3,342,719

ION EXCHANGE MEMBRANE FABRICATION

William Kwo-Wei Chen, Stamford, and Richard Neilson Smith, East Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed June 5, 1963, Ser. No. 285,774
9 Claims. (Cl. 204-301)



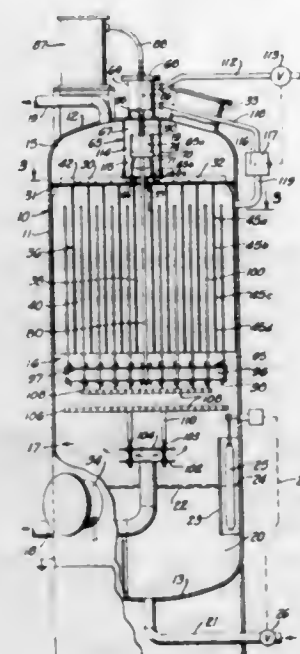
3. The process of making a fluid treatment cell for electrochemical apparatus comprising the steps of forming a cell frame with a large central opening, expanding a strip of membrane material by placing it in a basic solution of anhydrous alcohol, ultrasonically sealing the ends of the expanded strip of membrane material to one edge of the cell frame with the membrane material extending about the cell frame over the large central opening, and shrinking the strip of membrane material tightly

over the large central opening by immersing the cell frame and the strip of membrane material in a water solution.

3,342,720

ELECTRIC TREATER

Delber W. Turner, Houston, Tex., assignor to Petrolite Corporation, St. Louis, Mo., a corporation of Delaware
Filed July 28, 1964, Ser. No. 385,654
22 Claims. (Cl. 204-302)



1. An electric treater for treating oil-continuous dispersions to separate particles of a dispersed-phase material dispersed therein, said treater comprising:

a container having upper, intermediate and lower zones, said container providing means for introducing the dispersion into said lower zone, means for withdrawing separated dispersed-phase material from the bottom of said lower zone and means for withdrawing treated oil from said upper zone;

upright electrode members in said intermediate zone electrically connected to said container providing upright side-by-side passages between said lower and upper zones, at least one of said upright passages being an open-top electrode-support passage, the other upright passages being treating passages, all of said passages opening downwardly on said lower zone;

means for metering the flow of treated oil from said treating passages into said upper zone comprising a plate electrically connected to said container traversing the tops of said upright electrode members, said plate providing metering holes for the treated oil moving from said treating passages to said upper zone;

an insulator housing structure interconnecting and extending between the top of said container and said plate in axial alignment with each electrode-support passage providing therein an entrapment space opening on such electrode-support passage through the open top thereof;

an insulator support ring mounted within the entrapment space of each insulator housing;

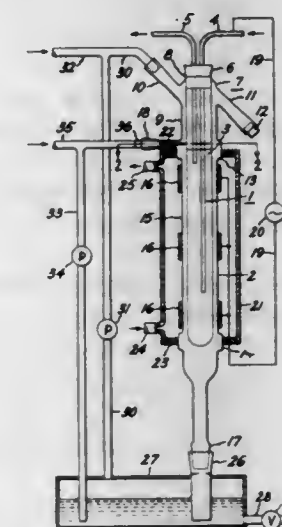
a cylindrical insulator of relatively large diameter having a central passage coaxial with the corresponding insulator support ring and having upper and lower annular faces respectively at its upper and lower ends, said lower face being supported on said insulator support ring;

an electrode support plate bridging across said central passage and supported by said upper annular face; an elongated electrode support member hung from the center of said electrode support plate of a length to extend therefrom completely through the corresponding electrode-support passage into said lower zone, the outer diameter of said cylindrical insulator being at least several inches to provide lateral stability for said electrode support plate against tipping, the diameter of said elongated electrode support member being substantially less than the inner diameter of said cylindrical insulator; a foraminous structure in said lower zone below the lower ends of said passages electrically connected to and supported by the lower end of such support member; a plurality of upstanding rod electrodes attached rigidly to said foraminous structure extending upward in said treating passages having upper ends terminating below said plate; and a high-voltage source of potential having terminals respectively connected to said electrode support member and said upright electrode members establishing high-voltage electric fields in said treating passages.

3,342,721

APPARATUS FOR TREATING LIQUIDS IN AN ELECTRICAL DISCHARGE INCLUDING MEANS FOR DIRECTING THE LIQUID IN A CONTINUOUS CURTAIN

Norman R. Dibellus, Ballston Spa, and James C. Fraser, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 16, 1964, Ser. No. 411,192
5 Claims. (Cl. 204-312)



1. In an apparatus for treating fluids in a corona discharge including a vertically disposed hollow tube defining a vertical cylindrical space and comprising a first electrode, a cylindrical member concentrically disposed within said tube to define an annular space radially between the interior surface of said tube and the exterior surface of said member, said member comprising a second electrode, means for providing an insulating dielectric barrier between at least one of said electrodes and said annular space, means including said electrodes disposed axially along a substantial portion of said space for effecting a corona discharge across said annular space and thereby defining a reaction zone, at least one means for supplying fluid through said reaction zone and means for receiving fluid from said reaction zone, the improvement wherein said fluid supply means includes means for directing a liquid into said space above said reaction

zone to form substantially all of said liquid into a descending continuous film curtain flowing over at least one of said surfaces and wherein said annular space is substantially free of liquid droplets.

3,342,722

PETROLATUM PRODUCT CONTAINING A UNIFORMLY DISPERSED GAS

Leslie Jakob, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed June 2, 1965, Ser. No. 460,626

1 Claim. (Cl. 208—20)

Petrolatum having a density of at least about 0.88 at 77° F. and a melting point of at least about 140° F., and containing uniformly dispersed nitrogen gas in an amount sufficient to displace from about 3% to about 9%, by weight, of said petrolatum.

3,342,723

AROMATIC HYDROCARBON INHIBITOR

Richard L. Godar, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 129,511, Aug. 7, 1961. This application Aug. 25, 1965, Ser. No. 482,611

6 Claims. (Cl. 208—48)

1. A process for inhibiting in oil refining apparatus during petroleum refining operations the formation of adherent coke-like deposits and adherent tenacious soft, sticky sludges on, and the adhesion of said deposits and said sludges to, the hot metal heat transfer surfaces of a heat exchanger in said oil refining apparatus by a thermally unstable petroleum hydrocarbon liquid, said hydrocarbon liquid having the tendency to undergo a chemical reaction at a temperature in the range of about 225° F. to about 800° F., said chemical reaction manifesting itself in the form of adherent coke-like deposits and adherent soft, sticky sludges, such as are usually formed during passage of said hydrocarbon liquid through said heat exchanger and in contact with the hot metal surfaces of said heat exchanger in said oil refining apparatus at a temperature in the range of about 225° F. to about 800° F. comprising

- (1) incorporating in said hydrocarbon liquid prior to contact with said metal surfaces of said heat exchanger in said oil refining apparatus an antifouling amount of a compound selected from the group consisting of 4-phenyl catechol, 4-tert-butyl catechol, orthophenylene diamine, orthoaminophenol, and catechol, and
- (2) heating said hydrocarbon liquid having incorporated therein said compound in an antifouling amount to a temperature in the range of about 225° F. to about 800° F. by contact with said hot metal surfaces of said heat exchanger in said oil refining apparatus.

3,342,724

LIGHT OIL CONTACT OF THERMAL CRACKING EFFLUENT

Gordon D. Goering, New York, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware

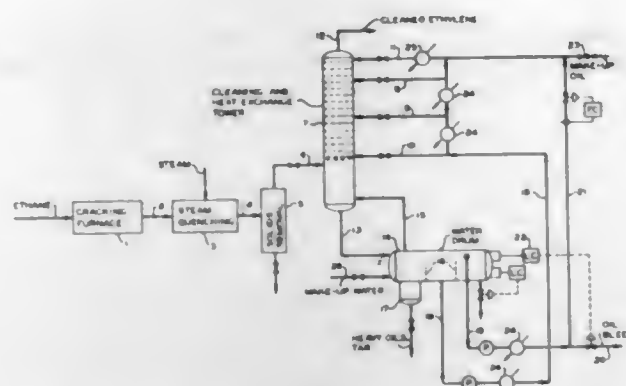
Filed Aug. 3, 1965, Ser. No. 476,934

9 Claims. (Cl. 208—101)

1. The method of cooling and removing heavy oil from an effluent resulting from the thermal cracking of a hydrocarbon feed stock comprising:

- (a) contacting the effluent with water and steam to reduce the temperature thereof to discontinue cracking;
- (b) removing any solids from the effluent;

(c) contacting the effluent with a plurality of water streams, each stream being cooler than the preceding stream to cool the effluent in a step-wise manner; and



(d) contacting the thus cooled effluent with a mixture comprising light oil and water to further cool the effluent and remove heavy oils therefrom.

3,342,725

HYDROCRACKING OF HYDROCARBONS WITH A PRESULFIDED AMMONIUM CRYSTALLINE ZEOLITE CRACKING BASE PROMOTED WITH A GROUP VIII METAL

Dean Arthur Young, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed July 7, 1965, Ser. No. 470,201

12 Claims. (Cl. 208—111)

8. A process for hydrocracking a hydrocarbon feedstock which comprises subjecting said feedstock plus added hydrogen to hydrocracking conditions of temperature and pressure in contact with a catalyst comprising a zeolitic, aluminosilicate molecular sieve cracking base of the Y crystal type upon which is deposited a small proportion of a Group VIII metal hydrogenating promoter, the zeolitic cation content of said cracking base comprising a substantial proportion of hydrogen ions, said catalyst having been prepared by ion-exchanging said Group VIII metal into an ammonium form of said zeolitic cracking base and drying the same to a water content below about 25% by weight, followed by (a) sulfiding of the dried, ion-exchanged, sulfided, ammonium zeolite composite with hydrogen sulfide under substantially anhydrous conditions at a temperature below about 500° F., and then (b) reducing in hydrogen at an elevated temperature to convert zeolitic ammonium ions to hydrogen ions.

3,342,726

PURGING AND DESORBING A MOLECULAR SIEVE WITH PENTANE

Roger Templeton Lewis Mowll, Chertsey, Surrey, and Hugh Michael Chaplin Smith, Frimley, Surrey, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

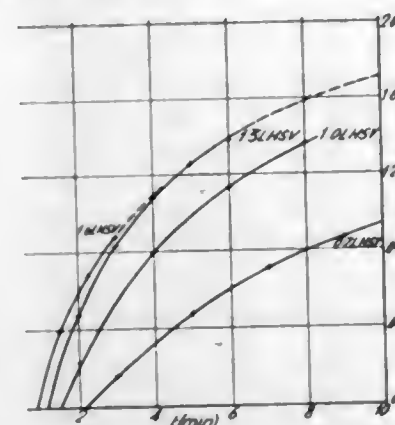
Filed Apr. 22, 1965, Ser. No. 450,152

Claims priority, application Great Britain, May 19, 1964, 20,577/64

6 Claims. (Cl. 208—310)

1. A continuous, cyclic, isothermal, isobaric and wholly vapor phase process for the separation of straight-chain hydrocarbons from petroleum fractions boiling in the range C₉ and above, comprising contacting the fraction, diluted with pentane, with a 5 Å. molecular sieve in a first stage to absorb straight-chain hydrocarbons; contacting the sieve in a second stage with a stream of pentane passed through the sieve in a direction opposite to that in which the feed fraction was passed to remove material absorbed on the surface of the sieve and material held

interstitially between sieve particles and recycling the removed material to the feedstock to the absorption stage; and contacting the sieve in a third stage with a stream



of pentane passed through the sieve in the same direction as the stream in the second (purge) stage to desorb the absorbed straight chain hydrocarbons.

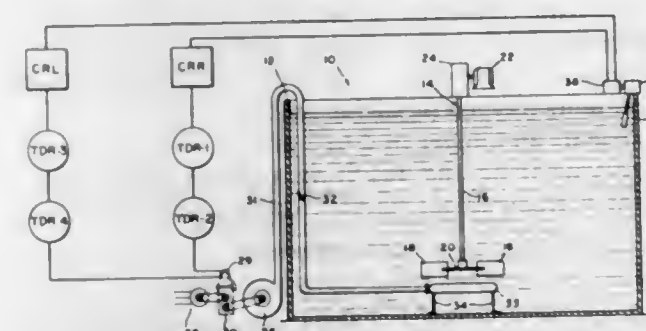
3,342,727

METHOD OF AND SYSTEM FOR SEWAGE TREATMENT

Victor A. Bringle, 107 SE. 2nd Ave., Hillsboro, Oreg. 97123

Filed Dec. 6, 1965, Ser. No. 511,673

2 Claims. (Cl. 210—15)



1. In an activated sludge process for treating sewage wherein air is introduced to said sewage at a rate sufficient to maintain the dissolved oxygen content therein between predetermined minimum and maximum limits to effect aerobic decomposition thereof, the improvement comprising the steps of:

- continually measuring the dissolved oxygen content of said sewage,
- feeding air to said sewage at a predetermined rate as long as said dissolved oxygen content remains within said predetermined limits,
- when said dissolved oxygen content exceeds said maximum limit decreasing the rate of air introduction stepwise by predetermined amounts at predetermined intervals until said dissolved oxygen content decreases to below said maximum limit,
- when said dissolved oxygen content falls below said minimum limit increasing the rate of air introduction stepwise by predetermined amounts at predetermined intervals until said dissolved oxygen content increases to above said minimum limit.

3,342,728

DESALINIZATION OF WATER

Carl J. Malm, Martin E. Rowley, and Nelson G. Baumer, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,042

5 Claims. (Cl. 210—23)

1. In the method of desalinating impure water containing salt and having a pH above 7 in which method one side of a cellulose acetate membrane is contacted with

said impure water under pressure and relatively purer water is collected from the other side of said membrane, the step which comprises adjusting the pH of said impure water to within the range of 4.2-7.

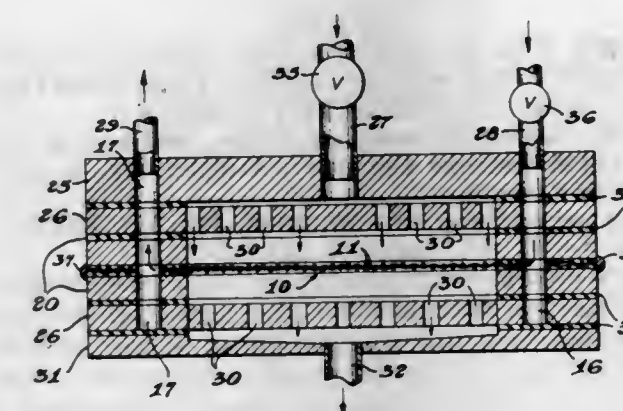
3,342,729

PERMEABILITY SEPARATORY CELL AND APPARATUS AND METHOD OF USING THE SAME

Norman S. Strand, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 9, 1964, Ser. No. 417,153

18 Claims. (Cl. 210—23)



17. The method for the separation of a component from a fluid having at least one other component therein comprising:

- (a) flowing said fluid essentially perpendicular to the plane of a separatory membrane consisting essentially of a relatively flat, mesh membrane of a plurality of individual, interlaced, continuously hollow, selectively permeable, fine, filamentary fibers having terminal openings, each of said hollow fibers having a substantially hollow bore therethrough;
- (b) collecting that portion of component of said fluid which permeates the wall of said hollow fibers and conducting it away from said mesh membrane through the interior of said fibers in a direction essentially parallel to the plane of said mesh membrane; and
- (c) flowing the non-permeated portion of said fluid away from said mesh membrane.

3,342,730

METHOD FOR PRODUCING SOFT WATER

Kazuhiko Mihara, Tokyo, and Takashi Yamashiki, Yokohama, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Aug. 20, 1963, Ser. No. 303,407

Claims priority, application Japan, Aug. 22, 1962, 37/34,870

1 Claim. (Cl. 210—38)

A method employing a cation exchange resin for producing soft water having a given value of pH from hard water, which method comprises contacting the hard water with a cation exchange resin which is a mixture of the Na-form and the H-form, said mixture having been prepared by treating a cation exchange resin, having hardness ions at the exchange sites thereof, with an NaCl regenerant solution containing an acid, the amount of acid being such as to lower the pH of the hard water being treated to the desired pH of the soft water.

3,342,731

METHOD FOR DEWATERING SLUDGES

Gotthold Paul Baumann, 7 Lessingstrasse, and Gunter Erich Joseph Thomas, 26 Staufenstrasse, Frankfurt am Main, Germany

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,078
Claims priority, application Germany, Sept. 24, 1963,
M 58,308

8 Claims. (Cl. 210-45)

1. A process for dewatering organic sludges from the treatment of waste water comprising centrifuging the sludge into a highly dewatered centrifuge cake and a centrate containing fine and colloidal solids, adding sufficient ash and lime to said centrate so that the lime causes a flocculation reaction supported by the ash, and filtering the lime and ash-treated centrate to recover a filtrate substantially free of solids and a highly dewatered filter cake.

3,342,732

PROCESS FOR FLOCCULATING AQUEOUS DISPERSIONS OF SOLIDS USING ELECTROPOSITIVE POLYSACCHARIDE COMPLEX

Donald C. Goetz, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed July 30, 1964, Ser. No. 386,372
6 Claims. (Cl. 210-54)

1. In a process for flocculating aqueous dispersions of solids wherein a flocculant is added to said dispersion to flocculate said solids, the improvement which comprises using, as flocculant, electropositive polysaccharide complex of a polysaccharide gum, produced by the action of bacteria of the genus Xanthomonas on a carbohydrate, and aluminum sulfate.

3,342,733

PREPARATION OF COLLOIDAL CARBONATES IN HYDROCARBON MEDIA

Max L. Robbins, South Orange, and Max W. Hill, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,645
7 Claims. (Cl. 252-33)

1. A process for preparing a stable colloidal dispersion of an alkaline earth metal carbonate in a liquid hydrocarbon which comprises reacting a concentrated aqueous solution containing at least 20 weight percent of an inorganic acid salt of an alkaline earth metal with a concentrated aqueous solution containing at least 20 weight percent of a carbonate selected from the group consisting of ammonium carbonate and alkali metal carbonates, whereby a gel comprising an aqueous colloidal dispersion of alkaline earth metal carbonate is formed, within 2 minutes thereafter mixing said gel with a liquid hydrocarbon containing an oil-dispersible surfactant whereby an oil-continuous emulsion is formed, and thereafter breaking said emulsion and separating the oil phase from the aqueous phase.

3,342,734

PHOSPHOROUS-CONTAINING GRAFT COPOLYMERS AS DISPERSANTS IN LUBRICATING AND FUEL COMPOSITIONS

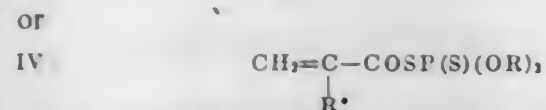
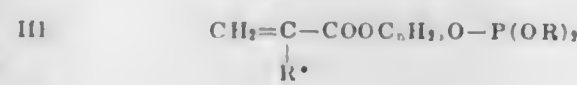
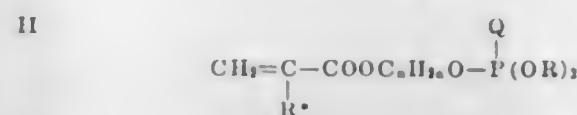
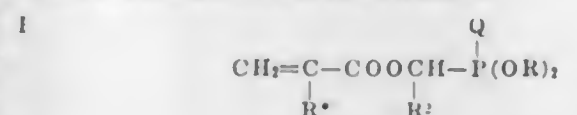
La Verne N. Bauer, Cheltenham, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Original application Nov. 22, 1961, Ser. No. 154,351, now Patent No. 3,281,500, dated Oct. 25, 1966. Divided and this application Mar. 16, 1966, Ser. No. 534,643

8 Claims. (Cl. 252-46.6)

1. A composition comprising a lubricating oil or fuel having dissolved therein a sufficient amount of product to impart dispersancy activity, said product being prepared by (1) first polymerizing under the influence of a

free radical polymerization initiator at least one polymerizable monovinylidene compound until 40% to about 90% thereof has polymerized, whereby a mixture of monomer and polymer is formed, said monomer being selected from at least one member of alkyl esters of acrylic, methacrylic and itaconic acids, vinyl esters of alkanolic acids or mixtures of said esters, the average size of alkyl group in said esters being sufficiently large to impart solubility of the copolymers in hydrocarbon oils and being at least 8 carbon atoms, (2) then adding to said mixture at least one phosphorus containing ester from the compounds of the formulas



the phosphorus-containing ester being about 3% to about 35% of the total weight of monomers,

wherein

R¹ represents hydrogen or methyl,

R represents alkyl of 1 to 8 carbon atoms,

R² represents hydrogen or alkyl of 1 to 7 carbon atoms,

Q represents oxygen or sulfur and

n represents an integer of 2 to 3 and

(3) copolymerizing the resulting mixture under the influence of a free radical polymerization initiator.

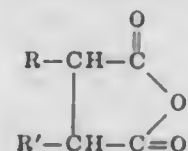
3,342,735

ALKENYL SUCCINIC ANHYDRIDE-AMINE-P₂S₅ REACTION PRODUCT

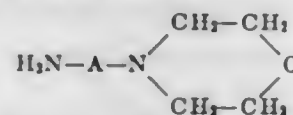
David D. Reed, Lagrangeville, and Eugene Moroz, Yonkers, N.Y., and James M. Petersen, Erie, Pa., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 23, 1965, Ser. No. 450,529
8 Claims. (Cl. 252-46.7)

1. An alkenyl succinic anhydride-amine-P₂S₅ complex reaction product produced by the method comprising first contacting an alkenyl succinic anhydride of the formula:



where R is a polyalkene derived radical of an average molecular weight between about 300 and 5000 and R' is a member selected from the group consisting of hydrogen and alkyl of from 1 to 6 carbons with a first reactant selected from the group consisting of (a) P₂S₅ and (b) an amine of the formula



where A is an alkylene radical of from 1 to 4 carbons at a temperature between about 30 and 250° C. in a mole ratio of said alkenyl succinic anhydride to said first reactant of between about 1:0.10 and 1:2, then secondly contacting the resultant reaction mixture with a second reactant selected from the group consisting of said (a) and said (b) and said second reactant being selected from the group other than the group employed as

SEPTEMBER 19, 1967

said first reactant, said second contacting conducted at a temperature of between about 30 and 250° C. in a mole ratio of said alkenyl succinic anhydride and to said second reactant of between about 1:0.10 and 1:2.

6. A lubricating oil composition comprising a major amount of lubricating oil and an effective detergent-dispersing amount of the alkenyl succinic anhydride-amine-P₂S₅ complex reaction product of claim 1.

3,342,736

CORROSION INHIBITOR FOR HYDRAULIC FLUIDS

Robert J. Nankee, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 3, 1964, Ser. No. 342,265
6 Claims. (Cl. 252-75)

1. A condensate of an alkylene glycol containing 2 to 6 carbon atoms and a pentaborate salt of a metal selected from the group consisting of alkali and alkaline earth metals, said condensate being made by heating at about 100-200° C. a mixture of said borate salt with at least about 20 molar equivalents of said alkylene glycol until at least one mole of water of reaction per atom of boron in the borate has been removed.

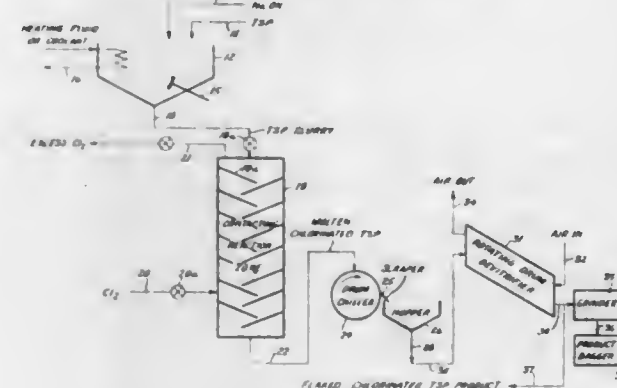
5. A corrosion-inhibited hydraulic fluid consisting essentially of a base fluid, and, as a corrosion inhibitor therefor, an effective amount of the condensate defined in claim 1, said base fluid consisting essentially of at least one member of the group consisting of alkylene glycols, alkyl ethers of alkylene glycols, polyglycols, alkyl ethers of polyglycols, fatty acid esters of polyglycols, castor oil and lower alkanols.

3,342,737

PROCESS FOR MAKING CHLORINATED TRI-SODIUM PHOSPHATE

James A. Taylor, Rahway, N.J., assignor, by mesne assignments, to Continental Oil Company, a corporation of Delaware

Filed June 11, 1964, Ser. No. 374,409
12 Claims. (Cl. 252-99)



1. A method of manufacturing chlorinated tri-sodium phosphate which comprises adding solid sodium hydroxide to a solution of tri-sodium phosphate having a density in the range 51-56° Baumé, the amount of sodium hydroxide added being in the range 4.0-5.0% by weight based on the resulting solution, said resulting solution, after the addition of sodium hydroxide, containing undissolved tri-sodium phosphate, the amount of water in said resulting solution being sufficient to dissolve the sodium hydroxide and not sufficient to effect dissolution of all the sodium phosphate in the presence of the sodium hydroxide, continuously introducing a stream of said resulting solution into a chlorination zone maintained at a temperature in the range 70-100° C., continuously introducing gaseous chlorine into said chlorination zone to contact said stream therein, the chlorine being introduced into the chlorination zone in an amount at least

stoichiometrically equivalent to the sodium hydroxide in the stream introduced thereinto, the chlorine reacting with the sodium hydroxide substantially instantly and completely within said chlorination zone to form sodium chloride and sodium hypochlorite, substantially immediately upon completion of the aforesaid chlorination reaction and within a period of time of up to about 15 seconds after said introducing of gaseous chlorine continuously withdrawing in liquid form the resulting reaction mixture containing tri-sodium phosphate, sodium chloride, sodium hypochlorite and water from the chlorination zone and directly rapidly cooling the withdrawn reaction mixture to about room temperature to solidify the same and to form as a substantially dry, homogeneous, solid product chlorinated tri-sodium phosphate containing tri-sodium phosphate, sodium chloride, water and at least about 3.25% by weight sodium hypochlorite.

3,342,738

CALCINING PROCESSES AND PRODUCTS RESULTING THEREFROM

Chung Yu Shen, Olivette, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,643
10 Claims. (Cl. 252-135)

1. In a calcining process for the manufacture of an alkali metal trimetaphosphate composition wherein at least one inorganic, water soluble alkali metal phosphate salt is converted to said alkali metal trimetaphosphate at a temperature below the melting point of said trimetaphosphate, the improvement which comprises performing the conversion of said alkali metal phosphate salt to said alkali metal trimetaphosphate while said alkali metal phosphate salt is in contact with from about 2 to about 70% by weight of alkali metal sulfate based upon the total weight of said alkali metal phosphate and alkali metal sulfate.

3,342,739

DETERGENT COMPOSITION

Garland George Corey, Milltown, and Edward Joseph Kenney, Bernardsville, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 1, 1964, Ser. No. 371,815
11 Claims. (Cl. 252-152)

1. A clear hard surface cleaning composition characterized by high flash foam during dilution and low residual foam at use concentration consisting essentially of about one part of a polyethenoxy organic nonionic detergent, about 0.4 to about 3 parts of an ethoxylated higher fatty acid alkylolamide condensate containing about 10-14 carbon atoms in the acyl group and including two ethylene oxide groups and about .05 to about 0.3 part of fatty acids containing about 10-14 carbon atoms in the acyl group, the pH of a mixture of said ingredients in a concentration of about 7 to about 30% by weight in water being from about 6.9 to about 7.5, said ingredients in water at said concentration being a clear solution, characterized by high flash foam during dilution and low residual foam at use concentration and exhibiting a desirable viscosity within the range of about 125 to about 1000 centipoises.

3,342,740

WINDOW CLEANER

Jerzy E. Kazmierczak, Chicago, Aaron B. Herrick, La Grange, and Armando Carlo, Chicago, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 7, 1965, Ser. No. 462,130
5 Claims. (Cl. 252-153)

1. A window cleaner composition consisting essentially of 0.1 to 2.5% by weight of a water soluble silicone glycol

copolymer, 10 to 30% by weight of a C₁ to C₄ alcoholic solvent, 0.1 to 0.5% by weight of a nonionic surfactant and the balance water.

3,342,741

THIOETHER SULFONATES

Emilios P. Antoniadis, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,649

1 Claim. (Cl. 252-152)

A detergent composition consisting essentially by weight of 10 to 40% of a water-soluble guanidinium 2-thioalkoxyethanesulfonate having 8-20 carbon atoms in the alkyl groups, and 60 to 90% of water-soluble inorganic salt detergent builders.

3,342,742

METHOD OF PREPARING ALUMINATE COAGULANTS

Thomas G. Cocks, Park Ridge, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Mar. 24, 1964, Ser. No. 354,439

3 Claims. (Cl. 252-175)

1. A method of preparing a unitary coagulating agent which is composed of an alkali metal aluminate, a colloidal clay and water and which is characterized as having the properties of improved feeding and handling which comprises the steps of adding from 2 to 40% by weight, based on the weight of the total composition, of a colloidal clay to a wetted solid alkali metal aluminate surface, whereby the surface of the alkali metal aluminate is coated with the colloidal clay, and then drying the thus coated alkali metal aluminate to a moisture content within the range of from 5 to 25% by weight.

3,342,743

PROCESS OF PREPARING A ZINC SULFIDE POWDER COATED WITH TRITIATED POLYSTYRENE
Joseph Rosenberg, Wellesley, Mass., assignor to Laboratory for Electronics, Inc., Waltham, Mass., a corporation of Delaware
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,312

1 Claim. (Cl. 252-301.1)

The process of producing a self-luminous composition comprising the steps of: reducing phenylacetylene with a mixture of tritium and protium; polymerizing the resultant tritiated styrene monomer; dissolving said tritiated styrene in benzene; mixing said benzene polystyrene solution with zinc sulfide powder; evaporating said benzene with agitation to produce zinc sulfide powder in which the individual grains of powder are coated with tritiated polystyrene.

3,342,744

SINTERED URANIUM DIOXIDE-IRIDIUM COMPOSITION AND METHOD OF PREPARATION
Charles Anthony Elyard, Wolston, Coventry, and Terence Jefferson Potter, Rugby, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed Apr. 15, 1966, Ser. No. 542,973
Claims priority, application Great Britain, Apr. 23, 1965, 17,197/65

7 Claims. (Cl. 252-301.1)

1. Uranium dioxide ceramics which do not exhibit columnar grain growth when subjected to severe temperature gradients at temperatures in the range 1600 to 2000° C. by virtue of the content of 0.1 to 4 wt. percent or iridium.

4. A process for the preparation of uranium dioxide ceramics containing 0.1 to 4 wt. percent iridium wherein the iridium is added by mixing a solution of an iridium

compound with uranium dioxide powder to form a slurry, drying the slurry to give a powder containing a fine dispersion of the iridium compound, decomposing the compound and subsequently fabricating a ceramic from the powder.

3,342,745

EUROPIUM ACTIVATED CALCIUM IODIDE SCINTILLATORS

Robert Hofstadter, Stanford, Calif., assignor, by mesne assignments, to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware
Filed July 22, 1963, Ser. No. 296,518

5 Claims. (Cl. 252-301.4)

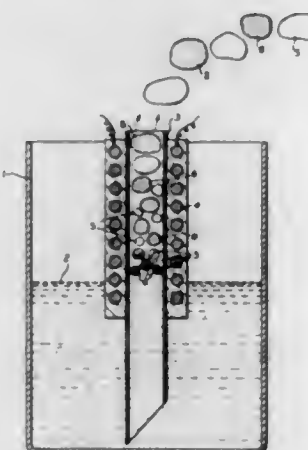
1. A scintillator material transparent to its own emanations, essentially consisting of calcium iodide activated by europium dispersed in solid solution therein, said europium being present to the extent of from approximately 0.002 to approximately 1.0 mole percent.

3,342,746

PROCESS FOR PRODUCING STEAM AND SMOKE CLOUDS IN A TOY

Eberhard Seuthe, Roemerstrasse 60, Uhingen, Germany
Filed Sept. 12, 1963, Ser. No. 308,392
Claims priority, application Germany, Sept. 20, 1962, S 81,570

3 Claims. (Cl. 252-305)



1. A process for producing smoke in a toy, comprising the step of heating a mixture of at least first and second vaporizable hydrocarbon liquids in a capillary tube, the boiling point of said second hydrocarbon liquid being at least 20° Celsius higher than that of said first hydrocarbon liquid, said first liquid having a concentration of 50% to 95% and said second liquid having a concentration of 5% to 50%.

3,342,747

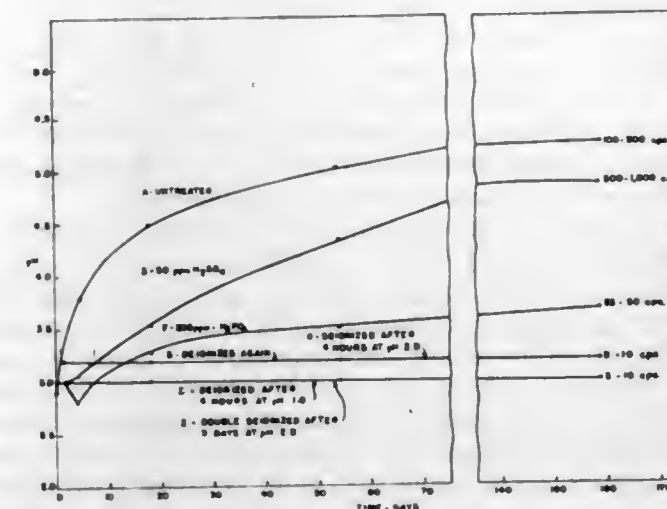
METHOD OF STABILIZING SILICA SOLS

Morris Mindick, Chicago, and Lewis E. Reven, La Grange Park, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 17, 1961, Ser. No. 103,425

11 Claims. (Cl. 252-313)

1. An improvement in a process for stabilizing a silica sol having an SiO₂ content of from about 3% to about 50% wherein said sol is placed in ion exchange relationship with an anion exchange resin and a cation exchange resin, the improvement which comprises in addition to the step of placing the sol in ion exchange relationship with an anion exchange resin, the steps of: placing said sol in ion exchange relationship with a strong acid cation exchange resin in the hydrogen form; removing said sol from contact with said cation exchange resin; aging said sol out of contact with said cation exchange resin for a

period of at least about one hour at a temperature varying from about 34° F. to about the boiling point of said



sol; and again placing the said sol in ion exchange relationship with a strong acid cation exchange resin in the hydrogen form.

3,342,748

STABLE ALKALINE COLLOIDAL SILICA SOLS OF LOW VISCOSITY AND PROCESSES FOR PREPARING SAME

Ralph Marotta, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Apr. 27, 1964, Ser. No. 362,943

18 Claims. (Cl. 252-313)

1. A stable alkaline colloidal silica sol having a viscosity below about 35 centipoises at 25° C. and consisting essentially of (1) a colloidal silica disperse phase consisting substantially of from about 39% to about 52% by weight, based on the weight of the sol, of amorphous silica particles having an average particle size in the range of from about 15 to about 75 millimicrons and (2) a continuous liquid phase comprising an aqueous solution having dissolved therein (a) from 0.055 to about 0.095 equivalent, per liter of said liquid phase, of a water soluble metal salt selected from the group consisting of water soluble metal chlorides, sulfates, nitrates, phosphates and carbonates and (b) an amount sufficient to provide in said sol a pH of from about 8.8 to about 9.9 of a water soluble salt consisting of a metal cation and a silicon oxide containing anion.

11. A process which comprises adding an acidic silica hydro-organosol containing from about 5% to about 12% by weight of silica as silicic acid and a substantially neutral water miscible organic liquid consisting of carbon, hydrogen and oxygen atoms and having a boiling point below that of water at atmospheric pressure and containing from about 0.027% to about 0.14% by weight of a water soluble metal salt selected from the group of water soluble metal chlorides, sulfates, nitrates, phosphates, and carbonates to an aqueous alkali metal silicate solution containing from about 0.5% to about 2.5% by weight of SiO₂ and having a pH (glass electrode) of from about 10.5 to 11.3 at 25° C., said silicate solution being at a temperature sufficiently high prior to and during the addition of said acidic sol to boil the resulting mixture, distilling off said organic liquid from the resulting mixture during and after the addition of said acidic sol and subsequently evaporating water until an alkaline silica aquasol containing from about 39% to about 52% by weight of silica is obtained, said silica consisting of amorphous particles having a particle size in the range of from about 15 to about 75 millimicrons, the total quantity of aqueous alkali metal silicate solution employed being sufficient to provide a final silica aquasol having a pH of from

about 8.8 to about 9.9; said final silica aquasol being further characterized by having a viscosity of below 35 centipoises at 25° C.

3,342,749

CORROSION INHIBITED PHOSPHATE SOLUTIONS
Avrom R. Handleman, Webster Groves, and Robert P. Langguth, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 2, 1964, Ser. No. 372,102

6 Claims. (Cl. 252-389)

1. An aqueous copper corrosion inhibited ammonium orthophosphate composition having a pH above about 7 and consisting essentially of, in addition to an ammonium orthophosphate dissolved therein in an amount of at least 0.5 weight percent, (a) a water soluble inorganic thio-sulfate in an amount of at least about 0.0075 weight percent and (b) a 2-mercaptobenzothiazole inhibitor in an amount of at least about 0.0005 weight percent.

3,342,750

COMPOSITIONS CONTAINING STABLE ALUMINUM PHOSPHATE GEL AND METHODS OF MAKING AND USING SAME

Kenneth K. Kearby, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,774

10 Claims. (Cl. 252-437)

1. A method of making a dry aluminum phosphate gel which comprises reacting an aqueous solution of aluminum chloride and phosphoric acid with ethylene oxide while stirring the mixture, the amount of the aluminum chloride being at least stoichiometrically equivalent to the amount of phosphoric acid and the amount of the ethylene oxide being sufficient to produce gelling, permitting the mixture to set to a clear vibrant transparent true colloidal hydrogel, extracting the hydrogel with an organic water soluble extracting agent, drying the extracted hydrogen and then calcining the dried and extracted hydrogel at a calcination temperature between about 1000° F. and about 1400° F. for a period of time between about 3 hours and about 48 hours to form a dry amorphous aluminum phosphate gel having a surface area of between about 250 and 600 m.²/gram.

3,342,751

METHOD OF CATALYST PREPARATION

John C. Hayes, Palatine, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Feb. 7, 1964, Ser. No. 343,231

5 Claims. (Cl. 252-466)

1. A method for preparing a catalyst which comprises activating a refractory, predominantly alumina base with nickel and then subjecting the composite to drying and to a low temperature calcination of less than 1200° F. and a subsequent high temperature reduction in the presence of hydrogen at above about 1200° F.

3,342,752

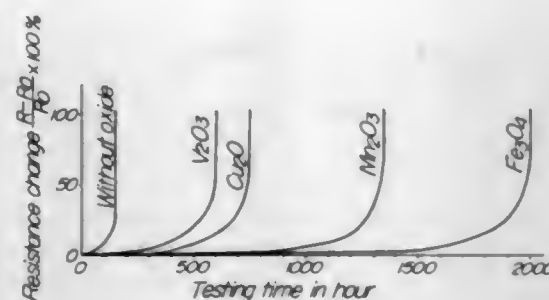
CARBON FILM RESISTOR COMPOSITION

Mitsuo Wada, Moriguchi-shi, Japan, assignor to Matsushita Electric Industrial Co. Ltd., Osaka, Japan, a corporation of Japan
Filed Sept. 2, 1965, Ser. No. 484,663

8 Claims. (Cl. 252-511)

1. A carbon film resistor composition adapted to be applied to and cured on a ceramic material to form

humidity-load stable resistors consisting essentially of 65 weight percent to 20 weight percent of resin, 14 weight



percent to 6 weight percent of carbon in fine powder form and 21 weight percent to 74 weight percent of finely divided Fe_3O_4 powder.

3,342,753

METHOD FOR MAKING ELECTRICALLY CONDUCTIVE VITREOUS MATERIALS

Hendrikus Johan Lodewijk Trap, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 21, 1963, Ser. No. 266,791
Claims priority, application Netherlands, Mar. 30, 1962, 276,626

5 Claims. (Cl. 252—518)

1. A method of manufacturing an electrically conductive vitreous material comprising the steps, mixing Al_2O_3 , Na_2O , iron oxide in the form of Fe_3O_4 , at least one oxide selected from the group consisting of SiO_2 and B_2O_3 , said oxides together constituting a first group of oxides, and an oxide of the group consisting of Co_3O_4 , MnO , NiO , ZnO , MgO , CaO , and SrO in proportions yielding upon heating a composition constituted of at least 80 mol percent of the first group of oxides in the following proportions:

$$\begin{aligned} 15 < \text{SiO}_2 + \text{B}_2\text{O}_3 < 75 \\ 30 - 2[\text{B}_2\text{O}_3] < \text{SiO}_2 < 65 - \frac{3}{4}[\text{B}_2\text{O}_3] \\ 21 - \frac{1}{2}[\text{SiO}_2 + \text{B}_2\text{O}_3] < \text{Fe}_3\text{O}_4 < 40 - \frac{1}{2}[\text{SiO}_2 + \text{B}_2\text{O}_3] \\ 2 < \text{Al}_2\text{O}_3 < 30 - \frac{3}{8}[\text{SiO}_2] \\ 3 < \text{Na}_2\text{O} < 30 \end{aligned}$$

and not more than 20 mol percent of the second group of oxides in the following proportions:

	Mol percent
Co_3O_4	<12
MnO	<12
NiO	<8
ZnO	<12
MgO	<8
CaO	<6
SrO	<6

and heating said mixture to a temperature of about 1000° C. to 1650° C. in a weakly-reducing to weakly-oxidizing atmosphere to melt said constituents and form said vitreous material.

3,342,754

PARA-XYLYLENE POLYMERS

William F. Gorham, Berkeley Heights, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 18, 1966, Ser. No. 528,413

23 Claims. (Cl. 260—2)

1. A method for the preparation of linear homopolymers of p-xylylenes comprising the steps of heating a cyclo-di-p-xylylene having up to about 6 aromatic nuclear substituent groups selected from the class consisting of hydrocarbon, oxyhydrocarbon, thiohydrocarbon, hydroxyl, halogen, nitro, nitrile, amine and mercapto groups

to a temperature between about 450° C. and 700° C. for a time sufficient to cleave substantially all of the di-p-xylylene into vaporous p-xylylene diradicals but insufficient to further degrade the said diradicals and at a pressure such that the partial pressure of the vaporous p-xylylene diradicals is below about 0.75 mm. Hg, and cooling the vaporous diradicals to a temperature below 200° C. and below the ceiling condensation temperature of only one p-xylylene diradical specie present in the pyrolysis vapors thereby condensing said diradical and forming a linear homopolymer of p-xylylene.

9. A linear solid thermoplastic homo-polymerization product of the condensed diradicals of the pyrolysis of a cyclo-di-p-xylylene containing from one to six aromatic nuclear substituent groups selected from the class consisting of hydrocarbon, oxyhydrocarbon, thiohydrocarbon, hydroxyl, halogen, nitro, nitrile, amine and mercapto groups, said pyrolysis being at a temperature between about 450° C. and about 700° C. and at a diradical partial pressure below about 0.75 mm. Hg, said polymerization product characterized by being free of cross-linking, having complete solvent solubility without molecular degradation and having a sharp crystalline melting point.

3,342,755

OXIDATION STABLE HALOGEN CONTAINING CATION EXCHANGE RESINS

Calvin Calmon, Springfield Township, Burlington County, Albert H. Greer, Haddonfield, and William Wood, Moorestown, N.J., assignors to Ritter Pfaudler Corporation, a corporation of New York
No Drawing. Filed Jan. 21, 1963, Ser. No. 252,601
17 Claims. (Cl. 260—2.2)

1. A process for producing cation exchange resins having improved oxidation stability consisting of the steps of treating a copolymer of a monovinyl aromatic hydrocarbon monomer and a polyvinyl cross-linking compound with a halogenating agent selected from the class consisting of chlorine and bromine and their chlorine and bromine containing derivatives selected from the class consisting of sulfuryl chloride, phosphorus trichloride, phosphorus pentachloride, phosphorus oxychloride, trichloromethylsulphenyl chloride, t-butyl hypochlorite, N-chloro phthalimide, N-bromo phthalimide, phosphorous tribromide, and sulfuryl bromide, wherein said halogenating is conducted in the presence of a free radical producing catalyst and a liquid swelling agent for said copolymer, whereby substitution of halogen for hydrogen takes place mainly in the polyethylene connecting chain between the aromatic groups of the copolymer; and sulfonating said halogenated cross-linked copolymer.

3,342,756

PROCESS FOR REGENERATING STRONGLY ACID CATION EXCHANGERS WITH SULPHURIC ACID

Friedrich Martinola, Cologne-Flittard, and Günter Siegers, Cologne-Hoeenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed May 19, 1964, Ser. No. 368,727

Claims priority, application Germany, June 14, 1963, F 39,988

1 Claim. (Cl. 260—2.2)

A process for regenerating resinous strongly acid cation exchangers with sulphuric acid which comprises initially passing a regenerating solution containing sulphuric acid over a resinous anion exchanger and passing the regenerating solution over the acid cation exchangers, the regenerating solution containing at least 25 g. of sulphuric acid per liter of solution and the anion exchanger containing at least 30% of its total ion charge in the form of chloride and nitrate ions.

3,342,757

PROCESS FOR PREPARATION OF POLYURETHANE FOAM

William J. Considine, New Brunswick, N.J., and Michael A. Ricciardi, Hazleton, Pa., assignors, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 1, 1962, Ser. No. 176,777
15 Claims. (Cl. 260—2.5)

1. The process of making a cellular polyurethane which comprises reacting a substance having active hydrogen atoms as determined by the Zerewitinoff method, an organic polyisocyanate, water, gel catalyst selected from the group consisting of $\text{Sn}(\text{OCOR})_2$ and $\text{R}'_a\text{SnX}_b$, wherein R and R' are independently selected from the group consisting of alkyl, alkenyl, aryl, aralkyl, alkaryl and cycloalkyl, X is selected from the group consisting of chloride and negative residual portions of carboxylic acids, mercaptides, alcohols and esters of mercaptoacids, $a=1-3$ and $a+b=4$, and as a blowing catalyst a soap of a metal selected from the group consisting of ammonium, alkali metals and alkaline earth metals.

3,342,758

METHOD FOR PREPARATION OF POLYURETHANE FOAM AND CATALYTIC COMPOSITION THEREFOR

William J. Considine, New Brunswick, N.J., and Michael A. Ricciardi, Hazleton, Pa., assignors, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 1, 1962, Ser. No. 176,778
16 Claims. (Cl. 260—2.5)

1. The process of making a cellular polyurethane which comprises reacting a substance having active hydrogen atoms as determined by the Zerewitinoff method, an organic polyisocyanate, water, gel catalyst selected from the group consisting of $\text{Sn}(\text{OCOR})_2$ and $\text{R}'_a\text{SnX}_b$, wherein R and R' are independently selected from the group consisting of alkyl, alkenyl, aryl, aralkyl, alkaryl and cycloalkyl, X is selected from the group consisting of chlorides and negative residual portions of carboxylic acids, mercaptides, alcohols and esters of mercaptoacids, $a=1-3$ and $a+b=4$, and as a blowing catalysts a soap of a metal selected from the group consisting of manganese, iron, cobalt and nickel.

14. A novel catalytic composition suitable for use as a blowing and gel catalyst in the production of polyurethane foams by the reaction of a substance having active hydrogen atoms as determined by the Zerewitinoff method, an organic polyisocyanate and water, which comprises a gel catalyst selected from the group consisting of $\text{Sn}(\text{OCOR})_2$ and $\text{R}'_a\text{SnX}_b$, wherein R and R' are independently selected from the group consisting of alkyl, alkenyl, aryl, aralkyl, alkaryl and cycloalkyl, X is selected from the group consisting of chlorides and negative residual portions of carboxylic acids, mercaptides, alcohols and esters of mercaptoacids, $a=1-3$ and $a+b=4$ and as a blowing catalyst a soap of a metal selected from the group consisting of manganese, iron, cobalt and nickel.

3,342,759

SELF-CONTAINED INKING MATERIAL AND PROCESS FOR MAKING SAME

Charles D. Short and Eugene E. McCarthy, Rochester, N.Y., assignors, by mesne assignments, to Kee Lox Manufacturing Company, Rochester, N.Y., a corporation of Pennsylvania
No Drawing. Filed June 4, 1962, Ser. No. 199,664
2 Claims. (Cl. 260—2.5)

1. A process for producing a self-contained inking material comprising

(a) mixing with a liquid depolymerized polyisoprene,

(b) a liquid glycol-based ink that, both during processing and after completion of the finished product, is noncompatible with the depolymerized polyisoprene but can be homogeneously suspended within the polyisoprene to be expressed therefrom under pressure, and

(c) heating the mixture to vulcanize the mixture in a mold and to encapsulate in the pores of the vulcanized polyisoprene the ink so that the ink may be expressed therefrom by pressure.

3,342,760

EXPANDABLE POLYMERS

Daniel J. Rode, Coraopolis, and Glenn Greenawald, Bethel Park, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,715
7 Claims. (Cl. 260—2.5)

1. A process for impregnating previously formed polymeric styrene particles with a normally liquid hydrocarbon blowing agent comprising: suspending, in a closed reactor, said particles in a solution consisting of a suspending aid, water and said blowing agent, heating said solution to a temperature of about 90° C. to bring said solution to the critical pressure of said reactor and maintaining said critical pressure for at least about two hours, but less than four hours until said particles are impregnated solely by continually raising the temperature of said solution to elevated temperatures between 90 and 120° C.

3,342,761

DRY TYPE AND PASTE TYPE JOINT CEMENTS CONTAINING POLYVINYL ACETATE AND POLYVINYL ALCOHOL AS BINDERS

Walter J. Wilkinson, Wilbraham, Bernard M. Brill, Springfield, and Robert V. De Shay, East Longmeadow, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware
No Drawing. Filed Oct. 30, 1962, Ser. No. 234,227

1 Claim. (Cl. 260—17.4)

A dry joint cement composition comprising: (A) a binder composition consisting of a member of the class consisting of (a) 2.5 to 8% of the total dry composition weight of a spray-dried dextrin stabilized polyvinyl acetate emulsion powder containing about 7 to 13 parts dextrin per about 60 parts of the combined weight of dextrin and polyvinyl acetate, (b) 1.75 to 8% of water soluble polyvinyl alcohol and (c) 2.5 to 4% of a mixture of these vinyl resins containing at least 0.5% of the total dry composition weight of the lesser vinyl component; (B) about 0.5 to 2% of talc with particles not greater than 6 microns in diameter, and (C) inert fillers as the bulk of the composition.

3,342,762

POLYAMIDE FIBERS CONTAINING LUBRICANT

Lawrence W. Crovatt, Jr., Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Oct. 9, 1964, Ser. No. 402,917

5 Claims. (Cl. 260—18)

1. A fiber-forming synthetic linear polyamide, which comprises, the product obtained by reacting at a temperature of between 180° C. and 300° C., reactants comprising, (A) a polypamide forming monomer consisting of the salt formed by substantially equimolecular portions of adipic acid and hexamethylene diamine, and (B) from 0.1 to about 2.5 mole percent based on the moles of (A) of an additive selected from the group consisting of N,N'-hexamethylene bis-stearamide, and 12-hydroxy stearic acid.

3,342,763

BINDER FOR FIBROUS MATERIALS

Dow A. Rogers, Jr., Wilkins Township, Allegheny County, and Lawrence W. Frost, Murrysville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 19, 1963, Ser. No. 274,332
9 Claims. (Cl. 260—21)

1. A binder composition for use in forming insulating backing tapes consisting essentially of a partially cross-linked, oil-modified polyester resinous material having a functionality greater than two comprising the reaction product of, in parts by weight, about 15 to 35 parts of at least one dihydric aliphatic alcohol containing 2 to 7 carbon atoms per molecule, about 5 to 15 parts of at least one aliphatic alcohol containing at least three hydroxyl radicals and 3 to 7 carbon atoms per molecule, about 20 to 40 parts of a vegetable oil, and about 40 to 65 parts of a dicarboxylic acid derivative of benzene, and at least one cross-linking agent selected from the group consisting of (A) a partially hydrolyzed substituted alkoxy silane in which the substituents are selected from the group consisting of alkyl, aryl, alkylaryl and aralkyl radicals and (B) butylated melamine-formaldehyde resins, about 0.1 to 15 parts of the cross-linking agent being present for each 10 parts of the polyester.

3,342,764

MOISTURE SETTING PRINTING INKS

Arleen S. Varron, Jamaica, and Howard T. Roth, Ridge-wood, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Oct. 1, 1962, Ser. No. 227,590
10 Claims. (Cl. 260—22)

1. A moisture setting printing ink comprising pigment dispersed in a vehicle comprising a solvent selected from the group consisting of water soluble glycols having from 2 to 4 carbons and polyglycols, said solvent having dissolved therein a binder consisting essentially of an alkyd resin comprising the condensation product of (1) a member selected from the group consisting of phthalic acid, phthalic anhydride and isophthalic acid, (2) a polyhydric alcohol having at least 3 hydroxyl groups selected from the group consisting of pentaerythritol, trimethylol propane, trimethylol ethane and glycerol, and (3) an oil fatty acid having at least 12 carbons, said reactants being condensed having an average initial functionality, based upon only hydroxyl and carboxyl groups present, of from 2.0 to 2.4 and at least a 10% excess of hydroxyl groups over carboxyl groups present in said reactants.

3,342,765

POLYVINYL ESTER EMULSIONS CONTAINING ALPHA-BRANCHED, SATURATED, ALIPHATIC MONOCARBOXYLIC ACID SALTS

Hendricus A. Oosterhof and Klaas Ruyter, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 14, 1964, Ser. No. 359,795
Claims priority, application Netherlands, Apr. 16, 1963, 291,578

6 Claims. (Cl. 260—23)

1. A process for preparing polymer films from polyvinyl ester emulsions having depressed film-forming temperatures which comprises (1) polymerizing at least one vinyl ester in an aqueous emulsion system, (2) adding from 0.1% to 20% of a monovalent cation salt of mixed alpha-branched, saturated, aliphatic monocarboxylic acids containing from 9 to 22 carbon atoms in the molecule based on the weight of polymer to said aqueous emulsion, said monocarboxylic acids being prepared by reacting monoolefins with carbon monoxide and water in the presence of liquid acidic catalysts, (3) applying the polyvinyl

ester emulsion to a surface and (4) allowing the water to evaporate to cure the film.

3,342,766

POLYMERIZATION PROCESS EMPLOYING SILOXANE-OXYALKYLENE BLOCK COPOLYMERS

Dexter P. Huntington, Tonawanda, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 12, 1965, Ser. No. 425,068
12 Claims. (Cl. 260—29.6)

1. The method which comprises forming a liquid phase reaction mixture comprising (1) from 1 to 75 parts by weight of at least one monomer selected from the group consisting of vinyl acetate, 2-ethylhexyl acrylate, methyl methacrylate, acrylic acid, styrene, ethyl acrylate, glycidyl acrylate, and itaconic acid, (2) from 0.001 to 30 parts by weight of a block copolymer composed of (a) at least one siloxane block containing at least two siloxane units represented by the formula:



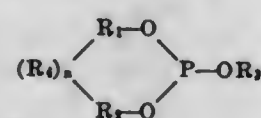
wherein R contains from one to about twenty-two carbon atoms inclusive and is selected from the class consisting of monovalent hydrocarbon groups and divalent hydrocarbon groups and b has a value from 1 to 3 inclusive; said siloxane block containing at least one of said siloxane units wherein at least one R group is a divalent hydrocarbon group, and (b) at least one oxyalkylene block containing at least two oxyalkylene groups represented by the formula $-R'O-$, wherein R' is an alkylene group containing from two to about ten carbon atoms inclusive, said siloxane and oxyalkylene blocks being interconnected by a divalent hydrocarbon group, said copolymer containing from 5 to 95 parts by weight of siloxane blocks per 100 parts by weight of the copolymer and from 5 to 95 parts by weight of the oxyalkylene blocks per 100 parts by weight of the copolymer, and (3) from 20 to 98.999 parts by weight of a liquid diluent selected from the group consisting of water and liquid organic diluents, said parts by weight being based on 100 parts by weight of said liquid phase reaction mixture; and subjecting each such olefinically unsaturated organic compound to polymerization in said liquid phase reaction mixture to produce said polymer dispersed in said diluent.

3,342,767

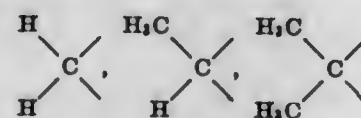
VINYL CHLORIDE RESINS CONTAINING CYCLIC PHOSPHITES

Robert A. Buckley, Solon, Ohio, assignor to Ferro Corporation, a corporation of Ohio
No Drawing. Filed June 10, 1964, Ser. No. 374,167
8 Claims. (Cl. 260—31.8)

1. A composition comprising 100 parts by weight of a polymer whose principal monomeric units are units of a member selected from the group consisting of vinylidene chloride and vinyl chloride, 0 to 10 parts of plasticizer, 0.5 to 5 parts of heat stabilizing material and from about 0.01 to about 0.12 part of a light stabilizing material, said light stabilizing material being an organic ester of phosphorous acid having the formula:



wherein R₁, R₂ and R₄ are members selected from the group consisting of:



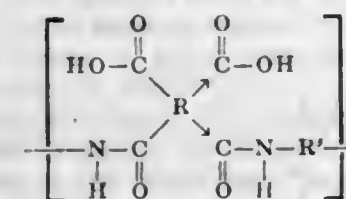
n is 0 to 1, and R₃ is a member selected from the group consisting of hydrogen, monovalent aromatic hydrocarbons having less than 10 carbon atoms, and monovalent aliphatic hydrocarbons having less than 13 carbon atoms, and wherein, when n is 0, a carbon to carbon bond exists between R₁ and R₂; said parts of plasticizer, heat stabilizer, and light stabilizer, being parts by weight based on the weight of said polymer.

3,342,768

COATING COMPOSITIONS COMPRISING A POLY-AMIC ACID COMPOSITION AND A 2,4-DIAMINO-6-SUBSTITUTED-S-TRIAZINE

John R. Chalmers, Wallingford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 8, 1962, Ser. No. 229,172
12 Claims. (Cl. 260—32.6)

1. A liquid coating composition comprising, as the essential organic film-forming components in a volatile organic mutual solvent therefor, 100 parts by weight of (A) a polyamic acid composition and 5 to 45 parts of (B) a 2,4-diamino-6-substituted-s-triazine having a non-reactive solubilizing substituent in the 6-position, said substituent being selected from the group consisting of alkyl, aryl, aralkyl, alkaryl, acyclic and cyclic radicals, said polyamic acid composition being characterized by a plurality of recurring units having the general structure:



wherein the arrow \rightarrow denotes isomerism, the radical



is a tetravalent organic radical containing at least two carbon atoms, no more than two carbonyl groups of each said structural unit being attached to any one carbon atom of the radical



—R'— is a divalent organic radical containing at least two carbon atoms, the amide groups of said structural polyamic acid units each being attached to separate carbon atoms of said divalent radical —R'—.

3,342,769

COATING COMPOSITION CONTAINING AN ETHYLENE, PROPYLENE, NON-CONJUGATED DIENE TERPOLYMER

Robert David Souffie, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 15, 1964, Ser. No. 404,167
2 Claims. (Cl. 260—33.6)

1. A coating composition comprising: (I) a sulfur-curable copolymer of ethylene, propylene and a non-conjugated hydrocarbon diene, (II) a rubber selected from the group consisting of natural rubber, styrene-butadiene rubber, cis-polybutadiene, cis-1,4-polyisoprene, and neoprene, (III) carbon black, (IV) a thermostable interpolymer of formaldehyde and



where R is 1,1,3,3-tetramethylbutyl and R' is methyl, all dispersed in (V) an inert volatile solvent; wherein:

(a) the amount of carbon black (III) shall range from about 25 to about 150 parts per 100 parts of (I);

(b) the weight ratio of (IV) to (I) ranges from about 15:85 to 40:60; and
(c) the amount of (II) ranges from about 5 to 10 parts per 100 parts of (I).

3,342,770

FLUID RESISTANT SILICEOUS COMPOSITIONS CONTAINING POLY(EPI-SULFIDE) AND IMPREGNATION PROCESS THEREFOR

Stephen W. Osborn, Yardley, and George F. Bulbenko, Levittown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed May 22, 1964, Ser. No. 369,598
12 Claims. (Cl. 260—37)

1. A process to provide a fluid resistant siliceous composition comprising

(a) treating a siliceous material with a fluid episulfide in an amount sufficient to substantially permeate at least the surface interstices of said material with said fluid episulfide, and
(b) converting said fluid episulfide to a solid poly(epi-sulfide) polymer within said material to form therein a substantially fluid resistant barrier, said siliceous material comprising a major proportion of said composition.

3,342,771

PROCESS FOR THE MODIFICATION OF POLY-OLEFINS USING CARBOXYLIC COMPOUNDS

Roland Cheritat, Le Perreux, Seine, and Jacques Oddoux, Marly-le-Roi, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed June 3, 1964, Ser. No. 372,376
Claims priority, application France, June 4, 1963, 936,958

7 Claims. (Cl. 260—41)

1. A method for modifying polyolefins which comprises the steps of: mixing a polyolefin with a carboxylic compound having an unsaturated aliphatic chain; adding to the mixture obtained from 5 to 50% by weight of a pulverulent thermal catalyst selected from the group consisting of silica, alumina and silicates; heating the mixture at a temperature of about 180° to 400° C. in the absence of any peroxide until a substantial proportion of the carboxylic compound is combined with the olefin; admixing to the thus obtained product a compound capable of combining with carboxylic groups and then heating said mixture at about 140° to 180° C. until substantial modification of the olefin is produced.

3,342,772

PREVENTION OF SCORCH IN CHLORINATED POLYMERS BY USE OF UNSATURATED HYDROCARBON ADDITIVES

Paul Thomas Parker, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 10, 1964, Ser. No. 395,554
2 Claims. (Cl. 260—45.7)

1. A composition of matter comprising (1) a rubbery polymer selected from the group consisting of (A) halogenated butyl rubber of a major proportion of a C₄ to C₆ isoolefin with a minor proportion of a C₄ to C₁₄ multiolefin and (B) a halogenated copolymer of 85 to 99.5 wt. percent of a C₄ to C₆ isoolefin, 15 to 0.5 wt. percent of a multiolefin and 0.2 to 5.0 wt. percent of an unsaturated compound chosen from the group consisting of styrene, p-methyl styrene, alpha methyl styrene, divinyl benzene, indene, dihydronaphthalene, and mixtures thereof, said halogenated butyl rubber and halogenated copolymer each having a halogen content of at least 0.5 wt. percent and a mole percent unsaturation of at least 1.0 and (2) 0.1 to 10 wt. percent, based on polymer of dimethyl fulvene.

2. A composition of matter comprising (1) a rubbery polymer selected from the group consisting of (A) halogenated butyl rubber of a major proportion of a C_4 to C_6 isoprene with a minor proportion of a C_4 to C_6 multiolefin and (B) a halogenated copolymer of 85 to 99.5 wt. percent of a C_4 to C_6 isoprene, 15 to 0.5 wt. percent of a multiolefin and 0.2 to 5.0 wt. percent of an unsaturated compound chosen from the group consisting of styrene, p-methyl styrene, alpha methyl styrene, divinyl benzene, indene, dihydronaphthalene, and mixtures thereof, said halogenated butyl rubber and halogenated copolymer each having a halogen content of at least 0.5 wt. percent and a mole percent unsaturation of at least 1.0 and (2) 0.1 to 10 wt. percent, based on polymer of isoprene.

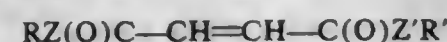
3,342,773

POLYMERIC COMPOSITIONS STABILIZED WITH ESTERS OF A THIOFUMARIC ACID

Stanley B. Mirviss, Stamford, Conn., and Adam F. Kopacki, Westwood, N.J., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,622
17 Claims. (Cl. 260-45.85)

1. A solid polymer composition comprising, in admixture, a solid polymer selected from the class consisting of a polymer of an ethylenically unsaturated monomer and a polyester resin, and, as an ultra-violet stabilizer therefor, a stabilizing quantity of an organic ester of a thiofumaric acid of the formula:



wherein R and R' are members selected from the group consisting of alkyl groups of from 2-24 carbon atoms, aryl, and cycloalkyl, and Z and Z' being selected from the group consisting of oxygen and sulfur, at least one of which is sulfur.

12. The composition according to claim 1 wherein said solid polymer is formed by the mixed polymerization of acrylonitrile, butadiene and styrene.

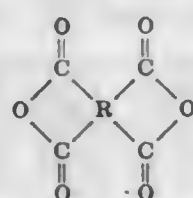
3,342,774

DIRECT PREPARATION OF AROMATIC POLYIMIDES

Erhard F. Hoegger, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,624
4 Claims. (Cl. 260-47)

1. The process comprising: essentially completely intermixing in under about one second concurrently with shaping a (1) solution containing, (a) an aromatic dianhydride having the structural formula:



wherein R is an aromatic tetravalent radical and (b) a dehydrating agent and (2) a solution containing (a) an organic diamine having the structural formula:



wherein R' is a divalent organic radical and (b) a tertiary amine to directly form the polyimide/polyamide-acid and heating said polyimide/polyamide-acid to complete imidization.

PROCESS OF COPRECIPITATION OF EPOXIES WITH CROSSLINKING AGENTS

David Aelony, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Apr. 16, 1964, Ser. No. 360,419
5 Claims. (Cl. 260-47)

1. Process of preparing an intimately mixed finely divided mixture of a solid epoxy resin containing 1,2 epoxide groups and a curing agent therefor which is unreactive toward said epoxy group at room temperature which comprises preparing a solution of said epoxy resin and curing agent in a solvent inert to the epoxy resin and curing agent and adding to said solution a non-solvent for said epoxy resin and curing agent which non-solvent is unreactive toward said epoxy resin and said curing agent and which is miscible with said solvent, in a quantity sufficient to precipitate said epoxy resin and curing agent in the form of a fine powder, and recovering said powder.

3,342,776

METHOD OF PREPARING AQUEOUS ALKALINE PHENOL-ALDEHYDE CONDENSATES

Alan L. Lambuth, Bellevue, Wash., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 21, 1966, Ser. No. 580,861
5 Claims. (Cl. 260-57)

1. A process for preparing a phenol-formaldehyde condensate in aqueous alkaline medium which comprises (a) co-reacting in aqueous media 1 molar proportion of phenol with from 2.2 to 3.5 molar proportions of formaldehyde in the presence of from 0.15 to 0.6 hydroxyl equivalent proportions of an inorganic alkaline catalyst at a temperature of from about 100 to 165° F. until a free formaldehyde level of within 10% of the minimum is attained, and (b) continuing the co-reaction of the phenol and formaldehyde at a temperature of from about 175° F. to reflux temperature until a 70° F. viscosity of at least 100 centipoises is attained; from zero to about 0.3 molar proportions of phenol being charged during step (b) provided the relative proportion of phenol to formaldehyde is maintained within the range specified in step (a) and from zero to 0.85 hydroxyl equivalent proportions of inorganic alkaline catalyst being charged during the interval starting with the completion of step (a) and ending with the completion of step (b) provided the total inorganic alkaline catalyst charged does not exceed about 1.0 hydroxyl equivalent proportion per molar proportion of total phenol charged; said inorganic alkaline catalyst being selected from the group consisting of alkali metal and alkaline earth hydroxides, oxides and salts of weak acids.

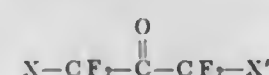
3,342,777

ADDITION COPOLYMERS OF POLYFLUOROKETONES AND ETHYLENIC COMPOUNDS

Edward George Howard, Jr., Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 28, 1964, Ser. No. 363,262
21 Claims. (Cl. 260-63)

1. An addition copolymer of
(A) at least one polyfluoroketone of the formula

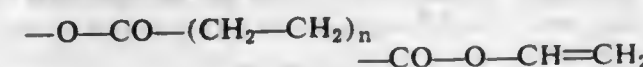


wherein X and X' are selected from the group consisting (1), individually, of hydrogen, fluorine, chlorine and bromine, and perfluoroalkyl, ω -hydro-, ω -chloro-, ω -bromo-, and ω -alkoxyperfluoroalkyl of up to 18 carbons and (2), jointly, of haloperfluoroalkylene of 1-3 carbons; and

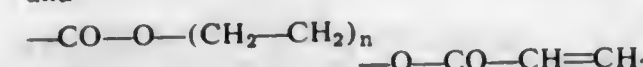
(B) at least one ethylenically unsaturated compound of the group consisting of cycloalkenes of up to 7 ring carbon and alkenes of the formula $ZZ'C=CY'$ wherein:

Z and Z' are the same or different and are selected from the group consisting of hydrogen and halogen of atomic number 9 to 35; and

Y and Y' are the same or different and are selected from the group consisting of: hydrogen; halogen of atomic number 9 to 35; monovalent aromatic hydrocarbon of up to 7 carbons; alkyl of up to 18 carbons; nitrile;



and



where n is 1 to 6; allyloxycarbonyl; RCO—, ROCO—, RO— and RCOO—, where R is alkyl of up to 18 carbons; and —CON'R'', where R' and R'' are hydrogen or alkyl of up to 7 carbons; said addition copolymers varying from oils through semisolids to elastomers and tough solids, containing a plurality of discrete recurring moieties of each monomer present, and having a mole ratio of total polyfluoroketone to total alkene in the range 1:1 to 1:1000.

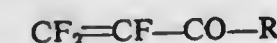
3,342,778

PERFLUOROALKYL PERFLUOROVINYL KETONES AND THEIR POLYMERS

Burton C. Anderson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 22, 1964, Ser. No. 377,095
19 Claims. (Cl. 260-63)

1. A compound of the formula



wherein R is a perfluoroalkyl group of up to and including 13 carbon atoms.

2. Polymers selected from the class consisting of homopolymers of the compounds of claim 1 and copolymers of the compounds of claim 1 with at least one polymerizable ethylenic monomer having terminal carbon-to-carbon unsaturation.

3,342,779

PROCESS FOR PRODUCING ALPHA-POLYOXYMETHYLENE

Seiichi Maeda, Kamakura, and Yasuhiko Miyake, Fujisawa, Japan, Yoshinari Yanagisawa, Princeton, N.J., and Masaji Hamamoto, Kamakura, Japan, assignors to Toyo Katsui Industries, Incorporated, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 3, 1963, Ser. No. 292,763
5 Claims. (Cl. 260-67)

1. In the process of producing alpha-polyoxymethylene from an aqueous formaldehyde solution by adding a basic or acidic catalyst to said solution and thereafter warming said solution to a temperature not higher than 50° C., thereby causing the formaldehyde in said solution to react and form alpha-polyoxymethylene, that improvement comprising the steps of, pretreating said aqueous formaldehyde solution by initially maintaining it at a temperature of about 60° C. to about 98° C. for a period of at least about 0.5 hour and quickly cooling said solution to a temperature of not more than 50° C. prior to adding said catalyst.

3,342,780

REACTION PRODUCT OF A DIBASIC POLYCARBOXYLIC ACID AND TRIS (2-HYDROXYETHYL) ISOCYANURATE

John F. Meyer, Schenectady, and Edmund J. Zalewski, Rotterdam, N.Y., assignors to Schenectady Chemicals Inc., Schenectady, N.Y., a corporation of New York

No Drawing. Filed June 16, 1961, Ser. No. 117,499
12 Claims. (Cl. 260-75)

1. A polymeric ester of a polycarboxylic acid of the group consisting of terephthalic acid and isophthalic acid and tris (2-hydroxyethyl) isocyanurate.

3,342,781

9,10-BIS(B-HYDROXYETHYL)OCTAHYDROANTHRACENE AND POLYESTERS THEREOF

Eckhard Christian August Schwarz, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 30, 1964, Ser. No. 379,383
3 Claims. (Cl. 260-75)

1. 9,10-bis(b-hydroxyethyl)-1,2,3,4,5,6,7,8-octahydroanthracene.

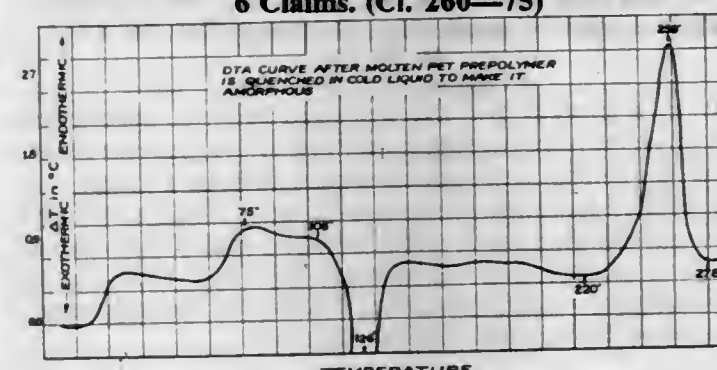
3. A linear polyester of 9,10-bis(b-hydroxyethyl)-1,2,3,4,5,6,7,8-octahydroanthracene and 2,5-dimethylterephthalic acid.

3,342,782

POLYESTER PREPOLYMERS AND PROCESSES FOR THEIR MANUFACTURE

Kenneth T. Barkey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 30, 1967, Ser. No. 621,091
6 Claims. (Cl. 260-75)



1. In a process for manufacturing a prepolymer which is a polyester of reactants composed of bifunctional dicarboxylic acid and glycol constituents and which has a melting point above 150° C. and increased reactivity when subjected to solid phase polymerization, which process comprises

- initially forming a molten prepolymer having an intrinsic viscosity within the range of from about 0.1 to about 0.45 by reacting together said glycol and a lower alkyl diester of said dicarboxylic acid under conditions of minimum reflux and turbulent flow,
- casting said molten prepolymer upon an inert surface,
- cooling said molten prepolymer to thereby form a solidified prepolymer, and
- subsequently pulverizing said solidified prepolymer;

the improvement which comprises in step (b), casting said molten prepolymer onto said inert surface to thereby form a layer having a thickness of from about 5 mm. to about 35 mm., and then cooling said layer in such a manner that a crust forms thereon and the maximum temperature within said layer is reduced to below about 125° C. in from about 1 minute to about 5 minutes of the time said layer is cast; the temperature of said molten prepolymer being not more than 10° C. above the characteristic melting point of said prepolymer at the time of said casting.

3,342,783

PROCESS FOR THE MANUFACTURE OF POLY-AMIDES FROM α,α -DIALKYL SUBSTITUTED β -LACTAMS

Paul Schlack, Leitershofen, near Augsburg, Harald Jensen, Frankfurt am Main, and Gerhard Lohaus, Kelheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 1, 1963, Ser. No. 269,723

Claims priority, application Germany, Apr. 6, 1962, F 36,480

8 Claims. (Cl. 260—78)

1. A process for the manufacture of a linear polyamide having amide groups in β -position, which process comprises polymerizing, at a temperature in the range from 180° C. to 300° C., a β -lactam free of substituents other than hydrogen at the nitrogen atom and having two alkyl groups in the α -position to the carbonyl group and at most one alkyl group in the β -position, said alkyl groups in the α -position having together at most 5 carbon atoms, and said alkyl group in the β -position having at most 3 carbon atoms.

3,342,784

ANIONIC POLYMERIZATION OF LACTAMS WITH AMIDO-AZOLES AS PROMOTERS

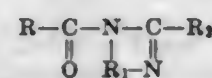
Robert Gehm, Ludwigshafen (Rhine), Gustav Steinbrunn, Schwegenheim, Pfalz, and Wolfgang Jentzsch, Hans Wilhelm, Friedrich Bayerlein, and Otto von Schickh, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen am Rhine, Germany

No Drawing. Filed Jan. 14, 1964, Ser. No. 337,525

Claims priority, application Germany, Jan. 16, 1963, B 70,344

4 Claims. (Cl. 260—78)

1. In a process for the activated anionic polymerization of lactams by heating a mixture of (A) lactam having from five to fourteen ring members, (B) an alkaline catalyst selected from the group consisting of alkali metal catalysts and alkaline earth metal catalysts and (C) an activator to a temperature of between 80° and 160° C., the improvement which comprises adding as the activator a compound having the general formula:



wherein R_1 represents a bivalent radical selected from the group consisting of ethylene and phenylene, R_2 represents a member selected from the group consisting of hydrogen and a monovalent hydrocarbon radical having 1-8 carbon atoms and R represents an arylamino radical having 6-12 carbon atoms.

3,342,785

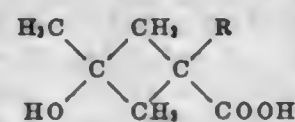
3-HYDROXY-3-METHYLCYCLOBUTANECARBOXYLIC ACIDS, LACTONES THEREOF AND THEIR POLYMERS

Elwood P. Blanchard, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,299

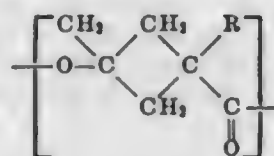
15 Claims. (Cl. 260—78.3)

12. A hydroxycarboxylic acid of the formula



wherein R is a member of the class consisting of hydrogen, methyl and fluoroalkyl of 1 to 6 carbon atoms.

13. A polymer of an acid of claim 12 having an inherent viscosity of at least 0.05 and containing, to the extent of at least 5% by weight, recurring units of the formula



wherein R is selected from the group consisting of hydrogen, methyl and fluoroalkyl of 1 to 6 carbon atoms.

3,342,786

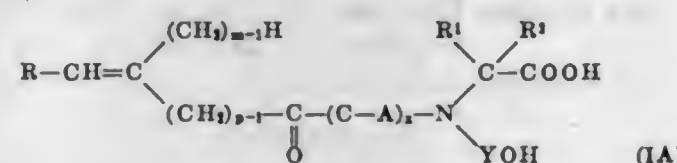
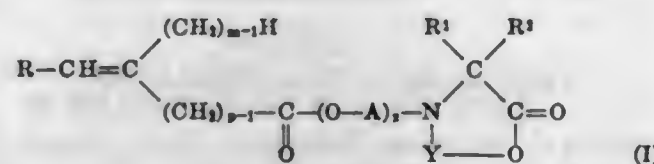
NOVEL NITROGENOUS POLYMERS

William D. Emmons, Huntingdon Valley, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 368,737, May 19, 1964. This application Aug. 5, 1966, Ser. No. 570,417

10 Claims. (Cl. 260—78.4)

1. As a composition of matter, an addition polymer of a compound selected from the group consisting of those having the following Formula I, those having the following Formula IA, and mixtures thereof



wherein

R is selected from the group consisting of H and methyl, m is an integer having a value of 1 to 3, p is an integer having a value of 1 to 4, x is an integer having a value of 1 to 4, A is an alkylene group having 2 to 4 carbon atoms, R^1 and R^2 are selected from the group consisting of (1) a composite group which forms a cyclic (C_5 to C_7)-hydrocarbon group with the adjoined C atom and (2) separate groups in which R^1 is selected from the group consisting of H, (C_1 - C_6)-alkyl, and phenyl, and R^2 is selected from the group consisting of H and (C_1 - C_6)-alkyl, and

Y is an alkylene group having 2 to 4 carbon atoms, A having at least two carbon atoms extending in a chain between the adjoined O and N atoms and Y having 2 carbon atoms extending in a chain between the adjoined O and N atoms, with the provisos that when p is greater than 1, m is 1 and when m is greater than 1, R is H.

3,342,787

RESINOUS COMPOSITIONS

Irving E. Muskat, Miami, Fla., assignor, by mesne assignments, to Sinclair Research, Inc., a corporation of Delaware

No Drawing. Filed Aug. 8, 1961, Ser. No. 129,981

8 Claims. (Cl. 260—78.5)

1. A method of esterifying copolymers of monovinyl aromatic compound and maleic compound with monohydroxy organic compound to provide an at least par-

tially esterified copolymer, comprising subjecting a mixture of said copolymer and at least sufficient alcohol to provide the desired esterification to elevated temperature in the liquid phase in the presence of a catalytic amount of a metal fatty acid salt in which said metal is selected from the group consisting of alkali metals, zinc and aluminum.

3,342,788

ADDITIVES

Manfred Brod, Wantage, England, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 1, 1962, Ser. No. 213,886
Claims priority, application Great Britain, Mar. 22, 1960, 10,070/60

15 Claims. (Cl. 260—78.5)

1. An oil-soluble copolymer of (1) 35 to 75 parts by weight of a mixture of fumaric acid esters having C_8 to C_{18} alkyl side chains, (2) 10 to 40 parts by weight of a vinyl ester of a saturated monocarboxylic acid, (3) 2 to 10 parts by weight of an ether ester having the general formula:



wherein R is a C_1 to C_8 alkyl radical, R' is a C_1 to C_3 alkylene radical, n is an integer from 1 to 3, and X is an alpha-beta-unsaturated dicarboxylic acid radical and (4) 1 to 10 parts by weight of an N-vinyl substituted cyclic imide, the chain length distribution of the alkyl groups in the said mixture of fumaric acid esters being essentially the same as the chain length distribution of the alkyl groups in coconut oil.

3,342,789

COMPOSITION COMPRISING CHLORINATED BUTYL RUBBER AND A CURING SYSTEM

Eric Bannister, Blewbury, John Biggs, East Hagbourne, Samuel Howard Coulson, Reading, John Greenwood, Didcot, and Robert L. Zapp, London, England, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 31, 1962, Ser. No. 213,595

16 Claims. (Cl. 260—79.5)

1. A composition comprising a major proportion of a rubbery chlorinated copolymer of about 90 to 99.5 wt. percent of a C_4 to C_7 isoolefin and about 10 to 0.5 wt. percent of a C_4 to C_8 multiolefin, said copolymer having a Mooney viscosity of from 10 to 20, and a minor proportion of a combination of (1) a Group II metal oxide, (2) an alkylene trithiocarbonate, (3) salicylic acid and (4) a metal halide selected from the group consisting of zinc chloride and stannous chloride.

3,342,790

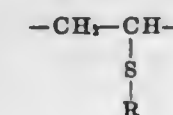
POLYVINYL THIOETHERS

Louis de Vries, Richmond, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Feb. 3, 1965, Ser. No. 430,186

12 Claims. (Cl. 260—79.5)

7. Polyvinyl thioethers of from about 10,000 to 1,000,000 molecular weight having as their repeating unit, a unit of the following formula:



where R is selected from the group consisting of carbocyclic aryl of from 6 to 10 carbon atoms and substituted carbocyclic aryl of from 6 to 26 carbon atoms.

3,342,791

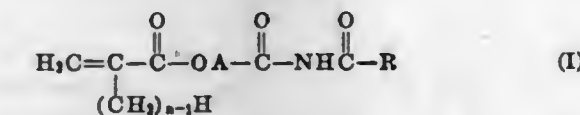
N-ACYL-ACRYLOXYALKANAMIDES, POLYMERS THEREOF AND METHODS OF MAKING THEM AND THEIR POLYMERS

Everett J. Kelley, Moorestown, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 11, 1964, Ser. No. 417,827

13 Claims. (Cl. 260—86.1)

2. An addition polymer of a compound of the formula



wherein

n is an integer having a value of 1 to 2, A is an alkylene group having 1 to 3 carbon atoms, and R is selected from the group consisting of H and alkyl groups having 1 to 3 carbon atoms.

3,342,792

PREPARATION OF ELASTOMERS

Walter G. Toekelt, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 11, 1964, Ser. No. 417,808

13 Claims. (Cl. 260—93.1)

1. A process for the preparation of an elastomeric composition which comprises subjecting a cycloalkene to a combined oxidation-nitration treatment with nitric acid at an elevated temperature, separating the resultant product, treating said product with an alkaline substance, reacidifying the resultant solution, and recovering the desired elastomeric composition.

2. A process for the preparation of an elastomeric composition which comprises subjecting a cycloalkene to a combined oxidation-nitration treatment with nitric acid in the presence of a catalyst containing a metal selected from the group consisting of cobalt, manganese and vanadium at an elevated temperature, separating the resultant product, treating said product with an alkaline substance, reacidifying the resultant solution, and recovering the desired elastomeric composition.

3,342,793

POLYMERIZATION OF ALPHA-OLEFINS IN THE PRESENCE OF $\text{TiCl}_3 \cdot \frac{1}{2} \text{AlCl}_3$, ALKALI METAL AND AN ALKYL PHOSPHORAMIDE OR SULFURIC AMIDE

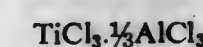
Attilio Palvarini, Milan, and Annamaria Parentela and Sabino Caporale, Cesano Maderno, Italy, assignors to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy

No Drawing. Filed Apr. 23, 1963, Ser. No. 274,907

Claims priority, application Italy, May 7, 1962, 668,250

11 Claims. (Cl. 260—93.7)

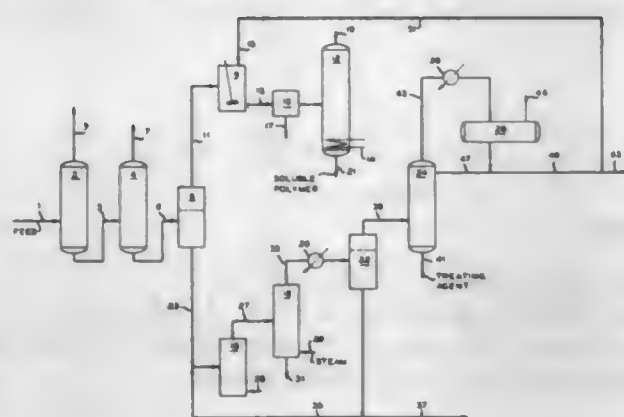
1. A process for homopolymerization of olefins selected from the group consisting of ethylene and propylene, for providing a highly crystalline polymer, comprising effecting the homopolymerization by a complexed catalyst system consisting of a complex salt titanium trichloride-aluminum trichloride of the formula



a metal selected from the group consisting of sodium, potassium, and sodium-potassium alloys, and an organic compound selected from the group consisting of tris-N, N-dimethylphosphoramidate and tris-N, N-dimethyl sulfuric amide.

3,342,794

POLYMERIZATION REACTION CLEANUP
Ben B. Buchanan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 20, 1963, Ser. No. 332,090
6 Claims. (Cl. 260—93.7)



1. In a polymerization process wherein propylene monomer in the presence of hydrogen and a catalyst consisting of diethylaluminum chloride and the material produced by contacting titanium tetrachloride with aluminum is reacted to produce solid polypropylene, the reaction effluent is contacted with acetylacetone and propylene oxide and washed with liquid propylene, solid polypropylene is removed and the remaining residue stream containing propylene, a complex of said catalyst and acetyl acetone and soluble polymer is subjected to fractional distillation for removal of propylene; the improvement in the treating of the residue stream from said fractional distillation zone which comprises separating said stream into two phases, a first phase containing soluble polymer and propylene and a second phase containing said complex and propylene; contacting said first phase with propylene and subjecting the resulting mixture to a stripping operation wherein soluble polymer is recovered as a bottoms product; contacting said second phase with water at increased temperatures to regenerate said acetylacetone and subjecting the resulting mixture to increased temperatures to recover said acetylacetone.

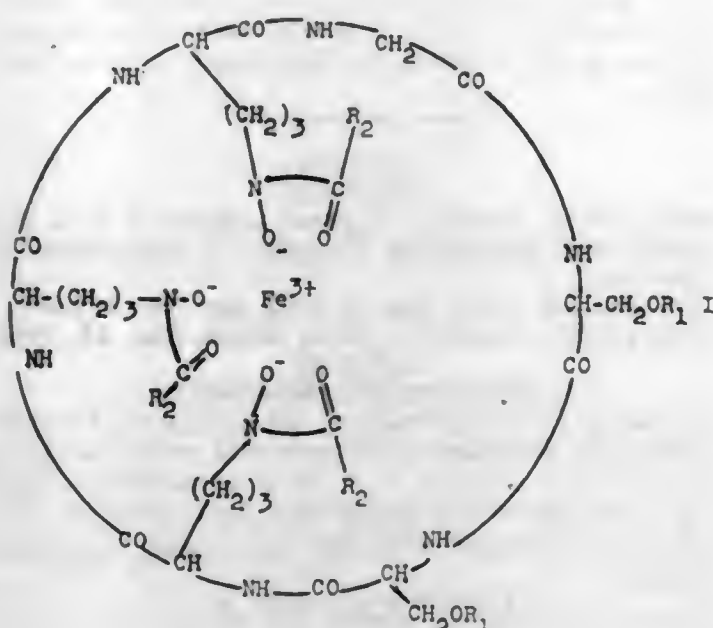
3,342,795

FERRICHRYSIN, DESFERRICHRYSIN, AND DERIVATIVES THEREOF

Ernst Gaumann, deceased, late of Zurich, Switzerland, by Tino Gaumann, legal representative, Zurich, Switzerland, and Vladimir Prelog, Zurich, and Ernst Vischer, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 19, 1964, Ser. No. 353,151
Claims priority, application Switzerland, Nov. 24, 1961, 13,754/61; Mar. 2, 1962, 2,579/62; June 15, 1962, 7,220/62; Aug. 13, 1962, 9,687/62; Oct. 11, 1962, 12,052/62; Mar. 21, 1963, 3,603/63
18 Claims. (Cl. 260—112.5)

1. Process for the manufacture of a member selected from the group consisting of desferrichrysin of the formula $\text{cyclo}-(\text{glycyl})_2-(\text{N}^{\delta}-\text{acetyl}-\text{hydroxyornithyl})_3$ and ferrichrysin, the corresponding ferri-ferrous compound in which iron is bound in complex form to the 3-hydroxamic acid residues, wherein a member selected from the group consisting of *Aspergillus melleus* M 2853 and *Aspergillus terreus* M 4785 is grown under aerobic conditions in an aqueous nutrient solution containing a source of carbon and nitrogen as well as inorganic salts, and from the culture filtrate a member selected from the group consisting of ferrichrysin and desferrichrysin is isolated.

10. Derivatives of ferrichrysin of the Formula I



wherein R_1 represents a member selected from the group consisting of hydrogen and lower alkanoyl, and R_2 stands for a lower alkyl radical having 1-6 carbon atoms, R_2 having at least 2 carbon atoms if R_1 is hydrogen.

3,342,796

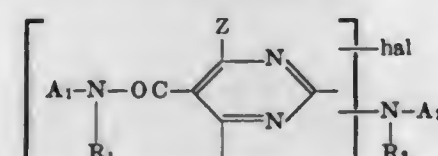
ISOLATION OF CYTOCHROME C EMPLOYING A DILUTE ALUMINUM SULFATE SOLUTION
Emanuel Margollash, Glencoe, and Otto F. Walasek, Zion, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 30, 1964, Ser. No. 364,016
4 Claims. (Cl. 260—115)

1. In the process of isolating cytochrome C, comprising digesting mammalian tissue, filtering and adsorbing the digested cytochrome C extract on a cation exchange resin, and eluting the resin with a weakly basic salt solution the improvement consisting in digesting homogenized mammalian tissue for at least 2 hours with 2-8 volumes of a dilute aqueous solution of aluminum sulfate at a pH of 4.3-5.0, filtering the mass, adjusting the pH of the filtrate to 8.0-8.5, and eliminating the precipitated aluminum hydroxide.

3,342,797

WATER-SOLUBLE REACTIVE DYES CONTAINING HALOPYRIMIDINE-5-CARBOXAMIDO GROUPS
Jacques Guenthard, Binningen, Basel-Land, Switzerland, assignor to Sandoz Ltd., (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Sept. 28, 1964, Ser. No. 399,899
Claims priority, application Switzerland, Oct. 4, 1963, 12,266/63
8 Claims. (Cl. 260—146)

1. Reactive dyes of the formula



wherein

hal is a member selected from the group consisting of chlorine and bromine,
 R_1 is a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, (lower) alkoxy (lower) alkyl and lower phenylalkyl,

R_2 is a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, (lower) alkoxy (lower) alkyl and lower phenylalkyl,
 Z is a member selected from the group consisting of hydrogen, chlorine, bromine, CH_3 , CH_2Cl , CHCl_2 , CH_2Br and CHBr_2 .

A_1 is a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, (lower) alkoxy (lower) alkyl, lower carboxyalkyl, lower sulfoalkyl, lower dicarboxyalkyl, lower phenylalkyl, phenyl carboxyphenyl, dicarboxyphenyl, sulfophenyl, disulfophenyl, sulfonaphthyl, disulfonaphthyl, the radicals of monoazo dyes, disazo dyes, 1:1-copper and 1:1 nickel, complex azo dyes, 1:2-cobalt complex azo dyes, 1:2-chromium complex azo dyes, anthraquinone dyes, phthalocyanine dyes, nitro dyes and formazane dyes, the said dye radicals bearing 1 to 4 water-solubilizing groups selected from the group consisting of $-\text{SO}_3\text{H}$, $-\text{SO}_2-\text{NH}_2$ and $-\text{COOH}$, and

A_2 is a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, (lower) alkoxy (lower) alkyl, lower carboxyalkyl, lower sulfoalkyl, lower dicarboxyalkyl, lower phenylalkyl, phenyl, carboxyphenyl, dicarboxyphenyl, sulfophenyl, disulfophenyl, sulfonaphthyl, disulfonaphthyl, the radicals of monoazo dyes, disazo dyes, 1:1-copper and 1:1 nickel, complex azo dyes, 1:2-cobalt complex azo dyes, 1:2-chromium complex azo dyes, anthraquinone dyes, phthalocyanine dyes, nitro dyes and formazane dyes, the said radicals bearing 1 to 4 water-solubilizing groups selected from the group consisting of $-\text{SO}_3\text{H}$, $-\text{SO}_2-\text{NH}_2$ and $-\text{COOH}$, at least one of A_1 and A_2 being a dye radical.

3,342,798

PYRIMIDYL AZO DYESTUFFS

Paul Dussy, St-Louis, France, and Jürg Ammann, Basel, and Werner Bossard, Riehen, near Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland
No Drawing. Filed May 22, 1959, Ser. No. 814,997
Claims priority, application Switzerland, May 23, 1958, 59,840, 59,841

15 Claims. (Cl. 260—146)

1. Water-soluble organic dyestuff consisting essentially of (I) from one to two trichloropyrimidyl residues of 2,4,5,6-tetrachloropyrimidine, (II) a dyestuff grouping of which one exchangeable hydrogen atom is replaced for each trichloropyrimidyl residue and (III) a divalent bridge member, $-\text{NH}-$ for each trichloropyrimidyl residue, each of said bridge members being connected with one of its valences to a trichloropyrimidyl residue (I) in replacement of one of the four chlorine atoms of the 2,4,5,6-tetrachloropyrimidine and with its other valence to the site of a replaced exchangeable hydrogen atom of (II); the dyestuff grouping being a member selected from the group consisting of (A) an unmetallized monoazo dyestuff grouping bearing at most 4 HO_2S -groups and selected from the group consisting of

- (1) benzene-azo-naphthalene,
- (2) diphenyl-azo-naphthalene,
- (3) benzene-azo-5-pyrazolone,
- (4) naphthalene-azo-naphthalene;
- (5) benzene-azo-benzene,

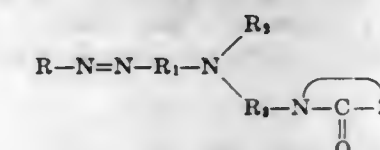
(B) copper complexes of the unmetallized monoazo dyestuff grouping; (C) a disazo dyestuff grouping bearing from 2 to 4 HO_2S -groups and selected from the group consisting of

- (1) benzene-azo-benzene-azo-benzene,
- (2) benzene-azo-benzene-azo-naphthalene,
- (3) benzene-azo-naphthalene-azo-benzene.

3,342,799

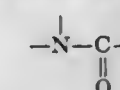
N-HETEROCYCLIC MONOAZO AZO DYES
David J. Wallace, James M. Straley, and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,212
10 Claims. (Cl. 260—152)

1. Azo compounds having the formula



wherein

R =a benzene radical,
 R_1 =a phenylene radical,
 R_2 =a member of the class consisting of hydrogen and a lower alkyl radical,
 R_3 =lower alkylene, and
 Z =the carbon atoms which with



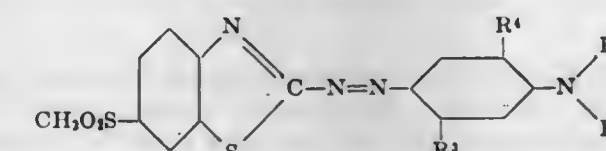
complete a pyrrolidinono radical, a piperidono radical, or a phthalimidino radical, said compounds being free of water-solubilizing groups.

3,342,800

BENZOTHIADIAZOLE MONOAZO DYES
Jack L. Towle, East Cleveland, and John A. Zelek and George R. Pellon, Cleveland, Ohio, assignors, by mesne assignments, to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware
No Drawing. Original application June 26, 1962, Ser. No. 205,217. Divided and this application Dec. 13, 1963, Ser. No. 330,233

13 Claims. (Cl. 260—158)

1. Azo compounds of the general formula

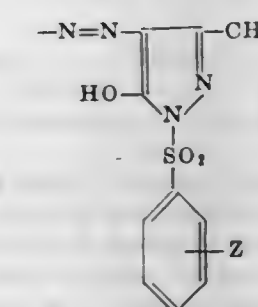


wherein R^1 represents a member selected from the group consisting of H, lower alkyl, phenyl, and carbamylethyl; R^2 represents carbamylethyl, R^3 and R^4 represent radicals of the class consisting of lower alkyl, methoxy, chlorine, and H.

3,342,801

WATER INSOLUBLE PYRAZOLONE MONOAZO DYESTUFFS
Hugo Illy, Toms River, N.J., assignor to Toms River Chemical Corporation, Toms River, N.J., a corporation of Delaware
No Drawing. Filed May 18, 1964, Ser. No. 368,408
5 Claims. (Cl. 260—162)

1. A monoazo dye of the formula



wherein X_1 is hydrogen or chlorine, X_2 is hydrogen or nitro, Y is hydrogen, chlorine or methyl and Z is hydrogen, acetamino, chlorine or methyl.

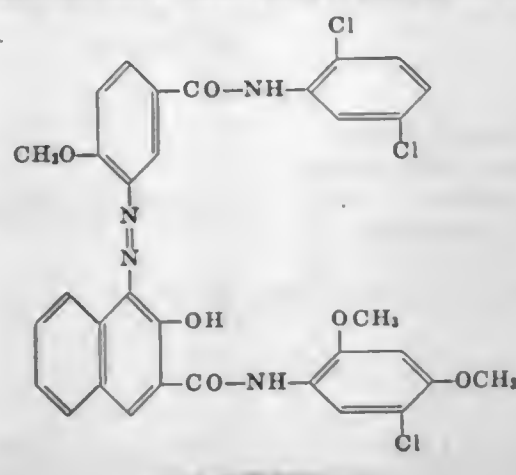
3,342,802

WATER-INSOLUBLE MONOAZO-DYESTUFF

Joachim Ribka, Offenbach am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Nov. 27, 1963, Ser. No. 326,371
Claims priority, application Germany, Dec. 5, 1962, F 38,469

1 Claim. (Cl. 260—203)

The water-insoluble monoazo-dyestuff of the formula



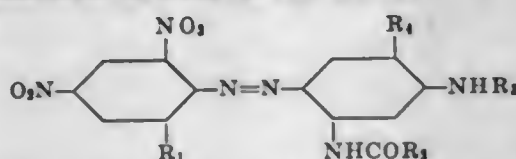
3,342,803

WATER-INSOLUBLE MONOAZO-DYESTUFFS

Klaus Artz, Muttentz, and Paul Rhyner, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Jan. 23, 1964, Ser. No. 339,817
Claims priority, application Switzerland, Feb. 21, 1963, 2,204/63

6 Claims. (Cl. 260—207)

1. A monoazo-dyestuff of the formula



in which R₁ represents a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl. R₂ represents lower alkyl, R₃ stands for a member selected from the group consisting of hydrogen, lower alkyl and lower alkoxy and R₄ represents a member selected from the group consisting of cyanoethoxyethyl and ethyl lower-alkanoyloxy-ethyl.

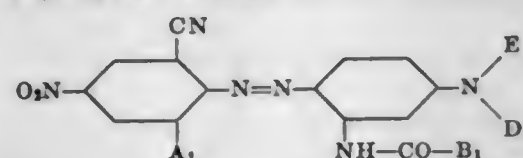
3,342,804

MONOAZO DYES

Curt Mueller, Basel, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland
No Drawing. Filed Feb. 13, 1964, Ser. No. 344,538
Claims priority, application Switzerland, Feb. 15, 1963, 1,945/63; May 31, 1963, 6,821/63, 6,822/63; July 1, 1963, 8,133/63

8 Claims. (Cl. 260—207.1)

1. Azo dye of the formula



wherein

A₁ represents a member selected from the group consisting of hydrogen, chlorine and bromine, B₁ represents a member selected from the group consisting of alkyl, monochloroalkyl, monobromoalkyl and cyanoalkyl, each alkyl having 1 to 4 carbon atoms, methoxymethyl, ethoxymethyl, phenoxymethyl and phenyloxymethyl, D₁ represents low molecular alkyl and E₁ represents low molecular alkyl.

D₁ represents low molecular alkyl and E₁ represents low molecular alkyl.

PROCESS FOR THE MANUFACTURE OF CELLULOSE ETHERS

Clayton D. Callihan, Baton Rouge, La., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 27, 1964, Ser. No. 370,673
5 Claims. (Cl. 260—232)

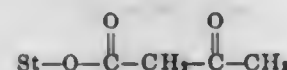
1. In a process which comprises reacting an alkali cellulose and an etherifying material selected from the group consisting of alkyl halides having from 1 to 4 carbons, alkylene oxides having from 2 to 4 carbons and mixtures of the alkyl halides and alkylene oxides to prepare a soluble cellulose ether, in the form of a crude reaction product, the improvement which consists in treating the crude reaction product with from about 0.1 percent up to as much as about 15 percent by weight, based on the weight of the crude reaction product, of a fluid form of an organic monohalide having from 2 to 10 carbons in which the halogen is activated and has an atomic number from 17 to 35 inclusive and heating the treated product at a temperature within the range from about 20° to 90° C. whereby a soluble cellulose ether of diminished insoluble fiber content is obtained.

3,342,806

NOVEL ACETOACETYLATED STARCH DERIVATIVES

Dilip Kumar Ray-Chaudhuri, Westfield, N.J., assignor to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 23, 1965, Ser. No. 474,447
5 Claims. (Cl. 260—233.5)

1. A process for the preparation of acetoacetyl esters of starch corresponding to the formula:



wherein St represents the starch molecule; said process comprising reacting a starch base with diketene in a solvent medium selected from the group consisting of aqueous and organic solvent media; and recovering said acetoacetyl ester; wherein with an aqueous medium for said process said reaction is conducted in the presence of a catalyst selected from the group consisting of acidic and basic catalysts, at a temperature of from about 5° to 95° C., and at a pH level of from about 4 to 11 and reduced to pH 3-7 before recovery; and wherein with an organic solvent medium for said process said reaction is conducted in the presence of a catalyst selected from the group consisting of acidic and basic catalysts and at a temperature of from about 50° to 100° C.

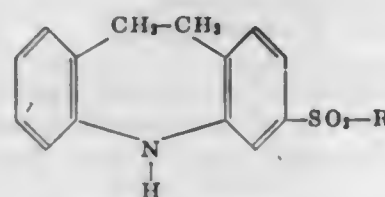
3,342,807

IMINODIBENZYL DERIVATIVES

Henri Dietrich, Arlesheim, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Filed July 10, 1964, Ser. No. 381,886
Claims priority, application Switzerland, Feb. 17, 1961, 1,920/61, 1,921/61

6 Claims. (Cl. 260—239)

1. Iminodibenzyl derivatives having the formula



in which R is member selected from the group consisting of methyl and ethyl.

3,342,808

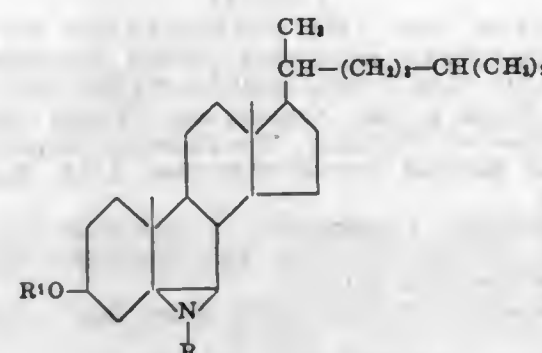
6-AZA-5,7-CYCLOCHOLESTANOL AND SELECTED DERIVATIVES

Richard M. Scribner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

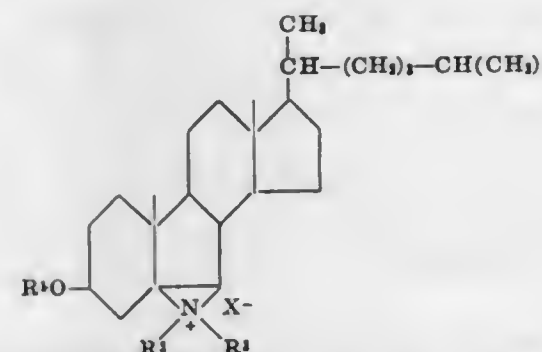
No Drawing. Filed Dec. 14, 1964, Ser. No. 418,259

6 Claims. (Cl. 260—239)

1. A compound of the group consisting of



and



wherein:

R is selected from the group consisting of hydrogen lower alkyl and cyano;
R¹ is selected from the group consisting of hydrogen and acyl radicals of lower alkanic acids;
R² is lower alkyl;
R³ is selected from the group consisting of hydrogen and lower alkyl; and
X is the conjugate base of a strong inorganic acid.

3,342,809

PROCESS FOR PREPARING LACTAMS AND POLY-AMIDES FROM LACTONES AND AMINES

David Harold Johnson, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 26, 1965, Ser. No. 435,743

Claims priority, application Great Britain, Mar. 4, 1964, 9,199/64

8 Claims. (Cl. 260—239.3)

1. In a process for the manufacture of mixtures of lactams with the corresponding polyamides by reacting a lactone containing from 4-8 carbon atoms with a nitrogenous compound selected from the class consisting of ammonia and amine in the presence of hydrogen and a hydrogenation catalyst at elevated pressure and temperature, the improvement comprising: reacting at least 15 molecular proportions of said nitrogenous compound with each molecular proportion of lactone at a pressure from about 50 to about 1,000 atmospheres.

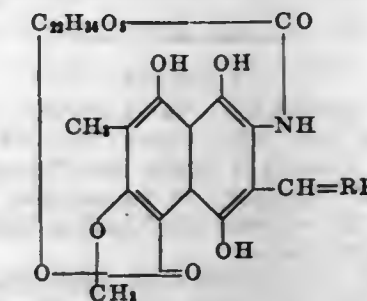
3,342,810

DERIVATIVES OF RIFAMYCIN SV

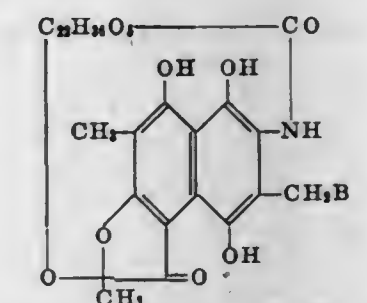
Nicola Maggi and Piero Sensi, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed July 9, 1965, Ser. No. 470,926
Claims priority, application Great Britain, July 31, 1964, 30,327/64

15 Claims. (Cl. 260—239.3)

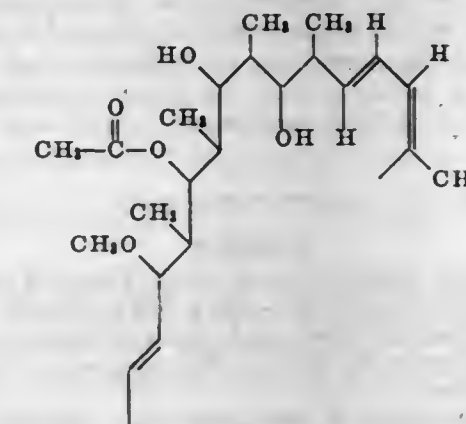
1. A process for preparing a rifamycin SV derivative of the formula



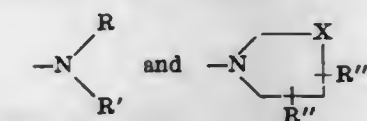
wherein R represents oxygen, H(OH), dialkoxy, imino, substituted imino, hydrazono and substituted hydrazono radicals, which comprises subjecting to mild oxidation a 3-aminomethyl derivative of rifamycin SV of the formula



wherein the group C₂₂H₄₅O₅ in each formula has the structure



wherein B is a radical selected from



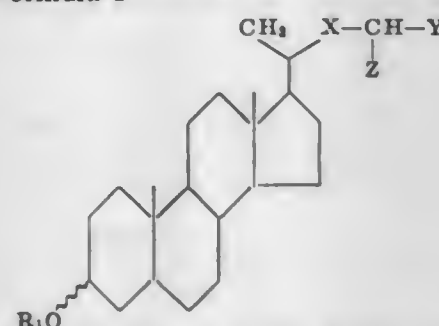
in which R is a member selected from the group consisting of hydrogen and lower alkyl, R' is a member of the class consisting of lower alkyl, hydroxy-lower alkyl, carboxy-lower alkyl and cycloalkyl groups, X is a member of the class consisting of methylene, ethylene, a group —CH₂O— and a group —CH₂NH—, R'' and R''' are members of the class consisting of hydrogen, lower alkyl, hydroxy and carboxy groups, with an oxidizing agent of the class consisting of lower alkyl nitrites, lead tetracetate, 1,4-quinones, persulfates, oxygen in the presence of a catalyst, potassium ferricyanide and manganese dioxide, whereby 3-formyl-rifamycin SV is obtained, and subjecting said 3-formyl-rifamycin SV,

- (a) either to hydrogenation with sodium borohydride to obtain 3-hydroxymethyl-rifamycin SV,
 (b) or to reaction with lower alkanols at room temperature to obtain a lower dialkyl acetal of 3-formyl-rifamycin SV,
 (c) or to reaction with a compound selected from the class consisting of primary aliphatic, aromatic and heterocyclic amines, hydroxylamine, O-substituted hydroxylamines, hydrazine and substituted hydrazines.

3,342,811

STEROIDAL AMINES AND AMIDES, AND PROCESS FOR THE PREPARATION OF SAME
 Shalom Sarel, Yehuda Yanuka, and Yehuda Shalom, all % School of Pharmacy in conjunction with the Hebrew University—Hadassah Medical School, P.O. Box 1172, Jerusalem, Israel
 No Drawing. Continuation of application Ser. No. 385,760, July 28, 1964. This application Jan. 13, 1967, Ser. No. 609,260
 Claims priority, application Israel, Dec. 5, 1963, 20,379
 17 Claims. (Cl. 260—239.5)

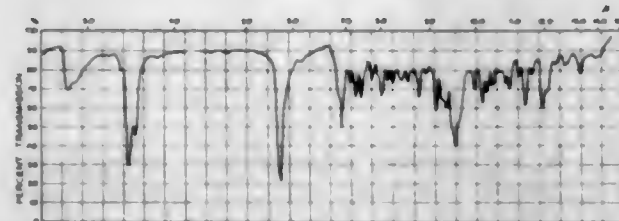
1. Novel derivatives of perhydro cyclopentanophenanthrene of Formula I



in which X is selected from the group consisting of an alkylene radical and a carbon-to-carbon bond, R₁ is a member of the group consisting of lower alkyl and lower acyl radicals, Z is a member of the group consisting of bromine, amine and ammonium radicals and Y is a member of the group consisting of hydrogen and —COR₂, wherein R₂ is selected from the group consisting of hydroxyl, halogen, amine, ammonium radical, and a radical of an aliphatic aryl-aliphatic and cyclo-aliphatic alcohol.

3,342,812

METHOD OF OBTAINING 3β-HYDROXY-14β,15β-EPOXY-5β-BUFA-20,22-DIENOLIDE
 Manki Komatsu, Ichikawa, and Yoshiaki Kamano, Tokyo, Japan, assignors to Taisho Pharmaceutical Co., Ltd., Tokyo, Japan
 Filed Dec. 31, 1964, Ser. No. 422,758
 Claims priority, application Japan, July 22, 1964, 39/41,257
 9 Claims. (Cl. 260—239.57)



INFRARED ABSORPTION SPECTRUM OF
 3β-Hydroxy-14β-Epoxy-5β-Bufo-20,22-Dienolide

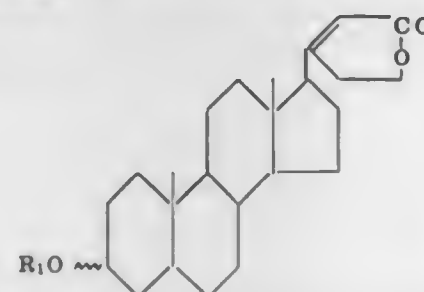
1. A method for recovering 3β-hydroxy-14β,15β-epoxy-5β-bufo-20,22-dienolide by solvent extraction from Ch'an Su, which comprises directly extracting with a solvent an aqueous solution of the Ch'an Su in the ten-fold quantity by weight of water containing one-tenth part by weight,

relative to the weight of the dry Ch'an Su, of an enzymic dissociation accelerator, concentrating the so-obtained extract down to about one-third its original volume, pouring the resultant concentrated solution onto a chromatographic column of agent which is a selective sorbent for 3β - hydroxy - 14β,15β - epoxy - 5β - bufo - 20,22 - dienolide-fraction from said column by means of the aforesaid solvent, as eluting agent, distilling off the solvent from said fraction, and crystallizing the resultant 3β-hydroxy - 14β,15β - epoxy - 5β - bufo - 20,22 - dienolide-containing residue from acetone.

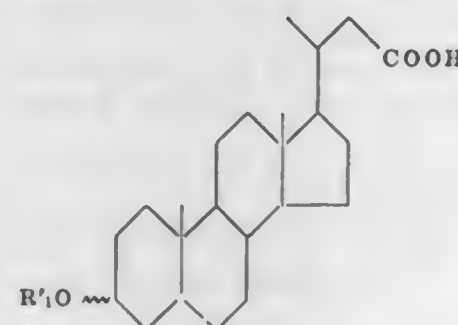
3,342,813

PROCESS FOR THE PREPARATION OF BUTENOLIDES DERIVED FROM CYCLOPENTANO PERHYDRO PHENANTHRENES
 Shalom Sarel, Yehuda Yanuka, and Yehuda Shalom, all % School of Pharmacy, The Hebrew University—Hadassah Medical School, P.O. Box 1172, Jerusalem, Israel
 No Drawing. Continuation of application Ser. No. 385,781, July 28, 1964. This application Jan. 13, 1967, Ser. No. 609,255
 Claims priority, application Israel, Dec. 5, 1963, 20,378
 8 Claims. (Cl. 260—239.57)

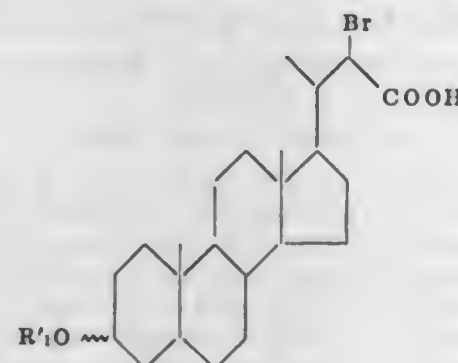
1. A process for the production of a compound of the general formula



in which R₁ is a member of the group consisting of hydrogen, lower alkyl radicals and lower acyl radicals which comprises reacting a compound of formula

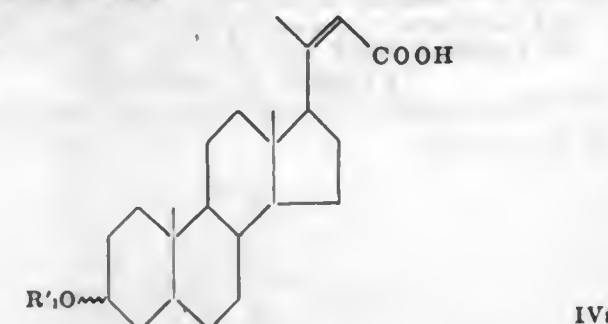


in which R₁ is a member of the group consisting of lower alkyl radicals and acyl radicals, with a brominating agent selected from the group of bromine and pyridinium hydrobromide, in thionylchloride, to yield a compound of formula



in which R₁ has the same meaning as before, the latter is reacted with sodium tert. butoxide in tert. butanol in the

presence of a catalyst being a member of the group consisting of sodium iodide and potassium iodide, to yield a compound of formula



in which R₁ has again the same meaning as above and the latter is reacted with selenium dioxide in an acidic medium to yield the desired end product of Formula I.

3,342,814

ADDUCTS OF METAL BOROHYDRIDES AND ORGANIC POLYNITROGEN COMPOUNDS
 John N. Hogsett, Charleston, Albert Khuri, South Charleston, and Helmut W. Schulz, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
 Filed Jan. 15, 1962, Ser. No. 168,005
 41 Claims. (Cl. 260—242)

1. An adduct of a metal borohydride of the group consisting of aluminum borohydride, beryllium borohydride, and zirconium borohydride, with an organic polynitrogen compound which is composed solely of carbon, hydrogen, and nitrogen atoms, said organic polynitrogen compound containing at least one nitrogen atom which functions as a Lewis base, said adduct possessing at least one coordinate bond between a nitrogen atom of said compound and the metal moiety of said metal borohydride.

3,342,815

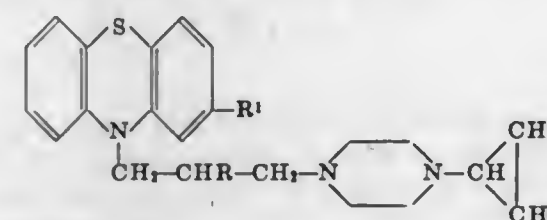
4'-ALKYL SUBSTITUTED-3,3-SPIRO-7-SULFAMYLTHIAZIDE PRODUCTS
 James M. Sprague, Gwynedd Valley, and Edward J. Cragoe, Jr., Montgomery County, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
 No Drawing. Filed May 8, 1961, Ser. No. 108,298
 2 Claims. (Cl. 260—243)

- 4' - methyl - 6 - chloro - 7 - sulfamylspiro - [1,2,4-benzothiadiazine-3(4H), 1'-cyclohexane]-1,1-dioxide.
- 4' - methyl - 6 - trifluoromethyl - 7 - sulfamylspiro - [1,2,4-benzothiadiazine-3(4H), 1'-cyclohexane]-1,1-dioxide.

3,342,816

CYCLOPROPYLPYPERAZINOALKYL-PHENOTHIAZINES
 Jack Mills and Charles W. Ryan, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
 No Drawing. Filed June 1, 1965, Ser. No. 460,577
 6 Claims. (Cl. 260—243)

1. A compound of the formula



wherein

R₁ is selected from the group consisting of chloride, trifluoromethyl, methoxy, and methylthio; and R is selected from the group consisting of hydrogen and methyl

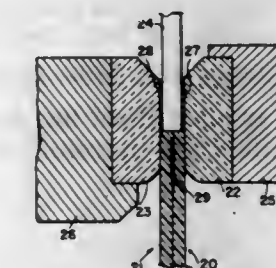
3,342,817

METHOD AND APPARATUS FOR HEAT SEALING

William E. Young, 52 Sea Beach Drive, Stamford, Conn. 06902

Filed Feb. 3, 1964, Ser. No. 342,020

14 Claims. (Cl. 264—248)



1. The method of sealing two members of thermoplastic material to one another in the portion adjacent an edge of each of said members comprising the steps of placing said members with the edges thereof extending substantially adjacent one another and the surfaces of the portions of said members adjacent said edges being in a facing relationship and substantially contiguous with one another, melting at least some of said portions adjacent said edges, extruding at least some of the melted material between said facing surfaces of said portions adjacent said edges, said extruding forming a flash of material between said facing surfaces, and solidifying the melted material of said portions adjacent said edges, whereby said members are sealed to one another adjacent to the final edges thereof formed during the solidifying.

3,342,818

DISPERSE DYES OF THE PHTHALOPERINONE SERIES

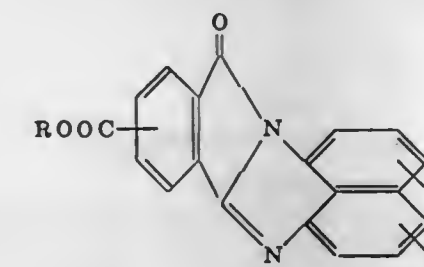
Ernst Scheffczik, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 6, 1965, Ser. No. 446,094

Claims priority, application Germany, Apr. 16, 1964, B 76,361; Mar. 17, 1965, B 81,007

5 Claims. (Cl. 260—251)

1. A dye of the general formula:



where

Y represents a member selected from the class consisting of a hydrogen atom and a chlorine atom and R represents a member selected from the class consisting of hydrogen and an aliphatic radical being free from

3,342,828

METHOD OF PRODUCING QUINUCLIDONE-3
Valentina Jakovlevna Vorobjeva, Eva Evseevna Mikhailina, Mikhail Vasiljevich Roobtsov, Jury Germanovich Zelinsky, Zoja Mikhailovna Klimonova, Lev Shlemovich Gorodetsky, and Vil Josifovich Zeifman, Moscow, U.S.S.R., assignors to Vsesouzny Nauchno-Issledovatel'sky Khimiko-Farmatsevtichesky Institute, "Ordzhonikidze," Moscow, U.S.S.R.

No Drawing. Filed Oct. 22, 1963, Ser. No. 318,104
2 Claims. (Cl. 260—294.7)

1. A method of producing quinuclidone-3, wherein 1-carbalkoxymethyl-4-carbalkoxypiperidine is cyclized in the presence of a potassium butylate suspension in a xylene medium accompanied by the azeotropic distillation of the reaction alcohol by means of a fractionating column, the resulting potassium salt of the enolic form of 2-carbalkoxyquinuclidone-3 being transformed through the action of hydrochloric acid into a hydrochloric acid solution of quinuclidone-3 hydrochloride and then treated by caustic alkali.

2. A method of producing quinuclidone-3 as claimed in claim 1, wherein said potassium butylate suspension is obtained through the interaction of caustic potash and butyl alcohol in a xylene medium, accompanied by the azeotropic removal first of the water and then of the butanol.

3,342,829

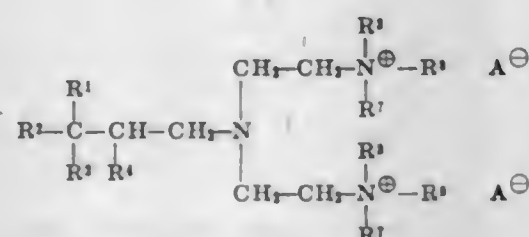
BIS-QUATERNARY SALTS OF TRIAMINES AND PROCESS FOR PREPARING THEM

Manfred Schorr and Rudolf Fussgänger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 9, 1964, Ser. No. 373,851
Claims priority, application Germany, June 15, 1963, F 40,000

5 Claims. (Cl. 260—296)

1. A compound of the formula



wherein

R¹ is halophenyl;
R² and R³ each are hydrogen, phenyl or halophenyl;
R⁴ is hydrogen, halophenyl or halobenzyl;
R⁵, R⁶ and R⁷ together with N stand for an unsaturated heterocyclic ring system of 6 ring members optionally substituted by a member of the group consisting of lower alkyl, cyano, carboxy, lower carbalkoxy and carbamyl, and

A[⊖] is the anion of a non-toxic acid.

3,342,830

METHOD FOR PRODUCING 2,2'-BIPYRIDILIUM SALTS

Charles Shepherd, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,457
Claims priority, application Great Britain, June 8, 1964, 23,598/64

6 Claims. (Cl. 260—296)

1. A process of making a 2:2'-bispyridylium halide comprising bringing into reaction 2:2'-bipyridyl and a lower mono-haloalkanol wherein an atom of halogen and

a hydroxy group are attached to adjacent carbon atoms in the carbon chain of the alkanol molecule and either the atom of the halogen or the hydroxyl group is attached to a terminal carbon atom of the carbon chain.

3,342,831

PROCESS FOR THE PRODUCTION OF A PRIMARY AMINOANTHRAQUINONE BY CONVERSION OF AN N-CYCLOHEXYLAMINOANTHRAQUINONE
Willy Braun, Heidelberg, and Manfred Ruske, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,265
Claims priority, application Germany, Aug. 13, 1963, B 73,096

5 Claims. (Cl. 260—307.5)

1. A process for the production of primary amines of the anthraquinone series which comprises allowing a melt of aluminum chloride containing a melting point depressant for said aluminum chloride to act on an N-cyclohexylaminoanthraquinone.

3,342,832

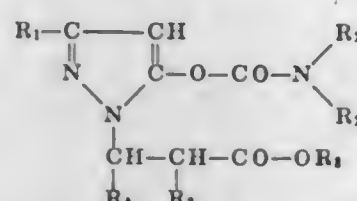
PYRAZOLE CARBAMIC ACID ESTERS

Kurt Gubler, Riehen, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,268
Claims priority, application Switzerland, Mar. 22, 1963, 3,664/63

9 Claims. (Cl. 260—310)

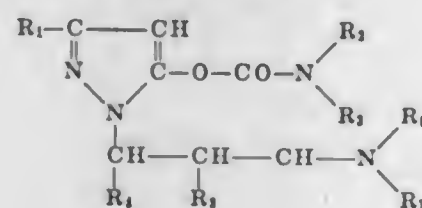
1. A compound of the formula



wherein

R₁ is a member selected from the group consisting of hydrogen and lower alkyl,
R₂ is a member selected from the group consisting of lower alkyl and alkenyl of from 3 to 4 carbon atoms,
R₃ is a member selected from the group consisting of lower alkyl and alkenyl of from 3 to 4 carbon atoms,
each of R₄ and R₅ is a member selected from the group consisting of hydrogen, lower alkyl, chlorine, bromine and fluorine,
R₆ is a member selected from the group consisting of alkyl of from 1 to 6 carbon atoms, alkenyl of from 2 to 6 carbon atoms, propargyl, methyl-propargyl, cyclopentyl, lower alkyl-cyclopentyl, cyclohexyl, lower alkyl-cyclohexyl, cyclopentenyl, cyclohexenyl, lower alkyl-cyclopentenyl, lower alkyl-cyclohexenyl, phenyl, lower alkyl-phenyl, chlorophenyl, bromophenyl, lower alkoxyphenyl, nitrophenyl, cinnamyl, chloro-alkyl, bromo-alkyl, hydroxy-alkyl, lower alkoxy-alkyl and lower alkyl-thio-alkyl, alkyl in the last five members being from 2 to 4 carbon atoms, phenyl-alkyl, chlorophenyl-alkyl, bromo-phenyl-alkyl and lower alkyl-phenyl-alkyl, alkyl in the last four members being from 1 to 2 carbon atoms.

7. A compound of the formula



wherein

R₁ is a member selected from the group consisting of hydrogen and lower alkyl,

R₂ is a member selected from the group consisting of lower alkyl and alkenyl of from 3 to 4 carbon atoms,

R₃ is a member selected from the group consisting of lower alkyl and alkenyl of from 3 to 4 carbon atoms, R₄ and R₅ is a member selected from the group consisting of hydrogen, lower alkyl, chlorine, bromine and fluorine,

R₆ is a member selected from the group consisting of hydrogen, lower alkyl, cyclohexyl, lower alkyl-cyclohexyl, phenyl, lower alkyl-phenyl, chlorophenyl, bromophenyl, hydroxy-lower alkyl, lower alkoxy-lower alkyl, chloro-lower alkyl, bromo-lower alkyl and cyano-lower alkyl,

R₇ is a member selected from the group consisting of hydrogen, lower alkyl, hydroxy-lower alkyl, lower alkoxy-lower alkyl, chloro-lower alkyl, bromo-lower alkyl and cyano-lower alkyl,

R₈ and R₇ taken together with the nitrogen atom to which they are linked is a member selected from the group consisting of piperidino, morpholino, lower alkyl-piperidino and lower alkyl-morpholino.

3,342,833

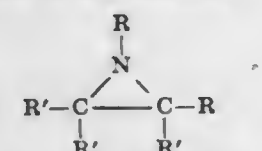
PYRROLIDINE PRODUCTION FROM AZIRIDINES AND OLEFINS

Maximilian I. Fremery, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,319
The portion of the term of the patent subsequent to Jan. 11, 1983, has been disclaimed

9 Claims. (Cl. 260—326.3)

1. The process of producing a 1,3-di-substituted pyrrolidine by reacting the N-hydrocarbonyl aziridine of from 3 to 10 carbon atoms of the formula



wherein R is alkyl, aralkyl, phenyl or alkaryl, and R' is hydrogen or R, with a non-acetylenic activated olefin having from 2 to 8 carbon atoms and having no more than 10 atoms in the longest continuous atomic chain, said activated olefin being selected from the group consisting of conjugated hydrocarbon olefins and substituted hydrocarbon olefins wherein the substituent group is selected from halo, acyloxy, hydrocarbyloxy, cyano, and carbalkoxy, in the vapor phase, at a temperature from about 250° C. to about 500° C.

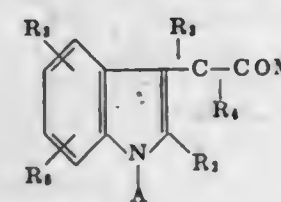
3,342,834

INDOLYL ALKENOIC ACIDS

Tsung-Ying Shen, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,839

16 Claims. (Cl. 260—326.12)

1. A compound of the structural formula:



in which:

A is selected from the group consisting of benzoyl, naphthoyl, biphenoyl, and substituted benzoyl, naphthoyl and biphenoyl wherein said substituents are

selected from the group consisting of lower alkylthio, lower alkoxy, phenoxy, dilower alkylsulfamyl, trifluoromethylthio, lower alkanoyl, carbomethoxy, halo, cyano, benzylthio, nitro, mercapto, lower alkyl-sulfonyl, lower alkylsulfinyl, dilower alkylamino, hydroxy;

R₂ is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl, phenyl(lower alkyl), chlorophenyl and methoxyphenyl;

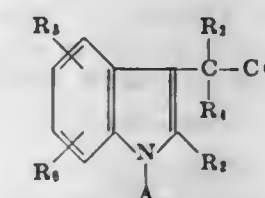
R₃ is selected from the group consisting of lower alkenyl and lower alkynyl, wherein R₄ is hydrogen; and the same substituted with a member selected from the group consisting of halo, lower alkoxy, lower alkylthio and di(lower alkyl)amino;

R₃ and R₄ taken together are selected from the group consisting of methylene and methylene substituted with a member selected from the group consisting of lower alkyl, monohalo, dihalo, halo lower alkyl, lower alkoxyalkyl, lower alkylthioalkyl and di(lower alkyl)amino lower alkyl;

R₅ is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, nitro, amino, lower alkyl-amino, di(lower alkyl)amino, lower alkanoylamino, lower alkanoyl, bis(hydroxy lower alkyl)amino, 1-pyrrolidino, 4-methyl-1-piperiziny, 4-morpholinyl, cyano, amino lower alkyl, trifluoromethyl, halogen, di(lower alkyl)sulfamyl, benzylthio, halogenobenzylthio, benzyloxy, lower alkylbenzyloxy, lower alkoxybenzyloxy, halogenobenzoyloxy, lower alkenyl, lower alkenyloxy, 1-azacyclopentyl, cyclopropylmethoxy or cyclobutylmethoxy;

R₆ is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, fluorine and trifluoromethyl; and

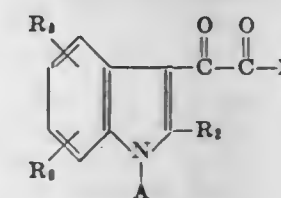
M is selected from the group consisting of hydroxy, amino, lower alkoxy, lower alkoxy lower alkoxy, phenyl lower alkoxy, cycloalkoxy, lower alkenoxy and OY wherein Y is selected from the group consisting of alkali metal, alkaline earth metal, aluminum, magnesium and



where R₂, R₃, R₄, R₅, R₆ and A are as defined above.

9. α - (1 - p - methylthiobenzoyl - 2 - methyl - 5 - methoxy-3-indolyl) - acrylic acid.

16. A compound of the formula:



in which:

A is selected from the group consisting of benzoyl, naphthoyl, biphenoyl, and substituted benzoyl, naphthoyl and biphenoyl wherein said substituents are selected from the group consisting of lower alkylthio, lower alkoxy, phenoxy, dilower alkylsulfamyl, trifluoromethylthio, lower alkanoyl, carbomethoxy, halo, cyano, benzylthio, nitro, mercapto, lower alkyl-sulfonyl, lower alkylsulfinyl, dilower alkylamino and hydroxy;

R₂ is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl, phenyl(lower alkyl), chlorophenyl, and methoxyphenyl;

R_3 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, nitro, amino, lower alkyl-amino, di(lower alkyl)amino, lower alkanoylamino, lower alkanoyl, bis(hydroxy lower alkyl)amino, 1-pyrrolidino, 4-methyl-1-piperidyl, 4-morpholinyl, cyano, amino lower alkyl, trifluoromethyl, halogen, di(lower alkyl)sulfamyl, benzylthio, halogenobenzylthio, benzyloxy, lower alkylbenzyloxy, lower alkoxybenzyloxy, halogenobenzoyloxy, lower alkenyl, lower alkenyloxy, 1-azacyclopentyl, cyclopropylmethoxy or cyclobutylmethoxy;

R_6 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, fluorine and trifluoromethyl; and

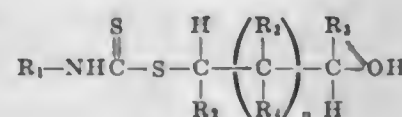
M is selected from the group consisting of hydroxy, amino, lower alkoxy, lower alkoxy lower alkoxy, phenyl lower alkoxy, cycloalkoxy, lower alkenoxy, and OY where Y is selected from the group consisting of alkali metal, alkaline earth metal, aluminum, and magnesium.

3,342,835

NOVEL PREPARATION OF 2-IMINO-1,3-DITHIOLANES AND 2-IMINO-1,3-DITHIANES

Thomas Andrew Lies, Montgomery Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 22, 1964, Ser. No. 339,352
13 Claims. (Cl. 260—327)

1. A process for effecting ring-closure of a hydroxy-alkyl dithiocarbamate which comprises: admixing a hydrogen halide with a hydroxyalkyl dithiocarbamate of the structure:



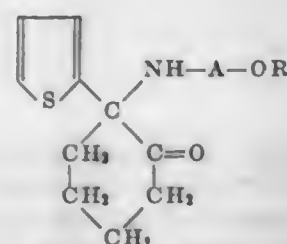
wherein R_1 , R_2 , R_3 , R_4 and R_5 are each substituents selected from the class consisting of hydrogen, alkyl and aryl, and n is an integer from 0 to 1; at a temperature ranging from about 20° C. to about 80° C.

3,342,836

2-(ALKOXYALKYL)AMINO-2-(2-THIENYL)CYCLOHEXANONE COMPOUNDS

Yvon J. L'Italien, Plymouth, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed July 30, 1965, Ser. No. 476,151
7 Claims. (Cl. 260—332.3)

1. A member of the class consisting of compounds of the formula

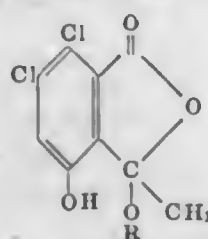


and pharmaceutically-acceptable acid-addition salts thereof; where A is a lower alkylene separating the groups to which it is attached by at least 2 carbon atoms; R is lower alkyl; and A and R contain together a total of fewer than 6 carbon atoms.

2-SUBSTITUTED-2-METHYL-3-HYDROXY-5,6-DICHLORO-1-PHTHALANONES AND THEIR METHOD OF PREPARATION

Wen-Hsuan Chang, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 17, 1965, Ser. No. 440,642
15 Claims. (Cl. 260—343.3)

1. A compound corresponding to the formula:



where OR represents an organic radical derived by removing the hydrogen atom from the primary hydroxyl group of a primary alcohol selected from the group consisting of unsubstituted alkanols containing less than 13 carbon atoms, allyl alcohol, benzyl alcohol, cinnamic alcohol, hexahydrobenzyl alcohol, 4-cyclohexyl-2-buten-1-ol, 2-ethoxy-1-ethanol, 4-ethoxy-2-buten-1-ol, 2-phenoxyethane-1-ol, 4-phenoxy-2-buten-1-ol, 2-(phenylmethoxy)ethane-1-ol, 2-hydroxyethyl acetate, 2-hydroxyethyl acetate, 4-hydroxy-2-buten-1-yl acetate, 2-hydroxyethyl benzoate, 4-hydroxy-2-buten-1-yl benzoate, propylene glycol, 2-buten-1,4-diol, 1,5,6-hexanetriol, 2-fluoroethanol, 6-chlorohexanol-1, 2,2,3-trichlorobutanol-1, 2-chloropropanediol, 3-chloro-2-penten-1-ol, 2-(beta-chloroethoxy)ethanol, beta-hydroxyethyl dichloroacetate, o-chlorobenzyl alcohol, o-bromobenzyl alcohol, 2-hydroxyethyl p-chlorobenzoate, and beta-bromocinnamic alcohol.

3. A method which comprises reacting 2-acetyl-3-hydroxy-4,5,6-trichlorotropane with a primary alcohol which is selected from the group consisting of unsubstituted alkanols containing less than 13 carbon atoms, allyl alcohol, benzyl alcohol, cinnamic alcohol, hexahydrobenzyl alcohol, 4-cyclohexyl-2-buten-1-ol, 2-ethoxy-1-ethanol, 4-ethoxy-2-buten-1-ol, 2-phenoxyethane-1-ol, 4-phenoxy-2-buten-1-ol, 2-(phenylmethoxy)ethane-1-ol, 2-hydroxyethyl acetate, 2-hydroxyethyl acrylate, 4-hydroxy-2-buten-1-yl acetate, 2-hydroxyethyl benzoate, 4-hydroxy-2-buten-1-yl benzoate, propylene glycol, 2-buten-1,4-diol, 1,5,6-hexanetriol, 2-fluoroethanol, 6-chlorohexanol-1, 2,2,3-trichlorobutanol-1, 2-chloropropanediol, 3-chloro-2-penten-1-ol, 2-(beta-chloroethoxy)ethanol, beta-hydroxyethyl dichloroacetate, o-chlorobenzyl alcohol, o-bromobenzyl alcohol, 2-hydroxyethyl p-chlorobenzoate and beta-bromocinnamic alcohol, at a temperature of from about 25° C. to about 150° C.

3,342,838

PROCESS FOR PRODUCTION OF GLUTAMIC ACID AND INTERMEDIATES

Gentaro Noyori, Hidemoto Kurokawa, and Hidehiro Okazaki, Tokyo, Japan, assignors to The Noguchi Institute, Tokyo, Japan, an incorporated body of Japan
No Drawing. Filed Dec. 18, 1962, Ser. No. 245,420
15 Claims. (Cl. 260—343.6)

1. A process for preparing glutamic acid from furfural, which comprises oxidizing furfural to yield 2-furoic acid, hydrogenating the 2-furoic acid to yield 2-tetrahydrofuroic acid, oxidizing the 2-tetrahydrofuroic acid with an oxidizing agent selected from the group consisting of nitric acid, dinitrogen tetroxide, potassium permanganate, potassium bichromate, sodium bichromate, chromium trioxide, and free oxygen-containing gas, said oxidizing with free oxygen-containing gas being conducted in the presence of a catalyst selected from the group consisting of cobalt and manganese stearates, naphthenates and acetates, to yield at least one compound of the group con-

sisting of α -hydroxyglutaric acid and γ -butyrolactone- γ -carboxylic acid, aminating the product of the latter oxidation and hydrolyzing the thus-animated product to yield glutamic acid.

2. A process for preparing at least one compound of the group consisting of α -hydroxyglutaric acid and γ -butyrolactone- γ -carboxylic acid, which comprises oxidizing 2-tetrahydrofuroic acid with an oxidizing agent selected from the group consisting of nitric acid, dinitrogen tetroxide, potassium permanganate, potassium bichromate, sodium bichromate, chromium trioxide, and free oxygen-containing gas, said oxidizing with free oxygen-containing gas being conducted in the presence of a catalyst selected from the group consisting of cobalt and manganese stearates, naphthenates and acetates.

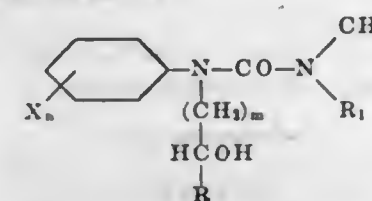
3,342,839

REACTION PRODUCTS OF CERTAIN ANHYDRIDES AND 1-HALOPHENYL-1- β -HYDROXYALKYLUREAS

Gustav Steinbrunn, Schwegenheim, Pfalz, Adolf Fischer, Mutterstadt, Pfalz, Guenter Scheuerer, Ludwigshafen, Rhine, and Herbert Stummeyer, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Oct. 14, 1964, Ser. No. 403,925
Claims priority, application Germany, Oct. 18, 1963, B 73,924

4 Claims. (Cl. 260—346.8)

1. A compound selected from the group consisting of (I) the reaction product of equivalent amounts of (a) a urea having the formula



and (b) a carboxylic anhydride selected from the group consisting of succinic, maleic, citraconic, glutaric, phthalic, pyromellitic, naphthalic, diphenic, hydrogenated phthalic, chlorinated phthalic, nitrated phthalic, chlorinated succinic, monochloromaleic, dichloromaleic, chlorinated naphthalic, nitrated naphthalic, chlorinated diphenic, and nitrated diphenic anhydrides and (II) the salts of said reaction product selected from the group consisting of alkali metal, alkaline earth metal, and ammonium, R_1 denoting an alkyl having from one to five carbon atoms, R denoting a radical selected from the group consisting of hydrogen and alkyl having from one to four carbon atoms, X denoting a radical selected from the group consisting of hydrogen, halogen, and alkyl having from one to four carbon atoms, and a nitro, cyano, and thiocyan group, n denoting one of the integers 1, 2 and 3, the radicals X being identical or different, and m denoting one of the integers 1 and 2.

3,342,840

CATIONIC ESTER PRODUCTION

Igor Sobolev, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 23, 1964, Ser. No. 354,089
6 Claims. (Cl. 260—404)

1. The process of producing monomeric cationic esters by reacting (a) aqueous glycidyltrialkylammonium halide wherein each of said alkyls has from 1 to 12 carbon atoms, at least two of the alkyls have from 1 to 4 carbon atoms, said halide is halogen of atomic number from 17 to 35, and the concentration of said glycidyltrialkylammonium halide in said aqueous solution is from about 50% to about 80% by weight, with (b) hydrocarbon mono- to tetracarboxylic fatty acid having from 0 to 4 ethylenic linkages and from 9 to 30 carbon atoms for each carboxyl

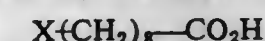
group and said acid having no more than 70 carbon atoms, the ratio of moles of carboxyl group to the moles of glycidyltrialkylammonium halide being from about 1:4 to about 4:1, in liquid-phase solution at a temperature from about 40° C. to about 140° C.

3,342,841

PRODUCTION OF SEBACIC ACID AND ω -HYDROXYELARGONIC ACID FROM TRI-ALUMINO DIOCTANE

Walter K. Henle, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,411
5 Claims. (Cl. 260—413)

1. The process for the production of as a principal product at least one compound of the formula



wherein X is selected from the group consisting of carboxy and hydroxy which comprises

- intimately contacting dialumino trioctane with carbon dioxide at a temperature below about 140° C. and at a pressure from about 0.5 atmosphere to about 75 atmospheres, thereby forming a mono-carboxylated dialumino trioctane product of an average of one carbon dioxide molecule for each aluminum atom;
- intimately contacting said mono-carboxylated dialumino trioctane product with carbon dioxide at a temperature from about 150° C. to about 220° C. and a pressure from about 1 atmosphere to about 80 atmospheres, thereby forming a di-carboxylated dialumino trioctane product of an average of two carbon dioxide molecules for each aluminum atom;
- intimately contacting said di-carboxylated dialumino trioctane product with molecular oxygen at a temperature below about 165° C.; and
- hydrolyzing the resulting product by contacting with aqueous strong mineral acid.

3,342,842

TETRA (5-NORBORNENE-2-METHYL) TITANATE

Guy J. Del Franco, Brooklyn, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed June 15, 1964, Ser. No. 375,320
1 Claim. (Cl. 260—429.5)

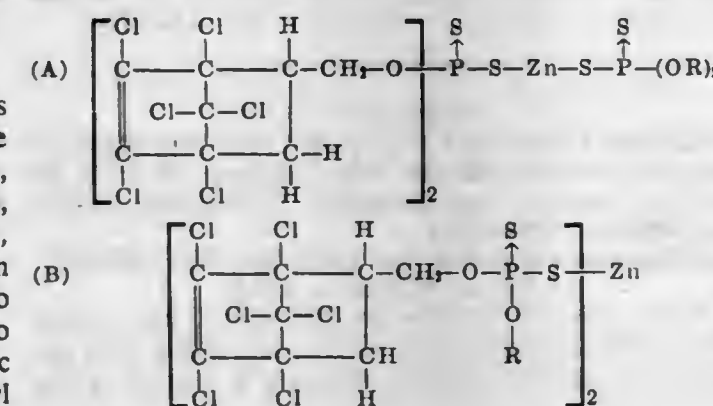
Tetra (5-norbornene-2-methyl) titanate.

3,342,843

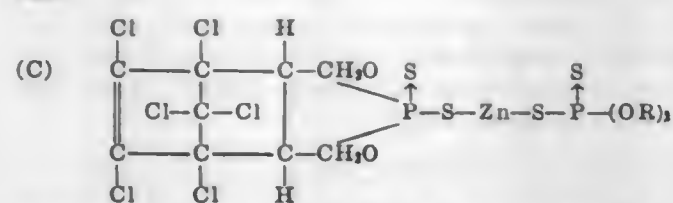
ZINC SALTS OF HEXACHLORONORBORNENYL METHYL OR HEXACHLORONORBORNENYL DIMETHYL DITHIO-PHOSPHATE ESTERS

Joseph M. Sandri, Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 27, 1963, Ser. No. 334,018
2 Claims. (Cl. 260—429.9)

1. An oil-soluble dithiophosphoric acid derivative of the group consisting of compounds represented by formulas:



and



wherein R in each instance is an alkyl group of at least 6 carbon atoms.

3,342,844

ANTIMONY (III) DERIVATIVES OF PARAROSANILINE AND THE PREPARATION THEREOF

Edward F. Elslager, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,870

9 Claims. (Cl. 260-446)

1. Salts of pararosanine with antischistosomal acidic substances containing trivalent antimony.

3,342,845

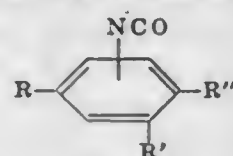
TERPHENYL TRIISOCYANATES

Adnan A. R. Sayigh, North Haven, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Nov. 5, 1964, Ser. No. 409,269

6 Claims. (Cl. 260-453)

1. A compound having the formula:



wherein R represents a member selected from the group consisting of o-isocyanatophenyl and p-isocyanatophenyl, one of the groups R' and R'' represents hydrogen, and the other of the groups R' and R'' represents a member selected from the group consisting of o-isocyanatophenyl and p-isocyanatophenyl.

3,342,846

ASYMMETRICAL DIISOTHIOCYANATO BENZENES

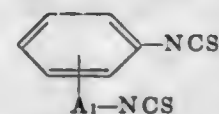
André Cometti, Maisons-Alfort, and François Debarre, Antony, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,593

Claims priority, application France, Jan. 21, 1963, 922,065; Nov. 20, 1963, 954,419

6 Claims. (Cl. 260-454)

1. An isothiocyanate compound of the formula:



where A₁ represents alkylene of 1 to 6 carbon atoms attached to the phenyl nucleus either directly or through —O—, —S—, —SO₂—, —NHCO— or —CONH—.

3,342,847

PREPARATION OF UNSATURATED NITRILES

Jürgen Max Kruse, Pitman, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 14, 1965, Ser. No. 463,883

13 Claims. (Cl. 260-465.3)

1. In the process for the preparation of unsaturated nitriles by the catalytic reaction of nitric oxide with unsaturated organic compounds bearing a methyl group

bonded to a carbon atom which, in turn, is bonded to another carbon atom by a double bond at a temperature of about 350° C. to 600° C., the improvement which comprises using a catalyst consisting essentially of a catalyst obtained by calcining at a temperature of about 450° C. to 1000° C. bismuth oxide with at least one of titanium oxides, niobium oxides or phosphorus oxides, the atomic ratio of bismuth to phosphorus in said catalyst being greater than 1/1, said catalyst containing less than about 50% by weight of free pure bismuth oxide.

3,342,848

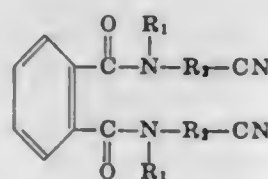
N,N'-DIALKYL-N,N'-DICYANOALKYL-o-PHTHALAMIDES

Robert V. Levetan, Solon, Ohio, assignor to General Electric Company, a corporation of New York

Filed Feb. 11, 1965, Ser. No. 431,870

2 Claims. (Cl. 260-465)

1. A compound represented by the formula:



wherein R₁ is alkyl of one to four carbon atoms and R₂ is alkylene of one to four carbon atoms.

3,342,849

PRODUCTION OF ALIPHATIC NITRILES

William F. Brill, Skillman, Alfio J. Besozzi, East Brunswick, and Joseph H. Finley, Edison, N.J., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,938

5 Claims. (Cl. 260-465.3)

1. A process for the production of methacrylonitrile comprising contacting isobutylene in a tubular reactor at a temperature between about 450° C. and 650° C. with oxygen and ammonia with a catalyst consisting essentially of a member selected from the group consisting of molybdenum oxide and molybdenum oxide admixed with at least one of vanadium oxide, chromium oxide, tungsten oxide, iron oxide, nickel oxide or phosphorus pentoxide, said catalyst being present on the walls of the tubular reactor and having a catalyst surface area to reaction zone free volume ratio of between 0.01 to 50 square inches per cubic inch of free volume, said oxygen being present in mol ratios between about 1 to 4 mols of oxygen per mol of isobutylene and said ammonia being present in mol ratios between about 1 to 9 mols of ammonia per mol of isobutylene.

3,342,850

2',6'-DISUBSTITUTED PHENYL SALICYLATES

Gordon C. Newland and Gerald R. Lappin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 4, 1963, Ser. No. 249,312

4 Claims. (Cl. 260-473)

1. 2',6'-dimethylphenyl 5-t-butylsalicylate.

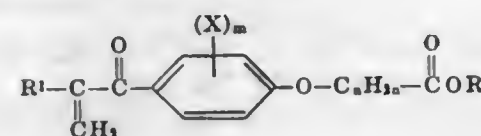
ESTERS OF [(2-METHYLENEACYL)PHENOXY]-CARBOXYLIC ACIDS AND A METHOD FOR THEIR PREPARATION

Everett M. Schultz, Ambler, and James M. Sprague, Gwynedd Valley, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,912

12 Claims. (Cl. 260-473)

1. A compound of the formula:



wherein R is a member selected from the group consisting of mononuclear aryl-carbonyl-methyl and mononuclear aryl; R¹ is a member selected from the group consisting of lower alkyl and trifluoromethyl substituted lower alkyl; X is a member selected from the group consisting of hydrogen, halogen and lower alkyl; m is an integer having a value of 1-4; and n is an integer having a value of 1-4.

3,342,852

ALKOXYALKYL TERPENYL PHTHALATES

William J. Cunningham, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 25, 1964, Ser. No. 398,107

3 Claims. (Cl. 260-475)

1. Esters from the class consisting of n-butoxyethyl isobornyl phthalate and n-hexyloxyethyl isobornyl phthalate.

3,342,853

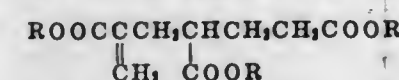
METHOD FOR THE PREPARATION OF ACRYLATE DIMERS AND TRIMERS

Joseph W. Nemec, Rydal, and Richard B. Wuchter, Jenkintown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 10, 1964, Ser. No. 381,923

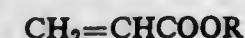
11 Claims. (Cl. 260-485)

1. A composition of matter having the formula



wherein R is alkyl of 1 to 18 carbon atoms.

7. A method for the preparation of dimers and trimers of acrylates having the formula



wherein R is alkyl of 1 to 18 carbon atoms, comprising reacting said acrylates in the presence of a catalyst having the formula



wherein R₁ and R₂, individually, represent alkyl groups of 1 to 18 carbon atoms, and R₁ and R₂ being joined to the nitrogen atom on a primary carbon atom.

3,342,854

METHOD FOR THE PREPARATION OF ACRYLATE DIMERS AND TRIMERS

Joseph W. Nemec, Rydal, and Richard B. Wuchter, Jenkintown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

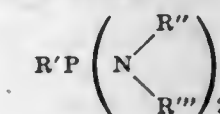
No Drawing. Filed Feb. 18, 1965, Ser. No. 433,773

10 Claims. (Cl. 260-485)

1. A method for the preparation of dimers and trimers of acrylates having the formula:

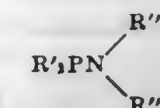


in which R is alkyl of 1 to 18 carbon atoms, comprising reacting said acrylates in the presence of a catalyst selected from the class consisting of:



(I)

and



(II)

in which R' is selected from the class consisting of alkyl of 1 to 18 carbon atoms, phenyl and alkyl-substituted phenyl, in which the alkyl substituent contains a total of from 1 to 8 carbon atoms;

R'' and R''', individually, represent alkyl of 1 to 18 carbon atoms and collectively with the nitrogen atom to which they are attached form saturated cyclic amine radicals selected from the group consisting of piperidinyll morpholinyl and pyrrolidinyl, said R'' and R''' being joined to the nitrogen atom on a primary carbon atom.

3,342,855

ALKYL 2-(FLUOROMETHYL) ACRYLIC ACID PREPARATION

John Andrew Sedlak, Stamford, and George Charles Gleckler, Springdale, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 18, 1964, Ser. No. 376,254

9 Claims. (Cl. 260-486)

1. An improved process for preparing alkyl 2-(fluoromethyl) acrylate, the steps which comprise: reacting (a) in an inert organic solvent an alkali metal fluoride dissolved therein, said fluoride being selected from the group consisting of sodium fluoride, potassium fluoride, sodium bifluoride, potassium bifluoride and mixtures thereof with (b) an alkyl 2-(chloromethyl) acrylate at a temperature between about 100° C. and 175° C. for from about one-half to about seven hours to effect halogen exchange, and recovering alkyl 2-(fluoromethyl) acrylate in good yield and purity.

3,342,856

HIGHER ALKYLPHENYL SULFAMATE SALT COMPOSITIONS

David M. Marquis, Orinda, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed June 9, 1964, Ser. No. 373,856

2 Claims. (Cl. 260-500)

1. The organic sulfamate composition represented by the general formula:



wherein R is selected from the group consisting of straight-chain and methyl substituted straight-chain alkyl groups having from 10 to 16 carbon atoms per group and M is an ion selected from the group consisting of alkali metal and ammonium cations.

2. Sodium-N-p-propylenetetramerbenzene sulfamate.

3,342,857

PROCESS FOR THE PREPARATION OF HYDROXYTRIMESIC ACID

Bernhard Raacke, Dusseldorf, Germany, assignor to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed July 3, 1963, Ser. No. 292,728

Claims priority, application Germany, Aug. 30, 1962, H 46,792

5 Claims. (Cl. 260-521)

1. A process for the production of a tricarboxylate selected from the group consisting of hydroxytrimesic acid and its potassium salts which comprises the steps of react-

ing a phenol reactant selected from the group consisting of phenol, orthohydroxybenzoic acid, parahydroxybenzoic acid, 2-hydroxyisophthalic acid, 4-hydroxyisophthalic acid, alkali metal salts thereof and mixtures thereof, with carbon dioxide in the presence of potassium carbonate under a superatmospheric pressure of more than 100 atmospheres of carbon dioxide at a temperature above 250° C., and recovering essentially said tricarboxylate.

3,342,858

PREPARATION OF ALKOXY-ALKANOIC ACIDS BY THE OXIDATION OF ALKOXY-ALKANOLS

Robert Fuhrmann, Morris Plains, Emery C. Lazar, Morristown, and Jan F. Van Peppen, Chester, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 20, 1964, Ser. No. 391,008
4 Claims. (Cl. 260-531)

1. A process of preparing an alkoxyalkanoic acid of the formula



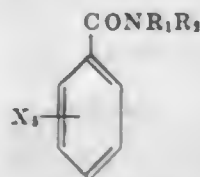
wherein R is an alkyl group of 1 to 20 carbon atoms, R' is an alkyl group of 1 to 5 carbon atoms, and n is an integer of from 1 to 5 by oxidizing the corresponding alkoxyalkanol, said process comprising intimately contacting said alkoxyalkanol in liquid phase at a temperature of about 20 to 75° C. with a gas containing molecular oxygen in the presence of a catalytically effective amount of platinum, the pH of the reaction medium being adjusted to a value greater than 7 by the addition of a base before more than one half of the oxidation is completed.

3,342,859

TETRAHALOXYBENZAMIDES

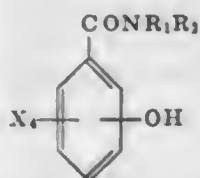
Edwin Dorfman, Grand Island, and Edward D. Weil, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 30, 1962, Ser. No. 241,128
6 Claims. (Cl. 260-559)

1. A product of the process of heating a composition of the formula

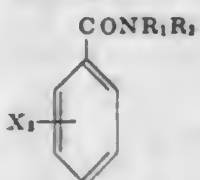


wherein X is selected from the group consisting of chlorine and bromine, the substituents R₁ and R₂ are substituents selected from the group consisting of hydrogen, alkyl of from 1 to 20 carbon atoms, phenyl, benzyl, halopenyl, lower alkyl phenyl and nitrophenyl, in the presence of a strong base and a solvent chosen from ethylene glycol and methanol until substantially one molar equivalent of halide is liberated.

2. A process for the preparation of compositions of the formula:



comprising heating the composition of the formula:



wherein X is selected from the group consisting of chlorine and bromine, the substituents R₁ and R₂ are substituents selected from the group consisting of hydrogen,

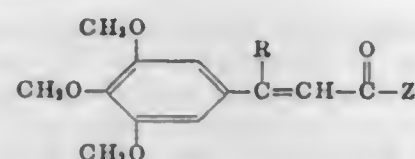
alkyl of from 1 to 20 carbon atoms, phenyl, benzyl, halopenyl, lower alkylphenyl and nitrophenyl, in the presence of a strong base and a solvent chosen from ethylene glycol and methanol until substantially one molar equivalent of halide is liberated.

3,342,860

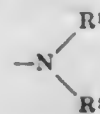
N-SUBSTITUTED CINNAMAMIDES

Carter N. Brown and Earle M. Van Heyningen, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Apr. 6, 1964, Ser. No. 357,771
5 Claims. (Cl. 260-559)

1. The cinnamic acid derivatives having the following structural formula:



wherein R is an alkyl radical selected from the group consisting of methyl and ethyl; Z is



R¹, when taken alone, is selected from the group consisting of hydrogen and C₁-C₃ alkyl; R², when taken alone, is selected from the group consisting of C₁-C₃ alkyl, -CH₂CH₂CH₂OCH₃, cyclopropyl, and methylcyclopropyl.

3,342,861

N,N-DIFLUORAMIDES

Jeremiah P. Freeman and Robert C. Petry, Huntsville, Ala., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Feb. 8, 1961, Ser. No. 87,967
8 Claims. (Cl. 260-561)

1. A process for the preparation of N,N'-difluoramides of the general formula



in which R is an alkyl group containing 1 to 5 carbon atoms which comprises reacting in the presence of a free radical initiator tetrafluorohydrazine, N₂F₄, with an aldehyde of the formula



in which R is an alkyl group containing 1 to 5 carbon atoms and recovering the N,N-difluoramide from the reaction mixture.

3,342,862

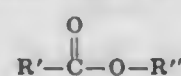
METHOD FOR PRODUCING DIMETHYLACETAMIDE

William J. Board, Jr., Robert G. Wooten, and Charles W. Whately, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 14, 1964, Ser. No. 389,658
6 Claims. (Cl. 260-561)

1. A process of manufacturing dimethylacetamide of the formula:



where R is an alkyl radical containing from 1 to 3 carbon atoms, the process comprising contacting at about atmospheric pressure and at a temperature within the range of from about -6° C. up to about 30° C., a stoichiometric excess of dimethylamine and an ester solution consisting essentially of an acyl ester of the formula



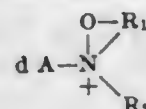
where R' is H, CH₃, C₂H₅ or C₃H₇ and R'' is CH₃, C₂H₅ or C₃H₇ and from about 8% up to about 75% by weight of an hydroxy compound selected from the group consisting of water, an alcohol containing from 1 to 3 carbon atoms, and a combination of the water and the alcohol, wherein temperatures at the lower end of the temperature range are employed when higher percentages of the hydroxy compound in the ester solution are present.

3,342,863

N,N-DILOWER ALKYL AMINO ADAMANTANE OXIDES

Edward C. Hermann, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 24, 1963, Ser. No. 275,244
8 Claims. (Cl. 260-563)

1. A compound of the formula



where Ad is the adamantyl nucleus and R₁ and R₂ are each alkyl of 1 through 12 carbon atoms; and where R₁ and R₂ can be joined to form a divalent group of the formula -(CH₂)_n- where n is an integer of 2 through 6.

3,342,864

PENTAFLUOROISOPROPYLIDENEIMINE

William J. Middleton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 22, 1965, Ser. No. 515,745
1 Claim. (Cl. 260-566)

Pentafluoroisopropylideneimine.

3,342,865

N,N'-DIALKYL-N-PHENYL-N'-ISOPROPYL-PARA-PHENYLENEDIAMINES

Arthur E. Oberster, North Canton, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,808
5 Claims. (Cl. 260-576)

1. N,N'-dialkyl-N-phenyl-N'-isopropyl-para-phenylenediamines in which the alkyl groups contain 1 to 4 carbon atoms.

3,342,866

METHOD FOR PREPARING 1,2,3-TRIS-(DIFLUOROAMINO)PROPANE

Anthony J. Passannante, Metuchen, and Leland K. Beach, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 27, 1960, Ser. No. 932
4 Claims. (Cl. 260-583)

1. Process for making 1,2,3-tris (difluoroamino) propane which comprises reacting allyl difluoroamine with tetrafluorohydrazine at temperatures of 0 to 300° C. under pressures of 10 mm. to 30 atmospheres for a sufficient time to make said propane compound.

3,342,867

CHLORO-DIFLUOROAMINO COMPOUNDS AND PREPARATION

Jeremiah P. Freeman and Robert C. Petry, Huntsville, Ala., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Mar. 24, 1961, Ser. No. 98,260
12 Claims. (Cl. 260-583)

1. Compounds of the formula



in which the chlorine and difluoroamino groups are on adjacent carbon atoms and in which R is selected from the group consisting of C₂H₄, C₃H₆, and C₄H₈.

8. A process for the preparation of chloro-difluoroamino compounds of the general formula



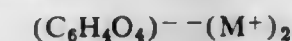
in which the chlorine and difluoroamino groups are on adjacent carbon atoms and in which R is selected from the group consisting of C₂H₄, C₃H₆ and C₄H₈ which comprises reacting chlorodifluoroamine, CINF₂, with an aliphatic hydrocarbon selected from the group consisting of ethylene, propylene and butene at a temperature of from 50° to 200° C. and separating the chloro-difluoroamino compounds from the reaction mixture.

3,342,868

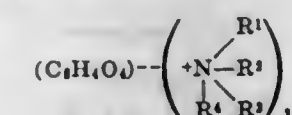
1,1,2,2-TETRAFORMYLETHANE, ITS PREPARATION AND ITS SALTS

Swiatoslaw Trofimenko, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 30, 1962, Ser. No. 241,180
9 Claims. (Cl. 260-601)

9. A compound selected from the class consisting of 1,1,2,2-tetraformylethane, salts of 1,1,2,2-tetraformylethane with monovalent metal, ammonium and substituted ammonium cations, said monovalent metal salts having the formula



and said ammonium and substituted ammonium salts having the formula



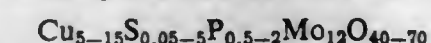
wherein (C₆H₄O₄)⁻⁻ is the 1,1,2,2-tetraformylethane-diide anion, R¹, R² and R³ are selected from the group consisting of hydrogen, separate hydrocarbon radicals containing up to 18 carbons, wherein an unsaturation is aromatic unsaturation, and hydrocarbon radicals which, together and jointly with the amino nitrogen, form a heterocyclic ring having 5-6 ring atoms; and R⁴ is selected from the group consisting of hydrogen and separate hydrocarbon radicals containing up to 18 carbons, wherein any unsaturation is aromatic unsaturation.

3,342,869

NOVEL OXIDATION CATALYST COMPOSITIONS AND PROCESSES

Roger P. Cahoy, Merriam, and Donald M. Coyne, Prairie Village, Kans., assignors, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 26, 1962, Ser. No. 247,306
3 Claims. (Cl. 260-604)

1. A process for converting isobutylene to methacrolein comprising reacting isobutylene at a temperature within the range of about 400° C. to about 600° C. in the presence of oxygen, steam and a metal oxide composition consisting essentially of oxides of copper, sulfur, phosphorus and molybdenum, said oxides being present in the ratios indicated, by the empirical formula



the oxygen value of said empirical formula being calculated, based on the assumption that the metal oxides are fully present in the metal oxide composition as CuO, SO₃, P₂O₅ and MoO₃, said metal oxide composition being on the surface of porous silicon carbide aggregate.

3,342,870

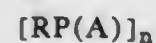
STABILIZED FORMALDEHYDE SOLUTIONS
Hilding R. Johnson, Wayne, and Eugene P. Di Bella, Rochelle Park, N.J., assignors to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Filed July 8, 1965, Ser. No. 470,597
8 Claims. (Cl. 260—606)

1. An aqueous formaldehyde solution stabilized against separation of formaldehyde polymers comprising aqueous formaldehyde of approximately 30 percent to 60 percent concentration and an amount sufficient to stabilize said solution against separation of formaldehyde polymers of a compound selected from the group consisting of N,N-bis(2-hydroxypropyl) palmitamide, N-(hydroxyethyl)-N-(2-hydroxypropyl) myristamide, N-(hydroxyethyl)-N-(2-hydroxypropyl) palmitamide, and N-(hydroxyethyl)-N-(2-hydroxybutyl) palmitamide.

3,342,871

ORGANIC CYCLOPHOSPHINE SULFIDES AND SELENIDES AND THE PREPARATION THEREOF
Ludwig Maier, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 25, 1965, Ser. No. 482,618
Claims priority, application Switzerland, Oct. 25, 1962, 12,656/62; Oct. 28, 1963, 13,275/63
13 Claims. (Cl. 260—606.5)

1. A compound of the formula



wherein R is selected from the class consisting of aliphatic, cycloaliphatic and araliphatic radicals, A is selected from the class consisting of sulfur and selenium, and n is 3 or 4.

3,342,872

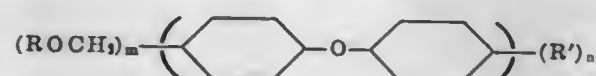
2,2-BIS-(4,4-DITERTIARY-BUTYL-PEROXY-CYCLOHEXYL)-PROPANE
Hans G. Gerritsen and Leonardus W. J. Damen, Deventer, Netherlands, assignors to Koninklijke Industriële Maatschappij Noury & van der Lande N.V., Deventer, Netherlands, a corporation of the Netherlands
No Drawing. Filed May 11, 1964, Ser. No. 366,639
Claims priority, application Netherlands, May 14, 1963, 292,756
1 Claim. (Cl. 260—610)

2,2-bis-(4,4-ditertiary-butyl-peroxy-cyclohexyl)-propane.

3,342,873

ALKOXYMETHYLATED DIAROMATIC ETHERS AND CONDENSATION PRODUCTS THEREOF
James D. Doedens, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 1, 1961, Ser. No. 106,548
The portion of the term of the patent subsequent to Feb. 23, 1982, has been dedicated to the public
2 Claims. (Cl. 260—613)

1. A composition of matter having the general formula:



wherein R is selected from the group consisting of methyl, ethyl, propyl and butyl radicals, R' is selected from the group consisting of alkyl, alkoxy and halogen radicals wherein the alkyl group contains from 1 to 4 carbon atoms, m is a number from 1 to 1.2, inclusive, and n is an integer from 0 to 2.

3,342,874

POLYFLUORINATED NITROSOALKANES
Charles W. Taylor, St. Paul Park, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed June 5, 1961, Ser. No. 114,644
1 Claim. (Cl. 260—614)

A polyfluorinated nitrosoalkane of the formula:



wherein R₁ is a perfluoroalkyl radical having from 1 to 5 carbon atoms.

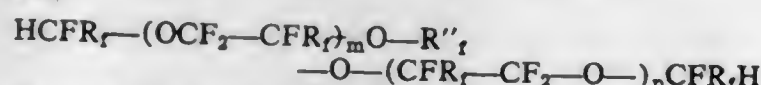
3,342,875

HYDROGEN CAPPED FLUOROCARBON POLYETHERS
Stanley Selman, Wilmington, and Wilburn Suber Smith, Jr., New Castle, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 26, 1962, Ser. No. 182,618
9 Claims. (Cl. 260—615)

1. A hydrogen modified fluorocarbon ether having formulas of the class consisting of



and



where R₁ is a radical selected from the class consisting of the fluorine and the trifluoromethyl radical, R'₁ is a perfluoroalkylene radical of one to five carbon atoms, X is a radical selected from the class consisting of hydrogen and halogen, R'₂ is a perfluoroalkylene radical of at least two carbon atoms and n and m are integers from 0 to 50 inclusive.

3,342,876

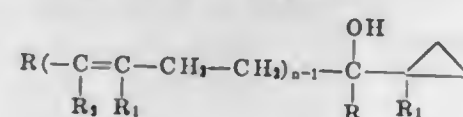
PROCESS FOR THE ISOLATION OF ALPHA-GLYCERYL ETHERS FROM MARINE OILS
William Chalmers and Alexander J. Shaw, Vancouver, British Columbia, Canada, assignors to Eversharp, Inc., a corporation of Delaware
No Drawing. Filed Aug. 31, 1964, Ser. No. 393,413
6 Claims. (Cl. 260—615)

1. A process for extracting alpha glyceryl ethers from a marine oil source which comprises alcoholysing a marine oil low in free fatty acids with a lower alkanol containing from 1 to 3 carbon atoms, in the presence of an alkaline catalyst, until the alcoholysis is substantially complete, dissolving the alcoholysis product in a polar solvent selected from the group consisting of methanol, ethanol and aqueous solutions thereof containing up to 10% water by volume, contacting the resulting solution with an immiscible solvent selected from the group consisting of herring oil, dogfish liver oil and hexane separating the resulting phases and recovering an enriched extract containing mixed alpha glyceryl ethers from the polar solvent phase.

3,342,877

CYCLOPROPYL ALKENOLS USEFUL IN PERFUMES
Marc Julia, Paris, France, assignor to Rhone Poulenc S.A., a French body corporate
No Drawing. Filed Dec. 8, 1960, Ser. No. 74,490
Claims priority, application France, Aug. 5, 1958, 771,895; July 8, 1959, 799,655
10 Claims. (Cl. 260—617)

1. An organic compound selected from the class consisting of compounds of the formula:



wherein R is methyl or ethyl, R₁ is selected from the class consisting of hydrogen, alkyl of at most 3 carbon atoms, and benzyl, R₂ represents alkyl of at most 3 carbon atoms, n is an integer at least 2 and not more than 3 and wherein the groups within the parentheses are independently selected.

3,342,878

PREPARATION OF MONOHYDROXYMETHYLCYCLODODECANE BY HYDROFORMYLATION OF CYCLODODECATRIENES
Clau Berther, Chur, Richard Sailer, Domat, Ems, and Johann Glesen, Haldenstein, Switzerland, assignors to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland
No Drawing. Filed Jan. 14, 1963, Ser. No. 251,000
Claims priority, application Switzerland, Jan. 18, 1962, 595/62

3 Claims. (Cl. 260—617)

1. A process for the production of cyclododecane derivatives containing predominantly monohydroxymethylcyclododecane from cyclododecatriene by the reaction with carbon monoxide and hydrogen in the presence of cobalt catalysts, which comprises reacting said cyclododecatrienes in an at least 50 percent solution in a substance selected from the group consisting of ethanol and butanol, at a pressure ranging from 100 to 175 atmospheres and at temperatures of 100 to 200° C., holding the molar ratio of carbon monoxide to hydrogen to 1:2.5, posthydrogenating the reaction mixture thus obtained with hydrogen to decompose cobalt carbonyl formed during the reaction, removing cobalt and solvent, and recovering the monohydroxymethylcyclododecane by vacuum distillation.

3,342,879

DEHYDRATION PROCESS USING MOLYBDENUM SULFIDE
Lloyd Albert Pine, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 3, 1963, Ser. No. 292,736
4 Claims. (Cl. 260—643)

1. A process for selectively dehydrating a mixture consisting of alcohols containing both primary and secondary hydroxy groups selected from the group consisting of unsubstituted saturated aliphatic alcohols and unsubstituted saturated cycloaliphatic alcohols which comprises contacting said mixture with a molybdenum sulfide catalyst at a temperature in the range of 400 to 600° F. for a time sufficient to recover a mixture of products consisting essentially of primary alcohols and olefins.

4. The process of claim 1 wherein said mixture of oxygenated organic compounds consists of a mixture of alcohols obtained from the telomerization of methanol with ethylene and contains 15–50 wt. percent of secondary alcohols, 1–5 wt. percent of tertiary alcohols, 10–25 wt. percent hydrocarbons, the remainder being primary alcohols.

3,342,880

ADAMANTANE DERIVATIVES
Heinz Fritz Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 14, 1963, Ser. No. 265,062
3 Claims. (Cl. 260—648)

1. A compound having the structural formula



wherein

A is a 1,3-adamantylene group,
R and R' are monovalent substituents selected from the group consisting of hydrogen, halogen, lower alkyl, vinyl, allyl, phenyl and diphenyl, at least one of R and R' being a halogen,

X is a divalent radical selected from the group consisting of phenylene, biphenylene, and alkylene, and m is an integer equal to 0 or 1.

3,342,881

METHOD FOR THE PREPARATION OF FLUORINE DERIVATIVES OF HALOGENATED HYDROCARBONS
Makoto Sasakura, % Mitsui Bussan & Co., Ltd., 510 W. 6th St., Los Angeles, Calif. 90014, and Kikuji Hirayama, 2373-1 Onoda, Onoda, Yamaguchi Prefecture, Japan
No Drawing. Filed Jan. 14, 1964, Ser. No. 337,522
Claims priority, application Japan, Jan. 22, 1963, 38/2,001

3 Claims. (Cl. 260—653.7)

1. A method for the preparation of fluorine derivatives of halogenated hydrocarbons selected from the group consisting of CCl₄, C₂Cl₆, CHCl₃, CCl₃F and CHCl₂F comprising reacting at least one of said halogenated hydrocarbons with anhydrous hydrofluoric acid in a gaseous phase at a temperature of about from 200 to 400° C. in the presence of a catalyst selected from the group consisting of (1) a composition consisting essentially of metallic iron and a granular porous substance and (2) a composition consisting essentially of metallic iron and a granular porous substance carrying a material selected from the group consisting of iron sulphates, iron oxides and hydroxides, said granular porous substance being selected from the group consisting of granular active carbon and granular active alumina.

3,342,882

ALLYLIC REARRANGEMENT OF DICHLOROBUTENES
Winston Costain and Bernard William Hugh Terry, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed May 22, 1964, Ser. No. 369,567
Claims priority, application Great Britain, May 24, 1963, 20,891/63

8 Claims. (Cl. 260—654)

1. A process for the isomerisation of dichlorobutene selected from the group consisting of 1,4-dichlorobutene-2, 3,4-dichlorobutene-1 and their mixtures wherein said dichlorobutene is contacted with an aqueous solution of an alkali metal halide or an ammonium halide or cupric halide containing a cuprous salt selected from the group consisting of cuprous chloride and cuprous bromide, the solution being maintained at a pH value from 3 to 7.3.

3,342,883

COPOLYMERS OF ISOBUTYLENE AND ω-MONOHALO-1-ALKENES
Thomas V. Liston, Kentfield, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Oct. 7, 1964, Ser. No. 402,353
6 Claims. (Cl. 260—658)

1. A process for making low molecular weight copolymers of an ω-monohalo-1-alkene and isobutylene which comprises adding an ω-monohalo-1-alkene having from 5 to 12 carbon atoms wherein said halogen is of atomic number 17 to 35 and isobutylene, the mol ratio of isobutylene to ω-monohalo-1-alkene being from about 10–200:1, to a catalyst system comprising an aluminum halide wherein said halide is of atomic number 17 to 35 and a co-catalyst selected from the group consisting of HX, RX and H₂O wherein X represents a halogen of atomic number 17 to 35 and R represents lower alkyl, in the presence of an inert solvent, and recovering therefrom a copolymer of from about 0.5 to 10 mol percent of ω-monohalo-1-alkene and from about 90 to 99.5 mol percent of isobutylene.

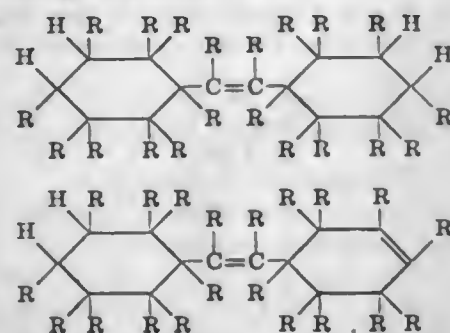
5. The copolymer prepared by the process of claim 1.

3,342,884

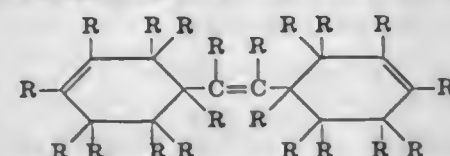
NOVEL CYCLOHEXYL DERIVATIVES OF ETHYLENE AND METHODS FOR THEIR PREPARATION

Paul W. Solomon, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Nov. 18, 1965, Ser. No. 508,573
3 Claims. (Cl. 260-666)

1. A process for producing compounds characterized by the following formulas:



which comprises hydrogenating in contact with a hydrogenation catalyst selected from the group of metals consisting of from ruthenium, rhodium, palladium, osmium, iridium, and platinum, said catalyst being prepared by reduction of a salt of the corresponding metal by treatment of said salt with sodium borohydride, and at a temperature of from about 0° to about 100° C. and a pressure of from substantially atmospheric to about 200 p.s.i.g. a triolefin compound represented by the formula

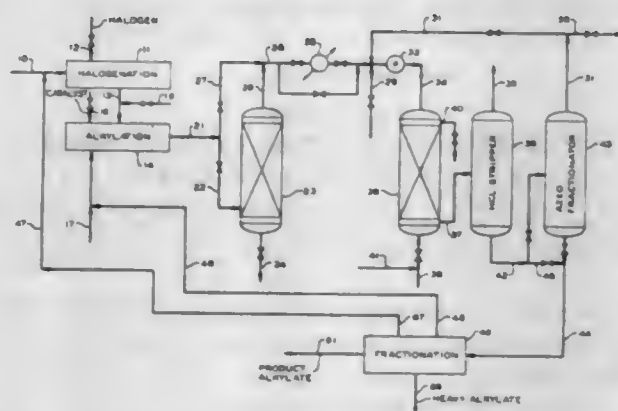


wherein each of said R's is selected from the group consisting of hydrogen, methyl and ethyl, the total number of carbon atoms in all of said R groups not exceeding 8, the amount of hydrogen employed being in the range of 0.5 to 2.2 mols per mol of triolefin.

3,342,885

REMOVAL OF ALUMINUM CHLORIDE FROM HYDROCARBONS

Thomas Hutson, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,758
10 Claims. (Cl. 260-671)



1. A process for removing aluminum chloride from a hydrocarbon stream, which process comprises the steps of: mixing said stream with a treating agent selected from the group consisting of aliphatic alcohols, esters, acids, and ketones containing from 1 to 5 carbon atoms per molecule capable of forming with said aluminum chloride a complex salt substantially insoluble in said hydrocarbon and in said treating agent whereby a precipitate of said complex salt of aluminum chloride and said treating agent forms; and separating said precipitate from the resulting admixture.

3,342,886

DEGRADABLE DETERGENT ALKYL BENZENE PROCESS

Joseph Z. Pasky, Oakland, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Oct. 19, 1964, Ser. No. 404,961
4 Claims. (Cl. 260-671)

1. In the liquid phase hydrogen fluoride catalyzed alkylation of alkylatable aromatic hydrocarbons, the improvement which comprises alkylating said hydrocarbons with secondary alkyl halides selected from the group consisting of chlorides and bromides, wherein said alkylation is effected in the presence of hydrogen chloride at a partial pressure of at least 0.1 atmosphere but less than 100 atmospheres and at a total pressure sufficient to maintain said liquid phase at a temperature in the range from about 40° C. to 130° C.

3,342,887

PROCESS FOR ALKYLATION OF AROMATICS USING A RHENIUM OXIDE CATALYST

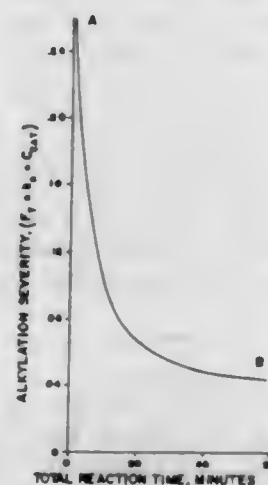
Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,549
10 Claims. (Cl. 260-671)

1. An alkylation process which comprises contacting, at a temperature of 0° to 550° C., a compound having an aromatic nucleus, at least one replaceable nuclear hydrogen atom and selected from the group consisting of monocyclic, bicyclic and tricyclic aromatic nuclei and alkyl, alkoxy, halogen and hydroxy derivatives thereof, said alkyl and alkoxy derivatives having 1 to 20 carbon atoms, and hydrocarbon olefins having 2 to 20 carbon atoms with rhenium oxide reduced to an oxidation state ineffective to oxidize olefins.

3,342,888

PRODUCTION OF LOW 2-PHENYL ISOMER CONTENT MONOALKYLBENZENE FRACTIONS

William J. De Witt, Willingboro, N.J., and Harold A. Sorgenti, Philadelphia, and Robert C. Taylor, King of Prussia, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1965, Ser. No. 433,327
4 Claims. (Cl. 260-671)



1. A method for the two stage alkylation of benzene with straight chain alkylmonochloride isomers having from 10 to 16 carbon atoms in the molecule to produce a mixture of monoalkylated benzene isomers wherein the 2-phenyl isomer is present in an amount less than that obtainable in a single stage under similar conditions of catalyst severity and reaction time which comprises contacting benzene with a mixture of straight chain alkylmonochloride isomers having from 10 to 16 carbon atoms in

the molecule at a temperature in the range of from 45° F. to 150° F. for a time ranging from 2 to 30 minutes in the presence of a liquid aluminum chloride complex catalyst, contacting the reaction mixture from the first stage at a temperature in the range of from 175° F. to 250° F. for a time ranging from 2 to 30 minutes in the presence of said liquid aluminum chloride complex catalyst, said catalyst having a concentration and activity defined by curve AB of FIGURE 3 of the drawings such that no more than 20 percent of the difference between the equilibrium 2-phenyl isomer value and the amount of 2-phenyl isomer produced in the first stage is lost in the second stage by the isomerization of the monoalkylbenzenes produced in the first stage and said catalyst having a concentration and activity such that greater than 99 percent total conversion of the monoalkylchlorides is obtained in both stages with at least 90 percent conversion being obtained in the first stage.

3,342,889

AROMATIZING HYDROCARBONS

Paul S. Hudson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Sept. 21, 1964, Ser. No. 398,094
4 Claims. (Cl. 260-673.5)

1. A process for aromatizing acyclic hydrocarbons containing 6 to 16 carbon atoms per molecule which comprises contacting said hydrocarbons with a copper halide in the presence of hydrogen chloride and oxygen at a temperature in the range of 500° to 1050° F.

3,342,890

PROCESS OF DEHYDROGENATION

Louis J. Croce, East Brunswick, Laimonis Bajars, Princeton, and Malgonis Gabliks, Highland Park, N.J., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware
No Drawing. Filed Apr. 21, 1964, Ser. No. 361,565
The portion of the term of the patent subsequent to Nov. 7, 1983, has been disclaimed
12 Claims. (Cl. 260-680)

1. A process for the dehydrogenation of hydrocarbons having at least four carbon atoms which comprises contacting in the vapor phase at a temperature of greater than 250° C. a mixture of the said hydrocarbon to be dehydrogenated and from 0.2 to 2.5 mols of oxygen per mol of the said hydrocarbon with a catalyst for the dehydrogenation comprising a mixed ferrite of iron with at least two metals selected from the group consisting of magnesium, zinc, nickel and cobalt to produce a dehydrogenated hydrocarbon product having the same number of carbon atoms as the said hydrocarbon.

3,342,891

REMOVAL OF VINYLACETYLENES FROM ALKADIENES

Michel Poons and Henricus J. van der Plas, The Hague, and Gerhard G. Baijle and Arien Kwantes, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 28, 1963, Ser. No. 319,560
Claims priority, application Netherlands, Nov. 2, 1962, 285,014
3 Claims. (Cl. 260-681.5)

1. A process of reducing vinylacetylene concentration to below 100 parts per million in a C₄ or C₅ alkadiene distillation product from a C₄ or C₅ alkadiene feed stream containing 20 to 90% C₄ or C₅ alkadiene, an undesirable proportion of closely boiling vinylacetylenes and the remainder being essentially corresponding C₄ or C₅ alkenes by:

- fractionally distilling the alkadiene feed stream in a distillation zone and separating a concentrate stream enriched in and containing at least about 1%

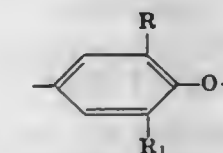
and no more than about 3.5% by weight vinylacetylenes;

- catalytically hydrogenating the concentrate in up-flow through a bed of 0.5% to 5% by weight palladium-on-alumina catalyst to selectively hydrogenate the vinylacetylenes to a concentration of less than 100 parts per million while increasing the concentration of the alkadiene therein;
- recycling the hydrogenation effluent to the feed stream to the distillation zone; and
- withdrawing the alkadiene content of the feed stream as an enriched alkadiene stream of less than 100 parts per million vinylacetylenes from the distillation zone.

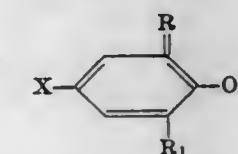
3,342,892

PREPARATION OF LINEAR POLYARYL ETHERS
Thomas M. Laakso and James J. Saturno, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Aug. 7, 1964, Ser. No. 388,260
12 Claims. (Cl. 260-823)

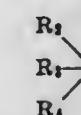
1. A process for preparing a soluble film- and fiber-forming, crystalline 2,6-dialkyl-1,4-phenylene oxide linear polymer having a molecular weight of about 15,000-100,000 and consisting essentially of the recurring structural unit:



wherein each of R and R₁ represents a straight chain alkyl group of 1-3 carbon atoms, which comprises treating interfacially, a halogenated phenol of the structure:



wherein R₁ and R are as above defined and X represents a halogen atom, with a catalyst comprising a mixture of a trialkylamine of the formula



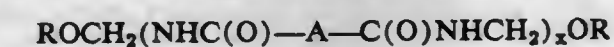
wherein each of R₂, R₃ and R₄ represents an alkyl group of 1-6 carbon atoms and an alkali metal ferricyanide, at about 0-15° C., in a liquid medium comprising water, a strong inorganic base in amount sufficient to maintain the reaction medium in alkaline condition and an essentially water-insoluble organic solvent for the said polymer.

3,342,893

ALKYLATED CONDENSATE OF FORMALDEHYDE AND A DIAMIDE OF AN m-PHENYLENE DICARBOXYLIC ACID

William D. Emmons, Huntingdon Valley, Andrew Mercurio, Philadelphia, and Francis H. McGrath, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 29, 1963, Ser. No. 327,105
14 Claims. (Cl. 260-850)

1. A condensation product of the formula



wherein A is a meta-phenylene group,
R is at least one member selected from the group consisting of H and the radicals of alcohols having from one to eight carbon atoms, and
x is a number having a value of 1.5 to 3, R being an aforesaid alcohol radical in at least a portion of the condensate.

14. A method of producing a thermosettable condensation product which comprises heating, at a pH of 2 to 6 and at a temperature of about 80° to 120° C., a mixture of isophthalamide, formaldehyde, water, and acid in which the proportion of formaldehyde is from about 1.8 to about 3.2 moles per mole of isophthalamide and the water is present in an amount of about 25% to 50% by weight, based on the total weight of the mixture, the heating being continued until the reaction mixture clears and the water content of the mixture being maintained at a concentration of at least 25% throughout the heating, and then adding at least one alcohol having from 1 to 8 carbon atoms, while maintaining the temperature in the range of 75° C. to 150° C., the amount of alcohol added being at least 1.5 to 5 moles per mole of isophthalamide, whereby an alcoholic solution of an alkylation product of an isophthalamide/formaldehyde condensate is formed.

3,342,894

PRODUCTION OF COMPOSITE GLYCIDYL POLYETHERS

Herbert P. Price, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 11, 1966, Ser. No. 541,496

7 Claims. (Cl. 260—830)

1. A process for producing homogeneous mixtures of glycidyl polyethers each molecular chain of which predominantly contains glycidyl end groups, which comprises mixing (1) a complex phenol polyether alcohol having the formula:



wherein R_1 represents a dihydric phenol residue and a is an integer from 0 through 10, with (2) a phenolic compound having the formula $R_{(2)}(\text{OH})_x$, wherein $R_{(2)}$ is an aryl radical free of substituents, other than the phenolic hydroxyls, which are reactive under the conditions of the reaction, and x is a whole number from 2 to 10 inclusive, the molar ratio of said phenolic compound to said complex polyether alcohol being in the range from about 1:10 to about 10:1; reacting at a temperature of about 50° C. to about 150° C. the mixture of said phenolic compound and said complex polyether alcohol with an excess of epihalohydrin and a caustic alkali dehydrohalogenating agent, the molar quantity of epihalohydrin being equal to:

$$z[m(a+2)+nx]$$

wherein m is the number of mols of said complex phenol polyether alcohol, n is the number of mols of said phenolic compound, z is a number from 2 to 15, and x and a are as defined above, the molar quantity of said caustic alkali being sufficient to insure the complete dehydrohalogenation of the reaction product of the epihalohydrin and said mixture of alcohol and phenolic compound in order to form composite polymeric glycidyl polyethers, said quantity of said alkali being equal to the total number of phenolic hydroxyl groups present which is $(nx+2m)$, wherein n , x and m are as defined above.

3,342,895

EPOXY RESINS PREPARED BY THE REACTION OF EPIHALOHYDRIN WITH A RESIN FORMED BY REACTING A PHENOL WITH A LONG CHAIN HALOGENATED HYDROCARBON CONTAINING AT LEAST 2 HALOGEN ATOMS

Robert Schmitz-Josten, Cologne-Stammheim, Günter Frank and Richard Wegler, Leverkusen, and Karl-Helz Andres, Cologne-Filtard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Oct. 16, 1964, Ser. No. 404,480

Claims priority, application Germany, Nov. 14, 1963, F 41,274

10 Claims. (Cl. 260—830)

1. A process which comprises reacting a phenol and a long chain halogenated paraffin containing at least two halogen atoms and having a halogen content between 10 and 50% by weight and having 10 to 40 carbon atoms, at temperatures of about 120° to 200° C. in the presence of an acid fullers earth or Friedel-Crafts catalyst to form a liquid resin alkylation product containing 3 to 8% by weight of phenolic OH groups and 0.1 to 15% by weight of halogen, reacting said alkylation product with either an epihalohydrin or a dihalohydrin at a temperature of from 80° to 120° C. in the presence of an alkali metal hydroxide to form a glycidyl ether, and then hardening the latter by reaction with a hardening agent selected from the group consisting of polyamines and amino polyamides.

3,342,896

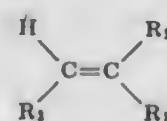
CARBOXY-CONTAINING COPOLYMERS STABILIZED BY THE ESTERIFICATION OF THE CARBOXYL GROUPS WITH VINYL ETHERS OR OLEFINIC COMPOUNDS

Robert L. Zimmerman and Charles E. Lyons, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 11, 1964, Ser. No. 351,213

14 Claims. (Cl. 260—837)

1. A stabilized composition comprising (a) a polymer containing 1–50 mole percent of a carboxyl containing vinyl monomer and (b) a curing agent selected from the group consisting of a polyepoxide having more than one 1,2-epoxy group per molecule, an amine-aldehyde resin and a mixture thereof, which is reactive with the carboxyl groups of the polymer, wherein the polymer has been heated in the presence of a vinylidene compound selected from the group having the general formula



wherein R_1 is hydrogen; R_2 is a member selected from the group consisting of hydrogen and alkyl; R_3 is a radical selected from the group consisting of cycloalkyl and cycloalkenyl having from 5 to 6 only carbon atoms in the ring and alkyl derivatives thereof, and alkoxy; wherein R_1 may be a radical selected from the group consisting of alkyl and internal alkenyl when R_2 is alkyl; and wherein R_1 together with R_3 may form a ring selected from the group consisting of furan and pyran rings when R_2 is hydrogen; said alkyl, alkenyl, and alkoxy radicals each containing not more than 5 carbon atoms until substantial esterification has occurred.

3,342,897

BLENDS OF THE POLYPYROMELLITAMIDE OF BIS(4-AMINOPHENYL) ETHER AND POLYPYROMELLITAMIDE-ACID OF AN AROMATIC DIAMINE

John G. Abramo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

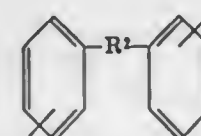
No Drawing. Filed Dec. 9, 1964, Ser. No. 417,242

21 Claims. (Cl. 260—857)

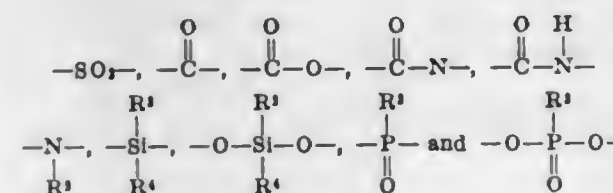
1. An intimate blend of the polypyromellitimide-acid of bis(4-aminophenyl) ether and the polypyromellitimide-acid of an aromatic diamine, the latter said polypyromellitimide-acid constituting from about 5 to 35 mole percent of the total amount of polypyromellitimide-acids present, said aromatic diamine having the formula



where R^1 is a divalent aromatic radical selected from the group consisting of phenylene, naphthylene, biphenylene, anthrylene, furylene, benzofurylene and



where R^2 is selected from the group consisting of alkylene of 1–3 carbons, sulfur,



where R^3 and R^4 are each selected from the group consisting of alkyl and aryl.

3,342,898

COMPOSITION AND PROCESS

Frank F. Roselli, San Mateo, Calif., assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 13, 1963, Ser. No. 280,138

3 Claims. (Cl. 260—867)

1. A fire-resistant, curable polyester composition which comprises:

- About 30–83% by weight of the reaction product of (1) about 2.0–2.5 molar parts of at least one aliphatic polyhydroxy compound, (2) about .4–2.0 molar parts of a compound selected from the group consisting of dibasic carboxylic acids containing a polymerizable double bond and anhydrides thereof, and (3) about 0–1.6 molar parts of a compound selected from the group consisting of non-polymerizable dibasic carboxylic acids and anhydrides thereof;
- About 15–68% by weight of a solvent for said reaction product (A), said solvent comprising a monovinyl aromatic compound; and
- As a fire-retardant additive, about 2–30% by weight of a compound selected from the group consisting of tetrakis (2,3-dibromopropyl) silicate and tetrakis (2,3-dichloropropyl) silicate.

3,342,899

PROCESS FOR POLYMERIZING TETRAFLUOROETHYLENE IN CONTINUOUS MANNER USING HIGH ENERGY IONIZING RADIATION

Arthur C. Doumas, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 20, 1962, Ser. No. 211,198

7 Claims. (Cl. 260—877)

1. A process for polymerizing tetrafluoroethylene which comprises feeding monomeric tetrafluoroethylene to a polymerization zone and into contact with particles of a solid polymer consisting of at least a predominant amount of tetrafluoroethylene and not more than a minor amount of another ethylenically unsaturated fluoro compound copolymerizable therewith, suspended in water; withdrawing from said polymerization zone a liquid body comprising said polymer suspended in water, passing said liquid body through a field of high energy ionizing radiation of an intensity of at least 40,000 rads per hour and subjecting the polymer therein to irradiation with a dose effective to initiate polymerization of monomeric tetrafluoroethylene upon contacting said monomer with said irradiated polymer, passing a portion of the suspension of the irradiated polymer to a filtering means and separating the polymer from the water, passing a portion of the suspension of the irradiated polymer into and contacting it with the monomeric tetrafluoroethylene fed to said polymerization zone, and continuing the process while feeding the monomeric tetrafluoroethylene to said polymerization zone at a rate not substantially greater than it is consumed in the polymerization reaction.

3,342,900

PROCESS OF GRAFTING ACRYLONITRILE ONTO PEROXIDIZED POLYETHYLENE

Nelson S. Marans, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed May 5, 1964, Ser. No. 365,154

1 Claim. (Cl. 260—877)

A process for grafting polyethylene which comprises heating polyethylene to a temperature of about 145–160° C. to attain a molten state in the presence of oxygen for from about 0.08 to about 5 hours to establish peroxidic grafting sites therein, and reacting said peroxidized polyethylene with acrylonitrile at a temperature of less than about 100° C. to achieve grafting of said polyethylene.

3,342,901

BLENDED OF THERMOPLASTIC MATERIAL

Edward J. Kosinsky and Eli Solop, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 28, 1963, Ser. No. 254,120

7 Claims. (Cl. 260—897)

1. A method for blending thermoplastic materials which comprises subjecting a first thermoplastic material to a first temperature sufficient to melt said first thermoplastic material and achieve a first value of melt viscosity for the thus melted first thermoplastic material, subjecting a second thermoplastic material different from said first thermoplastic material to a second temperature different from said first temperature and sufficient to melt said second thermoplastic material and achieve a second value of melt viscosity for the thus melted second thermoplastic material, said first value and said second value being substantially similar, and intimately admixing said thus melted first thermoplastic material and said thus melted second thermoplastic material while said melted first thermoplastic material has said first value of melt viscosity

and said melted second thermoplastic material has said second value of melt viscosity, and recovering the resulting blend as a product of the process.

3,342,902

HOT MELT ADHESIVE HAVING PRESSURE SENSITIVITY COMPRISING ATACTIC POLYPROPYLENE, ETHYLENE-VINYL ACETATE COPOLYMER, AND A POLYTERPENE

Melvin E. Peterkin, Brookhaven, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 21, 1965, Ser. No. 473,805
4 Claims. (Cl. 260-897)

1. A thermoplastic hot melt adhesive composition comprising a homogeneous mixture of 74 to 82 wt. percent atactic polypropylene having a molecular weight of 16,000 to 20,000, 2 to 9 wt. percent ethylene-vinyl acetate copolymer resin having a ring and ball melt point of about 220° F. to 270° F. and containing about 18 to 34 weight percent vinyl acetate and 9 to 18 wt. percent of a terpene resin having a molecular weight of about 1200.

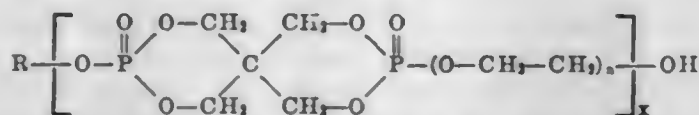
3,342,903

PENTAERYTHRITOL PHOSPHORIC ACID ESTERS

Herbert Grabhofer, Cologne-Flittard, Herbert Muller, Leverkusen, Rolf-Fred Posse, Cologne-Flittard, and Hans Ulrich, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 22, 1964, Ser. No. 377,043
4 Claims. (Cl. 260-927)

1. A compound of the formula:



wherein n stands for from 3 to 100, X stands for from 1 to 100 and R is a member selected from the group consisting of hydrogen and the group



wherein n is defined as above.

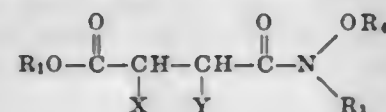
3,342,904

N-HYDROXY(ALKOXY)-N-ALKYL- α -(O,O-DIALKYL-PHOSPHOROTHIO(DITHIO)ATES)- β -ALKOXYCARBONYLPROPIONAMIDES

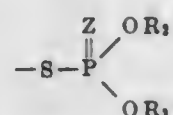
Eugene F. Barnas and Sidney B. Richter, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,059
8 Claims. (Cl. 260-942)

1. A compound of the formula:



wherein X and Y are selected from the group consisting of hydrogen and



provided that one, and only one, of X and Y is hydrogen; R_1 , R_2 , and R_3 are alkyl; R_4 and R_5 are independently selected from the group consisting of hydrogen and alkyl; and Z is independently selected from the group consisting of sulfur and oxygen.

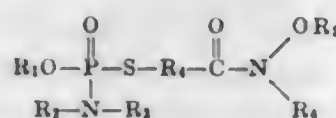
3,342,905

S-(N-ALKOXYAMIDO)THIOPHOSPHORAMIDES

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 4, 1964, Ser. No. 387,491
10 Claims. (Cl. 260-943)

1. A compound of the formula:



wherein R_1 , R_2 , R_3 , R_5 and R_6 are independently selected from the group consisting of hydrogen and alkyl; and R_4 is an alkylene group.

3,342,906

O-ETHYL-S-[N'-METHOXY-N'-METHYL-ACETAMIDO]-N-ISOPROPYLTHIO-PHOSPHORAMIDE

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 4, 1964, Ser. No. 387,492
1 Claim. (Cl. 260-943)

O-ethyl-S-(N'-methoxy-N'-methylacetamido)-N-isopropylthiophosphoramide.

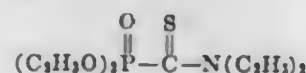
3,342,907

DIETHYL-N,N-DIETHYLTHIOCARBAMYL PHOSPHONATE

Ivan C. Popoff, Ambler, and John T. Massengale, West Chester, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,728
1 Claim. (Cl. 260-944)

A compound of the formula



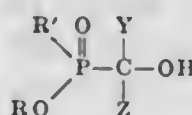
3,342,908

HALOGENATED MONO-PHOSPHORUS ALPHA-HYDROXY HYDROCARBYLPHOSPHONATE ESTERS AND THEIR PREPARATION

Gail H. Birum, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,793
14 Claims. (Cl. 260-953)

1. A compound of the formula



wherein R is selected from the group consisting of chloroalkyl and bromoalkyl having from 2 to about 12 carbon atoms, R' is selected from the group consisting of chloroalkoxy and bromoalkoxy having from 2 to about 12 carbon atoms, alkyl and alkyloxy having from 1 to about 12 carbon atoms, and phenyl, Y is selected from the group consisting of alkyl having from 1 to about 17 carbon atoms, monocyclic aryl having from 6 to about 8 carbon atoms, furyl, and thienyl; Z taken alone is selected from the group consisting of hydrogen and alkyl having from 1 to 2 carbon atoms and is alkyl only when Y is alkyl having from 1 to 2 carbon atoms; Y and Z taken together with the carbon atom to which they are attached complete a cycloalkanone ring having from 5 to 6 carbon atoms.

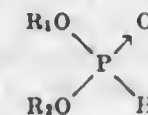
3,342,909

PREPARATION OF TRIALKYL PHOSPHATES FROM DIALKYL PHOSPHONATES

Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,551
4 Claims. (Cl. 260-970)

1. The oxidation of dialkyl phosphonates having the following structure:



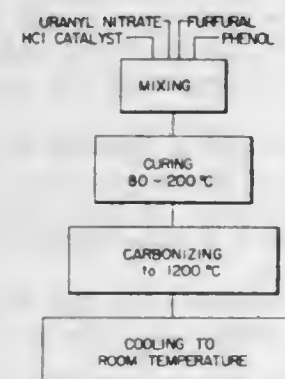
wherein R_1 and R_2 are selected from the class consisting of cycloalkyl and alkyl groups having from about 1 to about 12 carbons; to trialkyl phosphates therefrom that comprises contacting said dialkyl phosphonate with a primary monohydroxy alcohol having 1 to about 25 carbons in the presence of a soluble mercuric carboxylate at a temperature between about 0° and about 300° C. and a pressure from atmospheric pressure to about 10,000 p.s.i.g., sufficient to maintain said alcohol in liquid phase.

3,342,910

PROCESS FOR PREPARING NUCLEAR FUEL ELEMENTS OF DISPERSED-IN-GRAPHITE TYPE

Takehiko Ishihara, Mito-shi, Toshio Honda, Naka-gun, Ibaraki-ken, and Ken Ohwada, Naka-machi, Japan, assignors to Japan Atomic Energy Research Institute, Tokyo, Japan

Filed Nov. 2, 1964, Ser. No. 408,412
Claims priority, application Japan, Nov. 5, 1963,
38/59,223
5 Claims. (Cl. 264-5)



1. A process for preparing a nuclear fuel element impervious to the products of uranium fission which comprises:

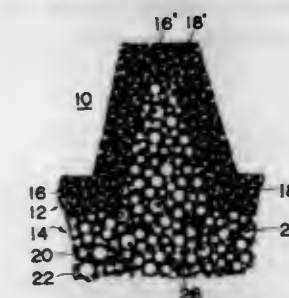
- (a) pouring a liquid mixture of a uranium salt, furfural, and phenol into a mold, said uranium salt being dissolved in said furfural;
- (b) heating said mixture in said mold in the presence of a condensation catalyst to a temperature between about 50° C. to 200° C. until the mixture is solidified by reaction of said furfural with said phenol and forms a body of uranium bearing polymer resin;
- (c) heating said body in a protective atmosphere until said resin is substantially completely carbonized and not more than a minor portion of the carbon formed is converted to graphite; and
- (d) cooling the carbonized body to room temperature.

3,342,911

PROCESS FOR PRODUCING COMPOSITE POROUS MATERIAL

Takaji Funahashi, 1 2-chome, Kita-takajo-machi, Nishi-ku, Nagoya, Japan

Filed Oct. 14, 1963, Ser. No. 315,951
Claims priority, application Japan, Oct. 29, 1962,
37/48,000
7 Claims. (Cl. 264-46)



1. A process of producing a porous rubber material including two porous rubber portions integral with each other and having different porosities, said process comprising the steps of preparing a first body of raw rubber material consisting of a mixture of an unvulcanized raw rubber, vulcanizing chemicals required to vulcanize the raw rubber, a foaming agent capable of foaming at a first relatively high temperature to form discrete fine bubbles and a powder of salt easily soluble in water and which remains undecomposed at the vulcanizing temperature, preparing a second body of raw rubber material consisting of a mixture of an unvulcanized raw rubber, vulcanizing chemicals required to vulcanize the last-mentioned rubber material, a second foaming agent capable of foaming at said first temperature to form discrete fine bubbles, a third foaming agent capable of foaming at a second relatively moderate temperature less than the first temperature to form discrete bubbles, a fourth foaming agent capable of foaming at a third relatively low temperature less than the second temperature to form continuous bubbles, and a powder of salt easily soluble in water and which remains undecomposed at the vulcanizing temperature, placing the first body of raw rubber material in intimate contact with the second body of raw rubber material, putting the assembly of the first body and the second body thus obtained into a molding die having a desired dimension and inner configuration, heating gradually the molding die and the assembly of the first and second bodies up to about the third temperature, then heating the molding die and the assembly up to about the second temperature, and then heating the molding die and the assembly up to a temperature somewhat above the first temperature to vulcanize the first and second bodies of rubber material into a unitary structure, the foaming agents foaming at the three separate temperatures to render the first and second bodies of rubber material differently porous, removing the resulting single unitary body of vulcanized rubber material from molding die, and washing the single unitary body of vulcanized rubber material with water to remove the powders to the salts therefrom.

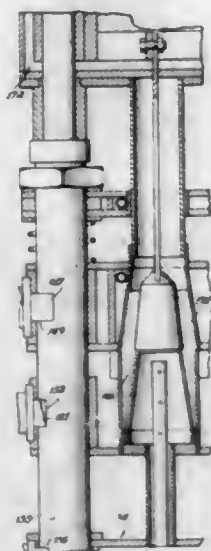
3,342,912

METHOD OF MOLDING PLASTIC CONTAINERS

William Z. Northrup and Jose d'Rugama, Mexico City, Mexico, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application Mar. 13, 1961, Ser. No. 95,052, now Patent No. 3,158,898, dated Dec. 1, 1964. Divided and this application Mar. 6, 1964, Ser. No. 354,813
3 Claims. (Cl. 264-51)

1. A method for fabricating cups from partially pre-expanded thermoplastic material and employing a variable volume mold cavity including a female mold, a male

mold positionable in the female mold to form a cup mold cavity, a loading tube projectible within the female mold, a loading cone enclosing the lower end of said loading tube and engageable with the top of the male mold, said loading tube containing pre-expanded thermoplastic material sufficient for the formation of a cup, and a molding head, comprising the steps of moving the male mold into the female mold, projecting the loading tube while the loading cone blocks the lower end thereof partially into the female mold to engage the loading cone with the top



of the male mold, then moving the loading cone and the male mold to open the lower end of the loading tube, to enlarge the volume of the cup mold cavity and to deposit said pre-expanded thermoplastic material in said enlarged volume, moving the loading tube and loading cone out of the female mold, inserting said molding head in the female mold, moving the male mold toward said molding head to compress said pre-expanded thermoplastic material, heating the compressed material to cause fusing thereof, cooling the fused material and removing a cup thus formed from the molds.

3,342,913

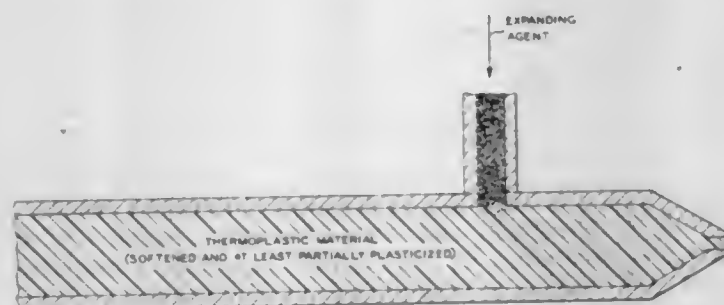
PROCESS AND APPARATUS FOR THE PRODUCTION OF MOULDINGS OR EXTRUSIONS HAVING A CELLULAR STRUCTURE FROM THERMOPLASTIC SYNTHETIC MATERIALS

Thomas Paul Engel, Offenbach, Heusenstamm, Germany, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 409,046

Claims priority, application Germany, Nov. 29, 1963, E 25,940

36 Claims. (Cl. 264—51)



1. A method of producing a foamed thermoplastic which comprises conveying a thermoplastic material at an elevated temperature and pressure (such that it is at least partially plasticized), introducing forcibly into said

thermoplastic material being conveyed a compact mass comprising expanding agent in solid particulate form to form a resulting end mixture under conditions of temperature to form a gas by decomposition of the expanding agent in said thermoplastic, but under a pressure to prevent any substantial formation of cells, and then reducing the pressure on the resulting end mixture to allow the expanding agent to expand and to produce said foamed thermoplastic.

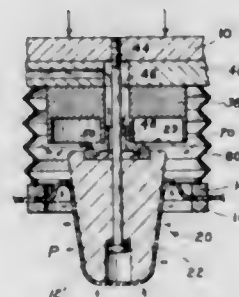
3,342,914

METHOD AND APPARATUS FOR DEEP DRAW MOLDING

Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,081

8 Claims. (Cl. 264—89)



1. The method of forming relatively deep thin-wall containers from a sheet of heated thermoplastic material comprising:

- (a) supporting the heated thermoplastic sheet in alignment with and between a cooperating mandrel and female mold,
- (b) clamping opposite sides of the sheet in a circumferential manner outside the mandrel and mold periphery,
- (c) relatively moving the mandrel and female mold toward each other to mechanically draw predetermined areas from the thermoplastic sheet,
- (d) sealing off the clamped and drawn areas from the remainder of the thermoplastic sheet during the relative closing movement of the mandrel and female mold,
- (e) establishing a vacuum through the mandrel for maintaining the predetermined drawn areas sealed off from the remainder of the sheet in close conforming relationship to the mandrel during the pre-forming operation,
- (f) releasing the vacuum when the mandrel and female mold have completed their movement toward each other,
- (g) introducing a positive fluid pressure through the mandrel within the predetermined drawn areas to expand them against the inner periphery of the female mold and form the final container shape, and
- (h) severing the container from the sheet while the same is in deforming position.

3,342,915

UNDERCUT MOLDING APPARATUS AND METHOD

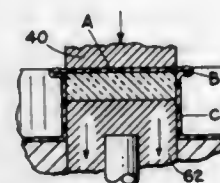
Herbert J. Wanderer, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Feb. 3, 1965, Ser. No. 430,055

9 Claims. (Cl. 264—92)

1. A method of forming undercuts in articles made from sheet stock plastic material comprising heating a web of plastic material to its forming temperature for molding thereof, forming an intermediate article of de-

sired configuration in said heated web, cooling spaced portions of said intermediate article below the forming temperature while maintaining an intermediate portion



at the forming temperature, and then relatively moving said cooled portions toward each other to cause said intermediate portion to collapse and thereby form an undercut in the ultimate article configuration.

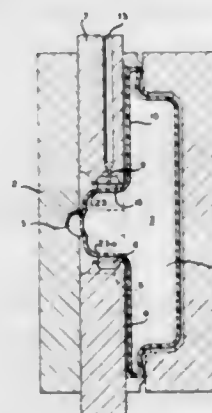
3,342,916

METHOD AND APPARATUS FOR BLOW MOLDING HOLLOW ARTICLES

Donald L. Peters, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 4, 1965, Ser. No. 452,997

8 Claims. (Cl. 264—98)



1. In a blow molding operation wherein a closed hollow parison is positioned in a hollow mold and a portion of the parison is pinched out to form a satellite chamber within a main chamber of said parison, said satellite chamber being surrounded by the remainder of said parison in at least one plane containing said parison and said satellite chamber, the improvement which comprises puncturing said satellite chamber with a blowing needle, then forcing air through said blowing needle into said satellite chamber and through said satellite chamber into the main portion of said parison to blow said parison to conform to said mold.

3,342,917

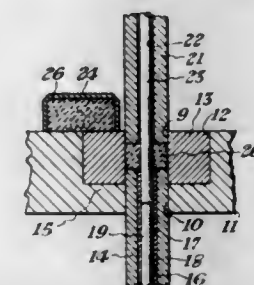
METHOD FOR PRESSURE MOLDING POWDERED MATERIAL

John F. Laskiewicz, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 15, 1965, Ser. No. 439,591

2 Claims. (Cl. 264—109)

1. The method of molding powdered material to form a part having a wire extending therethrough, such method comprising, providing a die including a matrix member having a molding chamber extending therethrough, a first punch facing one end of said molding chamber and second and third concentric punches facing the other end of said chamber, said first and third punches having identical openings extending longitudinally therethrough; projecting a core pin through the opening in said third punch to fill such opening, projecting said second and third punches through said molding chamber to fill such chamber, partially withdrawing said second punch from said molding chamber and from about said third punch and filling the



space vacated by such withdrawal of the second punch with said powdered material, partially withdrawing said core pin from the opening in said third punch and projecting a length of wire through the opening in said first punch and into the space vacated by such withdrawal of the core pin, partially withdrawing the third punch from said molding chamber and from about said wire to permit said powdered material in such chamber to settle around the wire, projecting said first punch into said one end of the molding chamber and moving such punch and said second and third punches toward each other within said chamber

to compress and mold the material in said chamber to the contours of such chamber and to the part of said wire surrounded by such material, withdrawing said first punch from said chamber; projecting said second third punches further into said chamber to eject and partially eject, respectively, from such chamber the molded part and the wire extending through such part; and projecting said core pin further into said opening in said third punch to complete the ejection of said wire from such opening and from the molding chamber and thereby preparing said die for the similar molding of another part.

3,342,918

PROCESS OF FORMING SHAPED ARTICLES FROM SOLID, FUSIBLE REACTION PRODUCTS OF BIS-(2,3-EPOXY-CYCLOPENTYL)ETHER AND AROMATIC AMINES

John L. Welch, Jr., Bound Brook, Ralph F. Sellers, Somerset, and John J. Madden, New Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,289

8 Claims. (Cl. 264—134)

1. Process of forming a shaped structure which comprises impregnating a material with a solid reaction product of bis(2,3-epoxycyclopentyl)ether and an aromatic amine having at least two primary amino groups per molecule, said reaction product having a Tripod Flow of about 50 to about 120 seconds, forming said impregnated material into a shaped structure and curing said reaction product to its infusible state.

3,342,919

PRODUCTION OF NON-WOVEN FIBROUS STRUCTURES

Claude Saligny, Lyon, France, assignor to Societe Rhodiaceta, Paris, France, a corporation of France

No Drawing. Filed June 22, 1964, Ser. No. 377,464

Claims priority, application France, June 24, 1963, 939,141

15 Claims. (Cl. 264—178)

1. Process for the production of a non-woven fibrous structure which comprises forming a layer of a solution of a fibre-forming polymer on the surface of a temporary support containing perforations corresponding to the size of the fibres desired, forcing the said solution through the said perforations with a fluid which precipitates the polymer from the solution, and separating the non-woven fibrous polymer structure thus formed from the support.

3,342,920

METHOD OF MANUFACTURING SYNTHETIC FIBERS CONTAINING CRYSTALLINE ISOTACTIC POLYSTYRENE HAVING EXCELLENT PHYSICAL PROPERTIES

Osamu Fukushima and Kiyokazu Imai, Kurashiki, Japan, assignors to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan
 No Drawing. Filed June 27, 1963, Ser. No. 290,923
 Claims priority, application Japan, July 27, 1962, 37/31,285

1 Claim. (Cl. 264—184)

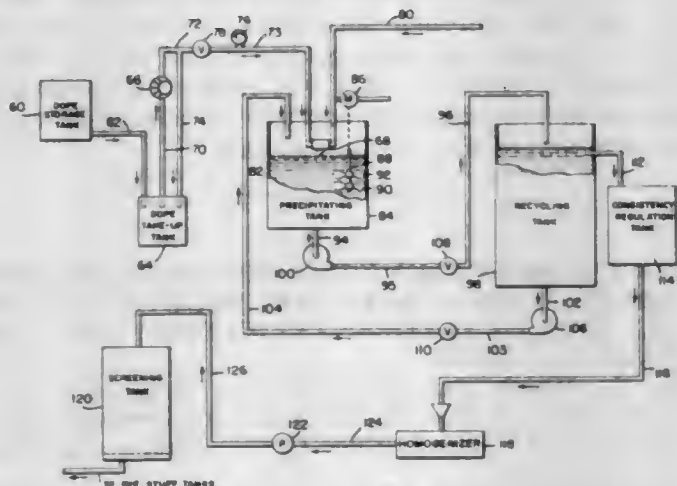
A method of manufacturing mixed filaments which comprises dissolving from 50 to 30 parts by weight of a crystalline isotactic polystyrene and from 50 to 70 parts by weight of a polymer selected from the group consisting of polyvinyl chloride, polyvinylidene chloride, a copolymer consisting essentially of vinyl chloride and a copolymer consisting essentially of vinylidene chloride in a common solvent, and extruding the resulting mixed spinning solution.

3,342,921

PROCESS FOR PRODUCING FIBROUS FILLER HAVING HIGH WET END RETENTION

Maurice M. Brundige, Laurel, Gunther K. Hunger, Elliott City, Harry F. Kohne, Jr., Glenwood, and Frederick L. Kurrle, Laurel, Md., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Mar. 16, 1966, Ser. No. 534,855
 23 Claims. (Cl. 264—200)



1. The process of producing a porous, opaque fibrous filler suitable for use in papermaking furnishes which comprises the steps of preparing a spray solution containing a cellulose ester dissolved in a carrier which includes an organic solvent in which the cellulose ester is

soluble and a first liquid non-solvent for the cellulose ester which is miscible with the organic solvent and is present in a proportion up to that which is just short of causing the cellulose ester to precipitate, disrupting the solution with air under pressure and spraying the solution into the atmosphere, thereby forming discrete fibers having a length ranging from about .03 mm. to about 1.86 mm., and collecting the fibers in a second liquid non-solvent which is miscible with the organic solvent in the spray solution and thereby diluting the organic solvent remaining throughout said fibers with said second liquid non-solvent, to maintain the fibrous structure of said fibers.

ERRATUM

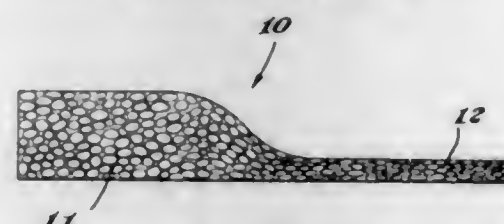
For Class 264—248 see:
 Patent No. 3,342,817

3,342,922

METHOD OF PREPARING RE-EXPANDABLE FOAM

John Karpovich, Caro, and Willard F. Clark, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 9, 1963, Ser. No. 314,881
 7 Claims. (Cl. 264—321)



1. A method of preparing a re-expanded synthetic resinous foam comprising compressing a synthetic resinous foam at a temperature below the second order transition point of the synthetic resinous foam, the synthetic resinous foam being selected from the group consisting of polyurethane foams and epoxy resin foams which exhibit in their stress strain curves a yield point, the foams being without adhesion promoting additives, the compression being under a pressure of from about 1 to about 50 tons per square inch for a period of time sufficient that the foam does not re-expand when the pressure is removed, and subsequently re-expanding the foam by treatment with a material selected from the group consisting of water, glacial acetic acid, methanol, methyl chloride, aqueous solutions of phenol, formic acid, dimethyl formamide, ethanol, chlorobenzene, diethylene glycol, ethylene glycol, mineral oil, air having a temperature of at least 120° C. and vapors of the solvents hereinbefore delineated.

ELECTRICAL

3,342,923

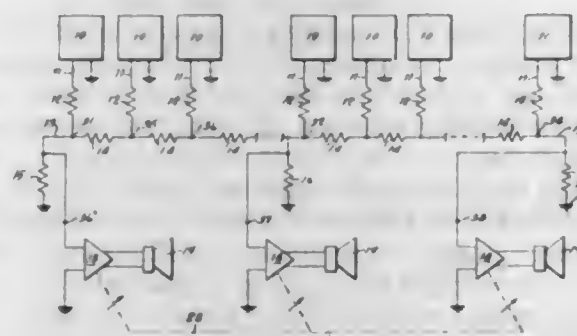
STEREOPHONIC ELECTRONIC MUSICAL INSTRUMENT

Edward J. Henley, Fanwood, N.J., assignor to M. P. Moller, Incorporated, Hagerstown, Md., a corporation of Maryland

Filed Sept. 3, 1964, Ser. No. 394,142
 13 Claims. (Cl. 84—1.24)

1. In an electronic musical instrument, means for producing a spatial distribution of tones in accordance with their fundamental frequencies comprising, in combination, at least three sources of oscillations of various frequencies having desired tonal characteristics, an attenuative collector bus, an isolating resistor for each of said oscillation sources having one end connected to its associated oscillation source and its other end connected to said collector bus, a plurality of resistors connected in series in said collector bus, each of said series-connected

resistors being disposed between collector bus connections of each pair of said isolating resistors, a plurality of



terminating resistors each having one end connected to said collector bus and its other end connected to a point

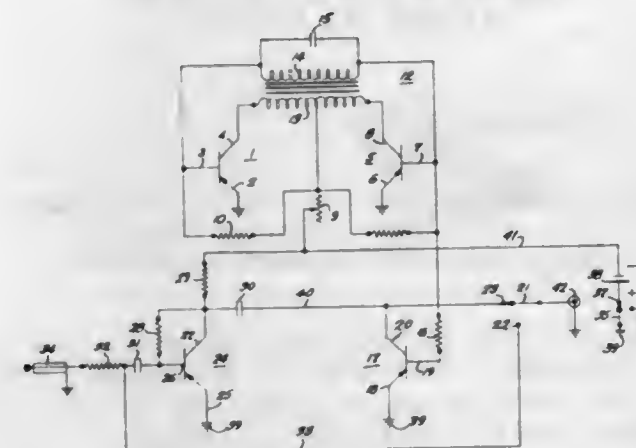
of common potential, at least three amplifiers each having its input connected to said collector bus at juncture of one of said terminating resistors and said collector bus, a loudspeaker connected to output of each of said amplifiers, and control means for said amplifiers.

3,342,924

TRANSISTOR CIRCUIT PROVIDING VIBRATO EFFECTS FOR ELECTRICALLY OPERATED MUSICAL INSTRUMENTS

Henry B. Padgett, Albuquerque, N. Mex., assignor to Byron Guse, trustee

Filed Jan. 15, 1964, Ser. No. 337,883
 5 Claims. (Cl. 84—1.25)



1. A vibrato system for insertion between a musical instrument and an amplifier comprising an oscillator including two transistors, each having a base electrode, an emitter electrode and a collector electrode, a transformer including a primary winding having two end terminals and a center top terminal and a secondary winding having two end terminals, a capacitor connected in parallel with said secondary winding forming a tank circuit therewith for establishing sub-audio frequency oscillations, means connecting the end terminals of said secondary winding to said base electrodes, means connecting the end terminals of said primary winding to said collector electrodes, a base biasing resistor connected between each of said base electrodes and said center top terminal, a variable resistor connected between said center top terminal and a source of reference potential for controlling the frequency of oscillations by varying the voltage applied through said variable resistor to said base and collector electrodes, a signal carrying line for receiving electrical signals derived from the musical instrument and applying them to an output terminal, an output circuit for said oscillator including a transistor serving as a variable impedance and having a base electrode, an emitter electrode and a collector electrode, and means for applying oscillation signals produced by said oscillator through a limiting resistor to the base electrode of said last-mentioned transistor.

3,342,925

ARTICULATED CROSSARM ASSEMBLY

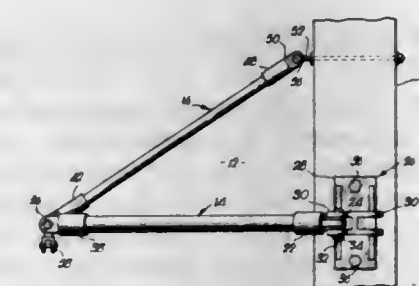
Paul E. Lewis, Mexico, and William L. Hollander, Centralia, Mo., assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri

Filed Apr. 29, 1966, Ser. No. 546,439
 7 Claims. (Cl. 174—45)

1. In combination with an upright power line support, a crossarm assembly comprising:
 a pair of elongated, juxtaposed arms extending outwardly from said support in a common, generally horizontally disposed plane, and each having a pair

of opposed, inner and outer ends and characterized by substantially greater load carrying capacity in tension than in compression;

a pair of horizontally spaced arm mounts secured to said support and each having a pivot supporting the inner end of a respective arm and defining a vertical pivotal axis through said inner end;
 an elongated rigid member extending downwardly and outwardly from said support and having a pair of opposed, inner and outer extremities;
 a deformable fastener attaching said inner extremity to said support above said arms at a location on the support lying between a pair of vertical planes extending through respective arms;
 said inner extremity being provided with structure in engagement with said fastener preventing substantial horizontal swinging of the member about the fastener;



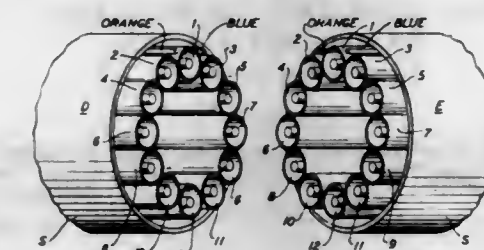
means interconnecting the outer extremity of the member and the outer ends of said arms with said member disposed to form a generally V-shaped structural configuration with each of said arms; and
 means coupled with said outer extremity and said outer ends for suspending a line-supporting insulator string therefrom,
 said fastener deforming in response to lateral forces applied to said member by the line incident to a compressive fracture of one of said arms, whereby to provide a three-element crossarm array which, should said fracture occur as a result of a line break, will swing with the pull of the line as the fastener bends to place the other arm in tension, thereby resisting further fracture.

3,342,926

MULTI-CONDUCTOR COAXIAL CABLE WITH CONDUCTORS STRANDED IN ORDER OF RELATIVE IMPEDANCE

Doris E. Wachter, Towson, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 4, 1965, Ser. No. 492,485
 8 Claims. (Cl. 174—68)

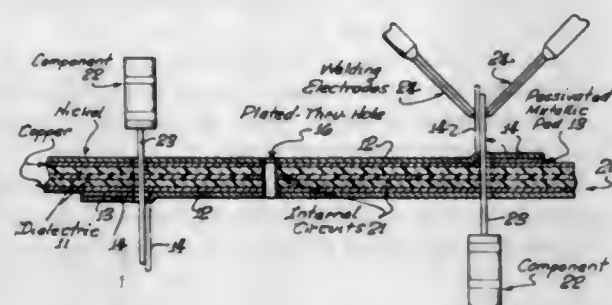


1. A cable comprising a plurality of conductors arranged within an enclosure, one group of said conductors positioned adjacent to one another according to alternate values of increasing conductor impedance followed by the remaining conductors in order of decreasing values of conductor impedance.

3,342,927 WELDABLE TAB FOR PRINTED CIRCUITS AND METHOD OF FABRICATION

James R. Kubik, Upland, and William P. Dugan, Ontario, Calif., assignors to General Dynamics Corporation, a corporation of Delaware

Filed Jan. 10, 1966, Ser. No. 519,719
14 Claims. (Cl. 174-68.5)



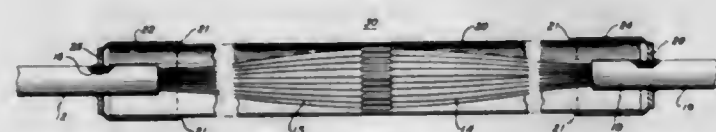
1. An article of manufacture comprising: an electronic circuit board including at least one dielectric sheet carrying at least one composite circuit pattern of a first conductive metal overlaid by a dissimilar second conductive metal, terminal pads on said first conductive metal and formed integrally with said first conductive metal of said composite circuit pattern, and terminal tabs formed integrally with said overplated dissimilar second conductive metal of said composite pattern, said terminal tabs being located adjacent said terminal pads and adapted to be independently positioned with respect to said terminal pads.

5. The method of manufacturing electronic circuit boards consisting of the sequential steps of: applying a resistive mask on at least one metallic surface of a metallic laminated dielectric board leaving at least one blank area, plating the metallic surface of the blank area with a different conductive metal than the metal of the metallic surface to form a terminal pad, removing the resistive mask, applying a resistive mask on at least one metallic surface of the laminated dielectric board defining at least one circuit pattern terminating adjacent the terminal pad, activating the unmasked metal defining the at least one circuit pattern and passivating the unmasked metal of the terminal pad, plating the activated and passivated metals with a metal similar to the passivated metal to define at least one terminal tab adjacent the terminal pad, removing the resistive mask, etching away the exposed metal of the at least one metallic surface, and separating the terminal tabs from the terminal pads due to the passivated condition therebetween.

3,342,928 SPICE CLOSURES

James M. Forney, Cincinnati, Ohio, assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York

Filed July 6, 1965, Ser. No. 469,514
8 Claims. (Cl. 174-88)



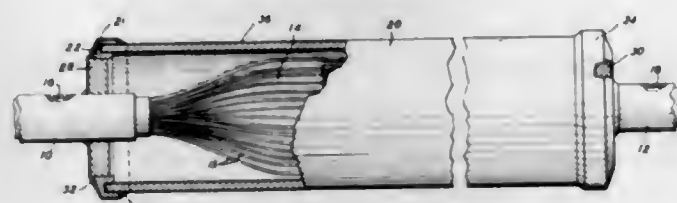
1. A splice closure enclosing a splice that joins coaxial conductors of two lengths of lead-jacketed cable, comprising sleeve means surrounding the splice and including a steel cylinder having a lead alloy layer substantially thinner than the steel cylinder and bonded to its inner and outer surfaces, two disc-shaped end plates each having a center hole and embracing the jacket on one of

said cable lengths, said end plates having a substantially lead composition and extending radially from said jacket, two mutually separated collar means composed substantially of lead extending from respective ends of said sleeve and surrounding respective ones of said end plates, and solder joining said collar means to said sleeve and said end plates in hermetically tight seals and joining said end plates to said jacket in hermetically tight seals.

3,342,929 SPICE CLOSURES

Walter C. Kleinfelder, Summitt, and Edward L. Ramsey, Jr., Martinsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 6, 1965, Ser. No. 469,581
4 Claims. (Cl. 174-88)

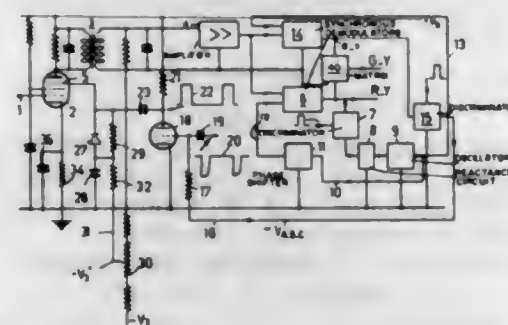


1. A splice case for enclosing a splice that joins coaxial conductors of two lengths of lead-jacketed cable, comprising sleeve means for surrounding the splice and including a steel cylinder having a lead alloy layer bonded to its inner and outer surfaces, two disk-shaped end plates each having a center hole for embracing the jacket on one of said cable lengths, said end plates having a substantial lead composition and extending radially from the holes to an outer diameter smaller than the inner diameter of said sleeve means, two rings of lead composition each having an inner opening and having respective annular recesses receiving therein the respective ends of said sleeve means, said rings embracing the outer surfaces of said end plates at said inner openings, and solder joining said rings to said sleeve and said end plates in hermetically tight joints, the holes in said end plates being of such size that when they embrace the jackets on the cable lengths the end plates are capable of being soldered to the jackets on the cable lengths and such that the solder used can form with said end plates and the jackets hermetically tight seams.

3,342,930 CIRCUIT ARRANGEMENT IN COLOUR TELEVISION RECEIVERS

Gerrit Kool, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 20, 1964, Ser. No. 390,812
Claims priority, application Netherlands, Aug. 30, 1963, 297,330
7 Claims. (Cl. 178-5.4)



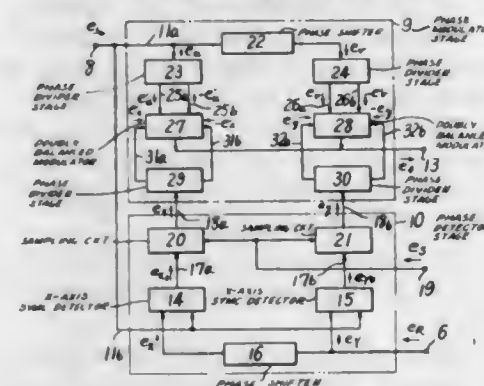
1. A circuit for a colour television receiver for receiving colour television signals of the type in which two colour signals are modulated in quadrature on an auxil-

ary carrier and the burst signal is co-transmitted as a separate synchronizing signal during the occurrence of a back porch between two lines, said circuit including an amplifying element in the colour channel of the receiver for amplifying both the burst signal and the colour signal which is present during the rest of the line period, means applying gating pulses to said amplifying element which open it further during the horizontal fly-back period than during the horizontal stroke period, said gating pulses being derived from an output electrode of a second amplifying element having an input electrode to which the gating pulses are applied, the circuit also including means for deriving an automatic control voltage, proportional to the amplitude of the burst signal, from the output signal of the first-mentioned amplifying element wherein the improvement comprises means for applying said control voltage as an automatic burst control voltage to the second amplifying element, a clamp circuit, means connecting the output electrode of said second amplifying element to an input electrode of said first mentioned amplifying element by way of said clamp circuit, a source of a variable bias voltage at which the gating pulses derived from the second amplifying element must be fixed during the horizontal stroke period, and means applying said bias voltage to said clamp circuit, whereby in the absence of burst signals current flow in said input circuit resulting from said gating pulses charges said clamp circuit to a potential that cuts off said first mentioned amplifying element during the stroke period.

3,342,931 PHASE CORRECTION SYSTEM OF ELECTRIC SIGNALS

Yasufumi Yunde, Fujimi-cho, Iruma-gun, Japan, assignor to Japan Broadcasting Corporation, Tokyo, Japan

Filed Mar. 29, 1965, Ser. No. 443,211
Claims priority, application Japan, Apr. 9, 1964, 39/19,807
4 Claims. (Cl. 178-5.4)



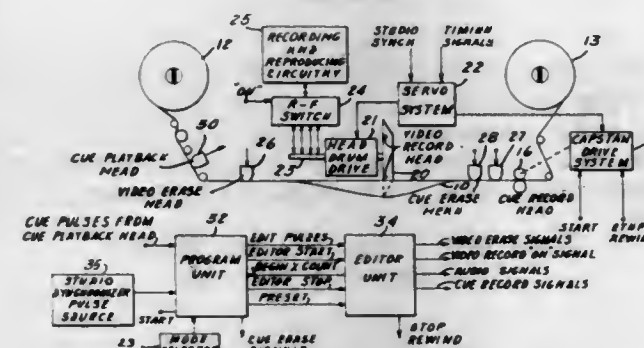
1. A phase correction system suitable for correcting phase deviations induced during the transmission of a phase modulated electric signal including at least several cycles of a reference phase wave of constant amplitude, comprising, a phase detector stage, a phase modulator stage, a stable phase reference signal source, said phase detector stage including at least a first and a second synchronous detector for synchronous detection on two-phase quadrature axes and a first 90° phase shifter, said phase modulator stage including at least a first and a second doubly balanced modulator for amplitude modulation on two-phase quadrature axes and a second 90° phase shifter, means for applying said phase modulated electric signal directly to each of said synchronous detectors, said stable phase reference signal source connected directly to said first synchronous detector and through said first 90° phase shifter to said second synchronous detector for applying a stable reference signal thereto, said synchronous detectors producing a plurality of first error signals on two-phase quadrature axes corresponding to the phase difference between the phase of the reference phase

wave included in said phase modulated electric signal and the phase of said stable phase reference signal, means for applying said phase modulated electric signal directly to said first doubly balanced modulator and through said second 90° phase shifter to said second doubly balanced modulator, said second synchronous detector connected to said first doubly balanced modulator for applying said first error signals thereto wherein said phase modulated signal is amplitude modulated, said first synchronous detector connected to said second doubly balanced modulator applying error signals thereto wherein said 90° phase shifted electric signal is amplitude modulated, and means for combining both of said amplitude modulated signals and obtaining resultant outputs therefrom.

3,342,932 DIGITAL CONTROL SYSTEM FOR ANIMATION EFFECTS WITH A TELEVISION SIGNAL RE- CORDER

Norman F. Bounsall, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Dec. 9, 1963, Ser. No. 329,033
9 Claims. (Cl. 178-6.6)



8. A system for providing and correcting animation effects in a television program recording system wherein each successive program segment along a recording medium is identified by the presence or absence of a corresponding pulse recorded on the medium, comprising counter means for counting the successive program segments, means responsive to the absence of one of said corresponding pulses for initiating a count of predetermined duration in said counter means, means responsive to a first external command for erasing program segments during said predetermined count, means responsive to the first external command for recording program segments and corresponding pulses during said predetermined count, and means responsive to a second external command for erasing the pulses corresponding to the successive program segments, during said predetermined count.

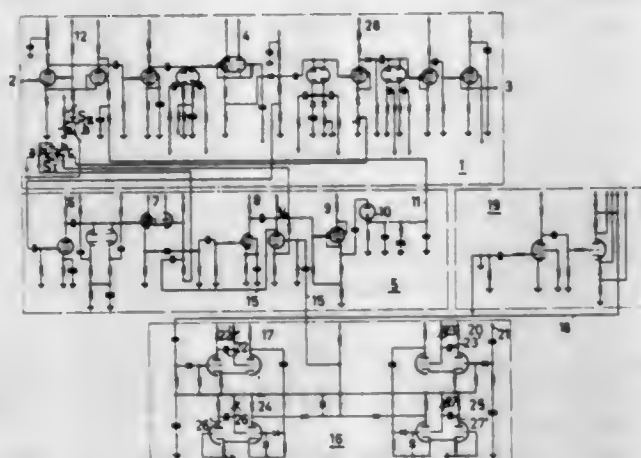
3,342,933 MEDICAL X-RAY TELEVISION SYSTEM OF THE KIND COMPRISING AN ADJUSTABLE CON- TRAST CONTROL

Erich Zieler and Horst Ermer, Hamburg, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 10, 1963, Ser. No. 286,693
Claims priority, application Germany, July 3, 1962, M 53,415
4 Claims. (Cl. 178-7.1)

1. An X-ray television system of the type comprising a video amplifier for amplifying video signals corresponding to the lines of sequential frames of a televised image,

said system comprising an automatic gain control circuit connected to said amplifier for producing an automatic gain control voltage responsive to the amplitude of said signals, means for applying said voltage to said amplifier

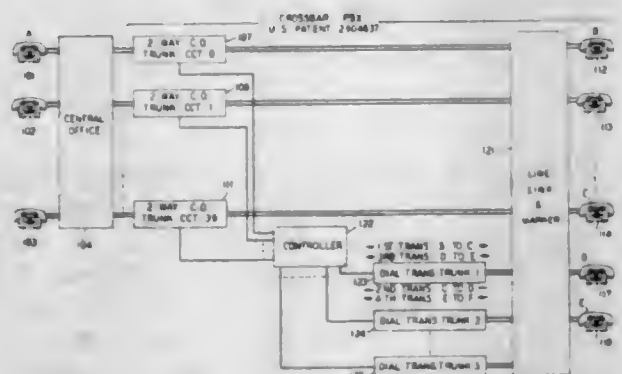


for controlling the gain thereof, and means connected to said gain control circuit for inhibiting the production of said control voltage during a predetermined portion of the image during each frame.

3,342,934

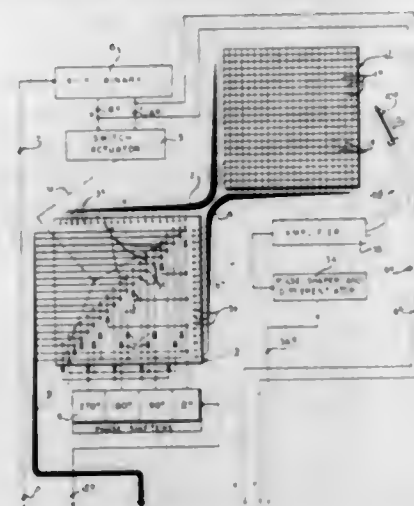
PRIVATE BRANCH EXCHANGE TELEPHONE SYSTEM WITH DIAL TRANSFER FACILITIES
Harry Kohn, Rahway, and Courtney H. Schardt, Short Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 2, 1964, Ser. No. 393,911
13 Claims. (Cl. 179-18)



1. In an automatic telephone system, a private branch exchange, a plurality of central office trunks terminating at said private branch exchange, a plurality of extensions at said private branch exchange, means for completing a connection over one of said central office trunks between an outside station and a first one of said extension stations, means for temporarily interrupting said connection by splitting said one central office trunk between the office end and the line end, a transfer trunk at said private branch exchange, means activated by said first one of said extensions for seizing said transfer trunk and for completing a connection over said office end of said one central office trunk and said transfer trunk from said first extension to a second one of said extensions, means activated by either said first or said second extension for restoring said first-mentioned connection whereby to join said outside station and said first and second extensions in a connection for conversation, and means controlled by said second extension and effective upon said first extension going on hook for completing a connection over said transfer trunk and the office end of said central office trunk from said second extension to a third of said extensions.

3,342,935
FREE STYLUS POSITION LOCATING SYSTEM
Joseph Charles Leifer, Forest Heights, Md., and Louis Mittelman, Jr., Alexandria, and Erwin Julius Sobol, Falls Church, Va., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 20, 1964, Ser. No. 338,883
18 Claims. (Cl. 178-19)



1. A system for locating the position of a stylus as defined in terms of a coordinate, distances along which are represented by a family of spaced coordinate conductors comprising:

- means for sequentially applying an identifying wave to each conductor and for concurrently generating a first voltage waveform of changing level;
- means for picking up one of said waves in the stylus from an adjacent conductor;
- means operated by said picking up means for storing the level of the first waveform at the instant when the wave was picked up;
- means for generating and applying plural phase-shifted components of a cyclic wave in a repeating sequence to plural conductors in repeating groups and for concurrently generating a second waveform changing in level and initiated at the time the cyclic wave passes through a definite point in its cycle;
- means for picking up a composite of the phase shifted components at the stylus and determining the instant at which the composite passes through a similar definite point in its cycle;
- means operated by the latter picking up means for storing the level of the second waveform at the latter instant; and
- means for combining the two stored levels to produce an output level proportional to said stored levels and representing the position of the stylus along that coordinate.

3,342,936

CIRCUIT FOR PRODUCING COMPLEX ELECTRIC SIGNALS OF PREDETERMINED AMPLITUDE AND PHASE FOR CONTROLLING CHARACTER FORMING MEANS

Enzo Ascoli, Lausanne, and Valerio Barbina, Renens, Switzerland, assignors to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a corporation of Switzerland
Filed Oct. 18, 1965, Ser. No. 496,836
Claims priority, application Switzerland, Mar. 31, 1965, 4,438/65

3 Claims. (Cl. 178-30)

1. In a circuit for supplying electric controlling signals defining the signal components along two coordinate axes which correspond to the different sections of the symbols of the typewriter keyboard type to be formed, along those axes, comprising a generator means connected to produce in a continuous manner two groups of four substantially sinusoidal voltage signals, the four voltage signals of one

group being of a same basic frequency and of a same amplitude and phase shifted with reference to one another by $\pi/2$, the four voltage signals of the second group being of a same frequency substantially double the basic frequency and of a same amplitude of said one group and phase shifted with reference to one another by $\pi/2$, a source of at least two D.C. voltages of opposite polarities, at least one further substantially sinusoidal voltage signal produced by said generator means at said basic frequency and shifted by

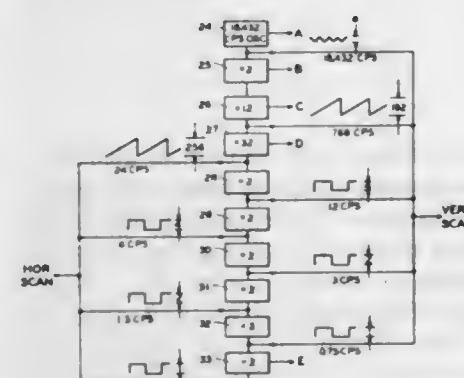
$$\frac{\pi}{4}$$

with reference to one of the voltage signal of said one group, wherein n is an integer, and said further voltage signal being biased by a said D.C. voltage of a predetermined sign equal to its effective value, and a plurality of circuits having inputs connected to said generator means and source of D.C. voltages, said inputs fed by said voltage signals, said one further voltage signal, and said D.C. voltages and adapted to produce electric controlling signals for each symbol defining the deflection signal components along two coordinate axes for producing the desired symbol.

3,342,937

SYNCHRONIZING OF ELECTRON BEAM SCANNING IN A NARROW BANDWIDTH PSEUDO-RANDOM DOT SCAN TELEVISION SYSTEM
Sid Deutsch, Roslyn Heights, N.Y., assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Original application Aug. 1, 1962, Ser. No. 214,102.
Divided and this application Dec. 2, 1966, Ser. No. 598,763

4 Claims. (Cl. 178-69.5)

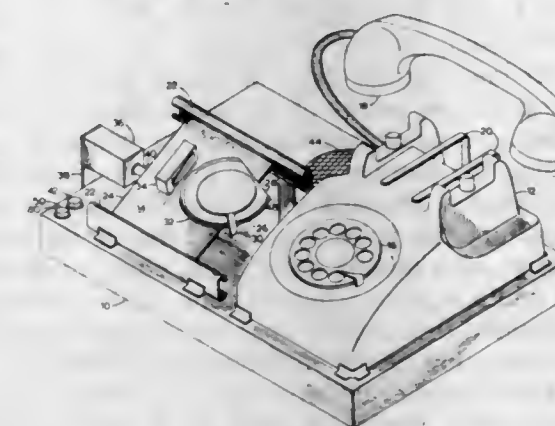


3. Apparatus for synchronizing a plurality of timing signals in a receiver with similar signals received from a transmitter comprising means in the transmitter for providing higher frequency timing pulses and lower frequency timing pulses at harmonically related frequencies, said higher frequency timing pulses being synchronized with, and having a different length of duration than, said lower frequency timing pulses, and being combined therewith such that the combination of said pulses comprises a series of pulses at said higher frequency, all having a first length of duration except those coinciding with said lower frequency timing pulses, said latter pulses having a second length of duration different from said first length, means in the receiver for receiving said combined pulses, synchronizing means responsive to pulses at said higher frequency, means responsive to said combined pulses for providing in synchronization therewith pulses of said first length of duration at said higher frequency, means for combining said last-mentioned pulses in opposition to said combined pulses received from the transmitter, said last-mentioned means thereby providing pulses at said lower frequency in accordance with the pulses provided in the

transmitter at said lower frequency, and synchronizing means responsive to said pulses at said lower frequency.

3,342,938

AUTOMATIC DIAL TELEPHONE ALARM SYSTEM WITH FINGERWHEEL FRICTIONALLY DRIVEN BY SLIDABLY MOUNTED FRICTION WHEEL
Elmer Benedict, 950 Pearse Road, Schenectady, N.Y. 12309
Filed Oct. 21, 1963, Ser. No. 317,424
10 Claims. (Cl. 179-5)



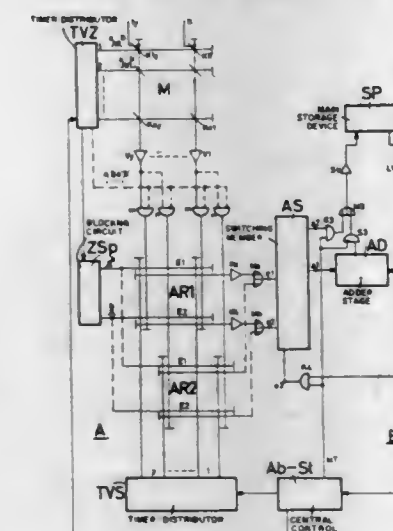
1. A telephone dialing mechanism comprising a friction wheel having a flat portion on the periphery thereof, said wheel being slidably mounted for engagement on the arcuate periphery thereof with a dial of a telephone, means for rotating said wheel, and means for stopping the rotation of said wheel at a predetermined point in the rotation thereof.

3,342,939

SYSTEM FOR MONITORING AND PICK-UP OF SIGNAL PULSES OCCURRING AT RANDOM SEQUENCE ON SIGNAL LINES WITH OR WITHOUT INTERPOSED CONNECTING DEVICES, IN PARTICULAR, TARIFF-CHARGE PULSES IN TELEPHONE INSTALLATIONS

Günther E. Gattner, Munich, Ullrich Tanke, Grafelfing, and Karl-Heinz Widdel, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Mar. 20, 1964, Ser. No. 353,625
Claims priority, application Germany, Mar. 22, 1963, S 84,296

10 Claims. (Cl. 179-7.1)



1. In a system for the central registration of signal impulses arriving on various signal lines with or without interposed communication devices, in random sequence, but with a certain minimum time interval, as for ex-

ample, rate impulses in long-distance systems, in connection with a plurality of single signal lines or interposed communication devices, such as a relay set of the first group selector stage, and having individually allocated bistable storage elements such as ferromagnetic ring cores for temporarily storing respective signal impulses, an interrogation device for cyclicly ascertaining the storage state of such storage elements, an evaluation network coupled with the output lines of the storage elements, said network comprising a component part of a registration device as an input control circuit whose recognized signal impulses are eventually recorded, the combination of said interrogation device being operable to produce scanning pulses, conducted to the storage elements over interrogation lines of the interrogation device, in the form of two pulses of the same polarity, following each other at a brief interval, each of which is capable of switching the storage element to be scanned, even in the simultaneous presence of a signal impulse, into its initial position, the pulse sequence time of the scanning pulses design as a double pulse being equal to or smaller than the smallest pulse sequence time of the signal pulses to be registered, but greater than or at least equal to the minimum duration of the effective signal pulses, an intermediate storer, said evaluation network comprising logical component parts having a total of 3 signal inputs, of which the first two are operatively connected with the output lines of the storage elements responsive to the respective pulses of the double interrogation pulses, the third signal input being connected with the output of said intermediate storer in which a pertinent binary control signal derived from the preceding evaluation is stored for the duration of a scanning cycle, said evaluating network having two control outlets, one of which is connected with the input of the registration device and the other with the input of said intermediate storer for the intermediate storing of the binary control signal derived in the particular evaluation.

3,342,940

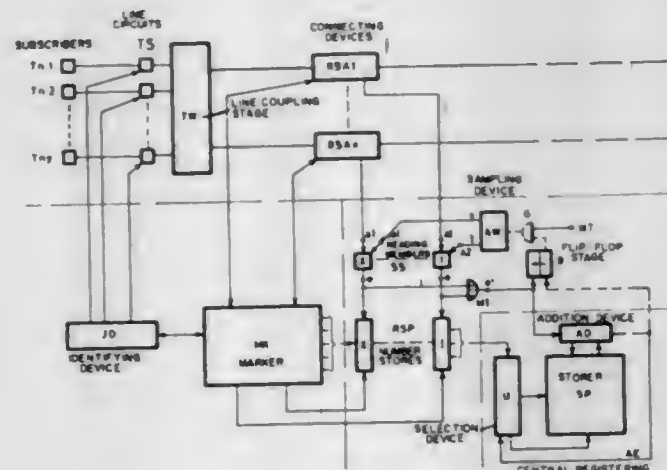
ARRANGEMENT FOR REGISTERING CALL METERING IMPULSES IN A COMMUNICATION SYSTEM

Günther E. Gattner and Karl-Heinz Widdel, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Dec. 30, 1963, Ser. No. 334,356

Claims priority, application Germany, Jan. 2, 1963, S 83,134

16 Claims. (Cl. 179-9)



1. An arrangement for the registering, on telecommunication lines with interposed connecting devices such as the first group selector, signal pulses allocated to one of a plurality of such lines, such as charge pulses in tele-

phone installations, in which the signal pulses appear in random sequence but with definite temporal minimum spacing, and for storing an indication of such signal pulses in a central registering device as a signal allocated to the appropriate line, through repeated or periodic reading of the connecting devices connected with the lines to be monitored by reading members responsive to the signal pulses, individually appearing thereat, comprising an identifying device, individual storers for the respective connecting devices operatively connected to respective reading members and said identifying device, for receipt, at the beginning of a connection build-up, of the call number of the subscriber building up the connection, as ascertained by said identifying device, the central registering device having a storer and a control device responsive to a signal pulse thereat, in conjunction with the number stored in said individual storers to initiate storage in the central storer of said central registering of an indication of such a signal pulse as a signal allocated to the appropriate line, and thereby effect the registering thereof.

3,342,941

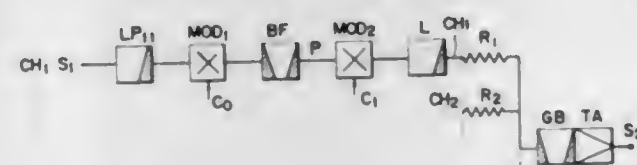
MULTI-CHANNEL CARRIER TRANSMISSION SYSTEM

Kiyomi Kondo, Yokohama-shi, Japan, assignor to Toyo Tsushinki Kabushiki Kaisha, Kawasaki-shi, Japan, a joint-stock company of Japan

Filed June 18, 1963, Ser. No. 288,760

Claims priority, application Japan, June 18, 1962, 37/5,293

11 Claims. (Cl. 179-15)



1. A multi-channel carrier communication system comprising a transmission side having a plurality of channels in a selected transmission frequency band, and comprising premodulation means for uniformly converting the voice frequency signal components of all of the channels to the same high frequency of at least about six times the maximum frequency of the transmission frequency band, means for channel-modulating signal components by carrier frequencies which are different for each channel, means including low pass filters which are the same for all channels for selecting the lower side band components of said modulated signals and combining them so as to be allocated successively in the transmission frequency band in predetermined order; and a receiving side comprising means for performing functions of the transmission side in reverse order.

3,342,942

PARTY LINE EXCHANGE WITH INTERWORKING OF DIFFERENT TYPE SWITCHING UNITS

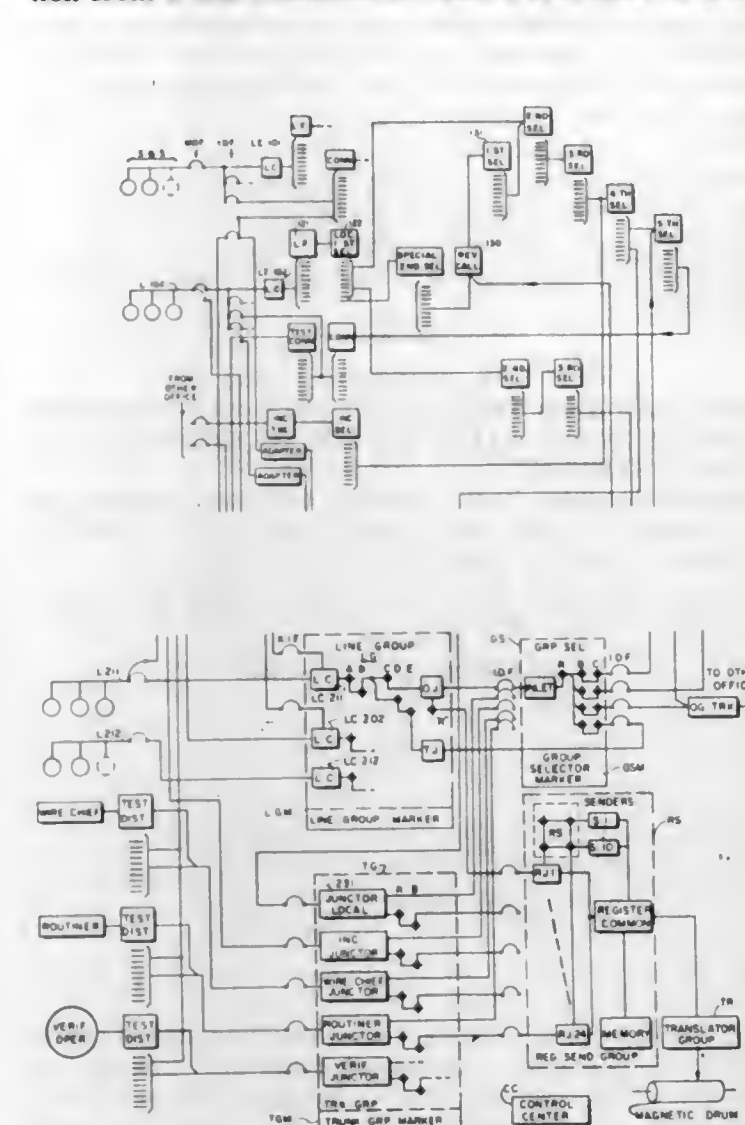
William C. Miller, Glen Ellyn, and Frank B. Sikorski, Des Plaines, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed June 5, 1964, Ser. No. 373,032

13 Claims. (Cl. 179-16)

1. In a communication system, an exchange comprising first and second switching units, each said unit having a plurality of subscriber lines, including party lines connected thereto, and said first unit including connector switches of the terminal per station type while said second unit has marker controlled line stages of the terminal per line type and common control means for said markers which provide for translation of the subscriber directory

numbers, the line terminals of both said units terminating sets of conductors including control conductors, and comprising apparatus for facilitating the move of a station from a line connected to one of said units to a line



connected to the other unit without change in directory number, said apparatus including adapter means connectible between control conductors of the corresponding terminals of one and the other unit to repeat a busy mark at either terminal to the other terminal.

ERRATUM

For Class 179-18 see:
Patent No. 3,342,934

3,342,943

REPERTOIRE DIALING SYSTEM

Hans Aumüller, Besigheim, Württemberg, and Dietrich Klemt, Ditzingen, Württemberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

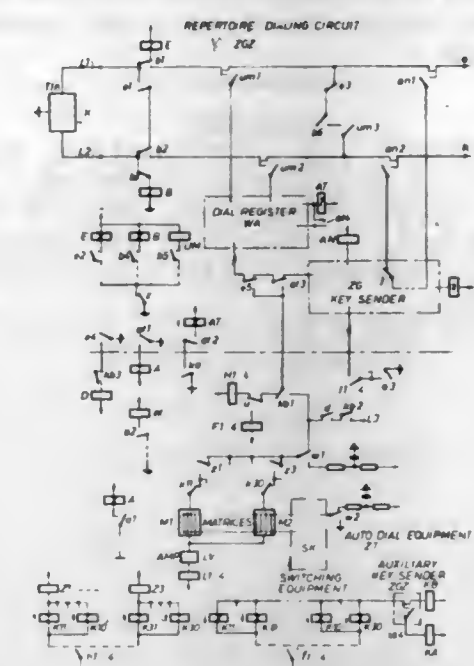
Filed Apr. 22, 1964, Ser. No. 361,702

Claims priority, application Germany, Apr. 23, 1963, St 20,525

4 Claims. (Cl. 179-18)

1. A repertoire dialing system for converting multi-element code numbers received over any one of a plurality of calling lines into respectively corresponding multi-digit telephone numbers assigned to the code numbers and including means for adding new telephone numbers corresponding to selected code numbers, matrix means for storing data indicative of said multi-digit telephone numbers, subscriber stations associated with said lines, each subscriber station including first signal generating means for selectively generating first control sig-

nals and dial means for generating second control signals, means responsive to said first control signals for controlling the said matrix means to read out said stored data,



means responsive to said second control signals to change said stored data, and means at said subscriber station for selecting between read-out and data changing.

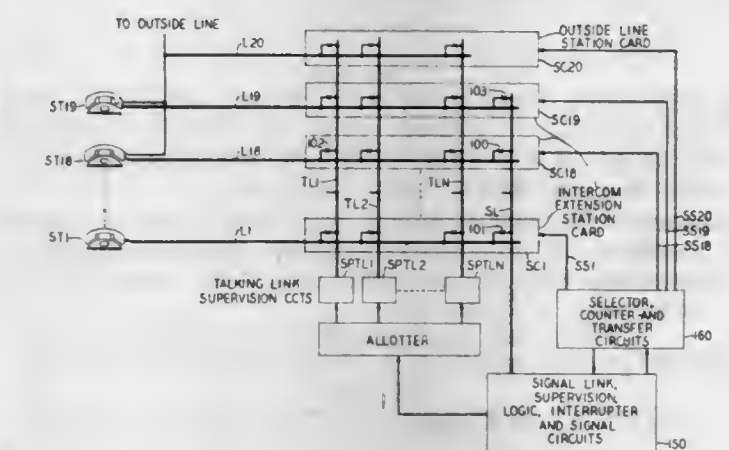
3,342,944

MULTICHANNEL INTERCOM SYSTEM WITH COMMON SIGNALING CHANNEL

Robert E. Barbato, Middletown, Marvin H. Eargle, Long Branch, James R. McEowen, Madison Township, Middlesex County, Dale W. Trent, Neptune, and George W. Wells, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 29, 1964, Ser. No. 363,449

20 Claims. (Cl. 179-18)



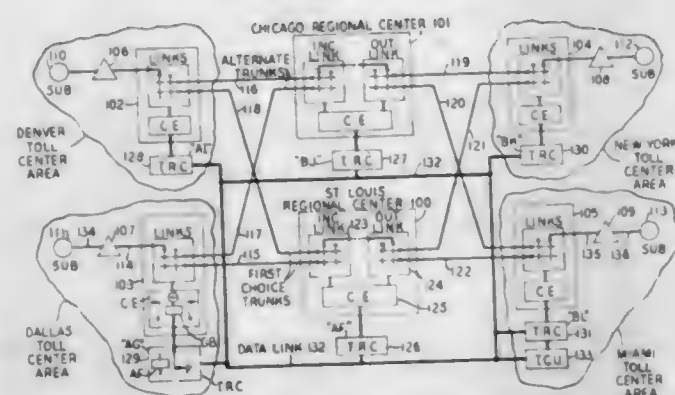
1. An intercom system comprising a plurality of stations, a plurality of talking links, a signal link, means responsive to one of said stations going off-hook for connecting said one station to said signal link, means responsive to a single called station number received from said one station for connecting to said signal link the respective called station, means responsive to a predetermined signal followed by a series of called station numbers received from said one station for connecting all of the respective called stations to said signal link, means responsive to the connection of all called stations to said signal link for transferring all stations connected to said signal link to an idle one of said talking links, means for extending to said one station a busy tone signal immediately after a called station number is received if the respective

called station is busy, means for ringing all called stations, and means for delaying the ringing of all called stations whose respective station numbers are received following said predetermined signal until after all of the called station numbers in said series are received from said one station.

3,342,945 ARRANGEMENT FOR CONTROLLING TRAFFIC IN A SWITCHING NETWORK

Kenneth D. Hopper, Holmdel, and Edward E. Schwenzfeger, Red Bank, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 4, 1964, Ser. No. 372,513
17 Claims. (Cl. 179—18)

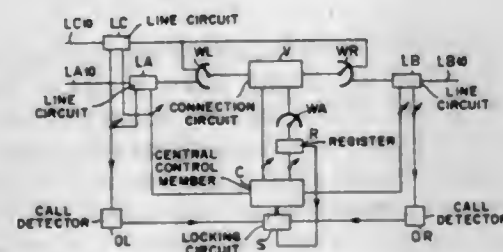


1. In a communication network, a plurality of switching offices, a plurality of trunks extending from said offices, switching means at said offices effective when available in response to call directive signals transmitted over said trunks for interconnecting said trunks for communication purposes, means for transmitting independently of said call directive signals a load, interrogating signal to each said office and for transmitting to other offices indicia representative of the availability of said switching means at said interrogated offices, and means at said other offices for controlling said switching means in accordance with the indicia received thereat.

3,342,946 AUTOMATIC TELEPHONE EXCHANGE HAVING SOME LINES CONNECTED TO TWO SELECTOR STAGES AND SOME LINES CONNECTED TO ONLY ONE SELECTOR STAGE

Johannes Martinus Brouwer and Henri Peter Johannes Grubben, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,233
Claims priority, application Netherlands, July 16, 1963, 295,403
6 Claims. (Cl. 179—18)



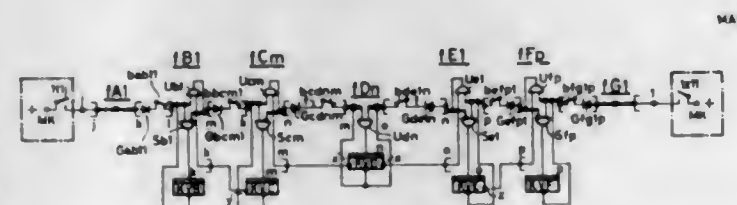
1. An automatic telephone exchange system for selectively establishing connections between first and second groups of telephone lines, comprising first and second groups of telephone lines, said second group of lines comprising first and second subgroups of lines, said system further comprising first and second group of terminals, connecting circuit means comprising means for selective-

ly providing interconnections between said first and second groups of terminals, means connecting said lines of said first group of lines to separate terminals of said first and second groups of terminals whereby each line of said first group of lines is connected to corresponding terminals of both said first and second group of terminals, means connecting said first and second subgroups of lines only to separate terminals of said first and second groups of terminals respectively, and control circuit means connected to said connecting circuit means, said control circuit means being responsive to signals on said lines for controlling said connecting circuit means to selectively interconnect terminals of said first and second groups of terminals.

3,342,947 HUNTING AND SELECTING IDLE CONNECTION PATHS IN COUPLING FIELDS OF COMMUNICA- TION SYSTEMS

Helmuth Joachim Bock, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Jan. 30, 1964, Ser. No. 341,325
Claims priority, application Germany, Feb. 4, 1963, S 83,586
16 Claims. (Cl. 179—22)



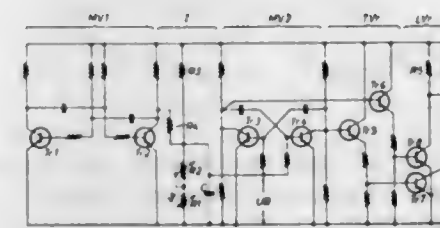
1. In a circuit arrangement for a coupling field selection system, comprising a coupling field having a plurality of coupling stages and including a pathfinder network having conductors which are respectively assigned to trunk lines of the coupling field and interconnected at marking junctures assigned respectively to coupling multiples, means for simultaneously marking the input and output path belonging to a desired connection, whereupon a path portion which is marked from the input and output is selected at an intersecting point extending transverse through the pathfinder network and thereupon newly marked by restriction of the marking previously present at the corresponding intersection point, said new marking being in opposition to the original marking in the pathfinder network, and transmitted to further intersection points at which further suitable path portions are respectively selected with the aid of the markings merging thereat, and wherein the corresponding operations are repeated until a path is determined in the pathfinder network, by the selected path portions, over which a desired connection is to be extended; the combination of means, operative upon selection of a path portion at a first intersection point, for the restriction of the markings, at the intersection points lying directly adjacent the first intersection point, to interrupt the extension of the original markings to the first intersection point, means for effecting extension of the marking placed on the path portion selected at the first intersection point to the two adjacent intersection points over conductors of the pathfinder network provided for the transmission of the original markings, without being hindered by the original markings, means for thereupon selecting at said adjacent intersection points further path portions in accordance with the prevailing markings, means for likewise interrupting at the further intersection points located beyond and adjacent said intersection point which are directly adjacent to the first intersection point, the original markings for the further restriction of the markings, so as to transmit thereto un-

hindered the markings placed on the path portions selected at the intersection points which are directly adjacent the first intersection point, and means for thereupon selecting path portions at said further intersection points, and repeating said operations with respect to still further intersection points so as to determine a desired connection path extending over the coupling field.

3,342,948 FREQUENCY MODULATED TELEPHONE RINGING SYSTEM

Hans-Ulrich Knauer and Armin Konold, Kornwestheim, Württemberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 24, 1964, Ser. No. 354,326
Claims priority, application Germany, Apr. 10, 1963, St 20,496
6 Claims. (Cl. 179—84)



1. A signalling arrangement for telephone systems comprising in combination first means for generating first signals of a predetermined frequency selected to be equal in frequency to the deviation desired in the frequency of a ringing signal, second means for generating second signals of a predetermined frequency, means for integrating said first signals to provide modulating signals proportional to said deviation, and means for applying said modulating signals to the second means to thereby provide the desired frequency variation in said second signals.

3,342,949 EDITING OF TAPE-RECORDED VIDEO SIGNALS

Johannes Hendrik Wessels, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 5, 1963, Ser. No. 270,864
Claims priority, application Netherlands, Apr. 9, 1962, 277,006
2 Claims. (Cl. 179—100.2)



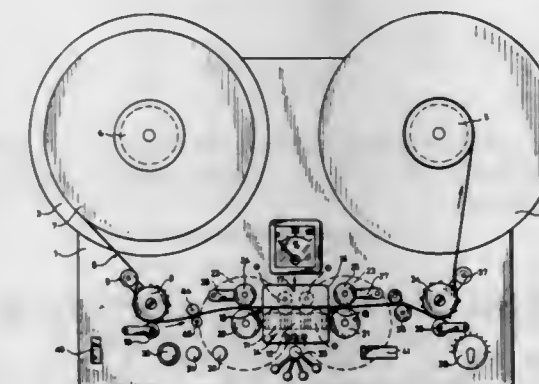
1. A magnetic recording and reproducing device comprising: a stationary cylindrical drum composed of two sections having an axis with a gap between the sections, a disc concentric with said drum located in said gap, means for rapidly rotating said disc, a magnetic tape adapted to move in a helical path around a portion of the periphery of said drum, a magnetic recording head located on the circumference of said disc, a magnetic erasing head also located on the circumference of said disc, said heads magnetically co-acting with said tape, said erasing head leading said recording head in the direction of disc rotation,

and a stationary erasing head located adjacent to and magnetically co-acting with said tape, the width of the frontal portion of said stationary head being substantially the same as the width of said tape, said erasing head being axially displaced from said recording head through a distance such that the recording and erasing heads traverse the same lines on the tape.

3,342,950 MAGNETIC RECORDER WITH TAPE DRIVEN FLYWHEELS

Karl-Georg Schwarz, Karlsruhe, Anton Hüdek, Linkenheim, and Walter Johnner, Karlsruhe, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Dec. 3, 1963, Ser. No. 327,597
Claims priority, application Germany, Aug. 27, 1963, S 86,922
18 Claims. (Cl. 179—100.2)



1. A magnetic recorder for use with a perforated tape-like record carrier, sprockets for engaging said record carrier, drive means including clutch means for selectively driving said sprockets rotatable centrifugal masses and drive rollers for respectively rotating said masses, magnetic heads positioned between said drive rollers, pressure rollers for pressing the record carrier into engagement with said drive rollers so as to cause said record carrier to rotate such drive rollers and the respective centrifugal masses, auxiliary drive means for said centrifugal masses, means for stopping, rapidly advancing and reversing the motion of said record carrier, means for disengaging said record carrier from said drive rollers and simultaneously engaging said auxiliary drive means with said centrifugal masses during the periods of stop, rapid advance and reverse of said record carrier, said sprockets being driven only for advancing the record carrier with normal speed.

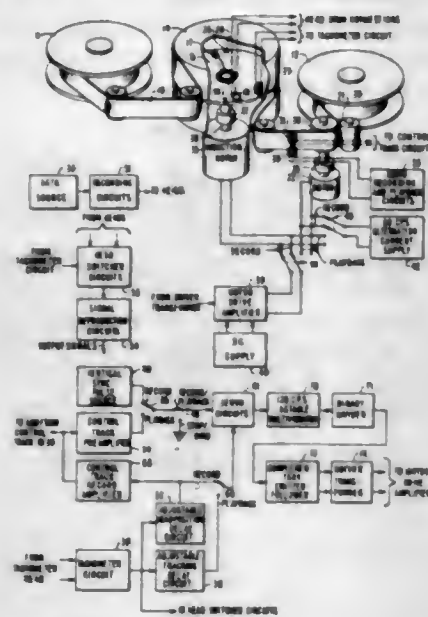
3,342,951 SERVO CONTROL SYSTEM AND METHOD IN A HELICAL SCAN RECORDER

Donald B. MacLeod, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Apr. 20, 1964, Ser. No. 360,921
11 Claims. (Cl. 179—100.2)

7. A time base control system for a wideband magnetic tape recording and playback system which utilizes a scanning head drum and a tape drive capstan, including: means associated with the scanning head drum for providing a timing control signal; control signal record and reproduce means associated with the magnetic tape; means providing a power signal having a selected frequency; means, including time reference means, coupled to receive the timing control signal, for providing a servo control signal; means responsive to the servo control signal for providing a motor power signal of controlled frequency; means operating the scanning head drive from the motor

power signal during operation in the record mode and from the power source during operation in the playback mode; and means operating the tape drive capstan from



the motor power signal during operation in the playback mode and from the power source during operation in the record mode.

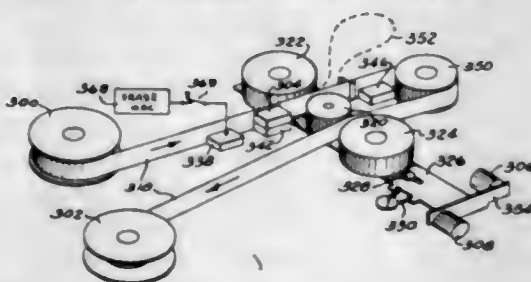
3,342,952

SOUND RECORDING APPARATUS FOR TEACHING BY MIMICRY

Edward M. Meyer, Silver Spring, Md., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Delaware

Continuation of application Ser. No. 417,527, Nov. 2, 1964, which is a division of application Ser. No. 93,186, Mar. 3, 1961, now Patent No. 3,155,778, dated, Nov. 3, 1964. This application Aug. 15, 1966, Ser. No. 572,616

16 Claims. (Cl. 179—100.2)



1. Apparatus for teaching by mimicry comprising, means for recording upon a lengthy flexible recording medium a short audio utterance during a record period, means for passing the portion of said medium containing said short audio utterance into a loop-like storage formation during said record period, means for substantially instantaneously commencing the retrieval of said portion of said medium containing said short audio utterance from said loop-like storage formation upon the completion of said record period, and means for substantially instantaneously commencing the reproduction of said short audio utterance upon the commencing of said retrieval.

3,342,953

ELECTRO-ACOUSTIC TRANSDUCER

Ernst Pless, Vienna, Austria, assignor to Akustische u. Kino-Gerate Gesellschaft m.b.H., Vienna, Austria

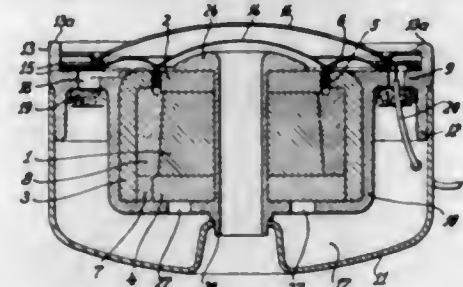
Filed Oct. 11, 1963, Ser. No. 315,584

Claims priority, application Austria, Dec. 13, 1962, A 9,743/62

3 Claims. (Cl. 179—115.5)

1. In an electro-acoustic transducer, a magnetic system including an axially elongated annular permanent magnet,

a pair of annular pole pieces having substantially flat portions engaged with the respective axially opposite ends of said annular permanent magnet and defining therewith an axial passage, and a substantially cylindrical magnetic yoke embracing said permanent magnet and said pole pieces and having one end engaging the radially outer periphery of one pole piece and having a radially inwardly extending portion at its opposite end radially spaced from the radially outer periphery of the other pole piece to define an annular air gap coaxial with said axial passage; a moving coil positioned in and displaceable axially of the air gap; and a body of moldable material at least partially filling said axial passage and extending



axially outwardly of said pole pieces and radially over at least a portion of the outer surfaces thereof, said body of material extending completely over the outer surface of said one pole piece and laterally over the entire outer surface of said substantially cylindrical magnetic yoke to form means uniting said permanent magnet, said pole pieces and said magnetic yoke into a substantially unitary structure defining a closed magnetic circuit except for said annular air gap, the portion of said body of material in said axial passage and extending over the outer surfaces of said pole pieces acting in the nature of double-headed rivet anchoring said pole pieces to said permanent magnet.

3,342,954

ELECTRIC CURRENT TROLLEY CONDUCTOR CONSTRUCTION

Donald G. Spriggs, Mystic, Conn., and Gerald E. Martin, Lynchburg, Va., assignors to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware

Original application June 30, 1964, Ser. No. 379,137

Divided and this application Nov. 7, 1966, Ser. No. 592,387

6 Claims. (Cl. 191—45)



2. A current collector trolley device for use in conjunction with an enclosed conductor system which system includes enclosure sections of hollow generally rectangular cross section formed of electrical insulation material having a top wall below which is disposed a plurality of side by side parallel extending spaced apart conductor rails having downwardly facing contact sur-

faces, a pair of depending side-walls which turn inwardly toward one another at their bottom edges to form a pair of longitudinally extending bottom walls defining therebetween a central longitudinally extending slot of substantially constant width and which bottom walls carry on their upper surfaces conductive grounding tracks co-extensive with the length of the enclosure, said current collector trolley comprising in combination, a main body member of insulating material having a plurality of laterally-spaced open-topped recesses, the lateral spacing of said recesses being in correspondence with the lateral spacing of said conductor rails, spring-pressed current collector shoes respectively disposed and held captive in said recesses for resilient engagement with said conductor rails, a plurality of paired electrically conductive wheels journaled upon said main body of insulating material for rotation about parallel horizontal axes spaced fore and aft of the center of said body with each pair of said wheels axially spaced apart in correspondence with the lateral spacing of said grounding tracks whereby at least two wheels in tandem relation on each side of said main body seat and ride upon one of said grounding tracks, all of said conductive wheels being electrically interconnected and insulated from said current collector shoes, and means carried by and depending from said main body member of insulating material and disposed between the slot defining bottom walls of said rail enclosure sections to limit lateral shifting of the trolley during travel thereof longitudinally along said enclosure.

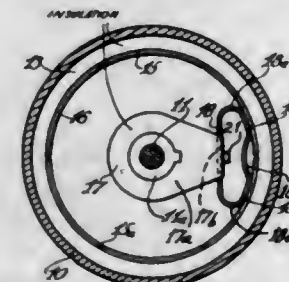
3,342,955

IGNITION DISTRIBUTOR HAVING CURRENT-CONDUCTIVE SEGMENTS IN TWO GROUPS OF OPPOSITE POLARITY

William C. Smith, 221 W. Morgan Ave., Chesterton, Ind. 46304, and Reinhardt W. Carlson, 7545 Forest Ave., Munster, Ind. 46321

Filed Oct. 24, 1965, Ser. No. 504,390

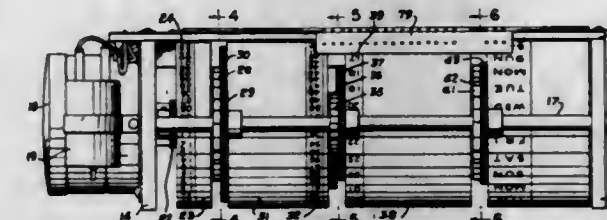
6 Claims. (Cl. 200—19)



1. An ignition distributor for a primary circuit comprising in combination:
a primary circuit including in series a coil and a grounded source of current;
a casing grounded in said circuit and having a circular wall;
an insulated rotor journaled for 360° of rotation within said wall and having an arm extending radially toward the inner surface of said wall for sweeping thereby during rotation of said rotor;
an insulation ring in said housing in spaced, opposed relation from the terminal end of said arm;
two groups of circumferentially spaced, arcuate, current-conducting segments on said insulation ring, segments of one group being interposed between segments of the other group so that the segments are alternately disposed on said wall,
one group of segments being electrically connected to said housing and grounded therethrough, the other group of segments being connected in series to said coil; and
contact means secured to the terminal end of said arm, said contact means having a circumferential span less

than the arc of one of said segments whereby polarity of the segments of the groups are alternately reversed as the coil is alternately charged and discharged.

3,342,956
RECORDING CLOCKS
Spurgeon Sutherland, 2113 Marilyn Lane,
Arlington, Tex. 76010
Filed Oct. 23, 1965, Ser. No. 503,462
9 Claims. (Cl. 200—38)



1. A recording clock including a driving motor, a second indicating drum constantly driven by the motor, a minute indicating drum, means for driving the minute drum intermittently by the second drum, an hour indicating drum, means for driving the hour drum intermittently by the minute drum, a day indicating drum, means for driving the day drum intermittently by the hour drum, the several drums having a second, minute, hour and day indicating indicia thereon, the day drum, hour drum and minute drum having annuli of spaced depressions extending circumferentially around their outer surfaces, spring switches overlying the annuli, and balls confined between the spring switches and the outer surfaces of the drums, the balls being adapted to move into the depressions to permit the switches to close.

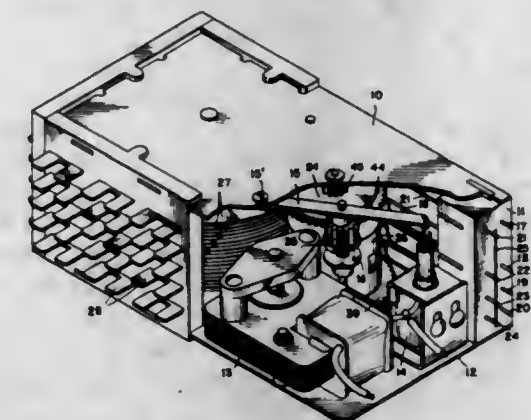
3,342,957

SEQUENTIAL TIMER HAVING A PLURALITY OF PREDETERMINED ADVANCEMENT INTERVALS

Luigi Burrigato and Joseph E. Wiser, Indianapolis, Ind., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,411

7 Claims. (Cl. 200—38)



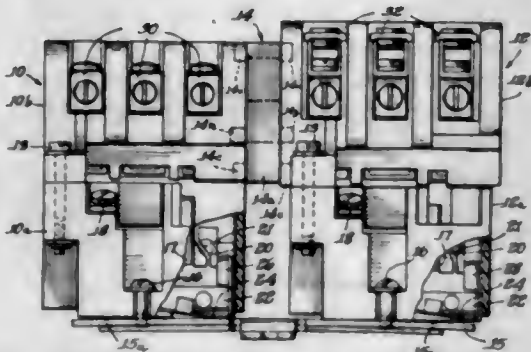
1. A timer comprising: a plurality of control cams mounted on a camshaft so as to be rotated thereby and a plurality of control switches operated by said control cams, a drive means; first cam means for determining a time interval for advancing said control cams, a plurality of contact members, said first cam means having a plurality of rise and fall contours for operating said plurality of contact members; second cam means for establishing the amount of advancement of said control cams, an associated pair of contact members, said second cam means having a contour for opening and closing said associated pair of contact members as said cam means is rotated; means for coupling said first cam means to said driving means, said coupling means including a first one-way clutch; means for coupling said second cam means to said driving means when said first cam

means has rotated a predetermined amount, said coupling means including a solenoid operated clutch; means for coupling said first cam means to said second cam means so as to advance said first cam means with said second cam means, said coupling means including a second one-way clutch; first circuit means for selectively connecting said contact members associated with said first cam means to said solenoid operated clutch, thereby energizing said clutch after a predetermined time interval; second circuit means for connecting said contact members associated with said second cam means to said solenoid operated clutch so as to deenergize said clutch after said control cams have advanced a predetermined amount; and means for coupling said second cam means to said camshaft so as to rotate said camshaft when said cam means rotated.

3,342,958

TWO-PART MECHANICAL INTERLOCK FOR ELECTROMAGNETIC CONTACTORS

Don J. Arneberg, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Oct. 11, 1965, Ser. No. 494,615
16 Claims. (Cl. 200-50)



1. For use between a pair of spaced side-by-side correspondingly positioned movable contact carriers each mounted for reciprocal movement between first and second predetermined positions and having a camming and locking lug movable integrally therewith and disposed on the side thereof adjacent the other movable contact carrier, said lugs being offset from each other in a direction perpendicular to the paths of reciprocal movement of said movable contact carriers, a mechanical interlock for preventing movement of either one of said movable contact carriers to said first predetermined position thereof while the other of said movable contact carriers is in said first predetermined position thereof, said interlock comprising a frame member mountable between said movable contact carriers, and a locking member mountable in said frame member for limited pivotal movement with respect thereto, said locking member having a pair of axially aligned projections respectively disposed on opposite sides thereof, said projections being spaced from and extending axially in opposite directions parallel to the axis of pivotal movement of said locking member into interlocking relationship respectively with said lugs when said locking member is mounted in said frame member and said frame member is mounted between said movable contact carriers.

3,342,959

DIFFERENTIAL PRESSURE SWITCH

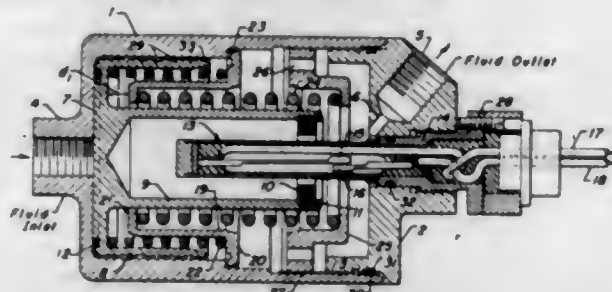
Theodore R. Breunlich, Stamford, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Dec. 8, 1965, Ser. No. 512,322

5 Claims. (Cl. 200-83)

1. A differential pressure switch providing an open circuit for pressures above and below a predetermined differential range, which comprises in combination,

- a confined tubular form pressure tight housing with a fluid inlet at one end thereof and a fluid outlet from the opposing end portion thereof,
- a movable piston member positioned in said housing in a manner having its solid transverse end portion adjacent the fluid inlet end of the housing, in addition said piston member having an outer peripheral wall section and a concentric spaced apart open inner core section,
- a ring-shaped intermediate spring holding member that is longitudinally movable in a position between said outer wall section and said inner core section of said piston member,
- said spring holding member having an outwardly projecting flange section providing support for a low pressure range compression spring positioned therebetween and the interior of said transverse end portion of said piston member,
- said spring holding member also having an inwardly projecting flange section supporting a high pressure range spring therebetween and a downstream interior end portion of the housing,



- a magnetically operable electrical switch capsule having overlapping normally open contact points, with at least one contact point spring supported, therein, and said switch capsule mounted within a central portion of said housing to extend into the interior of said inner core section of said movable piston member, and
- a magnet member attached at the downstream open end portion of said inner core section to move adjacent the exterior wall of said encased electrical switch unit, whereby an electrical contact is made between the contact points of said switch unit from the field of said magnet as it travels adjacent the contact point zone from the corresponding movement of said piston and conversely, whereby the circuit of said switch unit is broken as said piston carrier the magnet both beyond and back away from the contact point zone of the switch resulting from both an increased pressure and from a decreased pressure on the piston member.

3,342,960

FLUID LEVEL SENSING AND INDICATING DEVICE

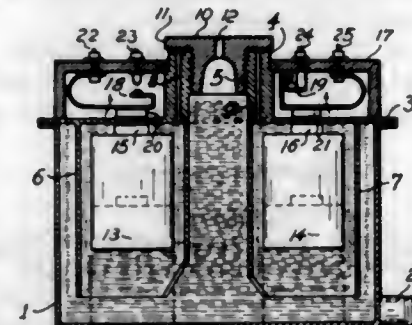
Bernard Charles Dillon, 787 Whitney Ave. 06511, and Salvatore Acampora, 18 Alton St. 06513, both of New Haven, Conn.; Frances M. Dillon, administratrix of the estate of said Bernard Charles Dillon, deceased, assignor to Frances M. Dillon, individually

Filed Oct. 25, 1963, Ser. No. 318,936

9 Claims. (Cl. 200-84)

9. A device adapted to sense a predetermined liquid level in a container comprising, a casing, a cover member attached to said casing and having a filling opening therein, wall means within said casing defining a float chamber extending downwardly from said cover, an opening in the wall of said chamber providing communication with the interior thereof and the interior of said casing, an air exhaust opening defined in said cover in communication with said chamber to allow venting of said cham-

ber to the ambient atmosphere upon filling of said casing with liquid, a closure member adapted to close said filling opening and having a vent therein providing communication between the interior of said casing and the ambient atmosphere, said closure member closing said exhaust opening when positioned to close said filling opening, a fluid buoyant float member in said float chamber, said



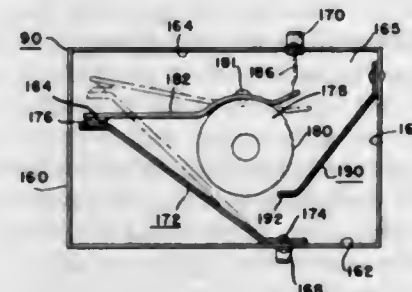
opening in said chamber being located a predetermined distance below said cover so that when the liquid level in said casing falls below said chamber opening, air is admitted to said chamber and fluid exhausted therefrom, and means responsive to the position of said float for sensing when a predetermined amount of fluid is exhausted from said chamber.

3,342,961

THERMOSTAT HAVING THERMALLY RESPONSIVE MEANS FOR ARRESTING THE MOVEMENT OF ONE OF THE CONTACTS UPON COOLING OF THE THERMOSTAT

Homer W. Deaton, Centerville, and Raymond M. Hutchinson, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Sept. 19, 1960, Ser. No. 56,930, now Patent No. 3,196,553, dated July 27, 1965. Divided and this application Dec. 1, 1964, Ser. No. 415,113

4 Claims. (Cl. 200-113)



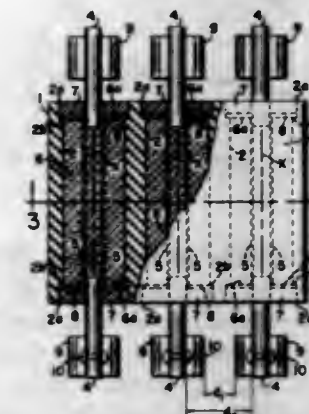
4. A thermostat for sensing a falling temperature comprising, a support having first and second electrical connectors, brake means having first and second brake portions, said first brake portion movably connected relative to said support and including an arm fastened thereto for movement therewith, means electrically connecting said arm to said first electrical connector, a first thermally responsive device connected to said second electrical connector, biasingly engaged with said arm and adapted by movement in one direction upon a rise in temperature to motivate said first brake portion, said second brake portion including a second thermally responsive means on said support in juxtaposition to said first brake portion and movable upon a rise in temperature into engagement with said first brake portion in a manner to permit motivation of said first brake portion by said first thermally responsive device when said first thermally responsive device is moving in said one direction only, the second thermally responsive means of said second brake portion remaining engaged with said first brake portion for retaining said arm for a period during which said first thermally responsive device moves out of engagement

with said arm in response to a decrease in temperature thereby to break a circuit between said first and second electrical connectors.

3,342,962

SUPERCOMPACT POLYPHASE FUSE

Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Feb. 27, 1967, Ser. No. 618,696
7 Claims. (Cl. 200-120)



- A polyphase fuse including in combination:
 - a monolithic block of an inorganic insulating material having a plurality of parallel passageways having geometrical axes arranged substantially in a common plane, each of said plurality of passageways having a pair of openings at the ends thereof;
 - a plurality of pairs of blade contacts arranged at right angles to said common plane, each pair of said plurality of pairs of blade contacts projecting with the ends thereof into one of said plurality of passageways;
 - a plurality of fuse link means each arranged inside one of one of said plurality of passageways and each conductively interconnecting one pair of said plurality of pairs of blade contacts;
 - a plurality of bodies of pulverulent arc-quenching filler each in one of said plurality of passageways and each having a pair of end surfaces in spaced relation from said pair of openings of one of said plurality of passageways; and
 - a plurality of pairs of end plugs of electric insulating material, each pair of said plurality of pairs of end plugs projecting into one of said plurality of passageways and each positioning one of said plurality of pairs of blade contacts with respect to the internal wall of one of said plurality of passageways.

3,342,963

THERMALLY RESPONSIVE MEMBER WITH LONGITUDINALLY SPACED CONTACTS EACH ACTUATED UPON BENDING OF THE MEMBER IN ONE DIRECTION

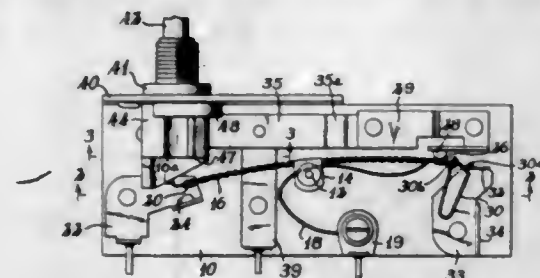
Oleg Szymber, Chicago, Ill., assignor, by mesne assignments, to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 5, 1965, Ser. No. 437,377

13 Claims. (Cl. 200-122)

10. An automatic recycling device comprising, a first pair of normally open contacts and a second pair of normally closed contacts, means including an elongated, thermally responsive member supported at one portion thereof and having the remaining portion thereof free to bend upon heating and cooling, said member supporting one contact of each of said pairs of contacts in spaced relation along the length of the former, base means fixedly supporting the other contact of each of said pairs of contacts in spaced relation longitudinally of said mem-

ber, biasing means yieldably holding said second pair of contacts closed, said member being adapted, upon being heated, to bend in one direction thereby to close said first pair of contacts whereupon movement of said member at the portion thereof adjacent said first contacts is stopped so that continued bending of said member in said one direction subsequently causes opening of said second pair of contacts, said member also being adapted,

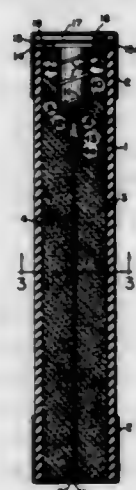


upon being cooled, to bend in the other direction thereby to open said first pair of contacts and thereafter to close said second pair of contacts, electric heating means in thermal conductive juxtaposition with said thermally responsive means, said heating means being in series with said second pair of contacts, said first pair of contacts being in series with said thermally responsive means and a terminal for connection with a load device.

3,342,964

DUAL ELEMENT CARTRIDGE FUSE FOR SMALL CURRENT INTENSITIES

Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Mar. 24, 1967, Ser. No. 625,722
4 Claims. (Cl. 200-123)



1. An electric cartridge fuse comprising in combination:

- (a) a tubular casing of insulating material;
- (b) a pair of terminal elements closing the ends of said casing;
- (c) a pulverulent arc-quenching filler inside said casing;
- (d) composite fusible means inside said casing submerged in said arc-quenching filler conductively interconnecting said pair of terminal elements, said composite fusible means including an elongated element of a relatively small current-carrying capacity having one end immediately adjacent one of said pair of terminal elements and another end spaced from the other of said pair of terminal elements, said fusible means further including a solder joint conductively interconnecting said another end of said elongated fusible element and a spring biased plunger;
- (e) a tubular metal housing inside said casing accommodating one end of said plunger and a spring bias-

ing said plunger, said metal housing being arranged in close proximity to said other of said pair of terminal elements;

- (f) a heater coil arranged on the outside of said metal housing and supported by said metal housing, one end of said heater coil being conductively connected to said plunger and the other end of said heater coil being conductively connected to said other of said pair of terminal elements; and
- (g) means of thermal insulating material supporting said metal housing and thermally insulating said metal housing from said other of said pair of terminals.

3,342,965

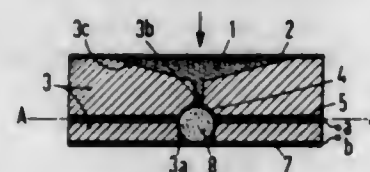
POSITIONALLY INDEPENDENT MERCURY CONTACT ARRANGEMENT

Werner Bosch, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Dec. 14, 1966, Ser. No. 601,665

Claims priority, application Germany, Dec. 22, 1965, S 101,104

5 Claims. (Cl. 200-152)



1. A positionally independent contact arrangement utilizing a mercury drop located in a spherical hollow space and deformable by an electromechanical final control element, comprising a body of an insulating material having an approximately spherical hollow space therein, a drop of mercury disposed in said space, a plate-like connecting electrode disposed to form a closure for said space, a second connecting electrode, disposed approximately at the level of the maximum transverse cross section of the mercury drop and having an opening therein the edges of which encircle the mercury drop but spaced a certain minimum distance therefrom, said body having a pressure space for an actuating pressure liquid disposed therein, said body further having a connection channel therein operatively connecting said pressure space with said hollow mercury containing space, whereby pressure on said liquid is operative to effect an operating deformation of the mercury drop, and operative connection thereby of the respective electrodes, and a membrane forming a flexible closure of said pressure space with respect to the exterior, and through which the liquid pressure in said pressure space may be controlled.

3,342,966

VACUUM COAXIAL RELAY

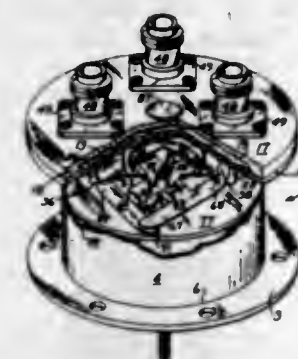
Orhan A. Guraydin, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed Feb. 1, 1965, Ser. No. 429,336

19 Claims. (Cl. 200-153)

1. A vacuum coaxial relay comprising an envelope including an actuator support plate forming one end of the envelope, a fixed-contact support plate spaced from the actuator support plate and forming the other end of the envelope, a tubular metallic shell hermetically disposed between said actuator and fixed contact support plates and forming the side wall of said envelope, a plurality of spaced conductors extending insulatedly and hermetically through said fixed contact support plate and terminating within the envelope in a plurality of spaced fixed contact points, a mobile contact assembly including a cruciform dielectric support member disposed within the envelope and including pairs of resilient contact blades

arranged to conductively connect a plurality of pairs of said fixed contact points when the mobile contact assembly is moved in one direction and to conductively connect a plurality of different pairs of said fixed contact points



when the mobile contact assembly is moved in the opposite direction, and an actuator assembly movably supported on said actuator support plate and engaging said mobile contact assembly to effect movement thereof in a selected direction.

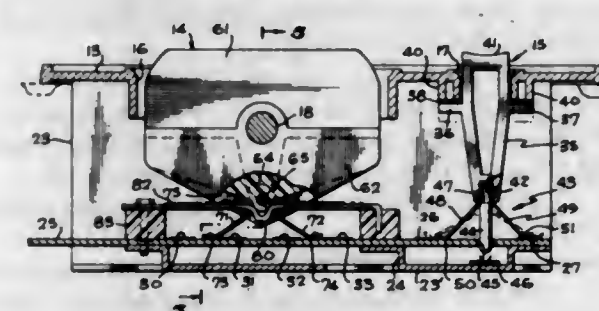
3,342,967

PUSHBUTTON SWITCH

John R. Brand, Louis Olah, and Clyde L. Tichenor, Los Angeles, Calif., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware

Filed June 24, 1965, Ser. No. 466,539

19 Claims. (Cl. 200-159)



1. A switch apparatus for interconnecting electrical terminals comprising:

- a movable body portion having a receptacle formed therein;
- a self-biasing leaf spring member having an open single loop formed at its mid-section in frictional gripping and supporting relationship with said receptacle and a pair of divergent contact arms lying in the same plane integrally formed from opposite ends of said loop and spaced apart by the opening at said arms junction therewith; and
- each contact arm terminating in a flat integral contact element constantly under pressure of said self-biasing member spread apart from each other to interconnect the terminals in response to movement of said body portion.

3,342,968

MECHANICAL MEMORY DEVICE USING FLEXIBLE MEMBERS

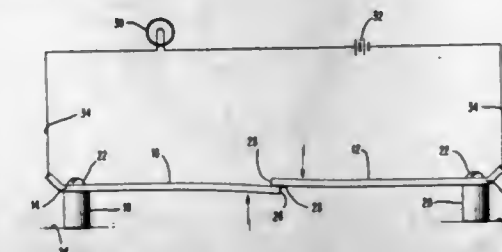
Gerald G. Sills, Van Nuys, Calif., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 11, 1965, Ser. No. 463,255

17 Claims. (Cl. 200-153)

- 1. A memory device comprising:
 - (A) a base structure;
 - (B) a first member flexible throughout its length attached to said base structure and having a free end extending therefrom with opposite first and second surfaces orthogonal to the direction of flexure;
 - (C) a second member flexible throughout its length at-

tached to said base structure spaced from said first member and having a free end extending toward said first member with opposite first and second surfaces orthogonal to the direction of flexure, one of said surfaces at the free end of said second member slidably engaging and at least partially overlapping one of the surfaces at the free end of said first member whereby movement of each of said members is impeded in one direction;



- (D) displacement means flexing at least one of said members at a position along its length which causes its free end to slide clear of the free end and to snap to the other side of the other member placing the opposite surfaces of said first and second members in positive slidable partially overlapping engagement with each other; and
- (E) means detecting the relative positions of said members.

3,342,969

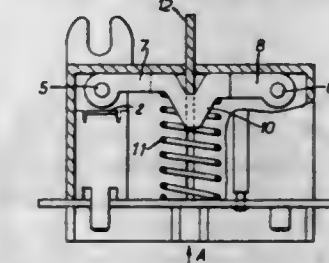
ELECTRIC SWITCHES

Edward B. Angold, Emsworth, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed Jan. 24, 1966, Ser. No. 578,418

Claims priority, application Great Britain, Jan. 27, 1965, 3,616/65

5 Claims. (Cl. 200-166)



1. An electrical switch comprising at least two sets of co-operating contacts, at least two fixed contacts incorporated in each set, at least two moving contacts incorporated in each set, a pivoted arm incorporated in each set, to one end of which the moving contacts are secured, a shaped portion on the other end of each pivoted arm remote the moving contacts, a coil spring one end of which is arranged to embrace the shaped portions of each pivoted arm to shaped portions of said arms for compressing the coil provide in effect a displaceable pivot point for each of said arms, and an actuating plunger co-operating with the said spring and to actuate the switch.

3,342,970

APPARATUS FOR CRUCIBLE-FREE ZONE MELTING

Reimer Emels, Ebermannstadt, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany

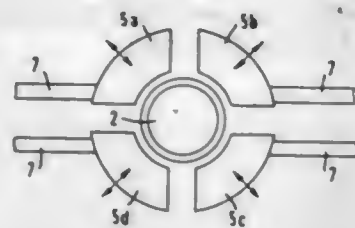
Filed Feb. 4, 1965, Ser. No. 430,361

Claims priority, application Germany, Feb. 8, 1964, S 89,439

6 Claims. (Cl. 219-10.43)

1. In apparatus for crucible-free zone melting of a crystalline rod, an induction heating coil for forming a melting zone in the rod, said coil surrounding and spaced

from the rod and being energizable to produce an inductive heating field around the rod, said coil and rod being relatively movable in the direction of the rod axis so as to move the melting zone along the rod, and a concentrator device having an opening through which the rod extends,



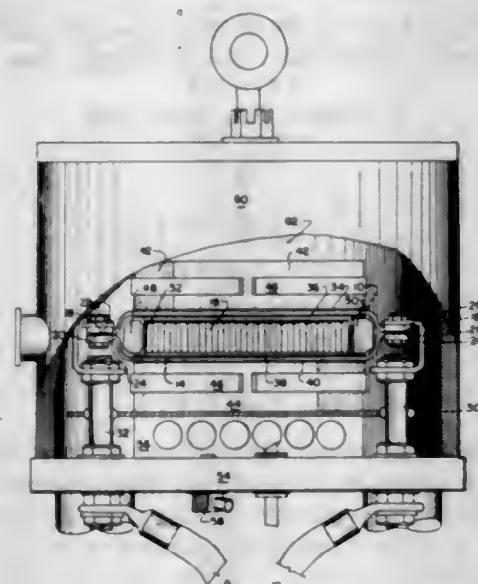
said concentrator device being located in the field between the heating coil and the melting zone and comprising a plurality of parts movable relative to each other within said field for varying the size of said opening so as to accommodate rods of respectively varying cross section therein.

3,342,971

METHOD FOR BRAZING SUPER ALLOYS AND REFRACTORY METALS

William T. Kaarlela, Fort Worth, Tex., assignor to General Dynamics Corporation, a corporation of Delaware
Original application June 16, 1964, Ser. No. 375,514.
Divided and this application Sept. 7, 1966, Ser. No. 591,071

3 Claims. (Cl. 219—85)



1. A process for joining refractory metals and super alloys without substantially deleterious recrystallization therein comprising:

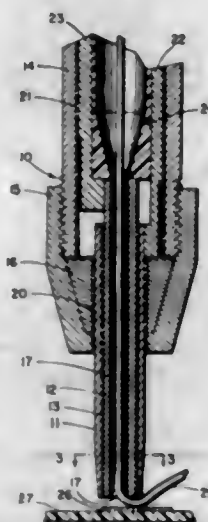
- (A) selecting the material to be joined;
- (B) positioning said material in a closed environment; and in contact with a refractory metal electrical resistance heater means and applying a braze alloy to the surfaces of said material to be joined;
- (C) heating said material slowly by controlled graduated steps to a point just below that at which recrystallization begins;
- (D) causing the temperature of said material to rapidly increase to the brazing temperature of said selected material;
- (E) terminating the temperature producing function and effecting a rapid temperature decrease in said selected material to a point below the recrystallization zone for said selected material so that the material is above the point at which recrystallization begins for no more than sixty seconds.

3,342,972

WELDING ELECTRODE ASSEMBLY

Mortimer Penberg, Covina, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed Jan. 22, 1964, Ser. No. 339,505
14 Claims. (Cl. 219—119)



1. In a welding electrode assembly, a pair of elongated conductive electrodes arranged in parallel relationship with respect to each other and having their operative end portions disposed in substantially flush relationship, means fixedly securing said electrodes in spaced insulated relationship with respect to each other so as to define a welding gap between said electrodes separating the operative end portions thereof, and one of said electrodes having an opening extending longitudinally therethrough from the end thereof opposite to said operative end portion and communicating with the operative end portion of said electrode in the region of the welding gap, said opening being adapted to receive an elongated length of welding wire at the end thereof opposite from said operative end portion, whereby welding wire may be fed through the opening in said one electrode and disposed across the welding gap in contact with the operative end portions of said electrodes.

3,342,973

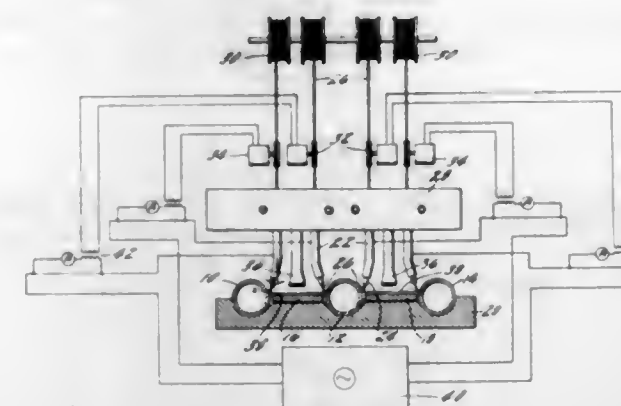
WELDING METHOD

Joseph W. Smith, Chattanooga, Tenn., and Digby E. White, Ringgold, Ga., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Apr. 7, 1966, Ser. No. 541,017
3 Claims. (Cl. 219—137)

1. A process for joining spaced metallic tubular members comprising: placing the tubular members in substantially parallel spaced apart relationship on a support; supporting elongated metallic web members intermediate but spaced from the tubular members at the point of minimum separation therebetween, the gaps thus formed between the tubular and web members defining seams to be welded; locating the free end of an expendable welding electrode adjacent to each seam to be welded and aligning the electrodes in a plane perpendicular to the axes of the tubular members; depositing granular submerged arc type welding flux having a fineness of from 10 x 150 mesh to 20 x 150 mesh on the web members and in the seams beneath the electrodes;

applying alternating currents in the range of 500 to 750 amperes to the electrodes to establish intermittent arcs between each electrode and the adjacent tubular and web members to thereby cause fusion of the electrode material, tubular member and web members; feeding the tubular and web members past the electrodes so that the seams to be welded will be moved relative to the electrodes at a speed not in excess of 30 inches per minute;



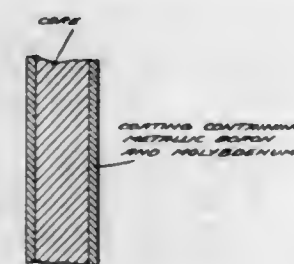
continuing to deposit the flux adjacent the stationary electrodes during movement of the tubular and web members; and feeding the electrodes into the arc during movement of the tubular and web members at a rate consistent with maintenance of the arcs whereby welds symmetrical about the horizontal centerline of the tubular and web members result, the depth of the fusion zone into the walls of the tubular members is minimized and welding from one side only is permitted.

3,342,974

ARC WELDING ELECTRODE PROVIDING WELDS HAVING HIGH YIELD AND RUPTURE VALUE

Werner Wallner, Marlestadvagen 28, Johannesbor, Sweden

Filed Oct. 11, 1965, Ser. No. 494,609
Claims priority, application Sweden, Nov. 18, 1961, 11,498/61
8 Claims. (Cl. 219—146)

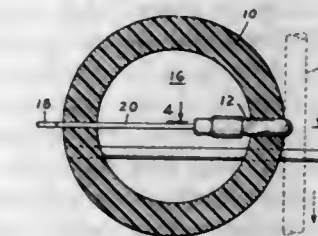


1. Welding electrode giving a welding deposit with high yield and rupture limits, comprising a core of low alloy steel and a coating around said core, said coating comprising 20-30% by weight of limestone, 20-30% calcium fluoride, 3-7% rutile, 2-4% ferro-silicon, 5-8% silicon-manganese, 1-3% ferro-molybdenum, 30-40% iron powder, 0.100-0.20% ferro-boron and 0.01-0.15% of at least one of the nitrogen-binding metals aluminum, titanium, zirconium and vanadium, the amount of such nitrogen-binding metal being sufficient to ensure the presence of some boron in soluble form in a weld produced from such electrode.

3,342,975

YARN TEMPERATURE CONTROL

Robert D. Carr and Fred W. Le Noir, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed July 23, 1964, Ser. No. 384,753
3 Claims. (Cl. 219—388)

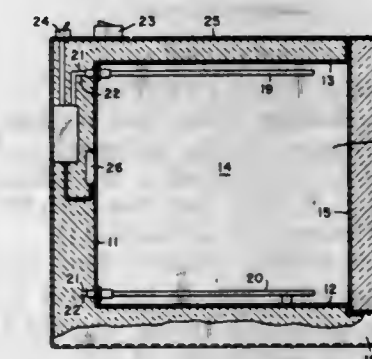


1. Process of continuously regulating the flow of heat between a running multifilament yarn and its surroundings which comprises: passing said yarn in continuous running contact with a smooth, abrasion resistant surface in heat exchange relationship with a body that changes its electrical resistance when its temperature is changed; said body being characterized by temperature coefficient of resistance of at least about 1% per degree centigrade at 100° C.; said body being insulated from temperature fluctuations in its surroundings other than the temperature changes in said yarn; and passing electrical current through said body and through a control circuit operatively connected thereto and to process control means adapted to control the heat flow between said yarn and its surroundings responsive to changes in the electrical resistance of said body; said yarn being of organic thermoplastic material; said body changing its electrical resistance when its temperature changes being a semiconductor made of a sintered mixture of metallic oxides; said surface in heat exchange relationship with said body having thermal conductivity of at least about 10⁻³ calorie/sec. cm. °C., said body being encased in the material of said surface to form a capsule around said body of width not more than five times the width of said body and not wider than about 1/4 inch; said yarn being in continuous running contact with at least about 1/2 of the surface of said capsule; and substantially all of the remaining surface of said capsule, which is not in contact with the running yarn, being surrounded and rigidly supported by insulating material having thermal conductivity not more than half that of the material in which said body is encased, and not more than 10⁻³ calorie/sec. cm. °C.

3,342,976

OVEN CONTROL SYSTEM

Burre I. Kjellberg, Ballwin, Mo., assignor to Diatemp, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 8, 1965, Ser. No. 462,338
5 Claims. (Cl. 219—413)



1. In an oven control system utilizing hydraulic fluid controls to operate at a control temperature above the breakdown temperature of the fluid employed for an oven

having a chamber composed of walls, a heating unit disposed within said chamber and an oven door, and a power supply,

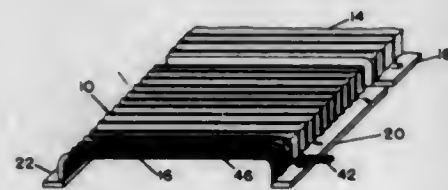
- a hydraulic diaphragm bulb for controlling the temperature of said chamber by controlling the power input from said power supply to said heating unit, said diaphragm bulb being located outside said chamber and fixedly secured in immovable contact with one wall of said chamber, and said bulb being filled with expansible fluid having a break-down temperature below the upper limit of the operating temperature range of the oven to sense by contact conduction the heat output of said heating unit,
- a microswitch in series connection with and controlling the flow of power from said power supply,
- a second diaphragm bulb in series with said first bulb and similarly filled with said expansible fluid, and positioned at a distance away from said chamber walls and insulated therefrom,
- a bulb heating element in intimate contact with the second diaphragm bulb, said heating element being actuated by power from said power supply and controlled by said microswitch,
- an expansible diaphragm in series with both of said hydraulic bulbs and expansible to actuate said microswitch.

3,342,977

ELECTRIC BROILER HEATING ELEMENT

Clarence A. Anderson, Dearborn, Mich., assignor to The Detroit Edison Company, Detroit, Mich., a corporation of New York

Filed Nov. 2, 1964, Ser. No. 408,078
3 Claims. (Cl. 219-548)



1. A heating element for a broiler or the like comprising an elongated corrugated sheet of high resistance metal in which the corrugations extend longitudinally thereof, the central portion of which extends substantially horizontally and the ends of which are turned down to extend substantially vertically whereby the corrugated sheet forms an arch, separate substantially flat electric bar terminals extending transversely of the corrugated sheet secured to the opposite ends of the corrugated sheet along one edge of the electric bar terminals and extending horizontally outwardly from the ends of the corrugated sheet and means for connecting the bar terminals at the opposite ends of the heating element to a source of electric energy.

3,342,978

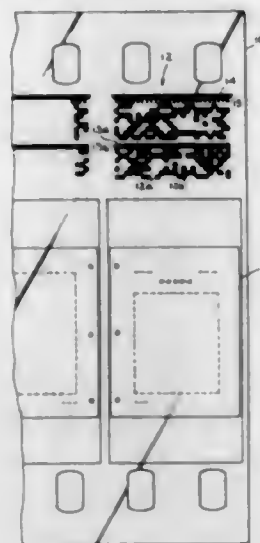
SCANNING SYSTEM

John F. Cameron, Rolling Hills, and William R. Arsenault, Pacific Palisades, Calif., assignors to FMA, Inc., El Segundo, Calif., a corporation of California

Filed Nov. 5, 1962, Ser. No. 235,492
6 Claims. (Cl. 235-61.11)

3. Apparatus for reading binary-coded data recorded on a roll of photographic film in the form for blocks of transparent and opaque data marks arranged in straight rows perpendicular to the length of film and flag marks recorded on the film in front of and is a straight line with each row comprising: a beam of light focused as a spot on the surface of the film; means for transporting the film past the beam of light; a ramp generator repeatedly

producing a voltage that rises continuously from an initial point until turned off, after which it returns to the initial point; means for repeatedly deflecting the spot transverse to the length of the film responsive to the voltage produced by the ramp generator beginning at a point in front of the rows; means responsive to the sensing by the beam of the absence of a flag mark for turning off the ramp generator after a first time interval correspond-



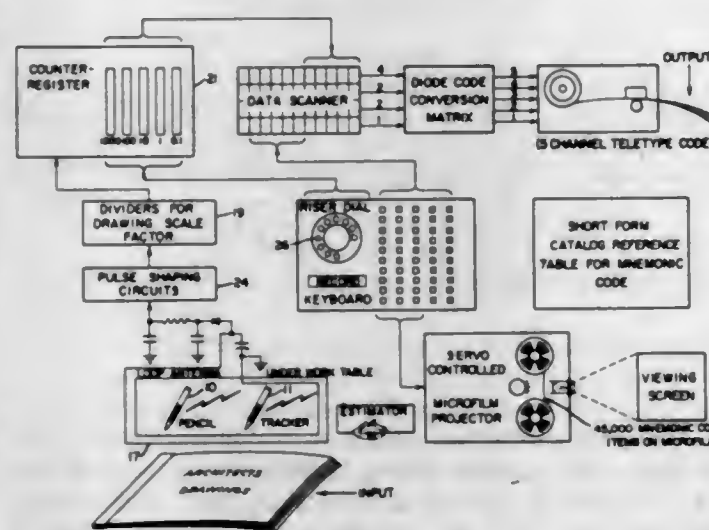
ing to a short trajectory that substantially excludes the blocks; means responsive to the sensing by the beam of the presence of a flag mark for turning off the ramp generator after a second time interval larger than the first time interval and corresponding to a long trajectory that includes an entire row of data marks; and means for sensing changes in intensity of the beam of light passing through the surface.

3,342,979

ELECTRONIC DATA ACQUISITION ASSISTANT TO THE COST ESTIMATOR

Antony Wright, Denver, Richard C. Webb and Karl R. Wendt, Broomfield, Ralph E. Johnson and Richard E. Howard, Denver, and Stanley B. Peterson, Broomfield, Colo., assignors, by direct and mesne assignments, to Estimatic Corporation, Denver, Colo., a corporation of Colorado

Filed July 22, 1963, Ser. No. 297,488
18 Claims. (Cl. 235-92)



6. Apparatus for accumulating data from a data sheet comprising: electronic converting and transmitting means mounted in a marking means movable over said data sheet and having an electronic circuit for converting the data on said data sheet into pulses representing said

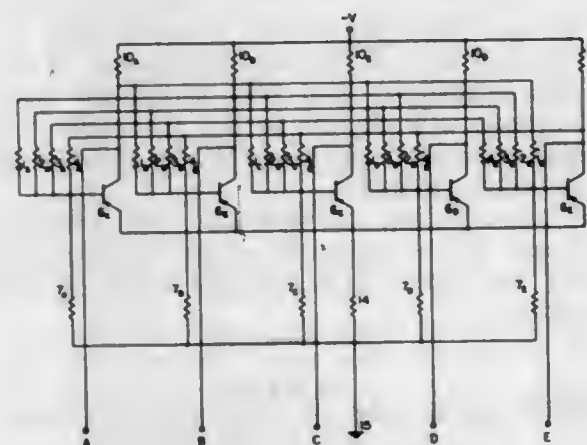
data and for transmitting said pulses, a pulse occurring each time a switch located in the marking means is closed;

- electronic receiving means for receiving the pulses transmitted by said electronic converting and transmitting means;
- pulse shaper means connected to said electronic receiver means for shaping and discriminating the pulses received by said electronic receiving means;
- register means connected to said pulse shaper means for accumulating the pulses received by said electronic means; and
- adder means connected to said register means for adding data pulses to said register means.

3,342,980

BINARY CIRCUIT

William H. Ferwalt, Midway City, Calif., assignor to Electronic Engineering Company of California, Santa Ana, Calif., a corporation of California
Filed Dec. 23, 1963, Ser. No. 332,554
15 Claims. (Cl. 235-92)



1. A ten-state electrical apparatus with counter and readout means, and storage means having only a plurality of transistors and only a plurality of resistive elements interconnecting said transistors in a repetitive structure comprising;

- (a) only five transistors each having a base, an emitter and a collector,
- (b) five resistors connected to each said base,
- (c) one of each of said five resistors also connected to a common terminal,
- (d) one of each of the other four said resistors connected to the collector of another transistor,
- (e) each said collector also connected to a common voltage supply through an additional individual resistor,
- (f) the values of resistance of said four resistors and the said one each of said five resistors selected such that a given transistor will not conduct electricity unless two of the said four resistors connect to other transistors which are not conducting.

3,342,981

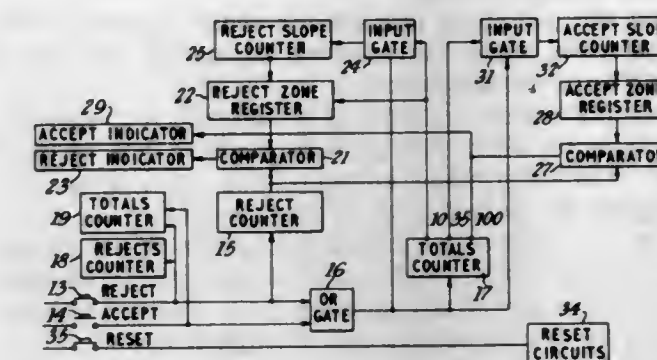
APPARATUS FOR USE IN TESTING BATCHES OF ARTICLES

Frederick Herbert Lashley, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed May 7, 1964, Ser. No. 365,662
Claims priority, application Great Britain, May 16, 1963, 19,444/63
1 Claim. (Cl. 235-92)

Apparatus for use in testing batches of articles, comprising in combination a first counter for counting the number of articles tested, a second counter for counting

the number of articles found to be faulty, a first counting register which stores a signal representing a predetermined number, a first comparator comparing the outputs from the second counter and the first register, warning means operable by said first comparator whenever the number represented by the second counter becomes equal to the number stored in said first register, a reject slope counter coupled to the first counter and to the first register, said reject slope counter adjusting the setting of the first register in accordance with the reading of the first counter so that at any instant the setting of the first register represents the minimum number of rejected articles required at that instant to enable a batch to be rejected, a second counter register which stores a predetermined number, a second comparator comparing the outputs from the second



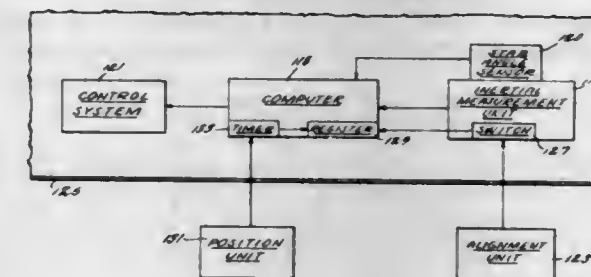
counter and the second register, warning means operable by said second comparator under the control of said first counter for giving an indication when the numbers represented by the second counter and second register become equal, provided that the reading of the first counter has reached a predetermined number representing the minimum number of non-faulty articles which must be tested at the commencement of a testing operation before a batch can be accepted, and an accept slope counter coupled to the first counter and to the second register, said accept slope counter adjusting the setting of the second register in accordance with the reading of the first counter so that at any instant, after said predetermined number of articles have been tested, the setting of the second register represents the maximum number of rejected articles permissible at that instant to enable a batch to be accepted.

3,342,982

SPACE VEHICLE NAVIGATION SYSTEM FOR OBTAINING EITHER GYRO DRIFT, LAUNCH POSITION, OR COORDINATE SYSTEM ORIENTATION

Lawrence R. Manoni, Jr., Wethersfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 25, 1961, Ser. No. 140,518
4 Claims. (Cl. 235-150.25)



1. In a space vehicle navigation system having an inertial sensor including a plurality of gyros for determining vehicle orientation in a coordinate system, a stellar sensor, and data storage means, said system having the capability of accurately determining either gyro drift, vehicle launch position or vehicle coordinate system orien-

tation utilizing data procured by means of star sights taken during flight by said stellar sensor, the improvement comprising

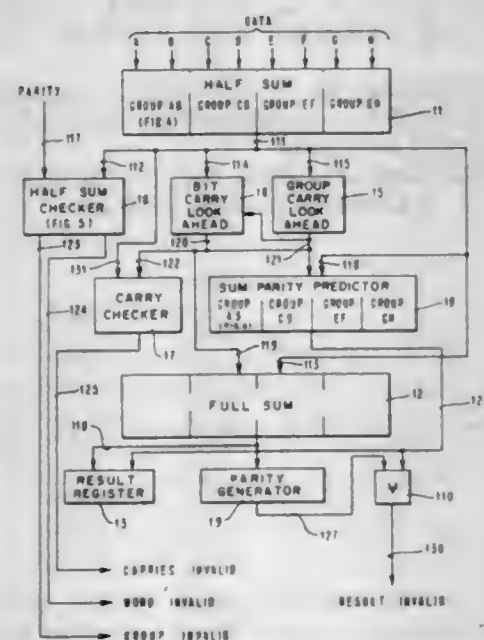
means for generating signals indicative of vehicle present position and feeding said position signals to said data storage means at random intervals prior to flight, means for generating signals indicative of vehicle coordinate system orientation and feeding said orientation signals to said data storage means at random intervals prior to flight, first and second switch means connected with said data storage means, each of said switch means having first and second states, means for switching said first switch means to said first state when said position signals are fed to said data storage means, means for switching said second switch means to said first state when said orientation signals are fed to said data storage means, means for switching said first switch means to said second state when said vehicle position has changed by a predetermined amount from the last position signals fed to said data storage means, means for switching said second switch means to said second state when said vehicle orientation has changed by a predetermined amount from the last orientation signals fed to said data storage means, means for determining the state of both said switch means during flight of said vehicle, means for producing data from star sights made during flight by said stellar sensor, means for utilizing said data to determine gyro drift when both said switch means are in their first state, and means for utilizing said data to determine vehicle launch position or vehicle coordinate system orientation when either said first or second switch means respectively are in said second state.

3,342,983

PARITY CHECKING AND PARITY GENERATING MEANS FOR BINARY ADDERS

Stanley H. Pitkowsky, Poughkeepsie, and Richard B. Godfrey, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 25, 1963, Ser. No. 290,486
16 Claims. (Cl. 235—153)



1. In combination: input means for supplying a plurality of operands, each operand comprising a plurality of binary signals;

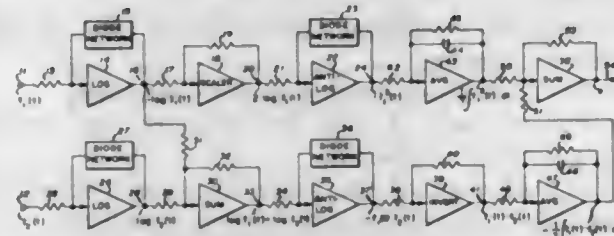
partial arithmetic means, connected to said input means, for performing partial arithmetic operations upon said operands and generating partial arithmetic signals; partial arithmetic checking means, connected to said partial arithmetic means and to said input means, for generating error signals indicating the invalidity of said supplied operands and of said partial arithmetic operations performed upon said operands, as a function of said partial arithmetic signals and selected ones of said binary signals; carry generation means, connected to said partial arithmetic means, for generating signals representative of arithmetic carries, as a function of said partial arithmetic signals; final arithmetic means, connected to said carry generation means and to said partial arithmetic means, for forming a binary sum from specified binary signals of said supplied operands as a function of said partial arithmetic signals and said arithmetic carry signals; parity prediction means, connected to some only, less than all, of the outputs of said carry generation means and to some only, less than all, of the outputs of said partial arithmetic means, for generating indications representative of the predicted parity of the binary sum formed by said final arithmetic means, as a function only of said partial arithmetic signals and said arithmetic carry signals delivered to said connected outputs; and, utilization means, connected to said final arithmetic means and to said parity prediction means, for utilizing said binary sum and said predicted parity indications.

3,342,984

CORRELATOR APPARATUS WITH AVERAGING AND SUMMING MEANS

Edward E. Gray, Mountain View, Raymond A. Long, Santa Clara, and Irvin F. Davis, Mountain View, Calif., assignors to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed May 8, 1963, Ser. No. 278,893
3 Claims. (Cl. 235—181)

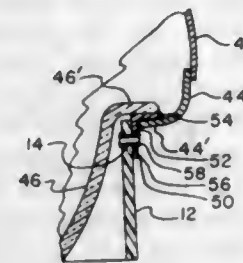


1. Apparatus for correlating a first function represented by a first analog signal with a second function represented by a second analog signal, said apparatus comprising: an analog means coupled to receive the first analog signal and operable to generate a third analog signal corresponding to the square of the first function; an averaging means coupled to receive the third analog signal and operable to generate a fourth analog signal corresponding to an average value of the square of the first function; another analog means coupled to receive both the first and the second analog signals and operable to generate a fifth analog signal corresponding to the product of the first function and the second function; another averaging means coupled to receive the fifth analog signal and operable to generate a sixth analog signal corresponding to an average value of the product of the first and second functions; and a summing means coupled to receive the fourth analog signal and the sixth analog signal and operable to generate an output signal corresponding to correlation error.

3,342,985 DIFFUSER FOR HIGHWAY LUMINAIRE

Dorothy M. Huber, 1523 Grove Ave.,
Jenkintown, Pa. 19046

Filed Oct. 1, 1965, Ser. No. 491,981
7 Claims. (Cl. 240—25)



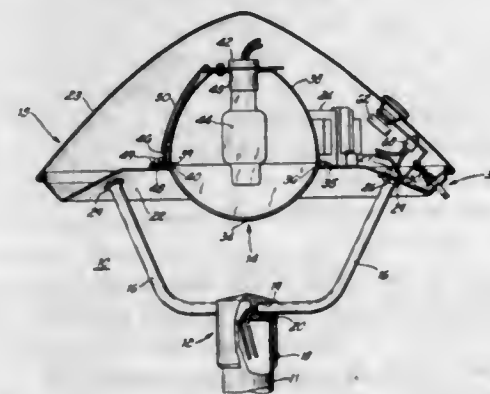
1. In combination with a highway luminaire comprising a housing in which the interior surface thereof functions as a reflector, said housing having a generally horizontal bottom opening and an outwardly extending lower lip, a light diffuser formed from a strip of pliable resilient translucent plastic material bent to conform generally to a portion of the lower periphery of said opening, dependently associated with said luminaire and extending at least in part below said housing, the top portion of the outward lateral face of said diffuser being disposed in abutting relation to a portion of the lower periphery of said opening, and means for attaching said diffuser to said luminaire comprising a plurality of spaced clips engageable over said lip and secured to said diffuser, each of said clips having a flat medial portion and bottom and top lateral extensions extending from said medial portion in the same general direction, said medial portion being provided with a transverse aperture, said diffuser being provided with transverse apertures at the locations at which the clips are to be attached, and said clip being secured to said diffuser by means extending through respective apertures in the clips and the diffuser.

3,342,986

LUMINAIRE HOUSING HAVING A READILY ACCESSIBLE INTERIOR WITH ELECTRICAL COMPONENTS MOUNTED THEREIN

Edward R. Jablonski and Paul J. Curtin, South Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,350
19 Claims. (Cl. 240—25)



1. In a luminaire having a lamp and an optical assembly surrounding said lamp and electrical circuitry components, the combination of support means for said electrical circuitry components and disposed generally above at least a portion of said optical assembly, a hood for said support means for enclosing said electrical circuitry components, and latch means for securing said hood to said support means and including first means mounted on one of said hood and support means and engageable with the other one thereof, and means resiliently biasing said first

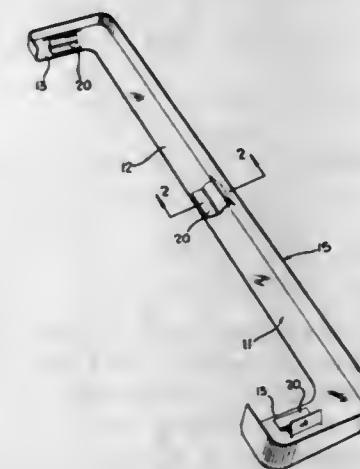
means in one direction and toward resiliently latching engagement with the other of said hood and support means, and holding means mounted on said one of said hood and support means for holding said first means out of latching engagement with said other of said hood and support means when said first means is moved in an opposite direction and against said biasing means so that said hood may be removed from said support means.

3,342,987

WRAP-AROUND FIXTURE

John E. Gornet, Shrewsbury, Mo., assignor to Emerson Electric Co., St. Louis County, Mo., a corporation of Missouri

Filed Dec. 1, 1965, Ser. No. 510,889
1 Claim. (Cl. 240—51.11)



In a wrap-around lighting fixture wherein an elongated plastic panel is provided with long side walls of substantial vertical height integral with a horizontal panel portion; said panel having C-shaped open ends, defined by edges of said panel lying in substantially a single plane, the improvement comprising end support and closure means including a closure wall adapted to be positioned parallel to the plane of the end-defining edges of the panel, and, integral with said closure wall, a flange shaped complementarily to said panel and adapted to embrace said panel at one end thereof, and a plurality of clip members, secured to the closure wall and spaced from the flange a distance tightly to receive the panel edges between the clip members and the flange, each of said clip members comprising a securing tab engaging and secured to said closure wall, an intermediate spring section, a lip, defining with the flange a panel-edge-receiving mouth, and a biting tooth projecting from said clip toward the said flange.

3,342,988

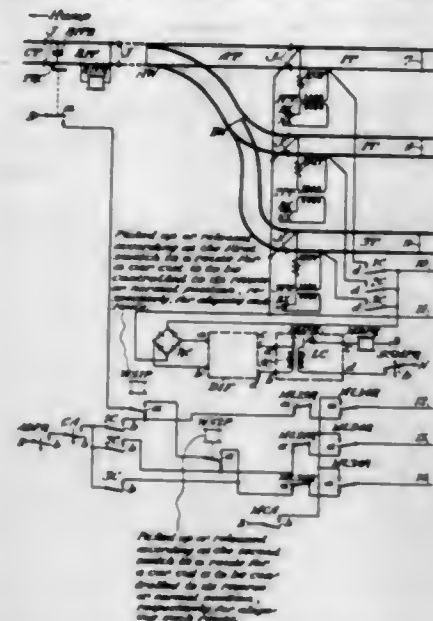
HORIZONTALLY MOUNTED LUMINAIRE WITH LOWERING DEVICE

Robert K. Farrington, Cleveland, Ohio, assignor to The Thompson Electric Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 30, 1965, Ser. No. 483,464
5 Claims. (Cl. 240—64)

1. In a luminaire longer than it is wide and adapted to be mounted to a mast arm in a generally horizontal position with its longer dimension generally in line with said mast arm; the combination of a fixed hood generally convex upwardly and adapted to be rigidly attached to said mast arm, a lowering fixture generally convex downwardly and having an upper edge mating with the lower edge of said hood to form a substantially closed enclosure, said lowering fixture including a refractor, means for raising and lowering said fixture relative to said hood including cable means attached to said fixture at points thereon balancing said fixture on said cable means, pulley

means in said hood over which said cable means passes, electric lamp means mounted in said lowering fixture, electric contacts on said fixture electrically connected with said lamp means, mating electric contacts on said hood engageable with said first named contacts when the edges of said fixture and hood substantially coact when said fixture is moved to raised position by said cable means, means for latching said fixture in raised position with

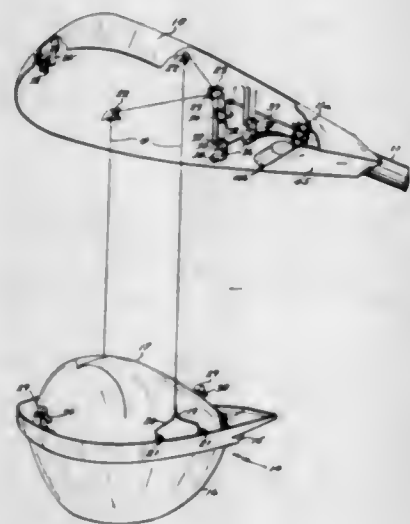


said mating contacts engaged, and wherein said points of attachment of said cable means to said fixture are equally spaced on opposite sides of a center line running lengthwise of said hood and including at each of said points of cable means attachment a bifurcated bracket having its opposite ends secured to said fixture on opposite sides of a plane about which the weight of said fixture lengthwise is balanced, and a cable secured to the mid-point of each bracket.

3,342,989

TRACK FULLNESS SYSTEM

Edd C. Dwyer and Benjamin Mishelevich, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1960, Ser. No. 78,557
7 Claims. (Cl. 246-122)



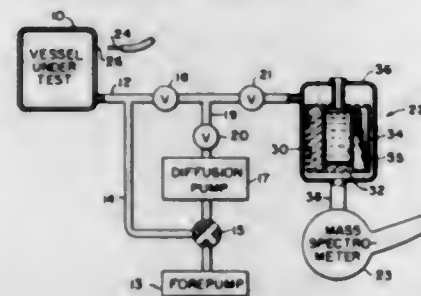
5. In a railway car storage yard including a single track connecting into a plurality of storage tracks, a system for indicating the empty car space between the entrance end of each storage track and the nearest car standing in such track, said system comprising, means controlled by each cut of cars traversing said single track

for adjusting a first signal for the storage track to which the respective cut is destined in accordance with the number of cars in that cut, said signal being adjusted proportionately to the total number of cars routed to that storage track; means for periodically selecting each storage track and adjusting a second signal for that track proportionately to the empty car space between the entrance end of such track and the nearest car standing in the track, means for comparing said first and second signals for the selected storage track and deriving a third signal for that track representative of the difference in value and polarity between the two compared signals, motion detector means responsive to the detection of a moving car in the selected storage track for interrupting the comparison of the first and second signals for that selected storage track, and means controlled by each derived third signal in accordance with its value and polarity for readjusting the first signal adjusting means for the corresponding track to increase or decrease said first signal to bring such first signal substantially into agreement with the second signal for that track.

3,342,990

LEAK DETECTION SYSTEM WHICH UTILIZES A SORPTION PUMP AND A SPECIFIC MASS SPECTROMETER DETECTOR

Alfred E. Barrington, Waltham, Richard F. Herzog, Lexington, and Walter P. Poschenrieder, Burlington, Mass., assignors to GCA Corporation, Bedford, Mass., a corporation of Delaware
Filed May 26, 1964, Ser. No. 370,317
5 Claims. (Cl. 250-41.9)



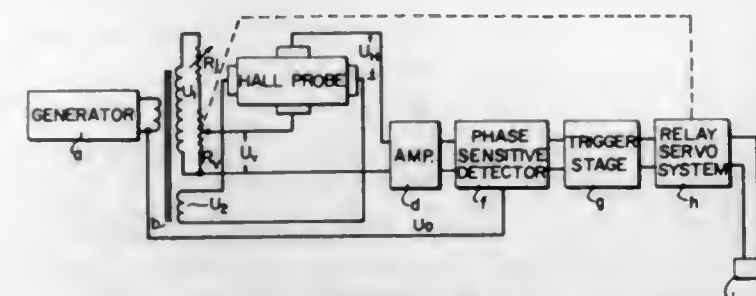
1. In a system for detecting leaks in an evacuated vessel having its exterior surface exposed to atmospheric air and a scanning probe gas of low mass relative to air, said vessel being connected to a sorption pump having sorbent material for selectively blocking the passage of air and permitting the passage of said probe gas, the combination of a mass spectrometer connected to said sorption pump, said mass spectrometer comprising an anode, a cathode surrounding said anode but having at least an aperture formed therein at a point radially displaced from said anode, a housing extending generally radially from said cathode and surrounding said aperture, means for directing the output of said sorption pump into the space between said anode and said cathode, means for producing an electric field between said anode and said cathode to render said anode positive with respect to said cathode, means for producing a magnetic field substantially concentrated between said anode and said cathode and at right angle to said electric field, whereby electrons emitted from said cathode form a cloud between said anode and said cathode, gas molecules between said anode and said cathode being formed into ions, ions of said probe gas being accelerated through said aperture by said electric field and deflected by said magnetic field to converge at a discrete zone within said housing, an ion collector electrode disposed at said discrete zone whereby said ions of said probe gas impinge upon said ion collector electrode to produce an electrical signal proportional in magnitude to the quantity of

converged ions, and indicating means connected to said collector electrode for displaying the magnitude of said signal.

3,342,991

HALL PROBE FOR MEASURING THE INTENSITY OF A CHANGING MAGNETIC FIELD IN A MASS SPECTROMETER

Kurt Kronenberger, Parkstrasse 28, Bremen, Germany
Filed Nov. 24, 1964, Ser. No. 413,538
Claims priority, application Germany, Nov. 27, 1963, A 44,648
5 Claims. (Cl. 250-41.9)



1. Mass spectrometric apparatus for determining the mass number from the magnetic field strength in the gap of the separation magnet of a mass spectrometer in which mass separation is effected by deflection in said magnetic field and the mass ranging by continuous alteration of said magnetic field comprising, said mass separation magnet, means defining a Hall probe in said magnetic field, a source of an A-C signal, means coupled to said source for applying an A-C signal of predetermined amplitude provided by said source to said Hall probe to establish a current therein for coacting with said magnetic field to develop a Hall A-C potential representative of said magnetic field strength in synchronism with said A-C signal from said source, steppable attenuating means coupled to said A-C signal source for providing a comparison A-C signal with magnitude selectively changeable in stepwise increments, means for comparing said comparison signal with said Hall A-C potential which potential is representative of the mass number then determinable to provide a trigger signal when the magnitudes of said comparison A-C signal and said Hall A-C potential bear a predetermined relationship, and stepping means responsive to the occurrence of each of said trigger signals for changing the attenuation imparted by said steppable attenuating means to change said comparison signal by one of said stepwise increments.

3,342,992

SAMPLE CHANGING DEVICES FOR ELECTRON MICROSCOPES AND ELECTRON DIFFRACTION APPARATUS

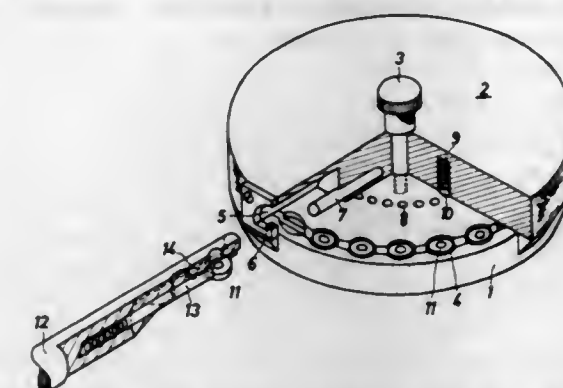
Karl-Heinz Schmidt and Wolfgang Fleckler, Jena, Germany, assignors to VEB Carl Zeiss Jena, Jena, Germany

Filed June 30, 1964, Ser. No. 379,405

4 Claims. (Cl. 250-49.5)

1. A device for changing the object in the object holder of an electron microscope or electron diffraction apparatus comprising a receptacle consisting of two plates, one of said plates lying in shiftable connection on the other, the lower of said plates having a plurality of bores, each of said bores being adapted to receive a specimen, the upper of said plates having a marginal cutout for insertion of a rod-like object holder having a locking bolt and a stop

and a stripper for holding back said locking bolt after insertion of said object holder, said stop in said object holder being so released by the insertion as to let the specimen

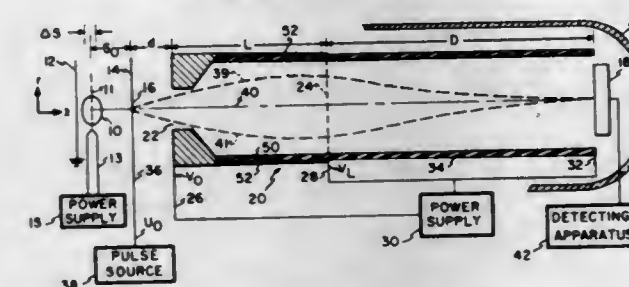


men contained in the object holder drop into one of said bores of said lower plate or to let a specimen drop from one of said bores of said lower plate into said object holder.

3,342,993

TIME-OF-FLIGHT MASS SPECTROMETER HAVING AN ACCELERATING TUBE WITH A CONTINUOUS RESISTIVE COATING

Gerald J. O'Halloran, Detroit, and Lowell D. Ferguson, Royal Oak, Mich., and Hayden M. Smith, Kendall Park, N.J., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware
Filed Sept. 21, 1964, Ser. No. 397,814
3 Claims. (Cl. 250-41.9)



1. A mass spectrometer comprising an ion source, means for accelerating the ions from said source in a specified direction, means for providing a rotationally symmetric field region having an entrance and exit means disposed to receive and discharge the accelerated ions, said field region having an axial potential distribution in the form of a parabola with the highest value and lowest value of the parabola corresponding respectively with said field entrance and exit means, whereby the entrance field is small and exit field is large, so that accelerated ions are caused to converge, said field region having a radial field which varies in proportion to the distance from the axis of the region but which is constant along the axis, and means to collect the ions.

3,342,994

SPECIMEN SUPPORT FOR AN ELECTRON MICROSCOPE WITH MEANS TO ROTATE A CIRCULAR SPECIMEN HOLDER

Adrianus Jacobus Jozef Franken and Jacob Langerhorst, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

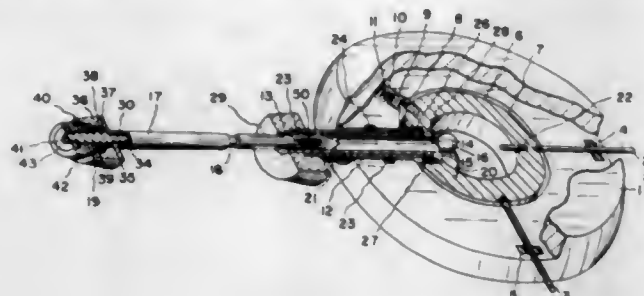
Filed July 31, 1964, Ser. No. 386,580

Claims priority, application Netherlands, Aug. 28, 1963, 297,241

2 Claims. (Cl. 250-49.5)

1. In an electron microscope, a specimen support movable in the path of an electron beam, said specimen support extending through a housing for said microscope and

being hermetically sealed therein, a circular specimen holder rotatably connected to said specimen support for positioning the specimen in the path of the electron beam, a wire-like member bent into a loop within which said specimen holder is clamped, a resilient member within said specimen support to which one end of said wire-like

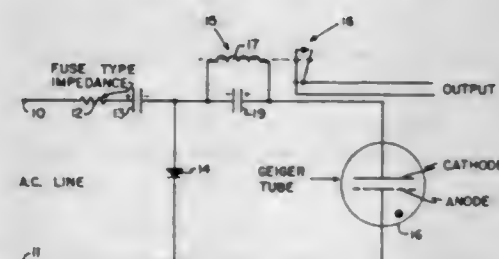


member is connected for maintaining said wire-like member under tension, and a member attached to said specimen support and external to the housing to which the other end of said wire-like member is connected whereby said wire-like member can be moved thereby rotating the specimen holder.

3,342,995

FLAME DETECTOR UTILIZING AN ULTRA-VIOLET SENSITIVE GEIGER TUBE

Roger E. Axmark, Fridley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 20, 1965, Ser. No. 473,450
6 Claims. (Cl. 250-83.6)



1. In combination with a pair of terminals adapted to be connected to a source of AC voltage, first circuit means including DC electrical energy storage means and rectification means connected in series to said terminals, condition detecting means having an anode and a cathode disposed in an ionizable gaseous medium, said detecting means being sensitive to a condition and becoming current conductive upon being subjected thereto, and second circuit means connecting said detecting means in parallel with said rectification means, said detecting means and said rectification means being poled to conduct current on opposite half cycles of the AC source.

3,342,996

LIGHT SENSITIVE POWER CONTROL CIRCUIT INCLUDING DIODE SWITCH

William O. Crusinberry, Dallas, Tex., assignor to Hunt Electronics Company, Dallas, Tex., a corporation of Texas

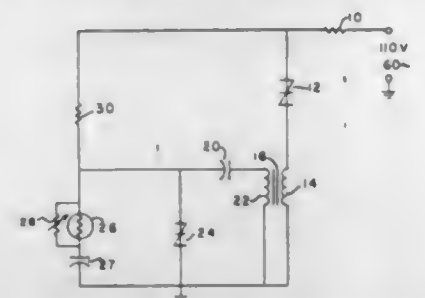
Filed Sept. 30, 1964, Ser. No. 400,321
4 Claims. (Cl. 250-206)

1. A power control circuit for controlling the effective power applied to a load from a source of alternating current supply voltage as a function of the intensity of ambient light impinging upon a photosensitive element that comprises:

(a) a first diode switching device which normally exhibits a high impedance between two terminals to the flow of current in at least one direction between

said two terminals but which is capable of being switched to a quasi stable low impedance state in said at least one direction responsive to a voltage of predetermined character being applied thereto and which remains in the low impedance state so long as holding current flows through said device in said at least one direction;

(b) means for connecting said first device by said two terminals in series with said load and said source of alternating current supply voltage; and



(c) means for generating and applying to said first diode device a voltage of said predetermined character to cause said device to switch to said quasi stable low impedance state;

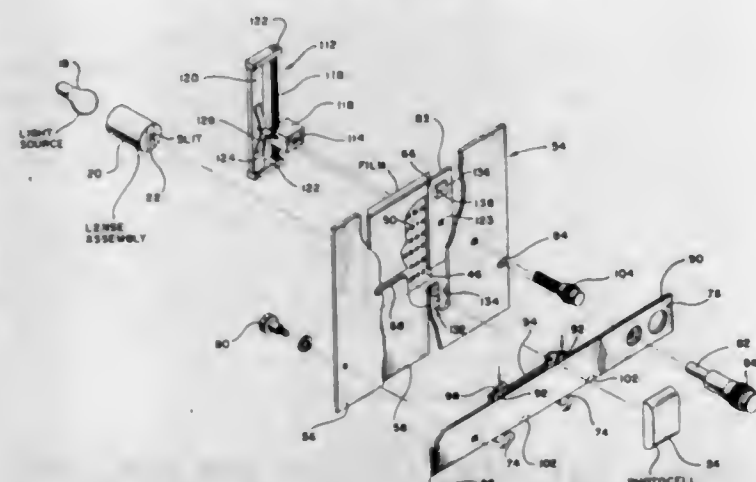
(d) said last named means including a capacitor and a photosensitive element connected for said photosensitive element to control the voltage to which said capacitor is charged whereby the time during a half cycle at which said device switches to the low impedance state varies as a function of the intensity of light impinging upon the photosensitive element to thereby control the effective power applied to the load as a function of the intensity of ambient light.

3,342,997

APPARATUS FOR SCANNING INDICIA TRACES ON RECORD MEDIUM

John Taylor, Santa Clara, and Edvard M. Pedersen, Palo Alto, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Apr. 10, 1964, Ser. No. 358,795
8 Claims. (Cl. 250-219)



1. For use in apparatus having a scanning slit for scanning a series of elongated indicia traces recorded on a record medium and disposed in a row thereon extending in a direction transversely of the traces, and having driving means serving to feed the record medium in the direction of the row so as to carry each of said traces into parallel coincidence with a scanning plane normal to the axis thereof, an attachment apparatus for establishing precise parallelism between said traces and said scanning plane comprising a support plate adapted to carry the record medium fixed therewith, a guide bar carrying said support plate, said bar being adapted to be engaged by

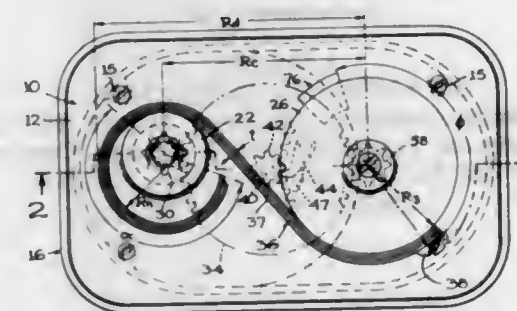
the driving means and advanced in the direction of said row to move the plate and the medium in said direction, said support plate being pivotable with respect to said guide bar to pivot said medium about an axis normal thereto and parallel spaced from said plane, means serving to infinitesimally pivot said support plate through a predetermined angle to vary the angle between the axes of said traces and said plane, means for varying the position of the medium in a direction parallel to said plane to register the mid-point of the traces with respect to the ends of the slit, a registration surface generally parallel to said plane, the last named means serving to convert an applied movement entailing substantial lost motion to a movement virtually free of lost motion while camming said medium continuously into a guiding relationship to said registration surface.

3,342,998

SPRING-DRIVEN ELECTRICAL GENERATOR

Walter F. Anderson, Lancaster, Pa., assignor to Fidellty Electric Company, Inc., Lancaster, Pa., a corporation of Pennsylvania

Filed Apr. 1, 1965, Ser. No. 444,629
20 Claims. (Cl. 290-1)



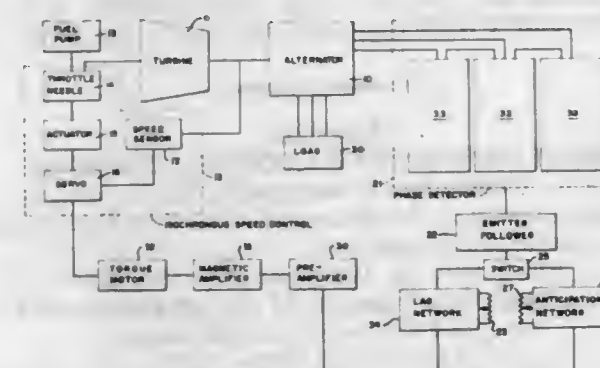
1. An electrical generating apparatus comprising an electrical generator including a rotatable armature and a stationary magnetic structure, a substantially zero gradient constant torque spring means for rotatably driving said armature comprising a spring member having a preset curvature but adapted to be wound reversely to its preset curvature, means for winding said spring member reversely to its preset curvature, means for releasing the wound spring member, and means transmitting the force of the unwinding spring member to said rotatable armature whereby to rotate said armature.

3,342,999

GOVERNOR CONTROL CIRCUIT INCLUDING A PLURALITY OF COMPENSATING NETWORKS

Richard W. Townsend, Scottsdale, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Continuation of application Ser. No. 185,711, Apr. 6, 1962. This application Oct. 11, 1965, Ser. No. 494,374
4 Claims. (Cl. 290-40)



1. An electronic governor control circuit for a turbine driven alternator in which the turbine is provided with governor means for adjusting the fuel supply to said tur-

bine so as to maintain a substantially constant turbine speed and alternator output, comprising:

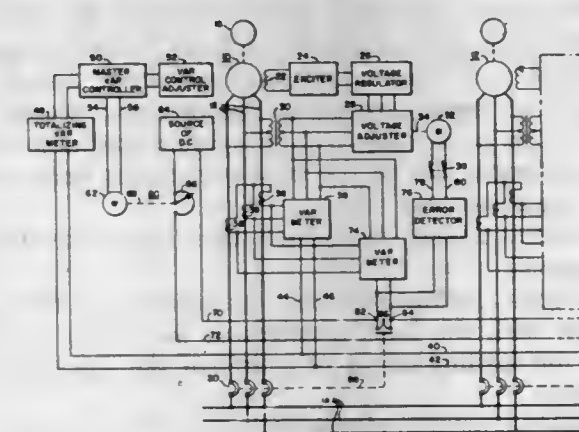
- (a) circuit means connected to said alternator for sensing and measuring a load applied to said alternator and producing an electrical signal proportional to the load;
- (b) means responsive to said electrical signal for adjusting the fuel supply to said turbine independently of any speed adjustment performed by said governor means;
- (c) a lag network for actuating said adjusting means to reduce the fuel flow to the turbine an amount proportional to said electrical signal when said alternator is coupled in parallel with another alternator;
- (d) an anticipation network in parallel with said lag network for actuating said adjusting means to increase the fuel flow to said turbine an amount proportional to said electrical signal when said alternator is not coupled in parallel with another alternator; and
- (e) means for selectively connecting said networks into the electronic control circuit between said adjusting means and said circuit means.

3,343,000

CONTROL SYSTEMS FOR CONTROLLING THE REACTIVE POWER OF A PLURALITY OF A.C. GENERATORS

Powell O. Bobo, Wilkensburg, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 3, 1964, Ser. No. 415,731
4 Claims. (Cl. 307-57)



1. A control system for controlling the reactive power of an alternating current system comprising, a plurality of alternating current generators, first means producing a first signal responsive to the total reactive power of the alternating current system, second means producing a second signal responsive to the desired reactive power of the alternating current system, third means comparing said first and second signals and producing a third signal when said first and second signals are unequal, said third signal having a polarity and magnitude responsive to which of said first and second signals is larger and to the magnitude of the difference, fourth means producing a fourth signal whose magnitude is responsive to said third signal, fifth means producing a fifth signal at each of said alternating current generators responsive to the reactive power of each alternating current generator, sixth means comparing said fourth and fifth signals at each of said alternating current generators, said sixth means producing a sixth signal when said fourth and fifth signals are unequal, said sixth signal having a polarity and magnitude responsive to which of said fourth and fifth signals is larger and to the magnitude of the difference, seventh means independently controlling the output voltage level of each of said alternating current generators, said sixth signal connected in circuit relation with said seventh means and controlling the output voltage

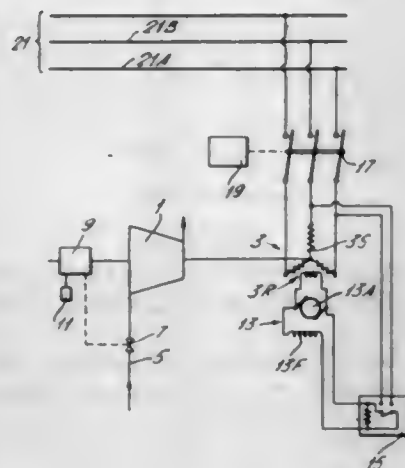
level of each of said alternating current generators independently, to provide the desired reactive power for the alternating current system.

3,343,001 FREQUENCY MATCHING OF TWO ALTERNATING VOLTAGES

Richard Lawrence Grimsdale, Altrincham, Norman Geoffrey Depledge, Aspley, and Gordon Wilson Pickard, Manchester, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Nov. 18, 1963, Ser. No. 324,441
Claims priority, application Great Britain, Nov. 23, 1962, 44,456/62

7 Claims. (Cl. 307-37)



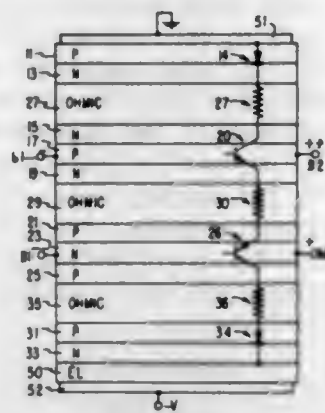
1. Frequency matching means adapted to adjust the frequency of a first alternating voltage so that it matches the frequency of a second alternating voltage, comprising:
 - (a) circuit means by which the first and second voltages are combined to produce first and second beat waveforms, one of the beat waveforms being caused to lag the other;
 - (b) circuit means by which each beat waveform is squared;
 - (c) circuit means adapted to produce a first pulse train with the leading edges of the pulses produced by the leading edges of a first of the squared waveforms;
 - (d) circuit means adapted to produce a second pulse train with the leading edges of the pulses produced by the trailing edges of the said first squared waveform;
 - (e) circuit means by which the second squared waveform is compared with the first pulse train and with the second pulse train, this circuit means being adapted to produce a first output when the pulses of the first pulse train occur during the mark periods of the squared beat waveforms and providing a second output when the pulses of the second pulse train occur during the mark periods of the squared beat waveform; and
 - (f) means arranged to regulate the frequency of the first alternating voltage and adapted to increase that frequency upon the occurrence of the first output and to decrease that frequency upon the occurrence of the second output.

3,343,002 INTEGRATED SOLID STATE SCANNING DEVICE

Evan L. Ragland III, Glenview, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1963, Ser. No. 326,761
24 Claims. (Cl. 307-88.5)

1. A solid state electrical device including a plurality of substantially flat parallel layers of P and N conductivity

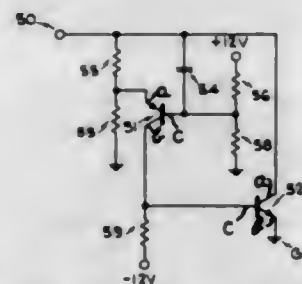
type semiconductor material, said layers forming a junction diode and first and second junction transistors consecutively, said first and second transistors being complementary types and each having at least a base layer,



there being layers of ohmic material separating said diode and said transistors from one another, circuit means for applying a biasing potential laterally across the base layer of each said transistor, and circuit means for varying said biasing potential with respect to a reference potential.

3,343,003 TRANSISTOR INDUCTOR

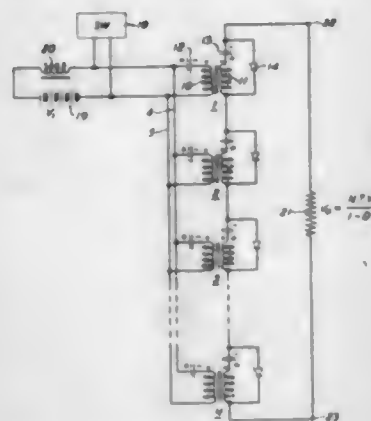
Roger Edward Arseneau, Elk Grove Village, Ill., assignor to International Telephone and Telegraph Corporation
Filed Jan. 24, 1964, Ser. No. 340,011
4 Claims. (Cl. 307-88.5)



3,343,007

MARX-TYPE IMPULSE GENERATOR

Richard P. Massey, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Sept. 23, 1964, Ser. No. 398,800
 6 Claims. (Cl. 307-108)

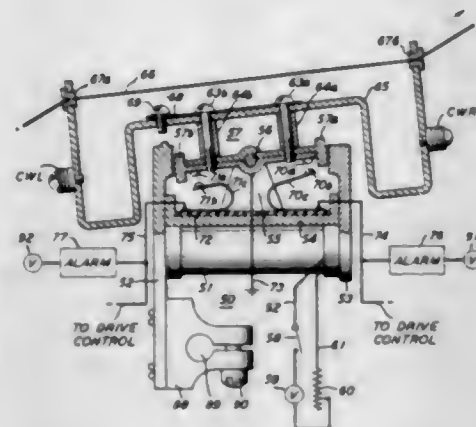


1. An impulse generator circuit comprising a plurality of stages, each stage including a transformer having a primary winding and a secondary winding, a capacitor connected in series with said primary winding to form a primary circuit, a second capacitor and a diode connected in series with said secondary winding, means connecting the primary circuits of said stages in parallel, other means connecting the second capacitors and secondary windings of said stages in series, means including an impedance for connecting said primary circuits to a current source, and a switch connected across said primary circuits.

3,343,008

FILAMENT TENSION MONITORING DEVICES

James E. Bancroft, Plainview, N.Y., assignor to Allied Control Company, Incorporated, New York, N.Y., a corporation of New York
 Filed Oct. 12, 1964, Ser. No. 403,191
 20 Claims. (Cl. 307-119)



13. A device for monitoring the tension applied to a moving filament comprising in combination a longitudinal armature of magnetic material mounted for rotation about a midpoint transverse axis, a pair of pole pieces of magnetic material juxtapositioned at opposite ends of said armature, said armature providing a low reluctance magnetic flux path between said pole pieces, a filament guide attached to said armature and adapted to rotate therewith, said filament guide having a pair of spaced trumpet-shaped eyelets for directing said monitored filament along an axis substantially parallel to the longitudinal axis of said armature, means including said filament guide for applying a selectable component of the tension applied to said filament as a counterclockwise torque to said armature, means for establishing a magnetic couple of selectable

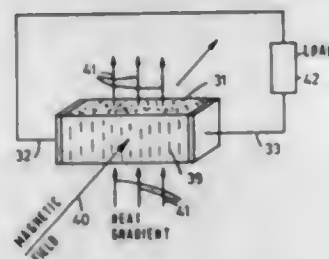
force between said armature and said pole pieces to resist said torque, a first control circuit, a second control circuit, first means controlled by said armature and operative when the force of said torque exceeds the force of said magnetic couple by a predetermined value for energizing said first control circuit, and second means controlled by said armature and operative when the force of said torque falls below the force of said magnetic couple by a predetermined value for energizing said second control circuit.

3,343,009

THERMOMAGNETIC-EFFECT DEVICES

Herbert Wagini, Erlangen, and Herbert Weiss, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, and at Erlangen, Germany

Filed Aug. 18, 1964, Ser. No. 390,335
 Claims priority, application Germany, Nov. 8, 1963, S 88,215
 11 Claims. (Cl. 310-4)

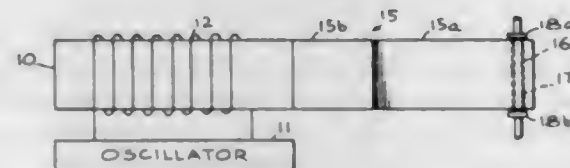


1. A thermomagnetic device comprising magnet means having a field, a thermoelectrically active solid body mounted in said field and having two mutually spaced faces adapted to form relatively warm and cold sides when the device is in operation, electric contacts on two mutually spaced other faces of said body for connecting an external circuit thereto, said body consisting of material having finite Hall mobility and having between said contacts a multiplicity of alternating regions of high and low conductivity respectively, said regions being oriented substantially in parallel relation to one another.

3,343,010

ULTRASONIC POWER APPARATUS

Alvin A. Snaper, 9722 Casaba Ave., Chatsworth, Calif. 91311
 Filed May 21, 1965, Ser. No. 457,723
 2 Claims. (Cl. 310-20)



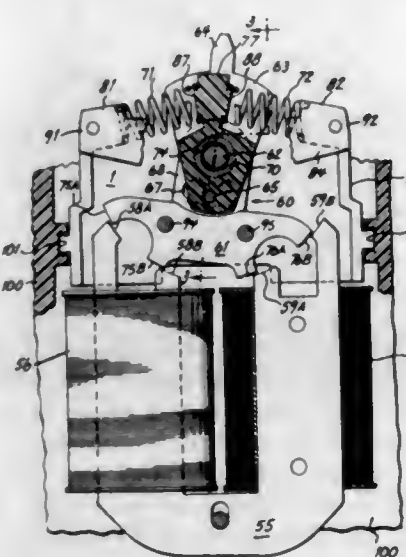
1. Ultrasonically-driven motor apparatus comprising: means for producing electrical oscillations at a frequency in the ultrasonic range of frequencies; a rectangular-shaped transducer element coupled to said means and operable in response to the oscillations therefrom to mechanically vibrate in the direction of its longitudinal axis at a frequency corresponding to that of the electrical oscillations; an acoustical matching block mounted on one end of said transducer element and extending therefrom symmetrically with respect to the longitudinal axis thereof, said acoustical matching block having a hole therein that intersects said longitudinal axis at an angle therewith;

and a shaft rotatably positioned in said hole and operable to rotate in response to said longitudinally-directed mechanical vibrations.

3,343,011

OSCILLATING ELECTROMAGNETIC MOTOR

John F. Daniels and David R. Locke, Bridgeport, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
 Filed Apr. 5, 1965, Ser. No. 445,493
 8 Claims. (Cl. 310-21)



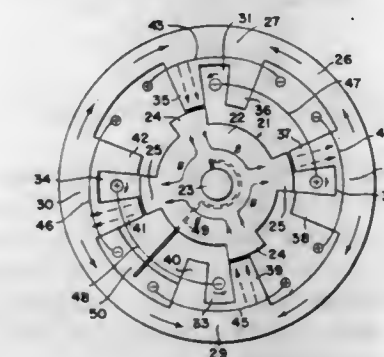
4. In a vibratory motor of the class described for a shaver and the like, the combination comprising pivot means, a magnetic field generating stator with arcuate pole faces adapted to be fixed centered on the axis of said pivot means, an armature member pivotally mounted on said pivot means for oscillation, said armature member having arcuate pole faces centered on said axis for movement with respect to said stator pole faces from an at-rest position whereat said said armature pole faces overlap said stator pole faces by a predetermined degree of entry, an oscillator member pivotally mounted on said pivot means and having a driving arm extending from said oscillator member for coaction with working means such as the cutters of said shaver when said oscillator member is moved from an at-rest, eccentric position of said arm; said oscillator member and armature member being angularly adjustable with respect to each other for positioning said arm and armature pole faces at said respective at-rest positions; and fastener means for allowing adjustment of said members to adjusted at-rest positions and for securing said members with respect to each other in said adjusted positions; said armature member including a support arm having an aperture for pivotally mounting said armature member on said pivot means, said oscillator member being of relatively deformable material received against said support arm and having a fastener hole opening on the side of said oscillator member adjacent said arm; said support arm having an arcuately edged slot aligned with said fastener hole for receiving a headed fastener in said slot and hole, at least one of the arcuate edges of said slot being serrated to form notches and fingers extending from said support arm for bending of at least one of said fingers into said oscillator member by said headed fastener and simultaneous

deformation of part of said material into said notches adjacent said finger, said headed fastener and serrated edge providing said fastener means.

3,343,012

OSCILLATING MOTOR

Elmer E. Scott, 6602 Olympic Highway, Aberdeen, Wash. 98520
 Filed Aug. 3, 1964, Ser. No. 386,837
 9 Claims. (Cl. 310-36)



7. An oscillating motor comprising; a circular stator ring member; said stator member including a plurality of pairs of diametrically opposed pole pieces extending inwardly therefrom with air gaps therebetween, each of said pole pieces including at least one slot therein to form spaced teeth thereon, conductors located in said slots and being fixed relative thereto, means to apply alternating current in said conductors, the alternating current being of opposite polarity in adjacent pole pieces, an armature of magnetic material, means for mounting said armature for rotary oscillation about a fixed axis in said air gap, said armature having a number of arcuate armature segments on the periphery thereof corresponding to the number of pole pieces with each segment being adjacent a respective one of said pole pieces, the arcuate extent of said segments being in multiples of the arcuate distance between center lines of the teeth of associated pole pieces said armature segments being so positioned relative to the associated pole pieces so as to maintain a reluctance of essentially constant magnitude between the armature and the pole piece during oscillation, and means to establish a unidirectional magnetic circuit of essentially constant magnitude through said pole pieces and said armature, whereby the magnetic field produced by alternating current in said conductors will divert the magnetic flux in said pole pieces alternately from right to left sides thereof causing said armature to oscillate to right and left of a center position with thrust being applied to said armature alternately in opposite directions of oscillation.

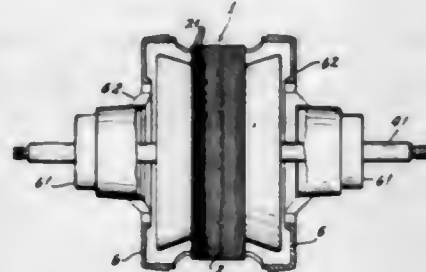
3,343,013

END SHIELD ASSEMBLY

Lawrence W. Wightman, Creve Coeur, and Frank S. Korski and Clinton H. Dederick, Brentwood, Mo., assignors to Emerson Electric Co., St. Louis County, Mo., a corporation of Missouri
 Filed Dec. 10, 1964, Ser. No. 417,428
 3 Claims. (Cl. 310-42)

1. In an electric motor having a square, laminated, stator core with four beveled corners and a metal end shield, the improvement comprising axially projecting mounting tabs integral with said end shield, said tabs having edge margins tapering convergently toward the free end of the tabs, channel-defining flanges integral with said stator core at each of said four beveled corners of said core, said flanges facing one another and overhanging a portion of the peripheral surface of the core at the

beveled corners of the core to define a groove along each flange, said flanges being spaced apart a distance greater than the amount of their respective overhangs, which flanges, with said peripheral surface as a bottom wall, define at each of said beveled corners an axially extending channel, said end shield tabs extending within the com-



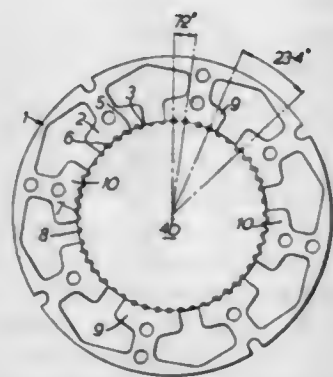
pass of but free of direct contact with the channel-defining surfaces, with said tab margins within the said grooves and said tabs spanning between the overhanging flanges, and a cementing composition within the grooves between the said tab margins and the channel-defining surfaces, bonded to said tabs and to said channel-defining surfaces and bonding them together.

3,343,014

SYNCHRONOUS MOTORS

Alan Robert Douglas Giles, Clayhall, Ilford, England, assignor to Plessey-UK Limited, Ilford, England, a British company

Filed Nov. 10, 1964, Ser. No. 410,139
1 Claim. (Cl. 310-49)

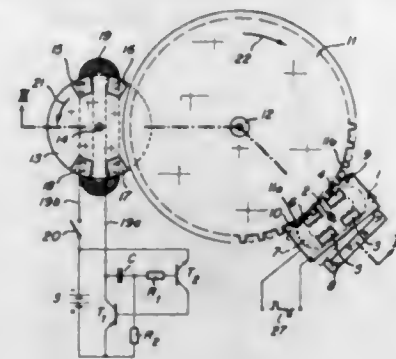


An electric motor comprising a permanent magnet rotor having two axially spaced cylindrical rotor pole pieces formed on their respective peripheral surfaces with axially extending teeth of uniform pitch, the teeth on one of said rotor pole pieces being angularly displaced about the rotor axis by one half of the tooth pitch relative to the teeth on the other of said rotor pole pieces, a stator having a number of equiangularly spaced inwardly projecting stator poles the inner peripheral surface of which lies on the circumference of a circle having its centre on the axis of rotation of the rotor and is provided with axially extending stator pole teeth on each stator pole, said stator pole teeth having the same pitch as the said teeth on the rotor pole pieces, the pitch of the stator poles being so related to the number of teeth on each rotor pole piece, that all the teeth provided on only one pair of diametrically opposite stator pole pieces can fully align with a corresponding number of teeth on the said one rotor pole piece, and all the teeth provided on only one other pair of diametrically opposite stator pole pieces positionally displaced by 90° from the said one pair of pole pieces can fully align with a corresponding number of teeth on the said other rotor pole piece, said alignment occurring in each revolution of said rotor in a number of angular positions of said rotor corresponding to the number of stator poles.

3,343,015
DRIVE MEANS FOR A TIMEPIECE
Peter Döme, Onex, Geneva, Switzerland, assignor to Société Suisse pour l'Industrie Horlogère S.A., Geneva, Switzerland

Filed May 13, 1965, Ser. No. 455,443
Claims priority, application Switzerland, May 15, 1964, 6,374/64

10 Claims. (Cl. 310-84)



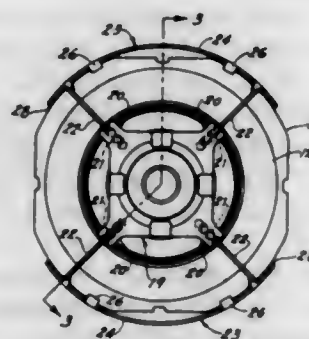
1. A device for driving the mechanism of a timepiece in dependence on electric voltage impulses supplied at constant frequency, which comprises a prime-mover-forming toothed wheel, means for constantly subjecting said wheel to a torque of given direction, and an electrodynamic relay energizable by said impulses, said relay including a rocking part having two stable positions, one for each impulse of two successive said impulses and having a pair of abutment fingers alternately engaging the teeth of said wheel upon said part rocking from one of said stable positions to the other, each change of engaging fingers allowing escapement of said wheel by one half-pitch under the action of said torque.

3,343,016

MOTOR BEARING SUPPORT BRACKET

John G. Lewis, Dellwood, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Aug. 30, 1965, Ser. No. 483,709
5 Claims. (Cl. 310-90)



1. In an electric motor having a stator and a rotor including a drive shaft mounted for rotation in said stator, a hub member at one end of said stator surrounding said drive shaft, a bearing in said hub member journalling said one end of said shaft, means journalling the other end of said drive shaft, said hub member being provided with a plurality of circularly arranged radial slots in the inner face thereof extending inward from its periphery, a plurality of circularly arranged radially extending legs at one end of said stator, means connecting the outer ends of said legs to said stator, and said legs having their inner ends entered into said slots in said hub member, and said legs having a free fit in said slots and being cemented therein, whereby upon assembly of the motor said hub

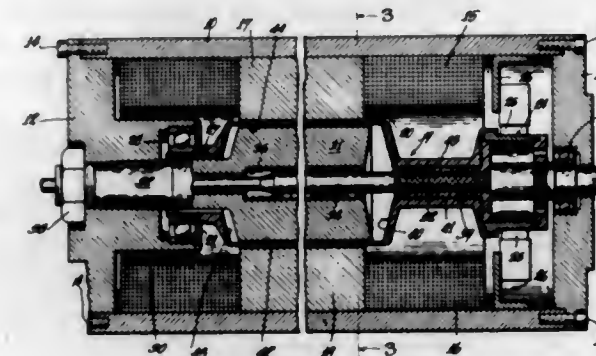
member and the bearing it carries may be slipped on said one end of said shaft and the inner ends of said free fitting leg members entered sideways into said slots in said hub member, thereby permitting the free alignment of said bearing on said shaft prior to cementing said inner ends of said legs in said slots.

3,343,017

LOW INERTIA ELECTRIC MOTORS

Stephen L. Pop, Warren, Ohio, assignor to Peerless Electrical Division of H. K. Porter Company Inc., Warren, Ohio

Filed Oct. 12, 1966, Ser. No. 594,960
18 Claims. (Cl. 310-266)



1. A low inertia electric motor comprising spaced housing members, a stator between said housing members, a core having a cylindrical first portion within said stator proportioned to provide a radial space therebetween, said core terminating short of one of said housing members and having a reduced second portion anchored to the other of said housing members, an output shaft concentric with and smaller in diameter than said core, said shaft extending through said one housing member and being rotatably carried thereby, and an armature having a tubular portion in the radial space between said stator and said core and such armature portion having radial operating clearance over both, said armature tubular portion having electrical conductors extending longitudinally thereof and structurally integral therewith and forming a part thereof, said conductors being disposed closer to the inner surface of said armature tubular portion than to the outer surface thereof to provide for maximum strength of said armature tubular portion in resisting centrifugal forces which tend to cause radial outward movement of said conductors during armature rotation while minimizing wall thickness of said armature tubular portion, said armature having radially inwardly extending end portions which enclose said core first portion while being axially spaced therefrom and said armature end portions being integral with said armature tubular portion to provide a unitary structure of maximum strength with minimum wall thickness and minimum mass, one of said armature end portions being anchored to said shaft for unitary rotation therewith and said other armature end portion having radial operating clearance over said core second portion.

3,343,018

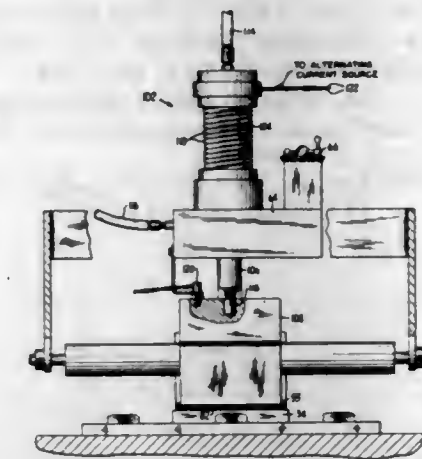
MAGNETOSTRICTIVE VIBRATORY TOOL

Lewis Balamuth, New York, and Arthur Kuris, Riverdale, N.Y., assignors to Cavtron Ultrasonics, Inc., Long Island City, N.Y., a corporation of New York

Original application Feb. 15, 1962, Ser. No. 173,528, now Patent No. 3,280,740, dated Oct. 25, 1966. Divided and this application June 24, 1966, Ser. No. 568,710

16 Claims. (Cl. 310-26)

1. A vibratory tool adapted to be driven by a transducer comprising, a substantially solid block of vibration supporting material having an elongated input surface



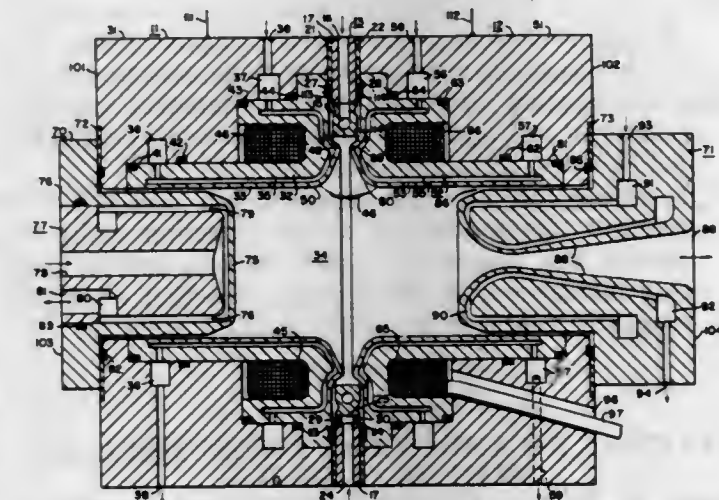
vibration frequency in said material, said output surface being formed with at least one lip extending substantially normal to and along the entire length of said output surface and adapted to be set into vibration upon application of vibratory energy to said input surface.

3,343,019

HIGH TEMPERATURE GAS ARC HEATER WITH LIQUID COOLED ELECTRODES AND LIQUID COOLED CHAMBER WALLS

Charles B. Wolf, Irwin, and George A. Kemeny, Export, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 6, 1964, Ser. No. 349,896
19 Claims. (Cl. 313-32)



1. Arc heater apparatus comprising, in combination, means forming an arc chamber, the chamber forming means including a first generally cylindrical wall portion and a second generally cylindrical wall portion, the first and second wall portions being of similar inner diameters and axially aligned, means between the first and second wall portions axially spacing and electrically insulating the wall portions from each other, the first and second wall portions being symmetrical at the adjacent ends thereof, the first and second wall portions being composed at least partially of conductive material, nozzle means disposed at one end of the chamber, means closing the other end of the chamber, means for admitting gas to be heated to the chamber through the space between the first and second wall portions, means for applying an electrical potential across the two cylindrical wall portions to form an arc inside the chamber between the two

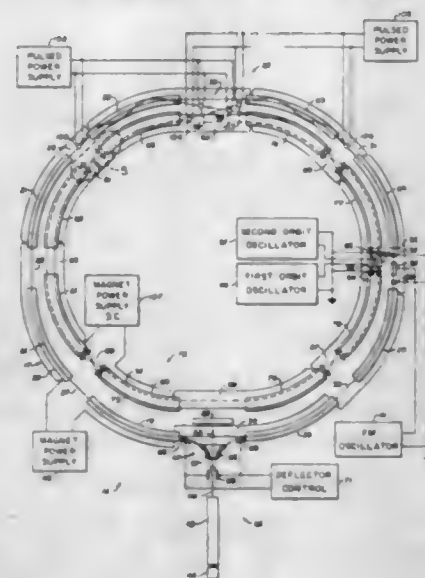
cylindrical wall portions, and means for setting up a magnetic field in the chamber in predetermined direction with respect to the arc.

3,343,020

APPARATUS FOR THE ACCELERATION, STORAGE AND UTILIZATION OF COUNTER-ROTATING CHARGED PARTICLE BEAMS

Hayden S. Gordon, Orinda, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 8, 1964, Ser. No. 402,664
18 Claims. (Cl. 313-62)



1. In apparatus for accelerating charged particles to high energies, the combination comprising:

- (a) an annular magnet structure of the type defining a closed curvilinear charged particle orbit, said magnet having a core and excitation coils therefor,
- (b) a source of periodically reversing current coupled to said excitation coils whereby the magnetic field at said particle orbit is periodically reversed,
- (c) accelerating electrode means situated at said particle orbit and applying a cyclically varying electrical field along a portion thereof, and
- (d) means for injecting particles into said orbit for rotation therearound in a first direction while the field of said magnet has a first polarity and for rotation therearound in the opposite direction when said magnetic field has a second reversed polarity.

3,343,021

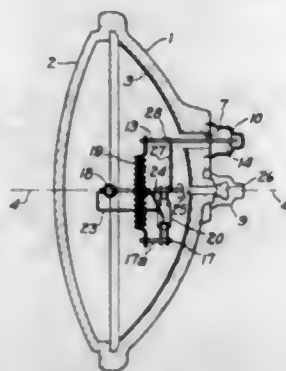
ELECTRIC INCANDESCENT PROJECTOR LAMP WITH HEAT SHIELD

George H. Burnett, Cleveland Heights, and Emmett H. Willey, Chesterland, Ohio, assignors to General Electric Company, a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,498
3 Claims. (Cl. 313-42)

1. An electric incandescent projector lamp comprising a sealed gas-filled bulb including a compact concave glass reflector section and a light-transmitting glass cover section and adapted to be operated with the reflector axis horizontal, said reflector section having at least two lead wire openings adjacent its apex with one of said openings above said reflector axis substantially in a vertical plane including said axis, metal thimble members at the exterior of said reflector section closing respective said openings and having their edges fused in the glass around the margins of said openings, lead wires having their outer ends anchored in respective said thimbles and extending through the associated said openings into the interior of said reflector section, a high intensity helically coiled filament in said bulb electrically connected to and

supported from said lead wires to extend vertically substantially in said vertical plane including said reflector axis and relatively close to said reflector apex, and a heat-deflecting shield member supported in said bulb at the front of the lead wire opening above the reflector axis and



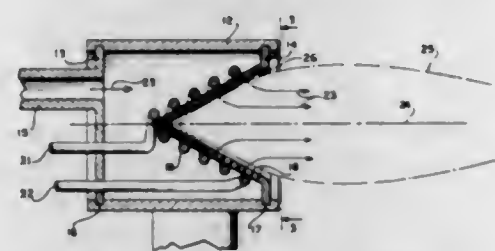
between said opening and said filament and substantially in a vertical plane transverse to said reflector axis to thereby break up and divert away from said one opening above the reflector axis the hot gaseous convection currents arising around said filament and thus prevent pocketing of the hot gas in said one opening.

3,343,022

TRANSPIRATION COOLED INDUCTION PLASMA GENERATOR

Hans U. Eckert, Spring Valley, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Mar. 16, 1965, Ser. No. 440,256
6 Claims. (Cl. 313-63)



1. A plasma generating apparatus comprising:
 - conduit means;
 - means for effecting a flow of gas through said conduit means at a high pressure;
 - a conical member having a multiplicity of capillaries therethrough communicating said conduit means with the exterior of said apparatus, the apex of said conical member extending into said conduit means for radially discharging said gas into a zone exterior of said apparatus at velocities comparable to the diffusion velocity of the ions of said gas when ionized; and
 - induction means, located within said pressurized conduit means, which when energized will generate an electromagnetic field having an intensity sufficiently high to ionize gas in said zone and thereby generate a plasma flame which is ejected from said apparatus.

3,343,023

CATHODE-RAY TUBE HAVING AN IMPROVED FIBER OPTIC FACE PLATE

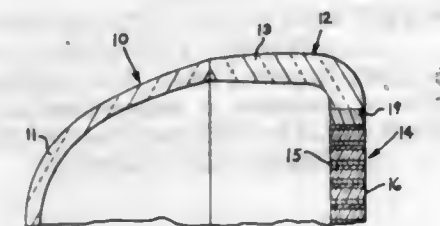
Frederic L. Bishop, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Nov. 4, 1964, Ser. No. 408,985

5 Claims. (Cl. 313-92)

1. In a fiber optical image transfer device comprising a plurality of light-conducting optical fibers secured together in side-by-side relation so that corresponding opposite ends of the fibers cooperate to define respective

radiation-receiving and light-emitting faces, each of said fibers having a core part of a transparent material of relatively high index of refraction and a cladding of relatively low index of refraction, the improvement wherein



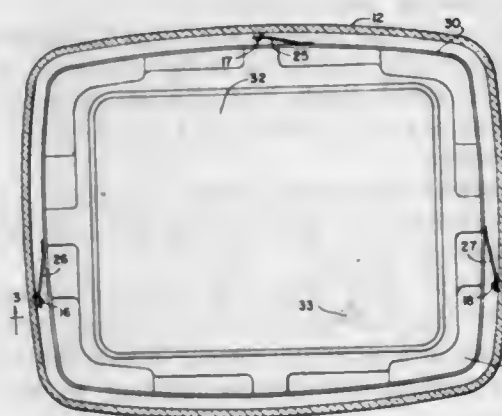
said core part is comprised of a glass composition capable of having its surface portion crystallized to form luminescent crystals, the ends of said core part at the radiation-receiving face being crystallized.

3,343,024

CATHODE RAY TUBE WITH IMPROVED SHADOW MASK MOUNTING SPRING ARRANGEMENT

James A. Torrence, Franklin Park, Ill., assignor, by mesne assignments, to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 25, 1964, Ser. No. 413,826
4 Claims. (Cl. 313-92)



1. A cathode ray tube of the shadow mask type, including in combination, a rectangular faceplate panel having depending side walls surrounding a face area, a shadow mask structure to be positioned in spaced relation from said face area, at least three flat springs including first and second side springs, each having an end secured to said shadow mask structure and an apertured free end, said springs being spaced about the periphery of said shadow mask structure and extending generally in a direction parallel to said face area, the free end of one of said springs extending in a direction opposite to that of the other two of said springs about the periphery of said shadow mask structure and retaining means carried by said side walls to engage said apertures of said springs for removably retaining said shadow mask structure within said faceplate panel, said retaining means for said first and second side springs being displaced from the horizontal center line of said faceplate.

3,343,025

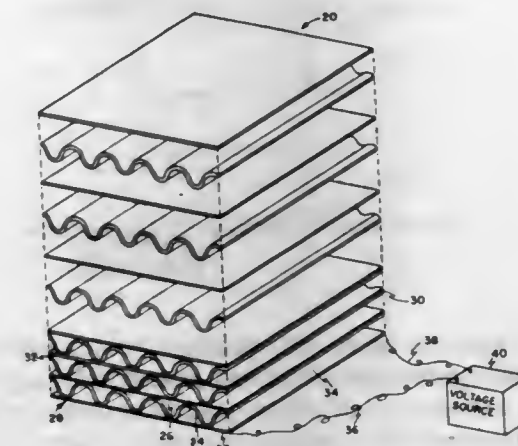
ELECTRON MULTIPLIER ARRAY FOR IMAGE INTENSIFIER TUBES

James R. Ignatowski, Warren, and Robert R. Thompson, Livonia, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed June 9, 1961, Ser. No. 116,189
3 Claims. (Cl. 313-105)

1. An electron multiplier array comprising a plurality of insulative corrugated members and insu-

lative confining means stacked one on the other to form a multidimensional array of open end covered channels, the insulative material defining said open ends of said channels having a highly conductive surface so that a single potential lead electrically connected with any one of said open channel ends will place all of the channel ends at a given end of said array at the potential of said single potential lead,



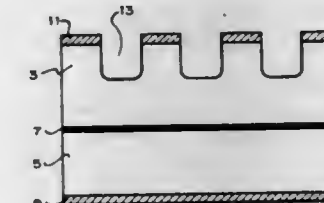
said corrugated members having a plurality of grooves and ridges, said grooves having a secondary emissive resistive surface that is continuous from one groove end to the opposite groove end, and said confining means being placed adjacent said grooves and being fixed to said grooves to form a covered channel open only at the ends thereof.

3,343,026

SEMI-CONDUCTIVE RADIATION SOURCE

Herman Luechinger and Egon E. Loebner, Palo Alto, Calif., assignors to h-p associates, Palo Alto, Calif., a corporation of California

Filed Nov. 27, 1963, Ser. No. 326,563
3 Claims. (Cl. 313-108)



1. An electroluminescent comprising a body of semiconductor material including contiguous layers of P-material and N-material forming a P-N junction therebetween, a plurality of recesses in the outer surface of one of the layers which extend into the body toward the junction for decreasing the thickness of said one layer about the junction in the regions of said recesses, electrode means contacting the remaining portion of the outer surface of said one layer about said recesses for providing an equipotential connection thereto; and electrode means contacting the outer surface of the other of said layers for providing an equipotential connection thereto, whereby electromagnetic radiation emanating from the region about said P-N junction is transmitted through said one layer with less absorption and attenuation in the regions of said recesses than in the remaining regions of said one layer.

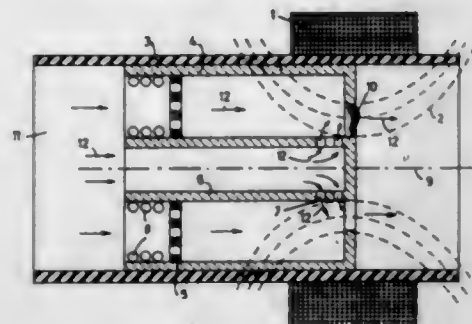
3,343,027 ARC PLASMA DEVICE HAVING GAS COOLED ELECTRODES CONTAINING LOW WORK FUNCTION MATERIAL

Heinz Fröhlich, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Aug. 5, 1964, Ser. No. 387,676

Claims priority, application Germany, Aug. 10, 1963, S 86,681

14 Claims. (Cl. 313—231)



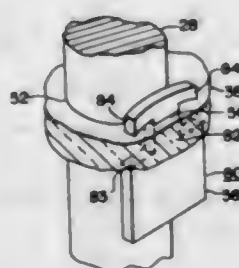
1. A plasma gun, comprising two coaxial annular electrodes spaced from each other and forming an annular arc gap between each other, said electrodes consisting of an electroconductive refractory main material having a melting point above 1200° C., and at least one of said electrodes containing an addition of substance having a work function within 0.15 to 0.7 that of said main material, magnet means having transverse field in said annular gap for causing the arc between said electrodes to rotate along said gap, gas duct means for passing the gas to be ionized through said gap, said duct means comprising cooling channels along said electrodes for maintaining their working temperature by heat exchange with substantially all of the gas flow at a value below the melting point of the electrodes and above 1000° C.

3,343,028 ELECTRODE FASTENING DEVICE

Douglas G. Nollis, New Canaan, Conn., and Donald A. Boylan, Erwin, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1964, Ser. No. 413,706

6 Claims. (Cl. 313—260)



1. An electron discharge device comprising a plurality of electrodes including a grid electrode having two parallel support rods, upper and lower spacer plate members for maintaining the relative positions of said electrodes, said lower spacer member provided with apertures therein having an electrode receiving portion for receiving said side support rods of said grid and a keyway portion for receiving a locking member, said locking member comprising a body portion and a key portion, said key portion positioned within said keyway, said body portion having a greater cross-sectional area than said keyway portions and having surface portions bearing against one surface of said lower spacer member adjacent said keyway portion and said key portion having an extension thereon bearing against the opposite surface of said lower spacer member adjacent said keyway portion to lock said

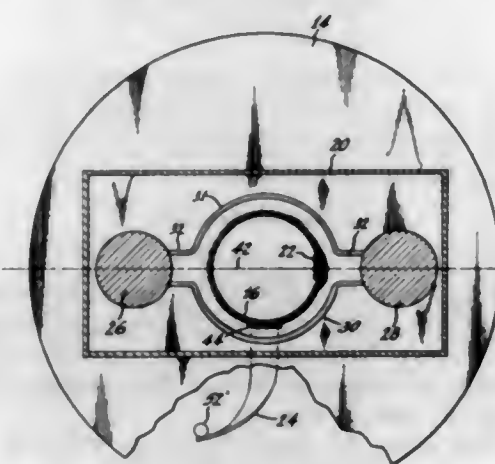
locking member to said spacer, said body portion secured to said side rod member to position and retain said side rod member with respect to said spacer member.

3,343,029 ELECTRON TUBE HAVING A SEAMED CATHODE THEREIN

Doris G. Conrad, Scotch Plains, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 23, 1965, Ser. No. 450,440

3 Claims. (Cl. 313—356)



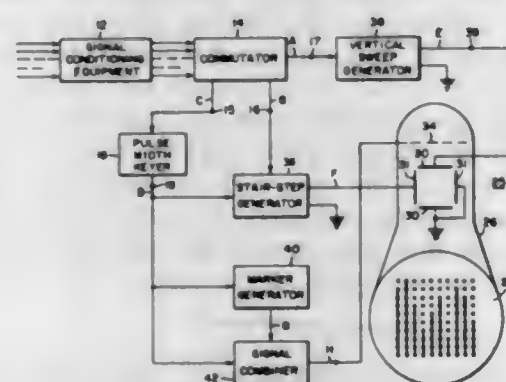
1. An electron tube including:
an otherwise circular cylindrical cathode having a longitudinally extending bulge along a side portion thereof, said cathode having a tab extending from an end thereof at a preselected angle with respect to said bulge,
a cylindrical grid substantially coaxially surrounding said cathode, said grid having an active portion and an inactive portion, and
said cathode being angularly oriented relative to said grid to dispose said tab at an angle equal to said preselected angle with respect to said inactive portion for disposing said bulge adjacent to said inactive portion.

3,343,030 BAR GRAPH OSCILLOSCOPE DISPLAY

Elbert J. Dragon, Severna Park, Thomas L. Shaffer, Arbutus, and Samuel M. Tucker, Ellicott City, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 31, 1964, Ser. No. 386,582

12 Claims. (Cl. 315—22)



1. A system for relatively displaying a plurality of input signals on the cathode ray tube of a cathode ray oscilloscope display comprising:
means for sampling said input signals;
means for vertically sweeping the cathode ray beam of said cathode ray tube, in a plurality of columns; and

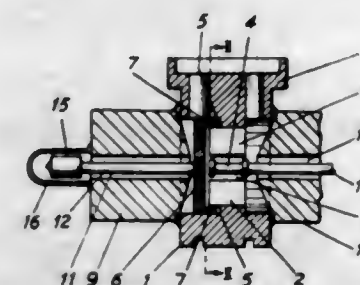
means for gating the said beam on for a length of time proportional to the amplitude of said input signals sampled.

3,343,031 TUNABLE ELECTRONIC TUBE

Nils-Erik Backmark, Solna, Sweden, assignor to North American Philips Co., Inc., Irvington-on-Hudson, N.Y., an American joint-stock company

Filed Dec. 26, 1963, Ser. No. 333,404

6 Claims. (Cl. 315—39.55)



1. A tunable magnetron comprising a substantially cylindrical anode block of electrically conductive material enclosing a plurality of sectors constituting cavity resonators, the sectors being interconnected by apertures forming part of an annular groove on and penetrating a depth into an end face of the anode block, electrically conductive parts comprising first and second portions secured to a common support rotatable about an axis concentric with the groove, said parts being displaceably arranged in said apertures, a first portion of said conductive part completely filling each of the apertures from the end surface to an intermediate depth less than the depth of the groove, said second portion of the conductive part having an outer cylindrical surface and an inner profiled cylindrical surface whereby the filling of the aperture by the second portion of the conductive part varies as the support is rotated relative to the anode block.

3,343,032 APPARATUS FOR DRIVING A PLURALITY OF DISPLAY TUBES

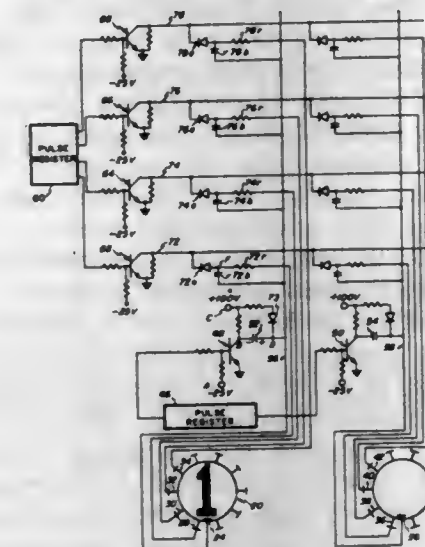
Clarence V. David, Southgate, Vernon C. Kamm, Oakland, and John R. Wilkinson, Dearborn, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed Feb. 1, 1965, Ser. No. 429,219

4 Claims. (Cl. 315—84.6)

4. Apparatus for driving a plurality of display tubes comprising:
an anode in each display tube and a given number of cathode symbol electrodes in each display tube,
a plurality of symbol lines with the number of symbol lines being equal to the number of symbol electrodes in each of the tubes,
a plurality of anode lines respectively connected to said anodes,
a plurality of first switch means respectively connected between said symbol lines and a reference potential, a first pulse source being operably associated with said plurality of first switch means for operating said first switch means in any sequence,
a plurality of second switch means respectively connected to said anode lines for changing the potential of said anode lines to a preselected potential in any sequence which potential differs from said reference potential by at least the discharge potential of said tube,
a second pulse source operably associated with said plurality of second switch means for operating said second switches in any sequence,

diode means and capacitor means being series connected between each of said symbol lines to each of the anode lines, and



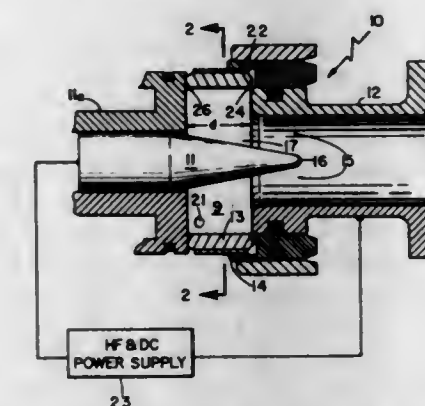
a point between each of said series connected diode means and capacitor means being connected through a resistor to a symbol electrode.

3,343,033 AID TO STRIKING AN ELECTRIC ARC

John David Peterson, Burlington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Dec. 1, 1964, Ser. No. 415,010

9 Claims. (Cl. 315—111)



1. In an electric arc device containing at least two spaced electrodes having a predetermined arc gap spacing and means for coupling said electrodes to high-frequency starting power supply means and normal operating power supply means, a spacer separating the electrodes by a second predetermined spacing longer than said arc gap spacing, said spacer containing at least one normally insulating portion in series with at least one electrical conducting portion, the combined lengths of said normally insulating and electrical conducting portions bridging said second predetermined spacing between said electrodes, said normally insulating portion having a length less than said arc gap spacing.

3,343,034 TRANSIENT SUPPRESSOR

Stanford R. Ovshinsky, Birmingham, Mich., assignor, by mesne assignments, to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

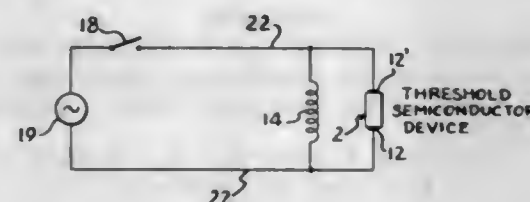
Filed Apr. 10, 1964, Ser. No. 358,855

The portion of the term of the patent subsequent to Sept. 6, 1983, has been disclaimed

5 Claims. (Cl. 317—11)

1. In a circuit including a load, a source of voltage for supplying the load with current, means including a pair of conductors for connecting the source of voltage to said

load and across which a transient voltage of any polarity may appear which can reach at least a minimum unsafe level substantially greater than the maximum value of the output of said source of voltage, the improvement comprising transient voltage suppression means connected across said pair of conductors, said transient voltage suppression means comprising a symmetrical bi-directional semiconductor current controlling device including semiconductor material means and two load terminals in non-rectifying contact therewith and coupled across said conductors, said semiconductor material means being of one conducting type and including means for providing a first condition of relatively high resistance for substantially blocking current substantially equally in either direction therethrough between the load terminals, said semiconductor material means including means responsive to voltage of at least an upper threshold value in excess of said maximum value of the output of said source of voltage and less than said minimum unsafe voltage level applied to said load terminals for altering said first condition of relatively high resistance of said semiconductor material means for substantially instantaneously providing at least one path through said semiconductor material means between the load terminals having a second condition of relatively low resistance for conducting the current therethrough substantially equally in each direction therethrough to suppress said transient voltage,



said semiconductor material means including means for maintaining said at least one path of said semiconductor material means in its said second relatively low resistance conducting condition and providing a substantially constant ratio of voltage change to current change for conducting current at a substantially constant voltage therethrough between the load terminals substantially equally in both directions which voltage is the same for increase and decrease in the instantaneous current above a minimum instantaneous current holding value, and providing a voltage drop across said at least one path in its said second relatively low resistance conducting condition which is a minor fraction of the voltage drop across said semiconductor material means in its said first relatively high resistance blocking condition near said threshold voltage value, and said semiconductor material means including means responsive to a decrease in the instantaneous current, through said at least one path in its said relatively low resistance conducting condition, to a value below said minimum instantaneous current holding value occurring when the transient current diminishes below said value for immediately causing readjusting of said second relatively low resistance conducting condition of said at least one path to said first relatively high resistance blocking condition for substantially blocking the current therethrough substantially equally in both directions therethrough.

3,343,035

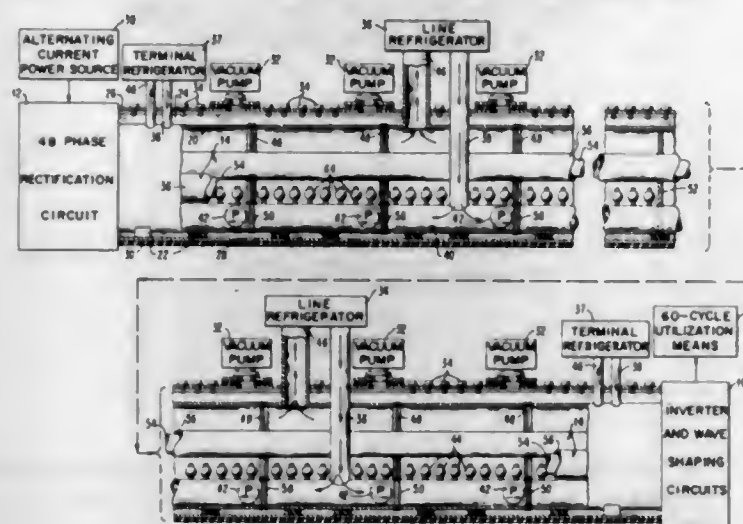
SUPERCONDUCTING ELECTRICAL POWER TRANSMISSION SYSTEMS

Richard L. Garwin, Scarsdale, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 8, 1963, Ser. No. 263,987
11 Claims. (Cl. 317-13)

1. An electrical power transmission system comprising:

- (a) two mutually parallel channels;

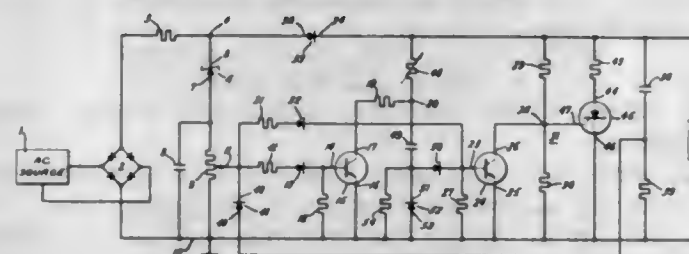
- (b) a superconductor wire being superconductive at a given temperature disposed in one of said channels; and
(c) means for passing a cryogenic fluid through said one channel in one direction at a temperature at least as low as said given temperature and through the other of said channels in the opposite direction to maintain said wire at its superconductive temperature;



- (d) said superconductor wire including an end thereof having a plurality of strands and further including,
(e) a plurality of hollow conductors containing a cryogenic fluid coupled to said strands.

3,343,036

STATIC UNDERVOLTAGE CIRCUIT
Floyd L. Steen, Lansdowne, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 17, 1964, Ser. No. 419,079
12 Claims. (Cl. 317-31)

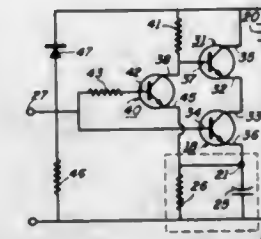


1. In a time delay circuit for changing the state of energization of an electroresponsive device in delayed response to the magnitude of the voltage of a voltage source falling below a predetermined level, wherein the circuit has timing means and means for initiating operation of said timing means when the magnitude of the voltage falls below said predetermined level, the improvement comprising, electric energy storage means for supplying energy to said electroresponsive device, means for connecting said energy storage means to said source for energization thereby, and means controlled by said timing means for abruptly discharging said energy storage means, thereby changing the state of energization of said electroresponsive device, upon the expiration of a predetermined length of time after operation of the timing means is initiated.

3,343,037 SHORT CIRCUIT PROTECTION CIRCUIT WITH MEANS TO OPEN NORMALLY CLOSED SWITCH CONNECTED IN SERIES WITH LOAD

Richard L. Kutz, Waltham, Mass., assignor, by mesne assignments, to Honeywell Inc., a corporation of Delaware

Filed Dec. 31, 1964, Ser. No. 422,721
16 Claims. (Cl. 317-33)

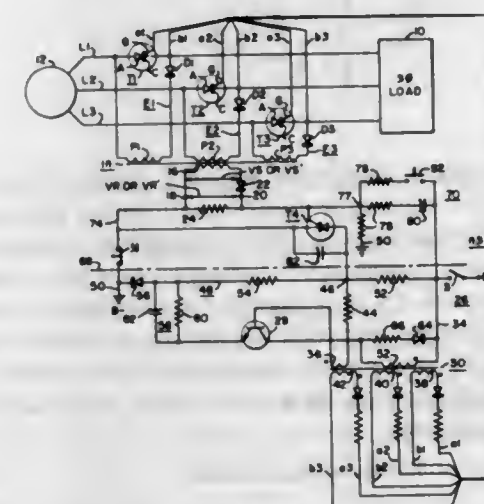


4. A solid state protected low impedance output for modular circuit components comprising a normally open transistor switch with its collector and emitter electrodes connected in series with the collector and emitter electrodes of a normally closed transistor switch between a voltage source and an output terminal, an input terminal for said low impedance output connected to the base electrode of said normally open transistor switch, a resistor connected between said input terminal and the base electrode of a third transistor, the collector electrode of said third transistor connected to the base electrode of said normally closed transistor switch, and the emitter electrode of said third transistor connected to said output terminal so that a signal on said input terminal will close said normally open transistor switch providing a low impedance path between said voltage source and said output terminal as long as a voltage rise at said output terminal maintains a reverse bias across the emitter-base electrodes of said third transistor.

3,343,038

PHASE LOSS DETECTOR AND CIRCUIT CONTROLLED THEREBY

Frederick O. Johnson, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1965, Ser. No. 435,539
17 Claims. (Cl. 317-46)



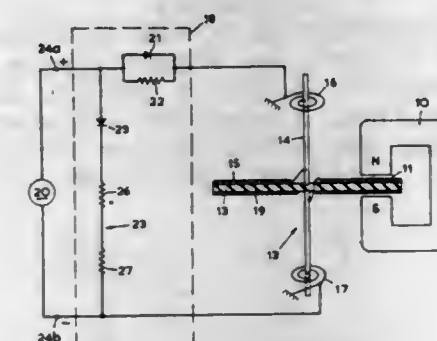
1. In an n -phase system wherein n is a plural whole number, n lines for conveying n phase power from an n -phase source to a load, transformer means having n primary windings one for each of said lines, n primary circuits each connected in series with a different one of said lines, each primary circuit including a different one of said primary windings and a half-wave rectifier in

series with that winding, said transformer means having secondary winding means, rectifier means, and load means coupled to said secondary winding means through said rectifier means, said rectifier means having a threshold voltage value which is below the output voltage of the secondary winding means when said lines are full-phasing, and which threshold voltage value is above the output voltage of the secondary winding means when said lines are less than full-phasing.

3,343,039

ELECTRICAL PROTECTIVE RELAYS

Peter Lewis Moreton, Felton, Somerset, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Sept. 9, 1963, Ser. No. 307,732
Claims priority, application Great Britain, Sept. 11, 1962, 34,738/62
3 Claims. (Cl. 317-58)



1. An electrical protective time/overcurrent relay comprising a stationary constant magnetic flux producing means, a rotor co-operating with the said flux producing means and carrying a driving winding means connected with relay input terminals to receive a unidirectional electric current for exerting on the rotor a driving torque by virtue of interaction of such electric current and a magnetic flux produced by the said flux producing means, a braking winding means comprising an electrically conducting member for exerting on the rotor a braking torque by virtue of interaction of eddy currents induced in the said conducting member on movement of the rotor and a magnetic flux produced by the said flux producing means and relay contact operating means, relay contact means operable by the relay contact operating means on rotation of the rotor into a predetermined "operated" position, and ambient temperature compensating means for compensating variations in braking torque arising from ambient temperature variations, wherein the ambient temperature compensating means comprises an electric shunt circuit connected in parallel with the driving winding means and including an ambient temperature dependent resistance device for automatically varying the proportion of a relay input current supplied to the relay input terminals which is supplied to the driving winding means in dependence upon the ambient temperature in a manner similar to that in which the braking torque varies with variation in ambient temperature.

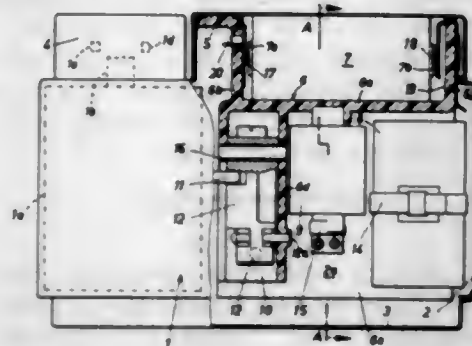
3,343,040

LIGHTER

Peter Rabe, Mulheim (Main), Germany, assignor to Heinrich Maltner, GmbH, Offenbach am Main, Germany
Filed Aug. 28, 1964, Ser. No. 392,889
Claims priority, application Germany, Aug. 29, 1963, M 58,008
12 Claims. (Cl. 317-83)

1. In an electric lighter, particularly in a table lighter wherein the ignition system receives electric current from a battery containing an electrolyte solution, in combina-

tion, a housing having an upper side; and a vessel provided in said housing and arranged to accommodate at least one battery so that the solution which might escape

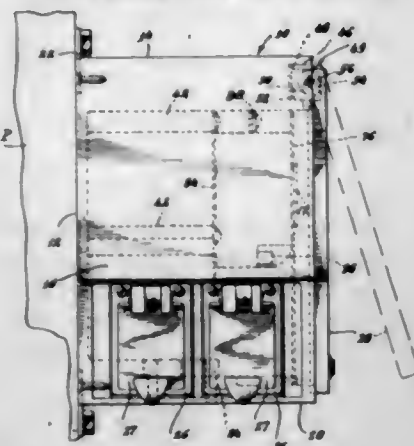


from a battery accumulates in said vessel, the interior of said vessel being accessible from above at the upper side of said housing.

3,343,041

ELECTRICAL POWER CENTER

John Pistey, Fairfield, and Ward E. Strang, Bridgeport, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 8, 1966, Ser. No. 571,004
14 Claims. (Cl. 317-99)



1. An electrical power center comprising a unit handled assembly including: a walled receptacle box having a pair of spaced generally parallel extending side walls which are vertically disposed when said box is mounted upon a suitable support, an open front face and a wall defining an aperture arranged to receive an electrical power supply cable; a closure means hingedly secured to said box and arranged selectively to close the open front face of said box to thereby prevent access to the interior of said receptacle box; a plurality of outlet receptacles mounted in said box and individually accessible through said side walls of said box; a plurality of circuit breakers housed within said box and electrically connected between power wires of the electrical cable and each of said outlet receptacles, whereby at least one outlet receptacle is accessible through each of said side walls and each outlet receptacle is protected by a circuit breaker for its allowable power rating.

3,343,042

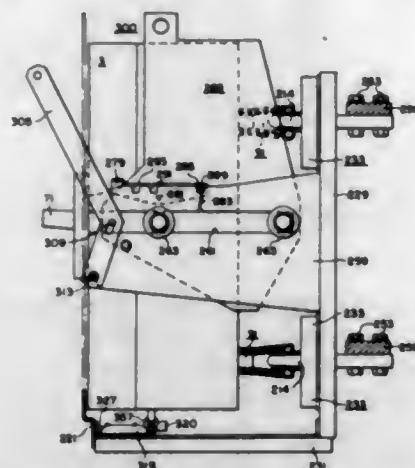
SWITCHBOARD APPARATUS

Albert R. Cellerini, Beaver, and Louis N. Ricci, Chippewa Township, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 5, 1964, Ser. No. 409,244
8 Claims. (Cl. 317-112)

1. A switchboard structure comprising a cabinet having a cabinet opening therein, bus bar means supported in said cabinet, terminal means electrically connected to said bus bar means, a circuit interrupting device sup-

ported in said cabinet and comprising a terminal structure automatically connected to said terminal means by the positioning of said circuit interrupting device in said cabinet, said circuit interrupting device comprising an insulating housing having a first opening therein and a pair of contacts supported within said housing, an operating member extending through said first opening and being manually movable to open and close said contacts, said insulating housing having a second opening there-



in, a tripping device supported in said insulating housing and extending outward from said second opening, a trip bar supported within said insulating housing and being movable to effect automatic opening of said contacts, said cabinet comprising a stationary cam member, and upon movement of said circuit interrupting device outward from said cabinet said tripping device engaging said stationary cam member and being cammed to a position to move said trip bar to effect automatic opening of said contacts.

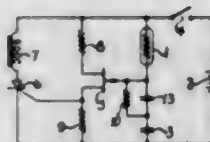
3,343,043

AUTOMATIC EXPOSURE TIME CONTROL ARRANGEMENT

Kioshi Ito, Tokyo-to, and Naoyuki Uno, Urawa-shi, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha

Filed Oct. 30, 1964, Ser. No. 407,836
Claims priority, application Japan, Nov. 6, 1963,
38/83,874

7 Claims. (Cl. 317-124)



1. An automatic exposure control mechanism comprising a voltage source, a photoconductor, a first capacitor, means connecting said first capacitor through said photoconductor across said voltage source, a control member responsive to the charge on said first capacitor, and a compensating network including a resistor and a second capacitor and means connecting said resistor and said second capacitor in series with said photoconductor to said voltage source.

3,343,044

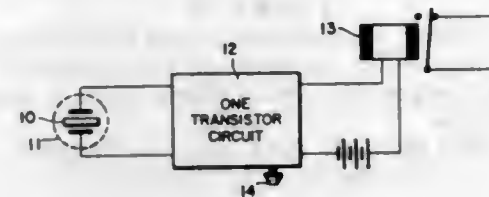
SWITCH APPARATUS EMPLOYING COATED PIEZOELECTRIC CRYSTAL

William H. King, Jr., Florham Park, and James A. Wilson, Stanhope, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,720
2 Claims. (Cl. 317-146)

1. An off-on switch apparatus responsive to a fluid material comprising in combination electronic circuit os-

cillating means having as a control element thereof a piezoelectric crystal having a coating thereon, said coating being selected from the group consisting of lithium chloride, calcium chloride, LiBr, LiI, LiNO₃, Ca(NO₃)₂, and combinations thereof and said coating being adapted so as to be capable of interacting with at least one com-



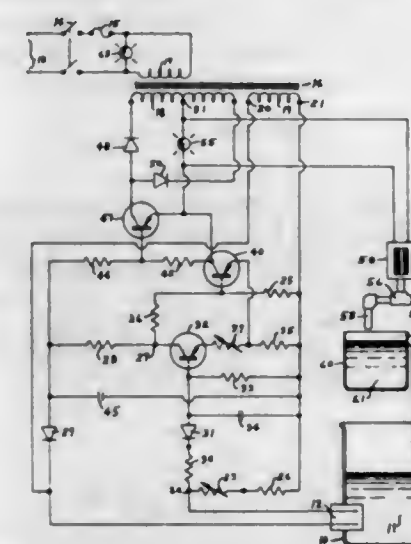
ponent of said fluid material to thereby cause a substantial change in oscillation, and relay means electrically connected to said electronic circuit oscillating means, said electronic circuit oscillating means being so adapted as to actuate said relay means in response to said substantial change in oscillation.

3,343,045

SOLUTION CONDUCTIVITY MEASURING AND CONTROLLING APPARATUS

Kenneth J. Law, Southfield, and Gordon R. Brown, Livonia, Mich., assignors to K. J. Law Engineers, Inc., Detroit, Mich., a corporation of Michigan

Filed Apr. 1, 1964, Ser. No. 356,369
13 Claims. (Cl. 317-148.5)



1. In a condition responsive system, the combination comprising:

- a pair of input terminals, means for applying alternating current to said terminals;
- a Wheatstone bridge including;
- a first impedance means connected to one of said terminals and defining one leg of said bridge;
- condition responsive impedance means connected to said first impedance means and defining a second leg of said bridge; said first impedance means and said condition responsive impedance means being serially connected between said pair of terminals;
- a first and a second resistance means defining a third leg of said bridge;
- third resistance means and a unilateral impedance means serially connected between one of said input terminals and said first and second resistance means to define a fourth leg of said bridge;
- semiconductor means having at least a first, a second and a third electrode;

(h) means coupling said first electrode to a point intermediate said second and said third resistance means;

(i) rectifier means connecting said second electrode to a point intermediate said first impedance means and said condition responsive means; and,

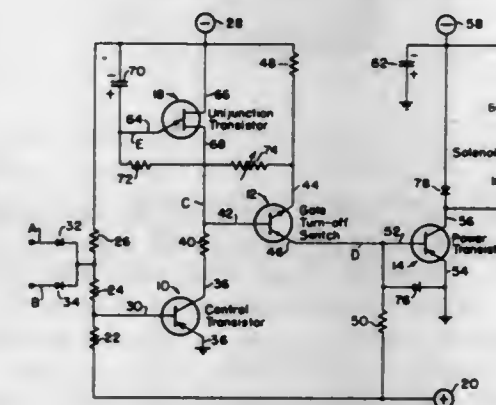
(j) output means connecting said third electrode to one of said input terminals, said output means delivering an output in response to changes in condition of said condition responsive impedance means.

3,343,046

ELECTRONIC CONTROL CIRCUIT

Frederick F. Ladd, Jr., Newbury, Mass., assignor to Analex Corporation, Boston, Mass., a corporation of New Hampshire

Filed Aug. 31, 1964, Ser. No. 393,318
4 Claims. (Cl. 317-148.5)

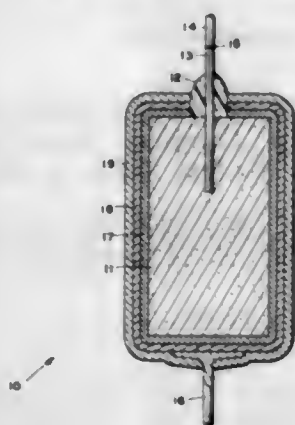


1. In combination, a power transistor having a control terminal, a load terminal, and a common terminal, a first source of current having first and second terminals, a load impedance connected in series with the terminals of said source and said load and common terminals, a gate turnoff switch having an anode, a cathode and a fire gate, a second source of current having first and second terminals at first and second potentials with respect to the potential of the first terminal of said first source, a first resistor having a first terminal connected to one terminal of said second source and a second terminal, a second resistor having a first terminal connected to the other terminal of said second source and a second terminal, the anode and cathode of said gate turnoff switch being connected in series with the second terminals of said resistors whereby the second terminal of said second resistor is at a first potential or a second potential with respect to the first terminal of said first source according as current is or is not flowing in the anode to cathode path of said gate turnoff switch, an electrical connection between the second terminal of said second resistor and the control terminal of said power transistor, the potentials of said second source being selected to cause the power transistor to conduct or be cut off according as current is or is not flowing between the anode and cathode of said gate turnoff switch, respectively, a third resistor and a capacitor connected in series across said first resistor, a unijunction transistor having an emitter, a first base and a second base, said emitter and one of said bases being connected across said capacitor, the other base being connected to the fire gate of said gate turnoff switch, and switching means operable in response to an applied pulse for applying current to the fire gate of said gate turnoff switch to cause avalanche current to flow in its anode to cathode path to turn on said power transistor and produce a voltage drop across said first resistor, said unijunction transistor being caused to conduct a predetermined time later by the charge accumulating on said capacitor, said unijunction transistor being poled to apply a cutoff flow of current to the fire gate of said gate turnoff switch to cut off current in the anode to cathode path.

3,343,047 HERMETICALLY SEALED SOLID TANTALUM CAPACITOR

Salvatore J. Comado, Lawrence R. Sparrow, and Jerry Braiman, all of Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Oct. 5, 1964, Ser. No. 401,547
8 Claims. (Cl. 317-230)

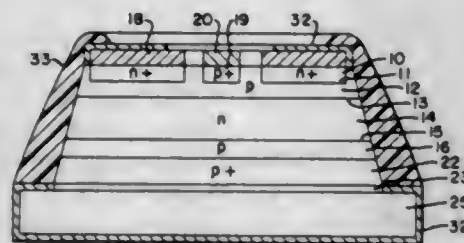


1. An hermetically sealed electrical device comprising a porous anode of film-forming metal characterized by a multiplicity of intercommunicating voids having a terminal riser, a dielectric film intimately covering the surface of said anode and said pores, an immobilized electrolyte layer overlying said dielectric layer, a seal means coupled to said anode and to said terminal riser hermetically sealing the joint between said anode and said terminal riser, and an hermetically impervious metal layer disposed on said immobilized electrolyte layer forming the cathode of and encasing the device, and having a margin embracing the periphery of said seal means in an hermetically sealed joint.

3,343,048 FOUR LAYER SEMICONDUCTOR SWITCHING DEVICES HAVING A SHORTED EMITTER AND METHOD OF MAKING THE SAME

Richard T. Kuehn, Ligonier, Adalbert N. Knopp, Greensburg, and John J. Steinmetz, Jr., Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 20, 1964, Ser. No. 346,269
3 Claims. (Cl. 317-234)



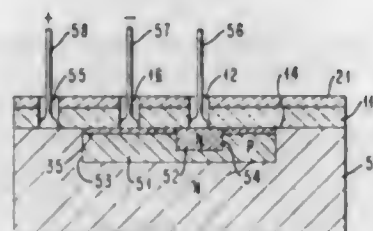
1. A semiconductor switching device comprising: first, second, third and fourth successive semiconductive regions of alternate semiconductivity type with a p-n junction between adjacent pair of said regions; said second and fourth regions being of diffused semiconductive material; said first region being of recrystallized semiconductive material with an alloyed contact thereon; an electrical short across at least a portion of said p-n junction between said first and second regions comprising a layer of etch resistant metal adherent to said second region and to said alloyed contact on said first region, said etch resistant metal being at least one member selected from the group consisting of gold, silver and members of the platinum group

of elements; a member of metal selected from the group consisting of molybdenum, tungsten and base alloys thereof joined to said fourth region and a layer of said etch resistant metal also disposed on the surface of said member.

3,343,049 SEMICONDUCTOR DEVICES AND PASSIVATION THEREOF

William H. Miller, Poughkeepsie, and Fred Barson, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 18, 1964, Ser. No. 376,066
14 Claims. (Cl. 317-234)

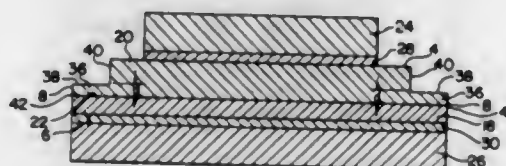


1. A semiconductor device comprising: a semiconductor member; an insulating layer coterminous with and located on a surface portion of said member; means coupled to said device for producing an electric field in said member and said layer; and means for improving the stability of said device comprising a passivating vitreous film disposed on and coterminous with said layer, said film consisting of an oxide and phosphorous pentoxide.

3,343,050 HIGH VOLTAGE RECTIFIER HAVING CONTROLLED CURRENT LEAKAGE

Robert L. Eisner and Horacio E. Suarez, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 24, 1965, Ser. No. 458,241
9 Claims. (Cl. 317-234)



1. A semiconductor device comprising a body of single crystal semiconductor material, said body of single crystal semiconductor material having a top surface, a bottom surface and a peripheral shoulder about, and integral with, said bottom surface, said peripheral shoulder being approximately 1 to 1.5 millimeters in width, said peripheral shoulder having a top surface of lesser proportion than said top surface of said body, said body of single crystal material having a first layer of a first type of semiconductivity, a second layer of a second type of semiconductivity and a p-n junction formed by an interface of said first layer with said second layer, said first layer of first type of semiconductivity extending from said p-n junction to said top surface of said body including said top surface of said shoulder and said second layer of second type semiconductivity extending from said p-n junction to said bottom surface of said body including the bottom surface of said shoulder.

3,343,051 LOW INDUCTANCE CAPACITOR

Edward Blank, Sharon, Mass., assignor to Tobe Deutschmann Laboratories, Inc., Canton, Mass., a corporation of Massachusetts

Filed Feb. 5, 1965, Ser. No. 430,571
8 Claims. (Cl. 317-260)



1. A high energy low inductance capacitor comprising, a plurality of individual packs aligned side by side, said packs each comprising a pair of elongated conductive foils helically wound parallel to one another with an intermediate dielectric sheet with one foil having its upper portion projecting to the top of the dielectric sheet and its lower portion spaced inwardly from the bottom of said dielectric sheet, and with the other foil having its upper portion spaced inwardly from the top of said dielectric sheet and its lower portion projecting to the bottom of the dielectric sheet, and with said sides of said packs of substantially greater length than the thickness of said packs, conductive members with each lying in facing relation to and covering a major portion of a side wall of a pack, the lower end of each conductive member electrically connected to said lower portion of said foil, said conductive members each having a conductive tab extending upwardly therefrom and extending over the top of said pack in insulated relation to said one foil, a second conductive tab positioned above each pack, insulated from said other foil and said first tab, and having a portion thereof electrically connected to said one foil, and a pair of conductive terminal members, with one terminal member electrically connecting all of said first tabs and said second terminal member electrically connecting all of said second tabs.

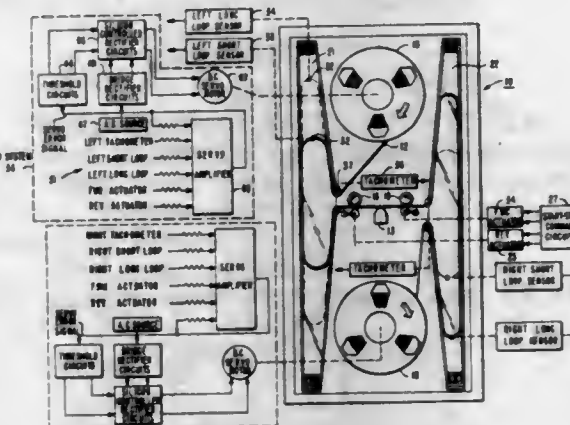
3,343,052 SERVO MOTOR CONTROL

Jerry R. Youngstrom, Culver City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Sept. 18, 1964, Ser. No. 388,521
16 Claims. (Cl. 318-6)

3. A servo system comprising a motor for driving a member, the motor having a selected time constant of energization and a pair of windings for energization in opposite directions; means for sensing at least the velocity of the driven member to determine the status of the driven member; servo amplifier means having an electrical input signal responsive to the sensing means and providing an electrical analog error signal the polarity and magnitude of which is representative of a desired change in

the state of the driven member; a pair of amplitude sensitive circuit means each responsive to a different polarity variation of the error signal and each providing a control signal indication when the error signal excursion is in excess of a predetermined threshold amplitude and of

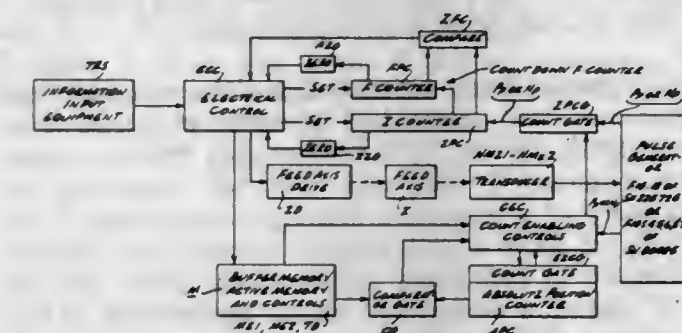


appropriate polarity; current supply means for energizing said motor; and electronic switching means controlling the coupling of the current supply means to the windings of the motor for energizing the motor in either direction in correspondence to the control signal indications.

3,343,053 SELECTIVE ZERO ELECTRICAL CONTROL SYSTEM

Esteban J. Toscano, Los Angeles, and Josef K. Holy, Torrance, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

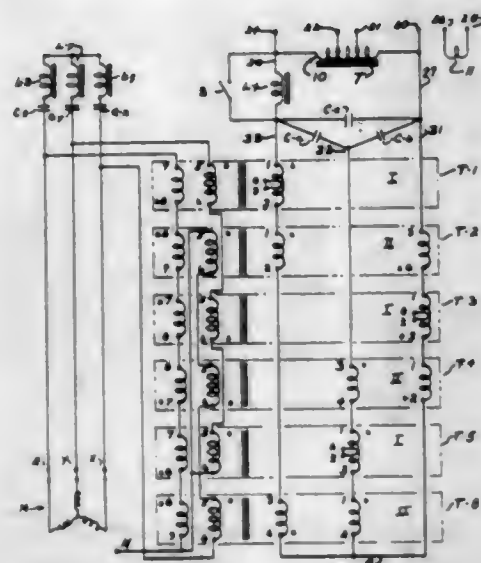
Filed Dec. 23, 1963, Ser. No. 332,398
11 Claims. (Cl. 318-18)



11. A positioning system for positioning one member relative to another, comprising: servo means coupled to said members to relatively move said members; a discrete signal program device; incremental position transducer means coupled to said members to be operated therewith; a discrete signal desired position circuit coupled to said program device for receiving desired position signals; a discrete signal zero position circuit coupled to said program device for receiving zero position signals; an actual position circuit coupled to said incremental position transducer means to be controlled thereby; means coupled to said program device for initiating operation of said servo means; and means coupled to said actual position circuit and said zero position circuit and responsive thereto for coupling said incremental transducer means to said discrete signal desired position circuit whenever a predetermined relationship exists between the discrete signals of said actual position circuit and the discrete signal of said zero position circuit.

3,343,054

STATIC MAGNETIC FREQUENCY TRIPLER
Alexander Knako, Newton, Mass., assignor to Ametek, Inc., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,531
23 Claims. (Cl. 318-229)



1. A magnetic frequency tripler comprising six closed iron core transformer-like reactors including three of each of two reactor types, each reactor having a first secondary winding and a second secondary winding and no more than two primary windings, the first secondaries of the reactors being equal to each other in numbers of turns, and the second secondaries of the reactors being equal to each other in numbers of turns, a first type of said reactors having one primary winding, the second type of said reactors having two primary windings like to each other, the ratio of the turns of one primary of the second type reactor to the turns of the primary in a first type reactor being substantially equal to $1/(2 \cos 30^\circ)$;

said primaries being connected in three saturable and star-connected series sets of three primaries symmetrically excited by an alternating current source of frequency f , each said series set comprising the primary of a respective first type reactor and a primary of each of two distinct second type reactors, whereby in each input half-cycle an output pulse of 30° duration is provided on the secondaries of successively different reactors, with the polarity of said pulses reversing on each said half-cycle for each reactor;

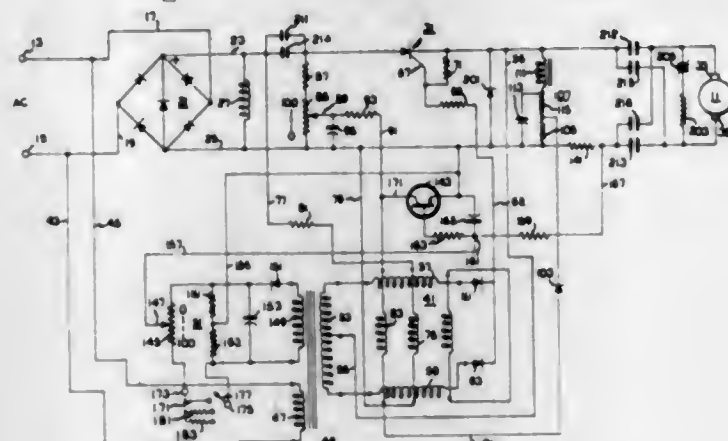
the first secondaries and second secondaries of said reactors being connected in respective series with polarities selected to provide an output in each said series of secondaries, with pairs of consecutive said output pulses, the pulses of each pair of like sign, the pairs successively alternating in sign, the pulse pairs of the two series being offset in time by the duration of one said output pulse whereby first and second output phases of $3f$ frequency are provided as a two phase output system.

3,343,055

ADJUSTABLE MOTOR SPEED AND TORQUE LIMIT CONTROL CIRCUIT
Henry J. Havlicek, York, and John K. Davis, Dover, Pa., assignors to Flncor, Inc., a corporation of Pennsylvania
Filed Jan. 13, 1965, Ser. No. 425,131
5 Claims. (Cl. 318-332)

1. In a direct current motor control circuit for applying DC pulsating voltage to the armature thereof, the combination comprising a full wave rectifier bridge for converting AC into pulsating DC, a potentiometer for deriving an

adjustable reference potential level from the DC for speed control, an SCR responsive to the DC for applying at least a portion thereof to the armature of the motor, a magnetic amplifier including a controlled winding responsive to the adjustable reference potential level to gate the SCR at selectable times during the DC pulsations to determine said portion of DC applied to the armature, a low pass filter in parallel with the armature and responsive to the portion of DC to modify the adjustable reference



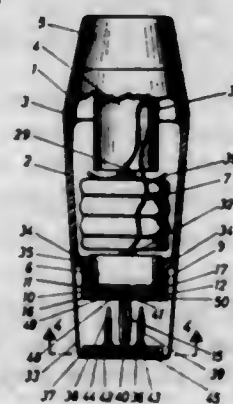
potential level at the control winding, a resistor in series with the armature for deriving a voltage proportional to the armature current, a further potentiometer for establishing a torque reference voltage in accordance with the predetermined maximum load current, and transistor switching means responsive to said torque reference voltage and said armature current voltage further to modify the effective adjustable reference potential level and the control winding whenever a predetermined one of said voltages exceeds the other.

3,343,056

ELECTRIC RAZOR

Richard Hirschmann, Esslingen (Neckar), Germany, and Eberhard R. Mayer, Rankwell-Broderis, and Hans Boesch, Roethlis, Austria, assignors to Richard Hirschmann Radiotechnisches, Neckar, Germany
Filed May 17, 1965, Ser. No. 456,904
Claims priority, application Austria, May 19, 1964, A 4,325/64

3 Claims. (Cl. 320-2)



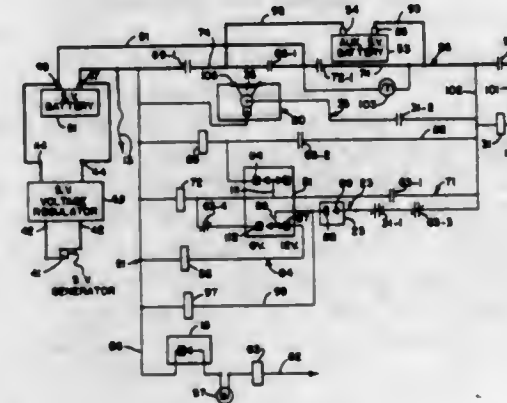
1. An electric razor comprising, in combination, an elongated housing having a bottom wall and being formed in said bottom wall with a slot extending transversely therethrough and being defined by a pair of edge faces each formed with a longitudinally extending groove; motor means in said housing at a portion thereof spaced from said bottom wall; a charging device in said housing adjacent said bottom wall and having a pair of spaced resilient contacts facing said slot; an accumulator in said housing

arranged between and electrically connected to said motor means and said charging device; first contact means including a first insulating plate of a width substantially equal to the width of said slot and having longitudinal edge portions adapted to fit into said grooves so that said edge portions of said first insulating plate may be slid into said grooves to releasably connect said first contact means to said bottom wall of said housing, said first contact means further include a pair of prongs extending through said first insulating plate and having inner ends spaced from each other a distance equal to the spacing of said pair of contacts so as to resiliently engage the latter when said first insulating plate is placed in said slot, and a pair of outer end portions spaced a given distance from each other; and second contact means including a second insulating plate having a width substantially equal to the width of said slot and having a pair of longitudinal edge portions adapted to fit into said grooves so that said edge portions of said second insulating plate may be slid into said grooves after said first contact means are removed therefrom to releasably connect said second contact means to said bottom wall of said housing, said second contact means further include a pair of prongs having inner ends spaced from each other a distance equal to the spacing of said pair of contacts so as to resiliently engage the latter when said second insulating plate is placed in said slot, and a pair of outer end portions spaced a distance from each other which is different from said given distance, said resilient contacts of said charging device and said inner ends of said prongs of said first and second contact means having complementary portions adapted to resiliently engage each other for resiliently locking the inserted contact means in place on said bottom wall of said housing, whereby, depending on the contact means inserted in said bottom wall, said razor may be inserted into sockets having female contact elements of different spacing for charging the accumulator in the housing.

3,343,057

BOOSTER SUPPLY SERVICE VEHICLES WITH POLARITY PROTECTION

Leonard S. Smith, Minneapolis, Minn., assignor to Litton Precision Products, Inc., Minneapolis, Minn.
Filed Feb. 15, 1965, Ser. No. 432,558
7 Claims. (Cl. 320-6)



1. In a service vehicle for boosting a run-down battery having a pair of terminals, each of said terminals having a given polarity, the combination of:

a vehicle including a pair of batteries and means for maintaining said pair of batteries in a charged condition; means mounted on said vehicle for producing an audible signal; control circuit means for connecting said pair of batteries to form a booster current supply circuit; cable means for connecting said booster current supply circuit to selected polarity terminals of said run-down battery; and

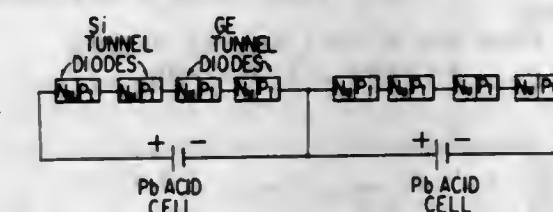
polarity protection means responsive to connection of said cable means to terminals opposite to said selected polarity terminals for opening said control circuit to open said connection of said pair of batteries, said polarity protection means being effective to energize said audible signal producing means to indicate said opposite polarity condition.

3,343,058

STORAGE BATTERIES AND CELLS

Robert Marcel Deschamps and Charles Dufour, both of Paris, France, assignors to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Seine, France, a company of France

Filed Aug. 6, 1965, Ser. No. 477,694
Claims priority, application France, Aug. 12, 1964, 984,956
9 Claims. (Cl. 320-17)

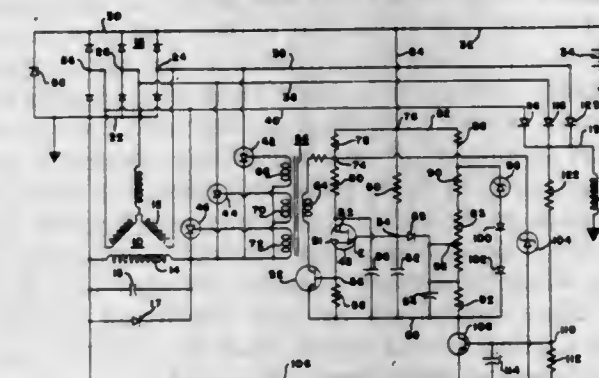


1. A protective system for a storage cell to prevent the harmful effects thereto of cell reversal and overcharge current comprising a separate non-linear conductor tunnel diode means connected in shunt across the cell terminals, said means each being conductive to negative potentials and also conductive to positive potentials above a selected value and being substantially non-conductive at positive potentials below said selected value.

3,343,059

SEMICONDUCTOR GENERATOR VOLTAGE REGULATOR SYSTEM

Thomas E. Kirk and Louis J. Rayer, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,179
5 Claims. (Cl. 320-39)



1. An electrical system comprising, an alternating current generator having a field winding and a three phase output winding, a three phase full-wave bridge rectifier connected with said output winding having direct current output terminals connected with a direct current load circuit, a battery connected directly across said load circuit one end of which is connected at all times with one of the DC output terminals of said bridge rectifier network when said system is being used, a plurality of controlled rectifiers connected with said three phase output winding and with said field winding for supplying direct current to said field winding when said controlled rectifiers are conductive, a static oscillator circuit, a transformer having a primary winding and a plurality of secondary windings, said oscillator circuit including said primary winding, said secondary windings being con-

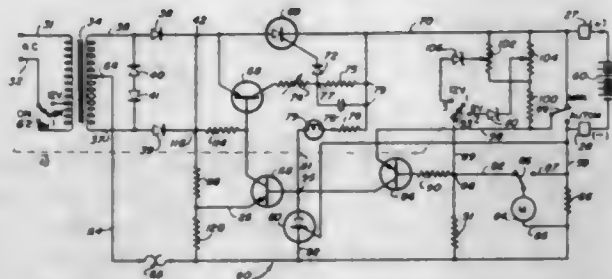
nected with the gate and cathode electrodes of said controlled rectifiers, means connecting one side of said oscillator circuit with one side of said direct current output circuit, means connecting an opposite side of said oscillator circuit with an opposite side of said direct current output circuit including a semiconductor switch, and a plurality of diodes connected with said output winding and with said semiconductor switch for supplying a turn-on voltage to said semiconductor switch when said generator begins to build up, said battery providing an initial energization for said oscillator circuit when said generator begins to build up and when said semiconductor switch is turned on.

3,343,060

REGULATOR CIRCUIT FOR BATTERY CHARGERS

Ronald D. Ingraham, La Grange, Ill., assignor, by mesne assignments, to Introl Corporation, a corporation of Minnesota

Filed July 6, 1964, Ser. No. 380,282
4 Claims. (Cl. 320-40)



1. A battery charger circuit having first and second output leads respectively adapted for distinctive connection to the positive and negative terminals of a battery to be charged, said circuit comprising, a positive and a negative output lead respectively connected to said output terminals, a three terminal silicon controlled rectifier having a two terminal conduction path connected in a forward direction through said output lead and a third, control electrode, an amplifying transistor having a conduction path connected in series with a control voltage developing resistor for said controlled rectifier, means for connecting said output leads to a source of alternating current, a Zener diode poled and connected for conduction in a reverse direction from said output lead to a control electrode of said amplifying transistor, voltage dropping resistor means connected in controlling relation with control terminals of said controlled rectifier and in series with conduction terminals of said amplifying transistor, said amplifying transistor being poled and connected with said resistor means connected in controlling relation with controlled rectifier upon conduction through said last named transistor, whereby current is passed through said Zener diode to allow conduction by said amplifying transistor as voltage applied to said output leads by a battery to be charged exceeds a preassigned threshold.

3,343,061

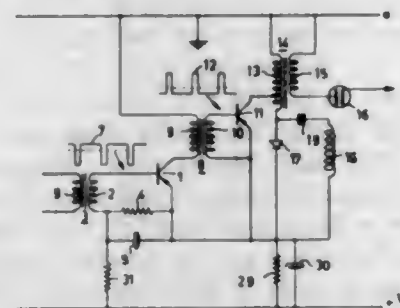
TRANSISTOR CIRCUIT FOR DEVELOPING A HIGH VOLTAGE AND INCLUDING SHORT-CIRCUIT PROTECTION MEANS

Wilhelmus Theodorus Hendrikus Hetterscheld, and Johannes Joseph Reichgelt, both of Mollenhutseweg, Nijmegen, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 12, 1964, Ser. No. 403,061
Claims priority, application Netherlands, Oct. 10, 1963, 299,091; Feb. 13, 1964, 64-1,221
11 Claims. (Cl. 321-2)

1. A transistor circuit for producing a high voltage, of the type comprising a driver transistor, an output transistor having an output circuit which includes a capacitive-

inductive load, a supply voltage source for feeding the driver and output transistors, means for supplying a substantially pulsatory signal to an input electrode of the driver transistor, said signal having a polarity to cut-off the driver transistor for the greater part of a cycle of the input signal and to release it during the remaining part of a cycle, means for coupling said driver and output transistors whereby the output transistor is conducting when the driver is cut-off and conversely, a transformer connected in the output circuit of the output transistor and having a high voltage winding for stepping up the pulsatory voltage set up across the capacitive-inductive load during the period when the output transistor is cut-

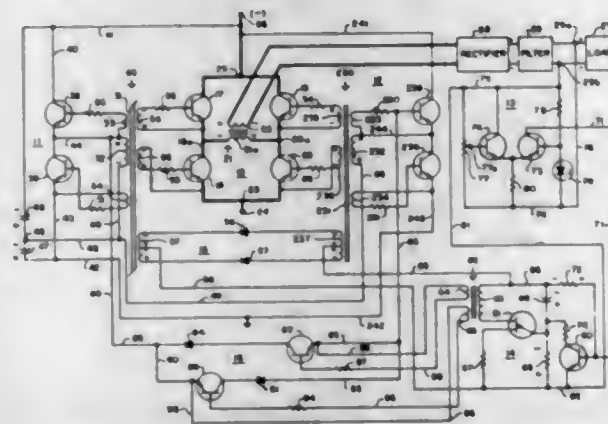


off, and a rectifier circuit for rectifying the pulsatory voltage stepped up by said transformer; wherein the improvement comprises means for safeguarding said output transistor upon occurrence of a short-circuit at said high voltage winding, said safeguarding means comprising a limiting impedance connected in series with the load on the output transistor, a negative feedback circuit connected between said limiting impedance and said driver transistor to ensure that the voltage developed across the load impedance upon occurrence of the said short-circuit is fed back to the input electrode of the driver transistor with a polarity such that the release of the driver transistor by the input signal is counteracted.

3,343,062 REGULATED PHASE CONTROLLED POWER SUPPLY

Lee O. Mesenhimer, Lakewood, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio

Filed Nov. 27, 1964, Ser. No. 414,210
15 Claims. (Cl. 321-2)



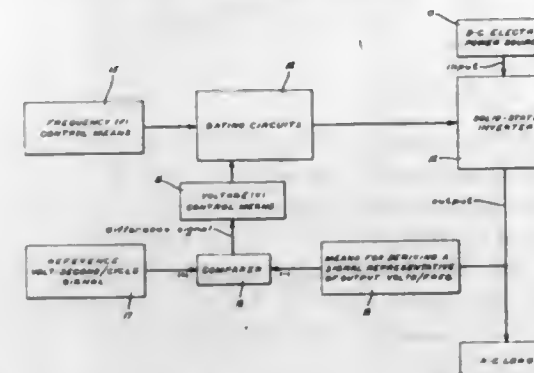
1. In a D-C to D-C converter of the type in which regulation of the output voltage supplied to a load is provided by controlling the time lag of the switching activity of a slave oscillator with respect to a master oscillator, in combination, output voltage sensing means, timing circuit means, phase detecting means, means for connecting said phase detecting means to said timing circuit means to supply voltage and current thereto thereby establishing a timing period when the master and slave oscillators are of a predetermined phase relationship, means for connecting said output voltage sensing means

to the load, means for connecting said output voltage sensing means to said timing circuit means to control the timing period, means for operatively coupling said timing circuit to said slave oscillator whereby said slave oscillator is caused to switch at the end of each timing period.

3,343,063

VARIABLE FREQUENCY CONVERTER WITH VOLTS PER CYCLE PER SECOND REGULATION

Marvin F. Keeney, Jr., Yeadon, Pa., and Charles S. Walker, Bothell, Wash., assignors to General Electric Company, a corporation of New York
Filed Sept. 21, 1964, Ser. No. 397,767
11 Claims. (Cl. 321-5)



1. In combination:
 - (a) a variable frequency electric power converter having D-C input terminals and A-C output terminals, said converter being operative to convert unipolarity voltage applied to its input terminals into alternating voltage at its output terminals;
 - (b) first means for so controlling the operation of said converter as to determine the frequency of said alternating voltage and to enable said frequency to be changed;
 - (c) second means for so affecting converter operation as to control the magnitude of said alternating voltage;
 - (d) means connected to said output terminals for deriving a signal that is dependent upon the magnitude-to-frequency ratio of said alternating voltage;
 - (e) a reference signal source;
 - (f) comparing means for deriving a resultant signal proportional to the difference in the magnitudes of said dependent signal and of said reference signal;
 - (g) said second means being connected to said comparing means and being operative to establish an alternating voltage magnitude that is a predetermined function of the magnitude of said resultant signal; and
 - (h) means associated with said comparing means for changing the proportionality between said resultant signal magnitude and said difference magnitude as a function of predetermined frequency changes effected by said first means.

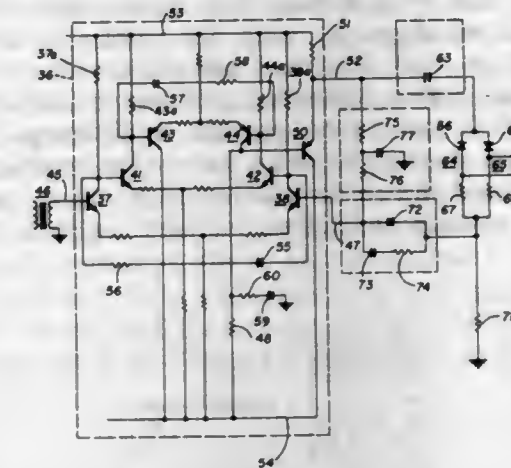
3,343,064

ELECTRIC WAVE CONVERTER

James A. Bright, 4781 E. Colorado Ave., Denver, Colo. 80222

Filed Mar. 22, 1965, Ser. No. 441,685
5 Claims. (Cl. 321-8)

1. An A.C. to D.C. converter comprising a D.C. amplifier having an input and an output and a feedback input, output circuit means for said amplifier including rectifier means for producing D.C. signals corresponding, respectively, to the positive and negative portions of the A.C. output signal, means including an A.C. feedback path and a D.C. feedback path for applying simultaneously to said



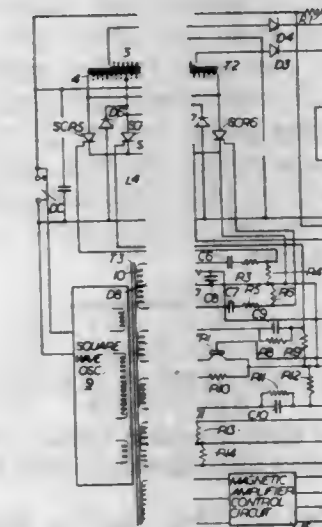
preventing the passage of alternating current through said D.C. feedback path and for preventing the passage of direct current through said A.C. feedback path.

3,343,065

INVERTER CIRCUIT WITH COMMUTATION MEANS INDEPENDENT OF THE LOAD CIR- CUIT

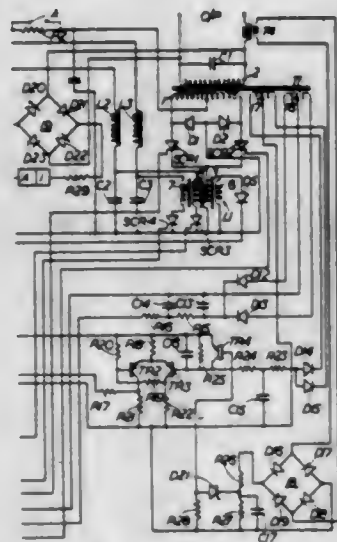
Keith William Gurnett, Bracknell, England, assignor to Ferranti, Limited, Hollinwood, England, a company of the United Kingdom of Great Britain and Northern Ireland

Filed May 19, 1964, Ser. No. 368,497
Claims priority, application Great Britain, May 21, 1963, 20,075/63
13 Claims. (Cl. 321-18)



11. An inverter including a first transformer having an output winding and a centre-tapped primary winding the centre tap of which is connected to one pole of a D.C. source, first and second controlled rectifiers connected respectively to the two ends of said primary winding and via a first choke to the other pole of said D.C. source, a second transformer having a primary winding having a centre tap connected to said one pole of said D.C. source and first and second tapping points symmetrically disposed with respect to said centre tap, third and fourth controlled rectifiers connected respectively to the two ends of said primary winding of said second transformer and via a second choke to said other pole of said D.C. source fifth and sixth controlled rectifiers connected respectively to said first and second tapping points and to said other pole of said D.C. source via said second choke, a secondary winding on said sec-

ond transformer having a centre tap connected to said other pole of said D.C. source, first and second capacitors connected respectively for charging between the two ends of said secondary winding of said second transformer and said other pole of said D.C. source, first and second additional windings on said first choke connected respectively to said first and second capacitors and via seventh and eighth controlled rectifiers to said other pole of said D.C. source to provide a discharge path for said capacitors, trigger pulse means for applying trigger pulses to said first controlled rectifier and to said third, fifth and seventh controlled rectifiers together to change



the condition of said second controlled rectifier from the ON to the OFF condition or to said second controlled rectifier and to said fourth, sixth and eighth controlled rectifiers together to change the condition of said first controlled rectifier from the ON to the OFF condition, resistance means connected to the trigger electrodes of said fifth and sixth controlled rectifiers and operative to limit said triggering pulses to prevent triggering of said fifth and sixth controlled rectifiers, and switch means operative to short out said resistance means, said switch means being controlled in accordance with the output current of said inverter.

3,343,066 VOLTAGE AND CURRENT CONTROLLED RECTIFIER

Robert D. Cribbs, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 23, 1964, Ser. No. 405,924
4 Claims. (Cl. 321-18)



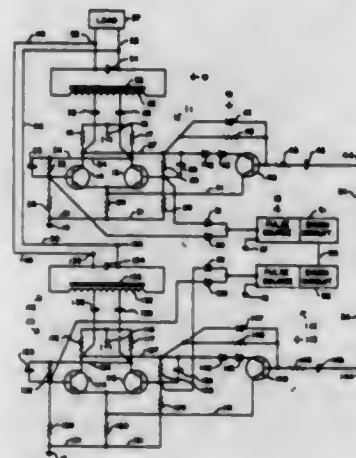
1. A charging circuit comprising: a source of alternating current, a rectifier connected to the output of said source, a gate circuit connected between said source and said rectifier to remove said rectifier from said source upon operation of said gate circuit, said gate circuit including a current sensitive relay and an electronic device having a control terminal, the current sensitive element

of said relay receiving the output of said rectifier and the switch element of said relay connected to said control terminal so that operation of said current sensitive relay removes said source from said rectifier, a voltage regulation circuit connecting between said rectifier and the output of said charging circuit, said voltage regulation circuit preventing the output voltage of said charging circuit from exceeding a predetermined value.

3,343,067 PHASE-CONTROLLING CIRCUITRY

Lee O. Mesenhimer, Lakewood, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio

Filed May 5, 1965, Ser. No. 453,401
8 Claims. (Cl. 321-27)

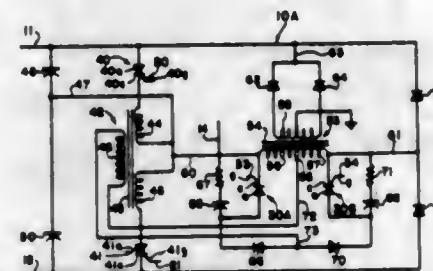


4. In a D-C to A-C converter, in combination, first and second transistors each having emitter, base and collector electrodes, a pair of power input terminals adapted to be connected to a poled D-C source, first and second load resistors connected between one of said power terminals and the collector electrodes of said first and second transistors, respectively, a bias resistor, means for commonly connecting the emitter electrodes of said first and second transistors to the other of said power terminals through said bias resistor, a first switching control resistor connected between said collector electrode of said first transistor and said base electrode of said second transistor, a first switching control capacitor connected in parallel with said first switching control resistor, a second switching control resistor connected between said collector electrode of said second transistor and said base electrode of said first transistor, a second switching control capacitor connected in parallel with said second switching control resistor, a tank circuit including a tuning inductor having a tuning capacitor connected thereacross, said tank circuit being provided with output terminals adapted to be connected to a load, means for connecting the collector electrode of said first transistor to said tank circuit, means for connecting the collector electrode of said second transistor to said tank circuit, a timing pulse source, means for simultaneously supplying timing pulses from said timing pulse source to said first and second transistors whereby said transistors interchange conducting states in response to each of said timing pulses, variable conducting means having first and second power electrodes and a control electrode, means for connecting said power electrodes of said variable conducting means between said emitter and said collector electrodes of said first transistor, a phasing terminal, means for connecting said control electrode of said variable conducting means to said phasing terminal, unidirectional conducting means, means for connecting said unidirectional conducting means between said control electrode and said first power electrode of said variable conducting means.

3,343,068 STATIC INVERTER SYSTEM

George H. Studtmann, Mount Prospect, and Richard Shemanske, Arlington Heights, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 4, 1965, Ser. No. 461,395
8 Claims. (Cl. 321-45)



5. In an inverter circuit which includes an input circuit having a pair of input conductors for receiving D-C energy thereover, a first pair of semiconductor switches respectively coupled to said input conductors, a commutating choke assembly including a core and a pair of windings magnetically coupled to said core and electrically coupled between said semiconductor switches for assisting in shut-off of one of said switches after the other is gated on, means for applying a first set of gating signals to said semiconductor switches, means for passing commutating energy into one of said commutating choke windings as said other semiconductor switch is turned on to assist in shut-off of said one switch, which commutating energy is trapped in the choke assembly and tends to be returned by recirculation through said other semiconductor switch, and an energy return circuit including an energy return transformer having a primary portion coupled to said choke windings and a secondary portion coupled to said input circuit, the improvement which comprises a second pair of semiconductor switches respectively coupled to opposite ends of said primary portion, a third choke winding magnetically coupled with said core of the commutating choke assembly, means for coupling one end of said third choke winding to an intermediate point on the primary portion of the energy return transformer and unidirectional current conduction means for coupling the other end of said third choke winding to said second pair of semiconductor switches, and means for applying a second set of gating signals to said second pair of semiconductor switches substantially in time coincidence with the application of the first set of gating signals to said first pair of semiconductor switches, whereby the energy trapped in the commutating choke assembly is returned over the conducting one of the second pair of semiconductor switches and said energy return transformer to the input circuit to obviate heating of the first pair of semiconductor switches which would otherwise be caused by return of the trapped commutating energy.

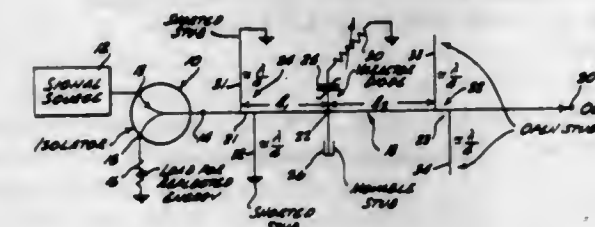
3,343,069 PARAMETRIC FREQUENCY DOUBLER-LIMITER

George I. Tsuda, Garden Grove, Calif., assignor to Hughes Aircraft Company, a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,971
8 Claims. (Cl. 321-69)

1. A parametric device for doubling the frequency and limiting the amplitude of an applied signal available from a preselected source, said device comprising first and second adjacent parallel conductive sheets, a substantial portion of said second conductive sheet being coextensive with said first conductive sheet; a first elongated flat conductive element disposed from a first junction to

an output junction in a plane parallel to and intermediate said first and second conductive sheets; said first elongated flat conductive element having second, third and fourth junctions disposed therealong in the order named from said first junction to said output junction; means interconnected between said preselected source and said first junction for making said applied signal available at said first junction and for diverting reflections therefrom from said preselected source; first stripline means connected to said second junction constituting second and third elongated flat conductive elements disposed in said plane parallel to and intermediate said first and second conductive sheets and connected to opposite sides of said first elongated element at said second junction, said second and third elongated flat conductive elements each being of a length substantially equal to one-

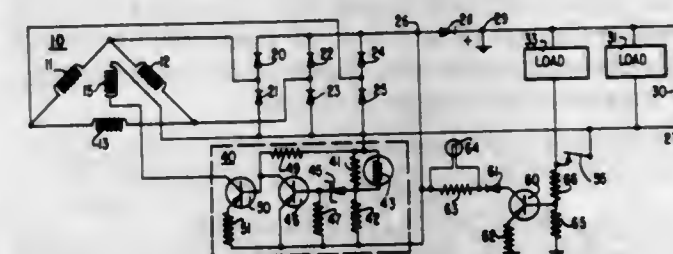


quarter wavelength at said fundamental frequency and being staggered with respect to each other; means disposed at the extremity of each of said second and third elongated conductive elements farthest from said second junction for providing a low impedance path to at least one of said first and second conductive sheets, thereby to provide a first filter at said second junction having a bandpass characteristic including the fundamental frequency of said applied signal; means including a varactor diode having one terminal thereof connected to said third junction for generating a signal of a frequency equal to twice said fundamental frequency, and second stripline means connected to said fourth junction for providing a second filter having a band-rejection characteristic including said fundamental frequency whereby said signal of a frequency equal to twice said fundamental frequency appears at said output junction.

3,343,070 ELECTRONIC SYSTEM

Jerome P. Fryszak, Glendale Heights, Glen Ellyn, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 24, 1964, Ser. No. 346,770
6 Claims. (Cl. 322-79)



1. A circuit for providing field current to an alternator-regulator system including an alternator-rectifier unit having positive and negative terminals with a diode connected between the positive terminal and an output terminal, and the alternator having a field winding connected between the negative terminal and an input terminal, and wherein a regulator controls the flow of field current from the positive terminal to the input terminal in accordance

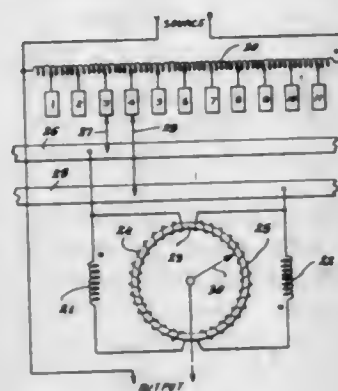
with the voltage between the positive and negative terminals, said circuit including a transistor switch circuit portion for connecting the output terminal of the alternator-rectifier unit to the positive terminal thereof to thereby bridge the diode, said switch circuit portion including a transistor having electrodes for selectively completing the circuit from the positive terminal of the alternator to the output terminal, and a biasing circuit portion coupled to said transistor and including a switch connected to the negative terminal of the alternator-rectifier unit to bias said transistor to render the same conducting.

3,343,071

INTERPOLATING ARRANGEMENT FOR A PRECISION TRANSDUCER

George H. Keats, Stamford, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed July 1, 1964, Ser. No. 379,521
6 Claims. (Cl. 323-43.5)



1. A precision transducer comprising: an autotransformer having a series of taps for developing equal increments of voltage; a first pair of inductive elements disposed in magnetic flux linkage with said autotransformer for developing two equal induced voltages; an annular mandrel formed of a soft magnetic material; a second pair of inductive elements wound on said mandrel, each of said inductive elements of said second pair connected across a different inductive element of said first pair; switch means for connecting one point on each of said inductive elements of said first pair to adjacent autotransformer taps progressively along the series; and a contact movable along said second pair of inductive elements to selectively tap any portion of the voltages developed by said first pair of inductive elements, the movement of said contact being so synchronized with the operation of said switch means that said contact is operative at all times on an inductive element of said second pair connected to an inductive element of said first pair energized by conductive connection with said autotransformer in addition to magnetic flux linkage therewith.

3,343,072

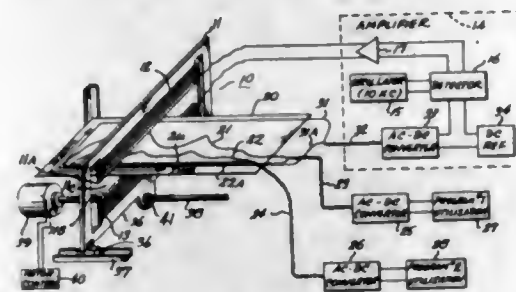
FUNCTION GENERATOR

Eugene T. Ihlenfeldt, Kirkland, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Nov. 4, 1964, Ser. No. 408,928
19 Claims. (Cl. 323-44)

1. A function generator comprising in combination: a conductor having a first substantially straight section and a second section coplanar with said first section and displaced at all points from said first section by a distance representative of a desired relationship between a first parameter and a second parameter; magnetic field

generating means establishing an alternating magnetic field having components of flux intersecting each of said sections of conductor; means producing relative movement between said magnetic field generating means and said conductor; and signal output means coupled with said conductor.

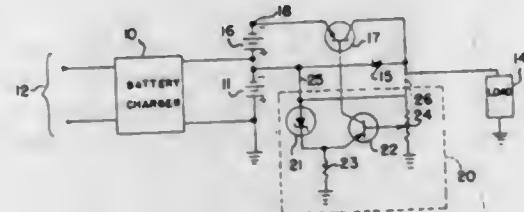


3,343,073

REGULATED DIRECT CURRENT POWER SUPPLY EMPLOYING AUXILIARY CELL

Lee Orland Mesenheimer, Lakewood, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio

Filed July 13, 1964, Ser. No. 381,963
15 Claims. (Cl. 323-15)



1. A regulated, direct current power supply comprising: a main direct current source having a pair of terminals; a second direct current source having a pair of terminals with one terminal connected to one terminal of said main source; a load; impedance means connected between said main source and said load; and semiconductor switching means connected to both terminals of said second source and to said load for controlling the effective connection of said second source to said load.

3,343,074

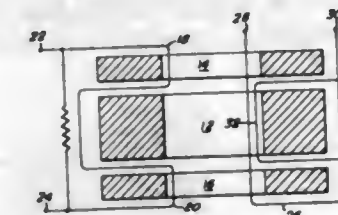
TOROIDAL VARIABLE REACTANCE TRANSFORMER HAVING TWO SATURABLE CORES

Elwood M. Brock, Flemington, N.J., assignor to Hunterdon Transformer Co., Flemington, N.J., a corporation of New Jersey

Filed July 7, 1964, Ser. No. 380,770
8 Claims. (Cl. 323-56)

7. In a high-power variable reactance transformer, an annular main core having an axis and a pair of annular auxiliary cores coaxial with said main core and adjacent thereto, a control winding surrounding each of said auxiliary cores and connected in series opposition, a secondary winding surrounding only said main core for isolation from said control windings, and a unitary primary winding surrounding all of said cores, a variable source of direct current connected across the series arrangement of said control windings to drive the auxiliary cores between a saturated and an unsaturated condition, said transformer

having a low reactance in said saturated condition and a high reactance in said unsaturated condition, and an



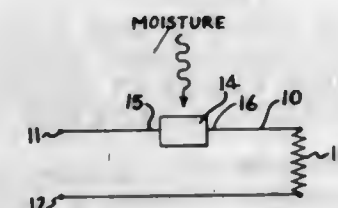
impedance connected across said series arrangement of control windings.

3,343,075

MOISTURE RESPONSIVE CONTROL SYSTEM

Stanford R. Ovshinsky, Bloomfield Hills, Mich., assignor to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,471
10 Claims. (Cl. 323-94)



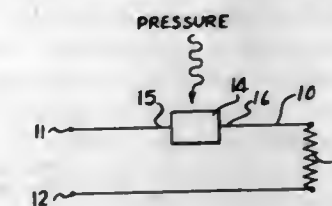
1. An electrical load circuit including in series a substantially constant voltage source for applying a substantially constant voltage thereto, an electrical load and a symmetrical moisture responsive current controlling device responsive to the moisture of the environment affecting the same for substantially instantaneously energizing the electrical load when the current controlling device is subjected to at least a predetermined high moisture value, said current controlling device comprising a non-rectifying semiconductor material and electrodes in non-rectifying contact therewith for electrically connecting the same in series in the electrical load circuit, said semiconductor material having a threshold voltage value, said semiconductor material having a negative moisture-resistance coefficient for decreasing and increasing the resistance thereof and for lowering and raising the threshold voltage value thereof as the value of the moisture affecting the current controlling device increases and decreases respectively, said semiconductor material having at least portions thereof between the electrodes in one state which is of high resistance and substantially an insulator for blocking the flow of current therethrough substantially equally in each direction below the threshold voltage value which is lowered and raised upon increase and decrease in the value of the moisture affecting the current controlling device, said semiconductor material being controlled by the substantially constant voltage applied to the electrical load circuit, and being substantially instantaneously changed from their blocking state to their conducting state when the threshold voltage value of the current controlling device is lowered to at least the substantially constant value of the applied voltage upon increase of the value of the pressure affecting the current controlling device to at least said predetermined high pressure value.

3,343,076

PRESSURE RESPONSIVE CONTROL SYSTEM

Stanford R. Ovshinsky, Bloomfield Hills, Mich., assignor to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,558
10 Claims. (Cl. 323-95)



1. An electrical load circuit including in series a substantially constant voltage source for applying a substantially constant voltage thereto, an electrical load and a symmetrical pressure responsive current controlling device responsive to a pressure affecting the same for substantially instantaneously energizing the electrical load when the current controlling device is subjected to at least a predetermined high pressure value and for substantially instantaneously de-energizing the electrical load when the current controlling device is subject to at least a predetermined low pressure value, said current controlling device comprising a non-rectifying semiconductor material and electrodes in non-rectifying contact therewith for electrically connecting the same in series in the electrical load circuit, said semiconductor material having a threshold voltage value, said semiconductor material having a negative pressure-resistance coefficient for decreasing and increasing the resistance thereof and for lowering and raising the threshold voltage value thereof as the value of the pressure affecting the current controlling device increases and decreases respectively, said semiconductor material having at least portions thereof between the electrodes in one state which is of high resistance and substantially an insulator for blocking the flow of current therethrough substantially equally in each direction below the threshold voltage value which is lowered and raised upon increase and decrease in the value of the pressure affecting the current controlling device, said semiconductor material being controlled by the substantially constant voltage applied to the electrical load circuit, and being substantially instantaneously changed from their blocking state to their conducting state when the threshold voltage value of the current controlling device is lowered to at least the substantially constant value of the applied voltage upon increase of the value of the pressure affecting the current controlling device to at least said predetermined high pressure value.

3,343,077

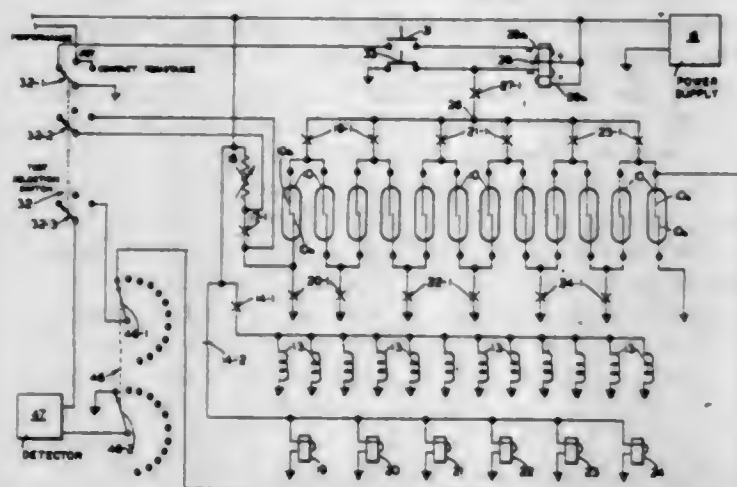
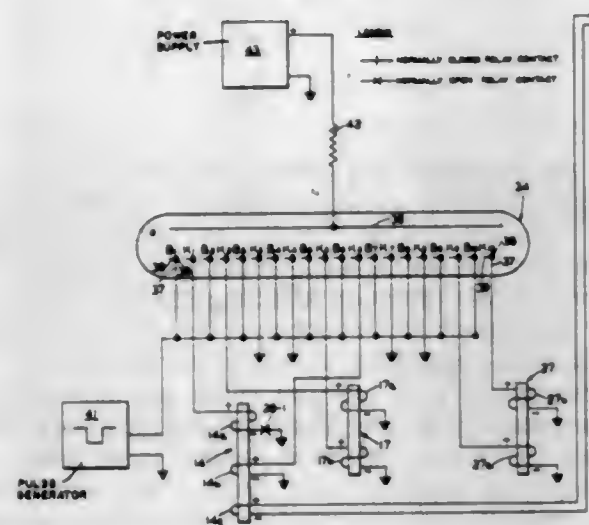
METHODS OF AND APPARATUS FOR SERIES-PARALLEL TESTING OF ELECTRICAL COMPONENTS

Kenneth K. Brader, Catasauqua, and Howard D. Marshall, Stroudsburg, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 17, 1963, Ser. No. 331,650
12 Claims. (Cl. 324-28)

1. The method of simultaneously testing a plurality of contact switches having respective operating coils, which comprises the steps of: alternately placing said switches in electrical series relationship with one another and in electrical parallel relationship with one another;

sequentially energizing and de-energizing the operating coils of said switches when said switches are connected in series with one another to sequentially close and open the contacts thereof; passing a predetermined test current through the contacts of said switches when the operating coils thereof are energized;

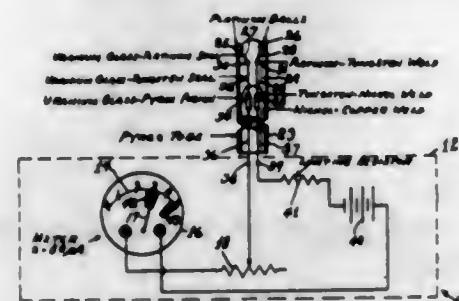


applying a voltage to said switches when they are connected in parallel with one another, the amount of resultant current depending upon the effect of said test current on said contacts; and sensing the amount of resultant current during the voltage applying step to determine the effect of said test current on the contacts of said switches.

3,343,078
SELF-CONTAINED CONDUCTIVITY METER HAVING A TUBULAR GLASS ELECTRODE ASSEMBLY
Justin J. Shapiro, % Labindustries, 1740 University Ave., Berkeley, Calif. 94703
Filed Feb. 7, 1964, Ser. No. 343,375
1 Claim. (Cl. 324-30)

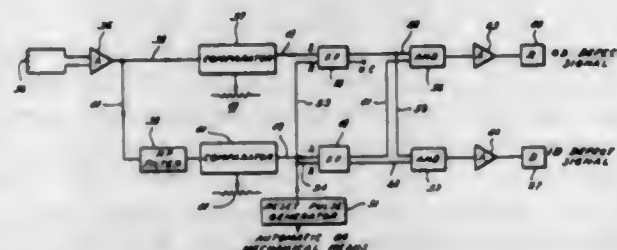
A self-contained Karl Fischer titration device comprising a housing adapted to be held manually; a meter in said housing having a scale and a movable pointer visibly exposed at one wall of the housing, a hollow tubular glass electrode assembly secured to the opposite wall of the housing and having a sealed uranium glass tip provided with a pair of spaced exposed platinum contact balls, respective platinum wires mechanically connected to said contact balls, respective tungsten conductor wires me-

chanically connected to said platinum wires, the platinum wires and the ends of the tungsten wires being sealingly embedded in said uranium glass tip and the tungsten wires having outer ends extending into the interior of said hollow electrode assembly, respective nickel sleeve mem-



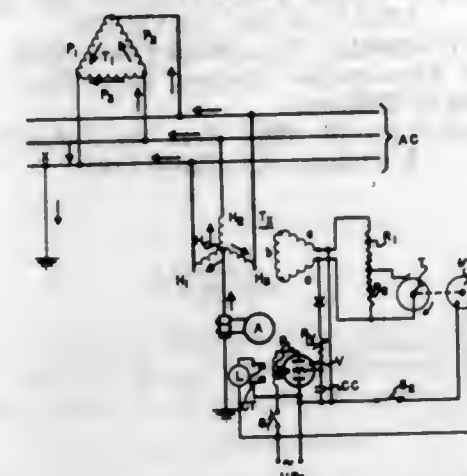
bers welded to the outer ends of said tungsten wires, a battery in said housing, and circuit means connecting said battery and meter in series and including a pair of copper lead wires extending into said electrode assembly and welded respectively to the nickel sleeve members.

3,343,079
APPARATUS AND METHOD FOR ELECTROMAGNETICALLY DISTINGUISHING BETWEEN OUTSIDE AND INSIDE FLAWS IN MAGNETIZABLE MEMBERS UTILIZING A LEAKAGE FIELD DETECTOR
Alfred E. Crouch, Houston, Tex., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed July 1, 1963, Ser. No. 291,750
7 Claims. (Cl. 324-37)



1. An apparatus for testing a magnetizable member for both inside and outside defects and providing a read-out for such defects, comprising
 - a magnetizing means for producing a unidirectional magnetic field in the wall of said member,
 - magnetic responsive means positioned adjacent the outside surface of said wall for producing electrical defect signals in response to variations in flux leakage from said wall,
 - means for progressively and relatively moving said magnetic responsive means adjacent to said wall during testing, and
 - a logic circuit for indicating the relative size and location of defects in said wall comprising
 - electrical means connected to said magnetic responsive means for producing first electrical impulses when said defect signals are above a pre-selected level and for producing second electrical impulses when the high frequency components of said defect signals are above another pre-selected level,
 - said electrical means including means for inverting one of said first and second electrical impulses to produce third electrical impulses,
 - first and second electrical indicator devices connected to receive said first, second and third electrical impulses such that said first device indicates outside surface defects and said second device indicates inside surface defects.

3,343,080
PULSING GROUND FAULT DETECTOR APPARATUS
Francis K. Fox, Oakland, Calif., assignor to General Electric Company, a corporation of New York
Filed Oct. 7, 1963, Ser. No. 314,384
1 Claim. (Cl. 324-52)



A ground fault detector for an electrical distribution system comprising a three phase transformer having a Y-connected primary winding and an open delta secondary winding, a current detecting device connected between the neutral of said Y-connected winding and ground, a pair of resistors connected in series across said open winding, means for sensing a potential across said resistors, indicating means controlled by said sensing means, and means for periodically shunting one of said pair of resistors.

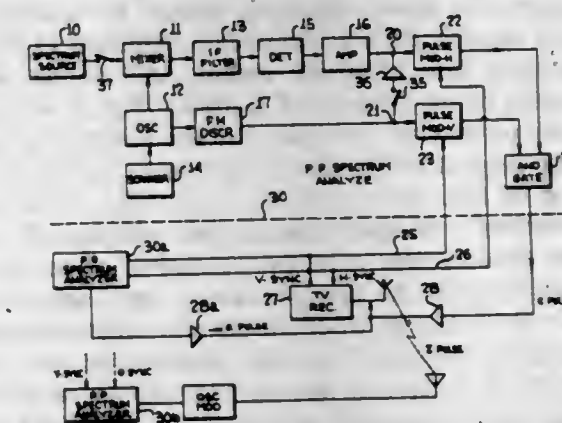
3,343,081
DETECTING APPARATUS INCLUDING RESILIENT MOISTURE ABSORBENT ROLLER MEANS FOR LOCATING DISCONTINUITIES IN NON-CONDUCTIVE COATINGS ON CONDUCTIVE OBJECTS
Lee F. Lane, Langhorne, Pa., assignor to H. C. Price Co., Bartlesville, Okla., a corporation of California
Filed Dec. 13, 1965, Ser. No. 513,492
5 Claims. (Cl. 324-54)



1. In a coating discontinuity detector, means adapted for supporting an elongated, electrically conductive object having an outer, generally cylindrical, non-conductive coating thereon; a scanner assembly including an annular series of individually rotatable rollers, each located for longitudinal rolling engagement with the coating of an object supported by said supporting means, said supporting means and said assembly being adapted to permit relative shifting of the assembly and said object, longitudinally of the latter, normally interrupted electrical circuit means for indicating coating discontinuities electrically coupled with said rollers and adapted for connection to said object; and means for distributing an electrically conductive fluid to said rollers,

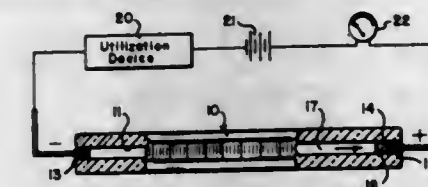
said rollers being constructed of resilient, fluid absorbent material and each having a peripheral surface contoured for complementally engaging said coating circumferentially thereof, said surfaces being disposed for contacting the entire circumferential extent of said coating whereby upon relative shifting of the assembly and the object, upon distribution of said fluid to said rollers and upon connection of said circuit means to said object, a circumference encompassing, longitudinally shifting bridge of said liquid is formed between the coating and the rollers for closing said circuit means whenever a discontinuity in the coating is traversed by the bridge regardless of fluctuations in the diameter of said object.

3,343,082
RASTER SCANNING SPECTRUM ANALYZER
Hyman Hurvitz, 326 Woodward Bldg., Washington, D.C. 20005
Filed July 27, 1964, Ser. No. 385,334
5 Claims. (Cl. 324-77)



4. A spectrum analyzer, comprising a television receiver having internally thereof means for generating vertical and horizontal sync signals and a cathode ray rectangular raster comprised of successively vertical displaced equal length horizontal traces together composing a frame, a spectrum source, and means responsive to said spectrum source and to said sync signals for modifying said raster to provide a plot of amplitude versus frequency representative of a spectrum provided by said spectrum source by intensifying said horizontal lines selectively at selected points therealong corresponding with values of said pairs of values of said plot.

3,343,083
NONSELF-DESTRUCTIVE REVERSIBLE ELECTRO-CHEMICAL COULOMETER
Curtis C. Beusman, Chappaqua, N.Y., assignor to Curtis Instruments, Inc., Mount Kisco, N.Y., a corporation of New York
Filed June 10, 1963, Ser. No. 286,766
8 Claims. (Cl. 324-94)



1. An electrochemical device for measuring the quantity of an electric current that flows through an electrical circuit operatively connected to the device, the internal impedance of the device changing significantly when a predetermined quantity of current has flowed there-through, said device comprising:
 - a body of non-conductive material having a void therein,

anode and cathode electrode means disposed at spaced locations in communication with said void, an electrolytically platable metal deposited on the surface of at least one of the electrode means in communication with said void, said deposit of electrolytically platable metal extending toward the other electrode means a distance such that a space unoccupied by said metal exists in the void, an electrolyte in said void completely filling said space, said electrolyte comprising an aqueous solution of an ionizable electrolyte salt the cation of which is an ion of the electrolytically platable metal and the anion of which is capable of being anodically oxidized to form a molecule that is assimilated by the aqueous electrolyte and that reacts chemically with the electrolytically platable metal to reform the electrolyte salt, thereby forming with said electrode means a first electrolytic cell upon the flowing of the electrical current therethrough,

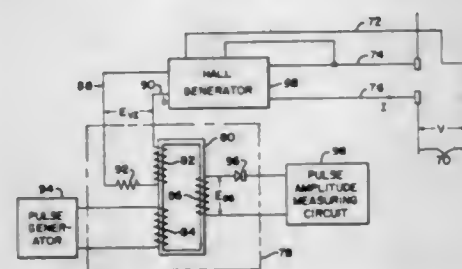
the electrode means being spaced apart a distance such that when all of the electrolytically platable metal is deposited on the surface of the cathode electrode means the anode electrode means is separated from said deposit by the electrolyte disposed in the space between said electrode means, said anode electrode means being formed of a metal that is non-reactive with respect to the anion of the electrolyte salt and with respect to the molecule formed by anodic oxidation of this anion, that does not alloy with the electrolytically platable metal electrode deposited thereon, and that is electrolytically passive when in anodic contact with the aqueous electrolyte, and that is in a form such that, when all the electrolytically platable metal is deposited on the surface of the cathode electrode means, it has an exposed anode surface in said electrolyte sufficient to form, with said cathode electrode means and said electrolyte, a second electrolytic cell operable in an equilibrium cyclic fashion without the generation of gas and formation of irreversible reaction product and having an impedance substantially different from said first electrolytic cell whereby the end-point of the electrochemical device is determined upon the change of the impedance.

3,343,084

HALL GENERATOR SYSTEM USEFUL AS INTEGRATING METER, DEMAND METER AND INVERSE CURRENT RELAY

John C. Gambale, Livingston, and Warren J. Schmidt, Upper Montclair, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 20, 1963, Ser. No. 289,194
8 Claims. (Cl. 324-103)



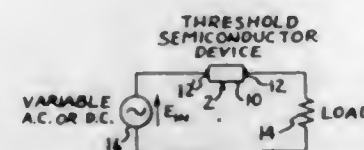
1. A static demand meter comprising a device responsive to the current and voltage of an alternating current circuit for producing a signal the voltage of which varies in proportion to the product of the voltage and current of said circuit, a saturable core transformer having input and output winding means thereon, means for applying said signal to said input winding means to drive the core to saturation in one direction, means for resetting

said core at fixed time intervals, and pulse amplitude measuring means coupled to said output winding means for measuring the magnitude of pulses induced in the output winding means each time the core is reset.

3,343,085 OVERVOLTAGE PROTECTION OF A.C. MEASURING DEVICES

Stanford R. Ovshinsky, Bloomfield Hills, Mich., assignor to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed Sept. 20, 1966, Ser. No. 598,531
3 Claims. (Cl. 324-110)



1. In an A.C. circuit including a first pair of terminals across which an A.C. voltage is to be measured, and an A.C. measuring device having a pair of voltage input terminals electrically connected across said first pair of terminals and which is capable of safely handling voltages below a given minimum unsafe voltage level, the improvement comprising overvoltage protection means electrically connected across said voltage input terminals, said overvoltage protection means comprising a bi-directional semiconductor current controlling device including a solid state semiconductor material and electrodes coupling the same across said input terminals, said solid state semiconductor material in one state having at least portions thereof between the electrodes in one condition which is of high resistance and substantially an insulator for blocking the flow of current through the current controlling device therethrough in either or both directions when an applied voltage is below an upper threshold voltage level which is in excess of the peak value of a normal range of A.C. voltages appearing across said first pair of terminals and less than said minimum unsafe voltage level, and being driven substantially instantaneously into another state wherein said at least portions thereof between the electrodes are in another condition which is of lower resistance and substantially a conductor for conducting the flow of current therethrough in either or both directions when the peak value of the applied voltage thereof is raised above the upper threshold voltage level and the peak value thereof remains above a lower threshold voltage level which is above the peak value of the normal expected voltages across said first pair of terminals, and revert immediately to said blocking condition when the peak value of the applied voltage drops below said lower threshold voltage level, and there being in series with said semiconductor current controlling device a voltage dropping impedance which reduces the voltage across said A.C. measuring device while current flows through said semiconductor current controlling device.

3,343,086

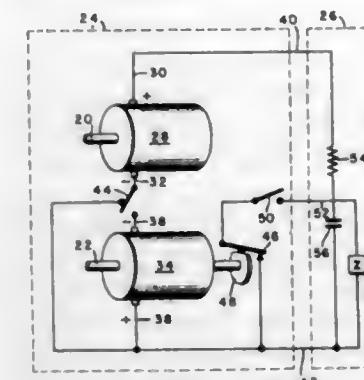
CAPACITIVE SIGNAL COMPARISON CIRCUIT

John M. Green and Ronald Horne, Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware

Filed Mar. 20, 1963, Ser. No. 266,544
4 Claims. (Cl. 324-111)

4. Circuitry, comprising in combination:
a. first and second direct current generators connected in series opposition to a pair of output terminals,
b. a resistance and a capacitance connected in series across said output terminals,

c. output means responsive to the voltage developed across said capacitor, and



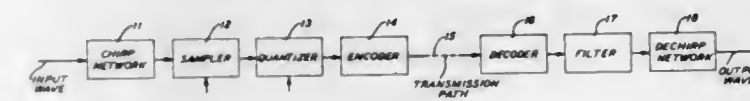
d. a discharge mechanism for periodically discharging said capacitor at a repetition rate proportional to the output signal of one of said generators.

3,343,087

QUANTIZATION NOISE REDUCTION SYSTEM USING CHIRP NETWORK PRIOR TO QUANTIZING

Howard D. Helms, Brookside, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 2, 1964, Ser. No. 394,020
10 Claims. (Cl. 325-42)



10. Apparatus including a pulse code transmission system utilizing quantization comprising, in combination:

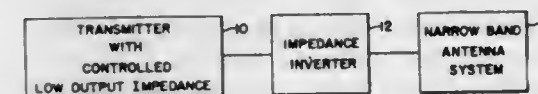
a first chirp network for selectively dispersing frequency components of an applied analog signal prior to quantization,
and a second chirp network positioned at the receiving end of said transmission system for reconstituting into their original order said dispersed components and reordering the statistical distribution of noise introduced by said quantization.

3,343,088

WIDEBAND HIGH EFFICIENCY TRANSMITTER SYSTEM

John R. Boykin, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 12, 1963, Ser. No. 330,058
7 Claims. (Cl. 325-105)



1. Apparatus for increasing the bandwidth of a radio frequency transmitter system comprising in combination: a series fed antenna system including an electrically short narrow band antenna and means for resonantly tuning said antenna to a predetermined output frequency; an impedance inverter network coupled to said antenna system; a radio frequency transmitter, having a controlled output impedance, coupled to said impedance inverter for feeding electrical energy to said antenna system; and

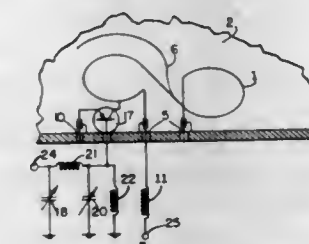
means for controlling said output impedance so that the ratio of the load impedance provided by the combination of said impedance inverter and said antenna system to said output impedance is substantially equal to the equation $\sqrt{Q/2}$, where Q is the ratio of the reactance to the resistance of said antenna system.

3,343,089

QUARTER WAVE LOW PROFILE ANTENNA TUNED TO HALF WAVE RESONANCE BY STUB; ALSO INCLUDING A TRANSISTOR DRIVING STAGE

Earl R. Murphy, Scottsdale, Ariz., and Donald R. Wehner, San Diego, Calif., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Oct. 4, 1965, Ser. No. 492,531
5 Claims. (Cl. 325-105)



1. A low profile antenna structure for operating in a given frequency band including in combination, conductive means forming a ground plane, an elongated rod-like conductor having a length equal to a quarter of a wavelength in the given frequency band, said conductor being mounted parallel to and above said ground plane, conductive end posts connected to the ends of said rod-like conductor, means coupled to said end posts and to said ground plane forming bypass capacitors isolating said end posts for direct current from said ground plane, a transmission line stub connected to the midpoint of said conductor and tuning said conductor to half wave resonance, a transistor integrated directly into the antenna structure and having input and output means, and means connecting said output means to said conductor at a point thereon having an impedance matching the output impedance of said transistor.

3,343,090

RECEIVING DEVICE FOR PULSES MODULATED BY PHASE JUMP MODULATION ON A CARRIER OSCILLATION

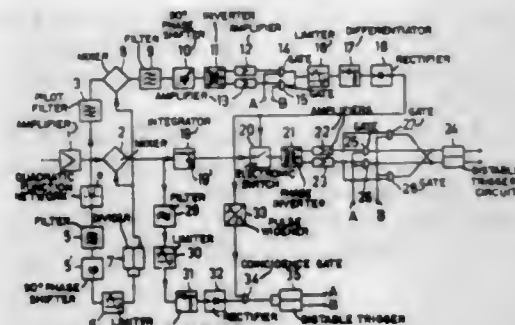
Charles Govert den Hertog, Hilversum, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,328
Claims priority, application Netherlands, Apr. 16, 1963, 291,584

5 Claims. (Cl. 325-320)

1. A receiver for signals of the type including a phase-shift modulated carrier oscillation and a pilot oscillation, comprising means for producing a reference oscillation of the frequency of said carrier oscillation, means for synchronously demodulating said signals with said reference oscillations, means for regenerating the modulation of said carrier oscillation from the output of said synchronous demodulating means, means for generating a timing signal from said pilot oscillation, said timing signal having a repetition frequency equal to the difference frequency between said pilot oscillation and carrier oscillation, and means for applying said timing signal to said regenerating means for correcting for shifts occurring in said signals during transmission; wherein the improvement comprises limiter means, means for applying a portion of the output of said synchronous demodulating means to said limiting means to produce an alternating

voltage of constant amplitude, coincidence means for comparing said timing signal with the zero crossovers of said constant amplitude alternating voltage, said means for generating a timing signal comprising means for changing the phase of said timing signal by half a period thereof, means for applying the output of said coincidence means to said means for changing said phase, whereby



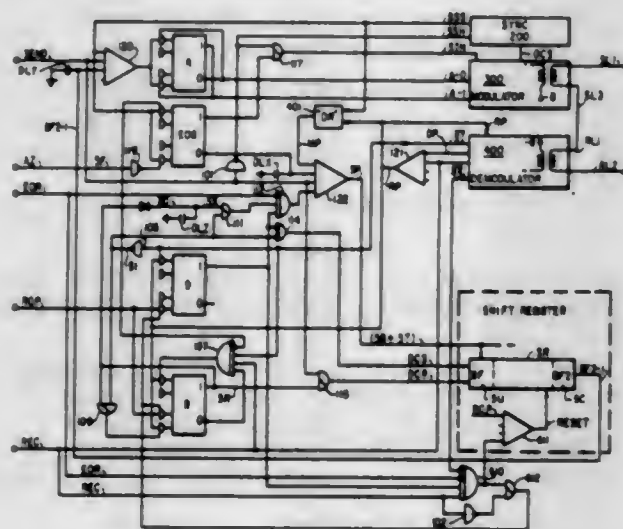
the phase of said timing signal is changed when said reference oscillation is not in phase with said carrier oscillation, said regenerating means comprising means for selectively inverting the output of said regenerating means, and means for applying the output of said coincidence means to said inverting means for inverting the output of said regenerating means when said reference signal is not in phase with said carrier oscillation.

3,343,091

DIPHASE TRANSMISSION SYSTEM WITH NOISE PULSE CANCELLATION

Lucas Bruglemans, Antwerp, Belgium, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed June 5, 1964, Ser. No. 372,993
5 Claims. (Cl. 325-320)



1. In a system for demodulating a received carrier signal which is phase shift modulated by data in a binary system of notation, in which each cycle at the carrier frequency represents a binary digit, a first binary value being represented by a phase reversal at the beginning of a cycle, and a second binary value being represented by the same phase as the preceding cycle;

the combination comprising a low pass filter having a cut off frequency substantially above the carrier frequency for removing the components of the signal at said phase reversal points which fall between the zero amplitude level and a given threshold level; an arrangement including squaring and differentiating means coupled to the output of the filter to derive a pulse for each of the zero crossings of the received signals, whereby for each binary digit of the first

value there is one pulse produced and for each binary digit of the second value there are two pulses produced;

first integrating means coupled to said arrangement for measuring the time between said pulses to produce a first signal only when the time between said pulses is more than one-half cycle at said carrier frequency, whereby said first signal is produced in response to each binary digit of the first value;

means coupled to the output of said arrangement and the output of said integrating means to derive a second signal during each cycle in which said first signal is not produced, whereby the second signal represents a received binary digit of the second value;

gating means coupled to the outputs of said arrangement, said integrating means, and said means for deriving a second signal to select from the output of said arrangement one pulse per cycle, thereby producing a timing pulse train having one pulse per binary digit;

a register having a timing control input coupled to the output of said gating means, a first set input coupled to the output of said integrating means, and a second set coupled to the output of said means for deriving a second signal, whereby data corresponding to the binary data in said received signals is serially stored in the register;

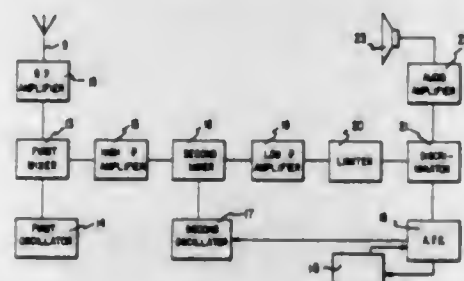
second integrating means coupled to said arrangement for measuring the time between said pulses to produce a reset signal only when the time between said pulses is more than one cycle at said carrier frequency, and means responsive to said reset signal to reset said register.

3,343,092

AFC DISABLING SYSTEM OPERATIVE BY REDUCING THE D.C. DISCRIMINATOR OUTPUT TO ZERO

Hugh H. Davids, Lynchburg, Va., and William R. Laitinen, Minneapolis, Minn., assignors to General Electric Company, a corporation of New York

Filed Oct. 29, 1963, Ser. No. 319,881
4 Claims. (Cl. 325-346)



1. An angular modulation receiver having at least:

(a) one frequency translating stage for the received signal including a local oscillator at a nominal operating frequency and a mixer to produce the frequency translation of the received signal;

(b) an automatic frequency control circuit for said local oscillator including a frequency discriminator for producing a direct current output signal which is proportional to the departure of said translated signal from a predetermined frequency and frequency controlling means to control the local oscillator frequency in response to said direct current signal;

(c) means responsive to the direct current output signal from said discriminator for disabling said automatic frequency control circuit whenever the said discriminator output signal exceeds a predetermined value to return the local oscillator frequency to its nominal value including means to reduce the dis-

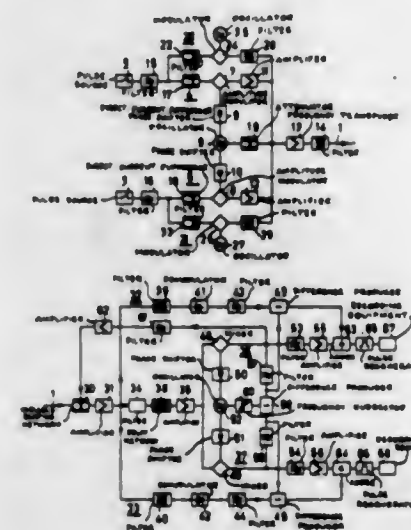
criminator output signal impressed on the oscillator frequency controlling means to zero thereby to return the local oscillator frequency to its nominal value.

3,343,093

DUAL-CHANNEL QUADRATURE-MODULATION PULSE TRANSMISSION SYSTEM WITH DC COMPONENT TRANSMITTED IN SEPARATE CHANNEL

Petrus Josephus van Gerwen, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 15, 1963, Ser. No. 295,061
Claims priority, application Netherlands, July 19, 1962, 281,180/62
11 Claims. (Cl. 325-60)



1. A pulse transmission system for the transmission of pulse signals in a given transmission band, comprising a transmitter, a receiver, and a transmission path between said transmitter and receiver, said transmitter comprising a source of first and second pulse signals, first and second transmitter channels, means applying said first and second signals to said first and second transmitter channels respectively, at least one of said channels including means for suppressing the direct current component of signals in said one channel, a source of common carrier oscillations, first and second modulator means for modulating said carrier oscillations with the signals of said first and second channels respectively with a mutual phase displacement of 90°, means providing pilot oscillations of the frequency of said carrier oscillations, an auxiliary transmission channel including a source of auxiliary oscillations, means for modulating said auxiliary oscillations with the signals applied to said one channel to produce modulated oscillations having only modulation components related to the direct current components of said signals applied to said one channel, means for applying said pilot oscillations and the outputs of said first and second modulator means to said transmission path in the central part of said transmission band, and means for applying said modulated auxiliary oscillations to said transmission path in an outer portion of said transmission band outside the portion thereof in which the outputs of said first and second modulators are transmitted; said receiver comprising first and second receiving channels for receiving signals in said central part of said transmission band, each of said receiving channels comprising demodulator means and pulse regenerator means, means connecting each said demodulator means to said transmission path, and means connecting the output of said demodulator means to said pulse regenerator means of the respective channel, said

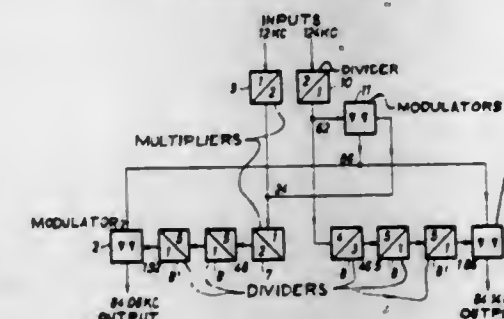
receiver further comprising means providing a local carrier oscillation synchronized with said pilot oscillations, means applying said local carrier oscillations to the demodulator means of said first receiver channel for demodulating the signals corresponding to signals of said first transmitter channel which were transmitted with suppression of the direct current component, the means connecting the output of the demodulator means to the pulse regenerator means of the first receiver channel including adding means, an auxiliary receiving channel for receiving signals in said outer portion of said transmission band, said auxiliary channel including demodulator means, and means for applying the output of said auxiliary receiving channel to the input of the adding means of said first receiver channel.

3,343,094

CARRIER FREQUENCY GENERATORS

Klaus Kocher, Hofingen-Württemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 28, 1964, Ser. No. 385,692
Claims priority, application Germany, Aug. 20, 1963, St 20,996
3 Claims. (Cl. 328-17)



1. A carrier frequency generator system for supplying group pilot frequencies of 84.08 and 84.14 kc./s. obtained from basic frequencies of 12 and 124 kc./s. comprising a first and a second unit, said first unit having a two to one multiplier, a pair of one-to-five dividers serially connected from the output of said two to one multiplier, first modulator means connected to the output of the second of said one to five dividers, said second unit having a three-to-four divider, a second pair of one-to-five dividers serially connected to the output of said three-to-four divider, second modulator means connected to the second of said second pair of one-to-five dividers, means including multiplier means for connecting said 12 kc./s. frequency to said first and second modulator means and to said two-to-one multiplier, means for coupling said 124 kc./s. frequency to said first and second modulator means and to said three-to-four divider and means coupled to the output of said first and second modulator means for delivering said 84.08 kc./s. signal from said first unit and said 84.14 kc./s. from said second unit.

3,343,095

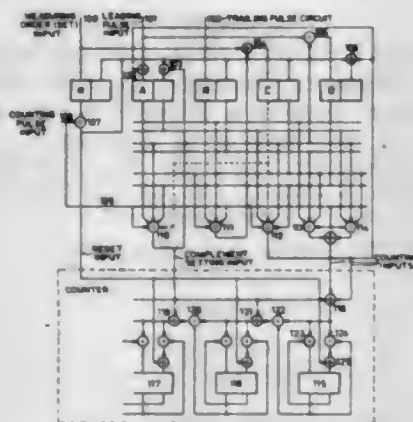
ARRANGEMENT FOR DIGITALLY ESTABLISHING A MEASURED VALUE REPRESENTED BY AN INTERVAL SITUATED BETWEEN TWO SUCCESSIVE ELECTRICAL PHENOMENA

Rienk Pieter Offermans, Hengelo Overijssel, Netherlands, assignor to N.V. Hollandse Signaalapparaten Hengelo (Overijssel), Netherlands, a firm of the Netherlands

Filed Mar. 14, 1966, Ser. No. 534,020
Claims priority, application Netherlands, Mar. 16, 1965, 65-3,287
5 Claims. (Cl. 328-48)

1. A system for digitally measuring the interval of time between first and second successive phenomena occurring on electric signals, wherein said phenomena occur in re-

current pairs of first and second phenomena and the sum of the intervals between each phenomenon and the next succeeding and next preceding phenomenon is substantially constant, comprising a source of said electric signals, a source of recurrent counting pulses, a source of a measuring order signal, counting means having a counting pulse input and a zero setting input, a control circuit for applying said counting pulses to said counting means, and means applying said electric signals, counting pulses and measuring order signal to said control circuit, said control circuit having a first output connected to said counting pulse input, a second output connected to said zero setting input, and a third output connected to said counting means, said control circuit comprising means responsive to said measuring order signal for applying a pulse to said second output, whereby said counting means is reset,

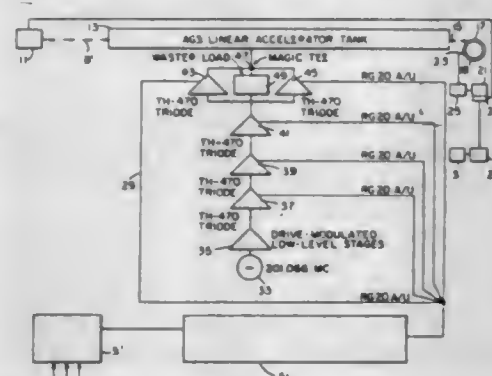


means responsive to the first received of said first and second phenomena following said measuring order signal for enabling the continuous application of said counting pulses to said first output, means responsive to the second received of said first and second phenomena following said measuring order signal for inhibiting further application of said counting pulses to said first output, and means responsive to the reception of said second phenomenon before said first phenomenon following said measuring order signal for applying a pulse to said third output, said counting means further comprising means responsive to the occurrence of a pulse at said third output for resetting said counting means to the complement of the pulse count received at said counting pulse input, whereby the count of said counting means is independent of the order of occurrence of said first and second phenomena following a measuring order signal.

3,343,096

SYSTEM FOR PRODUCING HIGH ENERGY, HIGH INTENSITY CHARGED PARTICLE BEAMS

Raymond H. Rheame, Stony Brook, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 19, 1965, Ser. No. 441,394
10 Claims. (Cl. 328—235)



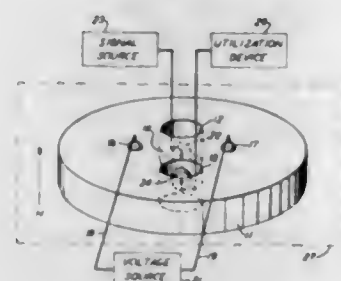
1. Apparatus for energizing a linear accelerator for injecting particles into a cyclic accelerator, comprising means consisting of a drive saturated radio-frequency

power amplifier having a hard tube modulator and means deriving a command signal from the linear accelerator and comparing it with a reference signal for producing a modulator input signal that causes the modulator to control the amplifier for producing a signal corresponding in envelope contour, voltage gradient and repetition rate with said modulator input signal for energizing said linear accelerator to produce a high intensity beam of accelerated particles in said linear accelerator.

3,343,097

SOLID STATE PLASMA ACOUSTIC AMPLIFIER WITH HEAT DISSIPATING MEANS

Dirk J. Bartelink, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,211
5 Claims. (Cl. 330—5)



1. An acoustic wave amplifying device comprising a member of magneto-resistive material having a restricted portion defining an interaction region and first and second heat dissipating areas integral therewith and substantially larger than said restricted portion, means for applying an electric field to said restricted portion, said field giving rise to a carrier flow in said restricted portion, means for applying a magnetic field to said restricted portion at an angle to the direction of the applied electric field, the angle of the magnetic field being such as to produce a component of carrier drift transverse to the direction of the electric field in said restricted portion, means for launching an acoustic wave in said restricted portion at an angle to the electric and magnetic fields, and in substantially the same direction as the transverse component of carrier drift, and means for abstracting an amplified wave from said sample.

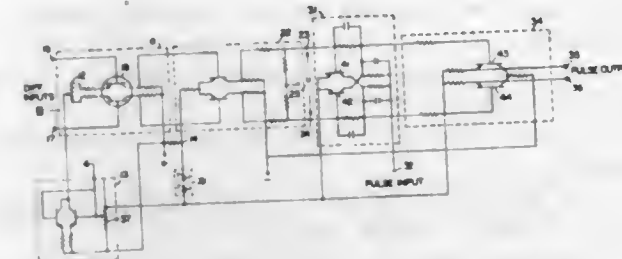
3,343,098

PULSE STEERING CIRCUIT APPLIED TO DIFFERENTIAL AMPLIFIER

William Simon, Cambridge, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed June 18, 1964, Ser. No. 376,056
2 Claims. (Cl. 330—30)

1. A pulse steering circuit comprising, first and second transistors each having an emitter, base and collector, said emitters of said first and second transistor connected to ground potential, first and second impedance means, the collector of said first transistor connected to the base of said second transistor through said first impedance means, the collector of said second transistor connected to the base of said first transistor through said second impedance means, steering voltage input means extending from the base of said first transistor to the base of said second transistor,

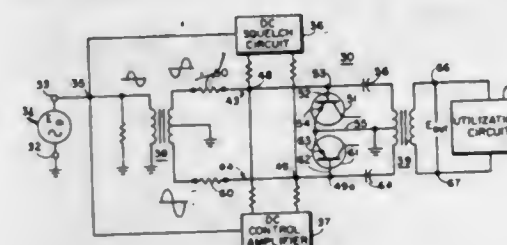
pulse input means at a common, transistor free, termination of said first and second impedance means, pulse output means at the collectors of said first and second transistors,



said first and second impedance means are substantially identical groupings of a first parallel resistor and capacitor in series with a second paralleled resistor and capacitor.

3,343,099

AUDIO COMPRESSOR CIRCUIT
Gerald R. Paul, Webster, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Aug. 27, 1964, Ser. No. 392,410
9 Claims. (Cl. 330—192)



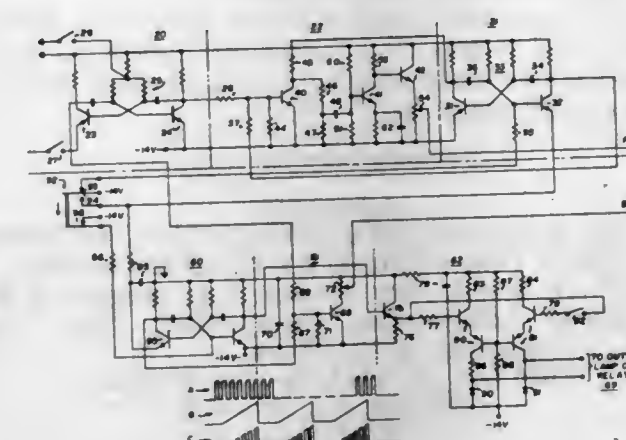
9. In a compressor circuit for deriving a substantially constant level output signal voltage in response to an input signal voltage which varies between different levels, the combination comprising

- input means for applying said input signal voltage to said compressor circuit,
- a resistance connected at one end to said input means,
- a unilateral conducting means connected between the other end of said resistance and a point of reference potential,
- snellch circuit means connected to said input means for forward biasing said unilateral conducting means only when an input signal voltage below a given level is applied to said input means,
- control voltage generating means connected between said input means and said other end of said resistance for deriving a direct current forward biasing voltage which varies in substantially direct proportion to said input signal voltage,
- said unilateral conducting means having a dynamic resistance which varies substantially inversely with said direct current forward biasing voltage such that said unilateral conducting means provides a variable resistance between said resistance and said reference potential,
- said unilateral conducting means being fully conducting in response to a given level of said direct current forward biasing voltage, and
- output means connected between said other end of said resistance and said unilateral conducting means.

3,343,100

TONE GENERATOR WITH INCREASING VOLUME AFTER EACH TONE INTERRUPTION

Hector O. Medina, Sagrado Corazon, Rio Piedras, Puerto Rico, assignor to International Telephone and Telegraph Corporation
Filed Nov. 10, 1965, Ser. No. 507,127
5 Claims. (Cl. 331—37)

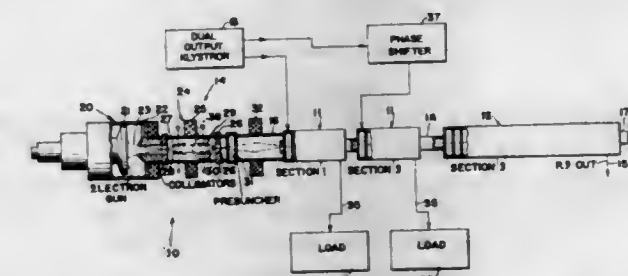


1. An electronic tone generator for use in a telephone set comprising a plurality of tone sources, means in at least one of said sources for producing a single pitch tone of steady amplitude, means in at least another of said sources for producing a sawtooth wave form, means for mixing said single pitch tone with said sawtooth wave form to produce an interrupted signal having the frequency of the single pitch tone with each tone burst beginning at a low volume and increasing to a high volume, hookswitch means for initiating the start of each tone burst at said low volume, and means for synchronizing said increase of volume with a demand for tone indicated by operation of said hookswitch means.

3,343,101

SIGNAL GENERATOR METHOD AND APPARATUS

Jacob Haimson, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 18, 1964, Ser. No. 390,320
15 Claims. (Cl. 331—82)



1. Apparatus for generating high power microwave energy comprising a wave-beam interaction structure provided with means for passing a beam of charged particles therethrough and for establishing electromagnetic wave energy fields in the regions through which said beam of charged particles passes;

means for coupling input electromagnetic wave energy of high power into said wave-beam interaction structure for establishing said electromagnetic fields within said wave-beam structure;

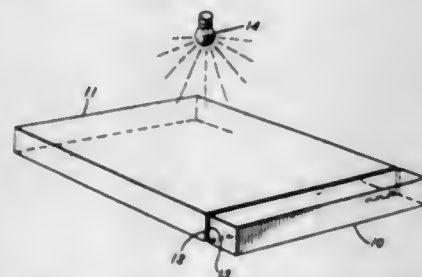
an output circuit structure provided with means for passing a charged particle beam therethrough and dimensioned for causing particles passing therethrough to induce an output electromagnetic wave signal within said structure;

means for generating a beam of charged particles and directing said beam into and through said wave-beam interaction structure;

said wave-beam interaction structure constructed and dimensioned to provide an accelerator for transferring a substantial portion of said input electromagnetic wave energy to said beam of charged particles; netic wave energy to said beam of charged particles to accelerate said particles to a velocity substantially in excess of their velocity upon entering said wave-beam interaction structure; and means for directing said beam of accelerated particles into said output circuit structure thereby to induce said output electromagnetic wave signal in said output circuit structure.

3,343,102

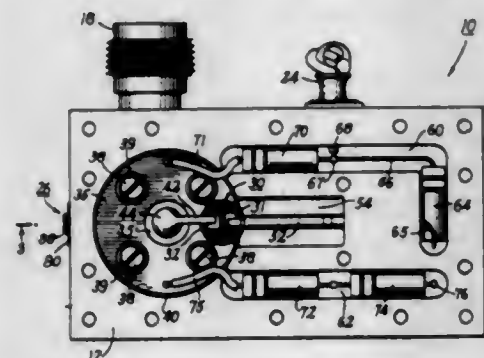
SPATIAL AND SPECTRAL FUNNELING PUMPING SYSTEM FOR OPTICALLY PUMPED MASER
Henry E. D. Scovill, New Vernon, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 17, 1963, Ser. No. 316,813
13 Claims. (Cl. 331-94)



1. An optically pumped maser comprising: a thin slab of fluorescent material having a pair of broad surfaces and a plurality of narrow edges and characterized by an absorption band and an emission band; a rod of maser material disposed contiguous to one of said edges; reflective means disposed along the other of said edges; said rod being characterized by an absorption band which includes frequency components within the emission band of said fluorescent material; and means for illuminating at least one of said broad surfaces comprising a source of radiation having frequency components within the absorption band of said fluorescent material.

3,343,103

TEMPERATURE COMPENSATED SOLID STATE MICROWAVE OSCILLATOR
Kenneth R. Schoniger, Tampa, Fla., assignor to Trak Microwave Corporation, Tampa, Fla.
Filed Jan. 5, 1966, Ser. No. 518,829
8 Claims. (Cl. 331-97)

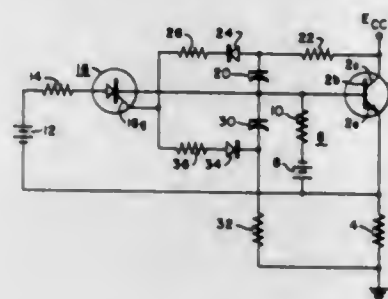


1. A solid state microwave oscillator comprising, in combination: (A) an electrically conductive housing; (B) a transistor mounted within said housing, said transistor having

- (1) a base terminal capacitively coupled to said housing,
 - (2) an emitter terminal,
 - (3) a collector terminal, and
 - (4) an internal collector-base capacitance which increases with increasing temperature, causing reduction in the oscillator operating frequency;
- (C) means forming an emitter tank circuit in said housing,
- (1) said emitter tank circuit electrically coupled to said emitter terminal;
- (D) means forming a collector tank circuit in said housing,
- (1) said collector tank circuit electrically coupled to said collector terminal; and
- (E) a resistor connected electrically between said base terminal and said collector terminal of said transistor, said resistor
- (1) having a positive temperature coefficient, and
 - (2) operating to increase the collector-base bias voltage on said transistor with increases in temperature so as to decrease said internal collector-base capacitance and thereby maintain the operating frequency of said oscillator substantially constant irrespective of temperature changes.

3,343,104

GATE TURN-OFF DEVICE DRIVING A POWER SWITCHING SEMICONDUCTOR DEVICE
John W. Motto, Jr., Greensburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 30, 1964, Ser. No. 386,316
6 Claims. (Cl. 331-111)

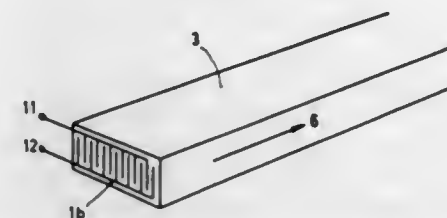


1. In combination; a load circuit adapted to be connected to a voltage source; a semiconductor switching device including at least a base electrode, a collector electrode and an emitter electrode and having a conducting state and a non-conducting state for controlling current in said load circuit; means for connecting said base electrode to a first source of potential; a gate turn-off device; means for connecting a second source of potential through said gate turn-off device to said base electrode; said first and second sources of potential being of such a polarity that the semiconductor switching device is in one state when said gate turn-off device is off and is in the other state when said gate turn-off device is turned on; pulse means for alternately turning on and turning off said gate turn-off device; and means for delaying the alternating of said last-mentioned means for a predetermined time after either turning on said gate turn-off device or turning off said gate turn-off device; said means for delaying including a first capacitor connected across said base-collector circuit to be charged when said semiconductor device is in said one state; a second capacitor connected across said base-emitter circuit to be charged when said semiconductor device is in said other state; and reference means for enabling said pulse means to turn-on said gate turn-off device in response to a pre-

terminated charge on one of said capacitors and for enabling said pulse means to turn-off said gate turn-off device in response to a predetermined charge on the other of said capacitors.

3,343,105

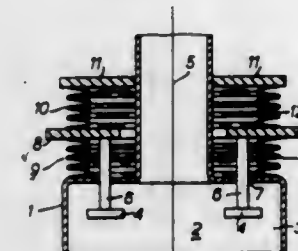
ELECTRIC DELAY DEVICE WITH POLARIZATION VARIATIONS IN TRANSDUCERS TO REDUCE ECHO VIBRATIONS
Leo Johan van der Pauw, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 575,116
Claims priority, application Netherlands, Aug. 26, 1965, 65-11,135
8 Claims. (Cl. 333-30)



1. In an electromechanical transducer for a delay device of the type including a transducer for converting electrical oscillations into mechanical vibrations which are propagated in a delay medium, said electromechanical transducer comprising a body of a material having an electro-mechanical conversion factor dependent upon polarization of the material, said body having a first surface, and a pair of electrodes on said body with at least one of said electrodes being on said surface, and a source of electric oscillations connected to said electrodes whereby said oscillations are converted to mechanical vibrations, the improvement wherein said body is provided with a polarization that gradually decreases in a direction parallel to the direction of propagation of said mechanical vibrations, whereby undesired echo vibrations in said body are substantially reduced.

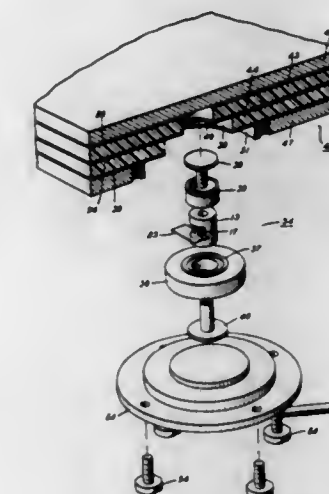
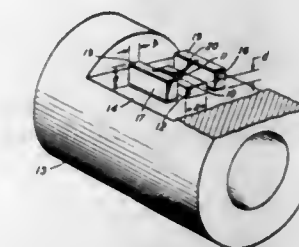
3,343,106

TUNABLE ELECTRON DISCHARGE DEVICES AND CAVITIES
Walter John Honeyball, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company
Filed Mar. 19, 1965, Ser. No. 441,266
Claims priority, application Great Britain, Apr. 1, 1964, 13,441/64
6 Claims. (Cl. 333-83)



5. Apparatus comprising an evacuated tunable cavity having plunger means movable therein for tuning of said cavity, movable support means connected to said plunger means, extensible bellows means for sealing said evacuated cavity and maintaining said movable support means in an unbiased condition, said bellows means connecting said support means to two fixed parts, said bellows means, support means and two fixed parts defining an evacuated space in communication with said evacuated cavity.

3,343,107
SEMICONDUCTOR PACKAGE
Charles E. Gollightly, Hillside, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 3, 1963, Ser. No. 327,767
7 Claims. (Cl. 333-84)



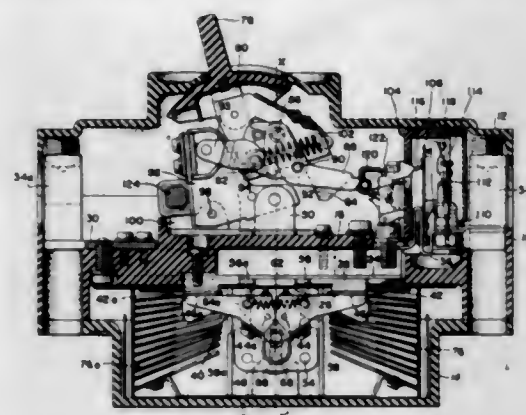
1. A semiconductor device comprising: a semiconductor element; a first conductor electrically connected to one side of the element; a second conductor electrically connected to another side of the element; said first conductor comprising a mounting platform for supporting the element; a third conductor; means for mechanically forcing the second conductor into electrical contact with the third conductor, whereby the second conductor is subjected to mechanical stresses; and means for absorbing said mechanical stresses and preventing them from being mechanically transmitted to said element comprising two stand-off insulators; said insulators being mounted on the mounting platform on opposite sides of the element; said second conductor being mechanically bonded to both of said insulators.

3,343,108

HIGH SPEED CIRCUIT INTERRUPTER USING MAGNETIC BLOWOFF AND MEANS FOR DECREASING THE INERTIAL EFFECTS DURING INTERRUPTION
Wasaburo Mural, Osaka, Japan, assignor to Terasaki Denki Sangyo Kabushiki Kaisha, Osaka, Japan
Filed May 6, 1966, Ser. No. 548,262
Claims priority, application Japan, Dec. 10, 1965, 40/75,601, 40/75,602, 40/100,012
7 Claims. (Cl. 335-16)

1. A circuit interrupter comprising stationary contact arm on the source side and a stationary contact arm on the load side, one stationary contact carried on each of the stationary contact arms, a movable contact assembly separably engaging a pair of the stationary contacts to bridge the latter, switching means for engaging and dis-

engaging the movable contact assembly with and from the stationary contacts, releasable means for separating the movable contact assembly away from the stationary contacts, and trip means responsive to a flow of overload current through the circuit interrupter to release the releasable means, the movable contact assembly being separable away from the stationary contacts through an electromagnetic repulsion developed between the stationary contact arms and the movable contact assembly immediately upon the occurrence of very high current flowing through the circuit interrupter, wherein said movable contact assembly is split into a pair of bilaterally symmetric movable contact arms rotatably carried on a holder plate by a pair



of supporting pins, each of said movable contact arms having a contact bearing surface substantially flush with a contact bearing surface on the other movable contact arm in its closed position, a spring bridging said pair of movable contact arms to exert a contact pressure upon a common point on said movable contact arm where they contact each other, and upon the development of said electromagnetic repulsion said pair of movable contact arms are rotated in the opposite directions about the axes of the supporting pins while one of said movable contact arms is maintained in rolling contact with the other movable contact arm thereby to separate the said pair of movable contact arms away from the associated stationary contacts.

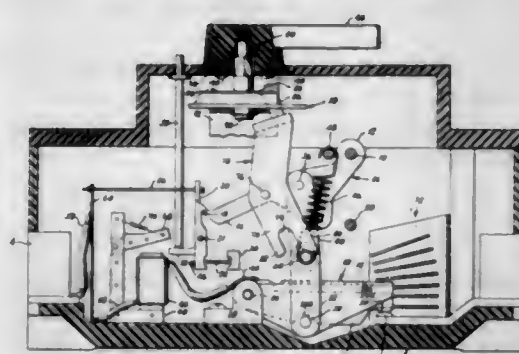
3,343,109

CIRCUIT BREAKER ASSEMBLY

Charles L. Jencks, Avon, and George W. Kiesel, Unionville, Conn., assignors to General Electric Company, a corporation of New York

Filed Aug. 30, 1965, Ser. No. 483,718

21 Claims. (Cl. 335—26)



1. A circuit breaker assembly comprising:

- (a) a support;
- (b) a fixed contact on said support;
- (c) a movable contact arm pivotably mounted on said support adjacent one end thereof and providing a contact adjacent the other end thereof for engagement with said fixed contact, said contact arm being pivotable into a closed position with its contact in engagement with said fixed contact and into an open position away therefrom;

- (d) a releasable member pivotably mounted on said support adjacent one end thereof;
- (e) a latch means on said support normally engaged with and holding the other end of said releasable member in a latched position and operable to release said other end of said releasable member from said latched position for movement of said contact arm away from said fixed contact;
- (f) a toggle linkage having one link pivotably connected to said releasable member intermediate the length thereof, a second link pivotably connected to said contact arm intermediate the length thereof, and a pivot pin connecting said toggle links, said toggle linkage positioning said releasable member and said contact arm in open and closed position;
- (g) a spring having one end fixedly mounted on said support at a point spaced towards said fixed contact from a line drawn between the point of connection of said links to said contact arm and the point of connection of said links to said releasable member in the closed position of said contact arm, said spring having its other end engaged with said toggle linkage and biasing said toggle linkage to closed contact position in the fixed position of said releasable member and biasing said releasable member for rotation in opening direction upon release from said operating means; and
- (h) resetting means for moving said toggle linkage and releasable member against the action of said spring to engage said releasable member with said latch means in said latched position and for releasing said toggle linkage upon engagement of said releasable member in said latched position to rotate said contact arm rapidly to the closed position under the action of said spring, said resetting means including a resetting member engaged with said toggle linkage in the open position thereof for movement of said releasable member into engagement with said latch means and permitting rapid movement of said toggle linkage to the closed position upon engagement of said releasable member with said latch means.

3,343,110

ADHESIVE RELAY

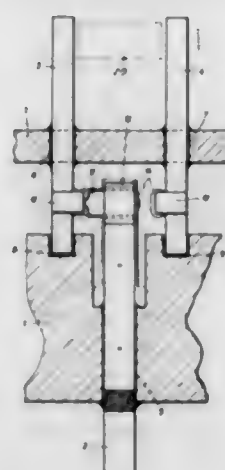
Wolfgang Grobe, Ludwigsburg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 11, 1966, Ser. No. 549,388

Claims priority, application Germany, May 28, 1965,

St 23,898

5 Claims. (Cl. 335—55)



- 1. An adhesive relay forming a double air gap, comprising: an armature of substantially cylindrical form wetted on its entire surface by a contact-making liquid,

a sleeve having a substantially cylindrical opening floating said armature in a supply of said contact-making liquid, a first contact element supporting said sleeve, second and third contact elements insulated from said first contact element and supporting counterpoles normally separate from opposite ends of said armature by air gaps, a coating of said contact-liquid on said counterpoles, an electromagnet positioned with respect to said second and third contact elements to cause said armature to close one of said air gaps and provide a path for current to flow through said first contact element, said contact-making liquid, and one of said counterpoles to a selected one of said second and third contact elements.

3,343,111

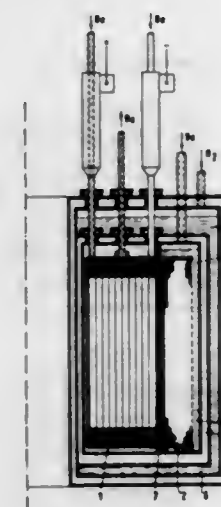
HIGH FIELD STRENGTH MAGNETIC DEVICE
Wilhelm Kafka, Tennenlohe, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Apr. 7, 1965, Ser. No. 446,362

Claims priority, application Germany, May 8, 1964,

S 90,971

9 Claims. (Cl. 335—216)



1. A magnetic device comprising an inner-disposed section comprising a normally conducting winding comprising a normally conductive metallic material, an outer-disposed section comprising a material capable of being superconductive at and below a given temperature, a heat insulating material interposed between said inner and outer-disposed sections, said windings being adapted to be connected to an electrical power source to produce respective magnetic fields in additive relationship in said device, means associated with said superconducting winding for maintaining it at and below said given temperature and cooling means associated with said normally conducting winding for maintaining it at a low temperature.

3,343,112

ELECTROMAGNETIC MOTOR DEVICE

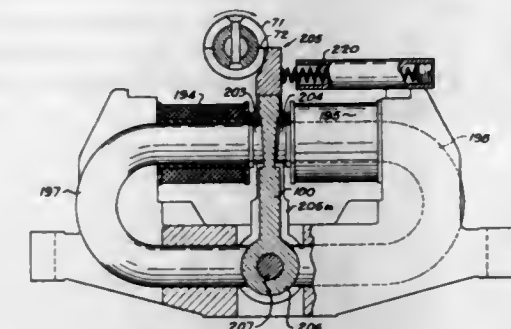
Erwin F. C. Schulze, Novelty, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed May 24, 1966, Ser. No. 552,455

5 Claims. (Cl. 335—254)

- 1. A control mechanism capable of rapid intermittent operation comprising: a magnetic structure arranged in substantially C-shaped functional configuration including a pair of magnetic cores arranged with ends spaced apart and directed toward each other; a coil on each of said cores;

a magnetic armature arranged to extend across the open sides of the C of both of said cores, said armature being shiftable between positions in which it is in contact with one or the other of said core ends and remaining in intimate magnetic association with one said core at all times other than during shifting movement;



said coils arranged to generate magnetic fields whose senses are such as to be oppositely directed in relation to the armature and to reverse the direction of induced magnetism in said armature during each shifting movement; whereby a take-off driven element associated with said armature may be driven between limits in a minimum period of time.

3,343,113

ELECTRICAL COIL ASSEMBLIES

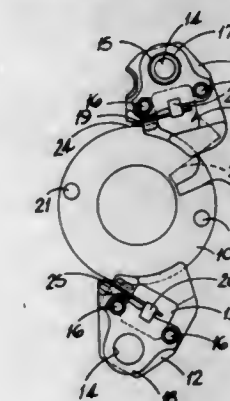
John Dougall, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed July 26, 1965, Ser. No. 474,692

Claims priority, application Great Britain, Aug. 7, 1964,

32,173/64

1 Claim. (Cl. 336—192)



An electrical coil assembly comprising a generally cylindrical body of electrically insulating material, the body having integral flanges at the ends thereof respectively, a pair of integral lugs extending from the body, a length of electrically conducting wire wound on the body, a pair of plate-like terminal pieces mounted upon the lugs respectively, means for connecting the ends of the wire onto the terminal pieces, and the lugs being formed with respective apertures for reception of a tool whereby said means for connecting the wire to the terminal pieces can be manipulated.

3,343,114

TEMPERATURE TRANSDUCER

Warren Rice, Tempe, Ariz., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of abandoned application Ser. No. 334,299, Dec. 30, 1963. This application Dec. 6, 1965, Ser. No. 511,787

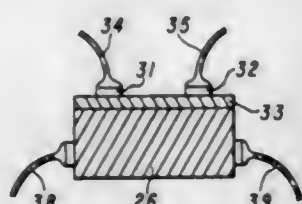
1 Claim. (Cl. 338—22)

A semiconductor temperature transducer device, comprising:

- (a) a unitary body of single crystalline germanium

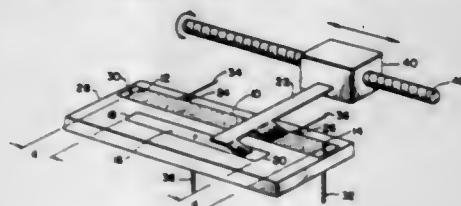
semiconductor material having a substrate portion with two major surfaces thereof and a layer portion contiguous one of said two major surfaces of said substrate portion, said layer portion being of the same conductivity type as said substrate portion,

- (b) said layer portion having an electrical resistivity ranging from .05 ohm-centimeter to almost intrinsic value, said substrate portion having an electrical resistivity lower than said layer portion so that temperature changes in said body do not substantially affect the resistance of said substrate portion but only said layer portion,



- (c) said layer portion being thinner than said substrate portion and being from .00001 inch to .003 inch, (d) means for connecting said body to external circuitry, said means including a pair of space ohmic contacts solely with said layer portion, and (e) second means for heating said substrate portion, said second means comprising a pair of ohmic contacts with said substrate portion.

3,343,115
ELECTRICAL RESISTANCE ELEMENT
Whitney L. Greenwood, La Habra, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 2, 1964, Ser. No. 415,351
7 Claims. (Cl. 338-174)

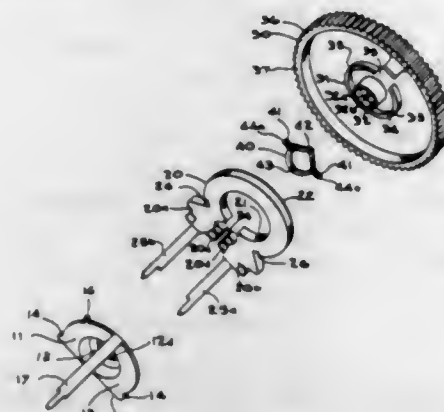


1. A resistance device comprising a nonconducting base member; a resistance element supported by said base member; a collector element supported by said base member; said resistance element being longer than said collector element, each of said elements having end points so arranged that said end points of said resistance element extend beyond said end points of said collector element; electrical terminals connected to said resistance element at points lying intermediate the end points of said collector element; and a movable wiper traversing in slidable contact both said resistance element and said collector element during part of its travel but only said resistance element during another part of its travel.

3,343,116
ELECTRICAL CONTROL
Wilbert H. Budd, and John D. Van Benthuyzen, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Dec. 9, 1964, Ser. No. 417,046
16 Claims. (Cl. 338-174)

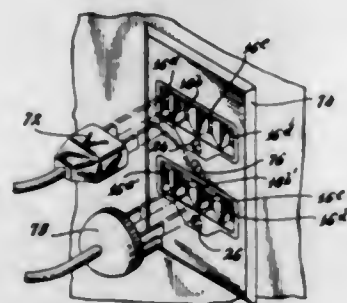
1. In a variable resistance control, the combination of an electrically conductive supporting plate, a U-shaped

element having a pair of spaced legs mounted on the supporting plate, a resistance film bonded onto a surface of the U-shaped element, a collector ring integral with the supporting plate, means integral with the supporting plate restricting inward and outward movement of the legs with



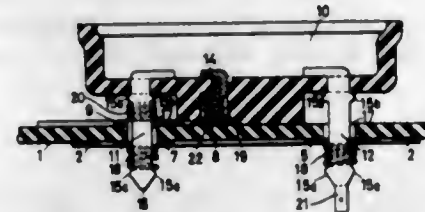
respect to each other, a contactor in wiping contact with the resistance film and the collector ring, rotatable means constraining the contactor to rotate therewith, and biasing means maintaining the U-shaped element in a plane parallel to the supporting plate.

3,343,117
MULTIPLE CONVENIENCE OUTLET
Ernest R. Carlson, Fairfield, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 30, 1964, Ser. No. 407,749
9 Claims. (Cl. 339-14)



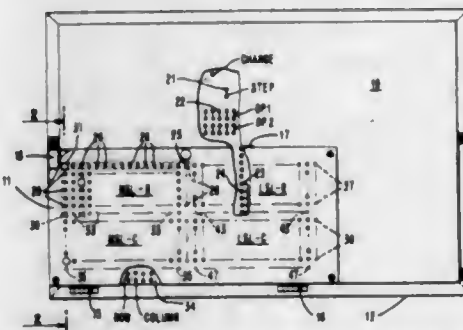
1. A multiple electrical outlet comprising: a housing of electrically insulating material defining a recess therein and including a wall portion defining at least four rectangular slots and at least one grounding opening there-through communicating with said recess, said slots being substantially aligned and parallel with one another in side by side relationship, the distance between adjacent slots being substantially equal, said grounding opening being displaced from the line of slots and positioned on a line intermediate a central pair of adjacent slots; first electrical contact means positioned within said recess and in alignment with alternate ones of said slots; second electrical contact means positioned within said recess and in alignment with each of the remaining slots; third electrical contact means positioned within said recess and in alignment with said grounding opening; first connecting means arranged to electrically connect said first contact means to a first electrical supply conductor; second connecting means arranged to electrically connect said second contact means to a second electrical supply conductor; and third connecting means arranged to connect said third contact means to ground.

3,343,118
ELECTRO-MECHANICAL CONNECTIONS
Walter Holzer, Drosteweg 19, Meersburg (Bodensee), Germany
Filed Mar. 9, 1964, Ser. No. 350,462
Claims priority, application Germany, Mar. 21, 1963, H 48,576
5 Claims. (Cl. 339-17)



1. Connecting means for mechanically and electrically connecting component parts to printed circuits comprising a mounting plate having a printed circuit thereon, and openings therein where component parts are to be connected to the circuit, a component-connecting terminal aligned in a mounted position and projecting through an opening, said terminal being provided with an enlarged portion near the free end thereof, an electrically conductive helical compression spring surrounding the connecting terminal so that the terminal is inside the spiral formed by the spring, one end of the spring engaging the enlarged portion of the connecting terminal, the other end pressing against and being in electrical contact with a portion of the printed circuit, the spring being in a state of compression between the enlarged portion of the connecting terminal and the adjacent side of the printed circuit plate so that the spring holds the connecting terminal in its aligned position, the spring thus providing a mechanical fastening and an electrical conducting terminal connection.

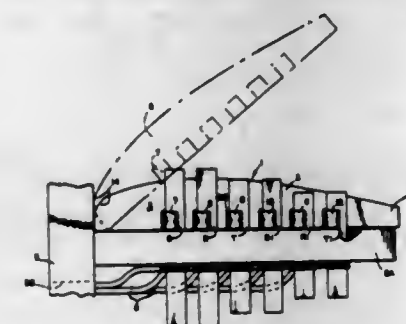
3,343,119
AUXILIARY PLUGBOARD CONTROL PANEL
Donald O. Neddenriep, Maple Glen, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 5, 1965, Ser. No. 445,331
5 Claims. (Cl. 339-18)



2. A plugboard device to control a card-handling, data processor which has a memory means whose memory locations are addressable, comprising in combination: (a) a principal plugboard means having a plurality of aperture means therein to receive jack-like connectors of plugboard wires; (b) said principal plugboard means constructed to fit with matching connectors on said card-handling, data processor; (c) certain of said aperture means having means which designate them as memory address apertures and thus cause them to be used to select information words which are stored in said memory locations; (d) certain others of said aperture means having means which designate them as controlled signal apertures and which provide output control signals in response to input signals;

- (e) second level plugboard means having first groups and second groups of apertures therein, means externally mounting said second level plugboard means upon said principal plugboard means, each of said first groups of apertures intersecting each of said second groups of apertures at a different common aperture, means respectively connecting each one of said apertures of said first group of apertures of said second level plugboard means to a different one of said control signal apertures and means respectively connecting each of said memory address apertures to a different one of said second groups of apertures of said second level plugboard means; (f) a plurality of connector pin means to fit into said common apertures to connect particular one's of said control signal apertures with particular one's of said memory address apertures thereby providing a simple external means of changing the addresses of information to be extracted from or inserted into said memory of said card-handling, data processor.

3,343,120
ELECTRICAL CONNECTOR CLIP
Wesley W. Whiting, 83 Kingsbury Ave., Eugene, Oreg. 97402
Filed Apr. 1, 1965, Ser. No. 444,649
1 Claim. (Cl. 339-19)



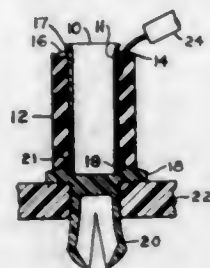
In combination with an equipment mounting block having spaced apart terminals, a connector clip of the type described for placement upon the spaced apart terminals comprising,

- an elongated body portion of dielectric material extending into abutment at one of its ends with the equipment mounting block, said one end having a curved end portion terminating in abutment with the equipment mounting block when in place thereon, a plurality of longitudinally spaced spring biased contacts each having a segment secured within said body and projecting outwardly from one side thereof and being bent to form clip means for progressive engagement with their respective terminals, conductor means housed within said body portion and constituting circuits between certain pairs of contacts, and said curved end portion of said body portion formed on a radius for initial abutment with the mounting block whereby progressive engagement of said spring biased contacts is achieved by downward rotation of the clip about said curved end portion.

3,343,121
ELECTRICAL CONNECTOR AND CIRCUIT KIT
Richard R. Lewis, 6 Mellin St., Burlington, Mass. 01803
Filed Oct. 22, 1965, Ser. No. 501,043
10 Claims. (Cl. 339-95)

1. An electrical connector adapted for use in constructing circuits upon a mounting base, said connector comprising a column of conductive material terminating at a base end thereof in means for supporting said column on the mounting base, an elastomeric collar received in

closely-fitting relation about said column, and an element having an opening receiving said column and overlying said collar at an apical end of said column, said column being provided with retaining means at the upper end thereof for retaining said collar and element in



assembled relation thereon, and said element being formed with a plurality of perforations spaced apart about said opening whereby wires may be electrically connected by inserting them through the perforations of said element into binding engagement between said column and collar.

3,343,122

JUNCTION DEVICE FOR ELECTRIC CABLE OF THE COAXIAL TYPE, MORE PARTICULARLY FOR HIGH-TENSION COAXIAL CABLE

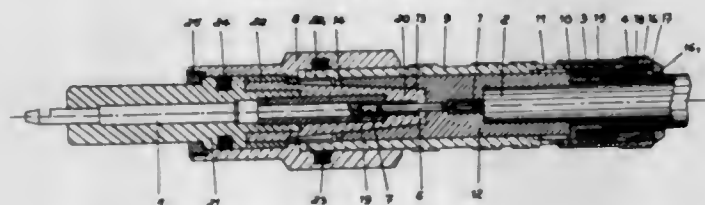
Pierre Louis Marie Drogo, 104 Rue Garibaldi, St. Maur, France

Filed Apr. 26, 1965, Ser. No. 450,708

Claims priority, application France, Apr. 25, 1964,

972,369, Patent 1,404,498

2 Claims. (Cl. 339-177)



1. In a device for making an electrical connection to the end of a coaxial cable including a central conductor covered by an insulating material and an outer conductive sheath, the combination including first and second terminal assemblies adapted to be connected to one another in air-free engagement, said first terminal assembly including a first central conductor rod joined to said central conductor, a first sleeve of insulating material around said conductor rod and a portion of the insulating material on said cable and a first casing sleeve of conducting material connected to said outer conducting sheath of said cable and around a portion of said first insulating sleeve, said second terminal assembly including a second conductor rod adapted to be connected with said first conductor rod, a second sleeve of insulating material around a portion of said second conductor rod and a third sleeve of insulating material around a portion of said second sleeve and said second conductor rod and including surfaces thereon adapted to contact surfaces on said first insulating sleeve in substantial air-free engagement, said first and second insulating sleeves being constructed of elastic insulating material, and said third sleeve being constructed of insulating material having substantially no elasticity.

3,343,123

AUDIBLE TURN INDICATOR

Donald L. Troesh, 2012 Mountain Ave., Duarte, Calif. 91010

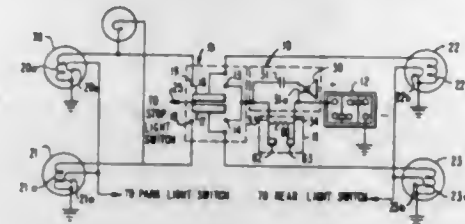
Filed Dec. 11, 1964, Ser. No. 417,673

3 Claims. (Cl. 340-75)

1. In combination with a battery, indicator lamps and an automotive turn indicator flasher unit having a pair of contacts intermittently opened and closed during a turn

indication operation thereof to intermittently flash the indicator lamps on and off during the operation of the flasher unit, an audible turn indicator comprising:

a transducer device having a diaphragm therein connected on a voice coil having two terminals; and a capacitor having two terminals, one of which is connected to one terminal of said voice coil forming a series connection of said voice coil and said capacitor, the free terminal of said capacitor and the free terminal of said voice coil being connected respectively, each to one of said pair of contacts of said flasher unit,



the contact of said flasher unit connected to said loud-speaker free terminal being also connected to one side of the battery and the contact of said flasher unit connected to said free terminal of said capacitor returning through said lamps to the other side of said battery,

whereby during each intermittent opening and closing of said contacts the consequent charge and discharge of said capacitor will result in audible clicks in said transducer device arising out of displacement of said diaphragm due to the resulting charge and discharge currents therein.

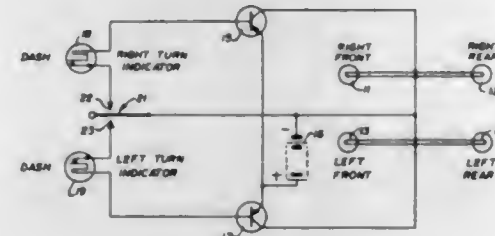
3,343,124

TRANSISTORIZED TURN DIRECTION INDICATOR CIRCUIT

Harold Tyzack, Schiller Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Mar. 31, 1965, Ser. No. 444,237

4 Claims. (Cl. 340-81)



1. A turn direction indicator circuit for a vehicle having a source of direct current potential, including in combination, indicator means mounted on the vehicle for visibly indicating the turn direction by intermittent electrical energization, transistor means having a primary current path and a control current path and being responsive to current in said control current path to conduct current through said primary current path, means for connecting said primary current path in series with said indicator means across the source of potential, flasher means responsive to voltage applied thereto to intermittently conduct current, and means including a turn switch connecting the control current path of said transistor means in series with said flasher means across the source of potential to provide intermittent control current therethrough when said turn switch is closed and in response to the conduction of said flasher means, said transistor means

conducting through said primary current path in response to the control current to energize said indicator lamp.

in the event of an output signal from either of said coincidence means.

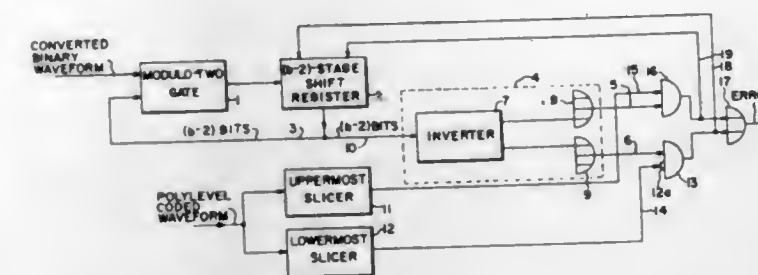
3,343,125

APPARATUS FOR DETECTING ERRORS IN A POLYLEVEL CODED WAVEFORM

Adam Lender, Palo Alto, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Feb. 13, 1964, Ser. No. 344,606

6 Claims. (Cl. 340-146.1)



1. Apparatus for detecting errors in a polylevel coded waveform which has been converted to a binary waveform, said coded waveform having at least three levels including an uppermost and a lowermost level, which apparatus comprises:

- a combining means for combining the present binary pulse in the converted waveform with the binary pulses generated in successive (b-2) combinations carried out in said combining means, wherein b is the number of levels in said polylevel coded waveform, said combining means providing a binary output pulse of one polarity if the number of binary ones in said combination is even and of the opposite polarity if the number of binary ones in said combination is odd;
- a remembering means connected to the output of said combining means, said remembering means remembering the said (b-2) successive combinations in said combining means and having its output connected to the input of said combining means;
- an auditing means for auditing the contents of said remembering means to ascertain if said remembering means contains the number of binary ones consistent with a polylevel coded waveform having an uppermost level, and in that event, providing a signal, and for auditing the contents of said remembering means to ascertain if said remembering means contains the number of binary ones consistent with a polylevel coded waveform having a lowermost level, and in that event providing a different signal;
- detecting means for detecting the presence of the uppermost and lowermost levels of said polylevel coded waveform, said detecting means providing one output pulse in the event of detection of the uppermost level and a different output pulse in the event of detection of the lowermost level; and
- a pair of coincidence means, the first of which provides an output signal in the event a signal from said auditing means consistent with an uppermost level fails to coincide with an output pulse from said detecting means indicating the presence of the uppermost level in said polylevel coded waveform, and the second of which provides an output signal in the event an output signal from said auditing means consistent with a lowermost level fails to coincide with an output pulse from said detecting means indicating the presence of the lowermost level in said polylevel coded waveform; and
- an error indicating means connected to the outputs of said pair of coincidence means to indicate an error

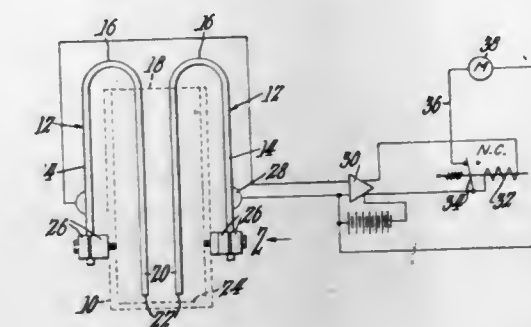
3,343,126

ACOUSTIC DEVICE FOR DETECTING MOVING PARTICLES IN A FLUID

Robert A. Corda, Leominster, Mass., assignor of one-third to Everett H. Duchesneau and one-third to Ernest L. Duchesneau, both of Leominster, Mass., jointly

Filed Apr. 10, 1964, Ser. No. 358,693

3 Claims. (Cl. 340-148)



1. A device for detecting the presence of unwanted objects in a fluent material comprising the combination of a container adapted to receive relatively fluid material in motion therein, a sounding bar, said sounding bar including means supporting the same with a free end extending into the container in position in the fluent material a microphone on to said sounding bar, transmitting energy derived therefrom upon contact of an unwanted object therein, an amplifier receiving signals from the microphone and amplifying the same, an electrically operated switch operated from the amplifier upon signal from the microphone, a circuit, the switch controlling the circuit, and an appliance in said circuit controlled by the switch upon receipt of an impulse from the amplifier under control of the microphone.

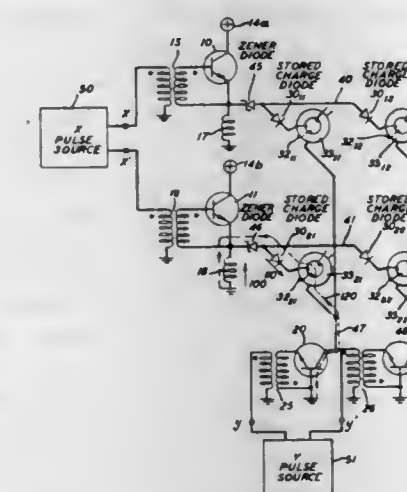
3,343,127

STORED CHARGE DIODE MATRIX SELECTION ARRANGEMENT

James A. Ruff, Chester, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 14, 1963, Ser. No. 280,214

11 Claims. (Cl. 340-166)

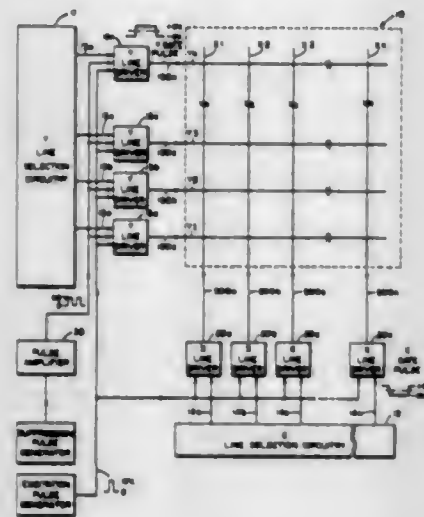


1. In combination, a first and second plurality of selection conductors, a plurality of cross-point circuits respectively connecting each of said first plurality of selection

conductors to each of said second selection conductors, each of said cross-point circuits comprising a stored charge diode, and a plurality of Zener diodes each serially connected to a different conductor included in said first conductor plurality.

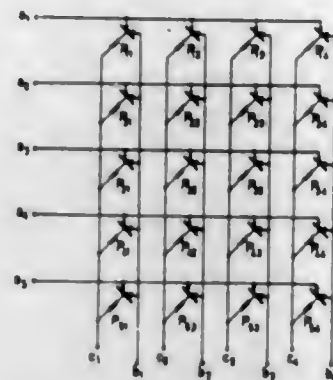
3,343,128 ELECTROLUMINESCENT PANEL DRIVER CIRCUITS

Raymond J. Rogers, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed June 27, 1963, Ser. No. 291,109
7 Claims. (Cl. 340-166)



1. A two-dimensional display system comprising an electroluminescent panel including an array of first spaced lines extending in a first direction and an array of spaced second lines extending in a second direction, each of said first lines crossing said second lines to form a plurality of crossover points, and a layer of electroluminescent material disposed between said arrays of lines, a plurality of first drivers each coupled to a corresponding one of said first lines, a plurality of second drivers each coupled to a corresponding one of said second lines, first circuit means for selectively applying a first gating pulse to a selected one of said first drivers corresponding to the first line to be selected, second circuit means for selectively applying a second gating pulse to a selected one of said second drivers corresponding to the second line to be selected, each of said first drivers being normally productive of a first voltage output on said corresponding one of said first lines, each of said first line drivers being responsive to said first gating pulse for producing a second voltage output on said corresponding one of said first lines, each of said second line drivers being normally productive of a third voltage output on said corresponding one of said second lines, each of said second line drivers responsive to said second gating pulse to produce a fourth voltage output on said corresponding one of said second lines, said fourth voltage output and said first voltage output at the crossovers of a selected second line and unselected first lines produce a voltage differential which is below that necessary for establishing luminescence of said electroluminescent material, said second voltage output and said third voltage output at the crossovers of a selected first line and unselected second lines produce a voltage differential which is below that necessary for establishing luminescence of said electroluminescent material while said second voltage output and said fourth voltage output at the crossover of the selected first line and the selected second line produce a voltage differential necessary for establishing luminescence of said material thereat.

3,343,129
MARKING CIRCUIT ARRANGEMENT HAVING MEANS FOR SUPPRESSING MARKING POTENTIAL
Matthaeus Jacobus Schmitz, Hilversum, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 24, 1964, Ser. No. 339,915
Claims priority, application Netherlands, Jan. 28, 1963, 288,233
5 Claims. (Cl. 340-166)

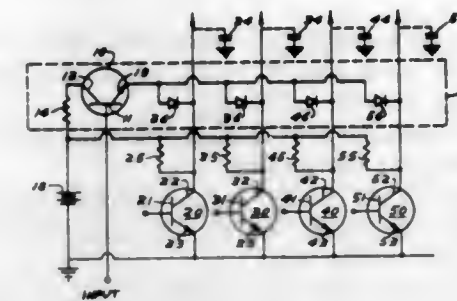


1. A switching network of the type comprising a plurality of input terminals, a plurality of output terminals, a plurality of switching stages each having a plurality of crossings, and means interconnecting said input terminals, output terminals and switching stages whereby a plurality of channels extend between each input terminal and each output terminal by way of a crossing of each switching stage, wherein each crossings comprises a bistable electronic switch having a marking terminal, a plurality of marking wires for each of said stages, means connecting each marking wire to a plurality of separate marking terminals in the respective stage, and means applying marking potentials to said marking wires; wherein the improvement comprises a separate marking potential suppressing means for each said marking wire, said potential suppressing means comprising means responsive to a change of state from non-conducting to conducting of any electronic switch connected to the marking wire connected thereto for producing a suppression potential, and means for applying said suppression potential to the respective marking line for suppressing said marking potential, whereby the duration of application of marking potentials to said marking terminals is minimized.

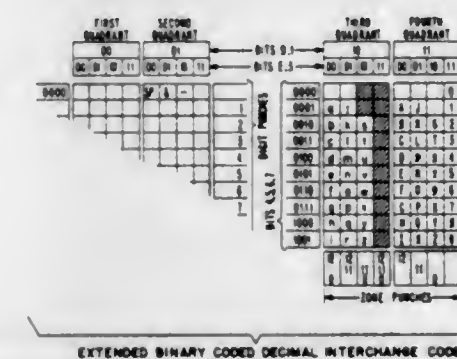
3,343,130
SELECTION MATRIX LINE CAPACITANCE RECHARGE SYSTEM
Richard J. Petschauer, Minneapolis, and Gary A. Andersen, Stillwater, Minn., assignors to Fabri-Tek Incorporated, Minneapolis, Minn., a corporation of Wisconsin
Filed Aug. 27, 1964, Ser. No. 392,435
9 Claims. (Cl. 340-166)

1. In an electrical circuit recharge system comprising a periodically energized circuit having a source of electrical energy, a device utilizing such energy and means linking said source and said device, the system having a capacitive electrical component which is at least partially discharged upon energization of the circuit; an asymmetrical circuit device having input means and output means, signal means in circuit with input means to control the conduction state of said asymmetrical current conducting device, a power supply means in circuit with said output means and providing current flow in said output means in a certain predetermined direction, and unidirectional conducting apparatus disposed in said output means providing low impedance to current flow in said predetermined direction and high impedance to current flow in

a direction opposite to said predetermined direction, said output means being coupled to said linking means and be-

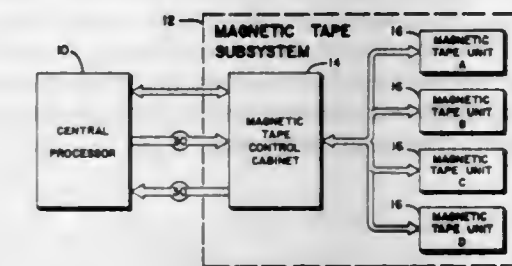


3,343,131
PRINTER CONTROL APPARATUS INCLUDING CODE MODIFICATION MEANS
Earl M. Bloom, Jr., Endicott, and Victor J. Faidley, Apalachin, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 31, 1964, Ser. No. 422,761
7 Claims. (Cl. 340-172.5)



7. In a printer control apparatus controlled from a central processing unit, the combination of character storage means for storing coded indicia corresponding to printable characters, data storage means for receiving coded indicia corresponding to the data to be printed, means for cyclically comparing the coded indicia from said character storage means and data storage means to provide a comparison signal upon identity of such indicia, means including means responsive to such signal for permitting a printing operation only when coded indicia in the data storage means matches that in the character storage means, a data bus, control means, including means conditioned by the processing unit, to cause indicia in the data bus to be loaded into said character storage means, and means interposed between the data bus and data storage means and conditioned by the control means to modify coded data indicia corresponding to anticipated unprintable characters into coded indicia representing acceptable counterpart printable characters to enable a comparison signal to be generated by the comparing means to cause printing of any such unprintable character as its respective counterpart printable character.

3,343,132
DATA PROCESSING SYSTEM
Merlin L. Hanson and Don M. Meyer, Jr., St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 16, 1963, Ser. No. 280,878
16 Claims. (Cl. 340-172.5)

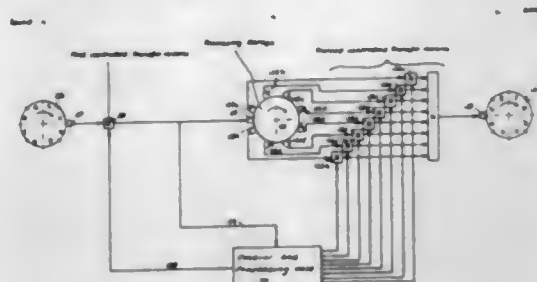


1. An electronic data processing system for the transport of data storage means on which data is recorded in a plurality of sectors, each of which sectors is defined by a separately identifiable group of recorded data comprising: master control means and transport means; said master control means capable of generating a plurality of instruction signals for enabling said transport means to operate independently of said master control means; said transport means including data storage control means; said data storage control means including detector means for detecting said sector identifications, present sector means for storing the identification of a sector as determined by said detector means, desired sector means for storing the identification of a desired sector as determined by said instruction signals and comparator means for comparing the identifications of said sectors held in said present sector means and said desired sector means; said instruction signals causing a desired sector identification to be stored in said desired sector means and enabling said data storage control means to control said data storage means transportation independently of said master control means; said detector means detecting said sector identifications and modifying the sector identification as stored in said present sector means so as to cause it to agree with the sector identification as determined by said detector means; and, said comparator means comparing the sector identifications stored in said present sector means and said desired sector means and generating comparison signals as a result of said comparison which comparison signals control said data storage means transportation causing said transport means to transport said data storage means such that the sector identification stored in said present sector means is modified by said detector means to equal the identification stored in said desired sector means causing said comparator means to generate a signal stopping said data storage means transportation and informing said master control means that said data storage means is positioned in accordance with said instruction signals.

3,343,133
DATA HANDLING SYSTEM
Gerhard Dirks, 12120 Edgecliff Place, Los Altos Hills, Calif. 94022
Filed Aug. 9, 1963, Ser. No. 300,962
23 Claims. (Cl. 340-172.5)

4. A data handling system comprising, in combination, a dynamically operable processing file system having a plurality of storage means including a processing storage means having a plurality of information units

including key field data corresponding to each of said information units stored in a first sequence in a first storage means of said file system;
transfer means for transferring information units from said first storage means of said file system to said processing storage means of said file system and for retransferring said information units from said processing storage means to a second storage means of said file system, said transfer means comprising controlled transfer means connected between said first storage means and said processing storage means and connected between said processing storage means and said second storage means; and

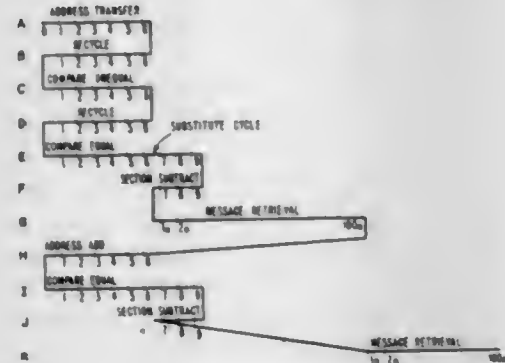


control and processing means including said processing storage means for transferring said information units from said first storage means to said processing storage means and for retransferring said information units from said processing storage means to said second storage means and rearranging the first sequence of said information units into a new sequence of information units during the passage of said information units through said controlled transfer means in accordance with predetermined instructions and in dependence upon said key fields.

3,343,134

MULTIPLE SECTION RETRIEVAL SYSTEM
Kenneth D. Foulger, San Jose, Calif., and Arthur G. Silver, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 26, 1964, Ser. No. 378,383
11 Claims. (Cl. 340-172.5)



1. In a message retrieval system for retrieving a plurality of groups of characters from a plurality of individually addressable file sections and for reconnecting the character groups into a single message, multiple section retrieval system comprising,
storage means for storing a section address of that file section from which an initial character group is to be transferred,
means for utilizing said stored section address to designate the file section from which said initial group is to be retrieved,
means for reading said initial group from said designated section,
said storage means being employed for storing said initial character group,

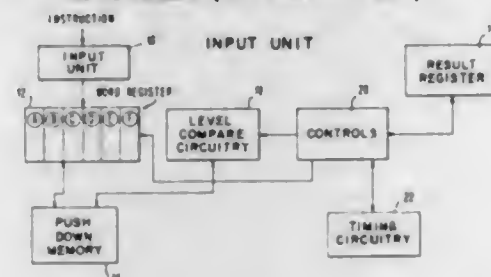
said initial character group having a section count portion for storing section count indicia,
means for using said section count in said initial character group to maintain count of the total number of file sections that are to furnish additional message characters,
means for modifying said stored section address to designate the next file section from which the next character group is to be retrieved,
means for comparing said modified section address with that of the next file section,
said reading means being employed for reading the next successive character group from the next file section to be addressed,
said storage means being employed for storing each successive character group adjacent to the preceding group,
means for modifying said section count as each successive group of characters is read from each different designated file section, and
means for transferring control to said section address modifying means until all message file groups are read from respective corresponding file sections.

3,343,135

COMPILING CIRCUITRY FOR A HIGHLY-PARALLEL COMPUTING SYSTEM

Charles V. Freiman, Pleasantville, and Herbert Hellerman, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 13, 1964, Ser. No. 389,287
25 Claims. (Cl. 340-172.5)



1. A system for automatically compiling a mathematical expression written in grouped parentheses free notation and for supplying operations to a multiprocessor computer system for maximum parallelism, said system comprising:

a plurality of arithmetic devices capable of simultaneous operation,
means for examining the mathematical expression and for establishing indications of the precedence level of each operation indicated by the expression,
means responsive to said precedence indication for effecting a determination of equi-precedent level operations, and
means for controlling the routing of required operations to individual arithmetic devices for concurrent calculation of the operations.

3,343,136

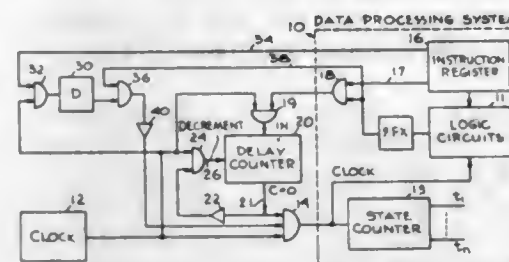
DATA PROCESSING TIMING APPARATUS

James J. Nyberg, Chesterfield, Mo., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware

Filed Aug. 17, 1964, Ser. No. 389,959
9 Claims. (Cl. 340-172.5)

1. In combination with a data processing system including a source of successive clock pulses and a plurality of logic circuits responsive to said successive clock pulses for performing a series of operations, means introducing a selected time delay between operations, said means including:
a delay counter;

means in said data processing system for setting said delay counter to a predetermined count;
gating means for coupling said source of successive clock pulses to said logic circuits;



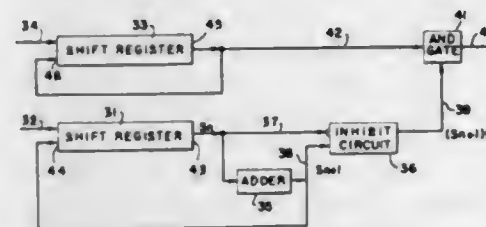
means responsive to a non-zero count in said delay counter for disabling said gating means; and
means responsive to each of said successive clock pulses for decrementing said delay counter toward zero when it defines a non-zero count.

3,343,137

PULSE DISTRIBUTION SYSTEM

Seiuemon Inaba, Kanryo Shimizu, and Norito Yoshitake, Kawasaki, and Hisato Murakami, Sagami-hashi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed Aug. 20, 1964, Ser. No. 390,855
Claims priority, application Japan, Aug. 23, 1963,
38/44,774
6 Claims. (Cl. 340-172.5)



1. A pulse distribution system comprising
first shift register means having an output and having bits of information stored therein;
adder means connected to the output of said first shift register means for adding +1 to the information stored in said first shift register means, said adder means having an output;
second shift register means having an output and having a number of bits of information to be distributed stored therein;
inhibit circuit means connected to the outputs of said first shift register and said adder means for inverting the output of said first shift register means;
first AND gate means having an output, a first input connected to the output of said first shift register means and a second input connected to the output of said adder means; and
second AND gate means having an output for providing pulses from said pulse distribution system, a first input connected to the output of said second shift register means and a second input connected to the output of said first AND gate means.

3,343,138

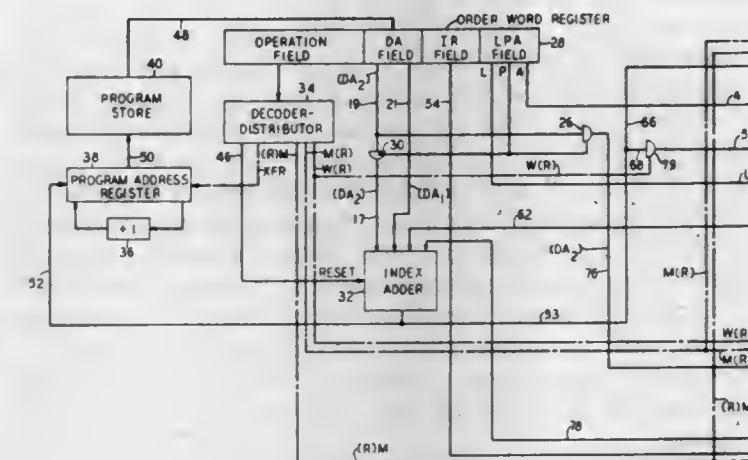
DATA PROCESSOR EMPLOYING DOUBLE INDEXING

Werner Ulrich, Colts Neck, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 7, 1964, Ser. No. 402,272
13 Claims. (Cl. 340-172.5)

9. A data processor comprising
a data word store,
a plurality of index registers,

an instruction word register representing an instruction word having constant and control parts,
an index adder,
means for transmitting a portion of said constant part to said index adder,
means responsive to a first representation in said control part for transmitting the remaining portion of said constant part to said index adder and responsive to a second representation in said control part for transmitting to said index adder a part of the data word contained in a predetermined one of said index registers in accordance with the information represented by said remaining portion of said constant part,



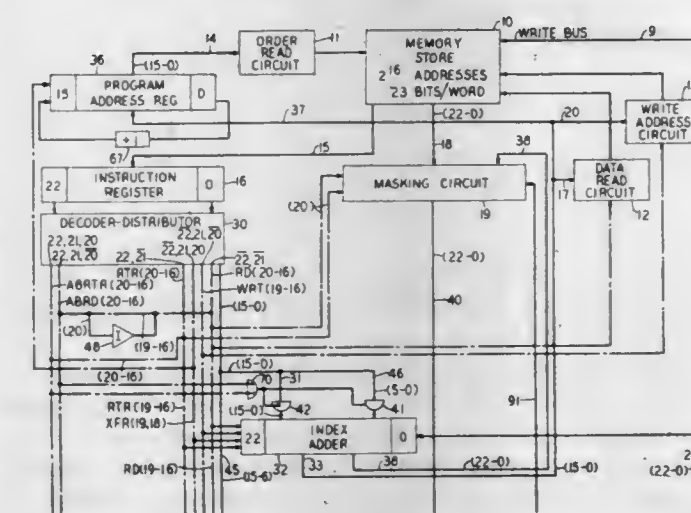
means responsive to said control part for transmitting to said index adder the data word contained in one of said index registers,
said index adder deriving an output dependent upon the information transmitted thereto,
and means responsive to said control part for performing a data processing operation in accordance with the output derived by said index adder.

3,343,139

ABBREVIATED MASK INSTRUCTIONS FOR A DIGITAL DATA PROCESSOR

Werner Ulrich, Colts Neck, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 7, 1964, Ser. No. 402,311
6 Claims. (Cl. 340-172.5)



2. A data processor comprising a memory store, a plurality of registers, an index adder, an order distributor, means for sequentially transmitting instruction words stored in said memory store to said order distributor, each of said instruction words including an order part and a constant part, means controlled by said order dis-

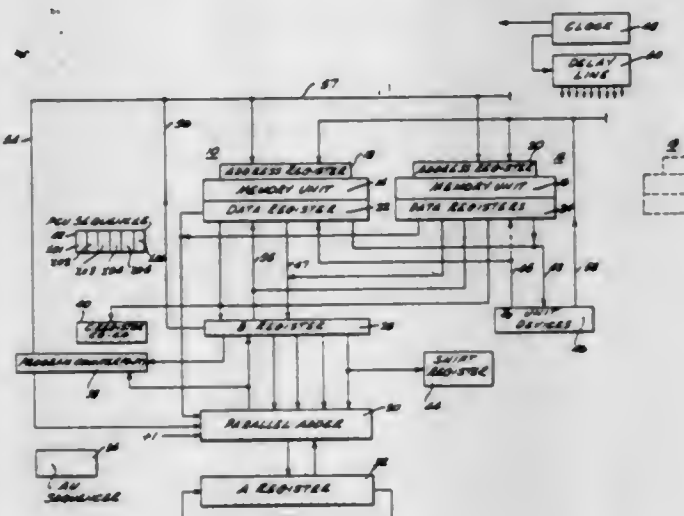
tributor for reading the word stored in one of said registers and for transmitting said register word to said index adder, first means for controlling the transmission of the constant part of an instruction word from said order distributor to said index adder, said index adder deriving a word equal to the sum of said constant part and said register word, a masking circuit, means responsive to said order distributor for reading a word in said memory store at a location determined by said sum word and for transmitting said memory store word to said masking circuit, a masking register, means controlled by said order distributor for controlling the masking of said word transmitted from said memory store to said masking circuit by the mask word stored in said masking register and for writing the resulting masked memory store word in a selected one of said masking and plurality of registers, second means controlled by said order distributor for inhibiting the operation of said first means and for transmitting to said index adder a number of bits in the constant part of the instruction word in said order distributor fewer in number than the total number of bits in said constant part, a translator, means for transmitting the remaining bits in said constant part of said instruction word to said translator, and means operative together with said second means responsive to said order distributor for controlling said translator simultaneously to translate all of said remaining bits into a mask word having a number of bits greater than the number of said remaining bits and for transmitting said mask word to said masking register.

3,343,140

BANKED MEMORY SYSTEM

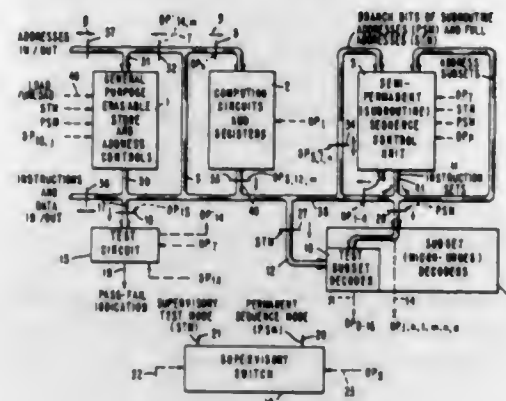
Richard C. Richmond, Orange, and Thomas A. Connolly, Hacienda Heights, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 27, 1964, Ser. No. 406,783
4 Claims. (Cl. 340-172.5)



1. A system comprising:
 - a plurality of substantially independently operating memory banks,
 - a plurality of sources for each requesting access to said plurality of memory banks and applying an address to said plurality of banks,
 - and means in each bank for responding to requests from different sources addressing the same bank at the same time to respond to one request and provide memory access thereto and to inhibit the remaining one or ones of the requesting sources while said memory access is completed, said means responding to requests from different sources addressed to different banks to provide simultaneous access to said different banks.

3,343,141
BYPASSING OF PROCESSOR SEQUENCE CONTROLS FOR DIAGNOSTIC TESTS
Frank J. Hackl, Clinton Corners, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 23, 1964, Ser. No. 420,621
18 Claims. (Cl. 340-172.5)

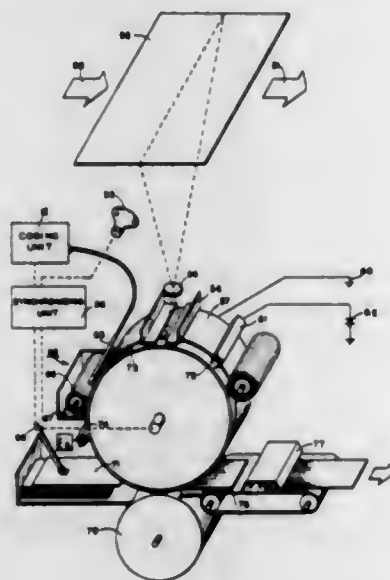


1. In a data processing system including a first internal source of microprogram sequence control signals operating at a first characteristic cyclic rate and a second internal source of program command and intelligence signals cycling at a second characteristic cyclic rate different from said first rate, an internal test sub-system comprising:
 - comparator means;
 - means for supplying to said comparator means test signals derived from components within said data processing system;
 - means coupled to said second source for supplying reference signals for comparison to said test signals; and
 - means operable in alternate modes of operation thereof to control the operation of said comparator means and signal supplying means by means of control signals obtained alternately from said first and second sources at said respective first and second cyclic rates.

3,343,142

XEROGRAPHIC CODING AND INFORMATION STORAGE ON A SPECULAR BUSINESS MACHINE CARD

Harold E. Clark, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 2, 1963, Ser. No. 248,974
6 Claims. (Cl. 340-173)



3. An information storage and retrieval system including:
 - a xerographic drum,

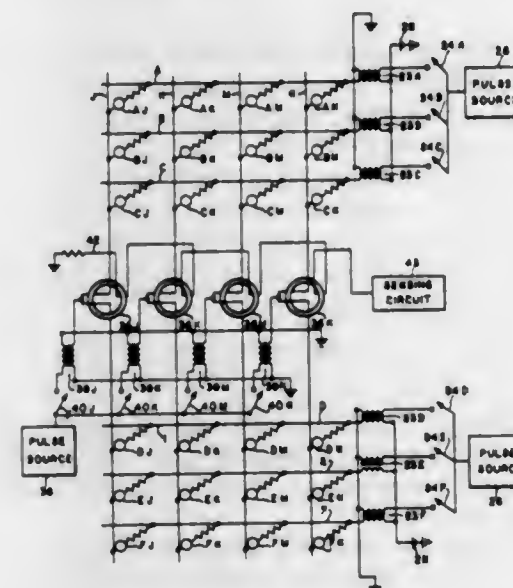
means for applying a retrieval code for an original document in the form of a latent electrostatic dot pattern to a first portion of said xerographic drum, means for forming a latent electrostatic reduced image of said original document to a second portion of said xerographic drum, means for synchronizing said image forming means with said dot forming means, means for developing both said latent electrostatic reduced image and said latent electrostatic dot pattern, means for feeding a business machine card having a highly specular reflecting surface to said drum, means for transferring both the developed image and the developed dot pattern to a highly specular surface of a business machine card, and means to fix both the developed image and the developed dot pattern to said card.

3,343,143

RANDOM ACCESS MEMORY APPARATUS USING VOLTAGE BISTABLE ELEMENTS

Arlas E. Whiteside, Royal Oak, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 351,276, Mar. 9, 1964, which is a continuation of application Ser. No. 84,095, Jan. 23, 1961. This application Aug. 12, 1965, Ser. No. 483,005

4 Claims. (Cl. 340-173)



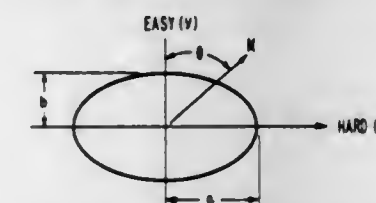
1. Apparatus comprising
 - a first set of electrical conductors,
 - a second set of electrical conductors laid over and insulated from said first set to form a grid network, a plurality of negative resistance characteristic diodes, a resistor being connected to each of said diodes to form a resistor diode combination having two terminals and having two stable states with a change of applied voltage required to change from one stable state to the other,
 - each of said resistor diode combinations being electrically connected at one terminal to a conductor in said first set and electrically connected at the other terminal to a conductor in said second set,
 - each conductor in said first set being electrically connected to each conductor in said second set through only one resistor diode combination,
 - means to pulse each conductor in each of said first and second sets,
 - means to bias each diode,
 - means to sense current change in any of said diodes, whereby the state of a given resistor diode combination may be determined by supplying a voltage pulse to the given resistor diode combination and then

observing the presence or absence of an output from said given resistor diode combination in said means to sense a current change, transformer means being positioned substantially midway along the conductors of said first set, each of said conductors being wound at substantially its midpoint around said transformer means with substantially the same number of diode resistor combinations being on one side of the transformer means as there are diode resistor combinations on the other side of the transformer means, said pulsing means being applied to a center tap on the winding of said conductors on said transformer means.

3,343,144

LOW POWER THIN MAGNETIC FILM

Thomas J. Matcovich, Maple Glen, and Henry S. Belson, North Hills, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 25, 1963, Ser. No. 260,642
8 Claims. (Cl. 340-174)

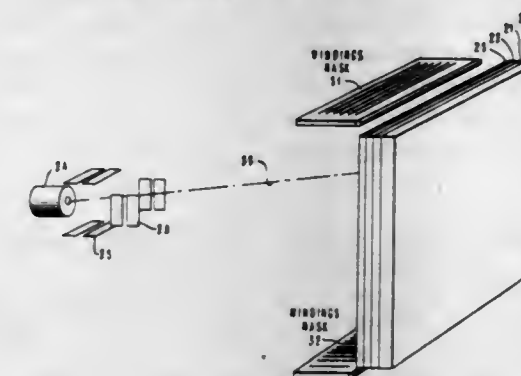


1. A thin magnetic film having an elongated surface configuration including a major and a minor axis and an EASY and HARD direction of magnetization, said EASY direction being aligned with one said axes in such a manner that said film has the property of a relatively low magnetic anisotropy, a drive line juxtaposed to said film along said EASY direction whose width dimension is at least equal to the dimension of said film in the HARD axis direction whereby the drive current requirements of said film are reduced.

3,343,145

DIFFUSED THIN FILM MEMORY DEVICE

Bruce I. Bertelsen, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1962, Ser. No. 246,834
10 Claims. (Cl. 340-174)



1. A vacuum metallized magnetic memory device comprising:
 - a heat resistant substrate,
 - a film of silicon monoxide deposited thereon,
 - a film of ferromagnetic material deposited on said silicon monoxide,
 - a film of a Permalloy metal deposited on said ferromagnetic material,
 - alloy lines in the two last mentioned films formed by electron beam diffusion in vacuum and arranged in a pattern of demagnetized lines to define discrete memory elements of said ferromagnetic film,

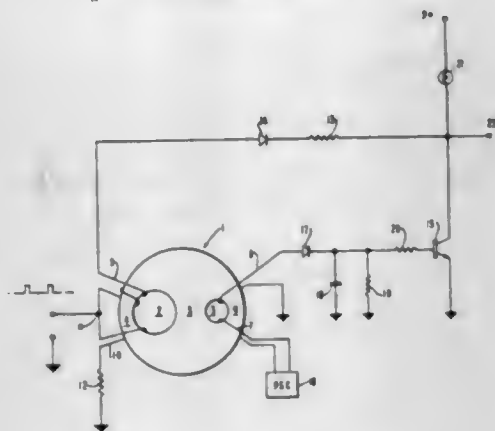
a second film of silicon monoxide deposited on said memory elements,
a film of copper deposited in masked winding control lines over said memory elements,
and a protective film of a ceramic over said winding lines.

3,343,146

TRANSFLUXOR BINARY CIRCUITS

James J. Walker, Bronx, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 3, 1964, Ser. No. 341,917
6 Claims. (Cl. 340-174)



1. In a binary circuit, the combination of a transfluxor core of magnetic material having a stable set state and a stable blocked state;
a first and a second winding operatively associated with said core,
said first and second windings being operative to place said core in one of said stable states when energized simultaneously, and
said second winding being operative to place said core in the other one of said stable states when energized alone;
switching means connected to said first winding and operatively associated with said core to condition said first winding for energization only when said core is in a selected one of said stable states; and
circuit means for applying input pulses simultaneously to said first and second windings, thereby energizing both of said windings if said first winding is conditioned and energizing only said second winding if said first winding is not conditioned, whereby said core changes to the alternate one of said stable states upon each successive application of an input pulse.

3,343,147

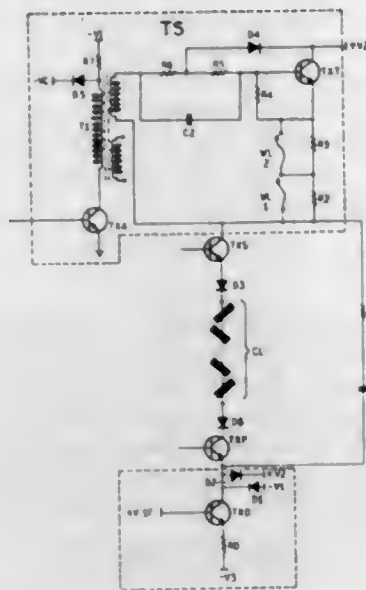
MAGNETIC CORE SWITCHING AND SELECTING CIRCUITS

John Ashwell, Liverpool, England, assignor to Automatic Telephone & Electric Company Limited, Liverpool, England, a British company

Filed July 1, 1964, Ser. No. 379,622
Claims priority, application Great Britain, July 27, 1963, 29,879/63
7 Claims. (Cl. 340-174)

1. A magnetic core storage matrix arranged to operate on the coincident current principle and comprising a plurality of column drive wires, a plurality of row drive wires, a plurality of magnetic cores, one at each of the intersections of the column drive wires with the row drive wires selecting circuits for selecting one of said column drive wires and one of said row drive wires, each selecting circuit including a transistor current defining circuit, a primary transistor selector stage connected between the output of said current defining circuit and one end of

the drive wire associated therewith, a secondary transistor selector stage connected to the other end of said drive wire, a first source of operating potential for maintaining the transistor in said current defining circuit conductive to a defined state when said drive wire is not being selected, means for conditioning said primary transistor and secondary transistor selector stages for operation, a third selector stage, an alternative source of operating potential for the transistor in said current defining circuit



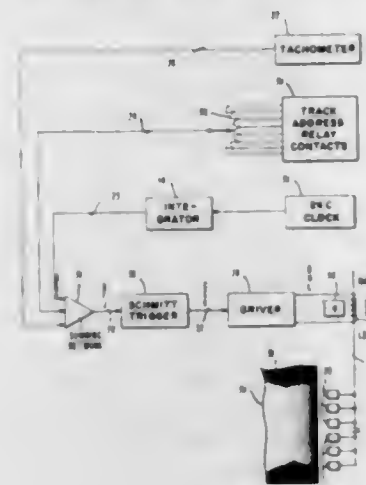
1. In a binary circuit, the combination of a transfluxor core of magnetic material having a stable set state and a stable blocked state;
a first and a second winding operatively associated with said core,
said first and second windings being operative to place said core in one of said stable states when energized simultaneously, and
said second winding being operative to place said core in the other one of said stable states when energized alone;
switching means connected to said first winding and operatively associated with said core to condition said first winding for energization only when said core is in a selected one of said stable states; and
circuit means for applying input pulses simultaneously to said first and second windings, thereby energizing both of said windings if said first winding is conditioned and energizing only said second winding if said first winding is not conditioned, whereby said core changes to the alternate one of said stable states upon each successive application of an input pulse.

3,343,148

TRANSDUCER POSITIONING CIRCUIT

Thomas J. B. Hannom, Drexel Hill, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 8, 1963, Ser. No. 271,176
10 Claims. (Cl. 340-174.1)



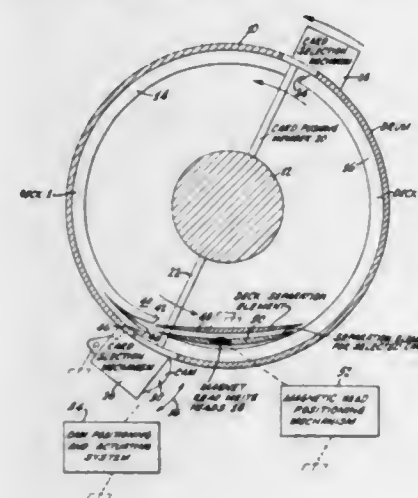
1. A circuit for producing a bi-directional current through a driving element to position a transducer comprising a drive circuit having equal positive and negative output signal levels and being capable of changing said output signal levels upon the application thereto of input signals crossing a predetermined reference potential in positive or negative directions, a source of triangular signals having substantially equal rising and falling slopes, said last

named signals being normally biased at said reference potential so as to normally have equal positive and negative portions, a source of velocity signals, means for applying said last named signals to said drive circuit to normally produce square wave output signals of equal positive and negative levels, and means including said velocity signals for shifting the bias level of said signals of equal rising and falling slopes to produce output signals of variable widths at said drive circuit whereby said transducer is moved in one or two directions dependent upon the predominating polarity of said signals of equal rising and falling slopes.

3,343,149

ROTATING RANDOM ACCESS CARD SELECTION SYSTEM

Lewis W. Bleiman, Northridge, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 19, 1964, Ser. No. 368,565
11 Claims. (Cl. 340-174.1)

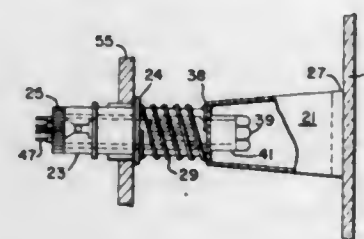


1. In a card memory system, means for continuously rotating a deck of cards, said deck being deformed so that the opposite surfaces of the deck lie in parallel cylindrical planes, said deck being rotated about the axis of said planes, whereby the deck moves in a cylindrical path concentric with said axis;
a read-write station; and
means for deflecting a card from its cylindrical path to a path which passes through the read-write station and then returns to said cylindrical path.

3,343,150

LIGHT CAPSULE AND DISPLAY SYSTEM

Robert J. Orchard, Kingston, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,332
11 Claims. (Cl. 340-225)



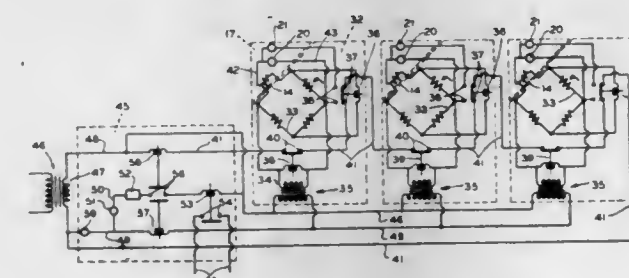
1. A communication display system comprising a sheet form transparent member having map indicia imprinted thereon,
a panel member having a multiplicity of apertures arranged in columns and rows and mounted in parallel relation to said sheet form member,

a plurality of light projector devices mounted in selected ones of said multiplicity of apertures, each of said light projector devices having a light module portion and a light mask portion and including spring bias means operative against said panel member to urge said light mask portion against said sheet form member,
said light module portions being removable individually without displacement of said spring bias means or said mask means for repair purposes,
said spring bias means at all times maintaining said light mask portion in bearing relation against said sheet form member and providing yieldability conforming to bowing deformation thereof,
and control means connected to activate light modules of selected ones of said plurality of devices for defining communication paths with respect to the map indicia on said sheet form member.

3,343,151

REFRIGERATION WARNING SYSTEM

John H. Brown, James F. Kinney, and Arthur Perez, Niles, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Filed July 13, 1964, Ser. No. 382,275
5 Claims. (Cl. 340-227)



5. Apparatus for warning of the approach of a deleterious temperature condition in a product subject to deterioration at a given temperature and subjected to a protective temperature for prevention of such deterioration, comprising warning means, an electrical circuit for actuating said warning means, a temperature-sensitive device including a temperature-responsive element and a body of material surrounding said element and having a time-temperature constant substantially the same as that of said product, said device being disposed for subjection to the same ambient temperature as the product, the element being responsive to a temperature between said given and protective temperatures, and means connecting the device in controlling relation to said circuit.

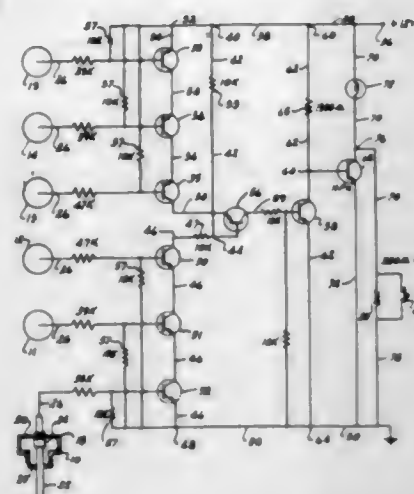
3,343,152

BATTERY LEVEL INDICATOR

Atlee S. Hart, Oak Park, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 21, 1966, Ser. No. 522,202
4 Claims. (Cl. 340-249)

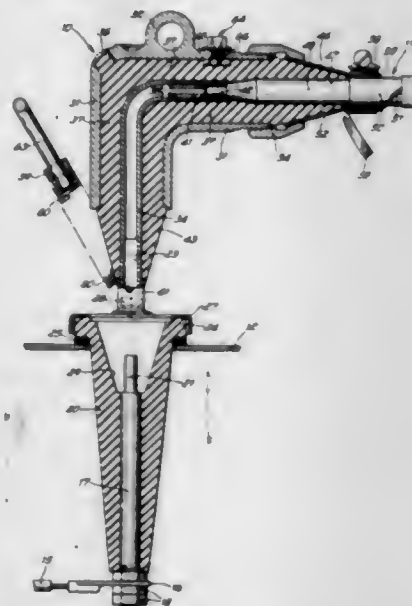
1. Liquid level indicator means for a multi-cell battery comprising an electrically conductive probe for each cell, each probe terminating within the cell approximately at the lowest safe operating electrolyte level; said probes being divided into first and second groups, the first group being associated with electrolyte which is more negative than that of the second group; a source of positive voltage; a first group of PNP transistors having their respective bases connected to respective probes in the first group, and their emitter-collector circuits in a series circuit initiating at the source of positive voltage; a signal transistor having its emitter-collector circuit connected with the

aforementioned series circuit; a second group of NPN transistors having their respective bases connected to respective probes in the second group, and their collector-



emitter circuits in a second normally grounded series circuit initiating at the base connection of the signal transistor.

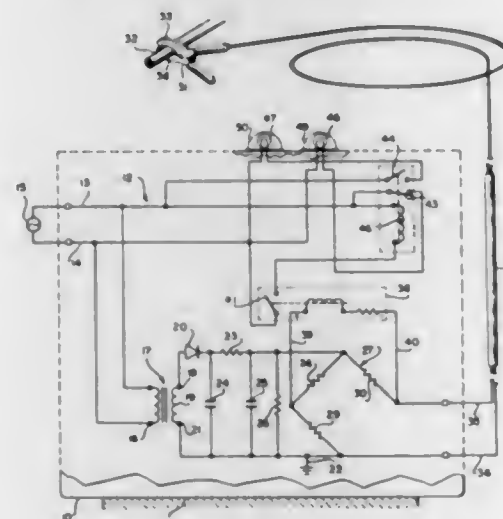
3,343,153
CABLE CONNECTOR HAVING MEANS FOR INDICATING WHEN CABLE IS ENERGIZED
Albert R. Wachner, Elm Grove, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 511,471
3 Claims. (Cl. 340-252)



1. In a separable connector for releasably completing an electrical circuit between a high voltage cable having a conductor surrounded by insulation and an outer conductive sheath and the axially disposed conductor rod of an insulating bushing, said connector including an elongated conductive interchange member having releasable connector means on each of its opposite ends for electrically engaging said cable conductor and said bushing conductor rod and including conductive inner shield means surrounding each of said releasable connector means, molded tubular insulation surrounding said interchange member, and a tubular conductive outer shield means surrounding said tubular insulation and being electrically connected to said sheath, the improvement comprising, an enlarged, relatively thin conductive electrode imbedded in said tubular insulation in radially spaced relation from said conductive interchange member and from said tubular conductive member, the circumferential extent of said electrode being less than that of said tubular insulation, said insulation electrically isolating said

electrode from each of said conductive shield means, an aperture formed in said tubular conductive outer shield means adjacent said electrode, a generally rod-like conductive terminal member connected to said electrode and extending through said insulation and outwardly of said aperture in spaced relation to the margins of said aperture, said tubular insulation electrically insulating said terminal member from said tubular conductive outer shield means wherein a potential difference exists therebetween when said cable conductor is energized.

3,343,154
GROUND INDICATOR
Henry A. Seesselberg, South Plainfield, N.J., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 16, 1964, Ser. No. 418,765
6 Claims. (Cl. 340-255)

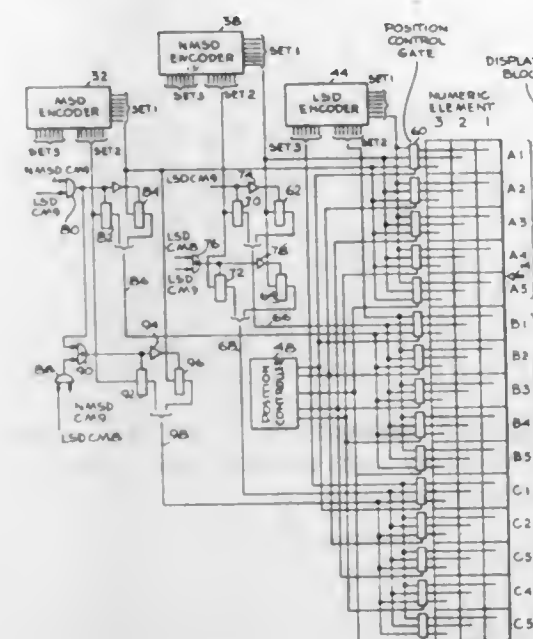


1. A ground indicator device for electrically grounding a body subject to the build up of an electrical charge thereon comprising, a source of power, a step down transformer coupled thereto, a rectifier having one side thereof coupled to one side of the transformer secondary winding, a Wheatstone bridge having one side of its input coupled to the other side of said rectifier and the other side of the input of said Wheatstone bridge and said transformer secondary winding being grounded, body grounding means electrically interposed in one arm of said Wheatstone bridge and adapted for attachment to said body, direct current polarity sensitive switch means coupled across the output of the Wheatstone bridge for actuation in response to a bridge output signal of predetermined voltage and polarity, and output means responsive to actuation of said switch means for indicating the electrical resistance of the connection between said body and body grounding means is within safe limits.

3,343,155
DISPLAY APPARATUS
Marcel A. Pahlavan, 11332 Berwick St., Los Angeles, Calif. 90049
Filed Jan. 6, 1964, Ser. No. 335,726
18 Claims. (Cl. 340-324)

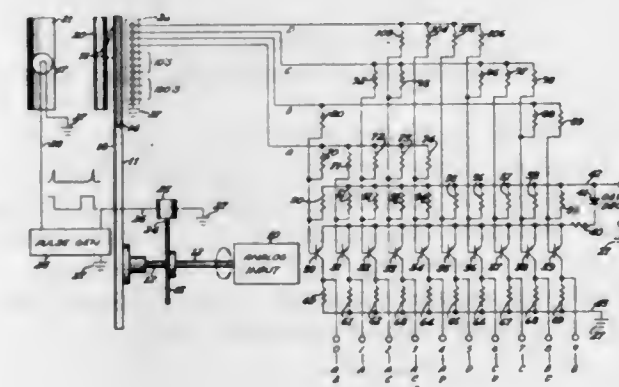
1. Display means responsive to a magnitude representing signal for generating a visual display of a range of numbers which includes the magnitude represented by said signal, said display means comprising a plurality of display blocks contiguously disposed to define a display surface, each of said display blocks including a plurality of numeric elements; each of said numeric elements including a plurality of illuminable segments arranged to enable different digits to be defined by the selective illumination thereof; means responsive to said

signal for selectively illuminating segments in a first of said blocks to define a range first limit number and for selectively illuminating segments in a second of said blocks to define a range second limit number; a visually observable reference marker positioned adjacent said display blocks; and means responsive to said signal for



selecting said first and second blocks from said plurality of blocks whereby the range defined by said first and second limit numbers can be moved relative to said reference marker for aligning said reference marker with a position in said range corresponding to the magnitude represented by said signal.

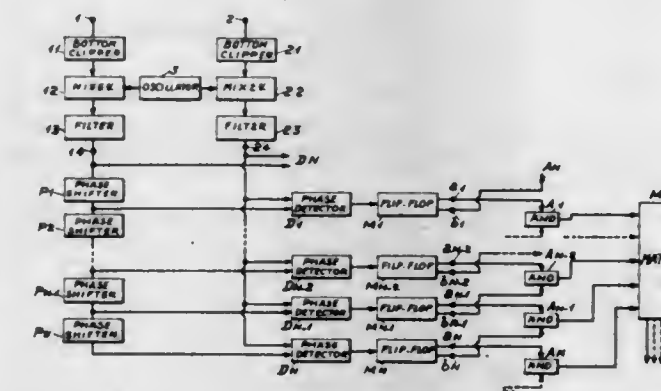
3,343,156
ANALOG-TO-DIGITAL CONVERTER
Samuel A. Procter, Minneapolis, Minn., assignor of one-half to Fred M. Sweet, Minneapolis, Minn.
Filed Feb. 3, 1964, Ser. No. 341,863
6 Claims. (Cl. 340-347)



1. An analog-to-digital converter comprising:
(a) code wheel means including detection means having a predetermined code pattern representative of an analog quantity formed on said code wheel means;
(b) condition responsive power means providing rotational movement in accordance with the condition sensed;
(c) connecting means connecting said condition responsive power means to said code wheel means;
(d) a plurality of equally spaced and radially arranged magnetizable elements, said elements being connected to one of said previously mentioned means;

(e) magnetic means including electrical energizing means disposed in spaced relation from said plurality of magnetizable elements to form an air gap therewith as said elements pass thereby, said magnetic means developing alternate states of magnetization and non-magnetization to form a magnetic field, having therein, said air gap and at least the closest one of said plurality of magnetizable elements, said magnetic field having a magnitude sufficient to align said code wheel at a code detection position;
(f) and a matrix translator electrically connected to said detection means of said code wheel means, said matrix translator being actuated on N number of input circuits and producing output signals on output circuits equal in number to no more than 2^N .

3,343,157
DIGITAL PHASE CODER
Roland Carre and Robert Charton, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Oct. 27, 1964, Ser. No. 406,782
Claims priority, application France, Oct. 30, 1963, 952,269
7 Claims. (Cl. 340-347)

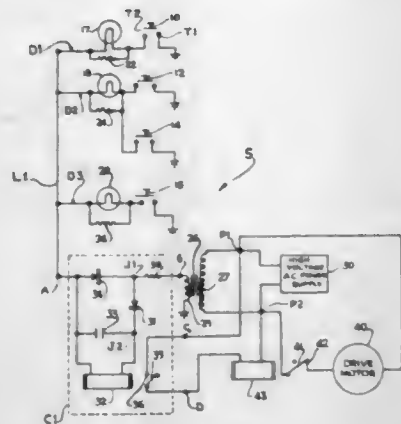


1. A digital phase coder for measuring the phase difference between a first and a second sine waves of same frequency, said phase coder comprising:
a first and a second input;
means for applying said first and second sine waves respectively to said first and second inputs;
N identical phase-shifters, numbered 1 to N, N being a power of two, respectively imparting a phase shift

$$\varphi_0 = \frac{2\pi}{N}$$

said phase-shifters being coupled in series to said first input, and having respective outputs;
N phase detectors, numbered 1 to N, having respective first inputs coupled to said second input, respective second inputs respectively coupled to said outputs of said first to Nth phase-shifters, and respective outputs;
N flip flop circuits, numbered 1 to N, having inputs respectively coupled to said outputs of said first to Nth detectors and respective first and second outputs;
N AND-circuits, numbered 1 to N, each ith AND-circuit, where $i=1, 2 \dots N$, having a first input coupled to the first output of said ith flip flop circuit and a second input coupled to the second output of the jth flip flop circuit, where $j=i+1$ if i is smaller than N and 1 if $i=N$, said AND-circuits having respective outputs;
and an n digits binary coding matrix, where n is an integer such that $kN=2^n$, said matrix having kN inputs respectively coupled to said outputs of said AND-circuits.

3,343,158
ELECTRONIC CONTROL FOR FAULT DETECTION AND STOP-MOTION SYSTEM
 Edward M. Teller, Valley Stream, N.Y., assignor to Stop-Motion Devices Corporation, Plainview, N.Y.
 Filed Mar. 4, 1964, Ser. No. 349,418
 11 Claims. (Cl. 340-419)



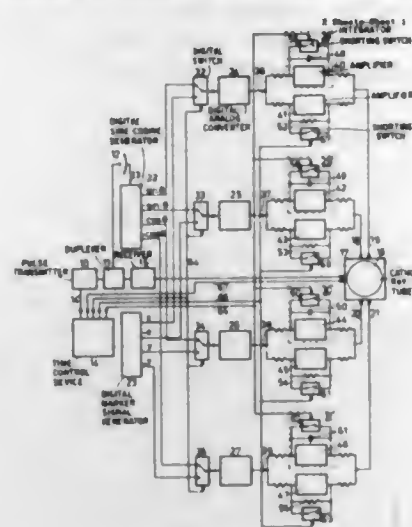
1. A control circuit for a fault detection and motor cut-off system of the character described, comprising in combination:

- a first circuit path having two terminals for passing current through said path;
- first rectifier means in said path so that current flows therein in only one direction and only during alternate half cycles of alternating voltage applied to said terminals;
- a second circuit path connected at its ends to said two terminals respectively for application of said alternating voltage to the second circuit path;
- second rectifier means in the second circuit path so that current flows in one direction therein between its ends only during the other alternate half cycles of said alternating voltage when no current flows in said first circuit path;
- a motor cut-off device in said second circuit path energized during said other alternate half cycles by the current flowing in said second circuit path; and
- electric storage means connected across said device in said second circuit path for storing electric energy during said other alternate half cycles and for discharging the stored electric energy through said device during the first named alternate half cycles so that said device is continuously energized while current flows in either of the first and second circuit paths.

3,343,159
RADAR PLAN-POSITION INDICATOR SYSTEMS
 Adrianus van Breugel, Hengelo, Overijssel, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijssel, Netherlands, a firm of the Netherlands
 Filed Oct. 27, 1965, Ser. No. 505,361
 Claims priority, application Netherlands, Oct. 30, 1964, 64-12,631
 5 Claims. (Cl. 343-5)

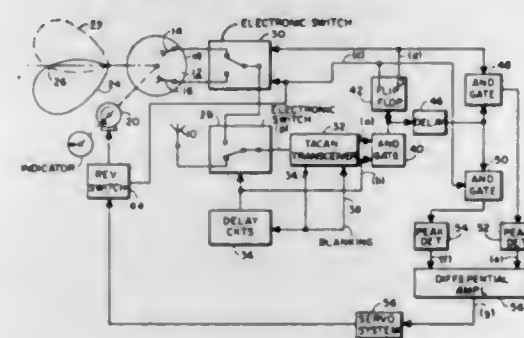
1. A radar plan-position indicating system of the type having an indicating device with orthogonal deflection means, a source of digital azimuth signals related to the azimuth of received signals, and a source of digital marker signals, wherein the improvement comprises digital to analog converting means, digital switch means for selectively applying said azimuth signals and marker signals to said converting means, parallel connected first and second amplifiers, means for applying the output of said converting means to the inputs of said first and second amplifiers, means applying the outputs of said first and second amplifiers to said deflection means, said first

amplifier being an integrating amplifier having capacitor means connected between its input and output, said second amplifier being a linear amplifier having resistor



means connected between its input and output, and means for selectively short circuiting said capacitor means and resistor means.

3,343,160
ELECTRONIC NAVIGATION SYSTEM
 Donald F. Beals, Monroe County, N.Y., and Lawrence S. Schwartz, Bernalillo County, N. Mex., assignors to General Dynamics Corporation, a corporation of Delaware
 Filed Nov. 23, 1964, Ser. No. 413,259
 6 Claims. (Cl. 343-7)

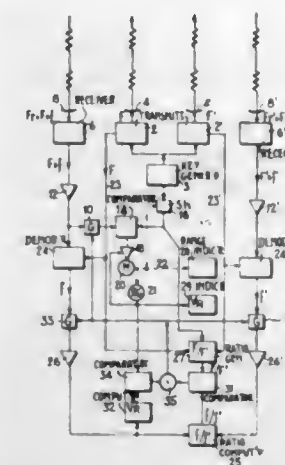


- An electronic navigation system comprising
 - a directional antenna,
 - an omnidirectional antenna,
 - means for generating interrogation pulses for transmission,
 - means for receiving reply pulses,
 - switching means normally connecting said receiving means and generating means to said omnidirectional antenna and responsive to the said receiving means for connecting said receiving means to said directional antenna when said reply and interrogation pulses are synchronous with each other.

3,343,161
RADAR SYSTEMS HAVING IMPROVED DOPPLER-SHIFT-RESPONSIVE MEANS
 Henri C. Billottet, Paris, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, a corporation of France
 Filed Aug. 30, 1965, Ser. No. 483,743
 Claims priority, application France, Aug. 28, 1964, 986,541, Patent 1,413,212
 25 Claims. (Cl. 343-7.7)

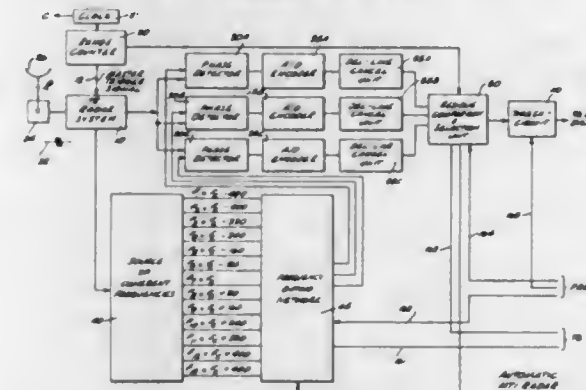
- A radar system comprising:
 - transmission means for transmitting radio signals at a plurality of different frequencies towards a target;
 - reception means for receiving response signals sent back from the target in response to the respective transmitted signals;

output means operable for deriving from at least one of the response signals a signal representative of information concerning the target;
 means for combining each transmitted signal and the related response signal to derive a control signal therefrom representing the frequency shift present therebetween;



ratio-comparison means connected to receive said control signals for comparison thereof with said transmission frequencies and producing an output condition upon the corresponding frequency shifts departing from proportionality with the related transmission frequencies by less than prescribed amounts; and
 means operated by said output condition of the comparison means for operating said output means.

3,343,162
CLUTTER CANCELLING SYSTEM
 Norol T. Evans, San Pedro, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
 Filed Feb. 2, 1966, Ser. No. 524,394
 11 Claims. (Cl. 343-7.7)

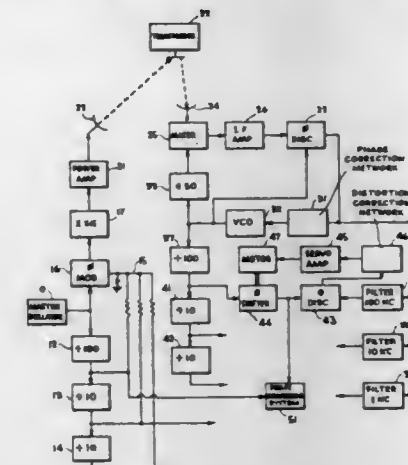


1. In a moving target indicator radar system in which energy of a predetermined frequency reflected from targets is received and converted into IF video signals analyzed to indicate the relative locations of moving targets a system for distinguishing the moving targets from clutter moving at a velocity which does not exceed a predetermined value comprising:

- a source of a plurality of frequencies each related to said predetermined frequency and a different velocity value, not exceeding said predetermined value;
- first, second and third IF video signal channels each channel including a phase detector and a delay line canceler coupled to the output of the phase detector; means for supplying the phase detector of each of said channels with said IF video signals;
- frequency gating means for selectively supplying the phase detectors of said first, second and third channels with three of said frequencies; and

residue comparing means responsive to the outputs of the cancelers of said channels for varying the three frequencies supplied to said phase detectors until the output of the canceler of said second channel is smaller than the outputs of the cancelers of said first and third channels.

3,343,163
DISTANCE MEASURING SYSTEM
 James W. Crooks, Jr., San Diego, and Robert C. Weaver, La Jolla, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
 Filed Nov. 12, 1963, Ser. No. 322,907
 5 Claims. (Cl. 343-12)

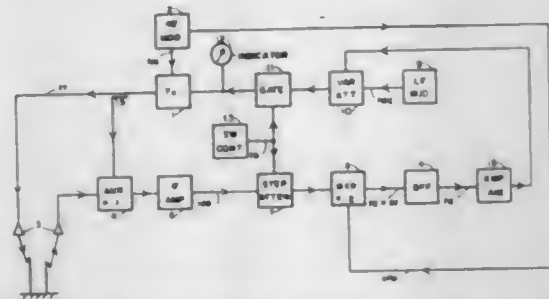


1. A base transmitter and receiver for distance measuring of the type cooperating with a remote transponder comprising a master oscillator, a frequency divider modulating signal source connected to said master oscillator generating a modulating signal at a sub-multiple of the frequency of said master oscillator, a modulator connected to said master oscillator and to said modulating signal source, means for transmitting the modulated signal to said transponder, receiving means for receiving a modulated signal from said transponder, said receiving means comprising a phase lock loop including a receiver oscillator operative at an intermediate frequency, a mixer, an intermediate frequency amplifier coupled to said mixer and operative at said intermediate frequency, a frequency translator for applying signals from said receiver oscillator to said mixer and a demodulator for controlling said receiver oscillator and recovering a modulating signal, signal synthesizing means connected to said receiver oscillator and to said demodulator for generating a signal having the same frequency and phase as the recovered modulating signal, and phase measuring means connected to said synthesizing means and to said modulating signal source.

3,343,164
LOW LEVEL ALTIMETER
 Herbert W. Clarke, Montreal, Quebec, Canada, assignor to Canadian Marconi Company, Montreal, Quebec, Canada
 Filed Sept. 10, 1965, Ser. No. 486,506
 Claims priority, application Canada, June 11, 1965, 933,093
 2 Claims. (Cl. 343-14)

1. A carrier-dispersal-compensated switched gain FM/CW altimeter of the type herein described adapted for use upon a low-flying aircraft, said altimeter having a transmitter, continuously operating means applying primary frequency modulation to said transmitter, periodically operative means to apply secondary frequency modulation to said transmitter, an aerial system adapted to direct transmitter signals to the earth's surface and to receive echo signals returned therefrom, receiving means fed from said aerial and adapted to produce demodulated

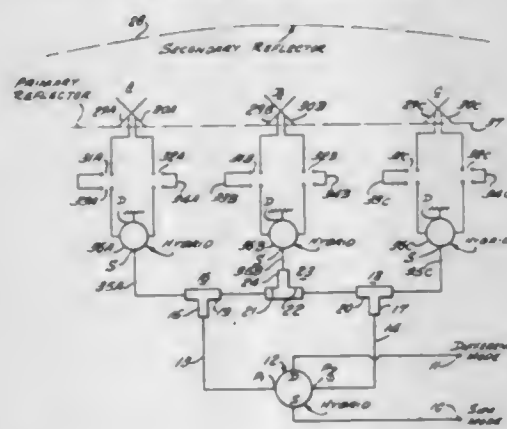
echo signals of frequency corresponding to the Doppler frequency shift borne by the earth-retained echo signals, switchable gain control means in the echo signal path synchronously operative with said means to apply secondary frequency modulation to said transmitter and adapted to switch the gain in said echo signal path from a given higher level when said secondary frequency modulation is applied to said transmitter to a given lower level when said secondary frequency modulation is not applied to said transmitter, adjustable means to control the frequency deviation of said transmitter effected by said secondary frequency modulation, and means to indicate the value of said effected secondary frequency deviation, said altimeter in operation without secondary frequency modulation being subject to the production of demodulated echo signals comprising a fluctuating spectrum extending in frequency to a predeterminable maximum frequency de-



pendent upon the maximum operating speed of said aircraft taken in conjunction with the beam configuration of said altimeter aerial, said altimeter being characterized by the provision of: a source of switch controlling signals simultaneously operative upon said means periodically operative to apply secondary frequency modulation and upon said switchable gain control means and having a given switching frequency in excess of said maximum predeterminable frequency of the spectrum of derived echo signals, filter means fed with said demodulated echo signals and responsive to signals grouped about said switching frequency to the exclusion of signals in said fluctuating spectrum of demodulated echo signals, amplitude responsive means fed with the output of said filter means, and means to apply the output of said amplitude responsive means to so adjust said control of secondary frequency deviation as to reduce the input to said amplitude responsive means to a minimum.

3,343,165 DIRECTIONAL RADIO AND TRACKING SYSTEMS

George B. Sleeper, Jr., Sherburne, N.Y., assignor to Technical Appliance Corporation, Sherburne, N.Y., a corporation of Delaware
Filed July 13, 1965, Ser. No. 471,695
14 Claims. (Cl. 343-16)

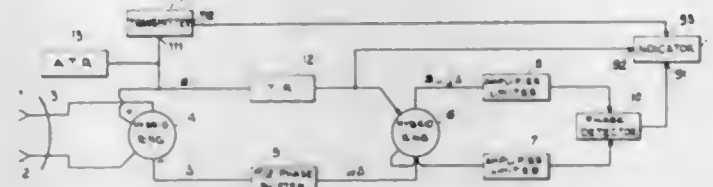


1. In a directionally sensitive antenna system, the combination of a plurality of physically spaced antenna units, means to excite said units in sum mode to render

said units effectively electrically close to each other, and means to excite said units in difference mode to render said units effectively electrically widely spaced from each other whereby the effective apertures in the sum and difference modes may be substantially independently adjusted.

3,343,166 MONOPULSE RADAR SYSTEM

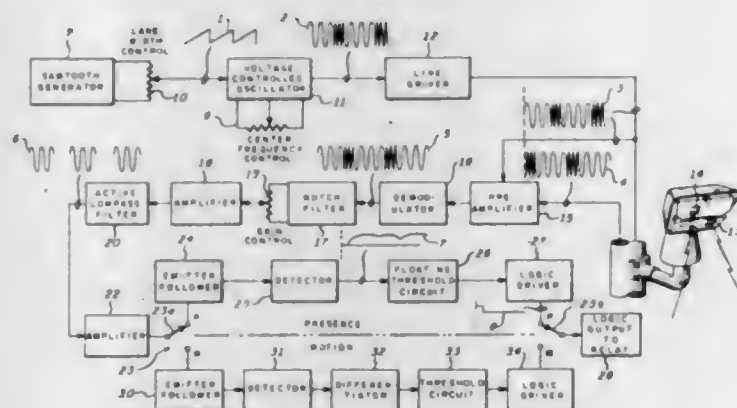
Henri Polinsard, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Oct. 28, 1965, Ser. No. 505,536
Claims priority, application France, Nov. 9, 1964, 994,320
3 Claims. (Cl. 343-16)



1. In a monopulse radar, a circuit for supplying a discrimination control signal comprising: a sum channel and a difference channel, said channels having respectively first and second outputs; $\pi/2$ phase-shifting means having an input coupled to one of said first and second outputs and said phase shifting means having an output; a sum-and-difference circuit having two inputs respectively coupled to said phase shifting means output and to that one among said first and second outputs which is not coupled to said phase-shifting means, said sum-and-difference circuit having two outputs; and phase responsive means, having two inputs respectively coupled to said sum-and-difference circuit outputs, said phase responsive means having a cosine output supplying said control signal output supplying said control signal.

3,343,167 OBJECT DETECTION SYSTEM

Paul E. Rademacher, Glen Head, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,632
10 Claims. (Cl. 343-17.5)



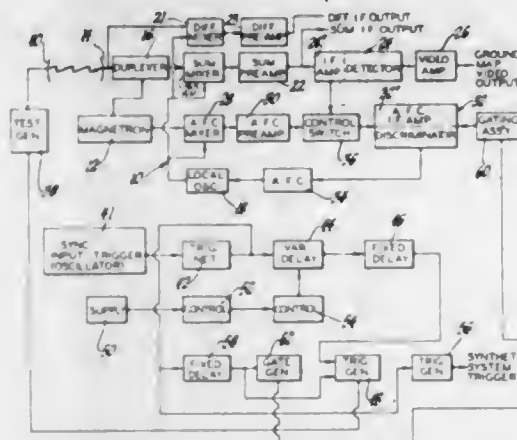
1. In object detection apparatus,
(a) means for generating a frequency modulated wave having a predetermined range of frequency modulation,
(b) transmitting means for transmitting said wave toward a reflecting object,
(c) receiving means for receiving the reflected wave,
(d) means for combining said transmitted and reflected waves for providing a resultant signal having a high frequency portion whose frequency is approximately twice that of said transmitted wave and

a low frequency portion whose frequency is the difference between that of said transmitted and said received signal at any instant,

- (e) lowpass filtering means responsive to said resultant signal for providing a discontinuous filtered signal which eliminates said high frequency portion caused by delay in said received signal and lower frequencies caused by direct coupling between said transmitting and receiving means,
- (f) detecting means responsive to said discontinuous filtered signal having a time constant that is sufficiently long to provide a continuous filtered signal, and
- (g) threshold circuit means responsive to said continuous filtered signal for providing an output signal when the threshold is exceeded.

3,343,168 RADAR SYSTEM AND METHOD OF TESTING SAME

David L. Fayram, Greendale, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 29, 1965, Ser. No. 517,307
7 Claims. (Cl. 343-17.7)



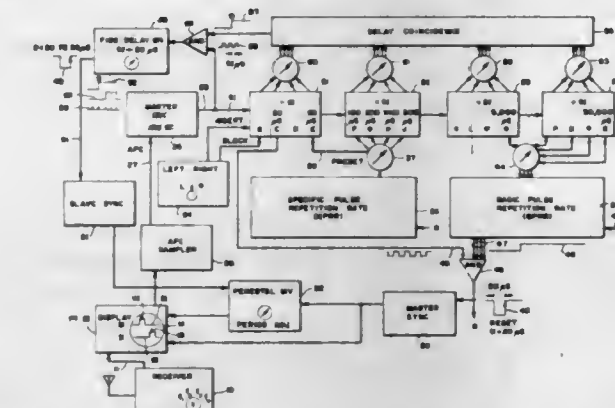
4. A radar including receiver-transmitter means comprising a magnetron, a local oscillator, first mixing means for mixing a received signal with a signal from said local oscillator, second mixing means for mixing signals from said magnetron and said local oscillator, automatic frequency control means for controlling the frequency of said local oscillator, switch means having a normal position connecting the output of said second mixing means to said automatic frequency control means and a test position connecting the output of said first mixing means to said automatic frequency control means.

3,343,169 LORAN CONTROL AND TIMING CIRCUITS

Reuben E. Maine, Albemarle County, Va., assignor to Electronic Concepts, Inc., Charlottesville, Va., a corporation of Virginia
Filed Aug. 26, 1965, Ser. No. 482,744
10 Claims. (Cl. 343-103)

1. A loran receiver timing and control system comprising in combination, a master oscillator, a loran signal receiver for producing transmitted loran pulses, means controlling the frequency of the oscillator to synchronize it with loran signal pulses received from a first loran station by said receiver, a multiple-stage binary counter chain operable from the master oscillator to give a plurality of different signal pulse indications at various periods corresponding to sub-multiples of the basic master oscillator frequency, synchronizing means including coincidence detectors operable responsive to selected groups of the

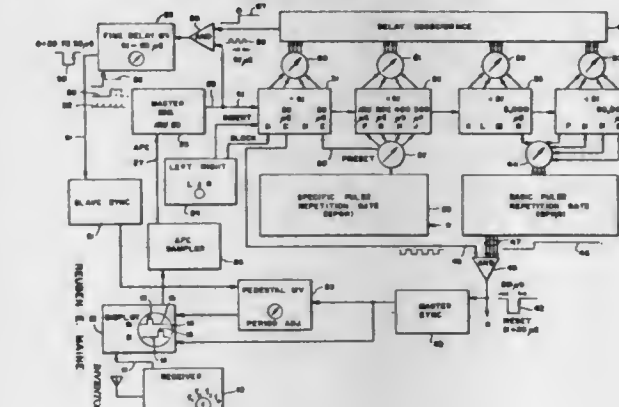
counter chain signal indications establishing operational signals periodically occurring at basic loran pulse repetition rates, means resetting selected stages in said counter chain responsive to said operational signals, adjustable means presetting selected stages of said counter chain to shorten said periodically occurring operational signals by time increments modifying the basic rates to specific loran pulse repetition rates, adjustable metering means including coincidence detectors coupled to a plurality of the stages of said counter chain establishing periodically occurring



signals from said counter chain at a plurality of specific selected counts within said specific pulse repetition rate period to thereby correspond in time to pulses received from a second loran station by said receiver, display means providing loran pulses from said receiver on a time reference scale synchronized from said operational signals with said basic pulse repetition rates, means responsive to the metering means for establishing a marker on said time scale referenced to its adjusted period, and drift control means for altering the count in said counter chain by adding and subtracting counts to provide a drift of said loran pulses in corresponding opposite directions across the time reference scale.

3,343,170 LORAN TRACKING AND DISPLAY MEANS

Reuben E. Maine, Charlottesville, Va., assignor to Electronic Concepts, Inc., Charlottesville, Va., a corporation of Virginia
Filed Oct. 22, 1965, Ser. No. 501,780
5 Claims. (Cl. 343-103)



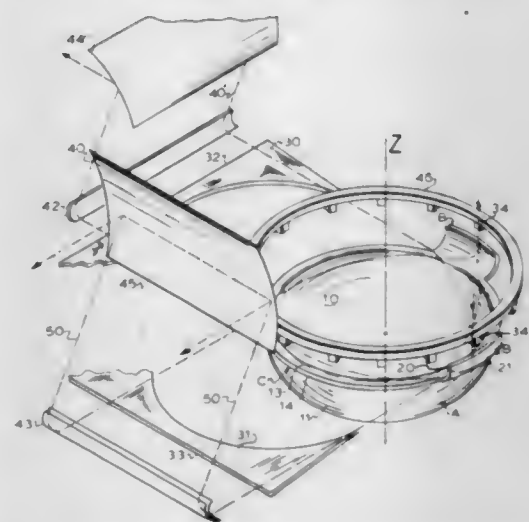
1. An automatic tracking loran receiver system comprising in combination, a receiver for receiving loran signal pulses from two different loran transmitters, a master oscillator having its frequency controlled responsive to said received pulses, a single counting chain for deriving subdivisions of the oscillator frequency, first se-

lectively adjustable means for deriving from a combination of subdivisions from said counting chain a timed signal representative of the basic pulse repetition rate, further selectively adjustable means for choosing a predetermined combination of subdivisions from said counting chain to produce delayed signals representative of the timing of one of the received pulses relative to the basic pulse repetition rate, slave oscillator synchronized by the delayed signals, a flip-flop circuit turned on responsive to signals from one of said oscillators and turned off responsive to signals from the other, and a meter indicator responsive to the duty cycle of said flip-flop calibrated to signify a significant digit of the difference of time between the two signal pulses received from the different Ioran stations.

3,343,171

GEODESIC LENS SCANNING ANTENNA
Robert M. Goodman, Jr., Marietta, Ga., assignor to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia

Filed Aug. 1, 1963, Ser. No. 299,240
6 Claims. (Cl. 343-754)



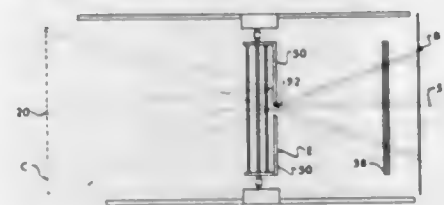
1. In a conductor for electro-magnetic energy, two closely spaced conducting surfaces positioned and shaped to define between themselves a mean plane having a bowl-shaped central portion symmetrical about an axis, an angular portion extending outwardly and substantially perpendicular to said axis and joined at its innermost edge to said central portion by a first semi-toroidal portion, and a semi-cylindrical section joined at one edge to the outermost edge of said angular portion by a second semi-toroidal portion and extending from said one edge parallel to said axis, the distances through said central portion from a single point in said semi-cylindrical section to a plurality of points in a line tangential to said outermost edge of said angular portion being equal, said semi-cylindrical section being positioned for feeding at said single point by a vertically adjustable feed means which is concentrically mounted to coincide with said semi-cylindrical section so as to be laterally of said central portion.

3,343,172

METHOD OF OSCILLOGRAPHIC RECORDING
Lee Roy Brown, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Original application Mar. 2, 1964, Ser. No. 348,605, now Patent No. 3,235,876, dated Feb. 15, 1966. Divided and this application Mar. 17, 1965, Ser. No. 440,498
8 Claims. (Cl. 346-1)

1. The method of photographically recording a multiplicity of seismic wave energies reflected from reflecting subsurfaces, said method comprising:
selectively transmitting to a plurality of oscillable

mirror galvanometers a light ray of varying characteristics;
reflecting the selected light ray received by the mirrors to a recording medium;
transmitting electrical signals representing the seismic wave energies to the oscillable mirror galvanometers, whereby the mirror oscillates in response to the intensity of the varying electrical signals;



positioning a single adjustable aperture along the longitudinal axis between the mirror galvanometers and recording medium, whereby the amount of light ray passing through said aperture may be varied thereby varying the width of each reflected signal received by the recording medium.

3,343,173

PHOTOFACSIMILE RECORDER
Austin G. Cooley, Torrance, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed July 30, 1965, Ser. No. 476,109
15 Claims. (Cl. 346-24)



1. A photofacsimile recorder comprising recording mechanism including a recorder lamp and a rotatable optical system for focussing the light from said recorder lamp along an arcuate recording line during rotation of the optical system, means for supplying a continuous strip of film or paper adjacent said recording line, an arcuate guide for said strip adjacent said optical system, a movable gripper finger arranged to grip the strip only at a small area at the center of said strip, leaving the lateral edges thereof unconstrained, and means for imparting movement to said gripper finger in a direction to advance said strip through said guide.

3,343,174

MAGNETIC ANNEALING FOR INFORMATION STORAGE

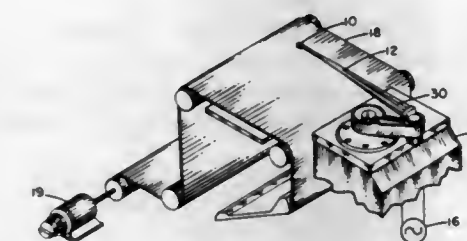
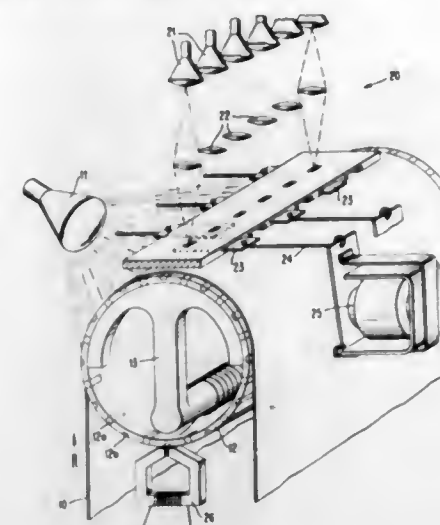
Otto Kornei, Monte Sereno, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Nov. 15, 1960, Ser. No. 69,339, now Patent No. 3,245,062, dated Apr. 5, 1966. Divided and this application Nov. 29, 1963, Ser. No. 326,975
3 Claims. (Cl. 346-74)

1. The method of recording data on a magnetic record medium having a responsiveness to magnetic annealing comprising the steps of:

(a) selectively magnetically annealing discrete areas of the record medium in a pattern corresponding to a first record;

3,343,175

PRESSURE SCRIBING RECORDER
Earl O. Schweitzer, Wickliffe, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Oct. 11, 1965, Ser. No. 494,699
5 Claims. (Cl. 346-77)



1. A pressure scribing apparatus for recording upon a pressure sensitive record medium, which comprises: a stylus arm movable in respect to the record medium; a highly polished stylus tip of conical shape having an angle of advance of $15^\circ \pm 3^\circ$; means to secure said stylus tip to said stylus arm; and means to effectively force said stylus tip against the record medium with a predetermined degree of force necessary to establish a visible imprint.

(d) erasing said second record by applying an erasing field to said record medium, and
(e) recovering said first record by applying a uniform magnetic field to said record medium.

DESIGNS

SEPTEMBER 19, 1967

208,620

SNOW EXCLUDER FOR A BOOT TOP

Frank D. Werner, Bloomington, and Paul S. Petersen, Minnetonka, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 5, 1965, Ser. No. 84,600
Term of patent 14 years
(Cl. D2—314)



208,621
SOCK

Harold V. Jensen, 911 Trenton St., High Point, N.C. 27260
Filed June 15, 1966, Ser. No. 2,689
Term of patent 14 years
(Cl. D2—331)



208,622
SOCK

Harold V. Jensen, 911 Trenton St., High Point, N.C. 27260
Filed June 15, 1966, Ser. No. 2,691
Term of patent 14 years
(Cl. D2—331)



208,623
SOCK

Harold V. Jensen, 911 Trenton St., High Point, N.C. 27260
Filed June 15, 1966, Ser. No. 2,710
Term of patent 14 years
(Cl. D2—331)



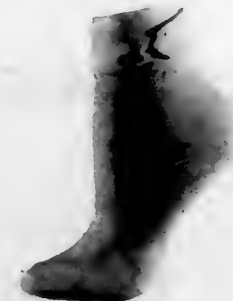
SEPTEMBER 19, 1967

U. S. PATENT OFFICE

1205

208,624
SOCK

Harold V. Jensen, 911 Trenton St., High Point, N.C. 27260
Filed June 15, 1966, Ser. No. 2,690
Term of patent 14 years
(Cl. D2—334)



FOAM SPRAY ATTACHMENT FOR VACUUM CLEANERS

Egon Nohl, Wiener Neustadt, Austria, assignor to Rewo Chemische Fabrik G.m.b.H., Steinau, Kreis Schluchtern, Germany

Filed Dec. 14, 1965, Ser. No. 171
Term of patent 3½ years
(Cl. D9—2)



208,626

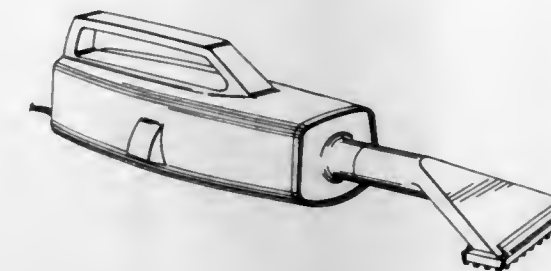
MOTOR OPERATED TOOTHBRUSH HANDLE
Alfred W. Madl, Mequon, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 10, 1966, Ser. No. 547
Term of patent 14 years
(Cl. D9—2)



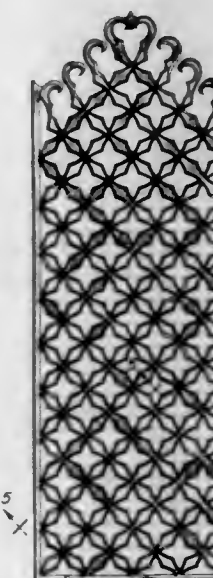
208,627

HAND VACUUM CLEANER
Lawrence W. Bonzer, 4250 Long Beach Blvd., Long Beach, Calif. 90807
Filed Nov. 14, 1966, Ser. No. 4,647
Term of patent 14 years
(Cl. D9—2)



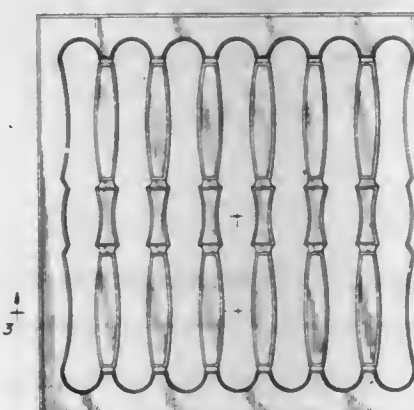
208,628

PANEL UNIT FOR A ROOM DIVIDER OR SIMILAR ARTICLE
Jerome S. Smith, 3750 N. Lake Shore Drive, Chicago, Ill. 60613
Filed Dec. 29, 1966, Ser. No. 5,218
Term of patent 14 years
(Cl. D13—1)



208,629

PANEL UNIT FOR A ROOM DIVIDER OR SIMILAR ARTICLE
Jerome S. Smith, 3750 N. Lake Shore Drive, Chicago, Ill. 60613
Filed June 2, 1966, Ser. No. 2,525
Term of patent 14 years
(Cl. D13—1)



208,630

**SUPPORT PLATFORM OR SIMILAR ARTICLE
FOR FRUIT GATHERERS**

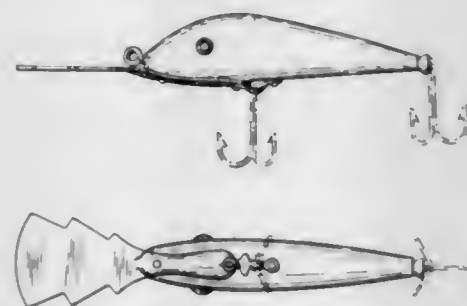
Wesley S. Coblentz, Woodland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California

Filed June 13, 1966, Ser. No. 2,661
Term of patent 14 years
(Cl. D15—8)

208,631
FISH LURE

Earl E. Miller, Cass County, Mich., assignor to James Heddon's Sons, Dowagiac, Mich., a corporation of Michigan

Filed Dec. 5, 1966, Ser. No. 4,922
Term of patent 14 years
(Cl. D22—28)



208,632

**NUMBER BOARD FOR A MATHEMATICS
TEACHING DEVICE**

Rudolph Ringhofer, Flossmoor, Ill., assignor to La Pine Scientific Company, Chicago, Ill., a corporation of Illinois

Filed July 6, 1965, Ser. No. 86,030
Term of patent 14 years
(Cl. D25—1)



208,633

CABINET FOR AN ELECTRONIC CONTROL UNIT
William E. Pascale, San Jose, and Jack W. Stringer, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 6, 1965, Ser. No. 87
Term of patent 14 years
(Cl. D26—5)

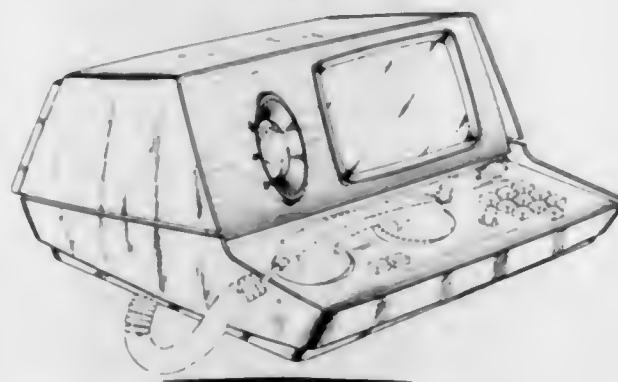


208,634

COMBINED TELEPHONE DESK SET AND TELEVISION RECEIVER OR SIMILAR ARTICLE

George M. Janda, Westchester, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Sept. 13, 1965, Ser. No. 87,043
Term of patent 14 years
(Cl. D26—14)



208,635

MEDAL

Mauro Bartoli, 39 Rue des Diables Bleus, Nice, Alpes Maritimes, France

Filed Nov. 5, 1965, Ser. No. 88,012
Claims priority, application Great Britain Aug. 27, 1965
Term of patent 7 years
(Cl. D29—19)



208,636

MECHANICAL TOY FIGURE

Walter L. Strauss, 1107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,451
Term of patent 7 years
(Cl. D34—4)



208,637

MECHANICAL TOY FIGURE

Walter L. Strauss, 1107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,452
Term of patent 7 years
(Cl. D34—4)



208,638

MECHANICAL TOY FIGURE

Walter L. Strauss, 1107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,453
Term of patent 7 years
(Cl. D34—4)

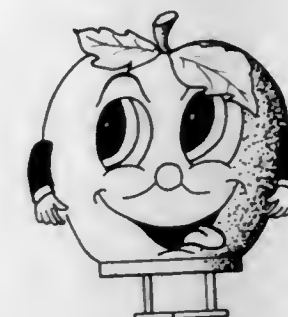


208,639

MECHANICAL TOY FIGURE

Walter L. Strauss, 1107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,454
Term of patent 7 years
(Cl. D34—4)

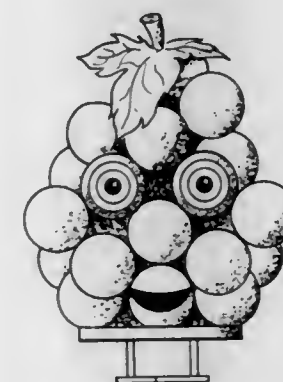


208,640

MECHANICAL TOY FIGURE

Walter L. Strauss, 107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,455
Term of patent 7 years
(Cl. D34—4)

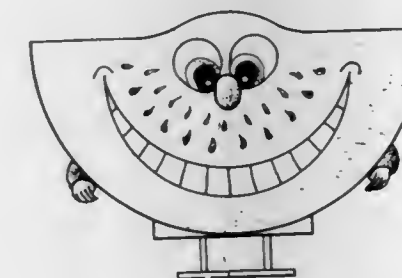


208,641

MECHANICAL TOY FIGURE

Walter L. Strauss, 107 Broadway, New York, N.Y. 10010

Filed Jan. 17, 1967, Ser. No. 5,456
Term of patent 7 years
(Cl. D34—4)



208,642
GAMEBOARD

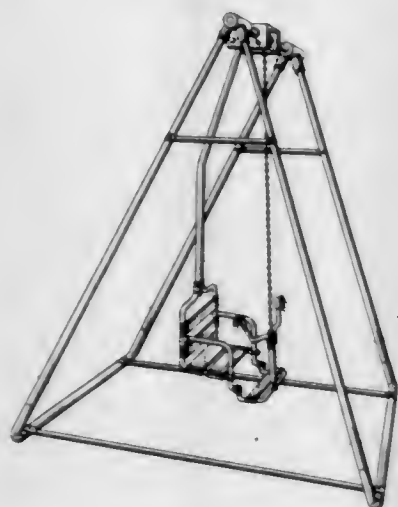
Beverly W. Taylor, Hermann, Mo. 65041
Filed Oct. 4, 1966, Ser. No. 4,156
Term of patent 7 years
(Cl. D34—5)



208,643
SWING OR THE LIKE

Henry O. Gervais, Deerfield, Fla., assignor to Henry Industries Inc., Wilkes-Barre, Pa., a corporation of New York

Filed Nov. 2, 1966, Ser. No. 4,522
Term of patent 7 years
(Cl. D34—5)

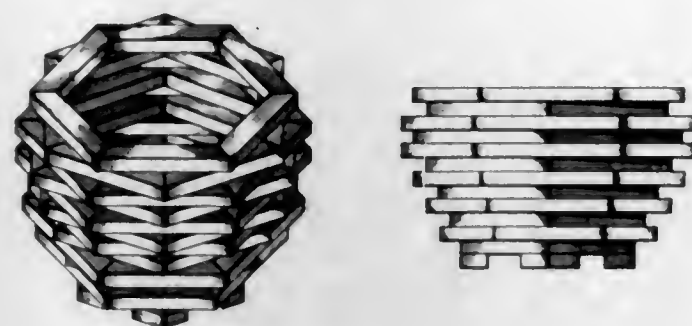


208,644
STICK HORSE TOY
Carl D. Russell, 1209 Walnut St., Muskogee, Okla. 74401
Filed Dec. 3, 1965, Ser. No. 61
Term of patent 3½ years
(Cl. D34—15)



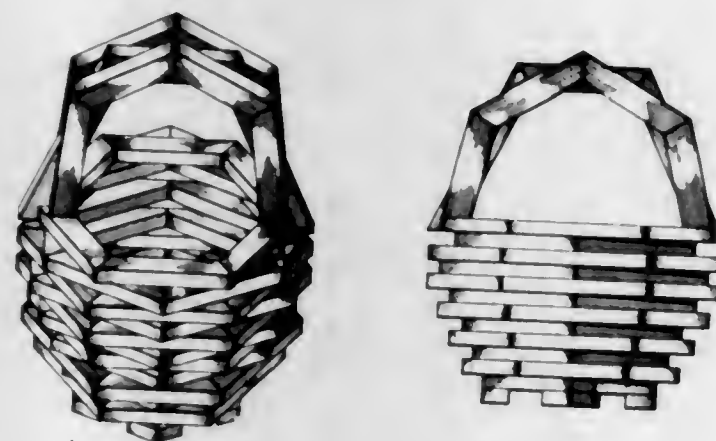
208,645
PLANTER BOX

Ralph D. Kiggins, 468 Moraga Way, Orinda, Calif. 94563
Filed Feb. 15, 1967, Ser. No. 5,816
Term of patent 14 years
(Cl. D35—3)



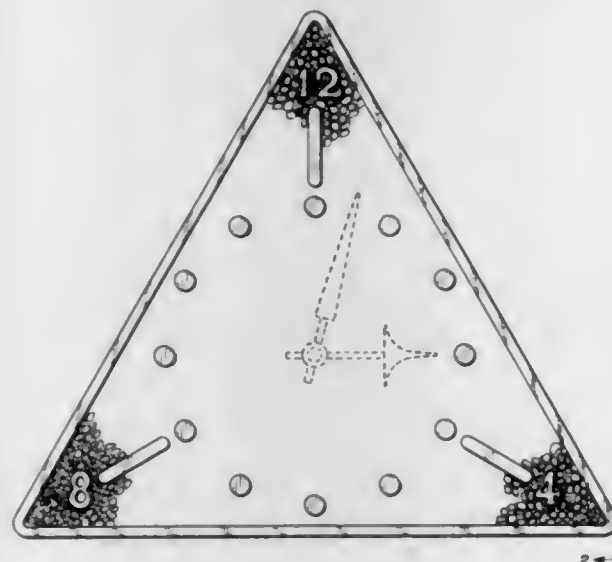
208,646
PLANTER BOX

Ralph D. Kiggins, 468 Moraga Way, Orinda, Calif. 94563
Filed Feb. 15, 1967, Ser. No. 5,828
Term of patent 14 years
(Cl. D35—3)



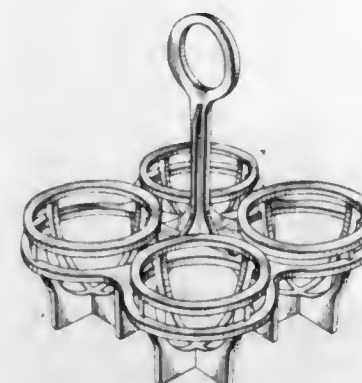
208,647
CLOCK

Andrew C. Klein, Jr., 425 Carsonia Ave., Pennside, Pa.
Filed May 23, 1966, Ser. No. 2,400
Term of patent 14 years
(Cl. D42—7)



208,648
EGG BOILING RACK

Norman Warner, 1 Sach Road, Upper Clapton, London E. 5, England
Filed Sept. 7, 1966, Ser. No. 3,757
Claims priority, application Great Britain June 6, 1966
Term of patent 14 years
(Cl. D44—1)



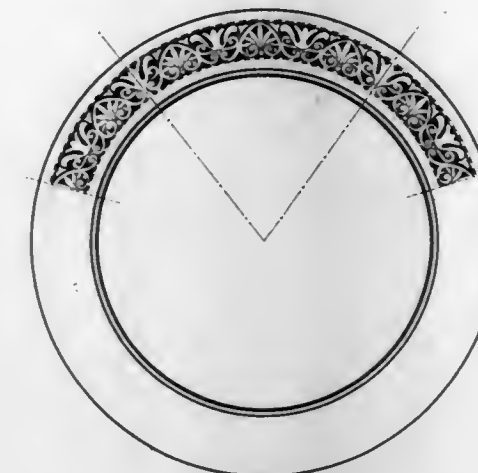
208,649
PLATE OR SIMILAR ARTICLE
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan
Filed Mar. 6, 1967, Ser. No. 6,069
Term of patent 7 years
(Cl. D44—15)



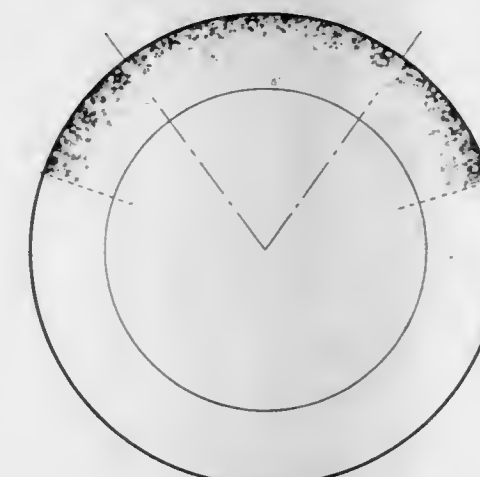
208,650
PLATE OR SIMILAR ARTICLE
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan
Filed Mar. 6, 1967, Ser. No. 6,070
Term of patent 7 years
(Cl. D44—15)



208,651
PLATE OR SIMILAR ARTICLE
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan
Filed Mar. 6, 1967, Ser. No. 6,077
Term of patent 7 years
(Cl. D44—15)



208,652
PLATE OR SIMILAR ARTICLE
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan
Filed Mar. 6, 1967, Ser. No. 6,078
Term of patent 7 years
(Cl. D44—15)



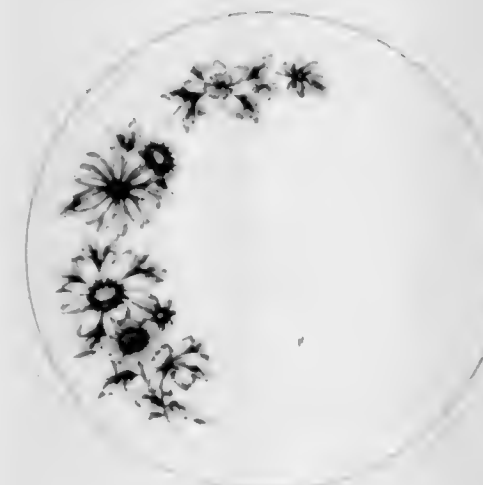
208,653
PLATE OR SIMILAR ARTICLE
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan
Filed Mar. 6, 1967, Ser. No. 6,079
Term of patent 7 years
(Cl. D44—15)



208,654
PLATE OR SIMILAR ARTICLE
 Ryotaro Takeoka, 221 Kitayamoto-cho,
 Nishikasugai-gun, Aichiken, Japan
 Filed Mar. 6, 1967, Ser. No. 6,081
 Term of patent 7 years
 (Cl. D44—15)



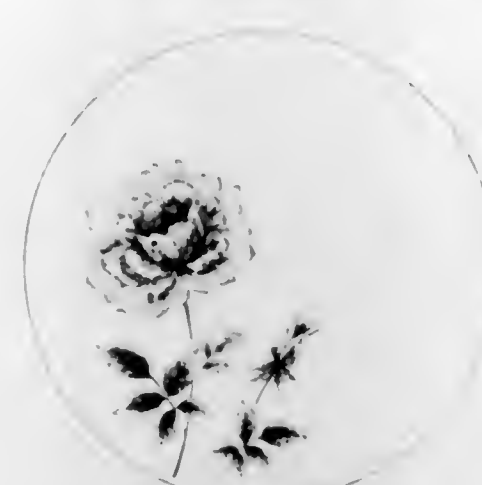
208,655
PLATE OR SIMILAR ARTICLE
 Ryotaro Takeoka, 221 Kitayamoto-cho,
 Nishikasugai-gun, Aichiken, Japan
 Filed Apr. 7, 1967, Ser. No. 6,578
 Term of patent 3½ years
 (Cl. D44—15)



208,656
PLATE OR SIMILAR ARTICLE
 Ryotaro Takeoka, 221 Kitayamoto-cho,
 Nishikasugai-gun, Aichiken, Japan
 Filed Apr. 7, 1967, Ser. No. 6,580
 Term of patent 3½ years
 (Cl. D44—15)



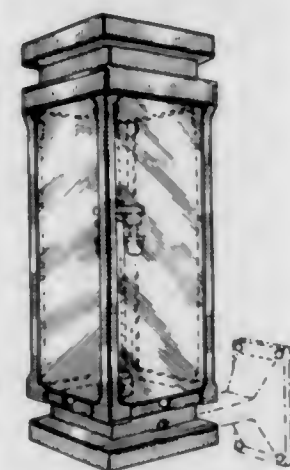
208,657
PLATE OR SIMILAR ARTICLE
 Ryotaro Takeoka, 221 Kitayamoto-cho,
 Nishikasugai-gun, Aichiken, Japan
 Filed Apr. 7, 1967, Ser. No. 6,581
 Term of patent 3½ years
 (Cl. D44—15)



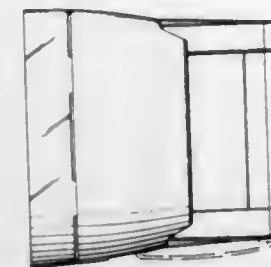
208,658
WALL MOUNTING PLATE FOR A LAMP
SUPPORT BRACKET ARM
 Henry J. Salvador, Long Beach, Calif., assignor to Eagle
 Manufacturing Co., City of Industry, Calif., a corpora-
 tion of California
 Filed Nov. 29, 1966, Ser. No. 4,850
 Term of patent 14 years
 (Cl. D48—4)



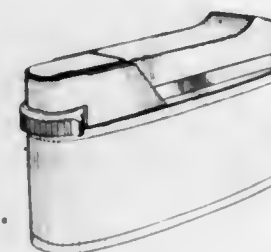
208,659
LAMP
 Walter Koziol, Russell, Ill., assignor to Charmglow Man-
 ufacturing Co., Antioch, Ill., a corporation of Illinois
 Filed Feb. 14, 1967, Ser. No. 5,811
 Term of patent 14 years
 (Cl. D48—4)



208,660
PORTABLE LIGHT UNIT
 John W. McRoskey and Leonard H. McRoskey, Los
 Angeles, Calif., assignors to Republic Tool & Manu-
 facturing Corp., a corporation of California
 Filed Sept. 6, 1966, Ser. No. 3,728
 Term of patent 14 years
 (Cl. D48—24)



208,661
GAS LIGHTER
 Masajiro Yoshinaga, 1-11 1-chome, Asakusabashi,
 Taito-ku, Tokyo, Japan
 Filed May 17, 1966, Ser. No. 2,329
 Term of patent 3½ years
 (Cl. D48—27)



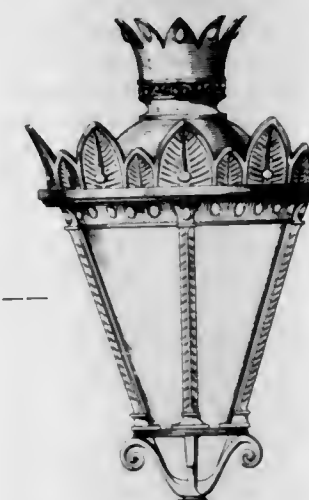
208,662
CIGARETTE LIGHTER
 Zenzaburo Yoshino, Tokyo, Japan, assignor to Zenza
 Bronica Kogyo Kabushiki Kaisha, Tokyo, Japan
 Filed May 17, 1966, Ser. No. 2,338
 Term of patent 3½ years
 (Cl. D48—27)



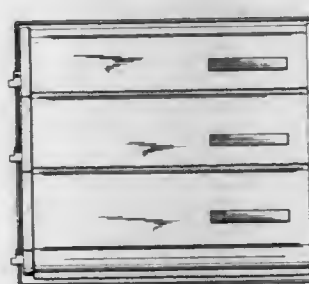
208,663
LIGHTING FIXTURE
 Howard A. Daum, R.F.D. 5, Hanover, Pa. 17331
 Filed Nov. 23, 1966, Ser. No. 4,777
 Term of patent 14 years
 (Cl. D48—31)



208,664
LIGHTING FIXTURE
 Howard A. Daum, R.F.D. 5, Hanover, Pa. 17331
 Filed Nov. 23, 1966, Ser. No. 4,799
 Term of patent 14 years
 (Cl. D48—31)



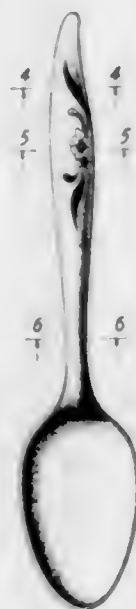
208,665
DISPENSER CABINET FOR ROLLED
SHEET MATERIALS
 Harold O. Wagner, Sheffield Lake, and Manuel S. Ziskin,
 Mayfield Heights, Ohio, assignors to American Trading
 and Production Corporation, Baltimore, Md.
 Filed Apr. 27, 1966, Ser. No. 2,043
 Term of patent 14 years
 (Cl. D52—2)



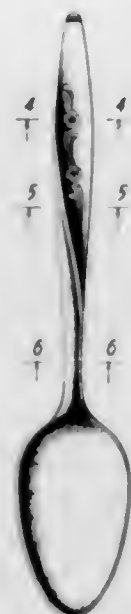
208,666
DUAL STRAIGHTEDGE
 Jacque Fresco, 3112 SW. 23rd St.,
 Miami, Fla. 33145
 Filed Dec. 28, 1966, Ser. No. 5,205
 Term of patent 14 years
 (Cl. D52—6)



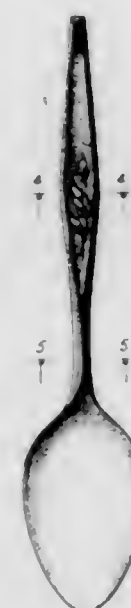
208,667
SPOON OR SIMILAR ARTICLE
 Ellen B. Manderfield, Syracuse, N.Y., assignor to Oneida
 Ltd., Oneida, N.Y., a corporation of New York
 Filed Mar. 9, 1966, Ser. No. 1,381
 Term of patent 14 years
 (Cl. D54—12)



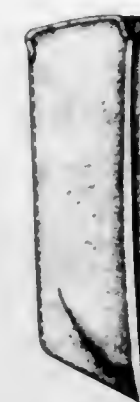
208,668
SPOON OR SIMILAR ARTICLE
 Ellen B. Manderfield, Syracuse, N.Y., assignor to Oneida
 Ltd., Oneida, N.Y., a corporation of New York
 Filed Mar. 9, 1966, Ser. No. 1,382
 Term of patent 14 years
 (Cl. D54—12)



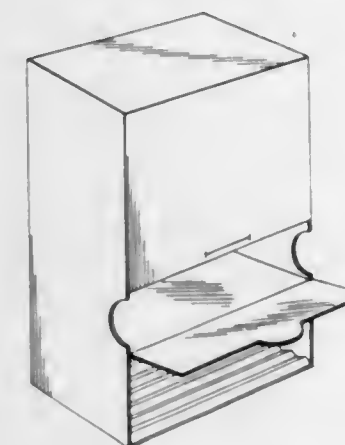
208,669
SPOON OR SIMILAR ARTICLE
 Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd.,
 Oneida, N.Y., a corporation of New York
 Filed Mar. 9, 1966, Ser. No. 1,383
 Term of patent 14 years
 (Cl. D54—12)



208,670
SPECTACLE CASE
 Robert J. Marks, 15972 Wellington Way,
 San Leandro, Calif. 94578
 Filed Dec. 14, 1965, Ser. No. 170
 Term of patent 14 years
 (Cl. D57—1)



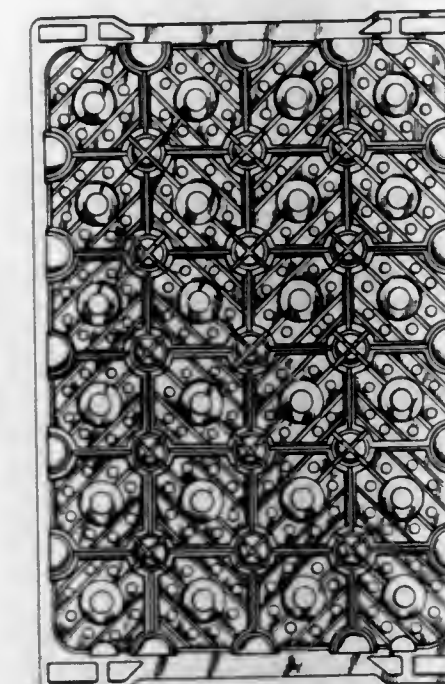
208,671
**COMBINED CONTAINER, DISPENSER, AND
 TRAY FOR SOAP**
 Anton Lang, 1724 W. Ball Road, Apt. 6,
 Anaheim, Calif. 92804
 Filed Apr. 4, 1966, Ser. No. 1,753
 Term of patent 14 years
 (Cl. D58—12.6)



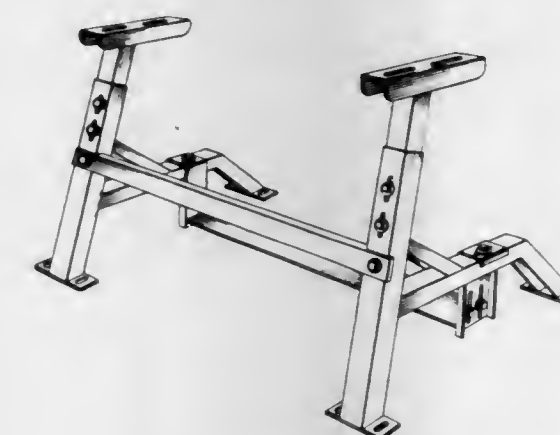
208,672
CONTAINER FOR DRY PRODUCTS OR THE LIKE
 Martin Schnur, West Orange, and Mel Appel, Livingston,
 N.J., assignors to American Can Company, New York,
 N.Y., a corporation of New Jersey
 Filed Dec. 30, 1965, Ser. No. 375
 Term of patent 14 years
 (Cl. D58—2)



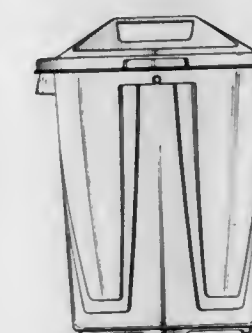
208,673
BEVERAGE BOTTLE CASE
 Heinz W. Adomat, Kielmannseggstrasse 71, 2,
 Hamburg 70, Germany
 Filed Dec. 1, 1966, Ser. No. 4,891
 Term of patent 14 years
 (Cl. D58—5)



208,674
SEWING MACHINE STAND
 William T. Maxant, Ayer, Mass. 01432
 Filed Sept. 23, 1965, Ser. No. 87,140
 Term of patent 14 years
 (Cl. D33—12)

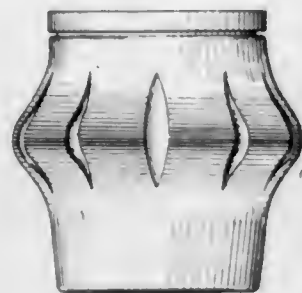


208,675
DIAPER PAIL
 Norman S. Gardner, New Rochelle, N.Y., assignor
 to Joy Plastics, Inc., New York, N.Y.
 Filed Oct. 22, 1965, Ser. No. 87,767
 Term of patent 14 years
 (Cl. D58—17)

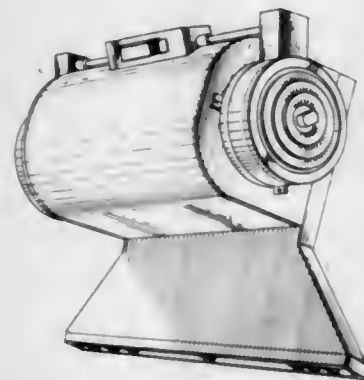


208,676
JAR

Martin Schnur, West Orange, and Mel Appel, Livingston, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1965, Ser. No. 372
Term of patent 14 years
(Cl. D58—25)



208,677
AIR CURTAIN
Herman M. Melzer, McKeesport, Pa.
(302 4th St., Charleroi, Pa. 15022)
Filed May 14, 1965, Ser. No. 85,284
Term of patent 7 years
(Cl. D62—4)

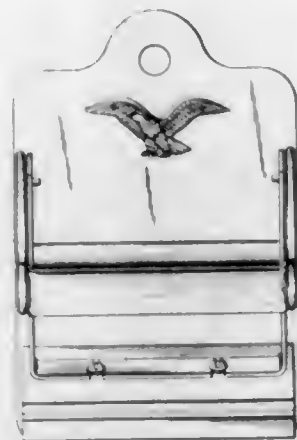


208,678
SUPERSONIC AIRPLANE
George S. Schairer, William H. Cook, and John D. Alexander, Bellevue, and Philip C. Whitener and Robert R. Wadleigh, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed June 16, 1966, Ser. No. 2,694
Term of patent 14 years
(Cl. D71—1)



208,679
HOLDER FOR MEMO PAPER

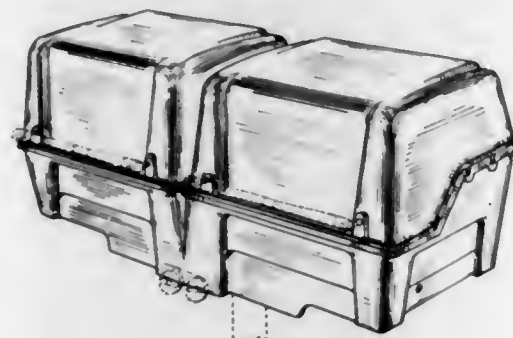
Mel Appel, Livingston, and Martin Schnur, West Orange, N.J., assignors to Elpo Industries Inc., Fair Lawn, N.J., a corporation of New Jersey
Filed Nov. 4, 1966, Ser. No. 4,546
Term of patent 14 years
(Cl. D74—1)



208,680
WRITING INSTRUMENT
Frank P. Summers, Medford, N.J., assignor to The Esterbrook Pen Company, Cherry Hill, N.J., a corporation of New Jersey
Filed Nov. 2, 1965, Ser. No. 87,982
Term of patent 14 years
(Cl. D74—17)

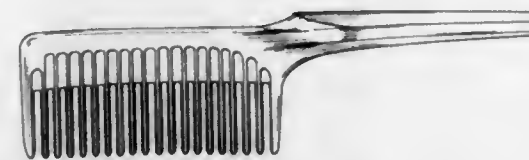


208,681
COOKING APPARATUS
Walter Koziol, Russell, Ill., assignor to Charmglow Manufacturing Co., Antioch, Ill., a corporation of Illinois
Filed Nov. 14, 1966, Ser. No. 4,645
Term of patent 14 years
(Cl. D81—10)

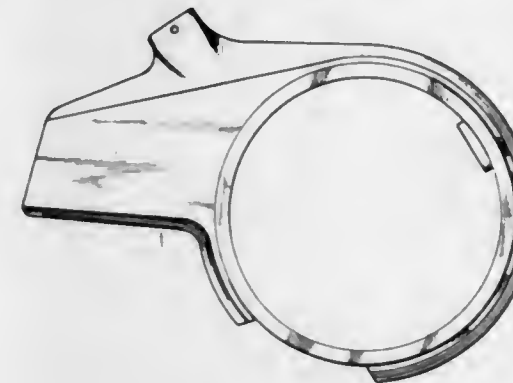


208,682
COMB

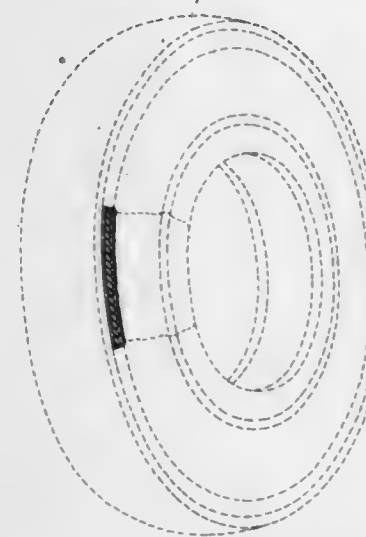
James E. Tucker, Chicago, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Nov. 28, 1966, Ser. No. 4,818
Term of patent 14 years
(Cl. D86—8)



208,683
BICYCLE CHAIN GUARD
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Mar. 1, 1967, Ser. No. 6,003
Term of patent 14 years
(Cl. D90—5)



208,684
TIRE
Clarence H. Vizina, Jr., Ferndale, Mich., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Dec. 3, 1965, Ser. No. 41
Term of patent 14 years
(Cl. D90—20)



208,685
TIRE
Raymond W. Evans, Jr., 2373 E. Bailey Road, Cuyahoga Falls, Ohio 44221
Filed July 25, 1966, Ser. No. 3,197
Term of patent 14 years
(Cl. D90—20)



208,686
CHAIN SAW BLADE COVER
Evald Torokvei, 12 Alderbrook Drive, Don Mills, Ontario, Canada
Filed Dec. 5, 1966, Ser. No. 4,911
Term of patent 14 years
(Cl. D93—3)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 19TH DAY OF SEPTEMBER, 1967

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Dickson, Patrick, Jackson & Perkins Co. Rose plant. 2,769,
9-19-67, Cl. 11.
Jackson & Perkins Co.: See—

Dickson, Patrick, 2,769.
Ecke, Paul. Poinsettia plant. 2,768, 9-19-67, Cl. -86.

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Adomat, Heinz W. Beverage bottle case. 208,673, 9-19-67, Cl. D58—5.
Alexander, John D.: See—
Schairer, George S., Cook, Alexander, Whitener, and Wad-
leigh. 208,678.
American Can Co.: See—
Schnur, Martin, and Appel. 208,672.
Schnur, Martin, and Appel. 208,676.
American Trading and Production Corp.: See—
Wagner, Harold O., and Ziskin. 208,665.
Appel, Mel: See—
Schnur, Martin, and Appel. 208,672.
Appel, Mel, and M. Schnur, to Elpo Industries Inc. Holder
for memo paper. 208,679, 9-19-67, Cl. D74—1.
Automatic Electric Laboratories, Inc.: See—
Janda, George M. 208,634.
Bartoli, Mauro. Medal. 208,635, 9-19-67, Cl. D29—19.
Boeing Co., The: See—
Schairer, George S., Cook, Alexander, Whitener, and Wad-
leigh. 208,678.
Bonzer, Lawrence W. Hand vacuum cleaner. 208,627, 9-19-
67, Cl. D9—2.
Charming Mfg. Co.: See—
Kozlul, Walter. 208,659.
Kozlul, Walter. 208,681.
Coblentz, Wesley S., to Sunkist Growers, Inc. Support plat-
form or similar article for fruit gatherers. 208,630, 9-19-
67, Cl. D15—8.
Cook, William H.: See—
Schairer, George S., Cook, Alexander, Whitener, and Wad-
leigh. 208,678.
Daum, Howard A. Lighting fixture. 208,663, 9-19-67, Cl.
D48—31.
Daum, Howard A. Lighting fixture. 208,664, 9-19-67, Cl.
D48—31.
Eagle Mfg. Co.: See—
Salvador, Henry J. 208,658.
Elpo Industries Inc.: See—
Appel, Mel, and Schnur. 208,679.
Esterbrook Pen Co., The: See—
Summers, Frank P. 208,680.
Evans, Raymond W., Jr. Tire. 208,685, 9-19-67, Cl. D90—20.
Fresco, Jacques. Dual straightedge. 208,666, 9-19-67, Cl.
D52—6.
Gardner, Norman S., to Joy Plastics, Inc. Diaper pail. 208,675,
9-19-67, Cl. D58—17.
Gervais, Henry O., to Henry Industries, Inc. Swing or the
like. 208,643, 9-19-67, Cl. D34—5.
Gillette, Co., The: See—
Tucker, James E. 208,682.
Heddon's, James Sons: See—
Miller, Earl E. 208,631.
Henry Industries, Inc.: See—
Gervais, Henry O. 208,643.
International Business Machines Corp.: See—
Pascale, William E., and Stringer. 208,633.
Janda, George M., to Automatic Electric Laboratories, Inc.
A combined telephone desk set and television receiver or
similar article. 208,634, 9-19-67, Cl. D26—14.
Jensen, Harold V. Sock. 208,621, 9-19-67, Cl. D2—331.
Jensen, Harold V. Sock. 208,622, 9-19-67, Cl. D2—331.
Jensen, Harold V. Sock. 208,623, 9-19-67, Cl. D2—331.
Jensen, Harold V. Sock. 208,624, 9-19-67, Cl. D2—334.
Joy Plastics, Inc.: See—
Gardner, Norman S. 208,675.
Kiggins, Ralph D. Planter box. 208,645, 9-19-67, Cl. D35—3.
Kiggins, Ralph D. Planter box. 208,646, 9-19-67, Cl. D35—3.
Klein, Andrew C., Jr. Clock. 208,647, 9-19-67, Cl. D42—7.
Kozlul, Walter, to Charming Mfg. Co. Lamp. 208,659, 9-19-
67, Cl. D48—4.
Kozlul, Walter, to Charming Mfg. Co. Cooking apparatus.
208,681, 9-19-67, Cl. D81—10.
Lang, Anton. Combined container, dispenser, and tray for
soap. 208,671, 9-19-67, Cl. D58—12.6.
LaPine Scientific Co.: See—
Ringhofer, Rudolph. 208,632.
Madl, Alfred W., to John Oster Mfg. Co. Motor operated
toothbrush handle. 208,626, 9-19-67, Cl. D9—2.
Manderfield, Ellen B., to Onelda Ltd. Spoon or similar arti-
cle. 208,667, 9-19-67, Cl. D54—12.

Manderfield, Ellen B., to Onelda Ltd. Spoon or similar arti-
cle. 208,668, 9-19-67, Cl. D54—12.
Marks, Robert J. Spectacle case. 208,670, 9-19-67, Cl. D57—1.
Maxant, William T. Sewing machine stand. 208,674, 9-19-67,
Cl. D33—12.
McRoskey, John W., and L. H., to Republic Tool & Mfg. Corp.
Portable light unit. 208,660, 9-19-67, Cl. D48—24.
McRoskey, Leonard H.: See—
McRoskey, John W., and L. H. 208,660.
Melzer, Herman M. Air curtain. 208,677, 9-19-67, Cl. D62—4.
Miller, Earl E., to James Heddon's Sons. Fish lure. 208,631,
9-19-67, Cl. D22—28.
Murray Ohio Mfg. Co., The: See—
Schreckengost, Viktor. 208,683.
Nohl, Egon, to Rewo Chemische Fabrik G.m.b.H. Foam spray
attachment for vacuum cleaners. 208,625, 9-19-67, Cl.
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Manderfield, Ellen B. 208,667.
Manderfield, Ellen B. 208,668.
Perry, Frank R. 208,669.
Oster, John Mfg. Co.: See—
Madl, Alfred W. 208,626.
Pascale, William E., and J. W. Stringer, to International
Business Machines Corp. Cabinet for an electronic control
unit. 208,633, 9-19-67, Cl. D26—5.
Perry, Frank R., to Onelda Ltd. Spoon or similar article. 208-
669, 9-19-67, Cl. D54—12.
Republic Tool & Mfg. Corp.: See—
McRoskey, John W. and L. H. 208,660.
Rewo Chemische Fabrik G.m.b.H.: See—
Nohl, Egon. 208,625.
Ringhofer, Rudolph, to LaPine Scientific Co. Number board
for a mathematics teaching device. 208,632, 9-19-67, Cl.
D25—1.
Rosemount Engineering Co.: See—
Werner, Frank D., and Petersen. 208,620.
Russell, Carl D. Stick horse toy. 208,644, 9-19-67, Cl. D34—
15.
Salvador, Henry J., to Eagle Mfg. Co. Wall mounting plate
for a lamp support bracket arm. 208,658, 9-19-67, Cl.
D48—4.
Schairer, George S., W. H. Cook, J. D. Alexander, P. C.
Whitener, and R. R. Wadleigh, to The Boeing Co. Supersonic
airplane. 208,678, 9-19-67, Cl. D71—1.
Schnur, Martin, and M. Appel, to American Can Co. Container
for dry products or the like. 208,672, 9-19-67, Cl. D58—2.
Schnur, Martin, and M. Appel, to American Can Co. Jar. 208-
676, 9-19-67, Cl. D58—25.
Schnur, Martin: See—
Appel, Mel, and Schnur. 208,679.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Bicycle
chain guard. 208,683, 9-19-67, Cl. D90—5.
Smith, Jerome S. Panel unit for a room divider or similar
article. 208,628, 9-19-67, Cl. D13—1.
Smith, Jerome S. Panel unit for a room divider or similar
article. 208,629, 9-19-67, Cl. D13—1.
Strauss, Walter L. Mechanical toy figure. 208,636, 9-19-67, Cl.
D34—4.
Strauss, Walter L. Mechanical toy figure. 208,637, 9-19-67, Cl.
D34—4.
Strauss, Walter L. Mechanical toy figure. 208,638, 9-19-67,
Cl. D34—4.
Strauss, Walter L. Mechanical toy figure. 208,639, 9-19-67,
Cl. D34—4.
Strauss, Walter L. Mechanical toy figure. 208,640, 9-19-67,
Cl. D34—4.
Strauss, Walter L. Mechanical toy figure. 208,641, 9-19-67,
Cl. D34—4.
Stringer, Jack W.: See—
Pascale, William E., and Stringer. 208,633.
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ment. 208,680, 9-19-67, Cl. D74—17.
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Takeoka, Ryotaro. Plate or similar article. 208,649, 9-19-67,
Cl. D44—15.
Takeoka, Ryotaro. Plate or similar article. 208,650, 9-19-67,
Cl. D44—15.
Takeoka, Ryotaro. Plate or similar article. 208,651, 9-19-67,
Cl. D44—15.

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- Takeoka, Ryotaro. Plate or similar article. 208,652, 9-19-67, Cl. D44-15.
 Takeoka, Ryotaro. Plate or similar article. 208,653, 9-19-67, Cl. D44-15.
 Takeoka, Ryotaro. Plate or similar article. 208,654, 9-19-67, Cl. D44-15.
 Takeoka, Ryotaro. Plate or similar article. 208,656, 9-19-67, Cl. D44-15.
 Takeoka, Ryotaro. Plate or similar article. 208,657, 9-19-67, Cl. D44-15.
 Taylor, Beverly W. Gameboard. 208,642, 9-19-67, Cl. D34-5.
 Torokvei, Ewald. Chain saw blade cover. 208,686, 9-19-67, Cl. D93-3.
 Tucker, James E., to The Gillette Co. Comb. 208,682, 9-19-67, Cl. D86-8.
 Uniroyal, Inc.: See—
 Vizina, Clarence H., Jr. 208,684.
 Vizina, Clarence H., Jr., to Uniroyal, Inc. Tire. 208,684, 9-19-67, Cl. D90-20.
 Wadleigh, Robert R.: See—
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 Wagner, Harold O., and M. S. Ziskin, to American Trading and Production Corp. Dispenser cabinet for rolled sheet materials. 208,665, 9-19-67, Cl. D52-2.
 Warner, Norman. Egg boiling rack. 208,648, 9-19-67, Cl. D44-1.
 Werner, Frank D., and P. S. Petersen, to Rosemount Engineering Co. Snow excluder for a boot top. 208,620, 9-19-67, Cl. D2-314.
 Whitener, Philip C.: See—
 Schairer, George S., Cook, Alexander, Whitener, and Wadleigh. 208,678.
 Yoshinaga, Masajiro. Gas lighter. 208,661, 9-19-67, Cl. D48-27.
 Yoshino, Zenzaburo, to Zenza Bronica Kogyo Kabushiki Kaisha, Cigarette lighter. 208,662, 9-19-67, Cl. D48-27.
 Zenza Bronica Kogyo Kabushiki Kaisha: See—
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- Chance, A. B.: See—
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- Chang, Wen-Hsuan, to Pittsburgh Plate Glass Co. 2-substituted - 2 - methyl - 3 - hydroxy - 5,6 - dichloro - 1 - phthalanones and their method of preparation. 3,342,837, 9-19-67, Cl. 260-343.3.
- Charos, Peter. Packaged cream applicator. 3,342,182, 9-19-67, Cl. 128-260.
- Chase, Robert E., to Allied Chemical Corp. Spinnerette cleaning device. 3,341,945, 9-19-67, Cl. 30-169.
- Chase-Shawmut Co., The: See—
- Kozacka, Frederick J. 3,342,962.
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- Chaupeade, Robert, to La Materiel Electrique S.W. Controlled rectifier conduction control arrangement. 3,343,005, 9-19-67, Cl. 307-88.5.
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- Chen, William K.-W., and R. N. Smith, to American Machine & Foundry Co. Ion exchange membrane fabrication. 3,342,719, 9-19-67, Cl. 204-301.
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Conrad, Frank G., Jr., to Georgia-Pacific Corp. Web winding apparatus. 3,342,434, 9-19-67, Cl. 242-67.1.

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Corey, Garland G., and E. J. Kenney, to Colgate-Palmolive Co. Detergent composition. 3,342,739, 9-19-67, Cl. 252-152.

Corey, Robert J. Non-run reversible knit-weave. 3,342,044, 9-19-67, Cl. 66-169.

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Cotter, Gerald S., and J. E. Huffmaster. Turbo-generator heater for oil and gas wells and pipe lines. 3,342,267, 9-19-67, Cl. 166-60.

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Cox, Thomas G., W. C. Belk, and H. W. Grotewold, to FMC Corp. Container filling machine. 3,342,011, 9-19-67, Cl. 53-59.

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Cahoy, Roger P., and Coyne. 3,342,869.

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Cribbs, Robert D., to Collins Radio Co. Voltage and current controlled rectifier. 3,343,066, 9-19-67, Cl. 321-18.

Cripe, Alan R., to United Aircraft Corp. Panel mounting structure. 3,342,000, 9-19-67, Cl. 52-468.

Croce, Louis J., L. Bajars, and M. Gablits, to Petro-Tex Chemical Corp. Process of dehydrogenation. 3,342,890, 9-19-67, Cl. 260-680.

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Crooks, James W., Jr., and R. C. Weaver, to General Dynamics Corp. Distance measuring system. 3,343,163, 9-19-67, Cl. 343-12.

Crouch, Alfred E., to American Machine & Foundry Co. Apparatus and method for electromagnetically distinguishing between outside and inside flaws in magnetizable members utilizing a leakage field detector. 3,343,079, 9-19-67, Cl. 324-37.

Crouch, Robert L., and A. L. Williams, Jr., to Layne Texas Co., Inc. Method of providing a sealed joint employing a flexible bag. 3,342,033, 9-19-67, Cl. 61-30.

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Cruse, Bernard W., Jr., to Emle Mills, Inc. Guiding means for forms for hosiery or the like. 3,342,391, 9-19-67, Cl. 223-70.

Crusinberry, William O., to Hunt Electronics Co. Light sensitive power control circuit including diode switch. 3,342,996, 9-19-67, Cl. 250-206.

Cunningham, William J., to Rohm & Haas Co. Alkoxyalkyl terphenyl phthalates. 3,342,852, 9-19-67, Cl. 260-475.

Curier, Raymond F. Toothbrush sanitizer. 3,342,544, 9-19-67, Cl. 21-83.

Curlett, John, R. A. Gurrles, and A. H. Rodriguez, to Gurrles Mfg. Co. Grade wire support. 3,342,446, 9-19-67, Cl. 248-221.

Curran, Willard F., to Danly Machine Specialties, Inc. Apparatus for reversing a workpiece for an automatic press line. 3,342,125, 9-19-67, Cl. 100-207.

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Jablonski, Edward R., and Curtin. 3,342,986.

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Dainippon Pharmaceutical Co., Ltd.: See—
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Damen, Leonardus W. J.: See—
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Dangach, Rainer: See—
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Daniels, John F., and D. R. Locke, to Sperry Rand Corp. Oscillating electromagnetic motor. 3,343,011, 9-19-67, Cl. 310-21.

Danielson, Evald P. Bumper bracket. 3,342,441, 9-19-67, Cl. 248-42.

Danly Machine Specialties, Inc.: See—
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Darlo, Antonio. Process for producing inscriptions and decorations on plates of acrylic resins and derivatives, direct during their formation and plates so produced. 3,342,668, 9-19-67, Cl. 161-242.

Daryl Industries, Inc.: See—
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Dassler, Adolf. Sport shoe, especially for football. 3,341,952, 9-19-67, Cl. 36-2.5.

Data Packaging Corp.: See—
Gelardi, Anthony L., and Conway. 3,342,435.

Date, Tasuku, and R. Kajikawa, to Kabushiki Kaisha Honda Gijutsu Kenkyusho. Carburetor. 3,342,463, 9-19-67, Cl. 261-44.

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Davids, John H.: See—
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Davidson, Jack M., to General Motors Corp. Control knob for washing machines and other domestic appliances. 3,342,082, 9-19-67, Cl. 74-553.

Davidson, Leo R. and R. L. Machine for mechanically finishing workpieces. 3,341,979, 9-19-67, Cl. 51-164.

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Davis, Irvin F.: See—
Gray, Edward E., Long, and Davis. 3,342,084.

Davis, John K.: See—
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Davis, William E. Tobacco harvester and clip. 3,342,353, 9-19-67, Cl. 214-38.

Davy and United Engineering Co. Ltd.: See—
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Davy and United Engineering Co., Ltd.: See—
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Day, Thomas L., E. G. Stocks, Jr., and E. J. Totsas, to Connor Engineering Corp. Volume temperature control device for air outlet devices. 3,342,212, 9-19-67, Cl. 137-613.

Dearsley, George, to American Machine & Foundry Co. Conveying systems. 3,342,313, 9-19-67, Cl. 198-211.

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Cometti, Andre, and Debarre. 3,342,846.

Dedricks, Alvin N., and R. H. Swanson, to The Manitowoc Co., Inc. Apparatus for making frozen products. 3,342,040, 9-19-67, Cl. 62-320.

Deering, Roland F., and J. H. Ballard, to Union Oil Co. of California. Method and nozzle for injecting one fluid into another fluid. 3,342,193, 9-19-67, Cl. 137-3.

Defauw, Marcel, to Rheem Mfg. Co. Method for securing a metal collar or grommet in the orifice of a metal barrel and elements used for this purpose. 3,342,366, 9-19-67, Cl. 220-39.

Defensor: See—
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De Laval Turbine Inc.: See—
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Del Franco, Guy J., to Interchemical Corp. Tetra (5-norbornene-2-methyl) titanate. 3,342,842, 9-19-67, Cl. 260-429.5.

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Den Hertog, Charles G., to North American Phillips Co. Inc. Rectifying device for pulses modulated by phase jump modulation on a carrier oscillation. 3,343,090, 9-19-67, Cl. 325-320.

Dentin Mfg. Co.: See—
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Depledge, Norman G.: See—
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D'Ercoli, Giacinto C.: See—
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Dermatis, Steven N., to Westinghouse Electric Corp. Apparatus for producing dendrites. 3,342,559, 9-19-67, Cl. 23-273.

De Rooij, Abraham H., to Stamcarbon N.V. Production of phosphates from phosphate rock by solvent extraction. 3,342,580, 9-19-67, Cl. 71-39.

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Deschamps, Robert M., and C. Dufour, to Societe Des Accumulateurs Fixes et de Traction (Societe-Anonyme). Storage batteries and cells. 3,343,058, 9-19-67, Cl. 320-17.

De Shay, Robert V.: See—
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Deutsch, Sid, to Battelle Development Corp. Synchronizing of electron beam scanning in a narrow bandwidth pseudo-random dot scan television system. 3,342,937, 9-19-67, Cl. 178-69.5.

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Devine, Arthur J. Method of forming sheet metal without mechanical dies. 3,342,049, 9-19-67, Cl. 72-60.

De Vries, Louis, to Chevron Research Co. Polyvinyl thioethers. 3,342,790, 9-19-67, Cl. 260-79.5.

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De Witt, William J., H. A. Sorgenti, and R. C. Taylor, to The Atlantic Refining Co. Production of low 2-phenyl isomer content monoalkylbenzene fractions. 3,342,888, 9-19-67, Cl. 260-671.

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Diatemp, Inc.: See—
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Dibelius, Norman R., and J. C. Fraser, to General Electric Co. Apparatus for treating liquids in an electrical discharge including means for directing the liquid in a continuous curtain. 3,342,721, 9-19-67, Cl. 204-312.

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Johnson, Hilding R., and Di Bella. 3,342,870.

Dichter, Jakob. Machine for reshaping the neck portion of small glass bottles with lubricating means. 3,342,575, 9-19-67, Cl. 65-170.

Diehl, Alan V. Trailer suspension. 3,342,505, 9-19-67, Cl. 280-43.18.

Dien, Chi K., to Allied Chemical Corp. Preparation of quinacridones using polyphosphoric acid. 3,342,823, 9-19-67, Cl. 260-271.

Diepeveen, John C., to Unitek Corp. Precision drive apparatus for a tool mount. 3,342,395, 9-19-67, Cl. 228-1.

Dietrich, Henri, to Geigy Chemical Corp. Iminodibenzyl derivatives. 3,342,807, 9-19-67, Cl. 260-239.

Dill, Frederick H., Jr., to International Business Machines Corp. Crystalline injection laser device manufacture. 3,341,937, 9-19-67, Cl. 29-583.

Dillon, Bernard C.: See—
Dillon, Bernard C., and Acampora. 3,342,960.

Dillon, Bernard C., deceased (F. M. Dillon, administratrix), and S. Acampora, to F. M. Dillon. Fluid level sensing and indicating device. 3,342,960, 9-19-67, Cl. 200-84.

Dingwall, Andrew G. F., to Radio Corp. of America. Low resistance bonds to germanium-silicon bodies and method of making such bonds. 3,342,567, 9-19-67, Cl. 29-195.

Dingwall, Andrew G. F., and C. W. Horsting, to Radio Corp. of America. Thermoelectric generator including silicon germanium alloy thermoelements. 3,342,646, 9-19-67, Cl. 136-205.

Dirks, Gerhard. Data handling system. 3,343,133, 9-19-67, Cl. 340-172.5.

Docken, Melford H., 1/2 to S. Graham. Bracing structure. 3,341,995, 9-19-67, Cl. 52-226.

- Doedens, James D., to The Dow Chemical Co. Alkoxyethylated aromatic ethers and condensation products thereof. 3,342,873, 9-19-67, Cl. 260-613.
- Dole Valve Co., The: See—
Erickson, Howard L., and Huley. 3,342,452.
- Doman, Robert C.: See—
Alper, Allen M., and Doman. 3,342,616.
- Döme, Peter, to Société Suisse Pour l'Industrie Horlogère S.A. Drive means for a timepiece. 3,343,015, 9-19-67, Cl. 310-84.
- Domecki, Edward H. Liquid supply circuit. 3,342,136, 9-19-67, Cl. 103-8.
- Dominion Corset Co., Ltd.: See—
Spoerry, George F. 3,342,222.
- Donguy, René, and A. Roguin, to Commissariat A l'Energie Atomique. Filtration cell. 3,342,022, 9-19-67, Cl. 55-356.
- Dorfman, Edwin, and E. D. Well, to Hooker Chemical Corp. Tetrahydroxybenzamides. 3,342,859, 9-19-67, Cl. 260-559.
- Dormidontov, Nikolai I.: See—
Sinjavsky, Adolf P., Bedeker, Dormidontov, and Dormidontova. 3,342,351.
- Dormidontova, Vera N.: See—
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- Dotzer, Richard, to Siemens-Schuckertwerke Aktiengesellschaft. Method and apparatus for producing a semiconducting compound of two or more components. 3,342,551, 9-19-67, Cl. 23-204.
- Dougall, John, to Joseph Lucas (Industries) Ltd. Electrical coil assemblies. 3,343,113, 9-19-67, Cl. 336-192.
- Doumas, Arthur C., to The Dow Chemical Co. Process for polymerizing tetrafluoroethylene in continuous manner using high energy ionizing radiation. 3,342,899, 9-19-67, Cl. 260-877.
- Dow Chemical Co., The: See—
Bridge, William A., and Crawford. 3,341,888.
- Callihan, Clayton D. 3,342,805.
- Doedens, James D. 3,342,873.
- Doumas, Arthur C. 3,342,899.
- Karpovich, John, and Clark. 3,342,922.
- McMillan, William J. 3,342,555.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,609, 9-19-67, Cl. 96—90.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,622, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,623, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,624, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,625, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,626, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,627, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,628, 9-19-67, Cl. 96—90.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,630, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,631, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,632, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,633, 9-19-67, Cl. 96—90.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,636, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,637, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,638, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,639, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,640, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,641, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,642, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,643, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,644, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,645, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,646, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,647, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,648, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,649, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,650, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,651, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,652, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,653, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,654, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,655, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,656, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,657, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,658, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,659, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,660, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,661, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,662, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,663, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,664, 9-19-67, Cl. 96—90.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,666, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,667, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,668, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,669, 9-19-67, Cl. 96—90.
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Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,671, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,672, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,673, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,674, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,675, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,676, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,677, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,678, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,679, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,680, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,681, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,682, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,683, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,684, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,685, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,686, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,687, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,688, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,689, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,690, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,691, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,692, 9-19-67, Cl. 96—90.
Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Non-silver photosensitive printout compositions, 3,342,693, 9-19-67, Cl. 96—90.
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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,342,147	6 : 3,342,189	6 : 3,342,856	9 : 3,341,958	12 : 3,342,136	17 : 3,342,256
3,342,577	3,342,193	3,342,881	3,342,106	3,342,160	3,342,257
3,342,679	3,342,200	3,342,883	3,342,176	3,342,176	3,342,261
3,342,861	3,342,208	3,342,886	3,342,212	3,342,184	3,342,286
3,342,862	3,342,228	3,342,887	3,342,246	3,342,246	3,342,298
3,342,863	3,342,263	3,342,898	3,342,457	3,342,408	3,342,318
3,342,864	3,342,283	3,342,909	3,342,626	3,342,414	3,342,322
3,342,867	3,342,287	3,342,927	3,342,642	3,342,508	3,342,332
3,342,868	3,342,296	3,342,932	3,342,690	3,342,521	3,342,344
2 : 3,342,583	3,342,297	3,342,951	3,342,719	3,342,664	3,342,367
4 : 3,342,175	3,342,314	3,342,966	3,342,773	3,342,787	3,342,372
3,342,310	3,342,345	3,342,967	3,342,817	3,343,086	3,342,375
3,342,429	3,342,346	3,342,968	3,342,845	3,342,103	3,342,382
3,342,438	3,342,364	3,342,972	3,342,855	3,341,908	3,342,383
3,342,484	3,342,373	3,342,978	3,342,954	3,342,010	3,342,412
3,342,519	3,342,395	3,342,980	3,342,959	3,342,153	3,342,452
3,342,999	3,342,396	3,342,984	3,342,960	3,342,374	3,342,468
3,343,089	3,342,400	3,342,997	3,342,962	3,342,506	3,342,482
3,343,114	3,342,420	3,343,010	3,343,011	3,343,171	3,342,486
5 : 3,342,172	3,342,423	3,343,020	3,343,028	17 : 3,341,866	3,342,502
6 : 3,341,868	3,342,439	3,343,022	3,343,041	3,341,884	3,342,512
3,341,874	3,342,441	3,343,026	3,343,071	3,341,895	3,342,515
3,341,877	3,342,446	3,343,052	3,343,109	3,341,903	3,342,516
3,341,881	3,342,459	3,343,053	3,343,117	3,341,904	3,342,561
3,341,907	3,342,460	3,343,069	3,343,117	3,341,919	3,342,594
3,341,933	3,342,471	3,343,078	3,343,117	3,341,939	3,342,635
3,341,951	3,342,475	3,343,080	3,343,093	3,341,942	3,342,636
3,341,964	3,342,498	3,343,101	3,342,433	3,341,954	3,342,654
3,341,966	3,342,501	3,343,115	3,342,679	3,341,969	3,342,659
3,341,993	3,342,505	3,343,123	3,342,680	3,341,972	3,342,661
3,341,997	3,342,509	3,343,125	3,342,769	3,341,995	3,342,740
3,341,999	3,342,544	3,343,129	3,342,774	3,342,032	3,342,742
3,342,005	3,342,570	3,343,133	3,342,777	3,342,048	3,342,747
3,342,008	3,342,571	3,343,134	3,342,778	3,342,052	3,342,751
3,342,009	3,342,607	3,343,140	3,342,785	3,342,084	3,342,792
3,342,035	3,342,618	3,343,149	3,342,808	3,342,088	3,342,796
3,342,049	3,342,637	3,343,155	3,342,875	3,342,095	3,342,843
3,342,067	3,342,655	3,343,162	3,342,880	3,342,100	3,342,904
3,342,076	3,342,666	3,343,163	3,342,897	3,342,102	3,342,905
3,342,089	3,342,686	3,343,173	3,343,173	3,342,110	3,342,906
3,342,094	3,342,712	3,343,174	3,342,066	3,342,125	3,342,914
3,342,099	3,342,718	8 : 3,341,965	3,342,695	3,342,139	3,342,915
3,342,107	3,342,725	3,342,090	3,343,082	3,342,143	3,342,942
3,342,111	3,342,741	3,342,204	3,342,170	3,342,149	3,342,957
3,342,116	3,342,745	3,342,979	3,341,893	3,342,170	3,342,963
3,342,117	3,342,790	3,343,064	3,341,906	3,342,179	3,343,002
3,342,126	3,342,827	9 : 3,341,870	3,341,963	3,342,207	3,343,003
3,342,130	3,342,833	3,341,871	3,341,973	3,342,223	3,343,024
3,342,159	3,342,840	3,341,885	3,342,237	3,342,237	3,343,060
3,342,171	3,342,841	3,341,887	3,342,105	3,342,253	3,343,068

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17 : 3,343,070	25 : 3,343,033	29 : 3,342,732	34 : 3,343,084	36 : 3,343,049	40 : 3,342,262
3,343,124	3,343,037	3,342,738	3,343,087	3,343,083	3,342,270
18 : 3,341,867	3,343,046	3,342,748	3,343,097	3,343,096	3,342,355
3,341,918	3,343,051	3,342,749	3,343,102	3,343,099	3,342,479
3,341,975	3,343,054	3,342,908	3,343,107	3,343,128	3,342,513
3,341,998	3,343,098	3,342,925	3,343,127	3,343,131	3,342,558
3,342,004	3,343,126	3,342,976	3,343,138	3,343,135	3,342,714
3,342,016	3,343,188	3,342,987	3,343,139	3,343,141	3,342,794
3,342,031	3,341,888	3,343,013	3,343,154	3,343,142	3,342,821
3,342,071	3,341,920	3,343,016	3,343,169	3,343,145	3,342,884
3,342,122	3,341,921	3,343,136	3,343,178	3,343,146	3,342,885
3,342,146	3,341,923	3,342,056	3,343,192	3,343,150	3,342,889
3,342,187	3,341,932	3,342,255	3,342,217	3,343,158	3,342,901
3,342,232	3,341,953	3,342,417	3,342,224	3,343,160	3,342,916
3,342,303	3,341,979	3,343,169	3,343,176	3,343,165	3,342,142
3,342,316	3,341,982	3,343,182	3,341,882	3,343,165	3,342,458
3,342,320	3,341,985	3,341,921	3,341,905	3,342,042	3,342,495
3,342,368	3,341,992	3,342,018	3,341,925	3,342,727	3,342,727
3,342,387	3,342,080	3,342,964	3,341,935	3,342,192	3,343,120
3,342,511	3,342,081	3,342,964	3,341,937	3,342,317	3,341,928
3,342,669	3,342,101	3,342,101	3,341,956	3,342,353	3,341,929
3,342,816	3,342,145	3,341,879	3,341,957	3,342,391	3,341,943
3,342,824	3,342,191	3,341,915	3,341,962	3,342,413	3,341,949
3,342,860	3,342,226	3,341,967	3,342,494	3,341,950	3,341,950
3,342,955	3,342,234	3,341,931	3,341,968	3,342,671	3,341,981
3,343,047	3,342,236	3,341,959	3,341,988	3,342,762	3,342,014
3,343,059	3,342,272	3,341,996	3,342,019	3,342,781	3,342,029
19 : 3,343,116	3,342,312	3,342,003	3,342,037	3,342,863	3,342,068
3,342,012	3,342,359	3,342,013	3,342,051	3,341,898	3,342,069
3,342,041	3,342,378	3,342,026	3,342,057	3,341,883	3,342,070
3,342,539	3,342,380	3,342,044	3,342,063	3,341,889	3,342,092
3,343,066	3,342,388	3,342,050	3,342,091	3,341,892	3,342,127
20 : 3,342,062	3,342,416	3,342,060	3,342,103	3,341,909	3,342,197
3,342,077	3,342,445	3,342,064	3,342,112	3,341,916	3,342,227
3,342,132	3,342,462	3,342,131	3,342,128	3,341,924	3,342,230
3,342,138	3,342,464	3,342,152	3,342,157	3,341,971	3,342,231
3,342,282	3,342,483	3,342,183	3,342,158	3,341,983	3,342,243
3,342,397	3,342,507	3,342,196	3,342,178	3,341,984	3,342,251
3,342,658	3,342,522	3,342,224	3,342,180	3,342,002	3,342,308
3,342,869	3,342,524	3,342,235	3,342,182	3,342,020	3,342,309
21 : 3,342,024	3,342,525	3,342,271	3,342,186	3,342,023	3,342,330
3,342,448	3,342,534	3,342,288	3,342,205	3,342,055	3,342,338
3,342,894	3,342,537	3,342,292	3,342,244	3,342,078	3,342,402
22 : 3,341,990	3,342,555	3,342,304	3,342,284	3,342,086	3,342,430
3,341,991	3,342,564	3,342,319	3,342,285	3,342,098	3,342,450
3,342,061	3,342,681	3,342,326	3,342,299	3,342,129	3,342,467
3,342,588	3,342,709	3,342,334	3,342,307	3,342,141	3,342,470
3,342,772	3,342,729	3,342,354	3,342,311	3,342,164	3,342,473
3,342,805	3,342,736	3,342,385	3,342,365	3,342,168	3,342,481
3,342,879	3,342,836	3,342,442	3,342,371	3,342,211	3,342,488
23 : 3,342,612	3,342,844	3,342,492	3,342,379	3,342,238	3,342,517
24 : 3,341,977	3,342,873	3,342,514	3,342,389	3,342,249	3,342,543
3,341,986	3,342,896	3,342,536	3,342,393	3,342,277	3,342,573
3,342,017	3,342,922	3,342,567	3,342,411	3,342,291	3,342,582
3,342,135	3,342,977	3,342,569	3,342,419	3,342,293	3,342,585
3,342,217	3,342,993	3,342,578	3,342,421	3,342,301	3,342,615
3,342,233	3,343,004	3,342,581	3,342,434	3,342,302	3,342,619
3,342,252	3,343,018	3,342,590	3,342,490	3,342,305	3,342,627
3,342,280	3,343,025	3,342,592	3,342,497	3,342,321	3,342,648
3,342,352	3,343,032	3,342,593	3,342,526	3,342,324	3,342,667
3,342,392	3,343,034	3,342,606	3,342,527	3,342,336	3,342,734
3,342,426	3,343,045	3,342,617	3,342,533	3,342,337	3,342,760
3,342,609	3,343,075	3,342,646	3,342,546	3,342,340	3,342,763
3,342,706	3,343,076	3,342,673	3,342,562	3,342,341	3,342,768
3,342,954	3,343,085	3,342,678	3,342,572	3,342,363	3,342,770
3,342,959	3,343,143	3,342,687	3,342,591	3,342,369	3,342,786
3,342,960	3,342,921	3,342,926	3,342,704	3,342,370	3,342,815
3,342,962	3,342,935	3,342,935	3,342,713	3,342,398	3,342,822
3,343,171	3,342,952	3,342,952	3,342,716	3,342,398	3,342,826
17 : 3,341,866	3,343,030	3,342,973	3,342,717	3,342,398	3,342,837
3,341,884	3,343,088	3,342,973	3,342,722	3,342,455	3,342,851
3,341,895	3,343,121	3,342,973	3,342,733	3,342,455	3,342,852
3,341,903	3,341,872	3,342,973	3,342,737	3,342,455	3,342,853
3,341,904	3,341,873	3,342,973	3,342,737	3,342,455	3,342,8

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

46 : 3,342,265	48 : 3,342,210	48 : 3,342,708	51 : 3,342,000	53 : 3,342,074	55 : 3,342,040
47 : 3,341,911	3,342,215	3,342,720	3,342,027	3,342,151	3,342,065
3,341,912	3,342,216	3,342,820	3,342,096	3,342,328	3,342,113
3,341,944	3,342,225	3,342,899	3,342,206	3,342,361	3,342,165
3,341,970	3,342,240	3,342,956	3,342,313	3,342,436	3,342,247
3,342,358	3,342,241	3,342,971	3,342,329	3,342,489	3,342,274
3,342,496	3,342,258	3,342,996	3,342,386	3,342,776	3,342,339
3,342,629	3,342,259	3,343,079	3,342,424	3,343,012	3,342,357
3,342,697	3,342,266	3,343,172	3,342,428	3,343,072	3,342,427
3,342,799	3,342,268	49 : 3,341,955	3,342,444	54 : 3,342,510	3,342,528
3,342,850	3,342,269	3,342,198	3,342,535	3,342,584	3,342,672
3,342,973	3,342,275	3,342,500	3,342,611	3,342,587	3,342,958
48 : 3,341,896	3,342,276	3,342,548	3,342,653	3,342,628	3,342,986
3,341,930	3,342,294	3,342,576	3,342,975	3,342,814	3,343,153
3,342,033	3,342,483	51 : 3,341,878	3,343,092	55 : 3,341,886	3,343,168
3,342,167	3,342,504	3,341,941	3,343,170	3,342,021	56 : 3,342,267
3,342,202	3,342,520	3,341,945	53 : 3,341,865	3,342,039	59 : 3,342,335
3,342,203	3,342,556				

DESIGN PATENTS

6 : 208,627	12 : 208,643	25 : 208,674	36 : 208,636	36 : 208,669	39 : 208,685
208,630	208,666	26 : 208,631	208,637	208,675	40 : 208,644
208,633	17 : 208,628	208,684	208,638	37 : 208,621	42 : 208,647
208,645	208,629	27 : 208,620	208,639	208,622	208,663
208,646	208,632	29 : 208,642	208,640	208,623	208,664
208,658	208,634	34 : 208,672	208,641	208,624	208,677
208,660	208,659	208,676	208,667	39 : 208,665	53 : 208,678
208,670	208,681	208,679	208,668	208,683	55 : 208,626
208,671	208,682	208,680			

PLANT PATENTS

6 : 2,768					
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 19, 1967

Volume 842

Number 3

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 200,069 (20TH CENTURY), New York Yacht, Launch & Engine Co., Gasoline marine motors and internal combustion engines, filed July 14, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-996-JWC, *Borg-Warner Corporation v. Commercial Enameling Company*.

Reg. No. 201,456 (INEZ), Spartan Mills, Cotton piece goods, filed July 3, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-931-F, *Sazco Manufacturing Company v. John J. Gainey et al.*

Reg. No. 203,096 (SUN PAK), Olin Industries, Inc., Flashlights, filed July 7, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1178, *Jays Foods, Inc. v. Sunshine Biscuits, Inc.*

Reg. No. 203,910 (PATTIE), Jack Kelly, doing business as Palmer Bros. & Kelly, Fresh lettuce; **Reg. No. 206,338** (HOBSON'S), Pfeiffer Chemical Company, Dog and veterinary soap, filed June 28, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1116, *E-Z-Por Corp. v. Chicago Metallic Manufacturing Company*.

Reg. No. 203,981 (KILLARNEY), Killarney, Inc., Face powders; **3,322,127**, C. M. Sachs, ANTI-CREEP BRASSIERE, filed July 28, 1967, D.C., N.D. Ga. (Atlanta), Doc. 11097, *International Playtex Corporation v. The Lovable Company*.

Reg. No. 206,338. (See Reg. No. 203,910.)

Reg. No. 293,974 (CRANE), Crane Co., Heating materials—namely, check valves, stop valves, and gate valves; **Reg. No.**

426,777 (DIAL-ESE), same, Supply and waste fittings—namely, spouts, handles and escutcheons, etc.; **2,520,092**, Fredrickson, Bolling & Zinkel, VALVE, filed July 12, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1214, *Crane Co. v. Chicago Specialty Mfg. Co.*

Reg. No. 426,777. (See Reg. No. 293,974.)

Reg. No. 440,662 (JACKSONS), Jackson Furniture Company, Furniture and furnishings—namely, bedroom, dining room, wood and upholstered furniture; **Reg. No. 444,012** (JACKSON FURNITURE COMPANY), same, Home furniture and furnishings—namely, bedroom, dining room, wood and upholstered furniture, filed Mar. 23, 1967, D.C. N.D. Calif. (San Francisco), Doc. 46777, *Pacific Designs v. Porter Development Co.* Case settled by the parties and dismissed, July 11, 1967.

Reg. No. 444,012. (See Reg. No. 440,662.)

Reg. No. 579,205 (SERVICE MASTER AND DESIGN), Wade, Wenger & Associates, Inc., General cleaning services such as carpets, upholstery, draperies, and general household fabric materials and articles of general wearing apparel; **Reg. No. 704,772**, same, General household, office, and institutional cleaning and renovating services, such as wall and window washing, window shades, blind and drapery cleaning, mothproofing, floor maintenance including surfacing, cleaning, polishing, and waxing, dry cleaning and laundry work; **Reg. No. 782,584** (SERVICE MASTER), Wade, Wenger Servicemaster

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]..... 16,777
Date of oldest new application..... Sept. 2, 1966
Date of oldest amended application (filing date)..... Oct. 2, 1961

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		9-2-66	10-15-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		10-25-66	10-2-61
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....		10-3-66	4-16-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		10-17-66	10-30-64
Renewals (All Classes).....		6-30-67
Sec. 12(c) Publications (All Classes).....		7-12-67

Applications filed during the month of July 1967—2,166

Registrations Issued 421—No. 835,307 to No. 835,727
Renewals Issued 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Co., Maintenance services for cleaning interiors of commercial buildings and private homes and furnishings thereof, filed May 10, 1967, D.C.N.J. (Newark), Doc. C-520-67, *Wade, Wenger Servicemaster Co. v. Servicemaster of Greater Jersey, Inc.* Notice of dismissal of action was filed on July 14, 1967.

Reg. No. 587,976 (VOX), Vox Productions, Inc., Grooved phonograph records, filed June 28, 1965, D.C., S.D.N.Y., Doc. 65-C-1971, *Vox Productions, Inc. v. Columbia Broadcasting System, Inc. et al.* Consent judgment; defendants enjoined, July 24, 1967.

Reg. No. 592,331 (MANPOWER), Manpower, Inc., Furnishing of its employees on a contract basis to persons or places of business requiring part-time or temporary help, including stenographers, typists, office and factory workers, salespeople, clerks, car unloaders, warehousemen, kitchen and laundry workers, general laborers and others; Reg. No. 596,928 (MI MANPOWER, INC. AND DESIGN), same; Reg. No. 672,305 (MANPOWER), same, Business service—namely, furnishing of its employees on a contract basis to persons or places of business requiring part-time or temporary help, including stenographers, typists, office and factory workers, salespeople, clerks, car unloaders, warehousemen, kitchen and laundry workers, general laborers and others; Reg. No. 749,437 (MANPOWER), same, Newsletter, filed July 21, 1967, D.C., N.D. Tex. (Dallas), Doc. CA-3-2155, *Manpower, Inc. v. Manpower Development Corporation.*

Reg. No. 596,928. (See Reg. No. 592,331.)

Reg. No. 614,915 (DAIRYLAND), Foremost Dairies, Inc., Ice cream and sherbet, filed July 25, 1967, D.C., W.D. Tex. (San Antonio), Doc. C-67-71-SA, *Foremost Dairies, Inc. v. Leon McDonald, doing business as Mac's Dairyland Mobile Ice Cream Co.*

Reg. No. 672,305. (See Reg. No. 592,331.)

Reg. No. 692,879. (See Reg. No. 797,379.)

Reg. No. 694,278. (See Reg. No. 797,397.)

Reg. No. 700,676. (See Reg. No. 710,508.)

Reg. No. 700,677. (See Reg. No. 710,508.)

Reg. No. 704,772. (See Reg. No. 579,205.)

Reg. No. 710,506. (See Reg. No. 710,508.)

Reg. No. 710,507. (See Reg. No. 710,508.)

Reg. No. 710,508 (A.D.T.) American District Telegraph Company, Electric protection equipment, including fire alarm boxes, fire detecting and alarm devices, watchmen's tour stations, sprinkler supervisory and waterflow alarm devices, intruder alarm apparatus, and vault alarm devices; Reg. No. 710,507 (ADT) same; Reg. No. 710,708, same, Central station electric protection service, including fire alarm service, watchmen's supervisory service, sprinkler and waterflow supervisory service, intruder and burglar alarm service, and industrial process supervisory service; Reg. No. 700,677 (A.D.T. AND DESIGN), same; Reg. No. 710,506 (A.D.T. SYSTEM AND DESIGN), same, Electric protection equipment, including fire alarm boxes, fire detecting and alarm devices, watchmen's tour stations, sprinkler supervisory and waterflow alarm devices, intruder alarm apparatus and vault alarm devices; Reg. No. 700,676, same, Central station electric protection service, including fire alarm service, watchmen's supervisory service,

sprinkler and waterflow supervisory service, intruder and burglar alarm service, and industrial process supervisory service; Reg. No. 719,064 (A.D.T. ETC. AND DESIGN), same; Reg. No. 718,501, same, Electric protection equipment including fire alarm boxes, fire detecting and alarm devices, watchmen's tour stations, sprinkler supervisory and waterflow alarm devices, intruder alarm apparatus and vault alarm devices; Reg. No. 794,958 (A.D.T.), same, Supplying background music to industrial, commercial, mercantile, and other public and private establishments; Reg. No. 803,347 (A.D.T. AND DESIGN), same, Installation, inspection, maintenance and trouble call service for electrical protection equipment and systems—namely, fire alarm equipment and systems, watchmen's supervisory equipment and systems, sprinkler and waterflow supervisory equipment and systems, intruder and burglar alarm equipment and systems, and industrial process supervisory equipment and systems, filed July 13, 1967, D.C. Ariz. (Phoenix), Doc. C-6398Phx., *American District Telegraph Company (Arizona corporation), and American District Telegraph Company (New Jersey corporation) v. Stanley E. King, Laurence D. Connor, and Stanley E. King and Laurence D. Connor, doing business as Arizona District Telegraph.*

Reg. No. 710,708. (See Reg. No. 710,508.)

Reg. No. 718,501. (See Reg. No. 710,508.)

Reg. No. 719,064. (See Reg. No. 710,508.)

Reg. No. 728,531. (See Reg. No. 728,894.)

Reg. No. 728,894 (DAIRY QUEEN), McCullough's Dairy Queen, Ice cream and frozen confections in cone, cup, and bar form; Reg. No. 728,531 (DAIRY QUEEN), same, Machine for freezing and dispensing a semi-frozen dairy product, filed July 27, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1295, *American Dairy Queen Corporation and S. D. Noble v. Edward J. Augustyn et al.*

Reg. No. 737,309 (PREFERRED DRIVER PLAN), California Compensation and Fire Company, Underwriting automobile insurance, filed July 24, 1967, D.C., N.D. Calif. (San Francisco), Doc. 47496, *California Compensation and Fire Company v. Hardware Mutual Casualty.*

Reg. No. 749,437. (See Reg. No. 592,331.)

Reg. No. 782,584. (See Reg. No. 579,205.)

Reg. No. 794,958. (See Reg. No. 710,508.)

Reg. No. 797,397 (TREVIRA), Farbwerke Hoechst Aktiengesellschaft, Synthetic fibers; Reg. No. 694,278, same, Hosiery, mesh work and knitted garments, other garments, underwear, neckties; Reg. No. 692,879, same, Yarns and threads, filed July 25, 1967, D.C., S.D.N.Y., Doc. 67-C-2844, *Canadian Hoechst Limited v. Stevco knit Textile Company et al.*

Reg. No. 803,247. (See Reg. No. 710,508.)

Reg. No. 813,919 (JET DRUM DE-HEADER AND DESIGN), Fort Wayne Truck Parts & Equipment Inc., Hand tool for opening metal drums, filed July 21, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1272, *Fort Wayne Truck Parts and Equipment Inc. v. Indus-Tool Corp. et al.*

Reg. No. 824,614 (GATSBY'S), Gatsby's, Inc., Restaurant services, filed July 26, 1967, D.C., E.D. Pa. (Philadelphia), Civil Action 43203, *Gatsby's, Inc. v. Orbit Bar Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 227,360. Thermionics Laboratory, Inc., Hayward, Calif. Filed Sept. 7, 1965.



Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Printing Machines, Printing Automats, Stereotype Machines, Roll-Offset-Machines, Auxiliary Machines for Printing Machines—Namely, Plate Back Milling Machines, Edge Milling Machines, Plate Back Finishing Machines for Stereotype Plates, Line-Sawing Machines, Rubber Plate Mounting and Proofing Machines, Routing and Back Levelling Machines, Staple Lifting Devices as Well as Rubber Cliche Setting Machines, Proofing Machines for Flexographic Printing, Ticket Printers, and Machines for Sealing Bags From Polyethylene Tubing and Sheet Feeding Devices.

Class 26—Measuring and Scientific Appliances

For Multiplying Devices for Pattern Multigraphing Machines.

First use Mar. 15, 1964; in commerce Mar. 15, 1964.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Stainless Steel High Vacuum Valves; In-Line High Vacuum Valves; Angle Valves and Actuator Assemblies Therefor.

Class 21—Electrical Apparatus, Machines, and Supplies

For Magnetic Drives for Introducing Rotary Motion Into Vacuum Systems.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wire Feeder Mechanism Having Adjustable Drive Wheels To Vary the Tension Thereof.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electron Guns and Control Units Therefor for Vacuum Brazing and/or Coating of Metals; Radiant Heated Cold Wall Vacuum Furnaces for the Vacuum Brazing and/or Coating of Metals and Parts Therefor; Filament Evaporator and Substrate Heater for Uniform Coating by Filament Evaporation in a Vacuum System; and Baffles for Vacuum Systems.

First use Aug. 15, 1963.

SN 230,725. VEB Druckmaschinenwerke Leipzig, Leipzig, Germany. Filed Oct. 20, 1965.



The words "Polygraph" and "Leipzig" are disclaimed apart from the mark.

BENCOTE

Owner of Reg. Nos. 375,872, and 396,435.

Class 26—Measuring and Scientific Appliances

For Anti-Reflective Coating Sold as a Component of Eye Glass Lenses.

Class 106—Material Treatment

For Coating Lenses for Eye Wear for Anti-Reflection Characteristics.

First use January 1947.

SN 252,145. Societe Nouvelle A. Godde, Bedin, Paris, France. Filed Aug. 11, 1966.

FLORGALLE

Owner of French Reg. No. 531,060, dated May 7, 1965 (Seine); Natl. Inst. No. 247,663.

Class 39—Clothing

For Coats, Overcoats, Suits, Frocks, Waistcoats, Trousers, Skirts, Bodices, Hats, Scarves, Ties, Gloves, Underwear, Socks, Stockings, Shirts, Bathing Suits, Corsets, Girdles, and Brassieres.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Fabrics (Including Voile) of Cotton, Wool, Silk, Linen, and Synthetic Fibers; Household Linens, Curtains, and Draperies.

SN 257,735. Falcon Alarm Company, Inc., Springfield, N.J. SN 259,202. Thomas Carvel, Yonkers, N.Y. Filed Nov. 22, 1966.
Filed Nov. 2, 1966.



Owner of Reg. Nos. 627,315, 710,725, and others.

Class 2—Receptacles

For Gear Hammock, Bag and Shelf Made of Open Mesh Material for the Storage and Transportation of Various Articles.
First use July 18, 1966.

Class 12—Construction Materials

For Rough Non-Skid Coating Material for Metal, Concrete and Other Surfaces Such as Floors, Ramps, Trucks, Walkways, Dock Plates, Boat Decks and the Like, Consisting Essentially of a Resin Material Containing an Abrasive Grit, and Resistant to Oils, Chemicals and Acids.
First use Apr. 15, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Controlled Signalling Devices, Including Horns and Whistles, and Electrical Control Apparatus for Such Alarms.
First use June 24, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Fire Detector of the Automatic Type Wherein Escape of Gas From a Cylinder Activates an Audible Signalling Device, Such as a Horn or Whistle; Liquid Gas Powered Signal Horns for Boats; Cleaning Apparatus Comprising a Blow Gun, and Liquid Level Alarm Apparatus.
First use June 14, 1966.

SN 258,439. Columbia-Minerva Corporation, New York, N.Y. Filed Nov. 14, 1966.

COLUMBIA-MINERVA

Owner of Reg. Nos. 11,651, 650,675, and others.

Class 38—Prints and Publications

For Knitting Instruction Books.

Class 43—Thread and Yarn

For Yarn.
First use at least as early as 1953.



The drawing is lined for stippling and shading and not for color. Owner of Reg. Nos. 597,727, 793,115, and others.

Class 31—Filters and Refrigerators

For Refrigerated Display Cases and Cabinets for the Refrigeration, Storage and Display of Food Products, and Freezers for the Manufacture of Ice Cream and Similar Frozen Food Products.

Class 32—Furniture and Upholstery

For Non-Refrigerated Display Cases and Cabinets for the Storage and Display of Food Products.
First use Aug. 1, 1965.

SN 266,387. Scott, Foresman and Company, Glenview, Ill. Filed Mar. 10, 1967.

SCOTT, FORESMAN

Class 22—Games, Toys, and Sporting Goods

For Educational Games for the Improvement of Reading and Spelling Skills.
First use Aug. 20, 1963.

Class 38—Prints and Publications

For Educational Books and Pamphlets, and Dictionaries.
First use at least as early as 1937.

SN 269,714. Clairol Incorporated, New York, N.Y. Filed Apr. 21, 1967.

BEAUTY DOCTOR

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation, Hair Lightener, and Hair Conditioner.

Class 52—Detergents and Soaps

For Hair Shampoo.
First use Dec. 19, 1966.
Subj. to Intf. with SN 265,243.

SN 273,827. The Procter & Gamble Company, Cincinnati, Ohio. Filed June 14, 1967.

PACE

Owner of Reg. No. 647,541.

Class 51—Cosmetics and Toilet Preparations

For Personal Deodorant.

Class 52—Detergents and Soaps

For Hair Shampoo.
First use May 12, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 253,428. DeWine & Hamma Seed Company, Inc., d.b.a. DeWine Seeds, Yellow Springs, Ohio. Filed Aug. 30, 1966.

SN 226,806. United Elastic Corporation, Easthampton, Mass. Filed Aug. 30, 1963.



Applicant disclaims the words "Molded Products Division" apart from the mark as shown.
For Plastic Rubber and Rubber-Like Extruded or Molding Compositions in Solid or Extruded Forms.
First use Oct. 8, 1963.

SN 249,310. Domestic Marble & Stone Corporation, New York, N.Y. Filed June 30, 1966.

ALPHA ROMAN

The word "Roman" is disclaimed apart from the mark as shown.
For Travertine.
First use Feb. 11, 1966.

SN 253,426. DeWine & Hamma Seed Company, Inc., d.b.a. DeWine Seeds, Yellow Springs, Ohio. Filed Aug. 30, 1966.

GRANDSTAND



For Alfalfa Seed.
First use Nov. 18, 1965.

SN 253,427. DeWine & Hamma Seed Company, Inc., d.b.a. DeWine Seeds, Yellow Springs, Ohio. Filed Aug. 30, 1966.

FAIRFIELD 100



For Timothy Hay Seed.
First use Nov. 18, 1965.

RED KING



No claim is made to the word "Red" apart from the mark as shown.
For Red Clover Seed.
First use Nov. 1, 1965.

SN 258,519. FMC Corporation, Philadelphia, Pa. Filed Nov. 14, 1966.

AVICRIMP

For Man-Made Fibers.
First use Oct. 27, 1966.

SN 275,260. W. R. Grace & Co., New York, N.Y. Filed July 3, 1967.

TERRA-COAT

For Vermiculite Seed Coating.
First use May 29, 1967.
Subj. to Intf. with SN 275,588.

Class 2—Receptacles

SN 235,810. Arkay Packaging Corporation, New York, N.Y. Filed Jan. 5, 1966.

LUSTRON

For Boxes and Cartons.
First use Oct. 15, 1965.

SN 244,681. Counterpart Corp., New York, N.Y. Filed May 2, 1966. SN 258,562. The Mead Corporation, Dayton, Ohio. Filed Nov. 14, 1966.

CLIK-A-SWEET

For Plastic Bottle in the General Form of a Fountain Pen Casing, Adapted To Hold and Dispense Sweetening Agents. First use Mar. 24, 1966.

SN 245,073. Fuslon Rubbermaid Corporation, Statesville, N.C. Filed May 6, 1966.

BIN'TAINER

For Plastic Containers for the Storage, Shipment, or Harvesting of Food Products, Said Containers Being Formed in Sizes Approximately 4 Feet Wide by 4 Feet Long With Depths from 1½ inches to 48 inches To Fit Wood Field Bins of Various Sizes.

First use Feb. 21, 1966.

SN 245,917. Fansteel Metallurgical Corporation, North Chicago, Ill. Filed May 18, 1966.

AIRTEK

For Pressure Vessels for Use in Space Vehicles. First use on or about June 30, 1958.

SN 250,023. Philadelphia Can Co., Inc., Philadelphia, Pa. Filed July 11, 1966.

PHILCAN

For Containers for Food, Chemicals, Drugs, and Paint. First use June 29, 1966.

SN 251,608. Continental Can Company, Inc., New York, N.Y. Filed Aug. 3, 1966.

SEPRO

For Metal Cans. First use July 13, 1966.

SN 253,182. Twirl-A-Script, Inc., Hooker, Okla. Filed Aug. 25, 1966.



For Prescription Case, Sold Empty in the Trade. First use October 1963.

SN 253,510. El Cid Ltd., Santa Monica, Calif. Filed Aug. 31, 1966.

EL CID

For Leather Products—Namely, Boxes, Barrels, Holders for Toiletries, Bottles, Glasses, and Playing Cards, and Buckets. First use February 1965.

CLUSTER-CASE

For Open-Ended, Wrap-Around Containers of Paper and Paperboard. First use October 1966.

SN 259,752. Miller Manufacturing Company, Fort Worth, Tex. Filed Nov. 30, 1966.



For Laundry Bags, Clothes Pin Bags, and Closet Bags. First use Nov. 1, 1966.

SN 259,886. A.D.L. Cement Products, Inc., Portland, Mich. Filed Dec. 2, 1966.

ADL

For Precast Segment Liquid Manure Storage Pit Tanks. First use Sept. 7, 1965.

SN 260,069. Noxell Corporation, Baltimore, Md. Filed Dec. 5, 1966.

COVER GIRL

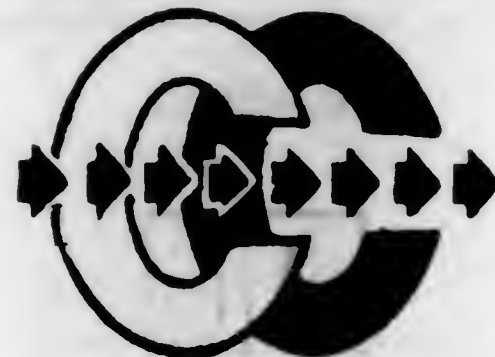
Owner of Reg. Nos. 420,030, 404,783, and others. For Refillable Compacts. First use Oct. 25, 1966.

SN 260,120. Weyerhaeuser Company, Tacoma, Wash. Filed Dec. 2, 1966.

TEX-LOK

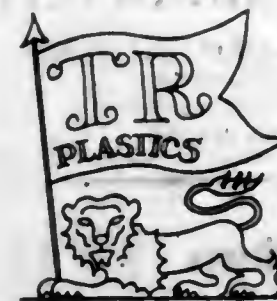
For Bulk Containers for Textile Products. First use Dec. 1, 1965.

SN 260,732. Coulter Electronics, Inc., Hialeah, Fla. Filed Dec. 14, 1966.



Owner of Reg. Nos. 709,046 and 723,572. For Plastic Sample Vials for Use With Coulter Electronic Particle Analyzing Apparatus. First use in or about May 1966.

SN 261,115. Tedruth Plastics Corporation, Plainview, N.Y. Filed Dec. 19, 1966. SN 255,111. MacDermid Incorporated, Waterbury, Conn. Filed Sept. 28, 1966.



For Plastic Milk Cases. First use 1963.

SN 261,337. United States Envelope Company, Springfield, Mass. Filed Dec. 22, 1966.

REFRESHER

For Paper Cups. First use March 1966.

SN 269,079. Kleer-Vu Industries, Inc., New York, N.Y. Filed Apr. 13, 1967.



Applicant disclaims the term "Pak" apart from the mark as shown.

For Fabricated Tubes and Fabricated Packages Made of Plastic, Which Can Be Ultrasonically Sealed. First use Sept. 12, 1966.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 241,163. L. J. McMullen, d.b.a. Belgrade Saddlery, Belgrade, Mont. Filed Mar. 16, 1966.



The term "Buckley" is derived from the two terms "buckle" and "bridle" and originally was the nickname of one of applicant's sons. For Furnishings for Horses—Namely, Bridles, Martingales, Breast Collars, and the Like. First use Nov. 22, 1965.

Class 4—Abrasives and Polishing Materials

SN 252,139. Transelco, Inc., Penn Yan, N.Y. Filed Aug. 10, 1966.

CE-RITE

For Polishing Grade Powders for Polishing Lenses. First use Aug. 1, 1966.

DYGLEAM

For Chemical Preparation for Polishing and Providing for Uniform Leveling, the Removal of Burrs and Superficial Flaws on Metal Surfaces, Thereby Producing a Smooth, Bright and Lustrous Finish Suitable for Plating or Other Processing. First use August 1965.

SN 263,926. The Lea Manufacturing Company, Waterbury, Conn. Filed Feb. 3, 1967.

LEA LUXEMATIC

For Liquid Abrasive Composition for Automatic Satin Finishing. First use Dec. 1, 1964.

Class 6—Chemicals and Chemical Compositions

SN 235,617. Amylo Chemie N.V., Koog aan de Zaan, Netherlands. Filed Jan. 3, 1966.

ACHEMYL

Owner of Dutch Reg. No. 146,649, dated Jan. 11, 1962. For Starch for Industrial Use.

SN 240,154. Compagnie Francaise de Raffinage, Société Anonyme, Paris, France. Filed Mar. 4, 1966.

TOTALGAZ

Owner of French Reg. No. 470,874, dated Mar. 11, 1958 (Seine); Natl. Inst. No. 104,420; and U.S. Reg. No. 768,094. For Liquefied Combustible Gases.

SN 250,457. Dawson Chemical Company, Houston, Tex. Filed July 18, 1966.



For Dispersing Agents in Combination With Fungicidal Materials—Namely, Sulfur and Zinc Ethylenedisithiocarbamate. First use on or about May 15, 1966.

SN 256,450. Kem Manufacturing Corporation, Tucker, Ga. Filed Oct. 14, 1966.

KEM

Owner of Reg. Nos. 565,956, 746,093, and 794,638. For Insecticides; Water Treatment Chemicals To Inhibit Scale and Corrosion and To Prevent Algae and Bacterial Growth; Disinfecting and Deodorizing Chemicals Used on Floors, Walls, and Like Surfaces; Insect Repellent; Room Deodorants in Liquid and Solid Form; and Weed Killer. First use Jan. 5, 1953.

SN 260,513. Armour Pharmaceutical Company, d.b.a. Rebels Chemical Company, Chicago, Ill. Filed Dec. 12, 1966.

REHAVID

Owner of Reg. Nos. 828,091 and 828,092. For Serological Reagent for Manufacturing Purposes. First use on or prior to Nov. 29, 1966.

SN 260,811. Armour Pharmaceutical Company, d.b.a. Rehels Chemical Company, Chicago, Ill. Filed Dec. 15, 1966.

REHYZYME

Owner of Reg. No. 817,223.
For Pancreas Substance for Manufacturing Purposes.
First use on or prior to Nov. 29, 1966.

SN 261,018. Amchem Products, Inc., Ambler, Pa. Filed Dec. 19, 1966.

TRANS-VERT

For Weed Killer.
First use May 13, 1966.

SN 261,285. Dehydtag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany. Filed Dec. 22, 1966.

SOVERMOL

Owner of German Reg. No. 670,678, dated May 17, 1954.
For Chemical Intermediates for Use in the Manufacture of Paints, Lacquers, and the Like.

SN 262,820. Tivian Laboratories Inc., Providence, R.I. Filed Jan. 18, 1967.

RHONDIUM

For Imitation Rhodium Plating Solution Used on Jewelry and Decorative Articles.
First use Dec. 2, 1965.

SN 263,090. Ira S. Latimer, Detroit, Mich. Filed Jan. 23, 1967.

DQR

For Compounds for Use in Steel Making, Including Rimming Accelerators, Rimming Compounds, Fluxing Agents, and Deoxidizing Agents.
First use June 1957.

SN 263,193. National Distillers and Chemical Corporation, New York, N.Y. Filed Jan. 24, 1967.

SPECTRATHENE

For Coloring Concentrate for Plastic Materials.
First use Dec. 15, 1966.

SN 264,255. Omco Chemical Corporation, South Gate, Calif. Filed Feb. 9, 1967.

AMISUL

For Chemical Used for the Purpose of Lowering pH and Alkalinity in Swimming Pool Water.
First use Dec. 23, 1966.

SN 264,287. Omco Chemical Corporation, South Gate, Calif. Filed Feb. 9, 1967.

ALKANUL

For Chemical Used for the Purpose of Lowering pH and Alkalinity in Swimming Pool Water.
First use Dec. 23, 1966.

SN 275,588. Olin Mathieson Chemical Corporation, New York, N.Y. Filed July 10, 1967.

TERRA-COAT

Owner of Reg. Nos. 625,671 and 734,403.
For Seed Treatment Fungicide.
First use Mar. 16, 1967.
Subj. to Intf. with SN 275,260.

Class 10 — Fertilizers

SN 259,315. Great Lakes Carbon Corporation, New York, N.Y. Filed Nov. 23, 1966.

T-C-T-A

For Carbonaceous Particles Useful as a Soil Amendment.
First use July 28, 1966.

Class 11 — Inks and Inking Materials

SN 257,714. Lawter Chemicals, Inc., Chicago, Ill. Filed Nov. 1, 1966.

OPTICHROME

For Ink Bases.
First use July 15, 1966.

Class 12 — Construction Materials

SN 235,933. Polycell Products Limited, Welwyn Garden City, England. Filed Jan. 6, 1966.

POLYGROUT

Owner of British Reg. No. 831,924, dated Mar. 13, 1962.
For Grouting Material in Powder Form for Use in Fixing Tiles.
First use October 1962; in commerce October 1962.

SN 236,769. Napco, Inc., Pittsburgh, Pa. Filed Jan. 18, 1966.

GUARD-O-PACK

For Aluminum Siding in a Corrugated Paper Carton Having Corrugated Interliners Between Adjacent Sections of Said Aluminum Siding.
First use May 27, 1965.

SN 246,493. Carl L. Sterner, d.b.a. C. L. Sterner Co., Bakersfield, Calif. Filed May 24, 1966.

FIBRE-SEAL

For Bituminous Resurfacing and Sealing Composition for Asphalt Roadways, Sidewalks, and the Like.
First use on or about July 1, 1961.

SN 246,881. Continental Manufacturers, Inc., St. Petersburg, Fla. Filed May 31, 1966.

CHEMLON

For Spray-On Synthetic Rubber-Like Compound Which Forms a Homogenous Coating When Applied to Surfaces of Wood, Metal, Masonry, Concrete, and the Like.
First use June 1, 1964.

SN 247,082. Nils Eric Algot Noryd, Vetlanda, Sweden. Filed May 11, 1966.

DELTA

For Prefabricated Stairways.
First use Dec. 1, 1959; in commerce Dec. 10, 1964.

SN 247,880. Birma Products Corporation, Sayreville, N.J. Filed June 13, 1966.

PERM-SURE

For Acoustical and Thermal Control Coatings or, More Specifically, Fire Retardant, Puncture Resistant, Mildew Resistant coatings for Use With Covering Fabrics, on Insulation or on Metal.
First use November 1960.

SN 247,884. Birma Products Corporation, Sayreville, N.J. Filed June 13, 1966.

VAPO-SURE

For Elastomeric Based or Asphalt Based Coating Which May Contain Cohesive Fibers and Is Employed as a Weather-Proofing and Vapor Sealing Composition for Use on Insulation, Metal, Masonry, Vapor Barriers, and the Like.
First use November 1960.

SN 247,885. Birma Products Corporation, Sayreville, N.J. Filed June 13, 1966.

WEATHER-SURE

For Mastic Waterproofing and Insulating Composition Containing Reinforcing Fibers, Which Composition May Be Used on Heated Equipment and in Refrigerated Rooms.
First use November 1960.

SN 249,627. Delta Steel Buildings Co., Dallas, Tex. Filed July 6, 1966.

DELTA DECOLITE

Owner of Reg. No. 712,382.
For Translucent Plastic Building Panel.
First use Feb. 13, 1960.

SN 249,628. Delta Steel Buildings Co., Dallas, Tex. Filed July 6, 1966.

DELTA SPACE BEAM

No claim is made to the wording "Space Beam," apart from the mark as shown, without waiving any common law rights therein. Owner of Reg. No. 712,382.
For Metal Structural Framing for Building.
First use Mar. 3, 1964.

SN 249,629. Delta Steel Buildings Co., Dallas, Tex. Filed July 6, 1966.

DELTA DECOKOLOR

Owner of Reg. No. 712,382.
For Metal Building Panel With Special Color Coating.
First use Jan. 15, 1962.

HUSKEE-BILT

For Pre-Engineered Buildings—Namely, Cattle and Dairy Barns, Covered Feed Lots, Warehouses, Poultry Houses, Airplane Hangars, Sales Display Buildings, Machinery Storage Buildings, Hog Raising and Farrowing Houses, Horse Barns, and Accessory Components Therefor.
First use May 11, 1964.

SN 253,234. New Plastic Corporation, Los Angeles, Calif. Filed Aug. 26, 1966.

NUPLAGLAS

For Dielectric (or Other) Nonconductive Structural Rod for Antenna, Tower and Pole Guys, Messenger Cable and Catenaries.
First use 1954.

SN 253,311. Homasote Company, Trenton, N.J. Filed Aug. 29, 1966.

HOMASOTE 4-WAY

Without prejudice to its rights now existing or hereinafter arising and for the purpose of this registration only, applicant makes no claim to the notation "4-Way" apart from the mark as shown. Owner of Reg. No. 143,272 and others.
For Wood-Fiber Floor Decking Panels Combining the Functions of a Sub-Flooring, Underlayment, Sound Barrier, and Weather Proofing.
First use February 1964.

SN 254,886. Monier-Raymond Concrete Tile Co., Corona, Calif. Filed Sept. 21, 1966.

MONRAY

For Concrete Roof Tile.
First use on or about Mar. 29, 1966.

SN 255,372. Varian Associates, Palo Alto, Calif. Filed Sept. 28, 1966.

VARIAN

For Sealing Kits Comprising Epoxy Resins and Hardeners.
First use Mar. 20, 1960.

SN 255,375. Varian Associates, Palo Alto, Calif. Filed Sept. 28, 1966.



Owner of Reg. Nos. 582,256, 750,058, and others.
For Epoxy Resins Used as Sealers.
First use Mar. 20, 1960.

SN 256,707. Airtherm Manufacturing Company, St. Louis, Mo. Filed Oct. 19, 1966.

"SUPERVENT"

For Vented Formed Metal Sheeting for Flooring or Insulating Concrete Roof Construction.
First use June 24, 1965.

SN 257,182. The Glidden Company, Cleveland, Ohio. Filed Oct. 25, 1966.

INSULCAP

For Non-Penetrating Latex Sealer and Finish for Insulating Materials Applied to Pipes, Boilers, Furnaces, and the Like.
First use Aug. 21, 1959.

SN 257,793. Nalco Chemical Company, Chicago, Ill. Filed Nov. 2, 1966.

NALCO

Owner of Reg. No. 781,224.
For Dry Granular Alumino-Silicate Refractory Substances Employed as Refractory Liner Material Used in the Metal Processing Industries.
First use Mar. 30, 1965.

SN 257,855. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Nov. 3, 1966.

OXILINE K

For Refractory Brick.
First use on or about July 5, 1966.

SN 257,857. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Nov. 3, 1966.

OXILINE KL

For Refractory Brick.
First use July 5, 1966.

SN 257,922. Balco, Inc., Wichita, Kans. Filed Nov. 4, 1966.

ADJUSTA-FLEX

For Prefabricated Metal Expansion Joint Cover Structures for Buildings and the Like.
First use Aug. 30, 1966.

SN 258,339. Weather-Seal, Inc., Barberton, Ohio. Filed Nov. 9, 1966.

KUSHION-AIRE

For Sliding Doors and Windows Made From Non-Magnetic Materials, Such as Aluminum, Wood, and/or Glass.
First use May 2, 1966.

SN 258,433. L. B. West Manufacturing Co., Houston, Tex. Filed Nov. 10, 1966.

**WEST-O-MATIC**

For Aluminum Ceiling and Wall Exhaust Shutters.
First use July 1, 1965.

SN 260,366. Southwest Forest Industries, Inc., Phoenix, Ariz. Filed Dec. 8, 1966.



The mark comprises a stylized letter "S" within a circle.
For Lumber.
First use at least as early as May 1, 1961.

SN 262,804. My-Ko Chemical Corporation, Milwaukee, Wis. Filed Jan. 18, 1967.

MY-RO

For Self-Adhering Plastic Strips for Sealing Tubs, Showers, and Floors.
First use Sept. 17, 1962.

SN 263,604. Pease Woodwork Company, Inc., Hamilton, Ohio. Filed Jan. 30, 1967.



The word "Stairs" and the pictorial representation of the suspended stairs are disclaimed apart from the mark as shown.
Owner of Reg. No. 829,659.
For Pre-Fabricated Stairways.
First use Jan. 11, 1967.

SN 271,319. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 12, 1967.



For Synthetic Rubber Based Sealer for Metal and Other Surfaces.
First use at least as early as Mar. 10, 1967.

SN 271,322. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 12, 1967.

SCOTCH-SEAL

Owner of Reg. No. 824,739 and others.
For Synthetic Rubber Based Sealer for Metal and Other Surfaces.
First use at least as early as Mar. 10, 1967.

SN 271,576. The Gibson-Homans Company, d.b.a. Handi-Products Company, Cleveland, Ohio. Filed May 16, 1967.

HANDI-FLEX

Owner of Reg. Nos. 692,274, 761,814, and others.
For Caulking and Sealing Compounds.
First use in or about 1962.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 251,211. C. Hager & Sons Hinge Manufacturing Company, St. Louis, Mo. Filed July 28, 1966.



The drawing is lined for the color red. Owner of Reg. No. 607,192.

For Hinges of All Types—Namely, Door Hinges, Cabinet Hinges, Screw Hook Hinges, Screw Bolt Hinges, Strap Hinges, and Miscellaneous Special Hinges; Door Pulls; Cabinet Knobs; and Miscellaneous Hardware Items—Namely, Shelf Brackets, Corner Braces, Door Stops, Window Locks and Lifts, Closet Rods, and Adjustable Shelf Standards.
First use in or about 1951.

SN 252,922. Herman Laub III, d.b.a. Laub Engineering Company, San Gabriel, Calif. Filed Aug. 9, 1966.

ACCROFILL

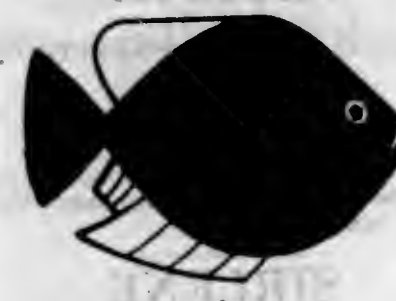
For Control Valves Used With Automatic Container-Filling Machines.
First use Aug. 2, 1966.

SN 253,775. J. A. McFarland Corporation, Chicago, Ill. Filed Sept. 2, 1966.

JAMCO

For Metal Tubing.
First use Nov. 26, 1965.

SN 257,526. Sterno Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736.
For Air and Water Valves, Valve Fittings and Attached Piping for Aquarium Tanks.
First use Sept. 4, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 259,587. Special Metals Corporation, New Hartford, N.Y. Filed Nov. 28, 1966.

VISCOTHERM

Owner of Reg. No. 701,657.
For Cast and Wrought Stock Such as Rods, Bars and Ingots Made From Ferrous Metal and Its Alloys, Such as Iron and Steel, and Non-Ferrous Metals Such as Nickel, Chromium, Copper, Aluminum, and Titanium, and Their Alloys.
First use July 2, 1959.

SN 259,920. Hoeganaes Corporation, New York, N.Y. Filed Dec. 2, 1966.

ANCOLOR

For Iron Powders.
First use Nov. 2, 1966.

Class 15—Oils and Greases

SN 256,915. Avnet, Inc., New York, N.Y. Filed Oct. 21, 1966.

MECHANICS CHOICE

For Silicone Grease Compositions for Industrial Use and White Grease Compositions for Industrial Use.
First use Jan. 2, 1961.

SN 260,088. Signal Oil and Gas Company, Los Angeles, Calif. Filed Dec. 5, 1966.

SUPER-TEST

For Gasoline.
First use Apr. 3, 1964.

SN 275,576. Lubrication Sciences, Inc., Mountain View, Calif. Filed July 10, 1967.

DICRONITE

For Dispersion of a Solid Lubricant in Oil.
First use Oct. 26, 1965.

Class 16—Protective and Decorative Coatings

SN 254,132. Colonial Refining and Chemical Company, Cleveland, Ohio. Filed Sept. 9, 1966.

STORMTITE

For Cold Process Roof Coating and Waterproofing Compound.
First use Aug. 27, 1966.

SN 255,827. Sonneborn Building Products, Inc., Des Plaines, Ill. Filed Oct. 5, 1966.

SONOCLEAR

For Water Repellent Coating for Concrete and Masonry Surfaces.
First use on or about Apr. 21, 1966.

SN 256,359. Hydralum Industries, Inc., Chicago, Ill. Filed Oct. 13, 1966.

PLI-O-DRI

For Aluminum Insulation Coating.
First use May 4, 1960.

SN 256,381. Spramor Corporation of America, Chicago, Ill. Filed Oct. 13, 1966.

DURATAIN

For All-Purpose Enamel.
First use Oct. 17, 1962.

SN 256,448. Hydralum Industries, Inc., Chicago, Ill. Filed Oct. 14, 1966.

PLI-O-NAM'L

For All-Purpose Enamel, With a Porcelain-Like Finish.
First use Apr. 24, 1963.

SN 256,916. Avnet, Inc., New York, N.Y. Filed Oct. 21, 1966.

MECHANICS CHOICE

For Protective Waterproof Coatings for Use as an Automobile Undercoating.
First use Jan. 2, 1961.

SN 264,564. Micro-Lube, Inc., Dallas, Tex. Filed Feb. 13, 1967.

MICRO GARD

The term "Gard" is disclaimed apart from the mark as shown and without prejudice to rights.
For Plastic Spray Moisture Repellent Compositions.
First use Oct. 20, 1966.

SN 264,754. Nord-Viscount Corporation, Brooklyn, N.Y. Filed Feb. 15, 1967.

PERMA SHIELD

For Polyurethane Resin Finish for All Wood, Masonry, Stone, Concrete, Plastic, and Other Composition Surfaces.
First use Oct. 4, 1966.

SN 265,954. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 6, 1967.

3M

Owner of Reg. Nos. 610,263 and 673,751.
For Protective Coating Compound Which Air Dries to a Tough, Rubbery, Protective Anti-Corrosive Film.
First use Dec. 30, 1966.

SN 269,827. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 24, 1967.

PYRALIN

Owner of Reg. No. 213,806.
For Protective Coatings in the Nature of Enamels and Varnishes.
First use Mar. 14, 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 230,007. Superfos Export Company A/S, Copenhagen, Denmark. Filed Oct. 12, 1965.

ALHYDROGEL

Owner of Danish Reg. No. 613/1955, dated Apr. 16, 1955.
For Aqueous Suspensions of Aluminum Hydroxide for Use as a Carrier for Vaccines and Other Pharmaceutical and Medical Preparations.

SN 244,537. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Apr. 28, 1966.

MEMORETTE

For Package Containing Pills for Pharmaceutical and Medicinal Use.
First use Dec. 15, 1965.

SN 251,790. Jose L. Camacho, d.b.a. Bosque, Elizabeth, N.J. Filed Aug. 5, 1966.

BOSQUE

For Medicinal Preparation Containing Vitamins and Minerals.
First use Jan. 11, 1966.

SN 252,487. Masti-Kure Products Co., Norwich, Conn. Filed Aug. 16, 1966.

TYRO-SUL

For Veterinary Preparation for Mastitis Treatment for Dry Cows.
First use at least as early as July 14, 1966.

SN 253,010. Byron Leach Co., Memphis, Tenn. Filed Aug. 24, 1966.

VIRACTIN

For Therapeutic and Prophylactic Agent for Upper Respiratory Infections.
First use Sept. 30, 1957.

SN 253,286. The Dow Chemical Company, Midland, Mich. Filed Aug. 29, 1966.

SIRLENE

Owner of Reg. No. 744,925.
For Livestock Preparation—Namely, Propylene Glycol for Use in the Treatment of Ketosis.
First use Nov. 9, 1961.

SN 254,133. Cook Laboratories, Inc., Springfield, Mo. Filed Sept. 9, 1966.

D-E-A-R

For Medication for Softening and Removing Wax and Accumulation in Ears.
First use Jan. 15, 1962.

SN 254,448. International Pharmaceutical Corporation, King of Prussia, Pa. Filed Sept. 14, 1966.

SNIFTY

For Nasal Decongestant Preparation.
First use Aug. 5, 1966.

SN 254,760. Gynec Laboratories, Inc., Yonkers, N.Y. Filed Sept. 19, 1966.

SIMPLEX

Owner of Reg. No. 424,537.
For Contraceptive Hormone.
First use July 28, 1966.

SN 254,939. The Parthenon Company, Inc., Waterford, Conn. Filed Sept. 22, 1966.

DEVROM

For Medical Preparation for Relief of Diarrhea.
First use Sept. 2, 1966.

SN 255,124. The Purdue Frederick Company, Yonkers, N.Y. Filed Sept. 26, 1966.

GLUTANOR

For Sedative.
First use July 28, 1966.

SN 255,140. The William A. Webster Co., Memphis, Tenn. Filed Sept. 26, 1966.

LOREMED

For Suppositories Containing Analgesic for Symptomatic Control of Minor Aches and Pains and for Fever Reduction.
First use Sept. 14, 1966.

SN 255,522. Eagle Food Centers, Inc., Milan, Ill. Filed Sept. 30, 1966.



For Vitamin Preparations.
First use on or about June 21, 1966.

SN 255,871. Bristol-Myers Company, New York, N.Y. Filed Oct. 6, 1966.

CONTRAST

For Antibiotic.
First use May 13, 1966.

SN 256,780. V.M.E. Corp., Saginaw, Tex. Filed Oct. 19, 1966.

KATTLE-KING

Owner of Reg. No. 813,550.
For Livestock Dietary Supplement, Including Vitamins, Minerals, and Medicants.
First use Mar. 29, 1965.

SN 258,324. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Nov. 9, 1966.

RONDOTABS

Owner of Reg. Nos. 645,992 and 822,726.
For Antibiotic Preparation.
First use Oct. 25, 1966.

SN 260,358. Pet & Pal, Inc., Floral Park, N.Y. Filed Dec. 8, 1966.

NUTRI-HEALTH

For Animal Vitamins.
First use Oct. 10, 1966.

SN 262,937. Hudson National, Inc., New York, N.Y. Filed Jan. 20, 1967.

Contour

For Appetite Control Capsules.
First use Oct. 27, 1966.

SN 263,003. American Cyanamid Company, Wayne, N.J. Filed Jan. 23, 1967.

DETECLO

For Antibiotic Preparation.
First use Jan. 9, 1967.

SN 263,210. Stanley Drug Products, Inc., Portland, Oreg. Filed Jan. 24, 1967.

INTIME

For Ointment for Minor Burns and Sunburn.
First use Jan. 12, 1967.

SN 263,436. American Home Products Corporation, New York, N.Y. Filed Jan. 27, 1967.

THWART

For Wart Remover Lotion.
First use Oct. 17, 1966.

SN 264,526. Melvin Charles Dugger, d.b.a. Perfex Products Co., Indianapolis, Ind. Filed Feb. 13, 1967.

BONE-EZE

For Liniment for Horses and Ponies.
First use Nov. 1, 1959.

SN 268,010. Lanman & Kemp-Barclay & Co. Incorporated, Palisades Park, N.J. Filed Mar. 31, 1967.

PECTORAL DE KEMP

Applicant makes no claim to the right to the exclusive use of the words "Pectoral de" apart from the mark in its entirety. Owner of Reg. No. 563,781.

For Preparation Recommended for the Treatment of Coughs. First use Jan. 15, 1963; in 1857 as to the word "Kemp."

Class 19—Vehides

SN 244,411. Kawasaki Aircraft Co., Ltd., Ikuta-ku, Kobe, Japan. Filed Apr. 27, 1966.

KAWASAKI AIRCRAFT

Applicant disclaims the exclusive right to the word "Aircraft."

For Motorcycles and Their Parts.

First use July 18, 1961; in commerce April 1962.

SN 244,413. Kawasaki Aircraft Co., Ltd., Ikuta-ku, Kobe, Japan. Filed Apr. 27, 1966.



The design appearing within the flag device is a Japanese (Kanji) language character in modified style meaning "river." For Motorcycles and Parts Thereof. First use April 1962; in commerce Nov. 15, 1964.

SN 258,493. Chris-Craft Industries, Inc., Pompano Beach, Fla. Filed Nov. 14, 1966.

CONSTELLATION

For Boats.

First use October 1954.

SN 258,494. Christ-Craft Industries, Inc., Pompano Beach, Fla. Filed Nov. 14, 1966.

CRUSADER

For Boats.

First use April 1965.

SN 258,953. Yacht Constructors, Inc., Portland, Oreg. Filed Nov. 17, 1966.

CASCADE

For Sailboats.

First use September 1961.

SN 258,954. Yacht Constructors, Inc., Portland, Oreg. Filed Nov. 17, 1966.

CHINOOK

For Sailboats.

First use Apr. 22, 1956.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 228,675. Gebrüder Bühler, Uzwil, Switzerland. Filed Sept. 27, 1965.

NORSTAT

Owner of Swiss Reg. No. 209,099, dated Mar. 22, 1965. For Digital Control Blocks and Control Apparatus Units Including Said Blocks and Control Boxes for Sequences of Operations With Interlocks.

SN 228,817. Gebrüder Bühler, Uzwil, Switzerland. Filed Sept. 28, 1965.

BÜHLER NORSTAT

Owner of Swiss Reg. No. 209,098, dated Mar. 22, 1965. For Digital Control Blocks and Control Apparatus Units Including Said Blocks and Control Boxes for Sequences of Operations With Interlocks.

SN 236,064. Bell & Howell Company, Chicago, Ill., assignee of Devry Technical Institute, Inc., Chicago, Ill. Filed Jan. 10, 1966.

ELECTRO-LAB

For Foundation Structures and Contact Units Mountable Thereon for Supporting and Interconnecting Electrical Components To Form Electrical Circuits.

First use Apr. 1, 1955.

Subj. to Intf. with SN 258,080.

SN 238,106. Phonemaster, Inc., Dallas, Tex. Filed Feb. 4, 1966.

CALLMASTER

For Automatic Telephone Answering Machine. First use at least as early as Oct. 22, 1965.

SN 240,682. Vitramon, Incorporated, Monroe, Conn. Filed Mar. 10, 1966.

V

Owner of Reg. No. 560,517. For Multiple Element Circuit Components. First use Feb. 17, 1966.

SN 240,684. Vitramon, Incorporated, Monroe, Conn. Filed Mar. 10, 1966.

VITRAMON

Owner of Reg. Nos. 565,945, 737,223, and 771,736. For Multiple Element Circuit Components. First use Feb. 17, 1966.

SN 242,863. Trepac Corporation of America, Englewood, N.J. Filed Apr. 6, 1966.



For Transistorized Equipment—Namely, Teleprinter Relays, Telegraph Relays, Teleprinter Motor Controls, Tone Operated and Time Delay Relays, Comparators, Monitor and Alarm Systems, Automation Controls, Data Subsets Repeaters, Switching Systems, and Parts Thereof, All the Foregoing Being Components of Teleprinter Systems. First use March 1957.

SN 242,864. Trepac Corporation of America, Englewood, N.J. Filed Apr. 6, 1966.

DATATONE

For Tone Transmitters and Tone Receivers Used for Tone Signalling and Control, and Parts Thereof, Used Primarily in Remote Control and Alarm Systems To Monitor or To Perform Functions at Remote Points.

First use November 1963.

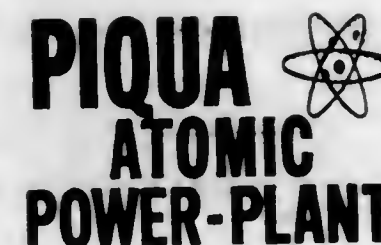
SN 245,178. Electric Sweeper Service Company, Cleveland, Ohio. Filed May 9, 1966.

ESSCO

For Replacement Parts and Kits for Small Electric Home Appliances.

First use Feb. 4, 1957.

SN 246,893. Charles E. Drapp, d.b.a. Piqua Battery Shop, Piqua, Ohio. Filed May 31, 1966.



Without waiver of common law rights, applicant makes no claim to the exclusive right to the use of "Power-Plant" apart from the mark as shown.

For Electric Storage Batteries and Parts Thereof.

First use July 1, 1965.

SN 248,747. Teledyne, Inc., d.b.a. Amelco Semiconductor, Mountain View, Calif. Filed June 22, 1966.



Applicant disclaims any exclusive rights in the letter "a," except as shown in the drawing.

For Semiconductor Devices—Namely, Transistors, Integrated Circuits, and Microcircuits.

First use as early as May 9, 1966; as early as Apr. 30, 1962, in another form.

SN 250,636. John L. Callaway, d.b.a. Cab Charger Company, Jacksonville, Fla. Filed July 20, 1966.

CAB CHARGER

The word "Charger" is disclaimed apart from the mark as shown.

For Wind Driven Alternator-Type Battery Chargers.

First use July 7, 1965.

SN 252,385. The Rucker Manufacturing Company, Oakland, Calif., assignee of Insul-8-Corp., San Carlos, Calif. Filed Aug. 15, 1966.



Applicant disclaims the word "Bar" apart from the mark as shown. Owner of Reg. Nos. 578,786, 788,687, and others. For Trolley Conductor Systems, and Components Thereof, for Conducting Electrical Current to Mobile Machines. First use on or about Mar. 4, 1966.

SN 253,512. The Ever Ready Company (Great Britain), Limited, Whetstone, London, England. Filed Aug. 31, 1966.



Owner of British Reg. Nos. 569,887, dated June 29, 1936, and 612,376, dated July 18, 1940.

For Electric Batteries, Electric Cells, Radios, and Cases for Electric Torches; Torches, Electric Lamps, and Electric Lamp Bulbs Therefor.

SN 253,727. Chase & Sons, Inc., Randolph, Mass. Filed Sept. 2, 1966.

CHASEFLEX

For Electrical Insulation in Sheet and Strip Form, Comprising Polyester Mat and Polyester Film Lamina.

First use on or about May 3, 1966.

SN 253,728. Chase & Sons, Inc., Randolph, Mass. Filed Sept. 2, 1966.

CHASEMAT

For Electrical Insulation in Sheet and Strip Form, Comprising Polyester Mat and Polyester Film Lamina.

First use on or about Mar. 7, 1966.

SN 253,962. Electronic Development Corporation, Salt Lake City, Utah. Filed Sept. 7, 1966.

TRANSAMIKE

For Wireless Microphones.

First use on or about June 15, 1964.

SN 255,911. John T. Miller, Houston, Tex. Filed Oct. 6, 1966.

GOODY-KOOKER

For Electric Portable Cooking Stovers or Vessels for Cooking Food.
First use Aug. 26, 1966.

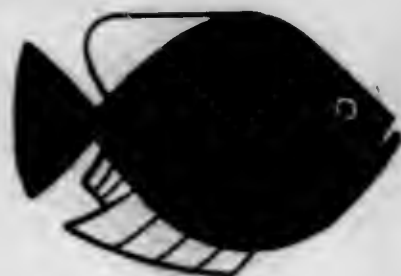
SN 256,110. MSL Industries, Inc., Chicago, Ill. Filed Oct. 10, 1966.



For Electrical Apparatus and Machines, Including Electric Fans and Blowers; Electric Motors, Gears, Gear Trains; Motor and Transformer Laminations; Battery Cases, Battery Chargers; Spot Lights, Flood Lights, Garden Lights, and Patio Lights.

First use on or about Apr. 11, 1966, on motor and transformer laminations.

SN 257,528. Sternco Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,746.
For Electric Lighting Fixtures for Attachment to and Placement Within Aquarium Tanks.
First use Sept. 4, 1962.

SN 257,756. Anzac Industries, Inc., Cleveland, Ohio. Filed Nov. 2, 1966.

CYCLE-GUARD

For Antennas.
First use Jan. 4, 1966.

SN 258,473. Anzac Industries, Inc., Cleveland, Ohio. Filed Nov. 14, 1966.

MACH III

For Antennas.
First use Oct. 21, 1966.

Class 22—Games, Toys, and Sporting Goods

SN 233,032. Woodex Henrik Gustafsson & Co., Helsinki, Finland. Filed Nov. 19, 1965.

JEKKU

The term "Jekku" is a slang expression in the Finnish language meaning "pulling one's leg."
For Fish Lures.
First use February 1964; in commerce February 1964.

SN 245,085. Walter C. Meyers, d.b.a. Haltwelen Company, Temple City, Calif. Filed May 6, 1966.

SMAD

For Equipment Comprising a Specialized Deck of Cards for Playing a Card Game.
First use Dec. 28, 1964.

SN 245,254. Stance-Rite Co., Cedar Rapids, Iowa. Filed May 9, 1966.

SNEAKER

For Fishing Lure.
First use Apr. 20, 1966.

SN 254,556. The Ohio Art Company, Bryan, Ohio. Filed Sept. 15, 1966.

HI YO

For Toy Boomerangs.
First use Aug. 12, 1966.

SN 255,302. Emence Industries, Inc., New York, N.Y. Filed Sept. 28, 1966.

THERMO/CRAFT

For Toy Hobby Kits—Namely, Aeroplane, Boat, and Similar Type Construction Items.
First use Apr. 5, 1966.

SN 255,356. Rapaport Brothers, Inc., Chicago, Ill. Filed Sept. 28, 1966.

RAPCO

For Juvenile Athletic Equipment; Toys; and Toy Craft and Hobby Kits.
First use Jan. 3, 1966.

SN 256,347. Raymon W. Cook, d.b.a. Ray Cook, San Antonio, Tex. Filed Oct. 13, 1966.

MICRO-GROOV

Owner of Reg. Nos. 775,303, 775,304, and 775,305.
For Golf Clubs.
First use Sept. 28, 1966.

SN 257,773. Die Casting Machine Tools Limited, London, England. Filed Nov. 2, 1966.

ROADMASTER

Owner of British Reg. No. 874,111, dated Jan. 12, 1965.
For Toy Road Vehicles and Miniature Model Road Vehicles.

SN 261,144. Delta Products, Inc., San Antonio, Tex. Filed Dec. 20, 1966.

HUNTERFLAGE

For Cologne for Use by Hunters To Camouflage Body Odor.
First use Sept. 30, 1966.

SN 267,584. Eldon Industries, Inc., Hawthorne, Calif. Filed Mar. 27, 1967.

JUST FOR THE FUN OF IT

For Toy Boats, Floating Toys, Water Guns, Toy Craft Sets and Toy Hobby Kits; Equipment (or Apparatus) Sold as Units for Playing Various Type Card, Board, and/or Similar Type Parlor Games; Targets and Dart Guns, Toy Trains, Doll Houses, Toy Road Race Sets, 3-D Action Toys, and Car Ferry Sets.
First use Apr. 1, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 235,189. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Dec. 23, 1965.

STAINLESS-STAINLESS BY IMPERIAL

Owner of Reg. Nos. 633,106 and 754,562.
For Stainless Steel Flatware of All Kinds, Pocket Knives, Hunting Knives, and Kitchenware.
First use Nov. 1, 1965.

SN 240,653. Ratcliff Hoist Company, Inc., Belmont, Calif. Filed Mar. 10, 1966.

RATCLIFF

For Load Sustaining Devices—Namely, Chain Hoists and Load Binders, and Components Thereof.
First use on or about Nov. 7, 1960.

SN 248,926. Perfection American, Inc., Harvey, Ill. Filed June 24, 1966.

PERFECTION AMERICAN

Owner of Reg. No. 309,607.
For Automotive and Industrial Power Transmission Assemblies, and Parts Thereof—Namely, Clutches, Couplings, Gears, Gear Boxes, Linkage, Sprockets, and Universal Joints.
First use May 9, 1966.

SN 250,631. Beckley-Cardy Company, Chicago, Ill. Filed July 20, 1966.

Little  Giant

For Vacuum Machine Designed To Clean Chalkdust and Other Foreign Substance From Chalkboard Erasers.
First use Dec. 1, 1920.

SN 252,105. Jari Corporation, Minneapolis, Minn. Filed Aug. 10, 1966.

JOBMASTER

For Power Driving Attachment for Use With Ground Care Equipment—Namely, Mowers, Air Rakes, Vacuuming Equipment, Tillers, and Snow Blowers.
First use May 13, 1966.

SN 254,206. Wells Tool Company, Greenfield, Mass. Filed Sept. 7, 1966.

PUG

For Cutting Tools—Namely, Taps.
First use Apr. 1, 1966.

SN 255,549. Societe Anonyme des Anciens Etablissements Albaret, Rantigny, Oise, France. Filed Sept. 30, 1966.

GEOPACTOR

Owner of French Reg. No. 1,480, dated Sept. 23, 1965; and U.S. Reg. Nos. 707,768 and 707,769.
For Equipment for Road Construction and Maintenance—Namely, Compaction Rollers.

SN 274,921. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany. Filed June 28, 1967.

COMET

Owner of German Reg. No. 756,367, dated Dec. 18, 1961.
For Printing Presses.
First use at least as early as Sept. 3, 1960; in commerce at least as early as Sept. 3, 1960.

SN 274,922. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany. Filed June 28, 1967.

COURIER

Owner of German Reg. No. 751,361, dated July 29, 1961.
For Web-Fed Rotary Letterpress.

Class 26—Measuring and Scientific Appliances

SN 239,891. Fisher Scientific Company, Pittsburgh, Pa. Filed Mar. 1, 1966.

THERMALYZER

For Apparatus for Differential Temperature Analysis.
First use August 1965.

SN 240,380. Xerox Corporation, Rochester, N.Y. Filed Mar. 7, 1966.

330

For Electrophotographic Copying Machines.
First use Nov. 17, 1965.

SN 240,437. Hellige International Inc., Garden City, N.Y. Filed Mar. 8, 1966.

LILIPUT

For Hemometers.
First use Feb. 1, 1966.

SN 240,726. General Aniline & Film Corporation, New York, N.Y. Filed Mar. 11, 1966.

AUTOPRINT

For Photosensitive Materials, Especially Light-Sensitive Photographic Reproduction Paper.
First use October 1953.

SN 250,834. Edo Western Corporation, Salt Lake City, Utah. Filed July 22, 1966.

DIGITRAK

For Digital Output Signal Tracking Device for Measurement and Display of the Underwater Distance Between Two Points.
First use on or about Aug. 1, 1965.

SN 254,058. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Sept. 8, 1966.

AR

Owner of Reg. Nos. 594,056, 802,526, and others.
For Plastic Laboratory Ware.
First use Aug. 8, 1966.

SN 255,342. Optomechanisms, Inc., Engineers Hills, Plainview, N.Y. Filed Sept. 28, 1966.

Pi-Dex

For Rotatable Work Holding Table With Angle Measuring Scale.
First use Feb. 1, 1966.

SN 263,507. Andrew Engineering Company, Minneapolis, Minn. Filed Jan. 30, 1967.

LINEMASTER

For Optical Line Sensor for Control of Contour Milling Machine Operations.
First use Dec. 27, 1966.

SN 269,604. High Voltage Engineering Corporation, Burlington, Mass. Filed Apr. 20, 1967.



Owner of Reg. No. 669,254.
For Particle Accelerators of the Nuclear Radiation Source Type for Use in Scientific Research and Industry, and Actuators, Beam Tube Supports, Bellows, Chambers, Focus Rings, Magnets, Ion Sources, Adaptors, Consoles, Viewers, and Targets Adapted for Use With Particle Accelerators.
First use Aug. 5, 1965.

SN 271,207. General Biological Supply House, Inc., Chicago, Ill. Filed May 11, 1967.

TURTOX

For Apparatus and Instruments for Laboratory Purposes, Including Slides.
First use 1920.

Class 27—Horological Instruments

SN 252,223. Icko Wakmann, d.b.a. Relide Clock Company, New York, N.Y. Filed Aug. 11, 1966.

IMEXAL

For Clocks.
First use August 1955.

SN 260,264. Medco, Inc., Kansas City, Mo. Filed Dec. 7, 1966.

WATCH DOG

For Watches.
First use Nov. 3, 1966.

Class 28—Jewelry and Precious-Metal Ware

SN 242,735. Rudy Levy Inc., New York, N.Y. Filed Apr. 5, 1966.



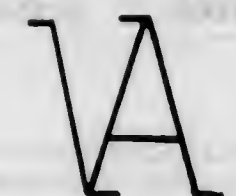
For Jewelry.
First use Jan. 2, 1965.

SN 248,142. Abraham G. Sager, d.b.a. Kapree Wedding Ring Company, Chicago, Ill. Filed June 15, 1966.

KAPREE

For Wedding Rings.
First use on or about June 6, 1966.

SN 253,379. Van Alst Wedding Ring Corporation, Long Island City, N.Y. Filed Aug. 29, 1966.



For Rings and Bracelets.
First use May 20, 1966.

SN 260,660. Gorham Corporation, Providence, R.I. Filed Dec. 13, 1966.

WHITE PAISLEY

For Sterling Silver Flatware.
First use Nov. 1, 1966.

SN 261,593. Onelda Ltd., Onelda, N.Y. Filed Dec. 28, 1966.

BOUNTIFUL

For Sterling Silver Flatware.
First use Nov. 14, 1966.

SN 263,335. Buccellati Silver, Ltd., New York, N.Y. Filed Jan. 26, 1967.

OLD ITALIAN

For Sterling Silver Flatware.
First use Aug. 27, 1965.

SN 264,476. C. H. Stuart & Co., Inc., Newark, N.Y. Filed Feb. 13, 1967.



Owner of Reg. No. 764,280.
For Men's and Women's Jewelry.
First use Jan. 26, 1966.

SN 264,994. Warner Press, Inc., Anderson, Ind. Filed Feb. 17, 1967.

FAITHFUL WITNESS

Owner of Reg. No. 746,897.
For Jewelry.
First use Jan. 1, 1966.

Class 29—Brooms, Brushes, and Dusters

SN 260,907. Elder & Jenks, Inc., Bayonne, N.J. Filed Dec. 16, 1966.

CAPITAL OX

For Paint Brushes.
First use 1926.

Class 30—Crockery, Earthenware, and Porcelain

SN 254,208. Crown Staffordshire China Company, Ltd., Fenton, Stoke-on-Trent, England. Filed Sept. 6, 1966.

CROWN SUSSEX

For English Bone China, Porcelain China, Earthenware, and Ceramics of All Types.
First use April 1966; in commerce April 1966.

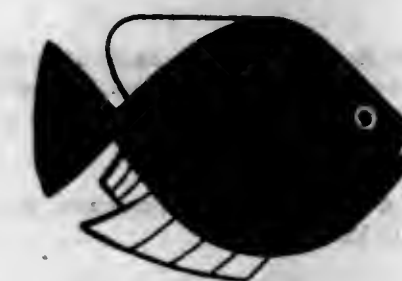
Class 31—Filters and Refrigerators

SN 246,832. General Ionics Corporation, Bridgeville, Pa. Filed May 31, 1966.



The drawing is lined for the color red.
For Ion Exchange Type Domestic and Industrial Water Softeners, Industrial and Domestic Water Filters, and Demineralizers.
First use Apr. 15, 1966.

SN 257,531. Sterneo Industries, Inc., Allendale, N.J. Filed Oct. 28, 1966.



Owner of Reg. No. 813,736.
For Aquarium Tank Accessories—Namely, Air and Water Filter Devices.
First use Sept. 4, 1962.

SN 258,391. Marvel Engineering Company, Chicago, Ill. Filed Nov. 10, 1966.

MARVLFLO

Owner of Reg. Nos. 786,406, 815,851, and others.
For Filters for Use on Hydraulic Power, Low Pressure Circulating and Water Systems.
First use Jan. 31, 1966.

SN 258,392. Marvel Engineering Company, Chicago, Ill. Filed Nov. 10, 1966.

MARVELINE-TB

Owner of Reg. Nos. 786,406, 815,851, and others.
For Filters for Use on Hydraulic Power, Low Pressure Circulating and Water Systems.
First use Aug. 31, 1966.

SN 258,825. Marvel Engineering Company, Chicago, Ill. Filed Nov. 16, 1966.

MARVELINE-TT

Owner of Reg. Nos. 786,406, 815,851, and others.
For Filters for Use on Hydraulic Power, Low Pressure Circulating and Water Systems.
First use Oct. 26, 1966.

SN 259,111. HPE, Inc., Colton, Calif. Filed Nov. 21, 1966.

JETSTREAM

For Swimming Pool Filters.
First use Jan. 11, 1966.

Class 32 — Furniture and Upholstery

SN 246,839. Atlas Manufacturing Company, Minneapolis, Minn. Filed May 26, 1966.

VENTI-SHELF

For Steel Rod Shelves.
First use May 19, 1965.

SN 250,828. H. Degen, Basel, Switzerland. Filed July 22, 1966.

lattoflex

Owner of Swiss Reg. No. 170,631, dated May 30, 1958.
For Beds, including Convertible and Trundle-Type Beds, Sofas, Divans, and Spring Bases for Same.

SN 250,837. G & S Chair Frame Company, Inc., Brooklyn, N.Y. Filed July 22, 1966.

Classicraft

For Sofas, Convertible Sofas, Chairs, Convertible Chairs, and Tables.
First use June 1966.

SN 253,480. Babcock-Phillips Corporation, Richmond, Va. Filed Aug. 31, 1966.

Comfort Plus

The words "Comfort Plus" are disclaimed apart from the mark as shown.
For Hassocks and Outdoor Furniture Accessories—Namely, Pads and Cushions.
First use July 1965.

SN 258,733. Thor Tösse, Frederikssund, Denmark. Filed Nov. 15, 1966.

UREFORM

Priority claimed under Sec. 44(d) on Danish application filed May 16, 1966; Reg. No. 1,347, dated May 5, 1967.
For Upholstered Furniture—Namely, Chairs, Sofas, Sleeping Couches, and Ottomans.

SN 260,330. Gaines-American Moulding Corp., New York, N.Y. Filed Dec. 8, 1966.



For Picture Frames and Mouldings.
First use December 1955.

SN 261,106. SAR Manufacturing Company, Inc., Houston, Tex. Filed Dec. 19, 1966.

RUBBERLUX

For Urethane Foam Used as a Cushioning in Mattresses and Furniture.
First use Aug. 27, 1966.

SN 268,209. Modern Upholstered Chair Company, Inc., d.b.a. Everest Chair Company, Morristown, Tenn. Filed Apr. 3, 1967.

EVEREST

For Chairs.
First use Jan. 9, 1967.

SN 272,789. Chittenden & Eastman Company, Burlington, Iowa. Filed June 1, 1967.

ROYAL CROWN

For Tempered Steel Coil Spring Unit for Use in a Mattress.
First use May 22, 1967.

SN 275,018. Castro Convertible Corporation, New Hyde Park, N.Y. Filed June 29, 1967.

CASTRONAUT

Owner of Reg. Nos. 558,717 and 602,715.
For Furniture—Namely, Convertible Sofa-Beds.
First use April 1963.

Class 33 — Glassware

SN 253,891. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed Sept. 6, 1966.

CRISPLINE

For Glass for Glazing Windows, Doors, Partitions, and the Like.
First use June 16, 1966.

SN 254,184. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 9, 1966.

RITE OF SPRING

For Crystal Stemware.
First use May 9, 1966.

SN 254,185. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 9, 1966.

RENATA

For Crystal Stemware.
First use May 9, 1966.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 257,065. Midland-Ross Corporation, Toledo, Ohio. Filed Oct. 24, 1966.

SPRAY-CEL

For Dehumidification Units.
First use Oct. 21, 1966.

SN 257,624. Hardwick Stove Company, Cleveland, Tenn. Filed Oct. 31, 1966.

MODULINE

For Cooking Ranges and Stoves.
First use Oct. 12, 1966.

SN 258,298. Eastern Seaboard Plastics, Inc., Newark, N.J. Filed Nov. 9, 1966.

FLAMATIC

For Artificial Candles Illuminated by a Liquid Fuel.
First use Oct. 6, 1966.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 253,023. Dodge Fibers Corporation, Hoosick Falls, N.Y. Filed Aug. 24, 1966.

SEAL PAK

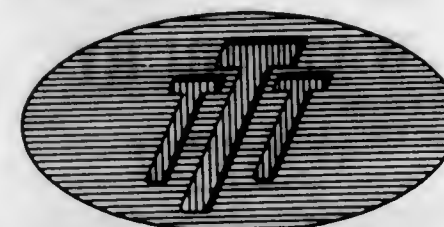
For Packing for Pipe Joints, Valves, and Stems.
First use Sept. 22, 1964.

SN 254,955. Union Carbide Corporation, New York, N.Y. Filed Sept. 22, 1966.

PRESTONE

Owner of Reg. Nos. 181,657, 658,623, and others.
For Hose for Automobile Heaters and Radiators.
First use on or about Aug. 19, 1966.

SN 256,839. Wayne Hudson, d.b.a. Triple T Patching, Nashville, Tenn. Filed Oct. 20, 1966.



Although the mark as displayed includes red letters on a blue background, and the drawing is so lined, the colors are not claimed as a material feature of the mark.
For Tire Patches.
First use Jan. 3, 1966.

DAMTITE

For Sewage Pump Seals.
First use 1957.

SN 274,916. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed June 28, 1967.

PERFECT PROFILE

Owner of Reg. No. 530,345.
For Tires.
First use June 16, 1967.

Class 36 — Musical Instruments and Supplies

SN 240,630. Koss Electronics, Inc., Milwaukee, Wis. Filed Mar. 10, 1966.

REK-O-KUT

For Phonographic Turntables, Tone Arms and Tone Arm Lifts.
First use on or before Jan. 3, 1966.

SN 248,290. D. H. Baldwin Company, Cincinnati, Ohio. Filed June 17, 1966.

HOWARD COMBO

Owner of Reg. No. 46,993.
For Keyboard Electrical Musical Instruments—Namely, Electronic Organs.
First use May 24, 1966.

SN 250,567. Doric Organ Company, Morristown, N.J. Filed July 19, 1966.



The words "Transistorized Organ" are disclaimed apart from the mark as shown.
For Electronic Organs and Amplifiers Therefor.
First use Dec. 1, 1964.

SN 251,065. Listening Library, Inc., Old Greenwich, Conn. Filed July 26, 1966.



No exclusive claim is made to the word "Audio" apart from the mark as shown.
For Phonograph Records.
First use Mar. 15, 1966.

SN 255,737. Viva Records, Inc., Hollywood, Calif. Filed Oct. 4, 1966.

For Phonograph Records.
First use June 20, 1966.

SN 256,417. Ampex Corporation, Redwood City, Calif. Filed Oct. 14, 1966.

HIGH BAND

For Magnetic Recording Tape.
First use Aug. 2, 1966.

SN 258,924. Puchito Record Mfg. Co. Inc., Hialeah, Fla. Filed Nov. 17, 1966.

DARDO

The word "Dardo" is the Italian word for "dart" or "arrow."
For Phonograph Records.
First use September 1966.

SN 266,616. Twin Circle Publishing Co., Inc., New York, N.Y. Filed Mar. 14, 1967.

TWIN CIRCLE

For Magnetic Sound Recording Tape.
First use Feb. 16, 1967.

SN 267,787. Kaman Aircraft Corporation, Bloomfield, Conn. Filed Mar. 29, 1967.

Applicant disclaims the representation of a musical instrument apart from the mark as shown.
For Guitars.
First use on or about Feb. 1, 1967.

SN 270,186. Columbia Broadcasting System, Inc., New York, N.Y. Filed Apr. 28, 1967.

STRATOCASTER

For Electric Guitars.
First use in or about 1954.

SN 270,192. Columbia Broadcasting System, Inc., New York, N.Y. Filed Apr. 28, 1967.

MUSTANG

For Electric Guitars.
First use in or about 1964.

For Acoustic and Electric Guitars.
First use at least as early as 1961.

SN 270,457. The Fred. Gretsch Mfg. Co., Brooklyn, N.Y. Filed May 2, 1967.

Owner of Reg. No. 187,744.
For Musical Instruments—Namely, Banjos, Guitars, Drums, Electric Bases, and Parts Therefor.
First use 1939.

Class 37—Paper and Stationery

SN 251,075. Sigma Sangyo Kabushiki Kaisha, Edogawa-ku, Tokyo-to, Japan. Filed July 26, 1966.

For Ball-Point Pen, Marking Pen, and Pen Holder.
First use Dec. 14, 1963; in commerce June 30, 1966.

SN 251,974. The Waterbury Pen Co., Inc., Stratford, Conn. Filed Aug. 8, 1966.

GRAF-RITE

For Ball Point Pens.
First use on or about May 3, 1955.

SN 251,976. The Waterbury Pen Co., Inc., Stratford, Conn. Filed Aug. 8, 1966.

WATERBURY

For Pens and Pencils.
First use on or about July 1, 1949.

SN 253,503. Marlon Donovan, d.b.a. Donovan Associates, Southport, Conn. Filed Aug. 31, 1966.

WRITE-BACK

For Return Envelopes.
First use Aug. 8, 1966.

SN 254,759. PermaIn Products Corporation, New York, N.Y. Filed Sept. 16, 1966.

For Embossed Coated Kraft Paper, for Use in Making Bound Book Covers.
First use Nov. 1, 1960.

SN 256,978. Semper Paper Co. Inc., Brooklyn, N.Y. Filed Oct. 21, 1966.

SEMPERIGHT

For Printing Paper.
First use during April 1959.

SN 256,979. Semper Paper Co. Inc., Brooklyn, N.Y. Filed Oct. 21, 1966.

MULTIGLOSS

For Printing Paper.
First use during June 1962.

SN 257,013. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed Oct. 24, 1966.

misty * prints

The word "Prints" is disclaimed apart from the mark as shown.
For Note Paper and Envelopes.
First use Feb. 25, 1966.

SN 258,335. United States Tabulating Binder Corporation, Niles, Ill. Filed Nov. 9, 1966.

FILE-O-BINDER

The word "Binder" is disclaimed apart from the mark as shown without waiver of any common-law rights.
For Binders for Record Sheets.
First use Aug. 16, 1965.

SN 259,631. Aluminum Company of America, Pittsburgh, Pa. Filed Nov. 29, 1966.

ALCOA ALWRAP

Owner of Reg. Nos. 284,996, 629,824, and others.
For Laminated Metal Foil and Paper.
First use Mar. 11, 1960.

SN 259,742. Lakeside Central Company, Chicago, Ill. Filed Nov. 30, 1966.

BRADCO

For Paper Materials—Namely, Paper Notebooks, Paper Index Cards and Guides, Paper Business Forms, Writing Paper, Writing Tablets, Pads, Notebooks and Tablets, Envelopes, Ring Binders, Copy Sheets, Loose Leaf Fillers, Art Paper, Sketch Pads, Drawing Tablets, Composition Books, Filler Pads, Artists' Tracing Paper, and Artists' Drawing Tablets.
First use Dec. 29, 1965.

RED LABEL

For Duplicating Paper.
First use in or about January 1952.

SN 261,051. A. B. Dick Company, Niles, Ill. Filed Dec. 19, 1966.

GOLD LABEL

For Duplicating Paper.
First use in or about January 1952.

SN 261,052. A. B. Dick Company, Niles, Ill. Filed Dec. 19, 1966.

GREEN LABEL

For Duplicating Paper.
First use in or about January 1964.

SN 261,645. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company, Jersey City, N.J. Filed Dec. 29, 1966.

RITEX

Owner of Reg. No. 231,271.
For Crayons for Marking Fabric.
First use January 1946.

SN 261,749. The Northwest Paper Company, Cloquet, Minn. Filed Dec. 30, 1966.

WESTLAND

For Paper—Namely, Printing, Writing, and Converting Papers.
First use Oct. 7, 1966.

SN 264,879. Termoplastica S.r.l., Turin, Italy. Filed Feb. 17, 1967.

For Ball Point Pens.
First use Sept. 1, 1966; in commerce Oct. 3, 1966.

Class 38—Prints and Publications

SN 210,239. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Jan. 19, 1965.

CON-TACT

Owner of Reg. Nos. 424,988, 692,926, and others.
For Calendars.
First use on or about Jan. 1, 1957.

SN 228,248. Fairchild Publications, Inc., New York, N.Y. Filed Sept. 21, 1965.

FAIRCHILD VISUALS

Applicant disclaims any exclusive rights with respect to the mark "Visuals," apart from the mark as shown. Owner of Reg. No. 545,549.
For Brochures and Film Slides.
First use Aug. 12, 1965.

SN 241,962. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Mar. 28, 1966.



For Newspaper Column in a Daily Newspaper.
First use Mar. 2, 1965.

SN 244,982. Richard Geer, d.b.a. Geer Publishing Company, New York, N.Y. Filed May 5, 1966.



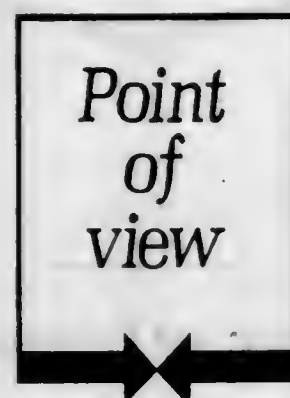
Applicant disclaims the phrase "Forecasting Knit Fabric Fashions and Trends for Apparel Manufacturers and Retailers," apart from the mark.
For Periodical Magazine Forecasting Knit Fabric Fashions and Trends for Apparel Manufacturers and Retailers.
First use Oct. 15, 1965.

SN 242,221. The Curtis Publishing Company, Philadelphia, Pa. Filed Mar. 30, 1966.

PERKY PUPPET

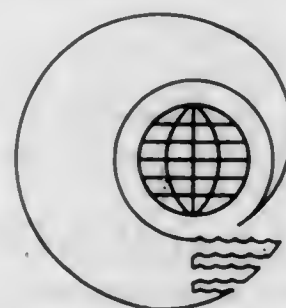
For Illustrated Story and Puzzle Features for Children, Published From Time to Time in a Magazine.
First use Mar. 2, 1966; April 1960 in a different form of display.

SN 242,800. The Christian Science Publishing Society, Boston, Mass. Filed Apr. 6, 1966.



For Newspaper Column in a Daily Newspaper.
First use Mar. 1, 1965.

SN 249,933. American Society for Oceanography, Houston, Tex. Filed July 11, 1966.



For Printed Publications in the Form of Books, Pamphlets, Brochures, Periodical Newsletters, and the Like, All Relating to Oceanography.
First use Feb. 15, 1966.

SN 250,479. John L. Hammer, Jr., d.b.a. Hammer Publishing Company, Princeton, N.J. Filed July 18, 1966.

TAKETHOU

For Periodically Issued Booklet Containing Therapeutic Information Relating to Various Fields of Medicine and Product Information Relating to Various Drugs.
First use May 1, 1966.

SN 251,126. Eli Lilly and Company, Indianapolis, Ind. Filed July 27, 1966.

IDENTI-CODE

For Pharmaceutical Formulary Index in the Form of Printed Booklets.
First use July 20, 1966.

State
of the
nations

SN 254,266. Foto Features, Inc., Woodland, Calif. Filed Sept. 12, 1966.

METODO "ABSORBOMATICO"

The English translation of the word "Metodo" is "method."
For Educational Column Appearing in Newspapers From Time to Time.
First use July 20, 1966.

SN 255,508. American Book Company, New York, N.Y. Filed Sept. 30, 1966.



For Printed Publications—Namely, Instruction Books and Pamphlets for School Use for Young Children.
First use Sept. 13, 1966.

SN 256,759. Measurement Analysis Corporation, Los Angeles, Calif. Filed Oct. 19, 1966.

MAC/RAN

For Computer Programs.
First use Sept. 14, 1966.

SN 257,618. Graphic Products Corporation, Rolling Meadows, Ill. Filed Oct. 31, 1966.

SPACEAID

For Graphic Art Aids—Namely, Printed Adhesive-Backed Cut-Out and Transfer Sheets of Letters, Numbers, and Symbols.
First use Oct. 1, 1962.

SN 257,639. The Mead Corporation, Dayton, Ohio. Filed Oct. 31, 1966.

PAPER SALESMAN

For Magazine.
First use on or about Sept. 1, 1953.

SN 258,536. The Glidden Company, Cleveland, Ohio. Filed Nov. 14, 1966.

MASTER PALETTE

For Books Indicating the Preparation of Paints of Differing Colors or Tints and the Formulas Therefor.
First use September 1964.



Owner of Reg. Nos. 671,967 and 673,223.
For Printed Publications—Namely, Periodical Publications, Booklets Relating to the Banking Business or to Other Matters of Interest to Applicant's Customers, Directories, and Printed Bulletins.
First use December 1960; Jan. 28, 1958, in a slightly different form.

SN 260,747. IRC, Inc., Philadelphia, Pa. Filed Dec. 14, 1966.



For Electronics Reference Books, That Is, Manuals, Handbooks, and Guide Books.
First use August 1966.

SN 262,300. Lehar-Friedman Publications, Inc., New York, N.Y. Filed Jan. 11, 1967.

MANU-GIDE

For Bulletin Published at Irregular Intervals Directed to the Variety Store-General Merchandise Field.
First use Dec. 7, 1966.

SN 263,267. General Motors Corporation, Detroit, Mich. Filed Jan. 25, 1967.

POWER PARADE

For Magazine.
First use August 1947.

SN 264,450. Snow Goer, Ltd., Eagle River, Wis. Filed Feb. 10, 1967.



For Magazine.
First use Aug. 15, 1966.

SN 269,381. Deliverance Evangelistic Center Inc., Brooklyn, N.Y. Filed Apr. 18, 1967.

The DELIVERANCE
VOICE

For Magazine.
First use Mar. 21, 1967.

SN 269,729. Rand McNally & Company, Skokie, Ill. Filed Apr. 21, 1967.

Jolly
Roger
BOOK

The word "Book" is disclaimed.
For Series of Children's Books.
First use Sept. 20, 1966.

SN 271,982. KPR Publications, Inc., New York, N.Y. Filed May 22, 1967.

OPHTHALMIC OBSERVER

For Periodical News Report Devoted to Current Developments in Ophthalmology and Allied Fields for Physicians Specializing in Diseases of the Eye.
First use Apr. 3, 1967.

SN 272,667. Jaybird Enterprises, Inc., North Hollywood, Calif. Filed May 31, 1967.

JAYBIRD JOURNAL

The black rectangular design shown on the drawing is for background purposes only and is not a part of the mark.
For Magazine Devoted to Nudism.
First use June 30, 1965.

SN 274,579. Allied Decals, Inc., Cleveland, Ohio. Filed June 23, 1967.

DRI-APPLI

For Decals.
First use Mar. 15, 1960.

SN 274,634. Kordet Color Corporation, Oceanside, N.Y. Filed June 23, 1967.



For Color Prints.
First use May 1, 1967.

SN 275,581. Looart Press, Inc., Colorado Springs, Colo. Filed July 10, 1967.

LOOART

Owner of Reg. No. 667,448.
For Posters.
First use in or about April 1967.

Class 39—Clothing

SN 232,517. Blair Fashions, Inc., Chicago, Ill. Filed Nov. 12, 1965.

UPS-N-DOWNS

For Panty Girdles.
First use Oct. 25, 1965.

SN 233,967. Edith Lances Corporation, New York, N.Y. Filed Dec. 6, 1965.

Edith Lances

"Edith Lances" is the name of a living individual whose consent is of record. Owner of Reg. No. 369,842.
For Lingerie.
First use Nov. 1, 1937.

SN 243,220. Casualcraft, Inc., New York, N.Y. Filed Apr. 12, 1966.

CASUALCRAFT

For Raincoats and Jackets.
First use June 1946.

SN 245,863. Sirkin, Davis, Levin, Inc., New York, N.Y. Filed May 17, 1966.

LORD ANTHONY KINGS ROAD W.I.

"Kings Road W.I." is disclaimed apart from the mark, without waiving any of applicant's common law rights. The name "Lord Anthony" is fanciful.
For Men's Slacks.
First use May 5, 1966.

SN 247,015. Geb Casuals, Inc., New York, N.Y. Filed June 1, 1966.

POISE'N IVY

For Women's Sportswear—Namely, Skirts, Shirts, Slacks, and Jackets.
First use Oct. 1, 1959.

SN 248,868. Wembley, Inc., New Orleans, La. Filed June 23, 1966.

REDI-PUFFS

For Simulated Pocket Handkerchiefs.
First use Mar. 1, 1966.

SN 249,027. Rudolph C. Malchar, d.b.a. Malchar Industries, Oklahoma City, Okla. Filed June 27, 1966.

FRILLY DILLY

For Ladies' Apparel—Namely, Underwear, Shorts, and Swim Suits.
First use May 6, 1966.

SN 251,278. Cape Ann Manufacturing Co., Gloucester, Mass. Filed July 29, 1966.

DUNKA-CLOTH

For Fabric Made Into Finished Garments, Such as Jackets, Coats, and the Like.
First use on or about Dec. 1, 1956.

SN 254,880. The Josephine Co., St. Paul, Minn. Filed Sept. 21, 1966.



Owner of Reg. No. 614,463.
For Boys' Clothing—Namely, Sweaters, Slacks, Shirts, Jackets, Coats, Shorts, Suits, Sleepwear, Polo Shirts, Underwear, and Pajamas.
First use Apr. 1, 1966.

SN 254,881. The Josephine Co., St. Paul, Minn. Filed Sept. 21, 1966.



Owner of Reg. No. 614,463.
For Girls' Clothing—Namely, Dresses, Sweaters, Blouses, Skirts, Slacks, Shorts, Jumpers, Jackets, Coats, Gowns, Sleepwear, Polo Shirts, Underwear, and Pajamas.
First use Apr. 1, 1966.

SN 255,999. Piedmont Shirt Company, Greenville, S.C. Filed Oct. 7, 1966.

GOLDEN LTD.

Owner of Reg. No. 812,610.
For Men's and Boys' Shirts, Pajamas, and Swimwear.
First use Aug. 16, 1966.

SN 256,535. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Oct. 17, 1966.

Firestone

Owner of Reg. No. 396,796.
For Shoes, Sneakers, Slippers, Overshoes, and Boots for Men, Women, and Children.
First use Oct. 13, 1966.

SN 256,545. Gino Charles, Ltd., New York, N.Y. Filed Oct. 17, 1966.

GINO CHARLES

The name "Gino Charles" is fanciful.
For Misses' Dresses.
First use June 6, 1966.

SN 259,304. Damon Creations, Inc., New York, N.Y. Filed Nov. 23, 1966.

DAMON

Owner of Reg. Nos. 684,827, 717,628, and 721,064.
For Women's Dresses, Blouses, and Skirts; Men's and Women's Jackets, Shirts, Sweaters, Neckties, Belts; Beachwear—Namely, Bathing Suits and Trunks; Casual Jackets, Shorts, Raincoats, Suits, Sport Jackets, Slacks and Handkerchiefs.
First use Mar. 14, 1946.

SN 260,131. Anjac Corporation, Denver, Colo. Filed Dec. 6, 1966.

Ties+
by anjac

The word "Ties" is disclaimed apart from the mark as shown.
For Men's Haberdashery, viz, Neckties, Suspenders, and Belts.
First use Aug. 29, 1966.

SN 260,789. Louis Walter & Company, Inc., Kansas City, Mo. Filed Dec. 14, 1966.

BUS STOP

For Men's and Women's Suits and Coats.
First use Nov. 22, 1966.

SN 260,911. Hart Schaffner & Marx, Chicago, Ill. Filed Dec. 16, 1966.

TREND HART SCHAFFNER & MARX

Owner of Reg. Nos. 108,999, 515,945, and others.
For Men's Suits and Sport Coats.
First use Nov. 30, 1966; 1887 as to "Hart Schaffner & Marx"; 1952 as to "Trend."

SN 261,273. Associated Dry Goods Corporation, d.b.a. J. W. Robinson Co., New York, N.Y. Filed Dec. 22, 1966.

ROGER DRAKE

The name "Roger Drake" is fictitious.
For Men's Clothing—Namely, Suits, Dress Suits, Sport Coats, Topcoats, Raincoats, and Slacks.
First use Nov. 12, 1966.

SN 263,405. Julius Schmid, Inc., New York, N.Y. Filed Jan. 26, 1967.

COUNTESS

For Household Rubber Gloves.
First use Dec. 28, 1966.

SN 263,672. Kayser-Roth Corporation, New York, N.Y. Filed Jan. 31, 1967.

INFATUATION

For Ladies' Hosiery.
First use Jan. 12, 1967.

SN 263,673. Lady Marlene Brassiere Corp., New York, N.Y. Filed Jan. 31, 1967.

BODY MAKE-UP

For Brassieres, Corsets, and Girdles.
First use Dec. 1, 1960.

SN 264,117. Wally Sportwear Inc., New York, N.Y. Filed Feb. 6, 1967.



For Women's Dresses.
First use Dec. 23, 1966.

SN 268,560. Suncrest Sportswear, Inc., Los Angeles, Calif., by change of name from Suncrest Sportswear, Incorporated, Los Angeles, Calif. Filed Apr. 7, 1967.

SUNCREST

For Trousers, Shirts, and Jackets.
First use Jan. 15, 1964.

SN 270,408. Pantmaster Incorporated, d.b.a. Mr. Pantmaster of New England Inc., Brockton, Mass. Filed May 1, 1967.

FITMASTER

For Women's Sportswear—Namely, Pants.
First use at least as early as Apr. 14, 1967.

Class 41—Canes, Parasols, and Umbrellas

SN 258,192. Kortenbach & Raub Kommanditgesellschaft, Solingenweyer, Germany. Filed Nov. 7, 1966.

KOBOLD

Owner of German Reg. No. 500,345, dated Sept. 17, 1937.
For Umbrellas, Umbrella Frames, and Umbrella Accessories.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 246,534. Bianchini Ferrier, Lyons, France. Filed May 25, 1966.

FANTASTISS

Priority claimed under Sec. 44(d) on French Reg. No. 702,714, dated Dec. 29, 1965.
For Elastic Fabric Used in Making Ski Trousers, Ski Jackets, and the Like.

SN 249,296. Barrday Limited, Galt, Ontario, Canada. Filed June 30, 1966.

FLEXSLEEVE

Priority claimed under Sec. 44(d) on Canadian application filed Dec. 30, 1965; Reg. No. 147,488, dated Oct. 7, 1966.
For Fabrics Woven From Synthetic Textile Materials for Use in the Filtration and Dehydrating of Fibrous Stock or Other Solids Carried in Solution.
First use May 30, 1966; in commerce May 30, 1966.

SN 249,844. Concord Fabrics Inc., New York, N.Y. Filed July 8, 1966.

SPECTATOR CLOTH BY CONCORD

No claim is made to the word "Cloth" apart from the mark as shown.
For Textile Fabrics Made of Cotton and/or Synthetic Fibers.
First use Sept. 9, 1965.

SN 257,940. Concord Fabrics Inc., New York, N.Y. Filed Nov. 4, 1966.

BAR-IRON BRAND

Applicant disclaims the word "Brand" apart from the mark as shown.
For Textile Fabrics Made of Cotton and/or Synthetic Fibers Having a Durable Press Finish.
First use June 16, 1966.

SN 259,345. Stamina Mills, Inc., New York, N.Y. Filed Nov. 23, 1966.

STAMINA

For Piece Goods of Wool and Wool in Blends With Other Fibres (Natural and/or Synthetic), and Blankets.
First use October 1943.

SN 259,641. Carletex Corp., New York, N.Y. Filed Nov. 29, 1966. SN 260,941. Lancer Fabrics, Inc., New York, N.Y. Filed Dec. 16, 1966.

CARLETEX

For Piece Goods Sold by the Yard—Namely, Piece Goods of Wool, Wool Blended With Synthetic Fibres, and Blends of Synthetic Fibres.
First use November 1959.

SN 260,123. F. W. Woolworth Co., New York, N.Y. Filed Dec. 5, 1966.



The words "Your Symbol of Quality" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 664,493, 768,858, and others.
For Lawn Furniture Webbing.
First use Apr. 14, 1966.

SN 260,586. Ricol Limited, London, England. Filed Dec. 12, 1966.



Owner of British Reg. No. B849,076, dated May 13, 1963.
For Textile Piece Goods for Making Into Blouses, Skirts, Dresses, Slacks, and the Like.

SN 260,619. F. W. Woolworth Co., New York, N.Y. Filed Dec. 5, 1966.



The words "Your Symbol of Quality" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 664,493, 768,858, and others.
For Lawn Furniture Webbing.
First use Apr. 14, 1966.

Lancina

For Crimped Polyester Fabrics.
First use Sept. 6, 1966.

SN 261,079. Hollandse Tapijt Industrie N.V., Alkmaar, Netherlands. Filed Dec. 19, 1966.

TRETFORD

Owner of Dutch Reg. No. 114,873, dated Mar. 20, 1953.
For Carpets.
First use March 1956; in commerce Jan. 15, 1965.

SN 261,647. Eagle Carpets, Inc., Catersville, Ga. Filed Dec. 29, 1966.



No claim is made to the words "Carpet Mills" apart from the mark as shown.
For Floor Carpets.
First use Aug. 24, 1966.

SN 266,635. Johnson & Johnson, d.b.a. Chicopee Manufacturing Company, New Brunswick, N.J. Filed Mar. 14, 1967.

JOBAN

For Synthetic Yarn Sold in Woven Fabric Form.
First use Sept. 16, 1966.

SN 266,636. Johnson & Johnson, d.b.a. Chicopee Manufacturing Company, New Brunswick, N.J. Filed Mar. 14, 1967.

JONFLEX

For Synthetic Yarn Sold in Woven Fabric Form.
First use Sept. 16, 1966.

SN 267,094. Klopman Mills, Inc., Rockleigh, N.J. Filed Mar. 20, 1967.

JEZEBEL

For Textile Fabrics in the Piece Made of Synthetic Fibers and Combinations of Natural and Synthetic Fibers.
First use May 1942.

SN 272,245. Penn-Tex Sales Co., Yardley, Pa. Filed May 24, 1967.

REDI-KUT

For Textile Fabrics in the Piece for Use in Upholstery, Drapery, Dresses, Shirts, Jackets, Outerwear, and the Like. First use September 1956.

SN 274,677. E. F. Timme & Son, Inc., New York, N.Y. Filed June 23, 1967.

SWAHILI

For Pile Fabrics Made of Synthetic Pile and Cotton Back. First use May 30, 1967.

SN 275,207. Kay Mar, Inc., Parma, Ohio. Filed July 3, 1967.

QUIK-NET

For Netting Used To Encase Meat Products. First use Apr. 20, 1967.

Class 43—Thread and Yarn

SN 250,606. Philmore Tucker, d.b.a. Primrose Yarn, Allentown, Pa. Filed July 19, 1966.

PRIMROSE

For Hand Knitting Yarn. First use Oct. 5, 1965.

SN 265,048. Columbia-Minerva Corporation, New York, N.Y. Filed Feb. 20, 1967.

DIMENSION

For Yarn. First use June 1966. Subj. to Intf. with SN 273,443.

SN 273,443. Deering Milliken, Inc., New York, N.Y. Filed June 9, 1967.

DIMENSION Three

Owner of Reg. No. 795,619. For Yarn. First use July 31, 1964. Subj. to Intf. with SN 265,048.

Class 45—Soft Drinks and Carbonated Waters

SN 248,017. Canada Dry Corporation, New York, N.Y. Filed June 14, 1966.

SKOLA

For Soft Drink. First use May 18, 1966.

Class 46—Foods and Ingredients of Foods

SN 234,624. Colonial Stores Incorporated, East Point, Ga. Filed Dec. 15, 1965.



For Canned Vegetables, Canned Fruits, Fruit Juices, Evaporated Milk, Catsup, Canned Fish, Tea, Coffee (Ground and Instant), Bread and Rolls, Liquid Food Sweetener, Cane and Maple Table Syrup, Salad Dressing, Barbecue Sauce, Mustard, Frozen Fruits, Frozen Vegetables, Frozen Fruit Juices, Frozen Pastries, Ice Cream, Cake Mixes, Flour, Pure Vegetable Shortening, Salad Oil, Flavoring Extracts, Spices, Macaroni and Spaghetti, Non-Fat Dry Milk, Dried Fruit, and Refrigerated Fresh Salads.

First use Oct. 21, 1946.

SN 239,834. Keebler Company, Melrose Park, Ill., by change of name from United Biscuit Company of America, Melrose Park, Ill. Filed Feb. 28, 1966.

BLT TICKLES

The letters "BLT" are disclaimed apart from the mark as shown. For Crackers. First use Jan. 10, 1966.

SN 242,607. Hunt-Wesson Foods, Inc., Fullerton, Calif., assignee of Hunt Foods and Industries, Inc., d.b.a. Hunt-Wesson Foods, Fullerton, Calif. Filed Apr. 4, 1966.



The mark consists of the letters "HW" and design. Owner of Reg. No. 796,862.

For Tomato Sauce, Tomato Catsup, Chili Sauce, Canned Fruits, Canned Vegetables, Canned Chili Beans, Vegetable Oil for Cooking and Salads, and Vegetable Shortening. First use Dec. 7, 1964.

SN 245,940. H. L. Milkis Company, Glenside, Pa. Filed May 18, 1966.



The drawing is lined for blue, but no claim is made to color. Without waiver of its common law rights and for the purposes of this application only, applicant makes no claim to the word "Milky" apart from the entire mark.

For Frozen Confections in Bar Form and Premixed and Pre-packaged Ingredients Therefor Comprising Flavoring, Sweetening, Emulsifying, and Preservative Agents in Aqueous Mixture. First use Mar. 31, 1966.

SN 245,976. Slimcruises Limited, London, England. Filed May 18, 1966.

SLIMCRUISE

Owner of British Reg. No. 858,156, dated Dec. 20, 1963. For Biscuits.

SN 246,087. London Oil Corporation Limited, London, England. Filed May 19, 1966.

CAMBERZYME

Priority claimed under Sec. 44(d) on British Reg. No. SSS,665, dated Dec. 30, 1965. For Bread, Biscuits, Cakes, and Pastry.

SN 246,253. Beatrice Foods Co., Chicago, Ill. Filed May 23, 1966.

BLUE SATIN

For Candy. First use May 2, 1966.

SN 246,609. The Red Barn System, Inc., Fort Lauderdale, Fla. Filed May 25, 1966.



The representation of the goods is disclaimed apart from the mark as shown. The illustration of a person is fanciful. For Ready-To-Eat Food Products Prepared and Dispensed in Drive-In Restaurants—Namely, Hamburger Sandwiches. First use Nov. 2, 1965.

SN 246,946. Red Tulip Proprietary Limited, Prahran, Victoria, Australia. Filed May 31, 1966.

RED TULIP

Owner of Australian Reg. No. A95,087, dated May 10, 1948. For Candies.

X-PRO

For Livestock Feed. First use Mar. 8, 1966.

SN 247,328. Carnation Company, Los Angeles, Calif. Filed June 6, 1966.

12 O'CLOCK

For Dietary Food in Powder Form To Be Mixed With Milk. First use May 18, 1966.

SN 247,329. Carnation Company, Los Angeles, Calif. Filed June 6, 1966.

WAIST LINER

For Dietary Food in Powder Form To Be Mixed With Milk. First use May 18, 1966.

SN 247,330. Carnation Company, Los Angeles, Calif. Filed June 6, 1966.

LUNCH-MATE

For Dietary Food in Powder Form To Be Mixed With Milk. First use May 18, 1966.

SN 248,091. Allied Chemical Corporation, New York, N.Y. Filed June 15, 1966.

ComPeN

For Animal Feed Supplement—Namely, Ammonium Polyphosphate Solution, Sold as an Ingredient for Animal Feeds. First use May 2, 1966.

SN 249,060. Diamond Alkali Company, Cleveland, Ohio, by merger from Nopco Chemical Company, Newark, N.J. Filed June 27, 1966.

U.N.F.-40

For Fermentation Supplement for Use in Poultry and Livestock Feeds. First use May 11, 1966.

SN 249,063. Ore-Ida Foods, Inc., Ontario, Ore. Filed June 27, 1966.

LET US DO YOUR CRYING FOR YOU

For Frozen Chopped Onions. First use Apr. 16, 1966.

SN 249,463. B. H. Wilson Fisheries, Eastport, Maine. Filed July 1, 1966.

CAPT'N BENNY

The term "Capt'n Benny" is fanciful. For Canned Fish. First use 1951.

SN 249,552. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

CHATHAM

For Chocolate Coating Used in Food Manufacturing.
First use Dec. 23, 1936.

SN 249,553. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

COMMANDER

For Chocolate Coating Used in Food Manufacturing.
First use Jan. 31, 1940.

SN 249,556. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

BROC

For Chocolate Coating Used in Food Manufacturing.
First use Jan. 30, 1940.

SN 249,558. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

ULTRA

For Chocolate Coating Used in Food Manufacturing.
First use Mar. 12, 1940.

SN 249,560. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

MONOGRAM

For Chocolate Coating Used in Food Manufacturing.
First use July 15, 1938.

SN 249,561. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

ORBA

For Chocolate Coating Used in Food Manufacturing.
First use Jan. 31, 1940.

SN 249,562. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

MADISON

For Chocolate Coating Used in Food Manufacturing.
First use Feb. 14, 1938.

SN 249,563. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

ZENDA

For Chocolate Coating Used in Food Manufacturing.
First use Mar. 11, 1940.

SN 249,564. The Nestle Company, Inc., White Plains, N.Y. Filed July 5, 1966.

FULTON

For Chocolate Coating Used in Food Manufacturing.
First use Sept. 23, 1932.

SN 249,910. J & J Oven Company, Inc., Pennsauken, N.J. Filed July 11, 1966.

**JAZE
SPRETZELS**

For Pretzels.
First use Apr. 27, 1966.

SN 250,168. Milwaukee Seasoning Laboratories, Inc., Milwaukee, Wis. Filed July 13, 1966.

GOURMET-SPRAY

For Liquid Flavor Enhancer.
First use on or about Nov. 1, 1965.

SN 250,271. J. S. Hoffman Company, Chicago, Ill. Filed July 14, 1966.

Hoffman's

Owner of Reg. Nos. 207,977 and 729,801.
For Cheeses; and Packaged Meats and Meat Products—
Namely, Hams and Salami.
First use prior to 1960; prior to 1913 as to "Hoffman's."

SN 251,199. Florasynth, Inc., Bronx, N.Y. Filed July 28, 1966.

CITROSYNTH

Owner of Reg. No. 655,399.
For Citrus Oils for Food Purposes.
First use on or about Oct. 21, 1954.

SN 251,914. The Glidden Company, d.b.a. Bell Food Products, Cleveland, Ohio. Filed Aug. 8, 1966.

DANDY

For Pickles.
First use at least from February 1946.

SN 253,779. Ore-Ida Foods, Inc., Ontario, Ore. Filed Sept. 2, 1966.

"TUNA TOTS"

The word "Tuna" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 668,762 and 689,974.
For Shredded Potato and Tuna Patties.
First use May 31, 1966.

SN 253,830. American Bakery, Inc., South Gate, Calif. Filed Sept. 6, 1966.



The drawing includes applicant's name, to wit, "American Bakery, Inc."
For Bakery Products—Namely, Pies, Cakes, and Pastries.
First use June 21, 1966.

SN 253,831. American Bakery, Inc., South Gate, Calif. Filed Sept. 6, 1966.



The drawing includes applicant's name, to wit, "American Bakery, Inc."
For Bakery Products—Namely, Pies, Cakes, and Pastries.
First use 1935.

SN 254,196. Standard Brands Incorporated, New York, N.Y. Filed Sept. 9, 1966.

VERSADEX

For Liquid Corn Sugar Intended for Food Purposes.
First use July 27, 1966.

SN 255,602. Continental Baking Company, Rye, N.Y. Filed Oct. 3, 1966.

YO HO's

For Cake.
First use May 23, 1966.

SN 256,345. Chicken Delight, Inc., Rock Island, Ill. Filed Oct. 13, 1966.

99'er

For Packaged Ready-To-Eat Food Products, Comprising Hot Chicken, Shrimp, Fish, Meat, Ribs, and Pizza.
First use May 18, 1966.

TM 842 O.G.—6

SOUTHERN BEST

No claim is made to the word "Best" apart from the mark as shown.
For Frozen and Canned Shrimp.
First use January 1959.

SN 256,878. Staff Supermarket Associates, Inc., Jericho, N.Y. Filed Oct. 20, 1966.

MINUET

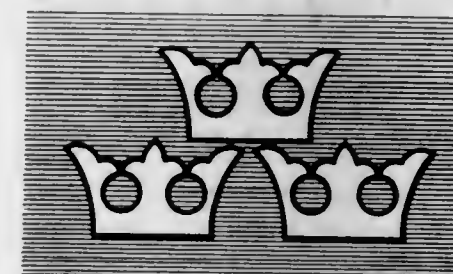
Owner of Reg. No. 749,860.
For Canned Fruit Juices, Frozen Vegetables, Canned Fruits and Vegetables, Canned Fruit Juices, Canned Pork and Beans, Fruit Jelly, Olives, Sandwich Spread Consisting of Salad Dressing With Condiments, Salad Dressing, Canned Fish, Catsup, Bacon, Ice Cream, Coffee, Tea, and Shortening Containing Vegetable Oils and Meat Fats.
First use Jan. 18, 1959.

SN 257,270. Fruen Milling Company, Minneapolis, Minn. Filed Oct. 26, 1966.

TRIPLE CROWN

For Livestock Feed.
First use Oct. 6, 1966.
Subj. to Intf. with SN 270,621.

SN 257,271. Fruen Milling Company, Minneapolis, Minn. Filed Oct. 26, 1966.



The drawing is lined for blue, but no claim is made to color.
For Livestock Feed.
First use Oct. 6, 1966.
Subj. to Intf. with SN 270,621.

SN 257,504. National Biscuit Company, New York, N.Y. Filed Oct. 28, 1966.

BISCOS

For Waffle Cremes.
First use July 1, 1966.

SN 257,947. The Donruss Company, Memphis, Tenn. Filed Nov. 4, 1966.



For Chewing Gum.
First use September 1966.

SN 258,665. Brane Services, Inc., d.b.a. Gold Crest Chicken, Largo, Fla. Filed Nov. 15, 1966.

GOLD CREST

For Frozen Whole, Cut-Up, Breaded Chicken.
First use Oct. 20, 1966.

SN 259,858. Service Packing Company, Los Angeles, Calif.
Filed Dec. 1, 1966.



The word "Brand" is disclaimed apart from the mark as shown.
For Frozen Meat.
First use Sept. 5, 1964.

SN 260,772. Serv-A-Portion, Inc., Van Nuys, Calif. Filed Dec. 14, 1966.



The drawing is lined for gold.
For Ketchup.
First use on or about Oct. 1, 1966.

SN 261,109. J. Howard Smith, Inc., Port Monmouth, N.J.
Filed Dec. 19, 1966.

LIFELINE

For Fish Meal, Fish Oil or Fish Solubles Used as an Ingredient in Feed for Poultry and Other Domestic Animals.
First use May 1942.

SN 264,484. Mead Johnson & Company, Evansville, Ind.
Filed Feb. 13, 1967.

GOOD MEASURE

Owner of Reg. Nos. 785,317, 822,057, and 822,060.
For Soups, Flash Dried Fruits for Desserts, Canned Fruit Juices, Breakfast Cereal With Flash Dried Mixed Fruit, and a Dietary in Powdered Form To Be Mixed With Milk.
First use on or prior to Jan. 26, 1967.

SN 270,108. Batchelors Foods Limited, Sheffield, England.
Filed Apr. 27, 1967.

PROMISE

Owner of British Reg. Nos. 812,923 and 812,932, dated Nov. 4, 1960.
For Frozen, Canned or Dehydrated Meat, Fish, Poultry and Game; Meat Extracts; Fruits and Vegetables, All Being Preserved, Dried or Cooked; Coffee, Tea, Cocoa, Sugar, Rice, Tapioca, Sago, Coffee Substitutes; Flour, Corn Flakes, Puffed Rice and Popcorn; Bread, Biscuits, Cakes; Pastry, Puddings, Pies, Tarts, and Meringues.

GREAT GUM FOREVER

Applicant disclaims the words "Great Gum" apart from the mark as shown.
For Chewing Gum.
First use May 3, 1967.

Class 47—Wines

SN 235,385. Bodegas Felix Ruiz & Ruiz, S.A., Jerez de la Frontera, Cadiz, Spain. Filed Dec. 28, 1965.

PEREZ

For Wine.
First use Nov. 7, 1947; in commerce Apr. 4, 1951.

SN 246,514. Antonio Jose da Silva-Vinhos, S.A.R.L., Vila Nova de Gaia, Portugal. Filed May 20, 1966.

SIP

Owner of Portuguese Reg. No. 91,038, dated Nov. 13, 1957.
For Port Wine.

SN 254,268. Franzia Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. Filed Sept. 12, 1966.

Chateau Maison

Owner of Reg. No. 780,680.
For Champagnes and Sparkling Wines.
First use Sept. 28, 1964.

Class 49—Distilled Alcoholic Liquors

SN 251,881. Blanchard Importing & Distributing Co., Inc., Boston, Mass. Filed Aug. 8, 1966.

MACCOY & MACCOY

Owner of Reg. No. 746,022.
For Scotch Whisky.
First use January 1955.

SN 269,146. Puerto Rico Distillers, Inc., d.b.a. Barcelo Marques & Co., Arecibo, Puerto Rico. Filed Apr. 14, 1967.



For Alcoholic Beverages—Namely, Rum.
First use Mar. 13, 1967.

SN 272,899. Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. Filed June 2, 1967.

OLIVER

For Alcoholic Beverages—Namely, Rum.
First use in 1944.
Subj. to Intf. with SN 257,118.

SN 272,900. Ronrico Corporation, d.b.a. Ronrico Rum Company, Santurce, Puerto Rico. Filed June 2, 1967.



The portraits are those of models and letters of consent are filed herewith. Owner of Reg. Nos. 327,538, 637,539, and others.
For Alcoholic Beverages—Namely, Prepared Cocktails.
First use May 16, 1967.

Class 50—Merchandise Not Otherwise Classified

SN 256,099. International Salespower Institute, Inc., Montgomery, Ala. Filed Oct. 10, 1966.



The representation of the film strip and the wording are disclaimed apart from the mark as shown. The lining on the drawing represents shading.
For Audio-Visual Film Strips, Projectors, Sales Manuals, and Time Control Books, Sold as a Unit.
First use Sept. 25, 1966.

SN 262,613. Pennyfeather Corporation, Greenville, Del.
Filed Jan. 16, 1967.

PENNYFEATHER FEEDER

The word "Feeder" is disclaimed apart from the mark as shown.
For Bird Feeders.
First use in or about December 1965.

TURTOX

For Biological Products—Namely, Models, Specimens, Skeletons, Displays, Mannequins, Collections, Terraria, and Aquaria.
First use 1920.

SN 272,671. Columbia Statuary, Inc., Boston, Mass. Filed May 31, 1967.

COLUMBIA

For Statuettes and Plaques.
First use 1957.

Class 51—Cosmetics and Toilet Preparations

SN 237,534. Chanel Industries, Inc., New York, N.Y. Filed Jan. 28, 1966.

COCO

For Perfume and Cologne.
First use Dec. 28, 1965.

SN 244,717. Merle Norman Cosmetics, Inc., d.b.a. Merle Norman Cosmetics, Los Angeles, Calif. Filed May 2, 1966.

FLO-MATIC

For Mascara.
First use 1959.

SN 249,370. Warner Electric Company, Inc., Chicago, Ill. Filed June 30, 1966.

YANKEE GIN

For Men's Cologne.
First use January 1966.

SN 252,582. Lander Co., Inc., d.b.a. Dorothy Reed, New York, N.Y. Filed Aug. 17, 1966.

DOROTHY REED

The name "Dorothy Reed" is merely fanciful. Owner of Reg. No. 506,615.
For Hair Gel, Hair Set, and Creme Hair Rinse.
First use Feb. 18, 1966, on hair gel.

SN 252,726. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 19, 1966.

003 1/2

Owner of Reg. No. 827,657.
For Hair Dressing.
First use May 25, 1966.

SN 253,053. Richefleur Laboratories, Inc., Brooklyn, N.Y. Filed Aug. 24, 1966.

Mabrouka

The word "Mabrouka" means "welcome" in the Arabic language.
For Perfume and Bath Oil.
First use September 1964.

SN 253,685. Brunswick Drug Company, Rabin-Winters Division, El Segundo, Calif. Filed Sept. 1, 1966.

VSC

For Moisturizing Makeup Remover and Skin Cleaner.
First use May 12, 1966.

SN 258,046. Clairol Incorporated, New York, N.Y. Filed Nov. 7, 1966.

DAWNLIT BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparation.
First use Aug. 11, 1966.

SN 258,413. S. Sampino & Waverly Beauty Products, Inc., d.b.a. Waverly Beauty Products, Brooklyn, N.Y. Filed Nov. 10, 1966.

BET-A

For Hair Conditioning Cream.
First use Sept. 10, 1960.

SN 258,414. S. Sampino & Waverly Beauty Products, Inc., d.b.a. Waverly Beauty Products, Brooklyn, N.Y. Filed Nov. 10, 1966.

FINE-A

For Hair Setting Lotion.
First use Sept. 1, 1966.

SN 260,247. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Dec. 7, 1966.

PRE-ODORANT

For Personal Deodorants.
First use Nov. 16, 1966.

SN 261,632. Clairol Incorporated, New York, N.Y. Filed Dec. 29, 1966.

BLONDE FAVOR

Applicant disclaims the word "Blonde" apart from the mark as shown.
For Hair Lightener.
First use Sept. 26, 1966.

SN 262,313. Clairol Incorporated, New York, N.Y. Filed Jan. 11, 1967.

MY FAVORITE BLONDE

Applicant disclaims "Blonde" apart from the mark as shown.
For Hair Lightener.
First use Sept. 26, 1966.

SN 263,329. Hypotropic, Inc., Bronx, N.Y. Filed Jan. 26, 1967.

HYPOTROPIC

For Cosmetic Skin Cream.
First use Nov. 12, 1966.

SN 263,746. Chesebrough-Pond's Inc., New York, N.Y. Filed Feb. 1, 1967.

ATHLETE

For Hair Dressing, and After Shave Lotion.
First use Jan. 18, 1967.

SN 265,243. Charmaceuticals Inc., Los Angeles, Calif. Filed Feb. 23, 1967.

Beauty Doctor

For Skin Protective Lotion for Body and Face.
First use Jan. 3, 1967.
Subj. to Intf. with SN 269,714.

SN 267,105. Buty-Wave Products Co. Inc., Los Angeles, Calif. Filed Mar. 20, 1967.

Restor moisture magic

Applicant disclaims the word "Moisture" apart from the other feature of the mark. Owner of Reg. No. 747,038.
For Permanent Wave Preparation.
First use Feb. 10, 1967.

SN 270,028. Eversharp, Inc., Milford, Conn. Filed Apr. 26, 1967.

EVERSHARP

Owner of Reg. Nos. 181,544, 789,969, and others.
For Men's Toiletries—Namely, Personal Deodorants, Anti-Perspirant Deodorants, After Shave Lotion, Cologne, Shaving Cream, and Hair Dressings.
First use Apr. 10, 1967.

SN 270,029. Eversharp, Inc., Milford, Conn. Filed Apr. 26, 1967.



Owner of Reg. Nos. 702,520, 817,744, and others.
For Men's Toiletries—Namely, Personal Deodorants, Anti-Perspirant Deodorants, After Shave Lotion, Cologne, Shaving Cream, and Hair Dressings.
First use Apr. 10, 1967.

SN 271,690. Chesebrough-Pond's Inc., New York, N.Y. Filed May 17, 1967.

FOLLOW THE SUN

For Hair Lightener and Grooming Preparation.
First use May 4, 1967.

SN 272,587. Chesebrough-Pond's Inc., New York, N.Y. Filed May 29, 1967.

BEAUTY WASH

For Facial Cream.
First use May 19, 1967.

SN 273,007. Jerdon, Inc., New York, N.Y. Filed June 5, 1967.

LOKI

"Loki" is the name of a "Norse god."
For Men's Cologne.
First use May 17, 1967.

SN 274,569. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed June 23, 1967.

LIQUI-CREME

Owner of Reg. No. 544,818.
For Astringent Foundation.
First use May 23, 1967.

SN 274,684. Redken Laboratories, Inc., Van Nuys, Calif. Filed June 26, 1967.

CMX

For Liquid Dandruff Remover.
First use September 1964.

SN 274,842. Sterling Drug Inc., New York, N.Y. Filed June 27, 1967.

LIQUESSENCE

For Lipsticks.
First use Nov. 5, 1964.

Class 52—Detergents and Soaps

SN 246,440. Certified Chemical and Equipment Company, Cleveland, Ohio. Filed May 24, 1966.

DOCTOR STAIN

For Stain Removing Compound for Use on Carpets and Upholstery.
First use June 7, 1965.

SN 246,804. Metal Lubricants Co., Chicago, Ill. Filed May 27, 1966.



For Metal Cleaners.
First use on or about Oct. 1, 1965.

SN 257,285. Medical Chemical Corporation, Santa Monica, Calif. Filed Oct. 26, 1966.

MEDCO

For Detergent and Concentrated Germicidal Cleanser for Laboratory and Hospital Use.
First use 1954.

SN 262,802. My-Ko Chemical Corporation, Milwaukee, Wis. Filed Jan. 18, 1967.

MY-RO

For Porcelain, Metal, and Tile Cleaners and Rug Shampoo.
First use Feb. 10, 1955, on porcelain, metal, and tile cleaners.

SERVICE MARKS

Class 100 — Miscellaneous

SN 239,838. U.S. Department of the Interior, Washington, D.C. Filed Feb. 28, 1966.



No claim is made to the exclusive right to use the phrase "Land and Water Conservation," but the applicant waives none of its common law rights therein.

For Providing Recreational and Cultural Facilities for Public Use.

First use early 1965.

SN 243,915. Echo Communications, Inc., Cedarburg, Wis. Filed May 18, 1966.



For Giving Advice as to the Most Suitable Type of Citizens Radios and Receivers To Be Used Under Given Circumstances.

First use Jan. 3, 1966; Aug. 1, 1964, in a different form.

SN 248,619. Hilton-Burns Hotel Co., Inc., Chicago, Ill. Filed June 21, 1966.

HAWAIIAN VILLAGE

For Hotel and Restaurant Services.

First use Sept. 18, 1955.

SN 252,663. The Jolly Buccaneer Root Beer Company Ltd., Toronto, Ontario, Canada. Filed Aug. 18, 1966.

BUCCANEER

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 25, 1966; Reg. No. 147,780, dated Oct. 28, 1966.

For Restaurant, Catering and Banqueting Services.

Class 101 — Advertising and Business

SN 228,593. Ace Hardware Corporation, Chicago, Ill. Filed Sept. 27, 1965.



Applicant disclaims the word "Hardware" apart from the mark as shown.

For Supplying Advertising, Promotional, and Marketing Services to Participating Retail Hardware Stores.

First use Mar. 1, 1928.

SN 237,928. Bradfute Corporation, Eastchester, N.Y. Filed Feb. 3, 1966.

JACKPOT BINGO

Applicant disclaims the word "Bingo" apart from the mark as shown.

For Promoting the Sale of Goods and Services of Others by Means of a Game.

First use Oct. 18, 1965.

SN 240,143. John S. Anderson, Atlanta, Ga. Filed Mar. 4, 1966.

STUB CLUB

For Promoting the Business of Business Establishments by Having the Latter Redeem Ticket Stubs of Various Public Attractions in Exchange for Goods or Services.

First use on or about Sept. 18, 1965.

SN 242,055. Services Rendered, Inc., Providence, R.I. Filed Mar. 28, 1966.

SRI

For Supplying Office Help to Business.

First use May 1964.

SN 250,700. Arthur J. Tickell, Woodbridge, Conn. Filed July 20, 1966.

THE YANKEE PEDLAR

For Representing Manufacturers of Heating and Air Conditioning Equipment to Distributors.

First use Dec. 15, 1951.

SN 252,260. Beatrice C. Jarvis, Stoughton, Wis. Filed Aug. 12, 1966.

DECORATOR ON THE GO

No claim is made to the word "Decorator" apart from the mark as shown without waiving any common law rights therein.

For Interior Decorating Services.

First use on or about Apr. 1, 1965.

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SN 252,282. The Read Drug & Chemical Co. of Baltimore City, Baltimore, Md. Filed Aug. 12, 1966.

SN 243,817. Royal Insurance Company, Limited, New York, N.Y. Filed Apr. 6, 1966.

GET WELL CENTERS

Applicant disclaims any exclusive rights to the word "Centers" apart from the mark as shown.

For Retail Outlet Services Specializing in the Sale of Convalescent Aids and Sickroom Needs.

First use June 28, 1966.

SN 253,779. Computoservice, Inc., Mankato, Minn. Filed Oct. 5, 1966.



The mark is a fanciful representation of the letters "CSI." For Computer and Data Processing Services.

First use Oct. 26, 1965.

SN 270,325. Foremost Sales Promotions, Inc., Chicago, Ill. Filed May 1, 1967.



Owner of Reg. No. 807,899. For Retail Liquor Store Services.

First use on or about Mar. 2, 1967.

SN 270,845. Display-O-Rama, Inc., New York, N.Y. Filed May 8, 1967.

EXHIBITRY

For Aiding Business Operations of Others by Designing and Furnishing Advertising Specialties, Promotional Literature, Window Displays, Point of Sale Displays, and Trade Show Exhibits.

First use Feb. 1, 1967.

Class 102 — Insurance and Financial

SN 243,068. John Alden Life Insurance Company, Chicago, Ill. Filed Apr. 11, 1966.

JALICO

For Insurance Underwriting.

First use March 1961.



The wording "Known Round the World" and "Insurance" are disclaimed apart from the mark as shown.

For Underwriting of Insurance and Services in Connection With Underwriting of Insurance.

First use prior to Jan. 1, 1961; Dec. 31, 1864, in a different form.

SN 250,332. Allstate Insurance Company, Northbrook, Ill. Filed July 15, 1966.

Allstate

Owner of Reg. Nos. 621,917, 724,938, and others. For Insurance Underwriting Services.

First use on or about Apr. 15, 1966.

SN 251,534. The First National Bank of Fort Worth, Fort Worth, Tex. Filed Aug. 2, 1966.

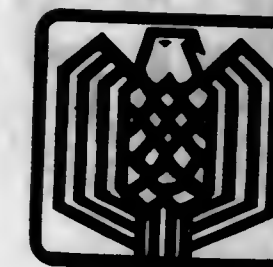


Applicant disclaims the words "First National Bank" and the numeral "1" apart from the mark as shown.

For Banking Services, Personal and Corporate Trust Services, and Bond and Securities Investment Services.

First use Apr. 3, 1966.

SN 256,666. Home Federal Savings and Loan Association, Washington, D.C. Filed Oct. 18, 1966.



For Savings Accounts and Loan Services.

First use January 1966.

Class 103 — Construction and Repair

SN 234,422. Hess Oil & Chemical Corporation, Perth Amboy, N.J. Filed Dec. 13, 1965.

REDI-FLO

Owner of Reg. No. 832,088.
For Installing, Maintaining and Operating Storage Tanks for Fuel Oil and Pipe Lines for Delivery of Such Oil to a Building or Buildings, and Meters To Provide a Record of the Quantity of Oil Delivered to Each Consumer.
First use on or about July 28, 1965.

SN 238,716. Construction Design, Inc., Los Angeles, Calif. Filed Feb. 14, 1966.



Applicant disclaims the word "Builders" apart from the mark as shown.
For Remodeling of Residences.
First use Sept. 5, 1945.

SN 240,922. Laminate Plastics Corporation, Chicago, Ill. Filed Mar. 14, 1966.

LAMINITE

For Custom Manufacturing of Laminated Furniture and Other Wood Products Such as Shelving, Drawer Blanks, Counter Tops, Table Tops, Window Sills, and Baseboards.
First use Jan. 14, 1949.

SN 244,386. Adamco, Inc., d.b.a. Bizzy Bee, Littlestown, Pa. Filed Apr. 27, 1966.



No claim is made to the wording on the drawing with the exception of "Bizzy Bee" and "4T" apart from the mark as shown.

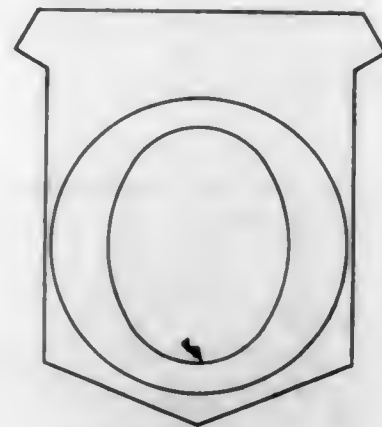
For Laundry and Dry Cleaning Service.
First use Sept. 1, 1953.

SN 244,387. Adamco, Inc., d.b.a. Bizzy Bee, Littlestown, Pa. Filed Apr. 27, 1966.



No claim is made to the wording on the drawing with the exception of "4T" apart from the mark as shown.
For Laundry and Dry Cleaning Service.
First use Sept. 1, 1953.

SN 272,543. Cutter Laboratories, Inc., Los Angeles, Calif. Filed May 29, 1967.



For Custom Plastic Molding and Fabricating Services.
First use on or about Apr. 27, 1959.

Class 104 — Communication

SN 247,010. Communications Satellite Corporation, Washington, D.C. Filed June 1, 1966.



For Communication Services via Satellite.
First use May 10, 1966.

Class 105 — Transportation and Storage

SN 228,759. Stemmons, Inc., Tulsa, Okla. Filed Sept. 27, 1965.

MISS THRIFTY

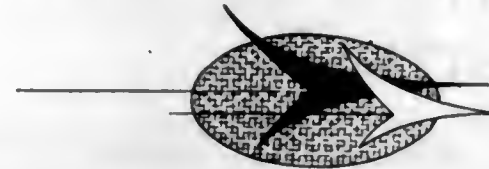
Owner of Reg. No. 774,288.
For Automobile Rental.
First use Mar. 3, 1958.

SN 250,588. Eugene L. Miller, d.b.a. Bee-Line Trailer Rental and Bee-Line Co., Daytona Beach Shores, Fla. Filed July 19, 1966.



Without relinquishing any of its common law rights, applicant disclaims the word "Line" apart from the mark as shown.
For Renting and Leasing of Trailers.
First use on or about July 29, 1961.

SN 252,969. Sky Tours Hawaii, Inc., Honolulu, Hawaii. Filed Aug. 23, 1966.



The drawing is lined for gold.
For Air Transportation of Passengers and Freight and Conducting Aerial Sightseeing Tours.
First use July 1, 1965.

Class 107 — Education and Entertainment

SN 248,033. Milton Q. Ford, Washington, D.C. Filed June 14, 1966.

V.I.P.

For Title of Television Program Involving Interviews With Important Persons.
First use June 5, 1966.

SN 254,328. Tel Ra Productions, Inc., Philadelphia, Pa. Filed Sept. 12, 1966.

Class 106 — Material Treatment

SN 255,346. Peacedale Processing Co., Inc., Peace Dale, R.I. Filed Sept. 28, 1966.

MAGIC AIRE

For Treating Fabrics of Others by Which Batting Made of Polyester Fiber Fill Is Laminated or Bonded to Cotton and Synthetic Fabrics.
First use Mar. 13, 1966.

SPORTS WORLD

No claim is made to the word "Sports" apart from the mark as shown.
For Television Entertainment in the Form of a Program Devoted to Sports.
First use July 21, 1966.

CERTIFICATION MARKS**Class A — Goods**

SN 229,348. HMH Publishing Co., Inc., Chicago, Ill. Filed Oct. 5, 1965.



The mark certifies that the quality of the goods meet standards of fashionability established by applicant.
For Clothing, Fabrics, Toiletries, Greeting Cards, Record Albums, Sports Equipment, Motor Vehicles, and Lamps.
First use May 19, 1965.

SN 258,546. International Union of Electrical, Radio and Machine Workers, AFL-CIO-CLC, Assn., Washington, D.C. Filed Nov. 14, 1966.

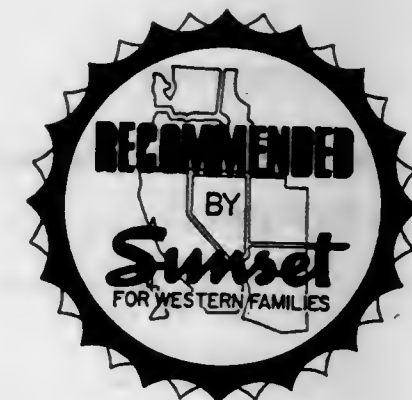


The mark certifies that the work or labor on the goods was performed by members of the International Union of Electrical, Radio and Machine Workers, AFL-CIO-CLC and/or its local unions.

For Electronic Parts and Products.
First use on or before Aug. 23, 1966.

Class B — Services

SN 274,073. Lane Magazine & Book Company, Menlo Park, Calif. Filed June 16, 1967.



The mark certifies that the service has been accepted for advertising in applicant's Sunset magazine and therefore the service has met the advertising acceptance and review standards established by applicant for all advertisers in said magazine. Owner of Reg. Nos. 209,499, 426,790, and 511,453.

For Travel Tours and Travel Services; Airline, Bus, Ship, and Railroad Services; Automobile Rentals; Service Station Services; Hotel, Resort, and Restaurant Services; School and Camping Services; Merchandising Services; Area and Destination Travel Promotion Services; Public Utility Services; and Financial, Insurance, and Real Estate Services.
First use Jan. 1, 1967.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

- 835,307. MISCELLANEOUS DESIGN. Morton International, Inc. MULTIPLE CLASS (Classes 1 and 29). SN 231,456. Pub. 7-4-67. Filed 10-23-65.
- 835,308. MISCELLANEOUS DESIGN. Morton International, Inc. MULTIPLE CLASS (Classes 1, 5, 6, 16, and 23). SN 233,566. Pub. 7-4-67. Filed 11-30-65.
- 835,309. EPONATE. Shell Oil Company. SN 252,288. Pub. 7-4-67. Filed 8-12-66.
- 835,310. SUPERSOFT. The O. Hommel Company. SN 253,033. Pub. 7-4-67. Filed 8-24-66.
- 835,311. DUNWOODY'S POT SOIL. Ezl. Dunwoody Co. SN 263,641. Pub. 7-4-67. Filed 9-1-66.
- 835,312. A & P AND DESIGN. The Great Atlantic & Pacific Tea Company, Inc. SN 253,945. Pub. 7-4-67. Filed 9-7-66.
- 835,313. NYBRAD. Nypel, Inc. SN 266,828. Pub. 7-4-67. Filed 3-16-67.
- 835,314. DYNAMOLD. Century Lighting, Inc. SN 269,028. Pub. 7-4-67. Filed 4-13-67.

Class 2—Receptacles

- 835,315. DIP-N-SERVE. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 239,317. Pub. 7-4-67. Filed 2-21-66.
- 835,316. COUROC. Couroc of Monterey. MULTIPLE CLASS (Classes 2 and 8). SN 252,231. Pub. 7-4-67. Filed 8-12-66.
- 835,317. RUBEL. Rubel & Company Decorative Accessories, Inc. MULTIPLE CLASS (Classes 2, 32, 33, and 34). SN 255,023. Pub. 7-4-67. Filed 9-23-66.
- 835,318. MSL AND DESIGN. MSL Industries, Inc. SN 256,750. Pub. 7-4-67. Filed 10-19-66.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 835,319. WW IN FANCY SCRIPT ETC. (DESIGN). Weight Watchers International, Inc. SN 249,896. Pub. 7-4-67. Filed 7-8-66.
- 835,320. TYCOON. The Leather Specialty Company. SN 253,224. Pub. 7-4-67. Filed 8-26-66.

Class 4—Abrasives and Polishing Materials

- 835,321. MISCELLANEOUS DESIGN. Carmet Company. MULTIPLE CLASS (Classes 4, 14, and 23). SN 239,953. Pub. 7-4-67. Filed 3-2-66.
- 835,322. SUN RAY. The Williams Company. SN 248,188. Pub. 7-4-67. Filed 6-15-66.

Class 5—Adhesives

- 835,308. (See Class 1 for this trademark.)

- 835,323. VISCALIN. Dehydag Deutsche Hydrierwerke, G.m.b.H., assignee, by mesne assignment, of Dehydag Deutsche Hydrierwerke, G.m.b.H. SN 225,296. Pub. 1-24-67. Filed 8-9-65.
- 835,324. ALGIPON. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,312. Pub. 1-24-67. Filed 8-9-65.
- 835,325. COLLAPRESS. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,313. Pub. 1-24-67. Filed 8-9-65.
- 835,326. DELA. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,314. Pub. 1-24-67. Filed 8-9-65.
- 835,327. SAXIT. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,315. Pub. 1-24-67. Filed 8-9-65.
- 835,328. TROKA. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,316. Pub. 1-24-67. Filed 8-9-65.
- 835,329. ZINAL. Henkel & Cie G.m.b.H., assignee, by mesne assignment, of Henkel & Cie., G.m.b.H. SN 225,317. Pub. 1-24-67. Filed 8-9-65.
- 835,330. MARCO. Morrie Chaitlen, d.b.a. C. & E. Marshall Co. MULTIPLE CLASS (Classes 5, 15, 16, and 34). SN 232,978. Pub. 4-25-67. Filed 11-19-65.

Class 6—Chemicals and Chemical Compositions

- 835,308. (See Class 1 for this trademark.)
- 835,331. SETILON. Bohme Fettechemie G.m.b.H., assignee, by mesne assignment, of Bohme Fettechemie G.m.b.H. SN 225,273. Pub. 7-19-66. Filed 8-9-65.
- 835,332. MISCELLANEOUS DESIGN. Morton International, Inc. SN 231,459. Pub. 7-4-67. Filed 10-23-65.
- 835,333. RING-GO. Relief Products Company. SN 231,595. Pub. 7-4-67. Filed 10-24-65.
- 835,334. GIRL WITH UMBRELLA ETC. (DESIGN). Morton International, Inc. MULTIPLE CLASS (Classes 6, 18, 23, and 46). SN 233,565. Pub. 7-4-67. Filed 11-30-65.
- 835,335. ERCO CHEMICALS AND DESIGN. Electric Reduction Company of Canada, Ltd. SN 236,699. Pub. 12-27-66. Filed 1-18-66.
- 835,336. FRIGEN. Canadian Hoechst Limited. SN 242,799. Pub. 7-4-67. Filed 4-6-66.
- 835,337. RESUNAIRE. Sun Oil Company. SN 247,269. Pub. 7-4-67. Filed 6-3-66.
- 835,338. SUNAIRE. Sun Oil Company. SN 247,271. Pub. 7-4-67. Filed 6-3-66.
- 835,339. COPRCHROME. Osmose Wood Preserving Co. of America Inc. SN 252,124. Pub. 7-4-67. Filed 8-10-66.
- 835,340. CROP KING. Woods Industries, Inc., d.b.a. Crop King Company and Crop King Chemical. MULTIPLE CLASS (Classes 6 and 10). SN 253,701. Pub. 7-4-67. Filed 9-2-66.
- 835,341. ALIVE. Alberto-Culver Company. SN 255,390. Pub. 2-28-67. Filed 9-23-66.
- 835,342. MERCIDE. Merck & Co., Inc. SN 256,112. Pub. 7-4-67. Filed 10-10-66.
- 835,343. THERMEX AND DESIGN. J. Gaston Rooks, d.b.a. Val-Penn Products Company. SN 257,406. Pub. 7-4-67. Filed 10-27-66.
- 835,344. ORGANEX. Certified Processing Corporation. SN 258,212. Pub. 7-4-67. Filed 11-8-66.

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- 835,345. TABARD. Shell Oil Company. SN 258,418. Pub. 7-4-67. Filed 11-10-66.
- 835,346. PURPLE FORMULA. Diamond Alkali Company. SN 262,094. Pub. 7-4-67. Filed 1-9-67.

Class 8—Smokers' Articles, Not Including Tobacco Products

- 835,316. (See Class 2 for this trademark.)
- 835,347. L'AIGLON. Peterson's Ltd., Inc. SN 253,781. Pub. 12-13-66. Filed 9-2-66.

Class 10—Fertilizers

- 835,340. (See Class 6 for this trademark.)
- 835,348. GREEN CREST. Lite-Weight Products, Inc. SN 235,684. Pub. 7-4-67. Filed 1-3-66.
- 835,349. PHOS-GRO AND DESIGN. Continental Oil Company, d.b.a. Agrico Chemical Co., Division of Continental Oil Company. SN 250,940. Pub. 4-11-67. Filed 7-25-66.

Class 12—Construction Materials

- 835,350. CHESAPEAKE-HUE. The Weaver Stone Co. SN 243,931. Pub. 7-4-67. Filed 4-20-66.
- 835,351. BUTLERHUT U.S.A. AND DESIGN. Butler Manufacturing Company. SN 244,880. Pub. 7-4-67. Filed 5-4-66.
- 835,352. MAYFAIR. Scaffolding Company of Indiana, Inc., d.b.a. Manor House Cupolas. SN 245,018. Pub. 7-4-67. Filed 5-5-66.
- 835,353. MASTER. Scaffolding Company of Indiana, Inc., d.b.a. Manor House Cupolas. SN 245,020. Pub. 7-4-67. Filed 5-5-66.
- 835,354. FUSE-CRAFT AND DESIGN. Fusecolor Corporation. MULTIPLE CLASS (Classes 12 and 20). SN 247,286. Pub. 7-4-67. Filed 6-6-66.
- 835,355. READCO. Readco Industries Inc. SN 252,028. Pub. 7-4-67. Filed 8-9-66.
- 835,356. RESIGLAS. Kristal Kraft, Inc. SN 261,306. Pub. 7-4-67. Filed 12-22-66.
- 835,357. 3M. Minnesota Mining and Manufacturing Company. SN 265,079. Pub. 7-4-67. Filed 3-1-67.
- 835,358. COLORQUARTZ. Minnesota Mining and Manufacturing Company. SN 265,680. Pub. 7-4-67. Filed 3-1-67.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 835,359. SWAGELOK. Crawford Fitting Company, assignee of P. L. Robertson Mfg. Co. Limited. SN 227,959. Pub. 12-6-66. Filed 9-16-65.
- 835,360. MISCELLANEOUS DESIGN. IXL Manufacturing Corporation. SN 230,651. Pub. 7-4-67. Filed 10-20-65.
- 835,361. FOAMJET. Spraying Systems Co. SN 248,172. Pub. 7-4-67. Filed 6-15-66.
- 835,362. BEAMCO. Veeder Industries Inc. SN 249,892. Pub. 7-4-67. Filed 7-8-66.
- 835,363. MISCELLANEOUS DESIGN. Hygiene Industries, Inc., by change of name from Hygiene Manufacturing Co., Inc. SN 263,420. Pub. 7-4-67. Filed 1-27-67.

Class 14—Metals and Metal Castings and Forgings

- 835,321. (See Class 4 for this trademark.)
- 835,364. MIRRORGOLD. Atlantic Powdered Metals, Inc. SN 231,662. Pub. 7-4-67. Filed 10-27-65.
- 835,365. PLALAM. Dante Robbiati, d.b.a. Pasquale Robbiati. SN 241,519. Pub. 7-4-67. Filed 3-21-66.
- 835,366. SLID. Alloys Unlimited, Incorporated. SN 243,292. Pub. 7-4-67. Filed 4-13-66.
- 835,367. SPECTRACELL. Spectra-Mat, Inc. SN 247,416. Pub. 7-4-67. Filed 6-6-66.

Class 15—Oils and Greases

- 835,330. (See Class 5 for this trademark.)
- 835,368. RING-FREE RAISE YOUR CAR'S STANDARD OF LIVING AND DESIGN. MacMillan Ring-Free Oil Co., Inc. SN 237,717. Pub. 12-13-66. Filed 2-1-66.
- 835,369. CRC AND DESIGN. C. J. Webb, Inc., d.b.a. Corrosion Reaction Consultants, and Corrosion Reaction Consultants, Inc. MULTIPLE CLASS (Classes 15 and 52). SN 256,899. Pub. 7-4-67. Filed 10-21-66.

Class 16—Protective and Decorative Coatings

- 835,308. (See Class 1 for this trademark.)
- 835,330. (See Class 5 for this trademark.)
- 835,370. DA-COR. Davis Paint Company. SN 242,573. Pub. 7-4-67. Filed 4-4-66.
- 835,371. PREZ. Interchemical Corporation. SN 242,987. Pub. 7-4-67. Filed 4-8-66.
- 835,372. SPRED SATIN. The Glidden Company. SN 249,977. Pub. 7-4-67. Filed 7-11-66.
- 835,373. HYPRENE. The Glidden Company. SN 259,104. Pub. 7-4-67. Filed 11-21-66.
- 835,374. TEFLON-S. E. I. du Pont de Nemours and Company. SN 269,385. Pub. 7-4-67. Filed 4-18-67.

Class 17—Tobacco Products

- 835,375. KING EDWARD. Jno. H. Swisher & Son, Inc. (Delaware corporation), assignee of Jno. H. Swisher & Son, Inc. (Ohio corporation). SN 243,599. Pub. 1-3-67. Filed 4-15-66.
- 835,376. CORSO. Skandinavisk Tobakskompagni A/S. SN 250,182. Pub. 7-4-67. Filed 7-13-66.
- 835,377. PARK LANE. Lane Limited. SN 255,631. Pub. 7-4-67. Filed 10-3-66.

Class 18—Medicines and Pharmaceutical Preparations

- 835,334. (See Class 6 for this trademark.)
- 835,378. MISCELLANEOUS DESIGN. Morton International, Inc. MULTIPLE CLASS (Classes 18 and 46). SN 231,461. Pub. 7-4-67. Filed 10-23-65.
- 835,379. "MR. BENZIE" DERMIX AND DESIGN. Dermik Pharmaceutical Co., Inc. SN 235,036. Pub. 7-4-67. Filed 12-16-65.
- 835,380. KESSADROX. McKesson & Robbins, Incorporated, d.b.a. McKesson Laboratories. SN 237,724. Pub. 7-4-67. Filed 2-1-66.

- 835,381. REHEIS. Armour Pharmaceutical Company, d.b.a. Rehels Chemical Company. SN 240,836. Pub. 7-4-67. Filed 3-14-66.
- 835,382. ORA-GUIDE. Mead Johnson & Company. SN 250,615. Pub. 7-4-67. Filed 7-20-66.
- 835,383. ORALOCK. Mead Johnson & Company. SN 250,616. Pub. 7-4-67. Filed 7-20-66.
- 835,384. TRYPGYN. American Cyanamid Company. SN 252,532. Pub. 7-4-67. Filed 8-17-66.
- 835,385. EQUI-STRESS. Veterinary Supply Depot Incorporated. SN 252,975. Pub. 7-4-67. Filed 8-23-66.
- 835,386. DURASPAN. Bristol-Myers Company. SN 253,008. Pub. 7-4-67. Filed 8-24-66.
- 835,387. OMNIZOLE. Merck & Co., Inc. SN 253,041. Pub. 7-4-67. Filed 8-24-66.
- 835,388. COMPLIMICINA. American Cyanamid Company. SN 253,614. Pub. 7-4-67. Filed 9-1-66.
- 835,389. NUMZIDENT. Adolph D. Storch. SN 259,510. Pub. 7-4-67. Filed 11-28-66.
- 835,390. PAQUET. Mead Johnson & Company. SN 260,628. Pub. 7-4-67. Filed 12-13-66.
- 835,391. HR HOLLAND-RANTOS AND DESIGN. Holland-Rantos Company, Inc. SN 265,246. Pub. 7-4-67. Filed 2-23-67.
- 835,392. ISO-PROTHON. Warner-Lambert Research Institute. SN 265,950. Pub. 7-4-67. Filed 3-6-67.
- 835,393. TRIND-DM. Mead Johnson & Company. SN 267,224. Pub. 7-4-67. Filed 3-21-67.

Class 19—Vehicles

- 835,394. MISCELLANEOUS DESIGN. Newport Boats. SN 242,909. Pub. 7-4-67. Filed 4-7-66.
- 835,395. MISCELLANEOUS DESIGN. Newport Boats. SN 242,910. Pub. 7-4-67. Filed 4-7-66.
- 835,396. MARCOS AND DESIGN. Marcos North American Corporation. SN 251,736. Pub. 7-4-67. Filed 8-4-66.
- 835,397. NAUTA-LINE. H. D. Willcutts Company, Inc. SN 252,225. Pub. 7-4-67. Filed 8-11-66.
- 835,398. REDI-CABIN. Champion Home Builders Co. SN 252,349. Pub. 7-4-67. Filed 8-15-66.
- 835,399. BALBOA. Coronado Manufacturing Company. SN 252,825. Pub. 7-4-67. Filed 9-14-66.
- 835,400. PROW OF A VIKING SHIP (DESIGN). Bostrom Corporation. SN 268,845. Pub. 7-4-67. Filed 4-11-67.

Class 20—Linoleum and Oiled Cloth

- 835,354. (See Class 12 for this trademark.)

Class 21—Electrical Apparatus, Machines, and Supplies

- 835,401. AUTONATOR. Product Development Company. SN 210,896. Pub. 10-11-66. Filed 1-28-65.
- 835,402. ANAVAC. Executone Inc. SN 220,751. Pub. 7-4-67. Filed 6-9-65.
- 835,403. MARSTAT. Austinlite Limited. SN 228,114. Pub. 7-4-67. Filed 9-20-65.
- 835,404. MISCELLANEOUS DESIGN. Everbrite Electric Signs Inc. SN 232,771. Pub. 7-4-67. Filed 11-16-65.
- 835,405. VH-57. Harvey Hubbell, Incorporated. SN 236,382. Pub. 7-4-67. Filed 1-13-66.
- 835,406. TEXSCAN. Texscan Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 236,935. Pub. 7-4-67. Filed 1-20-66.

- 835,407. DURO VAC. Glassteel Products Company, Inc. SN 238,951. Pub. 7-4-67. Filed 2-16-66.
- 835,408. RI AND DESIGN. Research Instruments & Controls, Inc., assignee of Research, Incorporated. MULTIPLE CLASS (Classes 21, 26, and 34). SN 239,193. Pub. 7-4-67. Filed 2-21-66.
- 835,409. TOUCH-O-MATIC. The Regina Corporation. SN 240,345. Pub. 7-4-67. Filed 3-7-66.
- 835,410. ORENDA AND DESIGN. Orenda Limited, assignee of Hawker Siddeley Canada Ltd. MULTIPLE CLASS (Classes 21, 23, 31, 100, and 103). SN 242,093. Pub. 7-4-67. Filed 3-29-66.
- 835,411. IRC. IRC, Inc. SN 244,329. Pub. 7-4-67. Filed 4-26-66.
- 835,412. CONTROL CHIEF AND DESIGN. Allegheny Electronic Chemicals Co. SN 244,452. Pub. 7-4-67. Filed 4-28-66.
- 835,413. CHALET. Demco Electronics, Inc. SN 246,285. Pub. 7-4-67. Filed 5-23-66.
- 835,414. METRO AND DESIGN. Metropolitan Vacuum Cleaner Co., Inc. SN 246,805. Pub. 7-4-67. Filed 5-27-66.
- 835,415. MICROSTICK. Electronic Engineering Company of California. SN 247,859. Pub. 4-11-67. Filed 6-13-66.
- 835,416. GEM. IRC, Inc. SN 248,022. Pub. 3-14-67. Filed 6-21-66.
- 835,417. STYLIZED D (DESIGN). Dictaphone Corporation. SN 249,847. Pub. 7-4-67. Filed 7-8-66.
- 835,418. SWC AND DESIGN. Stellar Ware Corporation. MULTIPLE CLASS (Classes 21, 26, and 36). SN 250,426. Pub. 7-4-67. Filed 7-18-66.
- 835,419. NYKELKROM. H. W. Tuttle & Company. SN 250,785. Pub. 7-4-67. Filed 7-21-66.
- 835,420. MONO-FLAT. Square D Company. SN 251,337. Pub. 7-4-67. Filed 7-29-66.

Class 22—Games, Toys, and Sporting Goods

- 835,421. SLENDER/ELLA. Slenderella, Inc. SN 235,017. Pub. 7-4-67. Filed 12-21-65.
- 835,422. SNURFER. Brunswick Corporation, assignee of Sherman R. Poppen. SN 238,296. Pub. 7-4-67. Filed 2-7-66.
- 835,423. DISGUISE STIX. Grateco Corporation. SN 240,905. Pub. 7-4-67. Filed 3-14-66.
- 835,424. BOSTON RUMMY. Florenzo DiDonato, d.b.a. Gemini Associates. SN 241,877. Pub. 7-4-67. Filed 3-25-66.
- 835,425. CHARAIDS. Richard A. Onanian, d.b.a. Advanced Ideas Co. SN 241,926. Pub. 7-4-67. Filed 3-25-66.
- 835,426. GOOSSES WILD. CO-5 Company Inc. SN 243,308. Pub. 7-4-67. Filed 4-13-66.
- 835,427. SEA HUNTER. U.S. Divers Co., Inc. SN 247,273. Pub. 7-4-67. Filed 6-3-66.
- 835,428. TURBO-TUBE. Wham-O Mfg. Co. SN 247,850. Pub. 7-4-67. Filed 6-10-66.
- 835,429. BUCANERO. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 248,541. Pub. 7-4-67. Filed 6-20-66.
- 835,430. LE FIELE TITAN AND DESIGN. Le Fiele Sport Products, Inc. SN 251,823. Pub. 7-4-67. Filed 8-5-66.
- 835,431. KNIGHT IN ARMOUR (DESIGN). Classic Games Co. Inc. SN 251,894. Pub. 7-4-67. Filed 8-8-66.
- 835,432. DYNA-FLEX. Horrocks-Ibbotson Company. SN 251,922. Pub. 7-4-67. Filed 8-8-66.
- 835,433. DOG'S BEST FRIEND. Items, Incorporated. SN 252,956. Pub. 7-4-67. Filed 8-23-66.
- 835,434. TALK 'N' DO. Louis Marx & Co., Inc. SN 253,328. Pub. 7-4-67. Filed 8-26-66.
- 835,435. U-GO. U-GO Smith Products. SN 253,346. Pub. 7-4-67. Filed 8-29-66.
- 835,436. AUTO CAST AND DESIGN. Ross, Inc. SN 253,560. Pub. 7-4-67. Filed 8-31-66.

- 835,437. NYPRO. Mid Lakes Manufacturing Co. SN 256,955. Pub. 7-4-67. Filed 10-21-66.
- 835,438. WORLD BAZAAR. Atlantic Company. SN 257,224. Pub. 7-4-67. Filed 10-25-66.
- 835,439. BIG BLADE. Louis Marx & Co., Inc. SN 260,382. Pub. 7-4-67. Filed 12-9-66.
- 835,440. CUTLASS. Leonard Cecil. SN 267,011. Pub. 7-4-67. Filed 3-17-67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 835,308. (See Class 1 for this trademark.)
- 835,321. (See Class 4 for this trademark.)
- 835,334. (See Class 6 for this trademark.)
- 835,410. (See Class 21 for this trademark.)
- 835,441. POWRMATE. Rex Chainbelt Inc. SN 232,238. Pub. 5-9-67. Filed 11-5-65.
- 835,442. ROH'LIX. Barry Wright Corporation. SN 241,213. Pub. 7-4-67. Filed 3-16-66.
- 835,443. HIL-A-VATOR. Dwan & Co. SN 243,230. Pub. 7-4-67. Filed 4-12-66.
- 835,444. HIL-A-VETTE. Dwan & Co. SN 243,231. Pub. 7-4-67. Filed 4-12-66.
- 835,445. CD AND DESIGN. Beloit Corporation. SN 243,833. Pub. 7-4-67. Filed 4-20-66.
- 835,446. BRENTWOOD. Imperial International Corp. SN 244,492. Pub. 7-4-67. Filed 4-28-66.
- 835,447. FLEURETTE. Imperial Knife Associated Companies, Inc. SN 244,493. Pub. 7-4-67. Filed 4-28-66.
- 835,448. COUNTRY INN. Imperial Knife Associated Companies, Inc. SN 244,494. Pub. 7-4-67. Filed 4-28-66.
- 835,449. PEER. Peer Bearing Company. SN 245,009. Pub. 7-4-67. Filed 5-5-66.
- 835,450. PEER AND DESIGN. Peer Bearing Company. SN 245,010. Pub. 7-4-67. Filed 5-5-66.
- 835,451. BLACK MAGIC. Gad-Jets, Inc. SN 245,186. Pub. 7-4-67. Filed 5-9-66.
- 835,452. FEMCO. Femco, Inc. SN 245,397. Pub. 7-4-67. Filed 5-11-66.
- 835,453. POUCHER AND DESIGN. Poucher Tool Sales, Inc. MULTIPLE CLASS (Classes 23 and 26). SN 247,832. Pub. 7-4-67. Filed 6-10-66.
- 835,454. STREAMLINER. The New Home Sewing Machine Company. SN 249,784. Pub. 7-4-67. Filed 7-7-66.
- 835,455. PARAGON. The New Home Sewing Machine Company. SN 249,785. Pub. 7-4-67. Filed 7-7-66.
- 835,456. DESIGNER. The New Home Sewing Machine Company. SN 249,786. Pub. 7-4-67. Filed 7-7-66.
- 835,457. DECORATOR. The New Home Sewing Machine Company. SN 249,787. Pub. 7-4-67. Filed 7-7-66.
- 835,458. WM. Waukesha Motor Company. SN 249,816. Pub. 7-4-67. Filed 7-7-66.
- 835,459. AUTUMN MIST. Gorham Corporation. SN 249,979. Pub. 7-4-67. Filed 7-11-66.
- 835,460. HACIENDA. Gorham Corporation. SN 249,980. Pub. 7-4-67. Filed 7-7-66.
- 835,461. PAN-L-GARD. Leonard M. Selden, d.b.a. Pan-L-Gard Company. SN 250,039. Pub. 7-4-67. Filed 7-11-66.
- 835,462. FLITE GLIDE. Bacon Felt Company. SN 253,001. Pub. 7-4-67. Filed 8-24-66.
- 835,463. FLITE CHEK. Bacon Felt Company. SN 253,002. Pub. 7-4-67. Filed 8-24-66.
- 835,464. NUPLOK. New Plastic Corporation. SN 253,233. Pub. 7-4-67. Filed 8-26-66.
- 835,465. ASTRA. H. A. Glass, d.b.a. Texas Sewing Machine Distributors. SN 253,309. Pub. 7-4-67. Filed 8-29-66.
- 835,466. TEKNE. Ing. C. Olivetti & C., S.p.A. SN 260,988. Pub. 7-4-67. Filed 7-18-66.
- 835,467. WORK-BIRD. Yard-Man of Illinois, Incorporated. SN 266,834. Pub. 7-4-67. Filed 3-16-67.

Class 24—Laundry Appliances and Machines

- 835,468. VEYOR RAIL. The Speed Check Co., Inc. SN 247,836. Pub. 7-4-67. Filed 6-10-66.

Class 26—Measuring and Scientific Appliances

- 835,406. (See Class 21 for this trademark.)
- 835,408. (See Class 21 for this trademark.)
- 835,418. (See Class 21 for this trademark.)
- 835,453. (See Class 23 for this trademark.)
- 835,469. DATA PUMP. Ultronic Systems Corp. SN 234,685. Pub. 7-4-67. Filed 12-15-65.
- 835,470. EDITMASTER. Photon, Inc. SN 235,332. Pub. 7-4-67. Filed 12-27-65.
- 835,471. DCA. DCA Educational Products Inc. SN 238,717. Pub. 7-4-67. Filed 2-14-66.
- 835,472. COMPUTIMETER. John A. Belcher, d.b.a. The Computimeter Company. SN 238,917. Pub. 7-4-67. Filed 2-16-66.
- 835,473. CALITEL. Electronic Automation Systems, Inc. SN 239,247. Pub. 7-4-67. Filed 2-21-66.
- 835,474. A-B AND DESIGN. Allen-Bradley Company. SN 240,051. Pub. 7-4-67. Filed 3-3-66.
- 835,475. AW ATLAS-WARNER AND DESIGN. Atlas Warner Corp. SN 241,215. Pub. 7-4-67. Filed 2-18-66.
- 835,476. EPC. Electrostatic Printing Corporation of America. SN 242,577. Pub. 7-4-67. Filed 4-4-66.
- 835,477. RANGE-O-LIMIT. Pratt & Whitney Inc. SN 245,960. Pub. 7-4-67. Filed 5-18-66.
- 835,478. TRANS-O-ROUND. Pratt & Whitney Inc. SN 245,962. Pub. 7-4-67. Filed 5-18-66.

Class 28—Jewelry and Precious-Metal Ware

- 835,479. EB. Ellis Silver Company, Inc. SN 237,390. Pub. 2-14-67. Filed 1-26-66.
- 835,480. FAMILY TREE. Family Tree Creations, Inc. SN 258,220. Pub. 7-4-67. Filed 11-8-66.
- 835,481. DOC. C. K. Ring Co., Inc. SN 260,014. Pub. 7-4-67. Filed 12-5-66.

Class 29—Brooms, Brushes, and Dusters

- 835,307. (See Class 2 for this trademark.)
- 835,482. DUAL-CONTOUR. Bishop Industries Inc., by change of name from Hazel Bishop Inc. SN 247,696. Pub. 7-4-67. Filed 6-9-66.
- 835,483. JUS-RITE. Potter-McCune Company. SN 251,463. Pub. 7-4-67. Filed 8-1-66.
- 835,484. LINT-LOOPS. Jet Party Favors, Inc. SN 256,671. Pub. 7-4-67. Filed 10-18-66.

Class 31—Filters and Refrigerators

- 835,410. (See Class 21 for this trademark.)
- 835,485. PENFIELD CUB AND DESIGN. Penfield Manufacturing Company, Incorporated. SN 247,400. Pub. 7-4-67. Filed 6-6-66.

Class 32 — Furniture and Upholstery

- 835,317. (See Class 2 for this trademark.)
 835,486. E-Z-LEVEL. Royalmetal Corporation. SN 247,625. Pub. 7-4-67. Filed 6-8-66.

Class 33 — Glassware

- 835,317. (See Class 2 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 835,317. (See Class 2 for this trademark.)
 835,330. (See Class 5 for this trademark.)
 835,408. (See Class 21 for this trademark.)
 835,487. STERLING. Sterling Radiator Co., Inc. SN 243,033. Pub. 7-4-67. Filed 4-8-66.
 835,488. RANDOLPH. J. P. Burroughs & Son, Inc. SN 243,306. Pub. 7-4-67. Filed 4-13-66.
 835,489. VANTAGE. Slant/Fin Corporation. SN 246,724. Pub. 7-4-67. Filed 5-26-66.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 835,490. HELI-CAT. The General Tire & Rubber Company. SN 248,799. Pub. 7-4-67. Filed 6-23-66.
 835,491. RADAN. The General Tire & Rubber Company. SN 248,800. Pub. 7-4-67. Filed 6-23-66.

Class 36 — Musical Instruments and Supplies

- 835,418. (See Class 21 for this trademark.)
 835,492. HOFNER. Karl Hofner OHG, assignee of Wm. R. Gratz Co., Inc. SN 243,442. Pub. 11-15-66. Filed 4-14-66.
 835,493. DECCA. MCA Inc. SN 245,406. Pub. 7-4-67. Filed 5-11-66.
 835,494. M AND DESIGN. Magnetic Media Corporation. SN 245,408. Pub. 7-4-67. Filed 5-11-66.

Class 37 — Paper and Stationery

- 835,495. LUXRIFOLD. Wisconsin Tissue Mills. SN 253,149. Pub. 7-4-67. Filed 9-8-66.
 835,496. SLIDE-TRAC. Lewis R. Beyer, d.b.a. The Lewart Company. SN 255,410. Pub. 7-4-67. Filed 9-29-66.
 835,497. EATON'S AT-A-GLANCE AND DESIGN. Eaton Paper Corporation. SN 256,854. Pub. 7-4-67. Filed 10-18-66.
 835,498. MATTIES. Consolidated Cellulose Products, Inc., assignee of A.P.W. Products Company, Inc. SN 256,704. Pub. 6-20-67. Filed 10-19-66.
 835,499. ST. JOE. St. Joe Paper Company. SN 268,272. Pub. 7-4-67. Filed 4-4-67.

Class 38 — Prints and Publications

- 835,500. WESTERN FRUIT GROWER. Western Farm Publications, Inc. SN 232,883. Pub. 7-4-67. Filed 11-17-65.
 835,501. ADD-A-LINE. Thomas W. Foley, d.b.a. Add-A-Line. SN 237,951. Pub. 7-4-67. Filed 2-3-66.
 835,502. NRFA REPORTS TO THE HOME FURNISHING INDUSTRY. National Retail Furniture Association. SN 240,637. Pub. 7-4-67. Filed 3-10-66.
 835,503. LS ETC. AND DESIGN. Martin Ronald Glass. SN 240,729. Pub. 7-4-67. Filed 3-11-66.
 835,504. LIVE MODERN. The Reuben H. Donnelley Corporation. SN 241,243. Pub. 7-4-67. Filed 3-17-66.
 835,505. FTI AND DESIGN. Fabri-Tek Incorporated. SN 243,112. Pub. 7-4-67. Filed 4-11-66.
 835,506. FUNK & WAGNALLS. The Reader's Digest Association, Inc. SN 246,608. Pub. 7-4-67. Filed 5-25-66.
 835,507. MISCELLANEOUS DESIGN. Scott, Foresman and Company. SN 248,167. Pub. 7-4-67. Filed 6-15-66.
 835,508. OCTOBER HOUSE AND SYMBOL. The October House, Inc. SN 248,836. Pub. 7-4-67. Filed 6-23-66.
 835,509. OCTOBER HOUSE. The October House, Inc. SN 248,837. Pub. 7-4-67. Filed 6-23-66.
 835,510. OCTOBER HOUSE AND EMBLEM. The October House, Inc. SN 248,838. Pub. 7-4-67. Filed 6-23-66.
 835,511. WW IN FANCY SCRIPT ETC. AND DESIGN. Weight Watchers International, Inc. SN 249,894. Pub. 7-4-67. Filed 7-8-66.
 835,512. ENCYCLOPAEDIA CHIMICA INTERNATIONALIS. Institute for Scientific Information, Inc. SN 251,259. Pub. 7-4-67. Filed 7-29-66.
 835,513. CONTAINER MARKETING AND DESIGN. International Paper Company. SN 253,050. Pub. 7-4-67. Filed 9-1-66.
 835,514. CHRISTIAN TIMES. Tyndale House Publishers. SN 256,156. Pub. 7-4-67. Filed 10-10-66.
 835,515. CTB AND DESIGN. McGraw-Hill, Inc. MULTIPLE CLASS (Classes 38 and 107). SN 256,626. Pub. 7-4-67. Filed 10-18-66.

Class 39 — Clothing

- 835,516. DONMOOR GO SHIRT AND DESIGN. Donmoor-Isaacson, Inc. SN 236,327. Pub. 7-4-67. Filed 1-11-66.
 835,517. ALPINA. Alpine House, Inc. SN 241,573. Pub. 7-4-67. Filed 3-22-66.
 835,518. PRINCESS LACE MANTILLA AND DESIGN. David E. Schwab & Company, Inc. SN 251,568. Pub. 7-4-67. Filed 8-2-66.
 835,519. SHEER KNIT. Joseph Asch Co., Inc. SN 252,803. Pub. 7-4-67. Filed 8-22-66.
 835,520. PRO-CELD. American Baseball Cap, Inc. SN 252,937. Pub. 7-4-67. Filed 8-23-66.
 835,521. CHECK-OUTS. Rapid-American Corporation. SN 254,130. Pub. 7-4-67. Filed 9-9-66.
 835,522. ADVANTUS. Genesco Inc. SN 255,527. Pub. 7-4-67. Filed 9-30-66.
 835,523. TAHOES AND DESIGN. Craddock-Terry Shoe Corporation. SN 255,966. Pub. 7-4-67. Filed 10-7-66.
 835,524. LONNE SUE. Lonnie Sue Brassiere Co., Inc. SN 256,292. Pub. 7-4-67. Filed 10-12-66.
 835,525. FRONT ROW. The United States Shoe Corporation. SN 266,607. Pub. 7-4-67. Filed 3-13-67.
 835,526. SEA DREAM. Maldenform, Inc. SN 267,577. Pub. 7-4-67. Filed 3-27-67.
 835,527. GOLD MAGIC. Butler's Shoe Corporation. SN 267,894. Pub. 7-4-67. Filed 3-30-67.

Class 40 — Fancy Goods, Furnishings, and Notions

- 835,528. TRESS-CHIC. Suzanne, Inc. SN 240,802. Pub. 10-25-66. Filed 3-11-66.
 835,529. DEVIL DOTS. Remarque Associates, Inc. SN 243,583. Pub. 7-4-67. Filed 4-15-66.
 835,530. MAN'S WORLD HAIRPIECES, INC. MW AND DESIGN. Man's World Hairpieces, Inc. SN 256,295. Pub. 7-4-67. Filed 10-12-66.
 835,531. LADY PERFECTION. Walter Tucclarone Corp. SN 261,689. Pub. 7-4-67. Filed 12-29-66.

Class 41 — Canes, Parasols, and Umbrellas

- 835,532. AQUABRELLA AND DESIGN. Aquaslide Corporation. SN 256,262. Pub. 7-4-67. Filed 10-12-66.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 835,533. THE WRINKLE IS DEAD AND DAN-PRESS DID IT. Dan River Mills, Incorporated. SN 256,071. Pub. 7-4-67. Filed 10-10-66.
 835,534. PALM PRESS. Goodall Sanford, Incorporated. SN 256,546. Pub. 7-4-67. Filed 10-17-66.
 835,535. SUMMITCREST. Summitcrest Carpet Mills Inc. SN 256,887. Pub. 7-4-67. Filed 10-20-66.
 835,536. H.P. Deering Milliken, Inc. SN 260,531. Pub. 7-4-67. Filed 12-12-66.
 835,537. CLUB CAR. J. P. Stevens & Co., Inc. SN 260,608. Pub. 7-4-67. Filed 12-12-66.
 835,538. DANBLEND. Dan River Mills, Incorporated. SN 260,826. Pub. 7-4-67. Filed 12-15-66.
 835,539. RIVER-PRESS. Dan River Mills, Incorporated. SN 260,830. Pub. 7-4-67. Filed 12-15-66.
 835,540. ELKWOOD. Deering Milliken, Inc. SN 269,259. Pub. 7-4-67. Filed 4-17-67.

Class 43 — Thread and Yarn

- 835,541. HAPPILY . . . IT'S CAPROLAN, THE MORE COLORFUL NYLON ETC. Allied Chemical Corporation. SN 233,164. Pub. 7-4-67. Filed 11-23-65.
 835,542. AMERICAN THREAD AND DESIGN. The American Thread Company. SN 250,125. Pub. 7-4-67. Filed 7-13-66.
 835,543. "TEMPRUF." Coats & Clark Inc. SN 260,725. Pub. 7-4-67. Filed 12-14-66.

Class 44 — Dental, Medical, and Surgical Appliances

- 835,544. VINCENT'S SLENDER CUSHION. Vincent R. Casey, d.b.a. Casey's Foot Appliances. SN 241,972. Pub. 7-4-67. Filed 3-28-66.
 835,545. FLUFFY PUFF AND DESIGN. Vincent R. Casey, d.b.a. Casey's Foot Appliances. SN 241,973. Pub. 7-4-67. Filed 3-28-66.
 835,546. VINCENT'S CUSHIONS. Vincent R. Casey, d.b.a. Casey's Foot Appliances. SN 241,974. Pub. 7-4-67. Filed 3-28-66.

- 835,547. VINCENT'S FEATHERWEIGHT. Vincent R. Casey, d.b.a. Casey's Foot Appliances. SN 241,975. Pub. 7-4-67. Filed 3-28-66.
 835,548. SEC O₂ PAK. Sierra Engineering Company. SN 247,975. Pub. 7-4-67. Filed 6-13-66.
 835,549. PANOREX. S. S. White Company, assignee of X-Ray Mfg. Corporation of America. SN 249,376. Pub. 7-4-67. Filed 6-30-66.
 835,550. NEARKID. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 252,757. Pub. 7-4-67. Filed 8-19-66.
 835,551. PACKETTE. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 252,760. Pub. 7-4-67. Filed 8-19-66.
 835,552. SELECTROL. Densco, Incorporated. SN 256,829. Pub. 7-4-67. Filed 10-20-66.

Class 45 — Soft Drinks and Carbonated Waters

- 835,553. MISCELLANEOUS DESIGN. The Seven-Up Company. SN 269,389. Pub. 7-4-67. Filed 4-18-67.

Class 46 — Foods and Ingredients of Foods

- 835,534. (See Class 6 for this trademark.)
 835,378. (See Class 18 for this trademark.)
 835,554. WADIAN AND DESIGN. Wadian-Feinkost GmbH, assignee of Erich Spahn and Heinz Spahn (partnership). SN 213,618. Pub. 2-28-67. Filed 3-8-65.
 835,555. PICOZ. El Taquito, Inc. SN 227,271. Pub. 7-4-67. Filed 9-7-65.
 835,556. KOOKIE PLAKS. Topps Chewing Gum Incorporated. SN 230,958. Pub. 7-4-67. Filed 10-21-65.
 835,557. "LAZY-GARLIC." S.L.I.A. Sicule Lombarde Industrie Associate S.p.A., d.b.a. SLIA-Codogno. SN 232,724. Pub. 7-4-67. Filed 11-15-65.
 835,558. LITHE. Mead Johnson & Company. SN 237,860. Pub. 7-4-67. Filed 2-2-66.
 835,559. GOOD SHOW. Mead Johnson & Company. SN 237,861. Pub. 7-4-67. Filed 2-2-66.
 835,560. GROTESQUE COW (DESIGN). Wells Dairies Cooperative. SN 240,395. Pub. 7-4-67. Filed 3-7-66.
 835,561. BOY IN PAJAMAS (DESIGN). Wells Dairies Cooperative. SN 240,398. Pub. 7-4-67. Filed 3-7-66.
 835,562. CHOC-O-LAC. H. Fox & Co. Inc. SN 240,724. Pub. 7-4-67. Filed 3-11-66.
 835,563. BAG-A-DOTS. Mason, Au & Magenheimer Confy. Mfg. Co., Inc. SN 242,998. Pub. 7-4-67. Filed 4-8-66.
 835,564. MASONETTES. Mason, Au & Magenheimer Confy. Mfg. Co., Inc. SN 243,000. Pub. 7-4-67. Filed 4-8-66.
 835,565. LE ANDRES AND DESIGN. Andre's Better Foods Inc., d.b.a. Lé Andrés. SN 243,524. Pub. 7-4-67. Filed 4-15-66.
 835,566. EAT ALL MINUTE FRESH AND DESIGN. The Eat-All Frozen Food Co., Inc. SN 244,199. Pub. 7-4-67. Filed 4-25-66.
 835,567. DUNCAN HINES. Hines-Park Foods, Inc. SN 245,195. Pub. 7-4-67. Filed 5-9-66.
 835,568. SQUARE-MEAL. American Home Products Corporation. SN 246,029. Pub. 7-4-67. Filed 5-19-66.
 835,569. FIRST HOUR FRESH. William Freihofer Baking Co. SN 249,753. Pub. 7-4-67. Filed 7-7-66.
 835,570. DURKEE'S IN D DESIGN. The Glidden Company, d.b.a. Durkee Famous Foods. SN 249,978. Pub. 7-4-67. Filed 7-11-66.
 835,571. RED RAM. The Georgetown Corporation. SN 252,170. Pub. 7-4-67. Filed 8-11-66.

- 835,572. EXETER. W. F. Cosart Packing Co. SN 254,650. Pub. 7-4-67. Filed 9-19-66.
- 835,573. ENZOBAKE. Enzyme Development Corporation. SN 257,949. Pub. 7-4-67. Filed 11-4-66.
- 835,574. NUTRENA START KWIK. Cargill, Incorporated. SN 259,714. Pub. 7-4-67. Filed 11-30-66.
- 835,575. NUTRENA KWIK "2." Cargill, Incorporated. SN 259,715. Pub. 7-4-67. Filed 11-30-66.
- 835,576. DUPLO. P. Ferrero & C. S.p.A. SN 259,910. Pub. 7-4-67. Filed 12-2-66.
- 835,577. COUNTRY BREAKFAST. Harvest Home Foods, Inc. SN 263,569. Pub. 7-4-67. Filed 1-30-67.
- 835,578. DUMPLINGS VEGETALL. General Mills, Inc. SN 263,996. Pub. 7-4-67. Filed 2-6-67.
- 835,579. NUGGET. Nugget Distributors' Cooperative of America, Inc., d.b.a. Nugget Distributors of America. SN 265,773. Pub. 7-4-67. Filed 3-2-67.
- 835,580. ARCTIC KING. Marine Foods Packing Co. SN 265,960. Pub. 7-4-67. Filed 3-6-67.
- 835,581. MISCELLANEOUS DESIGN. Bird-In-Hand Poultry Co. SN 266,489. Pub. 7-4-67. Filed 3-13-67.
- 835,582. EAT AND RUN. Mead Johnson & Company. SN 268,540. Pub. 7-4-67. Filed 4-7-67.
- 835,583. OOMPH. Mead Johnson & Company. SN 268,552. Pub. 7-4-67. Filed 4-7-67.
- 835,584. SUSTAIN. General Mills, Inc. SN 269,015. Pub. 7-4-67. Filed 4-13-67.
- 835,585. KACHINA. Desert Citrus Growers Company. SN 269,024. Pub. 7-4-67. Filed 4-13-67.
- 835,586. VOLCANOES. General Mills, Inc. SN 269,260. Pub. 7-4-67. Filed 4-17-67.
- 835,587. GILDED CAGES. General Mills, Inc. SN 269,262. Pub. 7-4-67. Filed 4-17-67.
- 835,588. SNOWSHOES. General Mills, Inc. SN 269,263. Pub. 7-4-67. Filed 4-17-67.
- 835,589. LAUGHS. General Mills, Inc. SN 269,264. Pub. 7-4-67. Filed 4-17-67.
- 835,590. BOOTY. General Mills, Inc. SN 269,265. Pub. 7-4-67. Filed 4-17-67.
- 835,591. CAGES. General Mills, Inc. SN 269,266. Pub. 7-4-67. Filed 4-17-67.
- 835,592. JAVELINS. General Mills, Inc. SN 269,267. Pub. 7-4-67. Filed 4-17-67.
- 835,593. CHIP-A-NOODLE. General Mills, Inc. SN 269,269. Pub. 7-4-67. Filed 4-17-67.

Class 47 — Wines

- 835,594. KWV ETC. AND DESIGN. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt. SN 228,707. Pub. 7-4-67. Filed 5-23-67.

Class 49 — Distilled Alcoholic Liquors

- 835,595. BOKMA ETC. AND DESIGN. Bokma N.V. SN 224,838. Pub. 7-4-67. Filed 8-3-65.
- 835,596. MARBLE ARCH. H. Stenham Limited, d.b.a. Central Gln Company. SN 254,811. Pub. 7-4-67. Filed 9-20-66.
- 835,597. COVENT GARDEN. H. Stenham Limited, d.b.a. Central Gln Company. SN 254,812. Pub. 7-4-67. Filed 9-20-66.
- 835,598. GLEN RANKIN. H. Stenham Limited, d.b.a. Glen Rankin Blending Company. SN 254,815. Pub. 7-4-67. Filed 9-20-66.
- 835,599. GLEN EAGLE. H. Stenham Limited, d.b.a. Metropolitan Scotch Whisky Blenders. SN 254,819. Pub. 7-4-67. Filed 9-20-66.

Class 50 — Merchandise Not Otherwise Classified

- 835,600. PARTY PALS. Stuart Hall Company, Inc. SN 238,797. Pub. 7-4-67. Filed 2-14-66.
- 835,601. NU-CON AND DESIGN. Nu-Con Products Company, Inc. SN 239,787. Pub. 7-4-67. Filed 2-28-66.
- 835,602. SKULP-IT. Skulp Inc. SN 249,685. Pub. 7-4-67. Filed 7-6-66.
- 835,603. PREMIER. The National Ideal Company. SN 252,406. Pub. 7-4-67. Filed 8-15-66.
- 835,604. MASTERPIECE AND DESIGN. Masterpiece, Inc. SN 259,132. Pub. 7-4-67. Filed 11-21-66.

Class 51 — Cosmetics and Toilet Preparations

- 835,605. ULTRAMIQUE. Blecker Beauty Shops, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 239,213. Pub. 7-4-67. Filed 2-21-66.
- 835,606. ANDALUMITE. American Home Products Corporation. SN 247,662. Pub. 7-4-67. Filed 6-9-66.
- 835,607. FILM OF FRAGRANCE. Mary Chess, Inc. SN 247,773. Pub. 7-4-67. Filed 6-10-66.
- 835,608. HAI KARATE AND DESIGN. Chas. Pfizer & Co., Inc. SN 249,250. Pub. 5-16-67. Filed 6-29-66.
- 835,609. MAGICOMB. The Rophelle Corporation. SN 249,582. Pub. 7-4-67. Filed 7-5-66.
- 835,610. VANDA. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics. SN 249,797. Pub. 7-4-67. Filed 7-7-66.
- 835,611. HEADQUARTERS. Nettle Tracer, d.b.a. N. Tracer Cosmetics. SN 249,814. Pub. 7-4-67. Filed 7-7-66.
- 835,612. CLEAN AND CRISP. Carter-Wallace, Inc. SN 251,792. Pub. 7-4-67. Filed 8-5-66.
- 835,613. FROSTED PICK-UP. Beauty Counselors, Inc. SN 253,621. Pub. 7-4-67. Filed 9-1-66.
- 835,614. DESIGN OF A LIP PRINT. Cool-It, Inc. SN 257,371. Pub. 7-4-67. Filed 10-27-66.
- 835,615. ICE LIGHTS. Clairol Incorporated. SN 258,050. Pub. 7-4-67. Filed 11-7-66.
- 835,616. PAN ANDREE. Leon Products, Inc. SN 264,369. Pub. 7-4-67. Filed 2-10-67.
- 835,617. DEW DENT. Shulton, Inc. SN 269,027. Pub. 7-4-67. Filed 4-13-67.

Class 52 — Detergents and Soaps

- 835,609. (See Class 15 for this trademark.)
- 835,605. (See Class 51 for this trademark.)
- 835,618. THE MOST POWERFUL NAME IN CLEANING. Colgate-Palmolive Company. SN 175,252. Pub. 7-4-67. Filed 8-19-63.
- 835,619. VANO AND DESIGN. Purex Corporation, Ltd., assignee of B. T. Babbitt, Inc. SN 236,453. Pub. 7-4-67. Filed 1-14-66.
- 835,620. COLOR INSURANCE. John H. Breck, Inc. SN 241,232. Pub. 7-4-67. Filed 3-17-66.
- 835,621. POWR-WASH. Nu-Process Industries, Inc. SN 241,365. Pub. 7-4-67. Filed 3-18-66.
- 835,622. D. M. GOOD. Harold M. Pltman Company. SN 242,652. Pub. 7-4-67. Filed 4-4-66.
- 835,623. NUDE. Helena Rubinstein, Inc. SN 251,240. Pub. 7-4-67. Filed 7-28-66.
- 835,624. BOWL BLUE. JBI, Inc. SN 252,104. Pub. 7-4-67. Filed 8-10-66.
- 835,625. DOG-TER-GENT. Atlantic Seaboard Marine Finance Corp., d.b.a. Inland Chemical Co. SN 266,484. Pub. 7-4-67. Filed 3-13-67.

- 835,626. ENVEE. Biggs Laboratories (Canada) Limited. SN 267,225. Pub. 7-4-67. Filed 3-21-67.
- 835,627. NK. The Procter & Gamble Company. SN 269,390. Pub. 7-4-67. Filed 4-18-67.
- 835,628. SUCCESS. Lever Brothers Company. SN 269,730. Pub. 7-4-67. Filed 4-21-67.

Service Marks

Class 100 — Miscellaneous

- 835,410. (See Class 21 for this trademark.)
- 835,629. MISTER S AND DESIGN. Commissary Corporation. SN 207,704. Pub. 1-24-67. Filed 12-9-64.
- 835,630. FOREMOST AND DESIGN. Foremost Screen Print, Inc. SN 226,350. Pub. 7-4-67. Filed 8-24-65.
- 835,631. THE HUNGRY FARMER RESTAURANT AND DESIGN. The Hungry Farmer Restaurants, Inc. SN 227,008. Pub. 7-4-67. Filed 9-1-65.
- 835,632. MR. BATTERY. Donald L. Carlson. SN 232,186. Pub. 7-4-67. Filed 11-5-65.
- 835,633. TELEBID. Lloyd J. Twibell, d.b.a. Telebid Service. SN 236,789. Pub. 7-4-67. Filed 1-18-66.
- 835,634. THE ENTERTAINER AND DESIGN. Daltch Crystal Dairies, Inc. SN 237,206. Pub. 7-4-67. Filed 1-25-66.
- 835,635. INTERSTATE AND DESIGN. American Association of State Highway Officials. SN 239,199. COLLECTIVE MARK. Pub. 7-4-67. Filed 2-21-66.
- 835,636. SPINELLA LABS AND DESIGN. S. Charles Spinella. SN 243,728. Pub. 7-4-67. Filed 4-18-66.
- 835,637. NPR AND DESIGN. Anita T. Monelova, d.b.a. National Pet Registry. SN 244,720. Pub. 7-4-67. Filed 5-2-66.
- 835,638. WIFE SAVER ETC. AND DESIGN. George B. Cunningham, Jr., d.b.a. "Wife Saver" Food Service. SN 245,295. Pub. 7-4-67. Filed 5-10-66.
- 835,639. FIDES VERITAS LEX AND DESIGN. Philadelphia Bank Detectives, Incorporated. SN 249,570. Pub. 7-4-67. Filed 7-5-66.
- 835,640. GRACIOUS LIVING. Grace Holmes, Inc. SN 249,758. Pub. 7-4-67. Filed 7-7-66.
- 835,641. WW AND DESIGN. Weight Watchers International, Inc. SN 249,895. Pub. 7-4-67. Filed 7-8-66.
- 835,642. KEY DESIGN (WITH CIRCLE ON RIGHT SIDE OF KEY). Key Enterprises, Inc. SN 251,546. Pub. 7-4-67. Filed 8-2-66.
- 835,643. KING KASTLE. King Kastle Systems, Inc., d.b.a. King Kastle Systems. SN 261,565. Pub. 7-4-67. Filed 12-28-66.

Class 101 — Advertising and Business

- 835,644. MISCELLANEOUS DESIGN. Robert E. Lasek, d.b.a. Decorators Walk. SN 195,684. Pub. 7-4-67. Filed 6-15-64.
- 835,645. SIOUXLAND AND DESIGN. Richard M. Burns, d.b.a. Siouxland Realty. SN 235,030. Pub. 7-4-67. Filed 12-16-65.
- 835,646. THE AMERICAN WAY WITH WOOL. Woolens and Worsteds of America, Inc. SN 236,309. Pub. 7-4-67. Filed 1-12-66.
- 835,647. MISS TEENAGE AMERICA. Teen America Associates, Inc. SN 242,407. Pub. 7-4-67. Filed 3-31-66.
- 835,648. SCA AND DESIGN. Shoe Corporation of America. SN 245,975. Pub. 7-4-67. Filed 5-18-66.
- 835,649. MEDICLAIM. John J. White. SN 254,828. Pub. 7-4-67. Filed 9-20-66.

- 835,650. INTERNATIONAL CIRCULATION DISTRIBUTORS AND DESIGN. The Hearst Corporation. SN 260,796. Pub. 7-4-67. Filed 12-15-66.
- 835,651. GRAYBAR QUALITY AND DESIGN. Graybar Electric Company, Inc. SN 264,129. Pub. 7-4-67. Filed 2-7-67.
- 835,652. QUALITY AND SHIELD DESIGN. Graybar Electric Company, Inc. SN 264,130. Pub. 7-4-67. Filed 2-7-67.
- 835,653. GRAYBAR AND BAR DESIGN. Graybar Electric Company, Inc. SN 264,131. Pub. 7-4-67. Filed 2-7-67.
- 835,654. GRAYBAR. Graybar Electric Company, Inc. SN 264,136. Pub. 7-4-67. Filed 2-7-67.
- 835,655. PATENT DRAWINGS FOR THE WORLD AND DESIGN. Patent Reproduction Company. SN 266,252. Pub. 7-4-67. Filed 3-8-67.

Class 102 — Insurance and Financial

- 835,656. RAPIDRAFT. Walz Credit Services, Inc. SN 234,489. Pub. 7-4-67. Filed 12-13-65.
- 835,657. A. G. BECKER. A. G. Becker & Co., Incorporated. SN 238,157. Pub. 7-4-67. Filed 2-7-66.
- 835,658. UNITED STATES TRUST. United States Trust Company of New York. SN 239,557. Pub. 7-4-67. Filed 2-24-66.
- 835,659. FIRST NATIONAL CITY BANK NEW YORK AND DESIGN. The First National City Bank of New York. SN 239,759. Pub. 7-4-67. Filed 2-28-66.
- 835,660. 1848 AND DESIGN. The Ohio Farmers Insurance Company. SN 241,925. Pub. 7-4-67. Filed 3-25-66.
- 835,661. MORTGAGAIRE. Anity Federal Savings and Loan Association. SN 241,960. Pub. 7-4-67. Filed 3-28-66.
- 835,662. WELL-CARE. Missouri National Life Insurance Company. SN 246,341. Pub. 7-4-67. Filed 5-23-66.
- 835,663. BEEHIVE (DESIGN). The New York Bank for Savings. SN 249,661. Pub. 7-4-67. Filed 7-6-66.

Class 103 — Construction and Repair

- 835,410. (See Class 21 for this trademark.)
- 835,664. INGRAM (IN CIRCLE DESIGN). Ingram Corporation. SN 245,710. Pub. 7-4-67. Filed 5-16-66.
- 835,665. HOLIDAY ETC. AND DESIGN. Holiday One Hour Cleaners and Holiday Management Company. SN 246,172. Pub. 7-4-67. Filed 5-20-66.

Class 104 — Communication

- 835,666. WU. The Western Union Telegraph Company. SN 238,685. Pub. 7-4-67. Filed 2-11-66.
- 835,667. WU WESTERN UNION. The Western Union Telegraph Company. SN 239,186. Pub. 7-4-67. Filed 2-18-66.

Class 105 — Transportation and Storage

- 835,668. INGRAM (IN CIRCLE DESIGN). Ingram Corporation. SN 245,709. Pub. 7-4-67. Filed 5-16-66.
- 835,669. SC AND DESIGN. Sea Containers, Inc. SN 249,200. Pub. 7-4-67. Filed 6-29-66.

Class 106 — Material Treatment

- 835,670. KING SIZE AND DESIGN. Naturalike Photo Finishing, Inc., d.b.a. King Size Photo Service. SN 239,167. Pub. 7-4-67. Filed 2-18-66.
- 835,671. LUBRIN. Quantum, Incorporated. SN 240,251. Pub. 7-4-67. Filed 6-29-66.

Class 107 — Education and Entertainment

- 835,515. (See Class 38 for this trademark.)
- 835,672. POT OF GOLD TOURNAMENT. The Greater Cincinnati Bowling Proprietors Association. SN 234,345. Pub. 7-4-67. Filed 12-10-65.
- 835,673. ESTIMATICS. Vale Technical Institute. SN 234,977. Pub. 7-4-67. Filed 12-20-65.
- 835,674. MUSICAL SOUNDS. Screen Gems, Inc. SN 235,343. Pub. 7-4-67. Filed 12-27-65.
- 835,675. TENNESSEE WALKING HORSE ETC. AND DESIGN. Tennessee Walking Horse National Celebration Association. SN 236,023. Pub. 7-4-67. Filed 1-7-66.
- 835,676. THE MYDDLE CLASS. Alfred G. Aronowitz. SN 237,798. Pub. 7-4-67. Filed 2-2-66.
- 835,677. CTC. The Institute of Certified Travel Agents. SN 244,327. Pub. 7-4-67. Filed 4-26-66.

- 835,678. THE WEEDS. Edith Sweeney, guardian of Ron Sweeney. SN 247,418. Pub. 7-4-67. Filed 6-6-66.
- 835,679. THE NEW YORK FOOTBALL GIANTS. The New York Football Giants Inc. SN 250,222. Pub. 7-4-67. Filed 7-14-66.
- 835,680. THE SHAOS. Thomas R. Violante. SN 250,552. Pub. 7-4-67. Filed 7-19-66.

Collective Membership Mark**Class 200**

- 835,681. RICE COUNCIL FOR MARKET DEVELOPMENT AND DESIGN. Rice Council for Market Development. SN 250,516. Pub. 7-4-67. Filed 7-18-66.

Certification Mark**Class A — Goods**

- 835,682. IBMA ETC. AND DESIGN. Independent Battery Manufacturers Association, Inc. SN 264,363. Pub. 7-4-67. Filed 2-10-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

- 835,683. Allied Kid Company, Boston, Mass. SN 242,097. Filed P.R. 3-29-66; Am. S.R. 7-31-67.

BOOT-TAN

For Leather.
First use Feb. 23, 1966.

- 835,684. International Minerals & Chemical Corporation, Skokie, Ill. SN 254,423. Filed P.R. 9-14-66; Am. S.R. 6-29-67.



For Foundry Sand Additives, Specifically a Mixture of Two or More Typical Sand Additives Such as Calcium Bentonite, Sodium Bentonite, Fire Clay, Corncob Flour, Sea Coal, Pitch, Wood Flour, Cereal Flour and So Forth.
First use June 21, 1966.

Class 2 — Receptacles

- 835,685. Ajax Hardware Corporation, City of Industry, Calif. SN 243,066. Filed P.R. 4-11-66; Am. S.R. 5-11-67.

SUPERBIN

For Bins for Cabinet Finishing and Builders' Hardware.
First use Mar. 24, 1966.

Class 6 — Chemicals and Chemical Compositions

- 835,686. Shell Oil Company, New York, N.Y. SN 252,287. Filed P.R. 8-12-66; Am. S.R. 7-14-67.

NO-PEST

For Insecticide.
First use May 5, 1966.

- 835,687. Sternco Industries, Inc., Harrison, N.J. SN 260,782. Filed P.R. 12-14-66; Am. S.R. 7-27-67.

CLEAR-AID

For Chemical Preparation Used as a Temporary Aid in Clearing Cloudy Aquarium Water.
First use Sept. 7, 1959.

Class 12 — Construction Materials

- 835,688. Gordon P. Mayo, Scottsdale, Ariz. SN 263,593. Filed P.R. 1-30-67; Am. S.R. 7-31-67.

*Desert
Marble*

For Seamless Floor Made of Marbleized Liquid Plastic Resin and Marble Dust Which Hardens With a Catalyst After the Floor Is Poured.
First use Apr. 11, 1964.

Class 16 — Protective and Decorative Coatings Class 25 — Locks and Safes

- 835,689. Arlan's Dept. Stores, Inc., New York, N.Y. SN 231,004. Filed P.R. 10-22-65; Am. S.R. 2-1-67.
- 835,693. Harry J. Stola, d.b.a. Boston Lock and Safe Co., and Boston Lock Co., Boston, Mass. SN 240,455. Filed P.R. 7-1-66; Am. S.R. 7-27-67.

Arlan's

BOSTON

For Locks.
First use Feb. 23, 1962.

For Semi-Gloss Enamel, Vinyl Latex House Paint, Alkyd Super Enamel, Accent Color Paints, Heat Resistant Paint, Fluorescent Paint, Spray Enamel, Rust Preventive in the Nature of Paint for Spraying Metal Furniture, Home and Hobby Paint, Stain Paint, Dripless Latex Flat Paint, House Paint, Latex Ceiling Paint, Gloss Enamel, Self Priming Flat Paint, Exterior Primer Paint, Enamel Undercoater, Spar Varnish, Vinyl Latex Primer Sealer, Alkyd High Gloss Enamel, China-wood Enamel, Aluminum Paint, and Lead Zinc Titanium House Paint.

First use February 1963 on semi-gloss enamel.

Class 18 — Medicines and Pharmaceutical Preparations

- 835,690. Eugene Kazmark, d.b.a. Remin Laboratories, Joliet, Ill. SN 237,000. Filed P.R. 1-21-66; Am. S.R. 6-30-67.

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For Medicated Cerate.
First use on or before Apr. 5, 1965.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 835,691. Multi-Amp Corporation, Cranford, N.J. SN 251,315. Filed P.R. 7-29-66; Am. S.R. 7-24-67.

AMP-FLOW

For High Current, Low Impedance Test Leads.
First use May 16, 1966.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 835,692. Illinois Tool Works Inc., Chicago, Ill. SN 238,227. Filed P.R. 2-7-66; Am. S.R. 7-26-67.

CERTIFIED

For Cutting Tools—Namely, Drills, Reamers, Burrs, Countersinks, Routers, Center Drills, End Mills, Contour Cutters, Spotters, Core Drills, Pilots, Drill Holders, Milling Cutters and Taps.
First use Feb. 1, 1966.

Class 32 — Furniture and Upholstery

- 835,694. National Furniture Manufacturing Co., Inc., Evansville, Ind. SN 235,576. Filed P.R. 12-30-65; Am. S.R. 7-28-67.

THE CHAIR THAT DOES EVERYTHING!

For Rocker-Recliner Chair.
First use during October 1964.

- 835,695. Massachusetts Mattress Company, Boston, Mass. SN 260,338. Filed 12-8-66.

IT'S WHAT'S UNDER THE TICKING THAT MAKES A MATTRESS TICK

For Bedding, Consisting of Mattresses, Box Springs, Studio Couches and Sofa Beds.
First use Jan. 17, 1957.

- 835,696. Krueger Metal Products Company, Inc., Green Bay, Wis. SN 260,438. Filed 12-9-66.

STACKABLES

For Chairs—Namely, Folding Chairs.
First use July 31, 1964.

Class 38 — Prints and Publications

- 835,697. Famous Musicians, Inc., Westport, Conn., assignee of Jay Frederick, Westport, Conn. SN 237,830. Filed P.R. 2-2-66; Am. S.R. 7-12-67.

FAMOUS MUSICIANS

For Instructional Material for the Teaching of Music.
First use June 26, 1965.

- 835,698. The International College of Surgeons, a World Federation of General Surgeons and Surgical Specialists, Inc., Chicago, Ill. SN 240,617. Filed P.R. 3-10-66; Am. S.R. 7-28-67.

INTERNATIONAL SURGERY

For Monthly Scientific Journal and a Monthly Bulletin of Surgical Meetings and Activities.
First use Jan. 3, 1966.

835,699. Creative House Promotions, Inc., Chicago, Ill. SN 240,861. Filed P.R. 3-14-66; Am. S.R. 7-21-67.

MINI-BOOKS

For Printed Postage Stamp Size Books.
First use June 24, 1965.

835,700. United Technical Publications, Inc., Garden City, N.Y. SN 248,558. Filed P.R. 6-20-66; Am. S.R. 7-17-67.

OFFICE PRODUCTS NEWS

For Products Magazine.
First use May 27, 1966.

835,701. The American Journal of Nursing Company, New York, N.Y. SN 252,798. Filed P.R. 8-22-66; Am. S.R. 7-31-67.

INTERNATIONAL NURSING INDEX

For Periodically Published Index of Articles Published in Nursing and Other Health Journals of Interest to Nurse Researchers, Editors, Librarians, Students, and the Like.
First use Apr. 20, 1966.

835,702. Journal of New Drugs, Inc., New York, N.Y. SN 253,443. Filed P.R. 8-30-66; Am. S.R. 8-1-67.

THE JOURNAL OF CLINICAL PHARMACOLOGY

For Magazine.
First use on or about July 1, 1966.

835,703. W. R. C. Smith Publishing Company, Atlanta, Ga. SN 256,600. Filed P.R. 10-17-66; Am. S.R. 7-27-67.

AMERICAN BUILDING SUPPLIES

For Commercial Business Magazine.
First use July 1, 1966.

835,704. The Maxwell Maltz Institute of Creative Psycho-Cybernetics, Inc., New York, N.Y. SN 257,005. Filed P.R. 10-24-66; Am. S.R. 7-26-67.

CREATIVE RETIREMENT

For Monthly Bulletin.
First use Mar. 10, 1966.

835,705. The Maxwell Maltz Institute of Creative Psycho-Cybernetics, Inc., New York, N.Y. SN 257,006. Filed P.R. 10-24-66; Am. S.R. 7-26-67.

CREATIVE PSYCHO-CYBERNETICS

For Monthly Bulletin.
First use Jan. 20, 1966.

835,706. Gibson Greeting Cards, Inc., Cincinnati, Ohio. SN 257,019. Filed P.R. 10-24-66; Am. S.R. 7-20-67.

PORTRAITS FROM NATURE

For Greeting Cards.
First use July 5, 1966.

Class 39 - Clothing

835,707. Worley Sewell Company, Bremen, Ga. SN 236,311. Filed P.R. 1-12-66; Am. S.R. 7-27-67.

BLACK ON WHITE

For Men's Formal Wear—Namely, Tuxedos, Dinner Jackets, Full Dress Suits and Trousers.
First use Dec. 7, 1965.

835,708. \$7-\$11 Fashions, Inc., Las Vegas, Nev. SN 237,161. Filed P.R. 1-24-66; Am. S.R. 6-29-67.



For Women's Dresses, Capri Sets, Shorts Sets, Blouses, Capris, Shorts, Swimsuits, Sweaters, Lingerie, Nightgowns, Robes, Shoes, and Hosiery.
First use Nov. 1, 1963.

Class 46 - Foods and Ingredients of Foods

835,709. The Quaker Oats Company, Chicago, Ill. SN 233,391. Filed P.R. 11-26-65; Am. S.R. 7-17-67.

PUSS'N BOOTS READY DISH

For Cat Food.
First use Oct. 19, 1965.

835,710. Mil-Star, Inc., Pittsburgh, Pa. SN 240,939. Filed P.R. 3-14-66; Am. S.R. 7-28-67.

REDI-SWEET

For Food Beverage Concentrates Containing Fruit Juice.
First use Jan. 1, 1960.

835,711. Heggblade-Margulies Co., San Francisco, Calif. SN 246,905. Filed P.R. 5-31-66; Am. S.R. 7-10-67.

HAWAIIAN TREAT

For Fresh Fruits.
First use May 23, 1966.

835,712. Washington Fish & Oyster Co. of Calif., d.b.a. Washington Fish and Oyster Co., San Francisco, Calif. SN 250,881. Filed P.R. 7-22-66; Am. S.R. 7-10-67.



For Canned Cat Food.
First use June 29, 1966.

835,713. Washington Fish & Oyster Co. of Calif., d.b.a. Washington Fish and Oyster Co., San Francisco, Calif. SN 250,882. Filed P.R. 7-22-66; Am. S.R. 7-10-67.



For Canned Cat Food.
First use June 29, 1966.

835,714. Robert T. Englund, d.b.a. R. T. Englund Company, Salinas, Calif. SN 258,019. Filed P.R. 11-7-66; Am. S.R. 6-21-67.



For Lettuce.
First use June 30, 1956.

835,715. Harry Buller, d.b.a. Harry Buller Farms, Bakersfield, Calif. SN 259,051. Filed P.R. 11-21-66; Am. S.R. 7-3-67.



For Fresh Vegetables.
First use June 27, 1966.

835,716. Vasek and Kovar Potato Company, East Grand Forks, Minn., by change of name from Vasek-Kovar Potato Co., East Grand Forks, Minn. SN 268,924. Filed P.R. 4-12-67; Am. S.R. 7-10-67.

TREAT

For Potatoes in Their Natural State.
First use about Jan. 1, 1960.

Class 49 - Distilled Alcoholic Liquors

835,717. Mohawk Liqueur Corporation, Detroit, Mich. SN 249,345. Filed P.R. 6-30-66; Am. S.R. 7-31-67.

TIDDY'S

"Tiddy's" is not known to identify any particular living individual.
For Canadian Liqueur.
First use June 18, 1966.

Class 51 - Cosmetics and Toilet Preparations

835,718. Yardley of London, Inc., Totowa, N.J. SN 243,058. Filed P.R. 4-8-66; Am. S.R. 7-13-67.

UPTOWN

For Lipstick.
First use Mar. 4, 1966.

835,719. Yardley of London, Inc., Totowa, N.J. SN 243,060. Filed P.R. 4-8-66; Am. S.R. 7-13-67.

DOWNTOWN

For Lipstick.
First use Mar. 4, 1966.

835,720. Avon Products, Inc., New York, N.Y. SN 243,947. Filed P.R. 4-21-66; Am. S.R. 7-19-67.

BLONDE GOLD

For Lipsticks and Rouges.
First use Feb. 26, 1945.

835,721. Revlon, Inc., New York, N.Y. SN 253,988. Filed P.R. 9-7-66; Am. S.R. 6-26-67.

SMOKY SILVER

For Shampoo-In Toner for the Hair.
First use June 8, 1966.

835,722. Alberto-Culver Company, Melrose Park, Ill. SN 255,045. Filed P.R. 9-26-66; Am. S.R. 7-20-67.

SPRAY PRESS

For Hair Care Product.
First use Mar. 18, 1965.

835,723. Alexandra de Markoff Sales Corporation, New York, N.Y. SN 258,258. Filed P.R. 10-12-66; Am. S.R. 7-12-67.

PORCELAIN

For Liquid Make-Up.
First use at least as early as September 1959.

Class 52 — Detergents and Soaps

835,724. Kall Manufacturing Co., d.b.a. Kall, Philadelphia, Pa. SN 249,651. Filed P.R. 7-6-66; Am. S.R. 7-10-67.

NYLON WHYTE

For Liquid Detergent for Fabrics of Synthetic Fibers.
First use Apr. 12, 1966.

835,725. Glenn V. Livengood, Burlington, Iowa. SN 250,982. Filed P.R. 7-25-66; Am. S.R. 7-7-67.

QWIK-N-EASY

For Industrial and General Purpose Household Cleaner.
First use at least as early as Aug. 7, 1952.

TRADEMARK REGISTRATIONS RENEWED

- | | |
|---|---|
| 30,487. DANMARK AND DESIGN. Cl. 30. 8-10-1897. | 430,894. RADI-SOLV. Cl. 6. 7-1-47. |
| 63,312. ANGOSTURA. Cl. 18. 6-11-07. | 431,390. DCA AND DESIGN. Cl. 28. 7-22-47. |
| 63,970. INVAR. Cl. 14. 7-16-07. | 431,472. TRANQUILLITY. Cl. 28. 7-22-47. |
| 64,526. LYMAN. Cl. 9. 8-13-07. | 431,473. PROCESSIONAL. Cl. 28. 7-22-47. |
| 64,732. GRAND UNION. Cl. 46. 8-20-07. | 431,474. SOUTHERN COLONIAL. Cl. 28. 7-22-47. |
| 66,522. MYSTIC. Cl. 51. 12-10-07. | 431,635. J.P.S. AND DESIGN. Cl. 52. 7-29-47. |
| 66,879. NUNQUAM RETROSUM AND REPRESENTATION OF EAGLE PERCHED ON PAIR OF SCISSORS. Cl. 39. 12-31-07. | 431,636. STATCOL. Cl. 52. 7-29-47. |
| 67,038. "KEYSTONE" ETC. AND DESIGN. Cl. 46. 1-14-08. | 431,710. TERNALLOY. Cl. 14. 8-5-47. |
| 67,039. "ATMORE'S" ETC. AND DESIGN. Cl. 46. 1-14-08. | 431,841. REPRESENTATION OF A MAN'S HEAD. Cl. 38. 8-12-47. |
| 135,864. HARLEY-DAVIDSON. Cl. 19. 10-19-20. | 431,862. FEU FROID. Cl. 51. 8-12-47. |
| 227,517. SUNFOIL AND DESIGN. Cl. 39. 5-10-27. | 431,867. INTERCEL. Cl. 1. 8-12-47. |
| 227,544. ROYAL SCARLET DAINTY AND DESIGN. Cl. 46. 5-10-27. | 431,888. DON QUIJOTE. Cl. 51. 8-12-47. |
| 229,764. CAPTAIN KIDD. Cl. 46. 7-5-27. | 431,962. SALAD-ISLE. Cl. 46. 8-12-47. |
| 230,270. KIT-ERATION. Cl. 46. 7-19-27. | 431,972. SUNSET TRAILS. Cl. 28. 8-12-47. |
| 230,485. LYT-ALL. Cl. 16. 7-26-27. | 432,230. LARKS. Cl. 46. 8-26-47. |
| 230,523. FANNIE MAY HOME MADE CANDIES. Cl. 46. 7-26-27. | 432,238. AMERICAN COCK TAIL. Cl. 17. 8-26-47. |
| 230,758. MY-T-FINE. Cl. 46. 8-2-27. | 432,239. BARNEYS. Cl. 17. 8-26-47. |
| 230,874. HENRITE. Cl. 21. 8-9-27. | 432,287. UTI. Cl. 27. 8-26-47. |
| 230,897. WHITE PEARL AND DESIGN. Cl. 46. 8-9-27. | 432,889. TONTINE. Cl. 32. 9-16-47. |
| 230,985. THE GOODNESS OF WHITE PEARL IS SEALED IN AND DESIGN. Cl. 46. 8-9-27. | 433,010. POPSIT PLUS! Cl. 46. 9-23-47. |
| 230,986. WHITE PEARL. Cl. 46. 8-9-27. | 433,322. R-V-TEX. Cl. 50. 10-7-47. |
| 232,230. MAGNETIC. Cl. 4. 9-6-27. | 433,338. EKTACHROME. Cl. 26. 10-7-47. |
| 232,576. PARAMOUNT. Cl. 34. 9-13-27. | 433,899. SPRINGMAID. Cl. 42. 11-4-47. |
| 233,552. ALABAX. Cl. 21. 10-4-27. | 433,967. SHIP-SHAPE. Cl. 52. 11-4-47. |
| 233,723. ORANGE KING. Cl. 46. 10-11-27. | 434,284. FLEXTITE. Cl. 35. 11-18-47. |
| 234,626. VELVET-KOTE. Cl. 16. 11-1-27. | 434,327. GAY DOG. Cl. 6. 11-18-47. |
| 234,938. THE PACIFIC PUMPER. Cl. 23. 11-8-27. | 434,356. PROPION. Cl. 18. 11-18-47. |
| 235,294. SHELLTONE. Cl. 16. 11-15-27. | 434,497. EURAX. Cl. 18. 11-18-47. |
| 235,493. THE JOURNAL OF ACCOUNTANCY. Cl. 38. 11-22-27. | 434,503. STEER BUSTER. Cl. 39. 11-18-47. |
| 237,883. REPRESENTATION OF CLOVER LEAF (LINED FOR GREEN). Cl. 17. 1-17-28. | 434,649. MEG-O-MAX. Cl. 21. 12-2-47. |
| | 434,718. ATOM. Cl. 21. 12-2-47. |
| | 434,864. HRDFLAKES. Cl. 46. 12-9-47. |
| | 435,149. THORAL. Cl. 18. 12-9-47. |
| | 435,244. SANDUSTER. Cl. 39. 12-16-47. |
| | 435,270. WHITE DIAMOND. Cl. 4. 12-16-47. |
| | 435,494. PRECISION-MASTER. Cl. 14. 12-30-47. |
| | 435,503. "APEX." Cl. 23. 12-30-47. |
| | 435,548. POLE-TOP. Cl. 44. 12-30-47. |
| | 435,657. CHAMPION. Cl. 44. 1-6-48. |

Service Marks

Class 100 — Miscellaneous

835,726. Geoservices, Paris, France. SN 240,603. Filed P.R. 3-10-66; Am. S.R. 4-19-67.



Priority claimed under Sec. 44(d) on French Reg. No 701,320, dated Sept. 16, 1965.
For Laboratory Work, Research in Prospecting, the Exploiting and Analysis of All Substances of the Soil and Sub-Soil, Notably Rocks, Minerals, Subterranean Streams, Gas and Natural Oils.

Class 102 — Insurance and Financial

835,727. Continental Casualty Company, Chicago, Ill. SN 251,110. Filed P.R. 7-27-66; Am. S.R. 6-26-67.

EXTENDED CARE

For Underwriting Out-Of-Hospital Insurance.
First use Apr. 4, 1966.

TRADEMARK REGISTRATIONS CANCELED

Section 8

- 138,994. COLLOIDUM. Cl. 18. 1-18-21.
386,668. CHAMAL. Cl. 39. 4-22-41.
387,661. PRAM-AGE. Cl. 32. 5-27-41.
387,708. BEVERLY EVENING TIMES. Cl. 38. 5-27-41.
387,927. COLONEL. Cl. 23. 6-10-41.
391,042. SEW AND SAVE. Cl. 38. 10-21-41.
427,157. CHARBON. Cl. 39. 1-28-47.

The following registrations issued Aug. 1, 1961

- 719,087. SPORTSMASTER. Cl. 2.
719,097. GRASSLAND. Cl. 7.
719,104. VARO. Cl. 12.
719,106. SKYCO. Cl. 12.
719,108. DEC-ORE. Cl. 12.
719,110. TECTO-ROCK. Cl. 12.
719,119. SPEED-INSUL. Cl. 12.
719,130. WW. Cl. 13.
719,135. CI CORSON INDUSTRIES. Cl. 14.
719,137. MILSTRAND. Cl. 14.
719,140. SWISS. Cl. 14.
719,145. PENNZITE. Cl. 15.
719,147. PENNZLUBE. Cl. 15.
719,155. FURN-A-FINISH. Cl. 16.
719,160. CRYLOSEAL. Cl. 16.
719,161. THERMOCRYL. Cl. 16.
719,162. ESTACRYL. Cl. 16.
719,166. TOASTMASTER GENERALS. Cl. 17.
719,168. HERALD. Cl. 17.
719,172. MH. Cl. 18.
719,178. DURADEXON. Cl. 18.
719,183. KETOPHEN. Cl. 18.
719,185. KIT KART. Cl. 19.
719,186. SUPERGLAS. Cl. 19.
719,192. LAPLINE. Cl. 19.
719,195. JAY CANDESCENT. Cl. 21.
719,196. LITE SCOPE. Cl. 21.
719,198. TEC. Cl. 21.
719,199. GOLDCROWN. Cl. 21.
719,200. GOLDSLOT. Cl. 21.
719,202. PRINT-SHIELD. Cl. 21.
719,207. CAPTIVOLT. Cl. 21.
719,208. FOX-ARC. Cl. 21.
719,209. KSS. Cl. 21.
719,211. PORTALARM. Cl. 21.
719,212. TRANS-A-CALL. Cl. 21.
719,216. CAC. Cl. 21.
719,217. C-A-C AND DESIGN. Cl. 21.
719,219. UNITED. Cl. 21.
719,223. ITC MODEL CRAFT AND DESIGN. Cl. 22.
719,224. YARDLOADER. Cl. 23.
719,228. BEK ON. Cl. 23.
719,232. HIAB. Cl. 23.
719,233. SPEEDMASTER. Cl. 23.
719,255. PACITHERM. Cl. 26.
719,256. HOFFMAN. Cl. 26.
719,257. TELEREAD. Cl. 26.
719,258. CAL COMP. Cl. 26.
719,263. QUICK SILVER. Cl. 26.
719,264. P.M.C. AND DESIGN. Cl. 26.
719,265. MATHFASTER. Cl. 26.
719,266. PHOTOJET. Cl. 26.
719,269. COSMOBILE. Cl. 26.
719,270. BI AND DESIGN. Cl. 26.
719,271. DRAIN-BRAIN. Cl. 26.
719,283. TOROPHRAM. Cl. 26.
719,283. MIDWAY. Cl. 26.
719,289. TINT-A-MITE. Cl. 26.
719,296. DE ROCHEMONT. Cl. 28.
719,297. D.S. & CO. AND DESIGN. Cl. 28.
719,304. HOME AND HOSTESS. Cl. 30.
719,305. FAT-O-MAT. Cl. 31.
719,306. SUPERDEEP. Cl. 32.
719,313. HUNTERS-FRIEND. Cl. 34.
719,314. REPRESENTATION OF A CHESS KNIGHT. Cl. 34.
719,315. SILVER STEED. Cl. 34.
719,322. PLASTIFOAM. Cl. 35.
719,327. REPRESENTATION OF A NORSEMAN STATUE. Cl. 36.
719,329. CHALLENGER. Cl. 36.
719,330. ZORKO AND DESIGN. Cl. 36.
719,334. STRATFORD HALL. Cl. 38.
719,338. TROJAN. Cl. 39.
719,340. MARBERNI. Cl. 39.
719,343. MEKAY. Cl. 39.
719,344. ACRALLAMA. Cl. 39.
719,348. CAMBOREE. Cl. 39.
719,349. CONNIE CLAIRE. Cl. 39.
719,356. CINO RUBBER. Cl. 39.
719,360. ADD ONS. Cl. 39.
719,362. "SUNDAY NITE KNITS." Cl. 39.
719,367. THRIFTY ANN. Cl. 39.
719,369. AZALEA. Cl. 39.
719,370. B-SPRY! Cl. 39.
719,373. BABY-SAFE. Cl. 40.
719,374. NATURACURL AND DESIGN. Cl. 40.
719,375. CANDY. Cl. 40.
719,378. WEARTEX. Cl. 42.
719,380. SWEDISH STAR AND DESIGN. Cl. 42.
719,385. CALIFORNIA CRUSHLESS. Cl. 42.
719,389. ETHI-ROLL. Cl. 44.
719,390. CELLU-DENT. Cl. 44.
719,392. MADISC AND DESIGN. Cl. 44.
719,394. SPEE-DEE. Cl. 44.
719,396. SWISS & G MAID DESIGN. Cl. 46.
719,398. WHEN I SAY COFFEE I MEAN FOLGER'S. Cl. 46.
719,399. S.W.C. AND DESIGN. Cl. 49.
719,402. NU-TREND. Cl. 50.
719,410. DERMA DEAN. Cl. 51.
719,411. NATURELLA. Cl. 51.
719,413. HATHAWAY. Cl. 100.
719,416. HOOTY. Cl. 101.
719,417. HOOTY AND DESIGN. Cl. 101.
719,420. QUEST ETERNAL. Cl. 107.
719,421. FASHION FIRSTS. Cl. 107.
719,434. POSH ART. Cl. 38.
719,435. DONLEN'S. Cl. 46.
719,438. LUCKY NUMBERS ETC. AND DESIGN. Cl. 46.
719,443. TREND AND DESIGN. Cl. 52.
719,444. TREND LIQUID DETERGENT AND DESIGN. Cl. 52.
719,445. NO MATTER WHETHER YOU RENT OR BUY YOU PAY FOR THE HOME YOU OCCUPY. Cl. 102.
719,446. EVENTUALLY CITIZENS . . . WHY NOT NOW. Cl. 102.

Section 18

- 653,233. COUNTRY STYLE AND DESIGN. Cl. 46. 10-15-57.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

59,202. POMPEIAN. Cl. 52. 1-1-07. The Pompeian Mfg. Co. Pompeian Olive Oil Corporation, Baltimore, Md. Amended to appear:
227,434. TN1 ANGELO AND DESIGN. Cl. 1. 5-3-27. Angelo Bros. Limited, Calcutta, India. Amended to appear:

Pompeian



ANGELO

63,687. ANCHOR AND DESIGN. Cl. 37. 7-2-07. The Union Bag & Paper Company. Union Camp Corporation, New York, N.Y. Amended to appear:

ANCHOR

65,996. WALES GOODYEAR AND DESIGN. Cl. 39. 11-5-07. The Goodyear's Rubber Shoe Co. Uniroyal, Inc., New York, N.Y. Amended to appear:

WALES GOODYEAR

217,142. DUROBORD. Cl. 12. 8-24-26. California Cedar Products Company. Johns-Manville Corporation, New York, N.Y. Amended: In the statement, column 1, lines 8 and 9, the description of goods is deleted and wall board is inserted, and the drawing is amended to appear:

DUROBORD

227,289. KALA ANGELO AND DESIGN. Cl. 1. 5-3-27. Angelo Bros. Limited, Calcutta, India. Amended to appear:



ANGELO

227,291. ABTN ANGELO AND DESIGN. Cl. 1. 5-3-27. Angelo Bros. Limited, Calcutta, India. Amended to appear:



ANGELO

227,435. CVTN ANGELO AND DESIGN. Cl. 1. 5-3-27. Angelo Bros. Limited, Calcutta, India. Amended to appear:

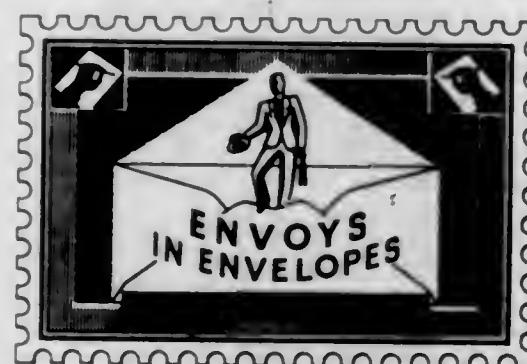


ANGELO

331,232. COMFORT. Cl. 37. 12-31-35. Comfort Paper Corporation. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

COMFORT

426,369. ENVOYS IN ENVELOPES. Cl. 38. 12-24-46. Bourke, Holland & Miller, Inc. Envoys, Incorporated, Richmond Hill, N.Y. Amended: In the statement, column 1, lines 16 and 17, "and 'Bourke, Holland & Miller, Inc., N.Y.'" is deleted, and the drawing is amended to appear:



434,622. KOYLON. Cl. 40. 11-25-47. United States Rubber Company. Uniroyal, Inc., New York, N.Y. Amended: In the statement, column 1, line 9, "forms of" is deleted and form is inserted, and in line 10, after "rubber" *statstock* is inserted.

341,469. BANQUET. Cl. 46. 4-24-51. McCormick & Company, Incorporated, Baltimore, Md. Amended: In the statement, column 1, lines 11 and 12, "rice soup mix, chicken flavored;" is deleted and in line 14 "noodle soup mix," is deleted.

349,551. BANQUET. Cl. 46. 10-16-51. McCormick & Company, Incorporated, Baltimore, Md. Amended: In the statement, column 1, line 9, "dry soup mixes," is deleted.

672,808. SUPER GREYHOUND. Cl. 29. 1-20-59. Art & Sign Brush Manufacturing Corporation, Long Island City, N.Y. Corrected: In the statement, column 1, line 1, "Mfg. Corp." should be deleted and *Manufacturing Corporation* should be inserted.

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674,979. GREYHOUND. Cl. 29. 3-3-59. Art & Sign Brush Manufacturing Corporation, Long Island City, N.Y. Corrected: In the statement, column 1, line 1, "Mfg. Corp." should be deleted and *Manufacturing Corporation* should be inserted.

707,938. SHOE TAINER. Cl. 2. 12-6-60. Bogene, Inc., New York, N.Y. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Bogene Incorporated (Pennsylvania Corporation), 1201 W. Lehman St., Lebanon, Pa.* should be inserted.

721,724. CERTIFIED CP PRODUCTS ETC. AND DESIGN. Cl. A. 9-19-61. The Crayon, Water Color and Craft Institute, Inc., New York, N.Y. Amended: In the statement, column 2, "146" is deleted and *46, or latest revision thereof,* is inserted.

753,425. MORNING STAR ETC. AND DESIGN. Cl. 46. 7-23-63. Morningstar-Paisley, Inc., New York, N.Y. Amended: In the statement, column 2, line 1, "and gums" is deleted.

759,255. SUNSET. Cl. 39. 10-29-63. Marcus Loeb & Company, Inc. Oxford Industries, Inc., Atlanta, Ga. Corrected: In the statement, column 1, line 1, "Georgia" should be deleted and *New York* should be inserted.

770,196. 5-56. Cl. 6. 5-26-64. Corrosion Reaction Consultants, Inc. C. J. Webb, Inc., Philadelphia, Pa. Amended to appear:

773,038. 2-26. Cl. 6. 7-14-64. Corrosion Reaction Consultants, Inc. C. J. Webb, Inc., Philadelphia, Pa. Amended to appear:

2-26

773,039. 3-36. Cl. 6. 7-14-64. Corrosion Reaction Consultants, Inc. C. J. Webb, Inc., Philadelphia, Pa. Amended to appear:

3-36

778,950. H-W OXIBOND. Cl. 12. 10-27-64. Harblison-Walker Refractories Company, Pittsburgh, Pa. Amended to appear:

OXIBOND

825,624. D.H.L. Cl. 18. 3-14-67. Haver-Lockhart Laboratories, Incorporated, Shawnee, Kans. Corrected: In the statement, column 2, line 2, "vaccine" should be deleted and *serum* should be inserted.

832,217. MAGNETIPS. Cl. 38. 7-18-67. Thomas & Skinner, Inc., Indianapolis, Ind. Corrected: In the statement, column 1, line 1, "E." should be deleted and *d* should be inserted.

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SEPTEMBER 19, 1967

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- A.P.W. Products Co., Inc.: See—
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Add-A-Line: See—
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Adler, J., Bros. & Co., Rochester, N.Y., to Eagle Clothes, Inc.,
New York, N.Y. 66,879, ren. 9-19-67. Cl. 39.
Advanced Ideas Co.: See—
Onanian, Richard A.
Agrico Chemical Co.: See—
Continental Oil Co.
Air Reduction Co., Inc., New York, N.Y. 719,190-200, canc.
Cl. 21.
Ajax Hardware Corp., City of Industry, Calif. 835,685, Cl. 2.
Aktiebolaget Jonkoping-Vulcan, Jonkoping, Sweden. 719,380,
canc. Cl. 42.
Alberto-Culver Co., Melrose Park, Ill. 835,341, pub. 2-28-67.
Cl. 6.
Alberto-Culver Co., Melrose Park, Ill. 835,722, Cl. 51.
Aldan Chemical Enterprises, Inc., Clifton Heights, Pa., to
American Home Products Corp., New York, N.Y. 434,327,
ren. 9-19-67. Cl. 6.
Allegheny Electronic Chemicals Co., Bradford, Pa. 835,412,
pub. 7-4-67. Cl. 21.
Allen-Bradley Co., Milwaukee, Wis. 835,474, pub. 7-4-67. Cl.
26.
Allied Chemical Corp., New York, N.Y. 835,541, pub. 7-4-67.
Cl. 43.
Allied Kid Co., Boston, Mass. 835,683, Cl. 1.
Allied Stores Corp., New York, N.Y. 387,661, canc. Cl. 32.
Alloys Unlimited, Inc., Melville, N.Y. 835,366, pub. 7-4-67. Cl.
14.
Alpine House, Inc., Ozone Park, N.Y. 835,517, pub. 7-4-67.
Cl. 39.
Aluminum Shapes, Inc., Delair, N.J. 719,135, canc. Cl. 14.
American Assn. of State Highway Officials, Washington, D.C.
835,635, pub. 7-4-67. Cl. 100.
American Baseball Cap, Inc., Media, Pa. 835,520, pub. 7-4-67.
Cl. 39.
American Cyanamid Co., Wayne, N.J. 835,384, pub. 7-4-67.
Cl. 18.
American Cyanamid Co., Wayne, N.J. 835,388, pub. 7-4-67.
Cl. 18.
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Ogden & Shimer.
Wyeth, Inc.
American Home Products Corp., New York, N.Y. 835,568, pub.
7-4-67. Cl. 46.
American Home Products Corp., New York, N.Y. 835,606, pub.
7-4-67. Cl. 51.
American Institute of Certified Public Accountants: See—
Journal of Accountancy, Inc., The.
American Journal of Nursing Co., The, New York, N.Y. 835-
701, Cl. 38.
American Metal Climax, Inc.: See—
National Smelting Co., The.
American Saw & Mfg. Co., East Longmeadow, Mass. 435,494,
ren. 9-19-67. Cl. 14.
American Saw & Mfg. Co., East Longmeadow, Mass. 435,503,
ren. 9-19-67. Cl. 23.
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67. Cl. 43.
Amity Federal Savings & Loan Assn., Chicago, Ill. 835,661,
pub. 7-4-67. Cl. 102.
Anderson, Clayton & Co.: See—
Interstate Cotton Oil Refining Co.
Andre's Better Foods, Inc., d.b.a. Le Andre's, Seattle, Wash.
835,565, pub. 7-4-67. Cl. 46.
Angelo Bros., Ltd., Calcutta, India. 227,289, Am. 7(d). Cl. 1.
Angelo Bros., Ltd., Calcutta, India. 227,291, Am. 7(d). Cl. 1.
Angelo Bros., Ltd., Calcutta, India. 227,434-5, Am. 7(d).
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Siegert, J. G. B., & Hijos, Dr.
Apex Smelting Co.: See—
National Smelting Co., The.
Aqualide Corp., South El Monte, Calif. 835,532, pub. 7-4-67.
Cl. 41.
Arlan's Dept. Stores, Inc., New York, N.Y. 835,689, Cl. 16.
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cago, Ill. 835,381, pub. 7-4-67. Cl. 18.
Armstrong Paint & Varnish Works, Inc.: See—
Morgan Co., The.
Aronowitz, Alfred G., Berkeley Heights, N.J. 835,676, pub.
7-4-67. Cl. 107.
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cor. Cl. 29.
Art & Sign Brush Mfg. Corp., Long Island City, N.Y. 674,979,
cor. Cl. 29.
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67. Cl. 50.
Asch, Joseph, Co., Inc., New York, N.Y. 835,519, pub. 7-4-67.
Cl. 39.
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Chaney, Robert G., & Earlyne C. Chaney.
Atlantic Co., Atlanta, Ga. 835,438, pub. 7-4-67. Cl. 22.
Atlantic Powdered Metals, Inc., New York, N.Y. 835,364, pub.
7-4-67. Cl. 14.
Atlantic Seaboard Marine Finance Corp., d.b.a. Inland Chem-
ical Co., Avon by the Sea, N.J. 35,625, pub. 7-4-67. Cl.
52.
Atlas Fabrics Corp., New York, N.Y. 719,385, canc. Cl. 42.
Atlas Warner Corp., Clifton, N.J. 835,475, pub. 7-4-67. Cl. 26.
Atmore & Son, Philadelphia, Pa., to Atmore & Son, Inc., Jersey
City, N.J. 67,038-9, ren. 9-19-67. Cl. 46.
Atmore & Son, Inc.: See—
Atmore & Son.
Audio Services, Janesville, Wis. 719,329, canc. Cl. 36.
Austinlite, Ltd., Crawley, Sussex, England. 835,403, pub.
7-4-67. Cl. 21.
Avery, Theodore P., Oil City, Pa. 719,305, canc. Cl. 31.
Avon Products, Inc., New York, N.Y. 835,720, Cl. 51.
Azalea Originals, Inc., New York, N.Y. 719,369, canc. Cl. 39.
Babbitt, B. T., Inc.: See—
Purex Corp.
Bacon Felt Co., Taunton, Mass. 835,462-3, pub. 7-4-67. Cl. 23.
Baker-Lull Corp., The: See—
Otis Elevator Co.
Barton Mfg. Co.: See—
Magnetic Polish Co., Inc.
Beauty Counselors, Inc., Grosse Pointe, Mich. 835,613, pub.
7-4-67. Cl. 51.
Becker, A. G., & Co., Inc., Chicago, Ill. 835,657, pub. 7-4-67.
Cl. 102.
Belcher, John A., d.b.a. The Computimeter Co., Pasadena,
Calif. 835,472, pub. 7-4-67. Cl. 26.
Beldoch-Popper, Inc., New York, N.Y. 719,362, canc. Cl. 39.
Beloit Corp., Beloit, Wis. 835,445, pub. 7-4-67. Cl. 23.
Berne Resuscitation Equipment Co.: See—
Berne, W. E.
Berne, W. E., d.b.a. Berne Resuscitation Equipment Co.,
Columbia, S.C. 435,548, ren. 9-19-67. Cl. 44.
Beyer, Lewis R., d.b.a. The Lewart Co., Cleveland, Ohio.
835,496, pub. 7-4-67. Cl. 37.
Biggs Laboratories (Canada), Ltd., Toronto, Ontario, Canada.
835,626, pub. 7-4-67. Cl. 52.
Bird-In-Hand Poultry Co., Bird-In-Hand, Pa. 835,581, pub.
7-4-67. Cl. 46.
Bishop, Hazel, Inc.: See—
Bishop Industries, Inc.
Bishop Industries, Inc., from Hazel Bishop, Inc., Union, N.J.
835,482, pub. 7-4-67. Cl. 29.
Blecker Beauty Shops, Inc., Chicago, Ill. 835,605, pub. 7-4-67.
Multiple Class (Classes 51 and 52).
Bogene, Inc., New York, N.Y. 707,938, cor. Cl. 2.
Bohme Fettchemie, G.m.b.H., from Bohme Fettchemie
G.m.b.H., Dusseldorf-Holthausen, Germany. 835,331, pub.
7-19-66. Cl. 6.
Bokma N.V., Leeuwarden, Netherlands. 835,595, pub. 7-4-67.
Cl. 49.
Boston Lock Co.: See—
Stola, Harry J.
Boston Lock & Safe Co.: See—
Stola, Harry J.
Bostrom Corp., Milwaukee, Wis. 835,400, pub. 7-4-67. Cl. 19.
Bourke, Holland & Miller, Inc.: See—
Envoys, Inc.
Breck, John H., Inc., Springfield, Mass. 835,620, pub. 7-4-67.
Cl. 52.
Brenske, Dominic C., d.b.a. Donlen's Kitchens, Dallas, Tex.
719,435, canc. Cl. 46.
Bristol-Myers Co., New York, N.Y. 835,386, pub. 7-4-67.
Cl. 18.
Brunswick Corp., Chicago, Ill. 719,192, canc. Cl. 19.
Brunswick Corp., Chicago, Ill., from S. R. Poppen, Muskegon,
Mich. 835,422, pub. 7-4-67. Cl. 22.
B-Spry: See—
B-Spry Maternitywear, Inc.
B-Spry Maternitywear, Inc., Cleveland from B-Spry, Dayton,
Ohio. 719,370, canc. Cl. 39.
Buck Instrument Co., Boulder, Colo. 719,270, canc. Cl. 26.
Buffalo Meter Co., Inc., Buffalo, N.Y. 719,257, canc. Cl. 26.
Buller, Harry, d.b.a. Harry Buller Farms, Bakersfield, Calif.
835,715, Cl. 46.
Buller, Harry, Farms: See—
Buller, Harry.
Burns, Richard M., d.b.a. Siouxland Realty, Black Hawk,
S. Dak. 835,645, pub. 7-4-67. Cl. 101.
Burroughs, J. P., & Son, Inc., Saginaw, Mich. 835,488, pub.
7-4-67. Cl. 34.
Butler Mfg. Co., Kansas City, Mo. 835,351, pub. 7-4-67.
Cl. 12.
Butler's Shoe Corp., Atlanta, Ga. 835,527, pub. 7-4-67.
Cl. 39.
Cadbury Bros., Ltd., Bournville, Birmingham, England. 719-
438, canc. Cl. 46.
California Cedar Products Co.: See—
Johns-Manville Corp.
California Computer Products, Inc., Downey, Calif. 719,258,
canc. Cl. 26.
Campboree Mfg. Co., Detroit, Mich. 719,348, canc. Cl. 39.
Canadian Hoechst, Ltd., Montreal, Quebec, Canada. 835,336,
pub. 7-4-67. Cl. 6.
Cargill, Inc., Minneapolis, Minn. 835,574-5, pub. 7-4-67.
Cl. 46.

- Carlson, Donald L., Minneapolis, Minn. 835,632, pub. 7-4-67. Cl. 100.
 Carmet Co., Pittsburgh, Pa. 835,321, pub. 7-4-67. Multiple Class (Classes 4, 14, and 23).
 Carter-Wallace, Inc., New York, N.Y. 835,612, pub. 7-4-67. Cl. 51.
 Casey, Vincent R., d.b.a. Casey's Foot Appliances, Portland, Oreg. 835,544-7, pub. 7-4-67. Cl. 44.
 Casey's Foot Appliances: See—
 Casey, Vincent R.
 Cavalier Corp., Chattanooga, Tenn. 719,306, can. Cl. 32.
 Cecil, Leonard, Bethesda, Md. 835,440, pub. 7-4-67. Cl. 22.
 Celanese Corp.: See—
 Celanese Corp. of America.
 Celanese Corp. of America, to Celanese Corp., New York, N.Y. 431,867, ren. 9-19-67. Cl. 1.
 Central Gin Co.: See—
 Stenham, H., Ltd.
 Century Lighting, Inc., Clifton, N.J. 835,314, pub. 7-4-67. Cl. 1.
 Certain-Teed Products Corp.: See—
 Gustin-Bacon Mfg. Co.
 Certified Processing Corp., Hillside, N.J. 835,344, pub. 7-4-67. Cl. 6.
 Chaitlen, Morrie, d.b.a. C. & E. Marshall Co., Chicago, Ill. 835,330, pub. 4-25-67. Multiple Class (Classes 5, 15, 16, and 34).
 Champion Home Builders Co., Dryden, Mich. 835,398, pub. 7-4-67. Cl. 19.
 Chaney, Robert G., and Earlyne C. Chaney, d.b.a. Astara Foundation, Los Angeles, Calif. 719,420, can. Cl. 107.
 Chappel Bros., Inc., Rockford, Ill., to The Quaker Oats Co., Chicago, Ill. 230,270, ren. 9-19-67. Cl. 46.
 Character Foundations: See—
 Character Foundations, Inc.
 Character Foundations, Inc., from Herman Kress, d.b.a. Character Foundations, New York, N.Y. 427,157, can. Cl. 39.
 Chess, Mary, Inc., New York, N.Y. 835,607, pub. 7-4-67. Cl. 51.
 Circle F Mfg. Co., Trenton, N.J. 719,198, can. Cl. 21.
 Citizens National Bank of Evansville, The, Evansville, Ind. 719,446, can. Cl. 102.
 Clairol, Inc., New York, N.Y. 835,615, pub. 7-4-67. Cl. 51.
 Classic Games Co., Inc., Deer Park, N.Y. 835,431, pub. 7-4-67. Cl. 22.
 Coats & Clark, Inc., from National Needlecraft Bureau, New York, N.Y. 391,042, can. Cl. 38.
 Coats & Clark, Inc., New York, N.Y. 835,543, pub. 7-4-67. Cl. 43.
 Co-5 Co., Inc., Benton Harbor, Mich. 835,426, pub. 7-4-67. Cl. 22.
 Colgate-Palmolive Co., New York, N.Y. 835,618, pub. 7-4-67. Cl. 52.
 Color Corp. of America, Rockford, Ill. 719,289, can. Cl. 26.
 Columbian Enameling & Stamping Co., Inc., Terre Haute, Ind. 719,087, can. Cl. 2.
 Comfort Paper Corp.: See—
 Crown Zellerbach Corp.
 Commissary Corp., Wooster, Ohio. 835,629, pub. 1-24-67. Cl. 100.
 Communication Accessories Co., Lee's Summit, Mo. 719,216-17, can. Cl. 21.
 Computimeter Co., The: See—
 Belcher, John A.
 Consolidated Cellulose Products, Inc., from A.P.W. Products Co., Inc., New York, N.Y. 835,498, pub. 6-20-67. Cl. 37.
 Continental Casualty Co., Chicago, Ill. 835,727. Cl. 102.
 Continental Oil Co., d.b.a. Agrico Chemical Co., Memphis, Tenn. 835,349, pub. 4-11-67. Cl. 10.
 Cool-It, Inc., Chicago, Ill. 835,614, pub. 7-4-67. Cl. 51.
 Coronado Mfg. Co., Long Beach, Calif. 835,399, pub. 7-4-67. Cl. 19.
 Corrosion Reaction Consultants: See—
 Webb, C. J., Inc.
 Corrosion Reaction Consultants, Inc.: See—
 Webb, C. J., Inc.
 Cosart, W. F., Packing Co., Exeter, Calif. 835,572, pub. 7-4-67. Cl. 46.
 Courco of Monterey, Monterey, Calif. 835,316, pub. 7-4-67. Multiple Class (Classes 2 and 8).
 Craddock-Terry Shoe Corp., Lynchburg, Va. 835,523, pub. 7-4-67. Cl. 39.
 Crawford Flitting Co., City of Solon, Ohio, from P. L. Robertson Mfg. Co., Ltd., Milton, Ontario, Canada. 835,359, pub. 12-6-66. Cl. 13.
 Crayon, Water Color and Craft Institute, Inc., The, New York, N.Y. 721,724, Am. 7(d). Cl. A.
 Creamo Baking Co., Inc., Ann Arbor, Mich. 653,233, can. Cl. 46.
 Creative House Promotions, Inc., Chicago, Ill. 835,699. Cl. 35.
 Crop King Chemical: See—
 Woods Industries, Inc.
 Crop King Co.: See—
 Woods Industries, Inc.
 Crown Zellerbach Corp., from Comfort Paper Corp., San Francisco, Calif. 331,232, Am. 7(d). Cl. 37.
 Cunningham, George B., Jr., d.b.a. "Wife Saver" Food Service, Augusta, Ga. 835,638, pub. 7-4-67. Cl. 100.
 Curtis, Helene, Industries, Inc.: See—
 Lenthric, Inc.
 DCA Educational Products, Inc., Philadelphia, Pa. 835,471, pub. 7-4-67. Cl. 26.
 Daltch Crystal Dairies, Inc., Bronx, N.Y. 835,634, pub. 7-4-67. Cl. 100.
 Dan River Mills, Inc., Danville, Va. 835,533, pub. 7-4-67. Cl. 42.
 Dan River Mills, Inc., Danville, Va. 835,538-9, pub. 7-4-67. Cl. 42.
 Davis Paint Co., Kansas City, Mo. 835,370, pub. 7-4-67. Cl. 16.
 De Markoff, Alexandra, Sales Corp., New York, N.Y. 835,723. Cl. 51.
 Decorators Walk: See—
 Lasek, Robert E.
 Decorite, Inc., Atlanta, Ga. 719,108, can. Cl. 12.
 Deering Milliken, Inc., New York, N.Y. 835,536, pub. 7-4-67. Cl. 42.
 Deering Milliken, Inc., New York, N.Y. 835,540, pub. 7-4-67. Cl. 42.
 Dehydag Deutsche Hydrrierwerke, G.m.b.H., from Dehydag Deutsche Hydrrierwerke, G.m.b.H., Dusseldorf-Holthausen, Germany. 835,323, pub. 1-24-67. Cl. 5.
 Demco Electronics, Inc., Bristol, Ind. 835,413, pub. 7-4-67. Cl. 21.
 Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. 30,487, ren. 9-19-67. Cl. 30.
 Denso, Inc., Denver, Colo. 835,552, pub. 7-4-67. Cl. 44.
 Derrick Pharmacal Co., Inc., Syosset, N.Y. 835,379, pub. 7-4-67. Cl. 18.
 Desert Citrus Growers Co., Phoenix, Ariz. 835,585, pub. 7-4-67. Cl. 46.
 Diamond Alkali Co., Cleveland, Ohio. 835,346, pub. 7-4-67. Cl. 6.
 Diamond Craft of America: See—
 Ludel, William.
 Diamond Craft of America, Inc.: See—
 Ludel, William.
 Dictaphone Corp., Bridgeport, Conn. 835,417, pub. 7-4-67. Cl. 21.
 Di Donato, Florenzo, d.b.a. Gemini Associates, Arlington, Mass. 835,424, pub. 7-4-67. Cl. 22.
 Donlen's Kitchens: See—
 Brenske, Dominic C.
 Donmoor-Isaacson, Inc., New York, N.Y. 835,516, pub. 7-4-67. Cl. 39.
 Donnelley, Reuben H., Corp., The, New York, N.Y. 835,504, pub. 7-4-67. Cl. 38.
 Du Pont de Nemours, E. I., and Co., Wilmington, Del., to Stauffer Chemical Co., New York, N.Y. 432,889, ren. 9-19-67. Cl. 32.
 Du Pont de Nemours, E. I., and Co., Wilmington, Del. 835,374, pub. 7-4-67. Cl. 16.
 Dunwoody, Ezl., Co., Philadelphia, Pa. 835,311, pub. 7-4-67. Cl. 1.
 Durkee Famous Foods: See—
 Glidden Co., The.
 Dwan & Co., San Francisco, Calif. 835,443-4, pub. 7-4-67. Cl. 23.
 Eagle Clothes, Inc.: See—
 Adler, J. Bros., & Co.
 Eastman Kodak Co., Rochester, N.Y. 433,338, ren. 9-19-67. Cl. 26.
 Eat-All Frozen Food Co., Inc., The, Philadelphia, Pa. 835,566, pub. 7-4-67. Cl. 46.
 Eaton Paper Corp., Pittsfield, Mass. 835,497, pub. 7-4-67. Cl. 37.
 El Taquito, Inc., Tulsa, Okla. 835,555, pub. 7-4-67. Cl. 46.
 Electric Reduction Co. of Canada, Ltd., Toronto (Islington), Ontario, Canada. 835,335, pub. 12-27-66. Cl. 6.
 Electronic Automation Systems, Inc., Grand Island, N.Y. 835,473, pub. 7-4-67. Cl. 26.
 Electronic Engineering Co. of California, Santa Ana, Calif. 835,415, pub. 4-11-67. Cl. 21.
 Electrostatic Printing Corp. of America, San Francisco, Calif. 835,476, pub. 7-4-67. Cl. 26.
 Ellis Silver Co., Inc., New York, N.Y. 835,470, pub. 2-14-67. Cl. 28.
 Emkay Sons & Co., Ltd., London, England. 719,343, can. Cl. 39.
 Englund, R. T., Co.: See—
 Englund, Robert T.
 Englund, Robert T., d.b.a. R. T. Englund Co., Salinas, Calif. 835,714. Cl. 46.
 Envoys, Inc., from Bourke, Holland & Miller, Inc., Richmond Hill, N.Y. 426,369, Am. 7(d). Cl. 38.
 Enzyme Development Corp., New York, N.Y. 835,573, pub. 7-4-67. Cl. 46.
 Etablissements Uti, Paris, France. 432,287, ren. 9-19-67. Cl. 27.
 Ethicon, Inc., Bridgewater Township, Somerset County, N.J. 719,389, can. Cl. 44.
 Everbrite Electric Signs, Inc., South Milwaukee, Wis. 835,404, pub. 7-4-67. Cl. 21.
 Everett Fruit Products Co., Everett, Wash., to R. J. Reynolds Foods, Inc., New York, N.Y. 230,758, ren. 9-19-67. Cl. 46.
 Executone, Inc., Long Island City, N.Y. 835,402, pub. 7-4-67. Cl. 21.
 F & P Laboratories, Inc., Chicago, Ill. 432,230, ren. 9-19-67. Cl. 46.
 Fabri-Tek, Inc., Minneapolis, Minn. 835,505, pub. 7-4-67. Cl. 38.
 Fairfield Publishing Co., Chicago, Ill. 719,334, can. Cl. 38.
 Family Tree Creations, Inc., Richmond, Va. 835,480, pub. 7-4-67. Cl. 28.
 Famous Musicians, Inc., from J. Frederick, Westport, Conn. 835,607. Cl. 38.
 Fannie May Candy Co., Inc., Washington, D.C., to Illinois Fannie May Candy Co., Chicago, Ill. 230,523, ren. 9-19-67. Cl. 46.
 Femco, Inc., McPherson, Kans. 835,452, pub. 7-4-67. Cl. 23.
 Ferrero, P., & C., S.p.A., Cuneo, Italy. 835,576, pub. 7-4-67. Cl. 46.
 Fine Arts Sterling Silver Co., Jenkintown, Pa. 431,472-4, ren. 9-19-67. Cl. 28.
 First National City Bank of New York, The, New York, N.Y. 835,659, pub. 7-4-67. Cl. 102.

- First United Mfg. Corp., Los Angeles, Calif. 719,219, can. Cl. 21.
 Foley, Thomas W., d.b.a. Add-A-Line, Roy, Utah. 835,501, pub. 7-4-67. Cl. 38.
 Folger, J. A., & Co., Kansas City, Mo., from J. A. Folger & Co., San Francisco, Calif. 719,398, can. Cl. 46.
 Foremost Screen Print, Inc., Stokesdale, N.C. 835,630, pub. 7-4-67. Cl. 100.
 Fox Go-Boy Carts, Inc., Janesville, Wis. 719,185, can. Cl. 19.
 Fox, H., & Co., Inc., Brooklyn, N.Y. 835,562, pub. 7-4-67. Cl. 46.
 Fox Products Co., Philadelphia, Pa. 719,208, can. Cl. 21.
 Frederick, Jay: See—
 Famous Musicians, Inc.
 Freeman, Hickey, Co., Rochester, N.Y. 386,668, can. Cl. 39.
 Frehofer, William, Baking Co., Allentown, Pa. 835,569, pub. 7-4-67. Cl. 46.
 Frielich Bros. Corp., New York, N.Y. 719,356, can. Cl. 39.
 Fusecolor Corp., Middlesex, N.J. 835,354, pub. 7-4-67. Multiple Class (Classes 12 and 20).
 GPE Controls, Inc., Chicago, Ill. 719,266, can. Cl. 26.
 Gad-Jets, Inc., Dayton, Ohio. 835,451, pub. 7-4-67. Cl. 23.
 Gall, R. A., Realty Co., Cleveland, Ohio. 719,445, can. Cl. 102.
 Gallaher, Ltd., Belfast, Northern Ireland. 237,883, ren. 9-19-67. Cl. 17.
 Gelgy Chemical Corp.: See—
 Gelgy Co., Inc.
 Gelgy Co., Inc., New York, N.Y., to Gelgy Chemical Corp., Ardley, N.Y. 434,497, ren. 9-19-67. Cl. 18.
 Gemini Associates: See—
 DiDonato, Florenzo.
 General Mills, Inc., Minneapolis, Minn. 719,322, can. Cl. 35.
 General Mills, Inc., Minneapolis, Minn. 835,578, pub. 7-4-67. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 835,584, pub. 7-4-67. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 835,586-93, pub. 7-4-67. Cl. 46.
 General Tire & Rubber Co., The, Akron, Ohio. 835,490-1, pub. 7-4-67. Cl. 35.
 Genesco, Inc., Nashville, Tenn. 835,522, pub. 7-4-67. Cl. 39.
 Georgetown Corp., The, Georgetown, Colo. 835,571, pub. 7-4-67. Cl. 46.
 Geoservices, Paris, France. 835,726. Cl. 100.
 Gibbs Co., The: See—
 Gibbs, Robert C.
 Gibbs, Robert C., d.b.a. The Gibbs Co., Richmond, Ky. 719,313, can. Cl. 34.
 Gibson Greeting Cards, Inc., Cincinnati, Ohio. 835,706. Cl. 38.
 Glass, H. A., d.b.a. Texas Sewing Machine Distributors, Fort Worth, Tex. 835,465, pub. 7-4-67. Cl. 23.
 Glass, Martin R., Rego Park, N.Y. 835,503, pub. 7-4-67. Cl. 38.
 Glassteel Products Co., Inc., Linden, N.J. 835,407, pub. 7-4-67. Cl. 21.
 Glidden Co., The, Cleveland, Ohio. 835,372-3, pub. 7-4-67. Cl. 16.
 Glidden Co., The, d.b.a. Durkee Famous Foods, Cleveland, Ohio. 835,370, pub. 7-4-67. Cl. 46.
 Goodall Sanford, Inc., Sanford, Maine. 835,534, pub. 7-4-67. Cl. 42.
 Goodyear's Rubber Shoe Co., The: See—
 Unifroyal, Inc.
 Gorham Corp., Providence, R.I. 835,459-60, pub. 7-4-67. Cl. 23.
 Grand Union Co., The: See—
 Grand Union Tea Co.
 Grand Union Tea Co., Brooklyn, N.Y., to The Grand Union Co., East Paterson, N.J. 64,732, ren. 9-19-67. Cl. 46.
 Graco Corp., Madison, Wis. 835,423, pub. 7-4-67. Cl. 22.
 Gratz, Wm. R., Co., Inc.: See—
 Hofner, Karl, OHG.
 Graybar Electric Co., Inc., New York, N.Y. 835,651-4, pub. 7-4-67. Cl. 101.
 Great Atlantic & Pacific Tea Co., Inc., The, New York, N.Y. 835,312, pub. 7-4-67. Cl. 1.
 Greater Cincinnati Bowling Proprietors Assn., The, Cincinnati, Ohio. 835,672, pub. 7-4-67. Cl. 107.
 Gultard Chocolate Co., Burlingame, Calif. 719,396, can. Cl. 46.
 Gustin-Bacon Mfg. Co., Kansas City, Mo., to Certain-Teed Products Corp., Ardmore, Pa. 434,284, ren. 9-19-67. Cl. 35.
 Hall, Stuart, Co., Inc., Kansas City, Mo. 835,600, pub. 7-4-67. Cl. 50.
 Hamilton, Harry M., Kansas City, Mo. 719,212, can. Cl. 21.
 Hamilton Watch Co.: See—
 Hathaway Instruments, Inc.
 Harbison-Walker Refractories Co., Pittsburgh, Pa. 778,950. Am. 7(d). Cl. 12.
 Harley-Davidson Motor Co., Milwaukee, Wis. 135,864, ren. 9-19-67. Cl. 19.
 Harvest Home Foods, Inc., Roan Mountain, Tenn. 835,577, pub. 7-4-67. Cl. 46.
 Hathaway Instruments, Inc., Denver, Colo., from Hamilton Watch Co., Lancaster, Pa. 719,413, can. Cl. 100.
 Haver-Lockhart Laboratories, Inc., Shawnee, Kans. 825,624, cor. Cl. 18.
 Haviland & Co., Inc., New York, N.Y. 719,304, can. Cl. 30.
 Hawker Siddeley Canada, Ltd.: See—
 Orenda, Ltd.
 Hearst Corp., The, New York, N.Y. 835,650, pub. 7-4-67. Cl. 101.
 Hegblade-Marguleas Co., San Francisco, Calif. 835,711. Cl. 46.
 Henkel & Cie G.m.b.H., from Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany. 835,324-9, pub. 1-24-67. Cl. 5.
 Henrite Products Co., Inc., Jersey City, N.J., to Henrite Products Corp., Morristown, Tenn. 230,874, ren. 9-19-67. Cl. 21.
 Henrite Products Corp.: See—
 Henrite Products Co., Inc.
 Highlander Sportswear, Inc., Newark, N.J. 719,360, can. Cl. 39.
 Hines-Park Foods, Inc., Cincinnati, Ohio. 835,567, pub. 7-4-67. Cl. 46.
 Hoffman Electronics Corp., Los Angeles, Calif. 719,196, can. Cl. 21.
 Hoffman Electronics Corp., Los Angeles, Calif. 719,256, can. Cl. 26.
 Hofner, Karl, OHG, Erlangen, Germany, from Wm. R. Gratz Co., Inc., Lynbrook, N.Y. 835,492, pub. 11-15-66. Cl. 36.
 Holiday One Hour Cleaners & Holiday Management Co., Richmond, Ky. 835,685, pub. 7-4-67. Cl. 103.
 Holland-Rantos Co., Inc., New York, N.Y. 835,391, pub. 7-4-67. Cl. 18.
 Holmes, Grace, Inc., Passaic, N.J. 835,640, pub. 7-4-67. Cl. 100.
 Hommel, O., Co., The, Carnegie, Pa. 835,310, pub. 7-4-67. Cl. 1.
 Horrocks-Ibbotson Co., Utica, N.Y. 835,432, pub. 7-4-67. Cl. 22.
 Hubbell, Harvey, Inc., Bridgeport, Conn. 835,405, pub. 7-4-67. Cl. 21.
 Hungry Farmer Restaurants, Inc., The, Lakewood, Colo. 835,631, pub. 7-4-67. Cl. 100.
 Hydrauliska Industri Aktiebolaget, Hudiksvall, Sweden. 719,232, can. Cl. 23.
 Hygiene Industries, Inc., from Hygiene Mfg. Co., Inc., New York, N.Y. 835,363, pub. 7-4-67. Cl. 13.
 Hygiene Mfg. Co., Inc.: See—
 Hygiene Industries, Inc.
 IRC, Inc., Philadelphia, Pa. 835,411, pub. 7-4-67. Cl. 21.
 IRC, Inc., Wilmington, Del. 835,416, pub. 3-14-67. Cl. 21.
 IXL Mfg. Corp., Wichita, Kans. 835,360, pub. 7-4-67. Cl. 13.
 Ideal Toy Corp., Hollis, N.Y. 719,223, can. Cl. 22.
 Illinois Fannie May Candy Co.: See—
 Fannie May Candy Co., Inc.
 Illinois Tool Works, Inc., Chicago, Ill. 835,692. Cl. 23.
 Imperial International Corp., New York, N.Y. 835,446, pub. 7-4-67. Cl. 23.
 Imperial Knife Associated Companies, Inc., Providence, R.I. 835,447-8, pub. 7-4-67. Cl. 25.
 Independent Battery Manufacturers Association, Inc., Largo, Fla. 835,682, pub. 7-4-67. Cl. A.
 Ingram Corp., New Orleans, La. 835,664, pub. 7-4-67. Cl. 103.
 Ingram Corp., New Orleans, La. 835,668, pub. 7-4-67. Cl. 105.
 Inland Chemical Co.: See—
 Atlantic Seaboard Marine Finance Corp.
 Institute for Scientific Information, Inc., Philadelphia, Pa. 835,512, pub. 7-4-67. Cl. 38.
 Institute of Certified Travel Agents, The, Washington, D.C. 835,677, pub. 7-4-67. Cl. 107.
 Interchemical Corp., New York, N.Y. 835,371, pub. 7-4-67. Cl. 16.
 International College of Surgeons, a World Federation of General Surgeons and Surgical Specialists, Inc., The, Chicago, Ill. 835,698. Cl. 38.
 International Milling Co., to International Milling Co., Inc., Minneapolis, Minn. 229,764, ren. 9-19-67. Cl. 46.
 International Milling Co., Inc.: See—
 International Milling Co.
 International Minerals & Chemical Corp., Skokie, Ill. 835,684. Cl. 1.
 International Paper Co., New York, N.Y. 835,513, pub. 7-4-67. Cl. 38.
 International Telephone & Telegraph Corp., Chicago, Ill. 719,209, can. Cl. 21.
 Interstate Cotton Oil Refining Co., now by change of name Mrs. Tucker's Foods, Inc., Sherman, to Anderson, Clayton & Co., Dallas, Tex. 434,864, ren. 9-19-67. Cl. 46.
 Items, Inc., St. Louis, Mo. 835,433, pub. 7-4-67. Cl. 22.
 JBI, Inc., Jenkintown, Pa. 835,624, pub. 7-4-67. Cl. 52.
 J.I. Originals, Inc., Boston, Mass. 719,349, can. Cl. 39.
 Jay Lighting Mfg. Co., Inc., Brooklyn, N.Y. 719,195, can. Cl. 21.
 Jet Party Favors, Inc., Stamford, Conn. 835,484, pub. 7-4-67. Cl. 29.
 Johns-Manville Corp., from California Cedar Products Co., New York, N.Y. 217,142, Am. 7(d). Cl. 12.
 Johns-Manville Corp., New York, N.Y. 719,119, can. Cl. 12.
 Journal of Accountancy, Inc., The, to American Institute of Certified Public Accountants, New York, N.Y. 235,493, ren. 9-19-67. Cl. 38.
 Journal of New Drugs, Inc., New York, N.Y. 835,702. Cl. 38.
 Kall: See—
 Kall Mfg. Co.
 Kall Mfg. Co., d.b.a. Kall, Philadelphia, Pa. 835,724. Cl. 52.
 Kazmark, Eugene, d.b.a. Remlin Laboratories, Joliet, Ill. 835,690. Cl. 18.
 Kellart Co., San Francisco, Calif. 719,269, can. Cl. 26.
 Keller-Heumann-Thompson Co., Inc., to Timely Clothes, Inc., Rochester, N.Y. 227,517, ren. 9-19-67. Cl. 39.
 Key Enterprises, Inc., Miami, Fla. 835,642, pub. 7-4-67. Cl. 100.
 Kimberly-Clark Corp., Neenah, Wis. 719,390, can. Cl. 44.
 Kinemotive Corp., Huntington Station, N.Y. 719,283, can. Cl. 26.
 King Kastle Systems: See—
 King Kastle Systems, Inc.
 King Kastle Systems, Inc., d.b.a. King Kastle Systems, Chicago, Ill. 835,643, pub. 7-4-67. Cl. 100.
 King, Maurice, d.b.a. King Products Co., to King Research, Inc., to King Research, Inc., Brooklyn, N.Y. 433,967, ren. 9-19-67. Cl. 52.
 King Products Co.: See—
 King, Maurice.
 King Research, Inc.: See—
 King, Maurice.

King Size Photo Service: See—
Naturallike Photo Finishing, Inc.
Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika
Bepert, Suider Paarl, Republic of South Africa. 835,594,
pub. 7-4-67. Cl. 47.
Kress, Herman: See—
Character Foundations, Inc.
Kreuger Metal Products Co., Inc., Green Bay, Wis. 835,696,
Cl. 32.
Kristal Kraft, Inc., Palmetto, Fla. 835,356, pub. 7-4-67.
Cl. 12.
Lane, Ltd., New York, N.Y. 835,377, pub. 7-4-67. Cl. 17.
La Rosa, V., & Sons, Inc.: See—
Tharlinger Macaroni Co.
Lasek, Robert E., d.b.a. Decorators Walk, New York, N.Y.
835,644, pub. 7-4-67. Cl. 101.
LeAndre's: See—
Andre's Better Foods, Inc.
Leather Specialty Co., The, Cincinnati, Ohio. 835,320, pub.
7-4-67. Cl. 3.
Le Fiel Sport Products, Inc., Santa Fe Springs, Calif. 835,430,
pub. 7-4-67. Cl. 22.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries,
Inc., Chicago, Ill. 431,862, ren. 9-19-67. Cl. 51.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries,
Inc., Chicago, Ill. 431,888, ren. 9-19-67. Cl. 51.
Leon Products, Inc., Jacksonville, Fla. 835,616, pub. 7-4-67.
Cl. 51.
Lever Bros. Co., New York, N.Y. 835,628, pub. 7-4-67. Cl. 52.
Lewart Co., The: See—
Beyer, Lewis R.
Lite-Weight Products, Inc., Kansas City, Kans. 835,348, pub.
7-4-67. Cl. 10.
Livengood, Glenn V., Burlington, Iowa. 835,725. Cl. 52.
Lloyd Brothers: See—
Lloyd Brothers, Inc.
Lloyd Brothers, Inc., from Lloyd Brothers, Cincinnati, Ohio.
138,994, can. Cl. 18.
Loeb, Marcus, & Co., Inc.: See—
Oxford Industries, Inc.
Lonne Sue Brassiere Co., Inc., New York, N.Y. 835,524, pub.
7-4-67. Cl. 39.
Luchsinger's Handelsgesellschaft, Zurich, Switzerland. 719-
392, can. Cl. 44.
Ludel, William, d.b.a. Diamond Craft of America, assor. to
Diamond Craft of America, Inc., to Diamond Craft of Amer-
ica, Inc., New York, N.Y. 431,390, ren. 9-19-67. Cl. 28.
Lyman Gun Sight Corp., The, Middlefield, Conn. 64,526, ren.
9-19-67. Cl. 9.
MCA, Inc., Universal City, Calif. 835,493, pub. 7-4-67. Cl. 36.
MSL Industries, Inc., Chicago, Ill. 835,318, pub. 7-4-67. Cl. 2.
MacMillan Ring-Free Oil Co., Inc., New York, N.Y. 835,368,
pub. 12-13-66. Cl. 15.
Magnetic Media Corp., Mamaroneck, N.Y. 835,494, pub. 7-4-
67. Cl. 36.
Magnetic Polish Co., Inc., to Barton Mfg. Co., St. Louis, Mo.
232,230, ren. 9-19-67. Cl. 4.
Maldenform, Inc., New York, N.Y. 835,526, pub. 7-4-67. Cl.
39.
Malleable Iron Range Co., Beaver Dam, Wis. 232,576, ren.
9-19-67. Cl. 34.
Maltz, Maxwell, Institute of Creative Psycho-Cybernetics, Inc.,
The, New York, N.Y. 835,704-5. Cl. 38.
Manor House Cupolas: See—
Scaffolding Co. of Indiana, Inc.
Man's World Hairpieces, Inc., Miami, Fla. 835,530, pub. 7-4-
67. Cl. 40.
Mansfield Industries, Inc., Chicago, Ill. 719,285, can. Cl. 26.
Marbern Knitting Mills, Inc., Brooklyn, N.Y. 719,340, can.
Cl. 39.
Marcos North American Corp., Philadelphia, Pa. 835,396, pub.
7-4-67. Cl. 19.
Marine Foods Packing Co., Seattle, Wash. 835,580, pub. 7-4-
67. Cl. 46.
Marshall, C. & E. Co.: See—
Challien, Morrie.
Marx, Louis, & Co., Inc., New York, N.Y. 835,434, pub. 7-4-
67. Cl. 22.
Marx, Louis, & Co., Inc., New York, N.Y. 835,439, pub. 7-4-67.
Cl. 22.
Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y.
835,563-4, pub. 7-4-67. Cl. 46.
Massachusetts Mattress Co., Boston, Mass. 835,695. Cl. 32.
Masterpiece, Inc., Olyphant, Pa. 835,604, pub. 7-4-67. Cl. 50.
Matchless Metal Polish Co., The, Chicago, Ill. 435,270, ren.
9-19-67. Cl. 4.
Matsushita Electric Corp. of America, New York, N.Y. 719,211,
can. Cl. 21.
Mayer, B. W., & Cohan, Ltd., New York, N.Y. 719,338, can.
Cl. 39.
Mayo, Gordon P., Scottsdale, Ariz. 835,688. Cl. 12.
McCormick & Co., Inc., Baltimore, Md. 541,469. Am. 7(d). Cl.
46.
McCormick & Co., Inc., Baltimore, Md. 549,551. Am. 7(d).
Cl. 46.
McGraw-Hill, Inc., New York, N.Y. 835,515, pub. 7-4-67.
Multiple Class (Classes 35 and 107).
McKesson Laboratories: See—
McKesson & Robbins.
McKesson & Robbins, d.b.a. McKesson Laboratories, New York,
N.Y. 835,380, pub. 7-4-67. Cl. 18.
McMullen, J. R., Co., Inc.: See—
McMullen-Leavens Co., Inc.
McMullen-Leavens Co., Inc., to J. R. McMullen Co., Inc., New
York, N.Y. 435,244, ren. 9-19-67. Cl. 39.
Mead Johnson & Co., Evansville, Ind. 835,382-3, pub. 7-4-
67. Cl. 18.
Mead Johnson & Co., Evansville, Ind. 835,390, pub. 7-4-67.
Cl. 18.

Mead Johnson & Co., Evansville, Ind. 835,393, pub. 7-4-67.
Cl. 18.
Mead Johnson & Co., Evansville, Ind. 835,558-9, pub. 7-4-67.
Cl. 46.
Mead Johnson & Co., Evansville, Ind. 835,582-8, pub. 7-4-67.
Cl. 46.
Means, H. S., Co., to Robert Q. Stanton, d.b.a. Stanton's Sun-
set Trails, Culver City, Calif. 431,972, ren. 9-19-67. Cl.
28.
Merck & Co., Inc., Rahway, N.J. 835,342, pub. 7-4-67. Cl. 6.
Merck & Co., Inc., Rahway, N.J. 835,387, pub. 7-4-67. Cl. 18.
Metropolitan Scotch Whisky Blenders: See—
Stenham, H., Ltd.
Metropolitan Vacuum Cleaner Co., Inc., Bronx, N.Y. 835,414,
pub. 7-4-67. Cl. 21.
Mid Lakes Mfg. Co., Knoxville, Tenn. 835,437, pub. 7-4-67.
Cl. 22.
Milani Foods, Inc.: See—
Milani, Louis, Foods, Inc.
Milani, Louis, Foods, Inc., Chicago, Ill., to Milani Foods, Inc.,
Los Angeles, Calif. 431,962, ren. 9-19-67. Cl. 46.
Mil-Star, Inc., Pittsburgh, Pa. 835,710. Cl. 46.
Minkolein Co., Walwick, N.J. 719,410, can. Cl. 51.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 835,357-8, pub.
7-4-67. Cl. 12.
Missouri National Life Insurance Co., Kansas City, Mo. 835-
602, pub. 7-4-67. Cl. 102.
Mohawk Liqueur Corp., Detroit, Mich. 835,717. Cl. 49.
Monclova, Anita T., d.b.a. National Pet Registry, Brooklyn,
N.Y. 835,637, pub. 7-4-67. Cl. 100.
Morgan Co., The, Peoria, to Armstrong Paint & Varnish
Works, Inc., Chicago, Ill. 234,626, ren. 9-19-67. Cl. 16.
Morgan Co., The, Peoria, to Armstrong Paint & Varnish
Works, Inc., Chicago, Ill. 235,294, ren. 9-19-67. Cl. 16.
Morningstar-Paisley, Inc., New York, N.Y. 753,425. Am. 7(d).
Cl. 46.
Morton International, Inc., Chicago, Ill. 835,307-8, pub.
7-4-67. Multiple Class (Classes 1 and 29).
Morton International, Inc., Chicago, Ill. 835,332, pub. 7-4-67.
Cl. 6.
Morton International, Inc., Chicago, Ill. 835,334, pub. 7-4-67.
Multiple Class (Classes 6, 18, 23, and 46).
Morton International, Inc., Chicago, Ill. 835,378, pub. 7-4-67.
Multiple Class (Classes 18 and 46).
N.V. Organon, Oss, Netherlands. 719,178, can. Cl. 18.
Nashua Corp., Nashua, N.H. 719,202, can. Cl. 21.
National Furniture Mfg. Co., Inc., Evansville, Ind. 835,604.
Cl. 32.
National Ideal Co., The, Hicksville, Ohio. 835,603, pub.
7-4-67. Cl. 50.
National Merchandising Corp., Wellesley Hills, Mass. 719-
416-17, can. Cl. 101.
National Needlecraft Bureau: See—
Coats & Clark, Inc.
National Pet Registry: See—
Monclova, Anita T.
National Retail Furniture Association, Chicago, Ill. 835,502,
pub. 7-4-67. Cl. 38.
National Smelting Co., The, Cleveland, Ohio, to American
Metal Climax, Inc., d.b.a. Apex Smelting Co., New York,
N.Y. 431,710, ren. 9-19-67. Cl. 14.
National-Standard Co., Niles, Mich. 719,137, can. Cl. 14.
Naturallike Photo Finishing, Inc., d.b.a. King Size Photo
Service, Everett, Wash. 835,670, pub. 7-4-67. Cl. 106.
New Home Sewing Machine Co., The, Los Angeles, Calif.
835,454-7, pub. 7-4-67. Cl. 23.
New Plastic Corp., Los Angeles, Calif. 835,464, pub. 7-4-67.
Cl. 23.
New York Bank for Savings, The, New York, N.Y. 835,603,
pub. 7-4-67. Cl. 102.
New York Football Giants, Inc., The, New York, N.Y. 835,679,
pub. 7-4-67. Cl. 107.
Newport Boats, Costa Mesa, Calif. 835,394-5, pub. 7-4-67.
Cl. 19.
Nichols, Lloyd, Spring Lake, N.J. 719,434, can. Cl. 38.
Norsemens Recording Co., La Crescenta, Calif. 719,327, can.
Cl. 36.
Nu-Con Products Co., Inc., Hartford, Conn. 835,601, pub.
7-4-67. Cl. 50.
Nugget Distributors of America: See—
Nugget Distributors' Cooperative of America, Inc.
Nugget Distributors' Cooperative of America, Inc., d.b.a.
Nugget Distributors of America, Stockton, Calif. 835,579,
pub. 7-4-67. Cl. 46.
Nu-Process Industries, Inc., Livonia, Mich. 835,621, pub.
7-4-67. Cl. 52.
Nu-Trend Mfg. Co., New York, N.Y. 719,402, can. Cl. 50.
Nypel, Inc., West Conshohocken, Pa. 835,313, pub. 7-4-67.
Cl. 1.
October House, Inc., The, Chicago, Ill. 835,508-10, pub.
7-4-67. Cl. 38.
Ogden & Shimer, Middletown, to American Home Products
Corp., New York, N.Y. 60,522, ren. 9-19-67. Cl. 51.
Ohio Farmers Insurance Co., The, Leroy, Ohio. 835,660, pub.
7-4-67. Cl. 102.
Ohio Truss Co., The, now by change of name Surgical Appli-
cance Industries, Inc., to Surgical Appliance Industries, Inc.,
Cincinnati, Ohio. 435,657, ren. 9-19-67. Cl. 44.
Olivetti, Ing. C., & C., S.p.A., Ivrea, Italy. 835,466, pub.
7-4-67. Cl. 23.
Onanlian, Richard A., d.b.a. Advanced Ideas Co., Arlington,
Mass. 835,425, pub. 7-4-67. Cl. 22.
Orange Mutual Citrus Association, Orange, to Paramount
Export Co., San Francisco, Calif. 233,723, ren. 9-19-67.
Cl. 46.
Orenda, Ltd., from Hawker Siddeley Canada, Ltd., Toronto,
Ontario, Canada. 835,410, pub. 7-4-67. Multiple Class
(Classes 21, 23, 31, 100, and 103).

Otis Elevator Co., New York, N.Y., from The Baker-Lull
Corp., Minneapolis, Minn. 719,224, can. Cl. 23.
Oxford Industries, Inc., from Marcus Loeb & Co., Inc., Atlanta,
Ga. 759,255, cor. Cl. 39.
Pacific Marine Supply Co., to Pacific Pumps, Inc., Seattle,
Wash. 234,938, ren. 9-19-67. Cl. 23.
Pacific Pumps, Inc.: See—
Pacific Marine Supply Co.
Pacini, August J., North Miami, Fla. 719,411, can. Cl. 51.
Pan-L-Gard Co.: See—
Selden, Leonard M.
Paramount Export Co.: See—
Orange Mutual Citrus Association.
Parsons, Friedmann & Central, Inc., Boston, Mass. 719,421,
can. Cl. 107.
Pass & Seymour, Inc., Syracuse, N.Y. 233,552, ren. 9-19-67.
Cl. 21.
Patent Reproduction Co., Washington, D.C. 835,655, pub.
7-4-67. Cl. 101.
Peer Bearing Co., Chicago, Ill. 835,449-50, pub. 7-4-67.
Cl. 23.
Peerless Photo Products, Inc., Shoreham, N.Y. 719,263, can.
Cl. 26.
Penfield Mfg. Co., Inc., Meriden, Conn. 835,485, pub. 7-4-67.
Cl. 31.
Peterson's, Ltd., Inc., New York, N.Y. 835,347, pub. 12-13-66.
Cl. 8.
Pfizer, Chas., & Co., Inc., New York, N.Y. 835,608, pub.
5-10-67. Cl. 51.
Philadelphia Bank Detectives, Inc., Philadelphia, Pa. 835,639,
pub. 7-4-67. Cl. 100.
Photon, Inc., Wilmington, Mass. 835,470, pub. 7-4-67. Cl. 26.
Pierce, Lee D., Fulton, N.Y. 719,265, can. Cl. 26.
Pioneer Industries, Inc., Darby, Pa. 719,296, can. Cl. 28.
Pitman, Harold M., Co., Chicago, Ill. 835,622, pub. 7-4-67.
Cl. 52.
Pompeian Mfg. Co., The: See—
Pompeian Olive Oil Corp.
Pompeian Olive Oil Corp., from The Pompeian Mfg. Co., Balti-
more, Md. 59,202. Am. 7(d). Cl. 52.
Poppen, Sherman R.: See—
Brunswick Corp.
Potter-McCune Co., McKeesport, Pa. 835,483, pub. 7-4-67. Cl.
29.
Poucher Tool Sales, Inc., Detroit, Mich. 835,453, pub. 7-4-67.
Multiple Class (Classes 23 and 26).
Pratt & Lambert, Inc., Buffalo, N.Y. 230,485, ren. 9-19-67.
Cl. 16.
Pratt & Whitney, Inc., West Hartford, Conn. 835,477-8, pub.
7-4-67. Cl. 26.
Procter & Gamble Co., The, Cincinnati, Ohio. 835,627, pub.
7-4-67. Cl. 52.
Product Development Co., Aurora, Colo. 835,401, pub. 10-11-
66. Cl. 21.
Purex Corp., Ltd.: See—
Turco Products, Inc.
Purex Corp., Ltd., South Gate, Calif. 719,443-4, can. Cl. 52.
Purex Corp., Ltd., Lakewood, Calif., from B. T. Babbitt, Inc.,
Albany, N.Y. 835,619, pub. 7-4-67. Cl. 52.
Quaker Oats Co., The: See—
Chappel Bros., Inc.
Quaker Oats Co., The, Chicago, Ill. 835,709. Cl. 46.
Quantum, Inc., Wallingford, Conn. 835,671, pub. 7-4-67. Cl.
106.
Rankin, Glen, Blending Co.: See—
Stenham, H., Ltd.
Rapid-American Corp., New York, N.Y. 835,521, pub. 7-4-67.
Cl. 39.
Readco Industries, Inc., Reading, Mass. 835,355, pub. 7-4-67.
Cl. 12.
Reader's Digest Assn., Inc., The, New Castle, N.Y. 835,506,
pub. 7-4-67. Cl. 38.
Regina Corp., The, Rahway, N.J. 835,409, pub. 7-4-67. Cl. 21.
Rehels Chemical Co.: See—
Armour Pharmaceutical Co.
Relief Products Co., New York, N.Y. 835,333, pub. 7-4-67.
Cl. 6.
Remarque Associates, Inc., New York, N.Y. 835,529, pub. 7-4-
67. Cl. 40.
Remin Laboratories: See—
Kazmark, Eugene.
Research, Inc.: See—
Research Instruments & Controls, Inc.
Research Instruments & Controls, Inc., from Research, Inc.,
Minneapolis, Minn. 835,408, pub. 7-4-67. Multiple Class
(Classes 21, 26, and 34).
Revlon, Inc., New York, N.Y. 835,721. Cl. 51.
Rex Chainbelt, Inc., Milwaukee, Wis. 835,441, pub. 5-9-67. Cl.
23.
Rexall Drug and Chemical Co., d.b.a. Tupperware, Los Angeles,
Calif. 835,315, pub. 7-4-67. Cl. 2.
Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co.,
Los Angeles, Calif. 835,429, pub. 7-4-67. Cl. 22.
Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co.,
Los Angeles, Calif. 835,550-1, pub. 7-4-67. Cl. 44.
Rexall Drug & Chemical Co., d.b.a. Vanda Cosmetics, Los
Angeles, Calif. 835,610, pub. 7-4-67. Cl. 51.
Reynolds, R. J., Foods, Inc.: See—
Everett Fruit Products Co.
Rice Council for Market Development, Houston, Tex. 835,681,
pub. 7-4-67. Cl. 200.
Richmond Chemical Co., Inc., The, Tulsa, Okla. 430,894, ren.
9-19-67. Cl. 6.
Ring, C. K., Co., Inc., New York, N.Y. 835,481, pub. 7-4-67.
Cl. 28.
Robbiati, Dante, d.b.a. Pasquale Robbiati, Milan, Italy. 835-
365, pub. 7-4-67. Cl. 14.
Robbiati, Pasquale: See—
Robbiati, Dante.

Robertson, P. L., Mfg. Co., Ltd.: See—
Crawford Fitting Co.
Rooks, J. Gaston, d.b.a. Val-Penn Products Co., Montgomery,
Ala. 835,343, pub. 7-4-67. Cl. 6.
Rophelle Corp., The, Detroit, Mich. 835,609, pub. 7-4-67. Cl.
51.
Rose Mfg. Co., Tucson, Ariz. 719,233, can. Cl. 23.
Ross, Inc., Whitesburg, Tenn. 835,436, pub. 7-4-67. Cl. 22.
Rower Dental Mfg. Corp., Boston, Mass. 719,394, can. Cl. 44.
Royalmetal Corp., New York, N.Y. 835,486, pub. 7-4-67. Cl. 32.
Rubel & Co. Decorative Accessories, Inc., New York, N.Y. 835-
317, pub. 7-4-67. Multiple Class (Classes 2, 32, 33, and 34).
Rubinstein, Helena, Inc., New York, N.Y. 835,623, pub. 7-4-
67. Cl. 52.
SLIA-Codogno: See—
S.L.I.A. Sicule Lombarde Industrie Associate S.p.A.
S.L.I.A. Sicule Lombarde Industrie Associate S.p.A., d.b.a.
SLIA-Codogno, Milan, Italy. 835,557, pub. 7-4-67. Cl. 46.
St. Joe Paper Co., Jacksonville, Fla. 835,499, pub. 7-4-67.
Cl. 37.
Ste. Ame. de Commentry Fourchambault et Decazeville, to
Societe Metallurgique d'Imphy, Paris, France. 63,970, ren.
9-19-67. Cl. 14.
Scaffolding Co. of Indiana, Inc., d.b.a. Manor House Cupolas,
Warsaw, Ind. 835,352-3, pub. 7-4-67. Cl. 12.
Schick Dry Shaver, Inc.: See—
Schick, Inc.
Schick, Inc., Lancaster, Pa., from Schick Dry Shaver, Inc.,
Stamford, Conn. 387,927, can. Cl. 23.
Schwab, Armand, & Co., Inc., New York, N.Y. 719,375, can.
Cl. 40.
Schwab, David E., & Co., Inc., New York, N.Y. 835,518, pub.
7-4-67. Cl. 39.
Scott, Foresman & Co., Chicago, Ill. 835,507, pub. 7-4-67. Cl.
38.
Scovill Mfg. Co., Waterbury, Conn. 719,373, can. Cl. 40.
Screen Gems, Inc., New York, N.Y. 835,674, pub. 7-4-67. Cl.
107.
Sea Containers, Inc., Albany, N.Y. 835,669, pub. 7-4-67. Cl.
105.
Seamless Rubber Co., The: See—
Rexall Drug & Chemical Co.
Selden, Leonard M., d.b.a. Pan-L-Gard Co., Lansing, Mich.
835,461, pub. 7-4-67. Cl. 23.
\$7-\$11 Fashions, Inc., Las Vegas, Nev. 835,708. Cl. 39.
Seven-Up Co., The, St. Louis, Mo. 835,553, pub. 7-4-67. Cl. 45.
Sewell, Worley, Co., Bremen, Ga. 835,707. Cl. 39.
Shelburne Shirt Co., Inc., New York, N.Y. 719,344, can.
Cl. 39.
Shell Oil Co., New York, N.Y. 835,309, pub. 7-4-67. Cl. 1.
Shell Oil Co., New York, N.Y. 835,345, pub. 7-4-67. Cl. 6.
Shell Oil Co., New York, N.Y. 835,686. Cl. 6.
Shoe Corp. of America, Columbus, Ohio. 835,648, pub. 7-4-67.
Cl. 101.
Shulton, Inc., Clifton, N.J. 835,617, pub. 7-4-67. Cl. 51.
Siegert, J. C. B., & Hijos, Dr., to Angostura Bitters (Dr.
J. G. B. Siegert & Sons), Ltd., Port of Spain, Trinidad.
63,312, ren. 9-19-67. Cl. 18.
Sierra Engineering Co., Sierra Madre, Calif. 835,548, pub.
7-4-67. Cl. 44.
Simmonds Aerocessories, Inc.: See—
Simmonds Precision Products, Inc.
Simmonds Precision Products, Inc., from Simmonds Aeroces-
sories, Inc., Tarrytown, N.Y. 719,255, can. Cl. 26.
Simonin's, C. F., Sons, Inc., Philadelphia, Pa. 433,010, ren.
9-19-67. Cl. 46.
Sinclair, John, Ltd., Newcastle Upon Tyne, England. 432-
238-9, ren. 9-19-67. Cl. 17.
Siouxland Realty: See—
Burns, Richard M.
Skandinavisk Tobakskompagni A/S, Herlev, Denmark. 835,376,
pub. 7-4-67. Cl. 17.
Skulp, Inc., Port Chester, N.Y. 835,602, pub. 7-4-67. Cl. 50.
Skyco, Inc., Montrose, Calif. 719,106, can. Cl. 12.
Slant/Fin Corp., Greenvale, N.Y. 835,489, pub. 7-4-67. Cl. 34.
Slavin, N. E., & Co.: See—
Slavin, Nathaniel E.
Slavin, Nathaniel E., d.b.a. N. E. Slavin & Co., Somerville,
Mass. 719,264, can. Cl. 26.
Slenderella, Inc., Long Island City, N.Y. 835,421, pub. 7-4-67.
Cl. 22.
Smith, W. R. C., Publishing Co., Atlanta, Ga. 835,703. Cl. 38.
Societa In Nome Collettivo Vanzo & Rocca Di Vanzo Alfredo
E Rocca Guido, Milan, Italy. 719,104, can. Cl. 12.
Societe Metallurgique d'Imphy: See—
Ste. Ame. de Commentry Fourchambault et Decazeville.
South Penn Oil Co., Oil City, Pa. 719,145, can. Cl. 15.
South Penn Oil Co., Oil City, Pa. 719,147, can. Cl. 15.
Spahn, Erich, and Heinz Spahn: See—
Wadlan-Feinkost G.m.b.H.
Spectra-Mat, Inc., Freedom, Calif. 835,367, pub. 7-4-67.
Cl. 14.
Speed Check Co., Inc., The, Atlanta, Ga. 835,468, pub. 7-4-67.
Cl. 24.
Spinella, S. Charles, Jackson Heights, N.Y. 835,636, pub.
7-4-67. Cl. 100.
Sprague Electric Co.: See—
Sprague Products Co.
Sprague Products Co., to Sprague Electric Co., North Adams,
Mass. 434,649, ren. 9-19-67. Cl. 21.
Sprague Products Co., to Sprague Electric Co., North Adams,
Mass. 434,718, ren. 9-19-67. Cl. 21.
Spraying Systems Co., Bellwood, Ill. 835,361, pub. 7-4-67.
Cl. 13.
Spring Mills, Inc.: See—
Springs Cotton Mills, The.
Springs Cotton Mills, The, Lancaster, S.C., to Spring Mills,
Inc., New York, N.Y. 433,899, ren. 9-19-67. Cl. 42.

Square D Co., Park Ridge, Ill. 835,420, pub. 7-4-67. Cl. 21.
Standard Oil Co. of California, San Francisco, Calif. 719,271, can. Cl. 26.
Stanton, Robert Q.: See—
Means, H. S., Co.
Stanton's Sunset Trails: See—
Means, H. S., Co.
Stauffer Chemical Co.: See—
Du Pont de Nemours, E. I., and Co.
Stellar Ware Corp., New York, N.Y. 835,418, pub. 7-4-67. Multiple Class (Classes 21, 26, and 36).
Stenham, H., Ltd., d.b.a. Central Gln Co., London, England. 835,590-9, pub. 7-4-67. Cl. 49.
Stephano Bros., Philadelphia, Pa. 719,168, can. Cl. 17.
Sterling Radiator Co., Inc., Westfield, Mass. 835,487, pub. 7-4-67. Cl. 34.
Steruco Industries, Inc., Harrison, N.J. 835,687. Cl. 6.
Stevens, J. P., & Co., Inc., New York, N.Y. 835,537, pub. 7-4-67. Cl. 42.
Stola, Harry J., d.b.a. Boston Lock & Safe Co., and Boston Lock Co., Boston, Mass. 835,693. Cl. 25.
Storch, Adolph D., Elizabeth, N.J. 835,389, pub. 7-4-67. Cl. 18.
Street, R. R., & Co., Inc., Oak Brook, Ill. 431,635-6, ren. 9-19-67. Cl. 52.
Stylors, Inc., Jacksonville, Fla. 719,374, can. Cl. 40.
Summitrest Carpet Mills, Inc., Summitville, Ohio. 835,535, pub. 7-4-67. Cl. 42.
Sun Chemical Corp., New York, N.Y. 719,160-2, can. Cl. 16.
Sun Oil Co., Philadelphia, Pa. 835,337-8, pub. 7-4-67. Cl. 6.
Superglas Corp., Nashville, Tenn. 719,186, can. Cl. 19.
Supreme Council, Mystic Order of Velled Prophets of the Enchanted Realm, Chicago, Ill. 431,841, ren. 9-19-67. Cl. 38.
Supreme Wine Co., Inc., Boston, Mass. 719,399, can. Cl. 49.
Surgical Appliance Industries, Inc.: See—
Ohio Truss Co., The.
Suzanne, Inc., Salt Lake City, Utah. 835,528, pub. 10-25-66. Cl. 40.
Swarovski, D., & Co., Glassschleiferer, Wattens, Tyrol, Austria. 719,297, can. Cl. 28.
Sweeney, Edity, Guardian of Ron Sweeney, Cincinnati, Ohio. 835,678, pub. 7-4-67. Cl. 107.
Swisher, Jno. H., & Son, Inc., from Jno. H. Swisher & Son, Inc., Jacksonville, Fla. 835,375, pub. 1-3-67. Cl. 17.
Swiss Laboratory, Inc., Cleveland, Ohio. 719,140, can. Cl. 14.
Tebebid Service: See—
Twibell, Lloyd J.
Teen America Associates, Inc., Dallas, Tex. 835,647, pub. 7-4-67. Cl. 101.
Tennessee Walking Horse National Celebration Assn., Shelbyville, Tenn. 835,675, pub. 7-4-67. Cl. 107.
Texas Gypsum Co.: See—
Texas Gypsum Co., Inc.
Texas Gypsum Co., Inc., d.b.a. Texas Gypsum Co., El Paso, Tex. 719,110, can. Cl. 12.
Texas Sewing Machine Distributors: See—
Glass, H. A.
Texscan Corp., Indianapolis, Ind. 835,406, pub. 7-4-67. Multiple Class (Classes 21 and 26).
Tharinger Macaroni Co., Milwaukee, Wis., to V. LaRosa & Sons, Inc., Westbury, N.Y. 230,897, ren. 9-19-67. Cl. 46.
Tharinger Macaroni Co., Milwaukee, Wis., to V. LaRosa & Sons, Inc., Westbury, N.Y. 230,985-6, ren. 9-19-67. Cl. 46.
Thomas & Skinner, Inc., Indianapolis, Ind. 832,217, cor. Cl. 38.
Timely Clothes, Inc.: See—
Keller-Heumann-Thompson Co., Inc.
Times Publishing Corp., Beverly, Mass. 387,708, can. Cl. 38.
Toastermaster General's Enterprises, Los Angeles, Calif. 719-166, can. Cl. 17.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 835,556, pub. 7-4-67. Cl. 46.
Tracer, N., Cosmetics: See—
Tracer, Nettle.
Tracer, Nettle, d.b.a. N. Tracer Cosmetics, New York, N.Y. 835,611, pub. 7-4-67. Cl. 51.
Travenol Laboratories, Inc., Morton Grove, Ill. 719,183, can. Cl. 18.
Tucciarone, Walter, Corp., New York, N.Y. 835,531, pub. 7-4-67. Cl. 40.
Tucker's Foods, Inc., Mrs.: See—
Interstate Cotton Oil Refining Co.
Tupperware: See—
Rexall Drug & Chemical Co.
Turco Products, Inc., Los Angeles, Calif., to Purex Corp., Ltd., Lakewood, Calif. 435,149, ren. 9-19-67. Cl. 18.
Tuttle, H. W., & Co., Tecumseh, Mich. 835,419, pub. 7-4-67. Cl. 21.
Twentieth Century Woodworking Co., Inc., Brooklyn, N.Y. 719,155, can. Cl. 16.
Twibell, Lloyd J., d.b.a. Tebebid Service, Orchard, Nebr. 835-633, pub. 7-4-67. Cl. 100.
Tyndale House Publishers, Wheaton, Ill. 835,514, pub. 7-4-67. Cl. 38.
U-GO Smith Products, Hayward, Calif. 835,435, pub. 7-4-67. Cl. 22.
Ultron Systems Corp., Pennsauken, N.J. 835,469, pub. 7-4-67. Cl. 26.
Union Bag & Paper Co.: See—
Union Camp Corp.
Union Camp Corp., from The Union Bag & Paper Co., New York, N.Y. 63,687, Am. 7(d). Cl. 37.
Union-Everedy Co., Inc., Frederick, Md. 719,314-5, can. Cl. 34.
Uniroyal, Inc., from The Goodyear's Rubber Shoe Co., New York, N.Y. 63,996, Am. 7(d). Cl. 39.
Uniroyal, Inc., from United States Rubber Co., New York, N.Y. 434,622, Am. 7(d). Cl. 40.

U.S. Divers Co., Inc., Santa Ana, Calif. 835,427, pub. 7-4-67. Cl. 22.
United States Rubber Co.: See—
Uniroyal, Inc.
United States Shoe Corp., The, Cincinnati, Ohio. 835,525, pub. 7-4-67. Cl. 39.
United States Trust Co. of New York, New York, N.Y. 835-658, pub. 7-4-67. Cl. 102.
United Technical Publications, Inc., Garden City, N.Y. 835,700. Cl. 38.
Universal Overall Co., Chicago, Ill. 434,503, ren. 9-19-67. Cl. 39.
Universal Pharmaceutical Co., Ltd., Vancouver, British Columbia, Canada. 719,172, can. Cl. 18.
Val-Penn Products Co.: See—
Rooks, J. Gaston.
Vale Technical Institute, Blairsville, Pa. 835,673, pub. 7-4-67. Cl. 107.
Vanda Cosmetics: See—
Rexall Drug & Chemical Co.
Vasek-Kovar Potato Co.: See—
Vasek & Kovar Potato Co.
Vasek & Kovar Potato Co., from Vasek-Kovar Potato Co., East Grand Forks, Minn. 835,716, Cl. 46.
Veeder Industries, Inc., Hartford, Conn. 835,362, pub. 7-4-67. Cl. 13.
Veterinary Supply Depot, Inc., Dallas, Tex. 835,385, pub. 7-4-67. Cl. 18.
Vickers, Inc., Detroit, Mich. 719,207, can. Cl. 21.
Violante, Thomas R., West Haven, Conn. 835,680, pub. 7-4-67. Cl. 107.
W & J Sales Co., Salt Lake City, Utah. 719,228, can. Cl. 23.
Waldian-Felinkost G.m.b.H., from Erich Spahn & Heinz Spahn, Frankfurt am Main, Germany. 835,554, pub. 2-28-67. Cl. 46.
Walz Credit Services, Inc., Greenwich, Conn. 835,656, pub. 7-4-67. Cl. 102.
Ward Foods, Inc.: See—
Williams R. C., & Co.
Warner-Lambert Research Institute, Morris Plains, N.J. 835-392, pub. 7-4-67. Cl. 18.
Washington Fish & Oyster Co.: See—
Washington Fish & Oyster Co. of California.
Washington Fish & Oyster Co. of California, d.b.a. Washington Fish & Oyster Co., San Francisco, Calif. 835,712-13. Cl. 46.
Waukesha Motor Co., Waukesha, Wis. 835,458, pub. 7-4-67. Cl. 23.
Weartex Rug Co., San Leandro, Calif. 719,378, can. Cl. 42.
Weaver Stone Co., The, Reisterstown, Md. 835,350, pub. 7-4-67. Cl. 12.
Webb, C. J., Inc., from Corrosion Reaction Consultants, Inc., Philadelphia, Pa. 770,196, Am. 7(d). Cl. 6.
Webb, C. J., Inc., from Corrosion Reaction Consultants, Inc., Philadelphia, Pa. 773,038-9, Am. 7(d). Cl. 6.
Webb, C. J., Inc., d.b.a. Corrosion Reaction Consultants, and Corrosion Reaction Consultants, Inc., Jenkintown, Pa. 835,369, pub. 7-4-67. Multiple Class (Classes 15 and 52).
Webster, Warren, & Co., Inc., Camden, N.J. 719,130, can. Cl. 13.
Weight Watchers International, Inc., Forest Hills, N.Y. 835,319, pub. 7-4-67. Cl. 3.
Weight Watchers International, Inc., Forest Hills, N.Y. 835,511, pub. 7-4-67. Cl. 38.
Weight Watchers International, Inc., Forest Hills, N.Y. 835,641, pub. 7-4-67. Cl. 100.
Wells Dairies Cooperative, Columbus, Ga. 835,560-1, pub. 7-4-67. Cl. 46.
Western Farm Publications, Inc., San Francisco, Calif. 835-500, pub. 7-4-67. Cl. 38.
Western Union Telegraph Co., The, New York, N.Y. 835,666-7, pub. 7-4-67. Cl. 104.
Wham-O Mfg. Co., San Gabriel, Calif. 835,428, pub. 7-4-67. Cl. 22.
White, John J., Hollywood, Fla. 835,649, pub. 7-4-67. Cl. 101.
White, S. S., Co., Philadelphia, Pa., from X-Ray Mfg. Corp. of America, Great Neck, N.Y. 835,549, pub. 7-4-67. Cl. 44.
Whitehead, Daisy, Knitting Co., New York, N.Y. 719,367, can. Cl. 39.
Wichita Paper Co., Inc., Wichita, Kans. 719,097, can. Cl. 7.
"Wife Saver" Food Service: See—
Cunningham, George B., Jr.
Willcutts, H. D., Co., Inc., Nashville, Tenn. 835,397, pub. 7-4-67. Cl. 19.
Williams Co., The, London, Ohio. 835,322, pub. 7-4-67. Cl. 4.
Williams, R. C., & Co., to Ward Foods, Inc., New York, N.Y. 30,399, ren. 9-19-67. Cl. 46.
Williams, R. C., & Co., Inc., to Ward Foods, Inc., New York, N.Y. 227,544, ren. 9-19-67. Cl. 46.
Wisconsin Tissue Mills, Menasha, Wis. 835,495, pub. 7-4-67. Cl. 37.
Woods Industries, Inc., d.b.a. Crop King Co., and Crop King Chemical, Yakima, Wash. 835,340, pub. 7-4-67. Multiple Class (Classes 6 and 10).
Woolens & Worsteds of America, Inc., New York, N.Y. 835-646, pub. 7-4-67. Cl. 101.
Wright, Barry, Corp., Watertown, Mass. 835,442, pub. 7-4-67. Cl. 23.
Wyeth, Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 434,356, ren. 9-19-67. Cl. 18.
X-Ray Mfg. Corp. of America: See—
White, S. S., Co.
Yard-Man of Illinois, Inc., Sullivan, Ill. 835,467, pub. 7-4-67. Cl. 23.
Yardley of London, Inc., Totowa, N.J. 835,718-19. Cl. 51.
Zorko, Inc., El Monte, Calif. 719,330, can. Cl. 36.
Osmose Wood Preserving Co. of America, Inc., Buffalo, N.Y. 835,339, pub. 7-4-67. Cl. 6.

U.S. DEPARTMENT OF COMMERCE OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 26, 1967

Volume 842

Number 4

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of August 1967

Examiner affirmed	145
Examiner affirmed in part	17
Examiner reversed	31
Total	193

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,957,377, T. G. Hare, REVERSIBLE RATCHET TYPE WRENCH, decided Apr. 28, 1967, Interference No. 93,632, claim 1.

Patent No. 3,100,735, K. Szabo and J. G. Brady, BISOR-GANOPHOSPHORUS ESTERS AND THEIR PREPARATION, decided July 25, 1967, Interference No. 94,649, claims 1, 2, 5 and 6.

Patent No. 3,113,253, Y. Ishikawa and E. Okamoto, CAPACITORS, decided Apr. 28, 1967, Interference No. 94,420, claim 1.

Patent No. 3,144,586, J. C. Gambale, PROTECTIVE RELAY ASSEMBLIES, decided Aug. 7, 1967, Interference No. 94,957, claim 1.

Patent No. 3,157,697, J. M. Sandri and E. K. Fields, 1-(2,2-DIHALOCYCLOPROPYL) AROMATIC CARBOXYLIC ACIDS, decided July 20, 1967, Interference No. 95,210, claims 1, 2 and 3.

Patent No. 3,254,159, E. R. Condit, TELEPHONE ADAPTER, decided July 20, 1967, Interference No. 95,791, claims 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.

Disclaimer

3,229,234.—Ernest W. Lattanzi, Melrose, Mass. COAXIAL ROTARY JOINT WITH SPRING BIASED SLIDING CONTACT RING. Patent dated Jan. 11, 1965. Disclaimer filed July 3, 1967, by the assignee, Sage Laboratories, Inc.

Hereby enters this disclaimer to the entire patent.

New Applications Received During August 1967

Patents	7377
Designs	377
Plant Patents	5
Reissues	36
Total	7795

Foreign Patents Received in the Scientific Library as of Aug. 31, 1967

Source	Date received	Highest number
Australia:		
(Abstracts)	Aug. 28, 1967	21,342/67
(Patents)	Aug. 30, 1967	269,867
Austria	Aug. 15, 1967	255,350
Belgium	Aug. 28, 1967	664,950
Canada	Aug. 24, 1967	765,985
Czechoslovakia	Aug. 7, 1967	121,150
Denmark	June 23, 1967	106,363
East Germany	Aug. 23, 1967	57,090
Egypt	June 25, 1967	6,873
Finland	Aug. 25, 1967	36,291
France:		
(Patents)	Aug. 14, 1967	1,478,900
(Additions)	Aug. 7, 1967	89,000
(Medicaments)	Aug. 17, 1967	4,500 M
(Additions)	May 24, 1967	112 CAM
Germany:		
(Auslegeschriften)	Aug. 25, 1967	1,240,000
(Patents)	Apr. 25, 1967	1,224,608
Great Britain	Aug. 24, 1967	1,079,100
India	Aug. 17, 1967	100,378
Ireland	Aug. 25, 1967	26,750
Italy	Dec. 27, 1965	650,000
Japan	Aug. 29, 1967	13,480/67
Netherlands:		
(Octrooiaanvragen)	June 13, 1967	2,898/67
(Patents)	Aug. 25, 1967	122,659
Norway	Aug. 11, 1967	111,051
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	Aug. 25, 1967	53,592
Rumania	July 26, 1967	48,332
Sweden	July 28, 1967	213,490
Switzerland	Aug. 24, 1967	429,687
U.S.S.R.	Aug. 11, 1967	194,525

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Issue—September 26, 1967

Patents	1257—No. 3,343,176 to No. 3,344,432, incl.
Designs	69—No. 208,687 to No. 208,755, incl.
Reissues	7—No. 26,267 to No. 26,273, incl.

Total 1333

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 31, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-4-64	5-23-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3-2-64	3-1-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	7-20-64	4-6-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-17-64	5-16-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-6-64	12-12-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-1-64	3-19-63
SECURITY, GROUP 220—S. BOYD, Manager..... Ordinance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	2-21-66	12-20-63
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	11-12-63	11-29-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	2-10-64	1-8-62
PHYSICS, GROUP 280—R. L. EVANS, Manager..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-4-64	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager..... Industrial Arts; Household, Personal and Fine Arts.	1-14-66	8-25-65
Total number of pending applications (excluding Designs).....		185,005
Total number of Design applications pending.....		4,509
Total number of applications awaiting action (excluding Designs).....		135,702
Total number of Design applications awaiting action.....		2,361
Date of oldest new application awaiting action.....		Nov. 12, 1963
Date of oldest amended application awaiting action.....		Nov. 29, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during September 1967, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 900. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.
 Patents..... Numbers 2,520,900 to 2,524,025, inclusive
 Plant Patents..... Numbers 978 to 981, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.

	New	Amended
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid, Flexible and Special Receptacles and Packages.	1-3-66	9-3-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Wood-working; Tools; Cutlery; Jacks; Fasteners.	6-3-65	2-7-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Type-writers; Stationery; Information Dissemination.	2-4-65	1-22-63
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	1-7-66	12-2-64
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9-15-65	4-30-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager..... Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	8-17-65	9-4-62

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE AUGUST DAMMERS

Appeal No. 218-16. Decided November 29, 1961

1. PATENTABILITY—PROCESS—STRUCTURAL LIMITATIONS IN METHOD CLAIMS—35 U.S.C. 100(b).

"* * * while patentability of method claims cannot be predicated solely on structural limitations recited therein, the mere recitation of structure in the claims does not render them improper or unstatutory. 35 U.S.C. 100(b). It is our opinion also that the convex shape of the die and the flexibility of the [cooperating] strip are essential in carrying out appellant's method concept and, hence, properly included in the claims."

2. SAME—SAME—OBVIOUS FUNCTION OF APPARATUS.

"In refusing to sustain a rejection, based on obvious function of the claimed apparatus, of claims to a method of bending a glass sheet comprising heating the sheet free of bending pressure to bending temperature and thereafter gradually clamping the glass sheet between a rigid convex die and a flexible sheet, *Held* that '* * * we need only point out that the disclosed apparatus does not have a law of its own or a necessary and inherent operation which would prohibit manual operation or control of the elements involved to effectuate the method, i.e., the bending of the glass sheet to the desired shape'; and that 'We note further that both the method and the apparatus claims are here in the same application and the question of double patenting is absent.'"

APPEAL from the Examiner (B. Bendett) of Div. 49. Serial No. 519,590.

MODIFIED.

Bauer and Seymour and Edward W. Grimm for appellant.

Before FRIEDMAN and DRACOPOULOS, *Examiners-in-Chief* and BLUM, *Acting Examiner-in-Chief*

DRACOPOULOS, *Examiner-in-Chief*.

This appeal, as brought before us, is from the final rejection of claims 29, 34, 39 to 42, 44 and 46, and from the Examiner's refusal to allow claim 56, which was substituted for the finally rejected claim 43. The other finally rejected claims, 32, 33, 47 and 48, included in the appeal, were canceled by Paper No. 20, and the appeal with respect thereto will accordingly be dismissed. Claims 13 to 16, 26, 27, 28, 30, 31, 35 to 38, 45, 57 and 58 stand allowed.

Representative claims 29, 39 and 44 are as follows:

29. Apparatus for bending glass sheets that comprises a bending form having a convex, rigid, sheet shaping face, and a cooperating bending form, the active portion of said cooperating bending form which engages and applies pressure on the glass sheet consisting of a flexible sheet held under tension.

39. The method of bending a glass sheet, which comprises heating the sheet to a bending temperature while the sheet is free from any substantial bending pressure, thereafter initially subjecting a localized portion only of the sheet to gripping pressure, and then progressively extending the area of the sheet thus gripped from said localized portion in directions conforming to the shape desired in the final article.

44. A method of bending a glass sheet which comprises freely suspending said glass sheet in a vertical position, heating the sheet to bending temperature while the sheet is free from any substantial bending pressure, thereafter clamping and bending a portion of the glass sheet between a rigid convex die and a flexible sheet yieldingly maintained under tension, and moving the die and flexible sheet toward each other to extend the area of clamping of the glass sheet and progressively to bend the glass sheet into conformity with the convex die.

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The references relied on are:

Norwood, 305,707, September 23, 1884.

Paddock, 2,182,448, December 5, 1939.

Ryan, 2,560,599, July 17, 1951.

Thomson, 2,663,974, December 29, 1953.

The claims on appeal relate to the bending of heated glass sheets to predetermined curvatures, as in the manufacture of the present day "wrap around" type automobile windshields, claims 29 and 34 being directed to an apparatus and the remaining claims on appeal to a method of effecting such bending.

The asserted invention and the background problems involved are sufficiently discussed on pages 1 to 7 of the brief; and the reference disclosures are adequately described on pages 9 to 15 of the brief as supplemented by the remarks of the Examiner on pages 2, 3, and 4 of the answer.

We note at this point that while the Examiner refers to Patent 2,663,974 as "Thomson II" to distinguish it from another Thomson patent of record, we will hereinafter refer to it as Thomson since it is the only patent by that name relied upon in the Examiner's answer and the final rejection.

Claim 29 stands rejected as being fully met by Thomson, the Examiner's position and response to appellant's traverse on pages 16, 17 and 18 of the brief being stated at length on pages 6, 7 and 8 of the answer, paragraph No. 27.

We have reviewed appellant's arguments pertinent to the rejection of claim 29 without finding them persuasive of error in the Examiner's position. We agree with the Examiner that the claim is fully readable in Thomson, on the convex glass shaping surface 14 of one side member 13 and the flexible narrow sheet or strip 15 cooperating therewith.

Claim 34 stands rejected as being fully met by Ryan of record, it being the Examiner's position that Ryan discloses that one of his cooperating bending forms can be made of a flexible glass cloth sheet, as set forth in column 4, lines 39 to 44.

While Ryan states that either of his molds may be of glass cloth, which of itself is flexible, it is to be noted that the layers of cloth making up the mold have been impregnated with a resinous plastic material and then baked to retain their given shape. Such a bending form is clearly not flexible, as required by the claim. We accordingly do not sustain the rejection as based on Ryan.

Claims 39 to 42 stand rejected as unpatentable over Paddock in view of Norwood or Thomson, the Examiner taking the position that it would not amount to invention to apply pressure to the glass sheet in Paddock progressively from the center outwardly as taught by Norwood or Thomson.

A review of all the pertinent arguments advanced by the appellant does not convince us of error in the foregoing rejection of claims 39 to 42. We prefer, however, the rejection based on Paddock and Thomson and we will limit our discussion thereto. From an inspection of FIGURE 2 of Thomson, it is deemed apparent that gripping pressure starts at the apices of the convex faces or seats 14 and inherently progresses outwardly as the strips 15 move from the dotted to the full line position. It is our considered opinion that the use of this type of pressure applying procedure in Paddock, i.e., by means of strips 15 and connectors 16 of Thomson in lieu of the bars 32 of Paddock and positioning them lengthwise of the convex mold, in the same

manner as in Thomson, would involve an obvious adaptation or extension of the teachings of Thomson to another type of glass bending machine, which is reasonably expected of those of routine skill in the art. We accordingly sustain the rejection of claims 39 to 42.

Claims 44, 46 and 56 stand rejected: (1) as being improper method claims containing apparatus limitations, as "flexible sheet" and "a rigid convex die," and (2) as being drawn to the obvious function of the claimed apparatus.

We will not sustain either of these grounds of rejection.

[1] As to ground (1), while patentability of method claims cannot be predicated solely on structural limitations recited therein, the mere recitation of structure in the claims does not render them improper or unstatutory. 35 U.S.C. 100(b). It is our opinion also that the convex shape of the die and the flexibility of the strip are essential in carrying out appellant's method concept and, hence, properly included in the claims.

[2] With respect to ground (2), we need only point out that the disclosed apparatus does not have a law of its own or a necessary and inherent operation which would prohibit manual operation or control of the elements involved to effectuate the method, i.e., the bending of the glass sheet to the desired shape. We note further that both the method and the apparatus claims are here in the same application and the question of double patenting is absent.

Under the authority of Rule 196(b) we reject claims 34, 46 and 56, claims 34 and 56 as being unpatentable over Paddock in view of Thomson for the same reasons as claims 39 to 42, strip 15 being a "flexible bending form" and a "substantially continuous shaping sheet" as called for in claim 34; and claim 46 as being squarely readable on Thomson *per se*, wherein the flexible (thin) sheet 15 is yieldingly maintained under tension by means 20, 25, 18.

The appeal as to claims 32, 33, 47 and 48 is dismissed.

The decision of the Examiner is affirmed as to claims 29 and 39 to 42 and is reversed as to claims 34, 44, 46 and 56. A new ground of rejection under Rule 196(b) of claims 34, 46 and 56 has been made herein.

Any request for rehearing or reconsideration or modification of this decision by the Board of Appeals based upon the same record must be filed within thirty days from the date of the decision (Rule 197). Should appellant elect to have further prosecution before the Primary Examiner in response to the new rejection under Rule 196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire *sixty days* from the date of this decision.

AFFIRMED IN PART.

**In the United States Patent Office
Before the Board of Appeals**

EX PARTE ARIE HENDRIK MARINISSEN

Appeal No. 497—48. Decided September 16, 1966

**1. DESIGN—PATENTABILITY—FOREIGN REGISTRATION—AGREEMENT OF THE HAGUE
FOR THE INTERNATIONAL REGISTRATION OF DESIGNS.**

Held, with respect to the Agreement of the Hague for the International Registration of Designs, "Registration under the provisions of the Treaty * * * is effected upon filing."

2. SAME—SAME—SAME—SAME.

"Registration under the provisions of the Treaty [Agreement of the Hague for the International Registration of Designs] * * * serves as to all the countries adhering to that Treaty, excluding the home country of the registrant, the same purposes as a national registration and confers whatever rights the national law of the countries provide with respect to a national registration effected directly."

3. SAME—SAME—SAME—SAME—35 U.S.C. 119.

"The practice in the United States Patent Office has been to consider foreign design registrations as having the same effect as design patents where the statute refers to design applications or patents. The International registration [under the Agreement of the Hague for the International Registration of Designs] constitutes a registration in specified countries. Furthermore, a practice has developed of considering them the same as applications for registration of the design in Switzerland in view of the special provision of registration in the Swiss design law. In fact applicant himself has submitted a certificate of the Swiss patent office relating to the same registration to show that it is completely equivalent to an application for and registration in Switzerland, when initially he claimed the priority date of said registration. The right of priority provided under section 119 refers to applications for patents filed in foreign countries and applications for design registrations are normally accepted as applications for patents under this section."

4. SAME—SAME—SAME—SAME.

"Substantially the only argument made in the brief is the assertion that the design registration [under the Agreement of the Hague for the International Registration of Designs] is 'purely declaratory' and that it creates no privilege or franchise. On the contrary, the design registration confers or confirms whatever rights are provided for domestic registrations by the national laws of the countries to which the registration runs. A paper with words granting exclusive rights as in the United States patent grant is not the universal custom in connection with patents either."

APPEAL from the Examiner (Wallace Burke) of Group 290. Serial No. D. 72,774.

AFFIRMED.

Frank Trifari and Alfred E. Miller for appellant.

Before FEDERICO and ROSA, *Examiners-in-Chief* and STONE, *Acting Examiner-in-Chief*

FEDERICO, *Examiner-in-Chief*.

This is an appeal from the final rejection of the single claim in an application for a patent for a design. On June 2, 1962 the same design was registered under the provisions of the Agreement of the Hague for the International Registration of Designs by applicant's representatives, the application for such registration being referred to in the oath of the present application as an application in Switzerland filed June 2, 1962. [1] Registration under the provisions of the Treaty mentioned is effected upon filing. The date of application is more than six months prior to the filing date of the present application and the registration has been effected prior to the filing of the present application. The claim has hence been rejected as being barred by the provisions of 35 U.S.C. 102(d) and 172 which read as follows:

"102. A person shall be entitled to a patent unless—(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, . . ."

"172. The right of priority provided for by section 119 of this title and the time specified in section 102(d) shall be six months in the case of designs."

Section 172 serves to change the 12 months to 6 months in the case of designs.

[2] Registration under the provisions of the Treaty referred to serves as to all the countries adhering to that Treaty, excluding the home country of the registrant, the same purposes as a national registration and confers whatever rights the national law of the countries provide with respect to a national registration effected directly.

[3] The practice in the United States Patent Office has been to consider foreign design registrations as having the same affect as design patents where the statute refers to design applications or patents. The International registration constitutes a registration in specified countries. Furthermore, a practice has developed of considering them the same as applications for registration of the design in Switzerland in view of the special provision of registration in the Swiss design law. In fact applicant himself has submitted a certificate of the Swiss patent office relating to the same registration to show that it is completely equivalent to an application for and registration in Switzerland, when initially he claimed the priority date of said registration. The right of priority provided under section 119 refers to applications for patents filed in foreign countries and applications for design registrations are normally accepted as applications for patents under this section. It is noted that applicant's United States assignor has obtained various design patents claiming the benefit of the date of prior registrations of the same character as the prior registration involved here. See Design Patents 203,820, 204,266, and 204,557.

[4] Substantially the only argument made in the brief is the assertion that the design registration is "purely declaratory" and that it creates no privilege or franchise. On the contrary, the design registration confers or confirms whatever rights are provided for domestic registrations by the national laws of the countries to which the registration runs. A paper with words granting exclusive rights as in the United States patent grant is not the universal custom in connection with patents either.

The decision of the Examiner is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,615,007, S. O. Greenlee, EXPOXIDE RESINS; 2,615,008, same, EPOXIDE RESIN COMPOSITIONS, filed May 12, 1967, D.C.N.J. (Newark), Doc. C-522-67, *Celanese Coatings Co. v. Resyn Corporation*. Notice of dismissal, July 12, 1967.

2,615,008. (See 2,615,007.)

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, filed Apr. 25, 1967, D.C., S.D. Maine (Portland), Doc. C-9-171, *The Norwich Pharmacal Company v. Maine Milling and Manufacturing Co. (Inc.)*. Consent judgment; defendant has infringed; restrained from future infringement, June 26, 1967.

2,914,823, X. L. Bean, CASTING MOLD AND PATTERN AND PROCESS; 2,991,267, same, COATED SAND AND METHOD OF MAKING THE SAME, filed July 12, 1967, D.C., N.D. Ala. (Birmingham), Doc. C-67-393, *Morris Bean & Company v. Reichhold Chemicals, Inc.*

2,991,267. (See 2,914,823.)

3,054,373, K. C. Ripley, FLUME TYPE HEELING TANK STABILIZER, filed May 27, 1965, D.C. Oreg. (Portland), Doc. C-65-261, *John J. McMullen Associates, Inc. v. State Board of Higher Education, etc. et al.* Notice of Appeal filed by plaintiff, June 26, 1967.

3,098,428, C. J. Maxwell, MASONRY BARBECUE PIT, filed July 11, 1967, D.C., W.D. Tex. (San Antonio), Doc. C-67-64-

SA, *Port-a-Pit Company, Inc. v. Jean Meyers or Jean Myers, doing business as Moo-va-Pit Mfg. Co.*

3,163,438, R. W. Brandt, Jr., TREE CLAMP WITH VIBRATORY MECHANISM AND FRAME, filed July 13, 1967, D.C., N.D. Calif. (San Francisco), Doc. 47428, *Orchard Machinery Company et al. v. Gould Bros. Inc. et al.*

3,173,996, C. A. Ryplinski, Jr., MULTIPLE CHANNEL RADIO TELEPHONE SYSTEM, filed July 7, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-962-PH, *Magnetic Controls Co. v. Motorola, Inc., and Motorola Communications and Electronics, Inc.*

3,216,439, Schroeder and Clark, METHOD AND APPARATUS FOR MAKING A FLEXIBLE INSULATED DUCT; 3,240,643, same, filed June 20, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-869-PH, *Clifford A. Schroeder et al. v. Owens-Corning Fiberglas Corp. et al.*

3,240,643. (See 3,216,439.)

3,246,156, Frank, Kus, and Rowan, AUTOMATIC SAMPLE CHANGER FOR RADIOACTIVE SAMPLES; 3,163,756, Meeder and Kus, SAMPLE-CONVEYING AND LIGHT-SEALING MECHANISM FOR SCINTILLATION COUNTING, filed Dec. 15, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c2309, *Nuclear Chicago Corp. v. Picker X-Ray Corp.* Joint motion and stipulation of dismissal with prejudice, July 12, 1967.

3,225,790, J. C. Laughlin, WATER SOFTENER VALVE WITH FAST RINSE MEANS, filed June 24, 1967, D.C., W.D.

Wis. (Madison), Doc. 67-C-79, *Jack Shabel v. Royal McEwan, doing business as Royal Sales & Service Co.*

3,246,156. (See 3,163,756.)

3,310,284, Inaba, Ito, and Shirafuji, HYDRAULIC SYSTEM ROTARY PILOT VALVE, filed July 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1195, *Sherman Car Wash Equipment Company v. Auto Laundry Equipment Sales Co. Inc.*

3,310,824, C. C. Beer, VEHICLE WASHER, filed July 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1196, *Sherman Car Wash Equipment Company v. John Kamyey, doing business as Des Plaines Car Wash.*

Re. 25,071, E. E. Bucher, SNOW PLOW, filed July 11, 1967, D.C., N.D. Calif. (San Francisco), Doc. 47402, *American Snow-Blast Corp. v. Oshkosh Truck Corp.*

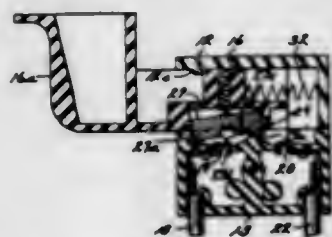
O.G. 842—A

SEPTEMBER 26, 1967

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,267
ELECTRICAL SWITCH WITH CAMMING
BRIDGING CONTACT

**Benjamin H. Matthews, Peninsula, Ohio, assignor to
Lucerne Products, Inc., Northfield, Ohio, a corpora-
tion of Ohio**
**Original No. 3,222,488, dated Dec. 7, 1965, Ser. No.
356,277, Mar. 31, 1964. Application for reissue Feb.
28, 1966, Ser. No. 534,282**
5 Claims. (Cl. 200—166)



5. In an electric switch, in combination, an insulator base defining a flat surface, at least a pair of spaced stationary contacts mounted on said base with their contact-making faces substantially coplanar, an electrically conductive bridging contact having opposite contacting ends spaced to bridge the distance between said stationary contacts, one of said ends being defined as the leading contacting end of said bridging contact and the remaining end the trailing contacting end, there being wall means defining a recess in said bridging contact between said contacting ends extending away from said flat surface, means supporting said bridging contact for linear sliding movement along said base in line with said stationary contacts between a nonbridging position, where the leading contacting end is out of engagement with one of said stationary contacts, and a bridging position where said contacting ends engage said stationary contacts, a projection supported on said base between the stationary contacts and extending above the contact-making faces of said stationary contacts and in engagement with said bridging contact, as the leading contacting end thereof approaches the to-be-contacted stationary contact, said projection pivoting said bridging contact about said trailing contacting end to raise said leading contacting end above said one of said stationary contacts as said bridging contact is moved to its nonbridging position, said recess being formed on said bridging contact as to register with said projection as said bridging contact is moved to its bridging position and the leading contacting end drops onto at least a portion of the contact-making face of said one stationary contact, the trailing contacting end of said bridging contact engaging with the other of said stationary contacts prior to said leading contacting end engaging said to-be-contacted stationary contact as said bridging contact is moved toward its bridging position, and means biasing said bridging contact toward said stationary contacts.

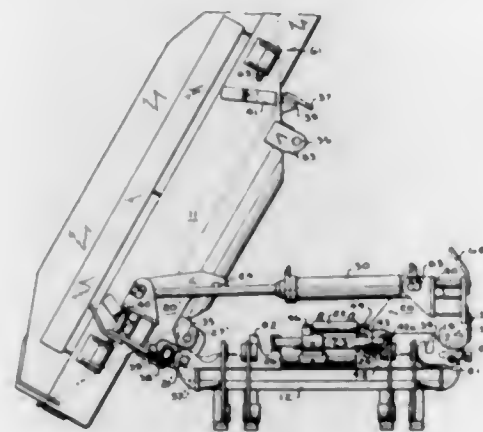
26,268
VEHICLE MOUNTED LOADER

Howard O. Keskitalo, Batavia, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Original No. 3,203,565, dated Aug. 31, 1965, Ser. No. 222,812, Sept. 11, 1962. Application for reissue Jan. 18, 1966, Ser. No. 532,824

19 Claims. (Cl. 214—768)

1. A side dump bucket arrangement comprising a cradle having first and second end portions, first and second

means movably mounted on said cradle and supporting said bucket on the first and second end portions of said cradle, respectively, and means for selectively moving one of said first or second means into engagement with



26,269
PANEL TRAVERSING AND SUPPORTING
MEANS

James A. Ford, Sturgis, Mich., assignor to Kirsch Company, Sturgis, Mich., a corporation of Michigan
Original No. 3,151,666, dated Oct. 6, 1964, Ser. No. 159,851, Dec. 18, 1961. Application for reissue Aug. 18, 1966, Ser. No. 573,492

12 Claims. (Cl. 160—346)

1. In a traverse assembly for supporting substantially upright panels, the combination comprising:

an elongated, rigid track structure having wall means forming first and second downwardly opening, elongated and parallel channels defining passageways disposed in side-by-side relationship, said passageways having the major portions thereof in horizontal alignment and on opposite sides of an upright center wall means, said passageways being spaced from each other a distance substantially equal to the thickness of said center wall means;

[first flange means on said wall means for positioning and mounting said track structure with respect to a horizontal supporting surface;]

said wall means including laterally extending first flange means adjacent the top wall of said track assembly and mounting means having a portion which extends over said top wall and engages said first flange means for positioning and mounting said track assembly with respect to a support structure;

second flange means on said channel members defining first and second slide rail means extending along the opposite edges of each of the open sides of said first and second channels, respectively;

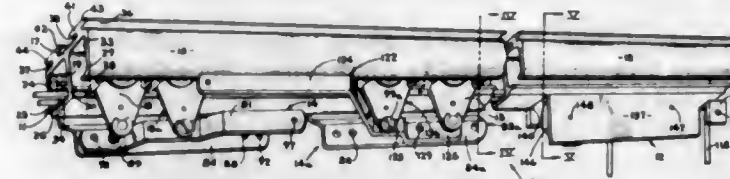
a plurality of first carrier means extending into said first channel and supported upon said first slide rail means for movement lengthwise thereof;

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second carrier means extending into said second channel and supported upon said second slide rail means for movement lengthwise thereof, said second carrier means including;
an outrigger member connected to one of said first carrier means; and



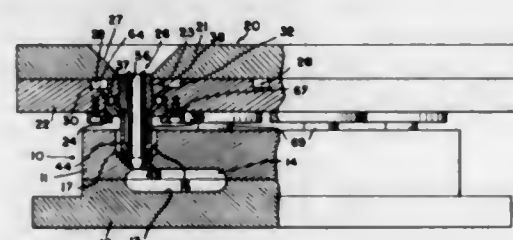
[an elongated flexible element having two parallel portions] *driving means* disposed within said second channel and connected to said second carrier means for effecting movement thereof.

26,270
BLOW PLATE ASSEMBLY

Robert E. Bego, Bloomfield Hills, and William J. Thomas and Anthony N. Voltattornl, Birmingham, Mich., assignors to Progress Pattern Co., Southfield, Mich., a corporation of Michigan

Original No. 3,163,894, dated Jan. 5, 1965, Ser. No. 270,425, Apr. 3, 1963. Application for reissue July 8, 1966, Ser. No. 572,167

4 Claims. (Cl. 164—200)



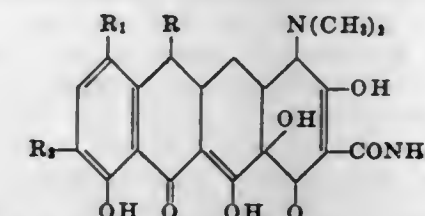
6. A blow-tube assembly for the forming of core and like elements, comprising a supporting unit having a pair of superposed upper and lower plates providing an internal liquid circulating space therebetween, and at least one hole opening through the bottom of the lower plate and having a counterbore at the lower end of the hole, a cylindrical blow-tube unit sized for a telescoped sliding fit in said hole counterbore, said tube unit including an inner blow-tube member from a lower end of which a discharge of core forming material takes place, the upper end of said inner member extending upwardly through said hole and through an opening in said upper plate to receive material from above the latter, a tubular jacket member distinct from said tube member and in surrounding relation thereto to enclose a liquid circulating space within the tube unit, said last named space being in communication with said circulating space of the supporting unit, and means for removably mounting said blow-tube unit to the supporting unit, as telescopically received by the latter, comprising an enlarged flange on one of said members between the upper and lower ends of the tube unit, and means removably but fixedly engaging said supporting unit and radially overlapping said flange to hold the blow-tube unit to the supporting unit.

26,271 REDUCTIVE ALKYLATION PROCESS

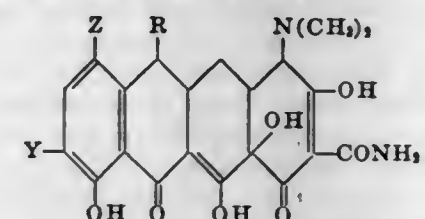
REDUCTIVE ALKYLATION PROCESS
James Howard Boothe, Montvale, N.J., and Joseph Petisi,
Suffern, N.Y., assignors to American Cyanamid Com-
pany, Stamford, Conn., a corporation of Maine
No Drawing. Original No. 3,148,212, dated Sept. 8, 1964,
Ser. No. 161,412, Dec. 22, 1961. Application for re-
issue Dec. 20, 1966, Ser. No. 606,499

20 Claims. (Cl. 260—559)

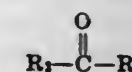
1. The process of preparing compounds of the formula:



wherein R is selected from the group consisting of hydrogen and methyl and R₁ and R₂ are each selected from the group consisting of hydrogen, mono(lower alkyl) amino and di(lower alkyl)amino with the proviso that R₁ and R₂ cannot both be hydrogen, which comprises contacting a compound of the formula:



wherein R is selected from the group consisting of hydrogen and methyl and Y and Z are each selected from the group consisting of hydrogen, amino, a substituent reducible to amino, mono(lower alkyl)amino and a substituent reducible to mono(lower alkyl)amino with the proviso that Y and Z cannot both be hydrogen, with a carbonyl compound of the formula:

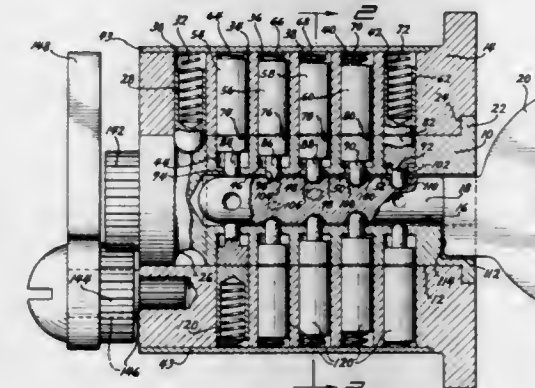


wherein R_3 is selected from the group consisting of hydrogen and lower alkyl and R_4 is selected from the group consisting of hydrogen and lower alkyl, in the presence of a reducing agent.

26,272
LOCKING MECHANISMS

Joseph Schreiber, 18507 Forrer, and George Schreiber, 18493 Winthrop, both of Detroit, Mich. 48235
Original No. 3,167,943, dated Feb. 2, 1965, Ser. No. 180,596, Mar. 19, 1962. Application for reissue Aug. 25, 1966, Ser. No. 582,179

9 Claims. (Cl. 70—358)



7. A locking mechanism for operating a latching mechanism and comprising in combination: a substantially cylindrical stationary barrel-like housing having a cylindrical longitudinal axial bore extending from end to end;

a cylindrical plug rotatably and coaxially disposed in said bore in said housing, said plug having a cylindrical longitudinal coaxial bore having at least one open end; a shoulder on the peripheral surface of said plug situate coaxially the open end of said plug; a correspondingly enlarged diameter portion on the longitudinal bore of said housing; a coaxial concentric circular groove on the peripheral surface of the other end of said plug; spring biased means disposed in said concentric circular groove for securely maintaining said plug within the longitudinal bore of said housing whilst still allowing rotation of said plug in relation to said housing; first radial bores in said housing; second radial bores in said plug normally axially aligned with said first radial bores and having a main diameter portion substantially equal to the diameter of said first radial bores and a reduced diameter portion leading into the coaxial bore in said plug; a tumbler in each said first radial bore; a pin in each said second radial bore, each pin having a reduced diameter portion with a hemispherical end adapted to normally project within the coaxial bore in said plug through the reduced diameter portion of said second radial bore and a plurality of said pins having varied body lengths according to a predetermined code; coil springs normally urging said tumblers and their corresponding pins towards the common axis of said housing and plug, and forcing said tumblers part of the way into said second radial bores of an amount determined by the length of the enlarged body portion of the corresponding pin for normally locking said plug and said housing together; a cover plate covering said first radial bores in said housing and normally maintaining said coil springs under compression; a key having a substantially cylindrical shank portion adapted to be introduced all the way into the coaxial bore in said plug; depressions on the surface of said shank according to said predetermined code for lifting said pins of an amount corresponding to their respectively varied body lengths to cause the abutting surfaces of said tumblers and pins to be aligned with the adjoining ends of said first and second radial bores for unlocking said plug from said housing; means integral with said shank for rotatably driving said plug in relation to

said housing when said shank is introduced all the way in the coaxial bore in said plug; and means driven by said plug for actuating said latching mechanism.

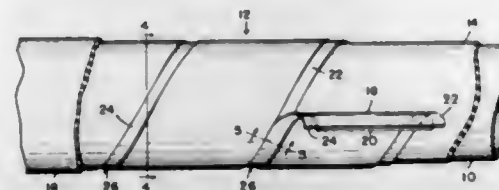
26,273

PIPE WRAPPING

Ted Kennedy, Jr., Ann Arbor, Mich., assignor to The Trenton Corporation, Ann Arbor, Mich., a corporation of Michigan

Original No. 3,126,034, dated Mar. 24, 1964, Ser. No. 73,808, Dec. 5, 1960. Application for reissue July 28, 1965, Ser. No. 476,229

9 Claims. (Cl. 138-144)



8. In combination, a pipe and a plastic-edged covering for said pipe, said covering comprising a length of flexible carrier board of abrasion-resistant, heat-resistant material, and a length of flexible plastic film, said plastic film and said carrier board being in surface-to-surface relation to one another, whether bonded together or not, and wound helically about said pipe with the plastic film inward toward said pipe, the leading edge of the convolutions of said plastic film extending beyond the leading edge of the convolutions of said carrier board to provide a continuous plastic lap surface, the portion of each convolution of said plastic film adjacent the trailing edge thereof overlapping the lap surface provided by the leading edge of the plastic film of the preceding convolution to provide a continuous plastic-to-plastic overlap joint, said plastic film providing a dielectric moisture proof, continuous inner plastic barrier which is resistant to soil chemicals and bacteria, and said carrier board providing an outer cover for said plastic film protecting the same against mechanical damage and heat.

PATENTS

GRANTED SEPTEMBER 26, 1967

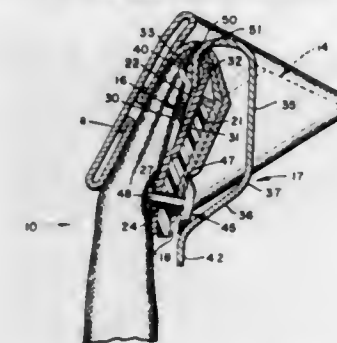
GENERAL AND MECHANICAL

3,343,176

FASTENING MEANS FOR NECKTIE KNOT
FORMER AND SUPPORT

Harry Kanter, 535 E. 86th St., New York, N.Y. 10028, and Robert Kallman, 612 Forest Hills Drive, Wilmington, N.C. 28401

Filed Dec. 2, 1965, Ser. No. 511,032
5 Claims. (Cl. 2-153)



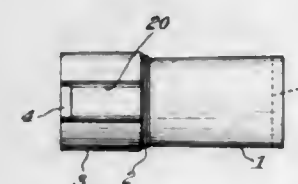
1. A knot forming and support device adapted to have a necktie knotted thereabout, said device comprising a body member, a spring plate mounted thereon, a clamp arm on said spring plate and pivotable from an open to a closed position, and a lowermost horizontal securing pin having a rearward head on one end thereof, said head being adapted to secure a fabric necktie between it and the rear side of said body member, the lower end of said body member being formed with an opening, said pin having a stem extending through said opening, said stem being tapered from thicker to thinner from its said head down to its opposite end, and said head having teeth for biting against the knotted fabric necktie.

3,343,177

ARCHER'S FINGER PROTECTORS

Albert C. Bellamy, Rte. 3, Clarksville, Tenn. 37040

Filed Dec. 22, 1965, Ser. No. 515,589
5 Claims. (Cl. 2-21)



1. An archers finger protector comprising a hollow flexible rubber cylinder open at both ends and adapted to receive the first three joints of a finger, a first layer of thicker rubber disposed peripherally about the outer surface of the cylinder in the region of that portion thereof covering the first finger joint but having a peripheral space between opposite ends of the first layer, and a second layer of the synthetic cloth overlying said first layer.

3,343,178

PUMP AND FILTER APPARATUS FOR A
CHEMICAL TOILET

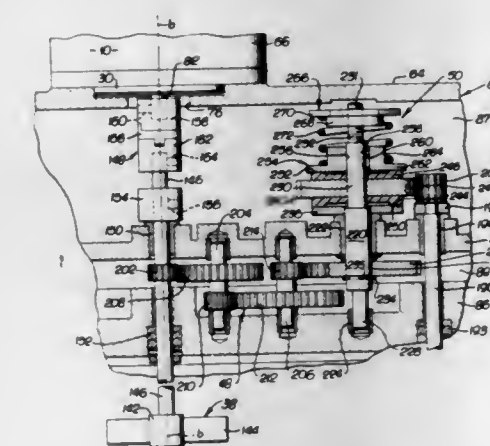
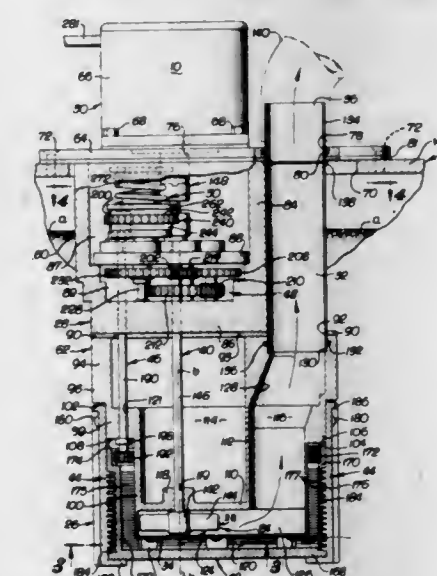
Norbert J. Palmer, Playa Del Rey, Calif., assignor to Monogram Industries, Inc., Culver City, Calif.

Filed Feb. 1, 1966, Ser. No. 524,300
4 Claims. (Cl. 4-115)

4. In a self-contained toilet system that includes a toilet bowl and a tank for holding the liquid of the system, self-cleaning pump-and-filter apparatus for circulating

ing a quantity of relatively clear liquid from the tank to the bowl for return to the tank, said apparatus comprising:

reversible pump means having an inlet, said pump means being positioned, constructed and arranged to draw liquid into said inlet and to deliver the liquid in the same predetermined direction from the tank to the bowl for either direction of its operation, a reversible filter arrangement including a filter means disposed outwardly of said pump inlet and filter wiper means disposed immediately outwardly of said filter means, said filter arrangement including means supporting said filter means and said wiper means for



relative movement therebetween to remove material deposited on said filter means, said direction of relative movement being changed by reversal of the direction of operation of said filter arrangement to effect self-cleaning of said filter arrangement, and operating means operatively associated with said pump means and with said filter arrangement for operating both said pump means and said filter arrangement in either one direction or the other, said operating means comprising a single reversible motor means for operating both said pump means and said filter arrangement in either one direction or the other, said pump means including a rotor connected to the output shaft

of said reversible motor and cooperating with the housing of said pump means to produce liquid flow from said tank through said filter means and into said pump housing, in that order, regardless of the direction of rotation of said motor output shaft.

3,343,179

TRAINING CHAIR

James F. Sellars, Jr., Columbus, Ind., and Reynold C. King, Prescott, Ariz., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Mar. 19, 1965, Ser. No. 441,116
20 Claims. (Cl. 4-134)

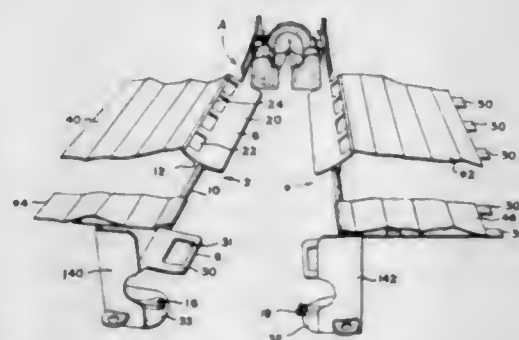


1. An infant's training device for use in combination alternatively with a conventional toilet seat or a supporting base structure, comprising a seat portion provided with a centrally disposed opening, means forming a pair of upwardly directed projections disposed in rigidly fixed position with respect to said seat portion along the lateral edges of said seat portion and extending toward the rear thereof, means on said device for locating it in an operative position on said toilet seat or base structure, a lid having a lateral extent less than the spacing between said projections swingably mounted on said seat portion for movement between a closed position overlying said opening and a raised position projecting upwardly from said seat portion, and a transversely extending rod removably mounted in said means forming said upwardly directed projections adjacent the upper ends thereof for supporting said lid in its raised position when said device is used on said toilet seat.

3,343,180

STRETCHER

Francis X. Lothschuetz, Metairie, La., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Apr. 18, 1966, Ser. No. 543,206
5 Claims. (Cl. 5-82)



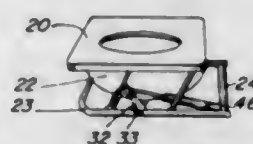
1. A stretcher for use in lifting the body of an immobilized person, comprising an elongated member constructed and adapted to be positioned under the body, a head receiving member at the head end of the stretcher comprising a head mould support formed of a rigid plate which is connected to an end part of the body supporting

member and which forms a substantially continuous surface at the head end of the stretcher, a head mould member comprising a block of substantially rigid material which is mounted on the front surface of the head mould support plate and which is hollowed out to the contour of the shape of the back of the head and neck of a human being, a soft lining for said head mould including the contoured part thereof, a substantially rigid hollow head piece of quarter-spherical shape constructed and adapted to be mounted on the head mould member in position to co-operate with the contoured part of the head mould to enclose the upper front part of the head of the immobilized person, and means for releasably mounting the head piece on the head mould in such co-operating position.

3,343,181

DEVICE FOR LIFTING AND SUPPORTING BED PATIENTS

Richard D. Grant, 19015 Shelburn Drive, Shaker Heights, Ohio 44120
Filed Nov. 8, 1965, Ser. No. 506,821
7 Claims. (Cl. 5-90)

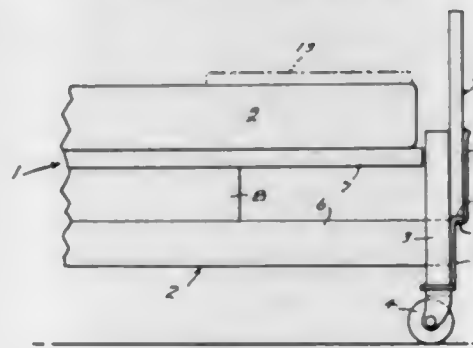


1. In combination with a lifting mechanism including a base member, a supporting member, and link means at opposite sides of said mechanism interconnecting said base member and supporting member, a mechanism for actuating said lifting mechanism and maintaining an elevated position of said supporting member comprising:
an actuating arm pivotally mounted on said base member on a fixed axis of rotation at a position spaced from said link means and adapted to bear on an intermediate point on said link means to rotate said link means to elevate said supporting member, and, a latch member pivotally mounted on said mechanism at a position spaced from the axis of rotation of said lifting arm and having a hook adapted to engage a portion of said actuating arm spaced from said axis at a particular angular position of said arm.

3,343,182

INVALID BED

Thomas J. Waters, Bethesda, Md., assignor of one-half to Janet M. Holder, Arlington, Va.
Filed Apr. 14, 1966, Ser. No. 542,658
4 Claims. (Cl. 5-92)

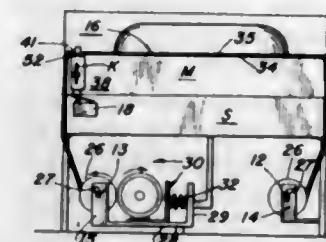


1. An invalid bed especially adapted for use in an intensive care ward, said bed comprising a frame, supporting means for said frame, a mattress disposed on said frame, a chest-board, a chest-board holder carried by said frame, said chest-board being mounted in said holder for instant removal therefrom for insertion between said mattress and the back of a patient on said bed.

3,343,183

BED-LINEN-CHANGING MECHANISM

Willis C. Sannes, 2312 S. 20th Ave., Broadview, Ill. 60153
Filed Aug. 30, 1965, Ser. No. 483,407
12 Claims. (Cl. 5-317)

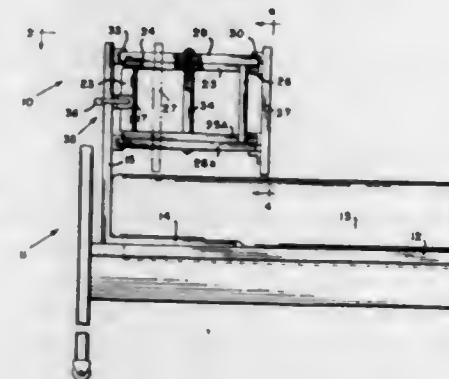


1. A bed-linen-changing mechanism for use with a conventional bed frame having a mattress thereon, the mechanism comprising, a pair of elements for journaling on the bed frame below the mattress, a predetermined length of a web of conventional bed-linen material equal to a plurality of normal size bed-linen units the opposite ends of which web of material are attached to the respective elements with the web overlaying the mattress, a means for activating the elements to advance the web of material to successively locate each fresh bed-linen unit in use position on the mattress concurrently with the withdrawal of a used bed-linen unit from the mattress, and indicia spaced uniformly along the web of material for successively arresting the operation of the element activating means as a fresh unit of bed linen is moved into proper use position on the mattress.

3,343,184

FOOT BOARD

Nathan H. Friedman, 991 E. Broadway, Stratford, Conn. 06497, and Walter Andruschkevich, Sr., 358 Daniels Farm Road, Trumbull, Conn. 06611
Filed Oct. 24, 1965, Ser. No. 504,922
4 Claims. (Cl. 5-317)

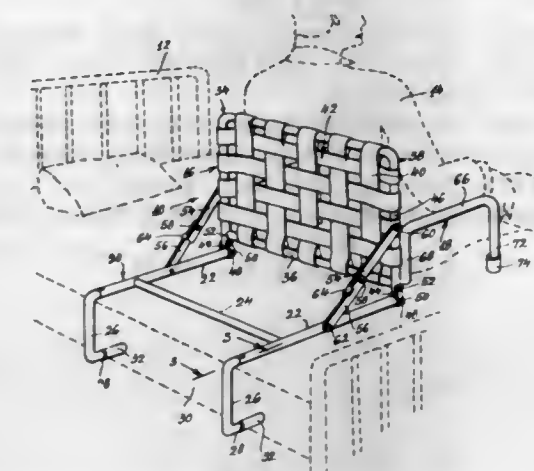


1. A foot board for beds comprising in combination, a base member having angularly disposed plates, one of which is adapted to fit between a mattress and support therefor, and the other to extend upwardly above the foot end of the mattress; a foot support plate adjustably connected to said upwardly extending plate; and mechanical advantage means including spaced pairs of substantially horizontally disposed scissors-like linkage means interconnected to said support plate and said upwardly extending plate for moving said foot support plate toward and away from said upwardly extending plate, the linkage means of each pair of linkages means being pivotally connected to a pivot pin extending vertically between said horizontal pairs, said mechanical advantage means including crank means for moving said linkage means and said foot support plate toward and away from said upwardly extending plate.

3,343,185

COLLAPSIBLE, COMBINED BACKREST AND ARM-REST FOR A PATIENT OR INVALID

Marie Nemser, 905 West End Ave., New York, N.Y. 10025
Filed Oct. 7, 1965, Ser. No. 493,776
1 Claim. (Cl. 5-327)

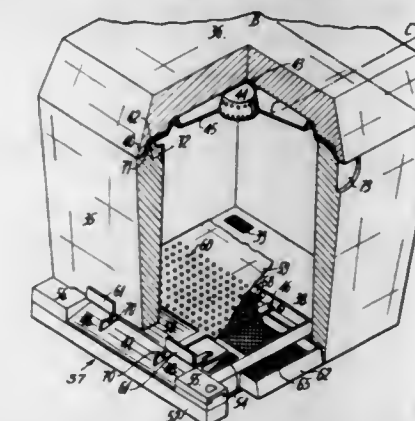


A combined backrest and armrest device for patients, in combination, a bed, an aluminum frame extending partly across the bed, from one side thereof, a backrest supported in upright position on the inner end of said frame, armrests swivelly secured at one end to the backrest and supported at the other end on the bed when the device is erected, the backrest consisting of a rectangular aluminum inverted U-shaped tubular frame with fabric tapes criss-crossing the frame, the first-named frame including a pair of aluminum tubular parallel bars with hooked ends adapted to engage under said one side, the other ends of the tubular parallel bars being pivotally connected to the bottom of the backrest, said connection including U-shaped straps pivotally secured to the backrest and pivotally secured to the other ends of the tubular bars, the armrests constituted by inverted U-shaped aluminum tubular bars, extending from the backrest in the direction of the other side of the bed, one of the legs of the U-shaped bars being swivelly connected to one end of the backrest whereby the armrests are adapted to be swung against the backrest in collapsed condition.

3,343,186

HIVE

Guy Dunand, Thonon-les-Bains, France, assignor of fifty percent to Louis Christin, Thonon-les-Bains, Haute Savoie, France
Filed June 3, 1965, Ser. No. 461,102
Claims priority, application Switzerland, June 12, 1964, 7,851/64
13 Claims. (Cl. 6-1)



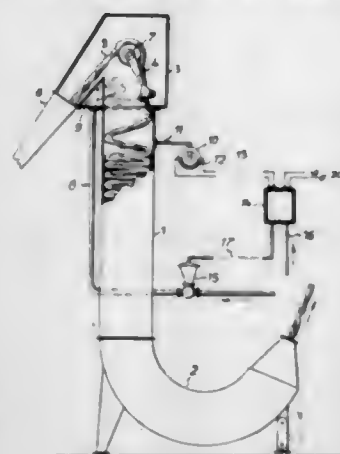
1. A hive comprising a hive body, a feed basin covering the hive body, the basin having an opening through the bottom thereof to permit bees to pass to the upper side of the feed basin, an upstanding marginal flange about said opening to prevent liquid feed from flowing through

said opening, and a cover carried by said basin and spaced from and surrounding said flange, said cover having openings therethrough of a size to permit the flow of feed to adjacent said flange but to prevent bees from passing through the cover.

3,343,187

METHOD OF CONTROLLING THE STEAM IN TREATMENT CHAMBERS FOR TEXTILE MATERIALS

Gunter Schiffer, Krefeld-Bockum, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany
Filed Mar. 1, 1965, Ser. No. 437,004
Claims priority, application Germany, Mar. 5, 1964, K 52,300
2 Claims. (Cl. 8—149.3)



1. A method of controlling the steam in a closed treatment chamber for textile materials which is exposed to external atmospheric pressure, in which said materials pass into and out of said chamber through inlet and outlet openings exposed to said atmospheric pressure, said openings allowing gases to pass into and out of said chamber under sufficient differential pressures, said method comprising admitting steam under pressure into said chamber, sensing the pressure of said steam in said chamber, and controlling the admission of said steam to maintain said steam in said chamber at a constant pressure which is above atmospheric pressure to provide treatment of said materials, but below the pressure which would allow the escape of a substantial amount of steam through said inlet and outlet openings.

3,343,188

STOWAGES FOR INFLATABLE LIFERAFTS AND THE LIKE

Sidney A. Tuck, West Kirby, Cheshire, England, assignor to Frankenstein Group Limited, a company of Great Britain, Northern Ireland and the Isle of Man
Filed June 18, 1965, Ser. No. 465,116
3 Claims. (Cl. 9—33)



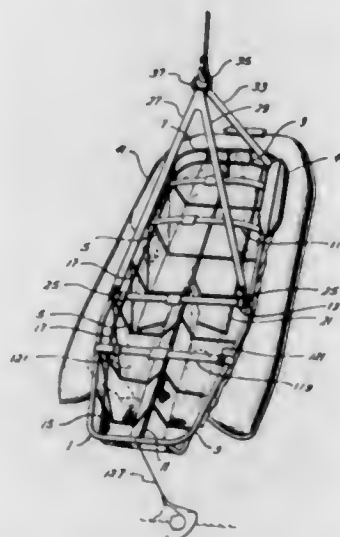
1. A buoyant container for a collapsed inflatable liferaft and self-contained means for effecting inflation of the same, comprising a trip line connected to said inflation

means and extending outwardly of said container, closure means for said container adapted to permit bursting open of the latter in response to inflation of the liferaft there-within, a lashing normally effecting location of said container on shipboard, an anchorage on shipboard, an hydrostatic release device providing a temporary connection between said lashing and said anchorage, an eye-bolt normally captive in said release device and having said lashing attached thereto, a spur on said eye-bolt for engagement by said trip line and normally disposed adjacent said release device so as to maintain said trip line engaged therewith, an additional but relatively weak link adapted to provide temporary connection between said trip line and said anchorage on release of said lashing by said hydrostatic device.

3,343,189

RESCUE LITTER FLOATATION ASSEMBLY

Richard A. Pollard and Glenn A. Shewmake, Houston, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Aug. 24, 1965, Ser. No. 482,311
5 Claims. (Cl. 9—312)



1. A floatable rescue device for supporting a person in the water and retrieving him therefrom comprising: a litter means having a head end and a foot end and adapted to support said person; buoyancy means connected to the litter at said head end for normally floating said litter in a substantially vertical position with respect to the surface of the water with a portion of said head end thereabove whenever said litter means is in the water; inflatable tube means attached to the litter proximate said foot end, said inflatable tube means normally being in a deflated condition when said rescue device is initially placed in the water; means connected to said inflatable means for inflating said tube means while said litter floats substantially vertical whereby said tube means upon inflation will cause said litter to move to a substantially horizontal position with respect to the surface of the water.

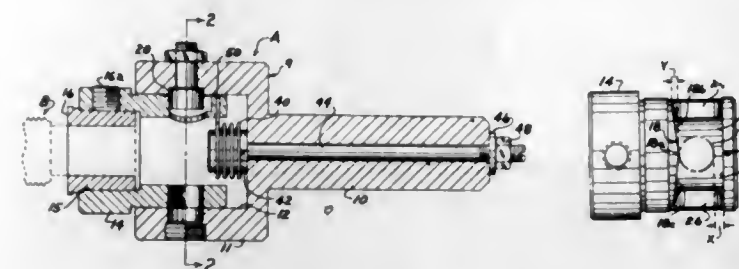
3,343,190

TAP HOLDER

Gilbert F. Lutz, Chesterland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 4, 1965, Ser. No. 477,251
22 Claims. (Cl. 10—135)

1. A toolholder for holding a tapping tool adapted to engage a rotating workpiece to thread a portion thereof comprising a tap holder sleeve for receiving and holding a tapping tool therein, a support for the tap holder sleeve

having a portion receiving said top holder sleeve for rotation and axial movement relative thereto, spring means for selectively biasing said tap holder sleeve relative to said support in opposite directions of rotation corresponding to the direction of rotation of the workpiece during tapping thereof, means carried by said support and operable to vary the direction of bias of said spring, said

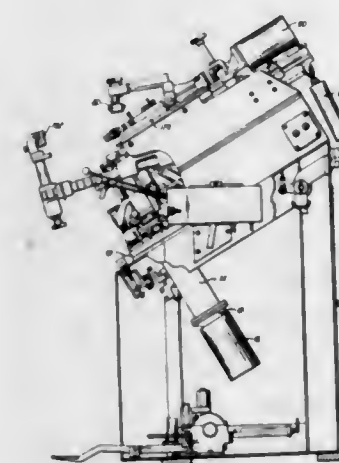


support having a portion engageable with a portion of the tap holder sleeve when the tap holder sleeve is biased to a predetermined position by said spring means and effective to move said tap holder sleeve axially toward said workpiece, and means including a lost motion connection between said tap holder sleeve and said portion of said support and providing for axial movement of said tap holder sleeve relative to said support.

3,343,191

LASTING MACHINE HAVING BEDDING TOOL

Allen C. Harriman, Brockton, Mass., assignor to Jacob S. Kamborian, Boston, Mass.
Filed Feb. 21, 1966, Ser. No. 528,749
11 Claims. (Cl. 12—7.1)



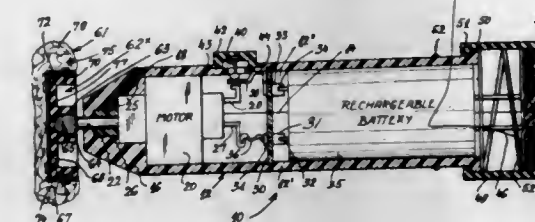
1. A lasting machine for wiping a selected portion of the margin of an upper against the corresponding portion of an insole comprising: a support arrangement for supporting bottom-down a shoe assembly that comprises a last having an insole located on its bottom and an upper mounted thereon with the selected portion of the upper margin extending downwardly of the insole; a block; a pair of wiping units movably mounted on the block, said wiping units having front side surfaces that diverge forwardly from a vertex and back side surfaces that extend rearwardly of the vertex; means mounting the wiping units for movement through a wiping stroke from a retracted position wherein the wiping units are located rearwardly of said selected portions of the shoe assembly to an advanced position wherein the wiping units move forwardly, said front side surfaces swing inwardly about the vertex to wipe said margin portion against the insole and said back side surfaces separate to leave a gap therebetween that is beneath a segment of the wiped margin portion; a bedding unit, located between said back side surfaces, movably mounted on the block; cooperative

guide means on the bedding unit and the block constraining the bedding unit for forward movement; means so connecting the bedding unit and the wiping units that in the retracted position of the wiping units the bedding unit is located rearwardly of said back side surfaces and that during the wiping stroke the bedding unit moves forwardly on the block at a greater rate than the wiping units into said gap in response to the swinging movement of the wiping units about said vertex to lie beneath said segment of the wiped margin portion when the wiping units are in their advanced position; and means for applying a downwardly directed bedding pressure by the shoe assembly against the wiping units and the bedding unit when the wiping units are in their advanced position that is borne by the block.

3,343,192

POWER OPERATED CLEANING DEVICE

Morton Goldstein and Roberta I. Goldstein, both of 156 Truman Terrace, Paramus, N.J. 07652
Filed Jan. 28, 1966, Ser. No. 523,710
1 Claim. (Cl. 15—23)



In a portable cleaning and scouring device, an elongated hollow casing open at one end and closed at the other end, the closed end having a bore, a low-voltage drive motor in the closed end of the casing, a shaft driven by said motor and extending through said bore to the exterior of the casing, a rechargeable electric battery in the casing at the other open end of the casing, means of operative connection between the motor and battery including a pair of fixed contacts extending radially of the motor, a fixed contact on the battery connected to one of said fixed contacts on the motor, and a movable contact on the battery adapted to be moved into contact with the other fixed contact on the motor, a pair of prongs extending from the battery and forming an extension thereof, a compression spring sleeved around the prongs, in spaced relation thereto, and an insulated cap slidably mounted on the open end of the casing concealing the prongs and plugs, said cap having an opening therein, a sponge rubber plug closing the opening in the cap, said sponge rubber plug having spaced slits therein adapted to be opened by the plugs of the battery when the cap is slid inwardly in order to expose the plugs for purpose of recharging the battery.

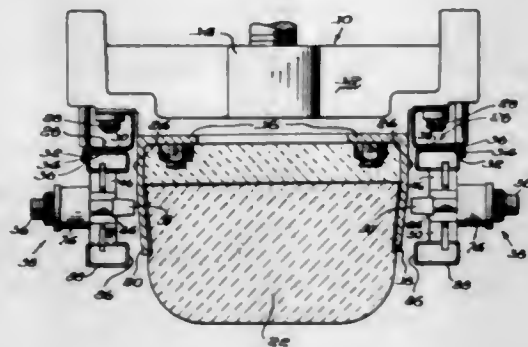
3,343,193

POWER DRIVEN TOOL FOR CLEANING COKE OVEN DOORS

Joseph J. Ciochetto, Glenshaw, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,124
10 Claims. (Cl. 15—93)

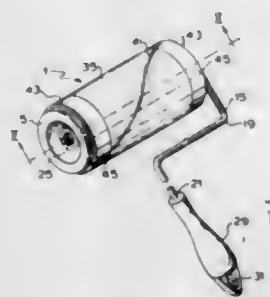
1. A tool for cleaning a coke oven door having a side wall and a seal member extending laterally therefrom comprising, an arbor having an axial bore for receiving a drive shaft, a drive shaft positioned in said axial bore, means to secure said drive shaft in said axial bore for rotation of said arbor therewith, said arbor having a front planar surface with a transverse recessed portion therein,

a tubular cutting element positioned in said transverse recessed portion and extending forwardly from said arbor, said cutting element having a rectangular configuration with a bottom wall, a pair of side walls, and a top wall, said top wall having a pair of parallel side edge portions tapering inwardly and forming cutting surfaces for said cutting element, and



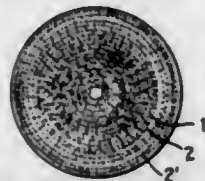
means to secure said cutting element bottom wall in said arbor front planar surface transverse recessed portion, said cutting element top wall side edge portions operable upon rotation of said drive shaft to remove the tarry material deposited on said coke oven door during the coking operation.

3,343,194
LINT REMOVER
Samuel Ramelson, 5355 Rosedale Ave.,
Montreal, Quebec, Canada
Filed Sept. 20, 1965, Ser. No. 488,425
Claims priority, application Canada, Apr. 22, 1965,
928,793
3 Claims. (Cl. 15—104)



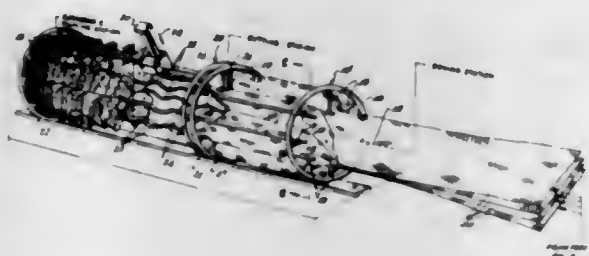
1. A lint remover comprising a roller having a strip of pressure sensitive adhesive material wound thereabout and a handle on which said roller is rotatably mounted, said strip of pressure sensitive adhesive material having an exposed tacky surface, the other surface being essentially adhesive-free, said strip being wound upon itself to provide a plurality of layers of said material of predetermined depth so that the said adhesive-free backing surface of each of said layers is in adhesive engagement with the tacky surface of the next adjacent layer, said tacky surface of each of said layers having an adhesive-free portion at at least one marginal side edge thereof and said plurality of layers having a slit of a depth substantially equal to said predetermined depth, said slit extending from one marginal edge to the other marginal edge of said layers and being angulated with respect to the marginal side edges thereof to facilitate the gripping and unwinding of each layer of said material so that the tacky surface of each underlying layer is exposed for service.

3,343,195
BRUSH CONSTRUCTION
George E. Menges, Baltimore, Md., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 16, 1964, Ser. No. 404,401
12 Claims. (Cl. 15—179)



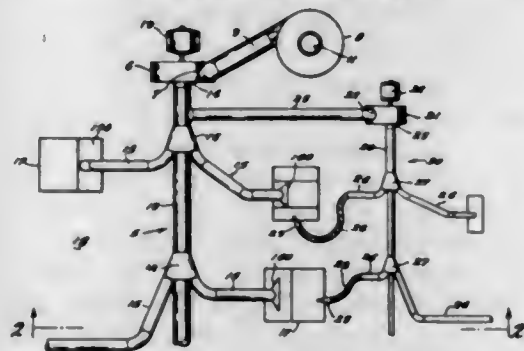
1. A power-driven brush comprising metallic filaments of thick cross-section and metallic filaments of thin cross-section, the proportion of thick filaments to thin filaments being about 10:1 to about 1:50, wherein the filaments of thin cross-section have a minimum diameter of about 0.003 inch and the filaments of thick cross-section have a maximum diameter of about 0.05 inch.

3,343,196
SCRUB PUFF
Paul L. Barnhouse, 2090 College View Drive,
Monterey Park, Calif. 91754
Filed Aug. 3, 1964, Ser. No. 386,935
2 Claims. (Cl. 15—209)



1. A scrub puff comprising a plurality of elongated layers of open net fabric; stitching extending centrally and longitudinally of the layers for substantially the full length thereof, securing only the layers together; the stitched layers being gathered lengthwise and compressed tightly in random folds; and a single metallic staple centrally of the puff engaging and holding the folds in gathered position but allowing the free portions of the layers around the staple to extend outwardly away from the fastening means in random directions to present a general ball shape to the puff.

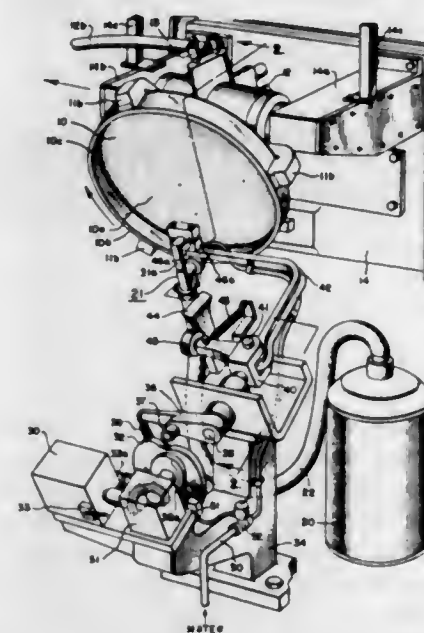
3,343,197
DUST COLLECTOR SYSTEM
Eugene A. Carsey, Cincinnati, Ohio, assignor to The Kirk & Blum Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 23, 1964, Ser. No. 413,201
1 Claim. (Cl. 15—301)



In a system of the class described including an existent high volume, low pressure dust and particulate material collector having a dust and particulate material transmitting main exhaust duct, branch pipes connected to said

duct, said branch pipes having dust receiving hoods on their terminal ends, the improvement comprising a relatively high pressure, low volume particulate collector having a particulate material handling fan, a main exhaust pipe connected to the intake side of the fan, branch pipes connected into said main exhaust pipe along its longitudinal extent, each branch pipe having a relatively restricted, particulate entraining nozzle, and a particulate material transmitting pipe connecting the discharge side of the fan directly into the main exhaust duct of the existent high volume, low pressure dust and particulate material collector.

3,343,198
COLOR TUBE PROCESSING APPARATUS
Raymond J. Pekosh, Chicago, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 12, 1965, Ser. No. 507,441
6 Claims. (Cl. 15—306)

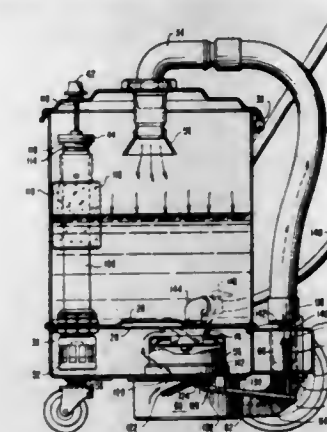


1. Apparatus for processing a color cathode-ray tube having a cap section comprised of an image screen area surrounded by a continuous flange having supports for mounting a color-selection mask in predetermined spaced relation to said screen area, said apparatus comprising:
a workholder for supporting said cap section for rotation;
an exhaust system including a fixture having an exhaust channel extending therethrough and terminating in a nozzle which has a recess dimensioned to at least partially enclose one of said mask supports of said cap section, said fixture being movable from a rest position in which said nozzle is out of the path of movement of said mask supports to an exhaust position in which at least one of said mask supports is presented to said recess of said nozzle;
and means for moving said exhaust fixture between said rest and exhaust positions in timed relation to the rotation of said cap section by said workholder.

3,343,199
CLEANING DEVICE
Louis C. Nolte, 415 E. Potter, Wood Dale, Ill. 60191
Filed Jan. 18, 1965, Ser. No. 426,122
10 Claims. (Cl. 15—319)

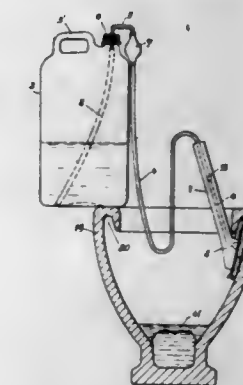
6. A suction cleaner of the class described comprising a housing, said housing comprising a collector can and a motor housing, said collector can removably mounted on said motor housing whereby the base of said collector can serves as a partition separating said collector can from said motor housing, an opening formed in said base providing air communication between said collector can

and said motor housing, said collector can having a removable lid, an inlet conduit in said lid, a valve controlled outlet drain secured to said collector can, a motor driven exhaust fan mounted in said motor housing, said motor housing having an outlet conduit secured thereto whereby operation of said motor driven fan exhausts air from said motor housing and causes a suction at said inlet conduit, an externally operated valve for positively closing said opening in said base independently of the level of liquid in said collector can whereby operation of said motor while said valve is open produces a suction at said inlet conduit in said collector can, an inlet opening in said



motor housing, a closure for said opening movable between an inlet open and an inlet closed position, a hose removably connected between said outlet conduit in said motor housing and said inlet conduit in said collector can whereby operation of said motor while said valve closes said opening in said base and said closure is in an inlet open position draws air into said motor housing through said inlet opening and forces said air through said hose to said collector can to pressurize said can whereby liquid in said collector can can be forcibly pumped out of said collector can through said outlet drain independently of the level of liquid in the collector can.

3,343,200
DEVICE FOR THE REMOVAL OF LIME DEPOSITS IN TOILET BOWLS BY APPLYING SUITABLE SOLVENTS
Walter Düring, Wiblichstrasse 37, Zurich, Switzerland
Filed Feb. 26, 1965, Ser. No. 435,635
Claims priority, application Switzerland, Mar. 5, 1964,
2,809/64
8 Claims. (Cl. 15—511)



1. A device for cleaning a sanitary installation having a bowl with an inwardly overhanging rim, comprising a handle with a tubular stem terminating in a heel with a substantially planar face inclined with reference to the axis of said handle, an elongated and perforated plate lying flat against the plane of said face and extending rearwardly therebeyond with formation of an extremity including a rearwardly diverging acute angle with said axis for cleaning behind the overhanging rim of the bowl,

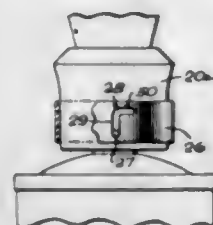
conduit means for supplying cleaning fluid to the interior of said handle, said face having an aperture registering with a perforation of said plate for the discharge of said fluid, and a porous pad overlying said perforation and extending over the major part of the free surface of said plate while enveloping said extremity.

3,343,201

SHAVING BRUSH

Boyd E. Cox, 1931 NW. 81st Terrace, and Raymond Ponton, 9547 NW. 21st Ave., both of Miami, Fla. 33147

Filed Apr. 12, 1965, Ser. No. 447,357
1 Claim. (Cl. 15-552)



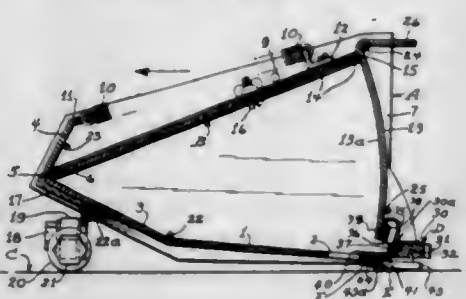
A shaving brush for use with pressurized lather dispensing cans of the type having a dispensing nozzle perpendicularly disposed at one end of the can and yieldably attached at its base for universal rocking motion with respect thereto, and wherein dispensing is effected by displacing the nozzle from its perpendicular position relative to the container, the combination comprising, a brush body member, brush bristles extending outwardly of one end of said body member, means for removably securing the other end of said body member upon the dispensing nozzle in spaced relation with respect to the end of the can, said securing means including an end-to-end opening within said brush body member for passing lather from the nozzle to said brush bristles, said securing means comprising an internal thread within said end-to-end opening threadable upon an externally-threaded portion on the nozzle, said end-to-end opening being formed with a divergently tapered portion extending into the other end of said base, means for preventing movement of said brush base with respect to the dispensing can when the brush is secured thereto, said movement preventing means comprising a sleeve surrounding said brush base and movable axially with respect thereto between positions in and out of contact with the end of the can, and means for locking said sleeve in contact position with respect to the end of the can.

3,343,202

SWINGABLE ARCuate TROWELLING BLADE FOR MASTIC APPLICATOR

Robert G. Ames, Hillsborough, Calif., assignor to Ames Taping Tool Systems Manufacturing Co., Oak Brook, Ill.

Filed Dec. 27, 1965, Ser. No. 517,517
13 Claims. (Cl. 15-595)



9. In a mastic applying tool;

(a) means for extruding a layer of mastic onto a wallboard surface as the tool is moved over the surface in a certain direction; and

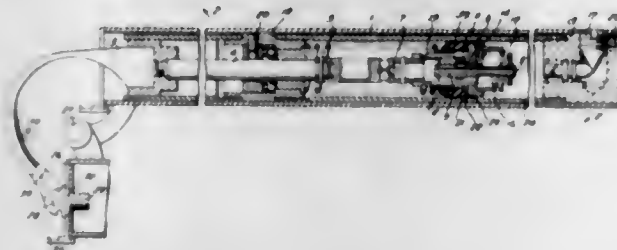
(b) an arcuate trowelling blade for forming a crown on the mastic layer and having its ends pivotally carried by the tool, said arcuate blade lying in a plane that is parallel to said pivotal axis and said axis extending transversely to the line of tool movement when dispensing the mastic layer onto the wallboard;

(c) whereby said blade will contact with any surface high point lying between the blade ends, the arcuate shape of the blade forming a shaped crown on the mastic layer that will conceal the high point, the ends of said blade contacting with said wallboard surface so as to feather the side edges of the mastic layer and cause them to merge into the adjacent wallboard surface.

3,343,203

TELESCOPING DOOR CLOSER

Ernst von Wedel, Senne, Germany, assignor to Firma Heinz Schuermann & Co., Bielefeld, Germany
Continuation of application Ser. No. 250,859, Jan. 11, 1963. This application Nov. 17, 1966, Ser. No. 596,047
15 Claims. (Cl. 16-67)

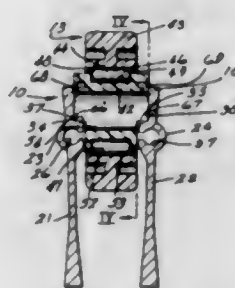


1. A telescoping door closer with a return spring and hydraulic damping comprising, in combination, a substantially cylindrical door closer housing adapted for installation in a door wing; a main piston axially displaceable in one end portion of said housing; an elongated coupling member having one end secured to said main piston and another end adapted for pivotable securing to a door frame, said coupling member being deformable in direction transverse to its elongation; a control piston displaceable in said housing and arranged axially spaced from said main piston; a piston rod connecting said main piston to said control piston for movement therewith; abutment means at the other end of said housing; a pressure relieving distributing valve adapted to follow said pistons during displacement thereof, said pressure relieving distributing valve being actuated by contact with said abutment means to decrease the amount of damping medium flowing there-through; and a sealing member for said control piston arranged displaceable with respect thereto for relieving over-pressure in said housing.

3,343,204

MODULAR CONVEYOR

James A. Ford, Sturgis, Mich., assignor to Kirsch Company, Sturgis, Mich., a corporation of Michigan
Filed Nov. 1, 1965, Ser. No. 505,802
16 Claims. (Cl. 16-97)



1. A wheel mounting structure, comprising:
a member having a pair of spaced flanges;

first interengaging means on the inner side of at least one of said flanges;

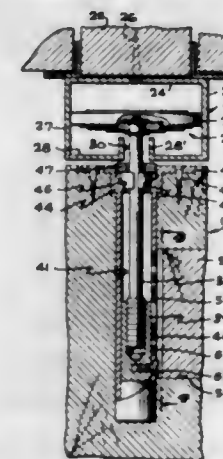
roller means including an outer ring, a journal and bearing means therebetween, said ring being axially narrower than the distance between said flanges near said first interengaging means and said journal being transaxially receivable between said flanges adjacent said first interengaging means, said journal having second interengaging means with which said first interengaging means cooperates when said journal is urged transaxially between said flanges, whereby said roller means is releasably held within said channel member and said ring is freely rotatable with respect to said journal and said member; and

cooperating stop means on said journal and said member, said stop means being engaged when said first and second interengaging means are interengaged for positively opposing further transaxial movement of said roller means with respect to said member.

3,343,205

MEANS FOR GUIDING MOVABLE WALL PANELS

Henry L. Gogerty, 5025 Maplewood Ave., Apt. 14, Los Angeles, Calif. 90004
Original application May 21, 1962, Ser. No. 196,050, now Patent No. 3,241,197, dated Mar. 22, 1966. Divided and this application Mar. 18, 1966, Ser. No. 535,495
4 Claims. (Cl. 16-106)

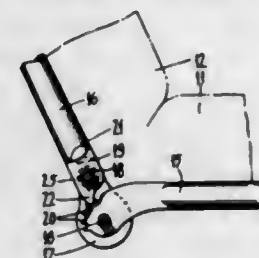


1. A guide wheel assembly adapted to be mounted in the upper margin of a mobile panel, comprising a housing for reception in a cavity in the panel an insert in said housing a post threadedly mounted in said insert and projecting therebeyond means for adjustably positioning said insert at different heights in said housing, and a guide wheel carried at the outer end of the post.

3,343,206

HINGE DEVICE

Tiovo Viktor Mannerhelmo, 296 Whitehorse Road, Nunawading, Victoria, Australia
Filed Dec. 21, 1964, Ser. No. 419,789
Claims priority, application Australia, Jan. 21, 1964, 39,955/64
4 Claims. (Cl. 16-146)



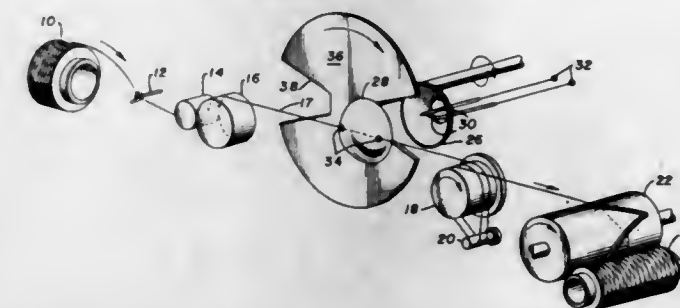
1. A hinge device comprising two arms each pivotally connected at one end to a connector link for relative angular movement about respective parallel axes, said ends

of the arms being arranged to interengage when the arms are in a plurality of predetermined angular relations, and one of the arms lockably engaging the connector link in each of said angular relations to prevent relative angular movement between the arms in one direction, the interengaging ends being releasable upon relative angular movement of the one arm relative to the connector link in the other direction.

3,343,207

NOVELTY YARN APPARATUS

John W. Mottern, Cary, and Bruce Van Voorhis, Raleigh, N.C., assignors to Monsanto Company, a corporation of Delaware
Original application Oct. 14, 1963, Ser. No. 316,026. Divided and this application Apr. 20, 1966, Ser. No. 543,875
3 Claims. (Cl. 18-1)

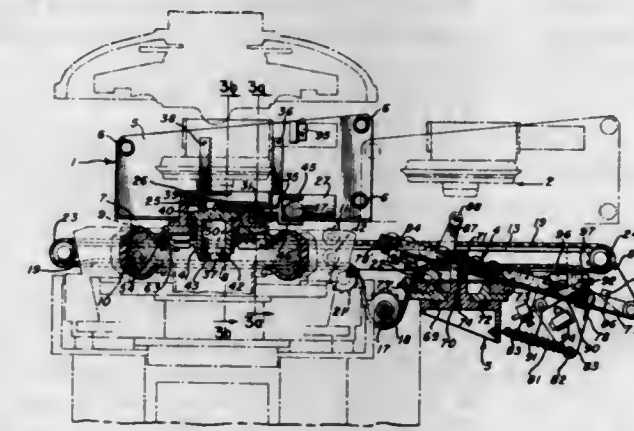


1. An apparatus for producing yarns exhibiting a variation in denier along their lengths, said apparatus comprising means to propel a continuously running length of yarn under substantially uniform tension, a pair of parabolic reflectors mounted in optical alignment, a radiant heat source disposed at the focus of one of said pair of reflectors, said propelling means being arranged to travel a length of yarn through the focus of the other of said pair of reflectors, and shutter means interposed between said pair of reflectors and operative to selectively interrupt the optical path between said pair of reflectors whereby spaced intervals along a length yarn may be heated at timed intervals of predetermined and variable occurrence and duration to thereby cause the heated segments of said yarn to be drawn to a reduced denier relative to the unheated segments thereof.

3,343,208

DEVICE FOR REMOVING A PNEUMATIC TIRE FROM THE CURING UNIT AND FOR POST-INFLATING AND DISCHARGING IT
Antonio Paciarini, Milan, and Renato Caretta, Gallarate, Italy, assignors to Pirelli, Società per Azioni, Milan, Italy

Filed Oct. 15, 1965, Ser. No. 496,344
Claims priority, application Italy, Jan. 30, 1965, 1,941/65
9 Claims. (Cl. 18-2)



1. A device for performing a series of operations on a pneumatic tire after it has been cured in a curing mold;

said device comprising a post-inflator having an upper portion and a lower portion, said upper portion including means to transfer the tire from the curing mold to said lower portion of the post inflator for the post-inflation of said tire; and means to discharge said tire after said post-inflation.

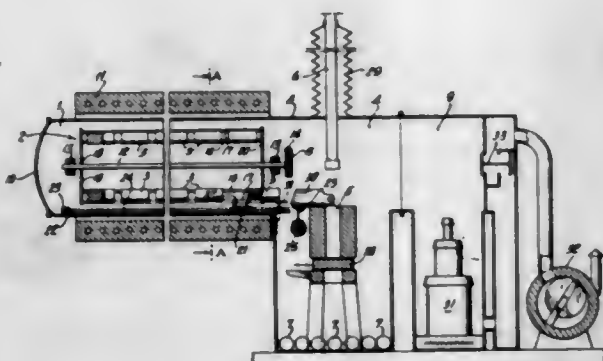
3,343,209

APPARATUS FOR THE MANUFACTURE OF DENSE SINTERED ARTICLES

John G. Solomir, Marthalen, and Rudolf Akeret and Paul Douady, Neuhausen am Rheinfall, Switzerland, assignors to Swiss Aluminum Ltd., Chippis, Switzerland, a joint-stock company of Switzerland
Filed Feb. 15, 1966, Ser. No. 527,434

Claims priority, application Switzerland, Mar. 27, 1963, 3,894/63

13 Claims. (Cl. 18-4)



1. Apparatus for the manufacture of dense sintered compacts from powdered material, comprising vacuum pump means, a gastight chamber operatively connected to said vacuum pump means, a sintering chamber which forms a part of the gastight chamber and comprises a heating device and a rotatable, drum-shaped receiving device comprising cold-compact-receiving means in the form of spaced receiving members extending parallel to the axis of the drum and providing a cage embodying a plurality of circles concentric with its axis, and in which said cold compacts are simultaneously heated and sintered in a vacuum, a pressing room which also forms a part of said gastight chamber and containing at least the tooling of a compacting press, by which tooling said sintered compacts are subsequently hot-upset one after the other; said gastight chamber being furthermore equipped with means for moving said compacts from said heated sintering portion of said gastight chamber to the container of said compacting press.

3,343,210

MEANS FOR THE MANUFACTURE OF PLASTIC CONTAINERS

Boris Guignard, Lucens, Switzerland, assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

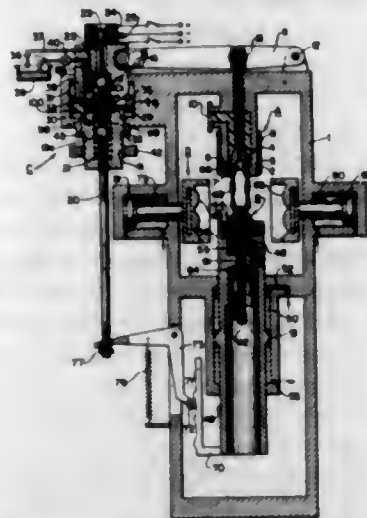
Filed Oct. 15, 1963, Ser. No. 316,364

11 Claims. (Cl. 18-5)

1. A device for extruding a plastic parison having wall thicknesses which vary along its length comprising:

- (a) an extrusion head having surfaces defining an extrusion passage;
- (b) a mandrel having surfaces complimentary to said passage surfaces positioned in and adapted for displacement with respect to said passage;
- (c) means adapted for axial reciprocating action with respect to said extrusion head and to engage the end of the plastic parison extruded from said head to draw it away from the head in timed relation with the extrusion of plastic; and,

(d) control means operatively connected to said reciprocating means and to said mandrel and adapted



to vary the position of said mandrel in said passage in response to the position of said reciprocating means with respect to said head.

3,343,211

APPARATUS FOR FORMING RING-SHAPED EXTRUDATES

Samuel W. Strickman, Bayside, N.Y., assignor to Rosen and Strickman, Newark, N.J., a co-partnership composed of Jacob J. Rosen and Samuel W. Strickman
Filed Oct. 12, 1966, Ser. No. 586,170

14 Claims. (Cl. 18-5)



1. Apparatus for depositing a ring-shaped extrudate of gasket-forming material to provide an annular seal in a container closure, said apparatus comprising a reservoir for the gasket-forming material, a dispensing head including portions defining a chamber for receiving the gasket-forming material from said reservoir, conduit means interconnecting said chamber with said reservoir, inlet valve means in said conduit means, means for selectively opening said inlet valve means and feeding gasket-forming material from said reservoir through said conduit means and into said chamber, further portions of said head defining an annular discharge opening in communication with said chamber for dispensing a ring-shaped extrudate from said head, an annular die element carried by said head forwardly and inwardly of said discharge opening for engaging the surface on which the extrudate is to be deposited to confine the extrudate to a predetermined portion of the same, an outlet valve means interposed between said chamber and said discharge opening, plunger means movable within said chamber to close said inlet valve means and to open said outlet valve means at the same time that it closes said inlet valve means, said inlet and outlet valve means being pressure responsive, said inlet valve means being responsive to a lesser pressure than said outlet valve means, means for feeding the gasket-forming material through said conduit means under a pressure great enough to open said inlet valve means but insufficient to open said outlet valve means, said plunger means reciprocally moving within said chamber to increase the pressure on the gasket-forming material therewithin sufficiently to open said outlet valve means,

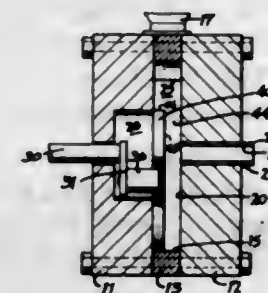
said inlet valve means including a one-way valve member disposed so that the increased pressure caused by said plunger means closes said inlet valve means.

3,343,212

ELASTIC MELT EXTRUDER FOR EXTRUDING THERMOPLASTICS

Elmer L. Adams, deceased, late of Toledo, Ohio, by Wanda J. Adams, executrix, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 11, 1964, Ser. No. 374,545

7 Claims. (Cl. 18-12)



1. In an elastic melt extruder, means enclosing an interior cylindrical melt chamber having a peripheral inlet and an axial outlet, one radial wall of said chamber defining a fixed face concentric with said outlet, a movable circular disc having a radial wall spaced axially from said fixed face through a melt gap, means for rotating said disc about its own axis, and means for bodily displacing said disc about an axis displaced from its own axis and coinciding with the axis of said chamber.

3,343,213

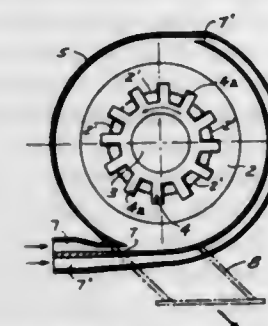
DEVICE FOR GRANULATING THERMOPLASTIC MATERIAL

Rudolf Paul Fritsch, Stuttgart-Weilimdorf, Germany, assignor to Werner & Pfleiderer, Stuttgart, Germany, a firm of Germany

Filed Mar. 19, 1965, Ser. No. 441,055

Claims priority, application Germany, Mar. 24, 1964, W 36,445

6 Claims. (Cl. 18-12)



1. A device for granulating thermoplastic synthetic material, said device comprising a die head including substantially annularly disposed discharge apertures for discharging the material to be granulated in the form of strands, a rotary cutting tool including a plurality of substantially radially disposed and circumferentially spaced cutters for granulating the discharged material, said cutting tool being mounted on the discharge side of said die head closely adjacent thereto and coaxially with the center axis of said annularly disposed apertures, a closed catching and cooling hood of substantially circular cross section disposed coaxially with said cutting tool for catching the granules formed by cutting of the discharged material, said hood housing the cutting tool and extending forwardly in reference to said die head and cutting tool, inlet conduit means connected to the hood adjacent to said die head for tangentially directing a pressurized flow of a

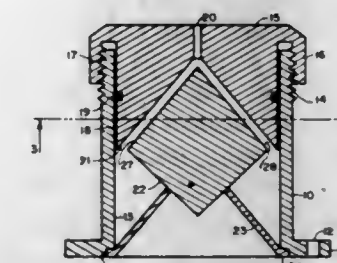
coolant into said hood to generate therein a spiraling flow of the coolant directed toward the forward end of the hood and carrying with it the granules while cooling the same, and outlet conduit means connected to said hood forwardly spaced apart from said inlet conduit means for discharging the coolant and the cooled granules therein from the hood.

3,343,214

ADJUSTABLE PRESSURE EXTRUDING DIE
John H. Myers, Ridgewood, N.J., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Aug. 24, 1965, Ser. No. 482,065

1 Claim. (Cl. 18-12)



In an apparatus for extruding foamable thermoplastic materials, an extrusion die comprising:

- (a) a housing having a substantially cylindrical passageway extending therethrough,
 - (b) a stationary member having a conical wall portion and positioned within said cylindrical passageway in spaced concentric relationship to a portion of the walls of said passageway,
 - (c) adjustable closure means having a cylindrical portion and a lip portion and having an opening extending therethrough defining a die orifice,
 - (1) said cylindrical portion having a conical recess complementary to said conical portion of said stationary member defining an annular passageway therewith in communication with said die orifice, said cylindrical portion extending into said cylindrical passageway and being in generally close sliding relationship to another portion of the walls of said cylindrical passageway,
 - (2) said lip portion extending over a portion of the outer surface of said housing and having an inner wall thereof in threadable engagement with said portion of the outer surface of said housing,
- said closure means being movable relative to said housing and said stationary member during the extruding operation whereby the dimensions of said annular passageway can be alternatively increased or decreased,
- (d) sealing means positioned between a portion of the walls of said cylindrical passageway and said cylindrical portion of said closure means for preventing leakage of said materials being extruded, and
 - (e) radially extending strut means fastening said stationary member to said housing.

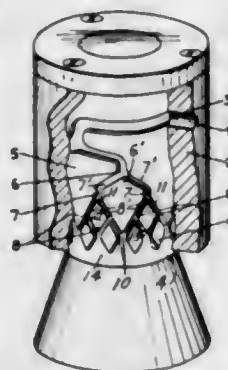
3,343,215

DEFLECTING EXTRUDER HEAD
Heinz Vinkeloe, Remscheid-Lennep, Germany, assignor to Barmer Maschinenfabrik Aktiengesellschaft
Filed Apr. 23, 1965, Ser. No. 450,337

5 Claims. (Cl. 18-14)

1. A deflecting and cross extruder head comprising a housing having as its internal surface a surface of revolution described by the revolution of a line about an axis,

a mandrel arranged within said housing, said mandrel having an outer surface fitting onto the internal surface of said housing, a semi-circular channel formed between said mandrel and said housing near one each thereof and lying in a plane perpendicular to said axis of said housing, said housing having an inlet opening communicating with said channel centrally of the ends thereof; separate distributing channel systems stemming from each end of said semi-circular channel, there being one sys-



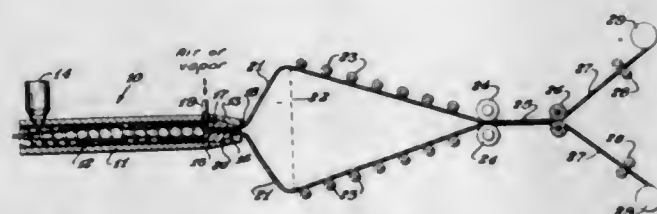
tem stemming from each end, said systems progressively and symmetrically forking in the interface between housing and mantel in the axial direction until said forking has resulted in a predetermined number of channels separated equidistantly on a circle around said interface; and a plurality of islands equal in number to said predetermined number, one of said islands being situated in each of said channels of predetermined number, each of said islands abutting against the internal surface of the housing and the outer surface of the mantel.

3,343,216

APPARATUS FOR THE PREPARATION OF FOAMED SHEET MATERIAL

Elwyn E. Merrill, Midland, Mich., and Stanley S. Tabor, Gales Ferry, and Earl W. Veazey and William E. Rittenhouse, Old Saybrook, Conn., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Original application Oct. 22, 1962, Ser. No. 233,497, now Patent No. 3,248,462, dated Apr. 26, 1966. Divided and this application Oct. 22, 1965, Ser. No. 513,888 1 Claim. (Cl. 18—14)



Apparatus for manufacturing extruded foamed styrene polymer film having essentially equal tensile properties in biaxial directions which comprises, in cooperating combination, an extruder screw rotatably housed in an extruder barrel, said extruder screw consisting essentially of three contiguous sections which are a first section having a constant pitch and increasing root diameter in the forwarding direction of said screw, a middle section having a constant pitch and constant root diameter which is smaller than the adjacent root diameter of said first section, and an end section having a constant pitch and constant root diameter which is larger than the root diameter of said middle section; an extrusion die having a circular inlet end and a circular outlet orifice end, the volume of said die diminishing from said inlet end to said orifice end, the internal surfaces of said die being smooth and of gradually changing slope with respect to the axis of revolution of said

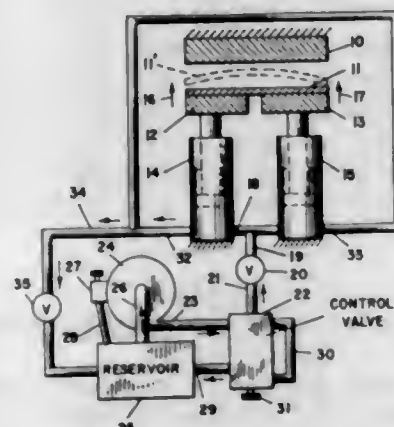
die and terminating at the extremity of said orifice end, in a short length having a slope of essentially zero with respect to the axis of revolution of said die, said length being between about $\frac{1}{10}$ and $\frac{1}{4}$ the diameter of said orifice end; separating means between said extruder screw and said extrusion die; a mandrel supported by said separating means and coaxially disposed within and at least coextensive with said die so as to create an annular orifice between said orifice end and said mandrel, said mandrel being in operative combination with means to admit gas to a surface of the mandrel encompassed by the circular outlet orifice end; collapsing rolls spaced from the extrusion die adapted to receive a bubble of foamed sheet material and collapse the sheet material to a flattened configuration; and means to supply a foamable resin to the extruder screw.

3,343,217

PRESS MOLDING APPARATUS

Charles J. Daubenberger, North Hollywood, Calif., assignor to Daco Rubber, Inc., a corporation of California

Filed July 8, 1964, Ser. No. 381,108 1 Claim. (Cl. 18—16)



A hydraulic press molding apparatus comprising, in combination: a press structure including top and bottom spaced press means adapted to receive therebetween material to be molded wherein said material is characterized in that its resistance to closing of said top and bottom press means varies, said bottom press means including a plate opposing said top press means; first and second base members in side-by-side spaced relationship engaging the under outer side portions of said plate; first and second hydraulic cylinder and piston means coupled to said first and second members respectively for moving said plate towards said top press means to close said press, said base members exerting greater forces on the underside of said plate adjacent to the outer sides than at the center to compensate for the greater thermal expansion forces at the center area of said press than at the outer sides during a molding operation so that said plate remains substantially flat; a source of hydraulic fluid under a given pressure; a reservoir for said hydraulic fluid and a pressure controlled valve means connected to said source, reservoir, and said cylinders and responsive to resistance reaction forces by said mold material to vary the rate of closing movement of said press means and to insure a constant force on said plate during closing of said press on said material notwithstanding that said resistance reaction forces offered by said material vary, said pressure controlled valve means including a valve body, a partition dividing said valve body to define first and second valve chambers, said partition having a central opening; a pin having a forward tapered portion receivable in said central opening, said valve body including a third chamber into which the rear portion of said pin extends, said rear portion

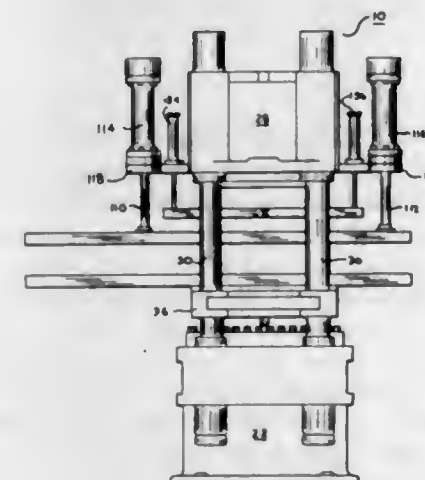
terminating in a piston head centrally disposed in said third chamber; an inlet hydraulic line passing from said source of hydraulic fluid to said first chamber; an outlet line passing from said first chamber to said hydraulic cylinder and piston means; a control hydraulic line passing from said first chamber to said third chamber to provide pressure on said piston head in a direction to retract said pin from said central opening to increase the effective size of said opening; a return hydraulic line passing from said second chamber to said reservoir; and a bias means carried on said valve body to exert a pre-set force against said piston head to bias said pin into said central opening whereby pressure from said source acts through said control hydraulic line to vary said effective opening and bypass fluid back to said reservoir so that fluid supplied to said cylinder and piston means results in said constant force on said plate.

3,343,218

MOLD MOUNTING STRUCTURE FOR PRESS

John E. Borah, 815 Mishawaka Ave., Mishawaka, Ind. 46544

Filed July 15, 1965, Ser. No. 472,231 7 Claims. (Cl. 18—16)



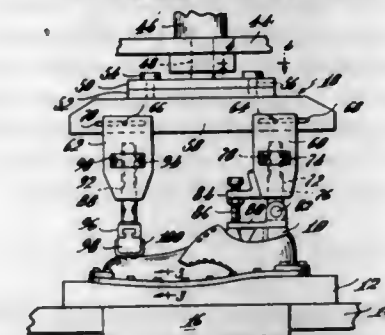
1. A mold mounting structure for use with a press having a ram with a platen and a head with a platen in combination with a mold having upper, lower and two intermediate mold sections: a lower adapter plate on said ram platen, an upper adapter plate adjacent the lower side of said head platen, a pair of tracks connected to said ram platen and extending from the press for supporting and guiding said ram platen adapter plate, a pair of tracks above said first mentioned tracks extending from the press for supporting and guiding said lower intermediate section, a pair of vertically positioned rods spaced along said second mentioned tracks in spaced relation to said first tracks when the press is open, hydraulic cylinders connected to said rods for raising and lowering said second mentioned tracks, a frame having two track members above said second mentioned tracks for supporting said upper intermediate mold section in sliding relation thereto, vertically positioned rods connected to said frame for holding it in spaced relation to said second mentioned tracks, hydraulic cylinders connected to said rods for raising and lowering said frame, a track means interconnecting said upper adapter plate with said head platen for slidably supporting said upper adapter, means securing the upper mold section to said upper adapter plate, means releasably securing said lower mold section to said lower adapter plate for movement therewith, a plurality of pins interconnecting said mold sections only when the mold is in closed or nearly closed position, and a hydraulic cylinder connected to said lower adapter plate for moving said mold into and from the press.

3,343,219

SHOE SOLE MOLDING APPARATUS

William L. Wilcox, Malden, and Julius G. Winkler, Lexington, Mass., assignors to International Vulcanizing Corporation, Waltham, Mass., a corporation of Massachusetts

Filed Oct. 18, 1965, Ser. No. 497,040 13 Claims. (Cl. 18—17)



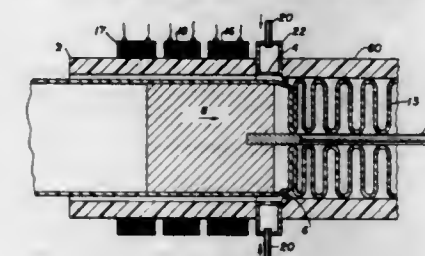
1. Apparatus for use in the manufacture of shoes by injection molding of the bottom to a lasted upper, comprising a last on which an upper is supported, said last having a forepart and a heelend part, a hinge connecting the forepart and heelend part for pivotal movement which permits foreshortening of the last to enable inserting and removing the last from the shoe, a mold embodying a side ring and a sole plate collectively providing an open top mold cavity having a rim at the top on which the bottom of the last with the upper thereon is adapted to be held during the formation of the bottom to the upper, means movable relative to the open top of the mold cavity to apply pressure to the last resting on the rim to hold the bottom of the lasted upper engaged with the rim, and bearing means on the last forwardly and rearwardly of the hinge providing flat surfaces substantially at right angles to the direction of the applied pressure, said bearing means being so adapted as to distribute the pressure substantially uniformly throughout contact of the engaging portions of the bottom of the lasted upper with the rim of the cavity.

3,343,220

APPARATUS FOR CORRUGATING AND COMPRESSING A TUBULAR MATERIAL

Thomas W. Martinek, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed July 24, 1964, Ser. No. 384,974 13 Claims. (Cl. 18—19)



1. An apparatus for simultaneously corrugating and compressing a continuous length of flexible tubing, which comprises:

- a housing of non-magnetic material defining a central elongated chamber;
- means for injecting a gas under pressure into said chamber, said gas being injected about the periphery of said chamber at a point intermediate its length;
- a piston slidably disposed within a section of said chamber anterior to said gas injection means;
- means to magnetically suspend said piston concentrically within said chamber so as to form an annular opening between the interior of said housing and said piston sufficient to permit passage of the tubing around said piston; and

means to reciprocate said piston within said chamber from an advanced position proximate said gas injection means to a withdrawn position rearward thereof;

whereby, with the piston in the rearward position, the tubing passing through said chamber is inwardly distended by the external pressure of the gas entering into said chamber, and wherein the piston in moving from a rearward to an advanced position simultaneously (1) longitudinally compresses the inwardly distended section of the tubing to form a radial corrugation in the tubing, (2) forces the compressed corrugated tubing into the section of the chamber posterior to said gas injection means, and (3) advances the tubing into said chamber.

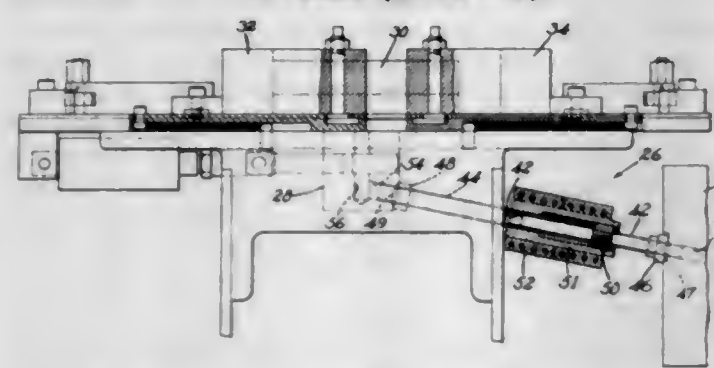
3,343,221

EXTENSIBLE CONDUIT FOR AN INJECTION MOLDING MACHINE

Walter W. Yarrison, Leslie C. Battell, and Paul W. Senfelen, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Original application Aug. 7, 1964, Ser. No. 368,070. Divided and this application Feb. 9, 1967, Ser. No. 614,949

3 Claims. (Cl. 18—30)



1. In an injection molding machine, the combination with mold members defining a mold cavity of a plasticator for supplying hot fluid plastic under pressure to the mold cavity and an extensible conduit for conducting hot fluid plastic from the plasticator to the mold cavity, said conduit comprising a first section of relatively small diameter forming the receiving end portion of the conduit and telescoping into a second section of relatively large diameter forming the delivering end portion of the conduit, and means for so connecting the two sections together that they are relatively adjustable lengthwise thereof, the construction of the conduit being such that plastic solidified therein can be extracted therefrom by longitudinal movement of the conduit relatively to the solidified plastic with the section of small diameter foremost.

3,343,222

MOLDING APPARATUS

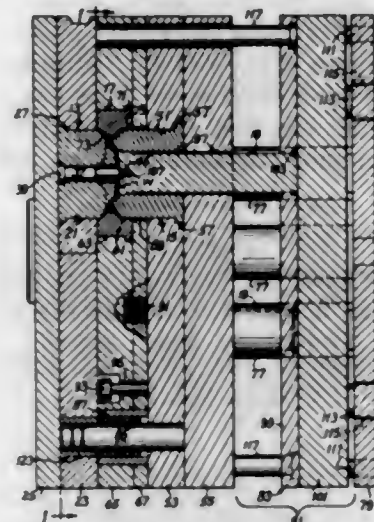
Christ D. Kacalleff, Clayton, Mo.
(1200 Madison Ave., Madison, Ill. 62060)

Filed Dec. 12, 1963, Ser. No. 330,120

9 Claims. (Cl. 18—42)

1. Apparatus for molding plastic wheels having a central hub, a generally radial disc, and a grooved peripheral rim, the latter being constituted by a pair of curved lips flaring outwardly on opposite sides of said radial disc, said apparatus comprising a fixed side die having an end formation shaped for molding one side of said disc and one side of one of said curved lips, a movable side die coaxial with said fixed side die movable from a retracted position toward the fixed die and back to retracted position, said movable side die having an axial hole and an end formation shaped for molding one side of the other of said curved lips, an ejector axially slidable in said hole relative to said movable side die away from and back to a

retracted position, said ejector having an end formation shaped for molding a major portion of the other side of said disc, a continuous peripheral die mounted on the side of the movable die toward the fixed die for movement with the movable die and for axial movement relative to the movable die for axial separation of the peripheral die from the movable die, said peripheral die having an opening coaxial with the side dies and being formed internally of said opening with a formation for molding the other sides of said curved lips, means for retracting the ejector on



movement of the movable side die and peripheral die toward the fixed side die, said peripheral die then engaging said fixed side die and said movable side die engaging said peripheral die to provide in conjunction with the retracted ejector a mold cavity, and means for axially separating said peripheral die from said movable side die on retraction of the latter, said ejector then being movable axially relative to the movable side die to push a molded wheel axially out of the opening in the peripheral die, as permitted by inward flexing of the other of said curved lips to pass through said opening.

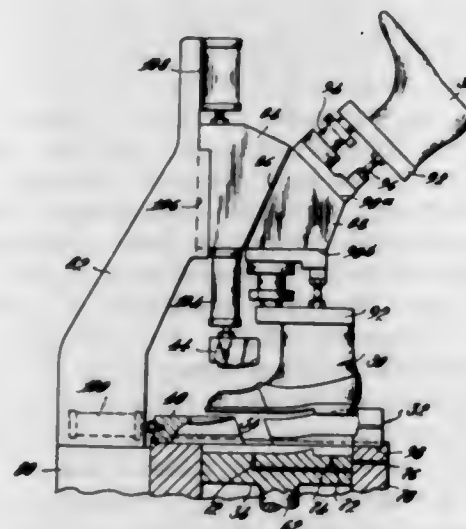
3,343,223

APPARATUS FOR MAKING SHOES BY INJECTION MOLDING OF AN ELASTOMER

Herbert Ludwig, Desmair, 112, Usen, near Bremen, Germany

Filed Sept. 24, 1965, Ser. No. 489,816

14 Claims. (Cl. 18—42)



1. A mold assembly for injection molding of footwear, said assembly embodying a last, a side ring and a sole plate, characterized in that the side ring is comprised of

a plurality of parts which collectively provide an upper-forming cavity, the interior surface of which is complementary to the exterior surface of the last with a clearance therebetween corresponding in thickness to the upper to be formed, and a bottom-forming cavity corresponding in size to the bottom to be formed and of greater depth than the thickness of the bottom, and a sole plate embodying a surface complementary to the thread surface of the bottom adapted to be moved relative to the bottom of the ring.

3,343,224

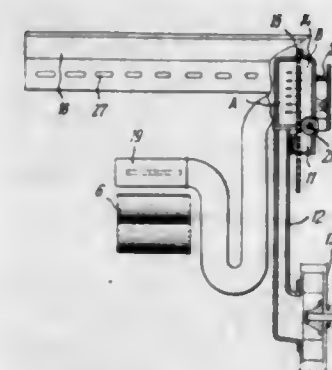
CARD

Alexandr Sergeevich Vinogradov, Ulitsa Krasnykh Zor, 400 Kvart. dom, kv. 311; Jury Mikhailovich Kapustin, Ulitsa Proletarskaya, 2, kv. 91; Ilya Nikolaevich Maxjutenko, Ulitsa 2 Lagernaya, 50, kv. 35; Vladimir Nikolaevich Kiselnikov, Ulitsa Malaya Khutorovskaya, 5, kv. 20; Igor Sergeevich Borisov, Ulitsa 2 Lagernaya, 42, kv. 3; and Ivan Mikhailovich Mazalov, Sosnevo, 7 proezd 57, kv. 8, all of Ivanovo, U.S.S.R.

Filed Nov. 9, 1966, Ser. No. 593,053

Claims priority, application Union of Soviet Socialist Republics, Nov. 9, 1965, 1,036,309

5 Claims. (Cl. 19—107)



1. In a card with a doffer comb and delivery rollers, a dust and fluff eliminator comprising a rectangular chamber; a rotating perforated disk partly entering into the aforementioned chamber and dividing it into two sections; air ducts for dust and fluff transport provided with nozzles arranged in the working zones of the doffer comb and delivery rollers; one section of the aforesaid chamber communicating with said air ducts; a fan for creating a vacuum in said chamber and said air ducts; the second section of said chamber made in the shape of a disk and communicating with said fan; one of the nozzles having multiple slots.

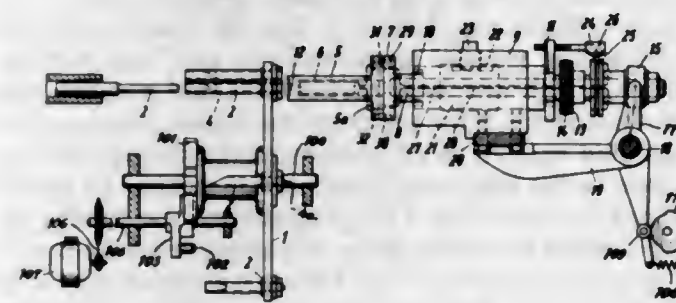
3,343,225

APPARATUS FOR TREATING ELONGATED DEFORMABLE ARTICLES

Josef Hochstrasser, Dusseldorf, and Justus Wolff, Wuppertal-Barmen, Germany, assignors to Dr. Carl Hahn KG, Dusseldorf, Germany

Filed Sept. 1, 1964, Ser. No. 393,502

14 Claims. (Cl. 19—144.5)



2. In an apparatus for treating elongated deformable articles, each at one end thereof, in combination, transporting means for transporting the articles one after the

other to a given treating station; rotary tool means having a work-engaging end having a smooth, continuous work engaging surface adapted to engage an end of each article at said station and to give the article a configuration determined by the configuration of said end of said rotary tool means; means operatively connected to said rotary tool means for shifting the latter first into and then out of engagement with an end of an article at said station; and heating means operatively connected to said tool means for heating at least said work-engaging end thereof so that each article is treated at one end with a heated rotary surface.

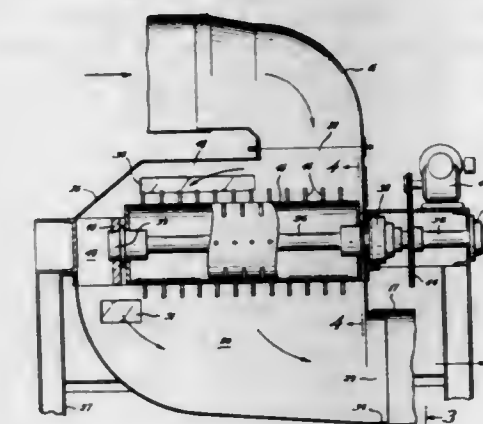
3,343,226

FLOW EQUALIZER FOR PARTICULATE MATERIAL

Morris F. Davis, Bakersfield, and Richard D. Day, Fresno, Calif., assignors to The Murray Company of Texas, Inc., Dallas, Tex., a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,236

5 Claims. (Cl. 19—205)



1. A flow equalizer for cotton or like flowable material delivered pneumatically and intermittently comprising an inlet for receiving the material and an outlet for delivering the material for further handling, a mechanical conveyor for transporting the material between said inlet and outlet at a substantially reduced rate to thereby produce a substantially uniform delivery of material and a duct for carrying the pneumatic fluid from said inlet to said outlet around the end of said conveyor.

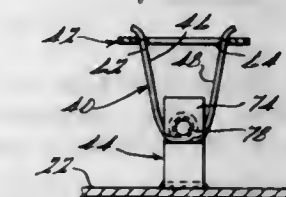
3,343,227

FASTENING METHOD AND APPARATUS

John M. Brown, 26705 York Road, Huntington Woods, Mich. 48070; Ned P. Kimberly, 10622 W. Outer Drive, Detroit, Mich. 48223; and Frederick W. Segerstrom, Perrysburg, Ohio 43551

Filed Dec. 13, 1965, Ser. No. 513,357

21 Claims. (Cl. 24—73)



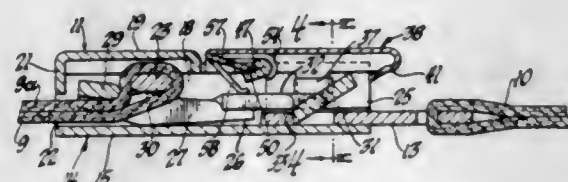
1. Apparatus for fastening a layer of insulation-like material to a backing member comprising: support means attached to said backing member; and securing means mounted on said support means,

said securing means including outwardly extending arm means,
 said arm means being resiliently movable between a piercing position extending substantially transversely away from said backing member and a holding position extending substantially parallel to said backing member,
 releasable arm holding means for holding said arm means in the piercing position,
 said arms means being pierceably engageable with said insulation-like material in the piercing position, and
 said arm means being resiliently movable from the piercing position to the holding position as said insulation-like material is pressed into piercing engagement with said arm means and onto said arm means and into engagement with said backing member while simultaneously releasing said holding means.

3,343,228

SEAT BELT BUCKLE

Albert R. Close, Oak Park, and Edwin H. Klove, Jr., Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
 Filed Mar. 30, 1966, Ser. No. 538,737
 15 Claims. (Cl. 24-77)



1. A restraining belt comprising, in combination, a buckle frame including a base plate
 a first belt section
 a latch loosely mounted in the frame directly connected to the first belt section independently of the frame
 the latch rockably and slidably engaging a fulcrum on the frame
 a pawl on the latch facing the base plate
 the bar, fulcrum, and pawl being so disposed that tension on the first belt section biases the pawl toward the base plate
 a second belt section including a lock plate insertable between the base plate and latch and engageable by the pawl to retain the second belt section coupled to the first belt section so that tension in the belt is transmitted solely through the latch from the first to the second section
 the frame including means to guide the lock plate upon insertion into the frame, and
 a release device mounted on the frame operable to release the pawl from the lock plate.

3,343,229

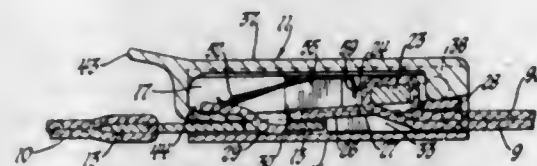
SEAT BELT BUCKLE

Akira Tanaka, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,847
 8 Claims. (Cl. 24-77)

1. A restraining belt comprising, in combination, a buckle frame including a base plate and side walls
 a first belt section extending from one end of the frame
 a latch loosely mounted in the frame directly connected to the first belt section independently of the frame

a second belt section including a lock plate insertable into the other end of the frame and engageable by the latch to retain the second belt section coupled to the first belt section so that tension in the belt is transmitted through the latch from the first to the second section
 a cover overlying the base plate and mounted on the frame
 the frame defining socket means receiving the cover open toward the said other end of the frame so that the cover is insertable from the said other end into engagement with the frame

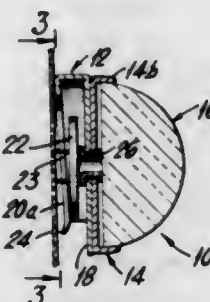


- a retainer disposed between the cover and base plate and between the first belt section and the said other end of the frame
 the retainer having guide portions engaging the frame and being slidable into the frame from the said other end with the latch and cover
 and means on the retainer and frame interengaging to hold the retainer in position in the frame and thus retain the latch and cover in the frame.

3,343,230

DETACHABLE ORNAMENTAL COVER FOR A SHIRT BUTTON

Bernard A. Darvle, 2685 University Ave. Bronx, N.Y. 10468
 Filed Oct. 28, 1964, Ser. No. 407,045
 1 Claim. (Cl. 24-113)

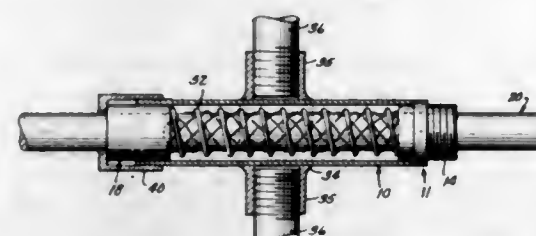


A device for use on a shirt having a sleeve with the usual button closure with a button extending through a button hole, the button being secured to the shirt by thread, comprising a flat base portion adapted to have an ornamentation on one side, a forked member secured to said base portion and having a pair of spaced parallel legs arranged in parallel relationship to said base portion and defining with said base portion and said parallel legs a space therebetween for receiving the button, the legs being separated enough to accommodate the thread holding the button to the shirt, said base portion having an opening defined therethrough, a jewel mounting base having an opening defined therethrough in alignment with the opening of said base portion, a rivet having a widened head and extending through the openings of said jewel mounting base and said base portion and being secured to said base portion by widening the opposite end thereof and flattening it against said base portion, and a jewel held in said jewel mounting base.

3,343,231

MECHANICAL HOLDING DEVICE

Albert L. Clay, Mystic, Conn., assignor to The Kellems Company, Incorporated, Stonington, Conn., a corporation of Connecticut
 Filed Dec. 31, 1964, Ser. No. 422,848
 15 Claims. (Cl. 24-123)

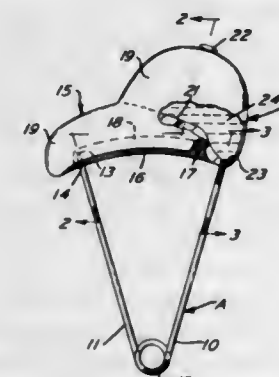


1. A mechanical holding device comprising a tubular member, an elongated expandable and contractible tubular gripping member adapted to embrace an object to be gripped located within said tubular member, said tubular member being longer than said gripping member and wholly enclosing the same, a first ring through which the object may be inserted, secured to one end of said tubular member and to one end of said gripping member and securing the latter in fixed relation to said tubular member end, the other end of said gripping member being freely movable longitudinally relative to said tubular member, guide means through which the object may be inserted secured to the other end of said gripping member and projecting beyond the latter, to provide an integral portion projecting beyond the exterior of said tubular member and operable by a force applied to such integral exterior portion beyond the exterior of said tubular member to shift said guide means relative to said tubular member said second ring slidably engaging the other end of said tubular member to enable said other end of the gripping member to be directly supported by said other end of said tubular member within the range of movements thereof in the gripping and nongripping operations of said gripping member, and means connected to said tubular member at a place spaced from said guide means and projecting beyond the exterior of said tubular member for securing said device and the gripped object to another device.

3,343,232

SELF-LUBRICATING PINS

Anthony C. Capparella, 559 E. Main St. Norristown, Pa. 19401
 Filed Jan. 21, 1966, Ser. No. 522,119
 7 Claims. (Cl. 24-161)

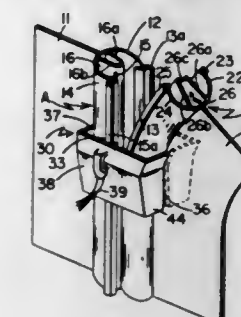


1. A self-lubricating pin comprising a shank pointed at one end, a keeper, said shank having a first arm fixedly mounted with respect to said keeper and a second resilient arm whose proximal end is connected to said

3,343,233

SLIDE FASTENER

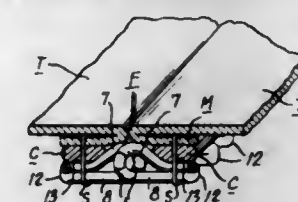
Russell Gould, 6 Sharpe Road, Newton Center, Mass. 02159
 Filed Mar. 11, 1966, Ser. No. 533,721
 5 Claims. (Cl. 24-201)



1. A closure comprising two interacting integral elongated flexible resilient strips, each said strip having a pair of laterally extending longitudinal edge portions forming a transversely concave side on the edge of each strip with said concave sides facing each other; each said strip having a lateral portion; each said strip having longitudinally extending flange means on each edge portion adapted to separably fasten onto the corresponding flange means on the other strip and a longitudinally extending hollow protuberance comprising a transversely curved elongated second strip attached to the concave side of each strip; said protuberance being adapted to register with the other protuberance when the edge flange means of said strips are engaged with one another.

3,343,234

CONTINUOUS FILAMENT SLIDE FASTENER
 Walter Valdemar Chery, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
 Filed Nov. 10, 1964, Ser. No. 410,173
 4 Claims. (Cl. 24-205.1)



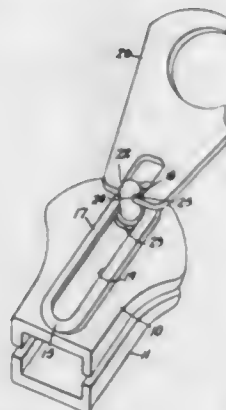
1. A stringer for a slide fastener comprising a filamentary structure having a series of substantially U-shaped scoop portions arranged one behind the other substantially in parallel relation wherein the legs of said scoop portions provide two series of transverse portions disposed in juxtaposition with the transverse portions in each series being substantially parallel to one another, the inner end of each of said transverse portions in each of said series being connected only to the inner end of a preceding transverse portion and, the inner end of each of the opposed transverse portions in the other series being connected only to a succeeding transverse portion so as to provide a series of heel portions, an arcuated saddle-like portion arranged in each of the transverse portions of at least one series inwardly of said heel portions so that the cross section of the structure is unsymmetrical,

an elongated flexible member positioned in said saddle-like portions which are adapted to act as a locator and seat therefor,
 an elongated tape arranged on the opposite side of said flexible member from said transverse portions, and means for attaching said flexible member and said tape to both series of said transverse portions.

3,343,235

SLIDER FOR SEPARABLE FASTENERS

Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
 Filed Feb. 4, 1966, Ser. No. 525,043
 3 Claims. (Cl. 24—205.15)

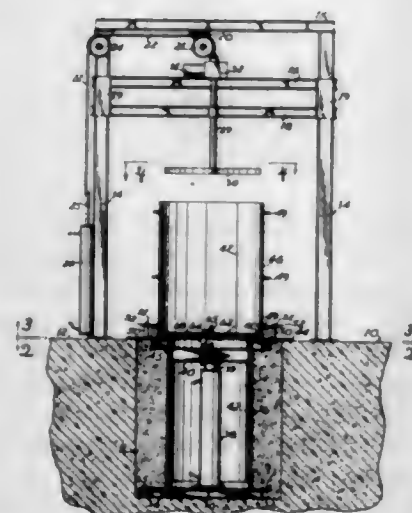


1. A slider for separable fastener stringers, said slider comprising a body having spaced walls, elongated channel forming means fixed to the outer surface of one wall of the slider body, said channel forming means comprises a washer seated in a depression in the slider wall and said depression having raised boundary walls, upper edges of which are fashioned to form lips engaging said washer in retaining the same in assembled relationship with said slider wall, a swivel member including a head operating in the channel of said means for movement longitudinally of said wall into positions adjacent opposed ends of the wall, a pull pivoted to said member, and said member being freely rotatable in the channel of said means.

3,343,236

RAM CORE MOLDING MACHINE

Paul R. Helms, Rte. 1, Jones Road, Roswell, Ga. 30075
 Filed Jan. 27, 1965, Ser. No. 428,479
 8 Claims. (Cl. 25—30)



1. A casting machine including a pit, a mold core vertically movable to and from said pit, a mold shell movable to and from registration with said mold core above said pit, a support extending transversely above said pit and above the top of said shell located over said pit and a bodily movable rotatable casting material spreader mounted on said support and means for lowering said

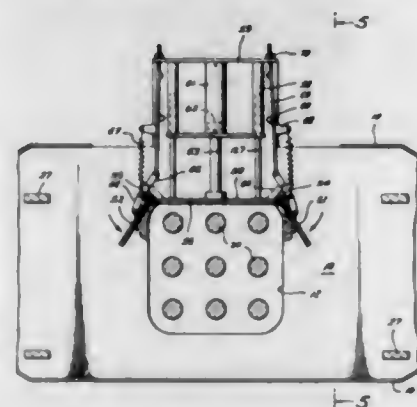
spreader to engage the top of said mold core when said mold core is moved vertically from said pit.

3,343,237

CONCRETE CONDUIT FORMING MACHINE WITH MECHANICAL MEANS FOR MOVING CONCRETE FROM FEED TABLE INTO FORM AND CLEANING TABLE

Emmitt V. Burton and Hassel C. Stark, Dallas, Tex., assignors, by mesne assignments, of forty-four percent to Douglas N. Norton, twelve and one-half percent to Marion C. McKinley, two and one-half percent to Ruth J. Garnett, four percent to John W. Brandenberger, seven and one-half percent to H. W. Lehman, two and one-half percent to Ida Perkins, one percent to Vernon G. Stamm, one percent to Henry J. Denton, one percent to Browning & Simms, a partnership, all of Houston, Tex.; twenty-two percent to William F. Newton, one percent to W. R. Sellers, and one percent to Glynn S. McClellan, all of Conroe, Tex.

Filed May 3, 1965, Ser. No. 452,778
 6 Claims. (Cl. 25—36)



1. In a machine for forming conduit of concrete or the like having a base, a form support thereon for supporting a form in upright position in which it is adapted to have a conduit formed therein with a longitudinal bore, a shaft longitudinally and rotatably movably mounted on said base for extending into a form when so supported through the upper end thereof, a packer head carried on the lower end of said shaft, means for rotating said shaft and moving it longitudinally to insert the said packer head into such form and withdraw it therefrom, means for closing the upper end of said form during at least a portion of the forming of a conduit therein and having an opening therein of a size to permit passage of said packer head therethrough, and a feed table above the position of the upper end of a form carried in said machine during filling thereof, said table having an opening therein adapted for alignment with the upper end of said form during such filling so that form filling material on said table may be pushed into said opening to fall therethrough into said form, the improvement which comprises a pusher blade having one edge closely adjacent and parallel to the upper surface of said table and extending upwardly from said table, guide means guiding movement of said blade transversely of its said edge between a first position spaced from said table opening and a second position closely adjacent and extending generally along the edge of said table opening, and means for moving said blade from said first position to said second position and back to said first position to push form filling material from said table into said opening, said blade having a plurality of parts adapted to extend generally along each of a plurality of sides of said table opening when said blade is in said second position, the plurality of parts of said blade being movably connected to one another, and a means actuated by movement of said blade toward and from said second position to move said parts relative to one another from a disposition more remote from the sides of said opening respectively in said first position to a

disposition to partially embrace said table opening when in said second position.

air in said cushion element while the machine is under vibration, whereby the pallet and a block formed there-

3,343,238

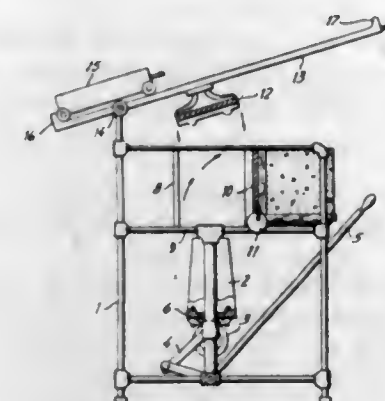
MACHINE FOR FORMING PRE-MOLDED BLOCKS

Ricardo Coe Junior, Avenida Goncalves Junior 342, Sorocaba, Brazil

Filed Sept. 1, 1964, Ser. No. 393,503

Claims priority, application Brazil, Oct. 10, 1963, 153,288

2 Claims. (Cl. 25—41)



1. A machine for forming substantially rectangularly sectioned hollow blocks comprising a supporting frame, a vibratory mold member with a body portion of a configuration of a hollow of the part to be molded, means for vibrating said mold member carried by said mold member, wall means forming a substantially rectangularly sectioned mold having an open top and a bottom opening in alignment with said body portion of a size to be closed by said body portion when the latter is inserted therein, means mounting said vibratory mold member permitting insertion and removal of said body portion into and out of the bottom opening of said mold, and cover means for closing the top of said mold and for applying a downward force on the material being molded in said mold, said wall means forming said mold comprising a bottom and a first side wall with an eccentrically mounted cylindrical pivotal member formed therebetween, and a fixed wall defining a second side wall of said mold, said first side and bottom wall being displaceable upon eccentric rotational movement of said cylindrical member in one direction to present said bottom in alignment with the bottom edge of said second wall for filling said mold, and being displaceable away from said second wall upon eccentric rotational movement of said cylindrical member in an opposite direction to expose a side and a top of the molded article for removal from said mold.

3,343,239

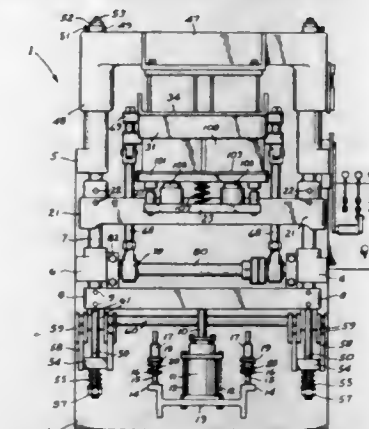
CONCRETE BLOCK FORMING MACHINE WITH PNEUMATIC VIBRATION

Miles A. Davies, Vancouver, Wash., assignor to Columbia Machine, Inc., Vancouver, Wash., a corporation of Washington

Filed Jan. 27, 1965, Ser. No. 428,404

6 Claims. (Cl. 25—41)

5. In a machine for making concrete blocks, a vertically disposed frame, a mold suspended in said frame, means for vibrating said mold vertically, a pallet holder mounted below said mold, a pallet lying loosely upon the upper face of the pallet holder, means for moving the pallet holder and the pallet lying thereon against the underside of the mold, elastic means underlying the pallet holder and overlying and bearing upon the means for vibrating said mold vertically, the improvement comprising air filled cushion elements constituting the elastic means lying intermediate the pallet holder and vibrating means, and means for varying the effective pressure of



on can vibrate to a different amplitude than that of the mold box.

3,343,240

METHOD AND APPARATUS FOR BULKING SYNTHETIC FIBERS

Paolo Parmeggiani, Seveso, and Domenico Nicita, Cesano Maderno, Italy, assignors to SNIA Viscosa—Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy

Filed Dec. 22, 1964, Ser. No. 420,381

Claims priority, application Italy, Dec. 27, 1963, 26,587/63

12 Claims. (Cl. 28—1)



10. In apparatus for crimping synthetic filamentary material, an elongate confined passageway, means for directing a stream of gaseous medium into said passageway to convey said material therealong and therethrough, said passageway having a first and a second portion of lesser and greater cross-sectional area, respectively, for causing slowing-down and expansion of said medium and concurrent crimping of said material as said medium and material pass from said first to said second portion, and means for subjecting the crimped material to heat to heat-stabilize the same.

3,343,241

CRIMPING PROCESS

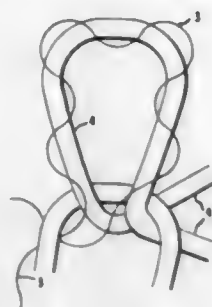
Bharat Jaybhadr Gajjar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,713

6 Claims. (Cl. 28—72)

1. In a process for crimping a synthetic yarn composed of two-component filaments, said filaments having a latent capacity to crimp when treated by hot wet processing conditions, by the step of exposing said filaments

while under essentially no tension to a heated aqueous fluid at a temperature of at least about 100° C.; the improvement, for increasing the bulk of the crimped yarn,



comprising cooling the yarn in the presence of water to below about 10° C. immediately prior to said exposure to the heated aqueous fluid.

3,343,242

WARP PRINTING METHOD

Jacques De Witte, 30 Rue aux Loups, Courtrai, Belgium
Filed Oct. 22, 1965, Ser. No. 501,024
Claims priority, application Belgium, Oct. 29, 1964,
4,735

6 Claims. (Cl. 28—72.6)



1. A method of machine printing a design on a warp for a warp backed fabric, comprising the steps of
 - (a) forming a warp of a plurality of threads,
 - (b) inserting a weft consisting of soluble filaments in the warp
 - (1) whereby a loose web is formed,
 - (c) bonding the loose web temporarily to a blanket with a soluble adhesive,
 - (d) imprinting the loose web with the design while bonded to the blanket,
 - (e) drying and fixing the imprinted design on the loose web,
 - (f) rinsing and washing the loose web in a soap bath capable of dissolving the adhesive and the soluble weft filaments,
 - (g) drying the imprinted warp, and
 - (h) winding the warp in preparation for weaving the warp backed fabric.

3,343,243

ADJUSTING ARRANGEMENT FOR MACHINE TOOLS

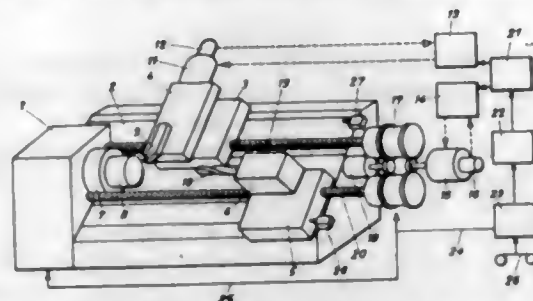
Hansjörg Renker, Schaffhausen, Switzerland, assignor to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland

Filed Nov. 10, 1965, Ser. No. 507,136
Claims priority, application Switzerland, Nov. 13, 1964,
14,688/64

7 Claims. (Cl. 29—27)

1. In a machine tool; at least two moveable tool carrying units, a drive motor for advancing said units in working direction, numerical control means connected to said drive motor in controlling relation thereto, a return motor

separate from said drive motor and operable independently of said control means for returning said units from an advanced position into which they have been moved



by said drive motor to a predetermined starting or zero position, and means for selectively connecting said units first to said drive motor and then to said return motor.

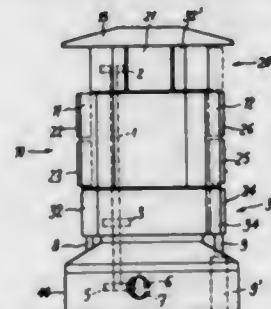
3,343,244

WORKPIECE CONVEYOR FOR MACHINE TOOLS AND THE LIKE

Mikas Baublys and Eugen Sigloch, both of 62 Dennerstrasse, Stuttgart-Bad Cannstatt, Germany

Filed Jan. 27, 1966, Ser. No. 523,292
Claims priority, application Germany, Jan. 29, 1965,
B 80,317

7 Claims. (Cl. 29—38)



1. A conveying arrangement for conveying workpieces comprising, in combination:
 - (a) a stationary column;
 - (b) guide means on said column for guiding a plurality of workpiece supports in first and second horizontally spaced, vertically extending paths having respective upper and lower terminal portions;
 - (c) first transfer means on said column for transferring said supports from the lower terminal portion of said first path to the lower terminal portion of the second path;
 - (d) second transfer means on said column for transferring said supports from the upper terminal portion of said second path to the upper terminal portion of said first path;
 - (e) lifting means for lifting a support from said lower terminal portion of said second path to a higher level of said second path intermediate said terminal portions of the same;
 - (f) releasable securing means for securing the lifted support at said higher level; and
 - (g) actuating means operatively connected to said first and second transfer means, said lifting means, and said securing means for operating the same in timed sequence.

3,343,245

TOOL FOR CLEANING ELECTRICAL LEADS, ETC.

Joseph A. Sylvester, Wayne, N.J., assignor to Hexacon Electric Company, Roselle Park, N.J., a corporation of New Jersey

Filed Feb. 12, 1965, Ser. No. 432,101

7 Claims. (Cl. 29—78)

1. A cleaning tool for the purposes described comprising a pair of arms movable toward and from one another and terminating at their outer free ends in jaw members,

flexible abrasive material overlying the opposed faces of the jaw members, and bodies of a resilient, yieldable con-



tour conformable cushioning material interposed between said jaw members and the overlying abrasive material on opposed sides of said jaw members.

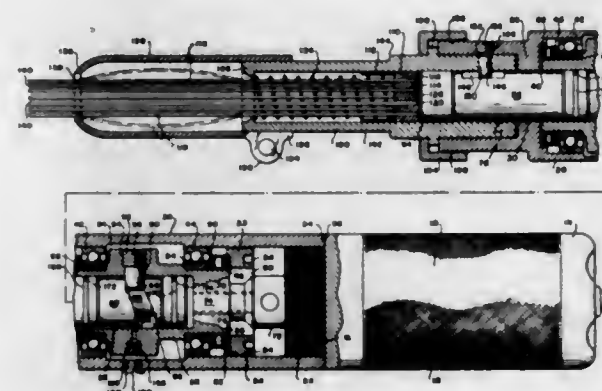
3,343,246

SCALING TOOL

Thomas M. Kelley, 7403 Park Terrace, Alexandria, Va. 22310, and Walter I. Anderson, 41 Briarwood Lane, Chesapeake, Va. 23703

Filed Oct. 29, 1965, Ser. No. 505,771

3 Claims. (Cl. 29—81)



1. A needle scaling tool comprising:
 - electric motor means;
 - first housing means connected to said electric motor means and extending axially thereof;
 - barrel means rotatably supported within said housing means in axial alignment therewith and being driven by said motor means;
 - plunger means slidably and axially received within said barrel means and having cam groove means therein;
 - cam follower means carried by said barrel means and being receivable within said cam groove means in said plunger means;
 - second housing means detachably connected to said first housing means and extending axially thereof;
 - one end of said plunger means being slidably received within said second housing means;
 - needle retainer means slidably carried within said second housing means;
 - needle means slidably carried by said needle retainer means and extending axially outwardly of said second housing means; and
 - resilient means carried within said second housing means constantly urging said retainer means and said needle means toward engagement with said one end of said plunger means;
 - said cam follower means being operable upon rotation of said barrel means to impart reciprocatory movement to said plunger means to thereby cyclically and repeatedly impel said needle means outwardly of said second housing means into contact with a surface to be scaled;
 - wherein said needle retainer means is substantially cup-shaped in configuration and is provided with a plurality of passages in the bottom wall thereof;
 - said needle means takes the form of a plurality of elongated and flexible needles, one of which is slidably received in each passage in said bottom wall of said retainer means;

said needles having heads thereon adapted to seat in countersunk portions in one face of said bottom wall of said needle retainer means;

said resilient means carried within said second housing means takes the form of a compression spring;

one end of said compression spring being seated on the opposite face of said bottom wall of said cup-shaped needle retainer means and the opposite end of said compression spring being seated on an inverted flange on the opposite end of said second housing means.

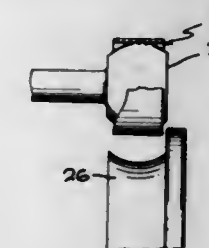
3,343,247

PROCESS FOR PRE-FORMING ORTHODONTIC TOOTH BANDS

Raymond E. Dillberg, Temple City, and Frank R. Miller, Bradbury, Calif., assignors to Ormco Corporation, Glendora, Calif., a corporation of California

Filed Aug. 3, 1964, Ser. No. 386,881

7 Claims. (Cl. 29—160.6)



1. The method of forming a generally barrel-shaped orthodontic band which terminates in opposed incisal and gingival edges and progressively diminishes in diameter from its axially medial plane toward said edges to define a radially enlarged girth portion intermediate said edges, said method comprising the steps of:

providing a generally cylindrical, relatively thin-walled sleeve having a diameter approximately equal to the desired girth diameter of the finished orthodontic band, and

barreling said sleeve by deforming the wall of said sleeve radially inward in the regions thereof between the axially medial plane and the ends of said sleeve to constrict said regions to progressively diminishing diameter toward said ends.

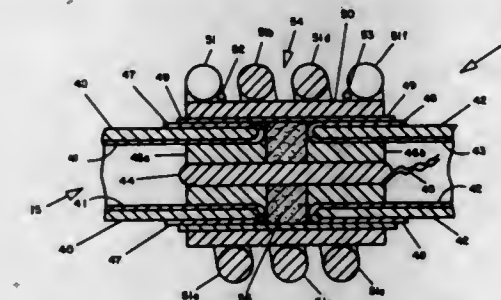
3,343,248

APPARATUS FOR JOINING TWO TUBULAR METAL ELEMENTS BY SIMULTANEOUS DEFORMATION TO FORM INTERLOCKING RIDGES

Daniel Silverman and Harold M. Lang, Tulsa, Okla., assignors to Shok Lok Co., Tulsa, Okla., a copartnership

Filed July 15, 1965, Ser. No. 472,258

32 Claims. (Cl. 29—200)



1. In an explosive assembling apparatus, coupling means for use in joining the ends of two tubular elements which are inserted into said coupling means to form two

overlapping zones, said assembling apparatus including explosive means inside said elements for generating an explosive shock force inside said elements to drive them and said coupling means outward against a circumferential means providing a pattern of restraint to simultaneously deform said elements and said coupling means, the improvement comprising, a coupling collar, a multi-turn helix of high yield strength material tightly surrounding said collar and a thin-walled deformable tube lining said collar.

3,343,249

METHOD OF MAKING STRESS-RELIEVED METAL TANKS

Hjalmar E. Breit, Jr., New Orleans, La., assignor to Breit Engineering Inc., New Orleans, La.
No Drawing. Filed July 15, 1966, Ser. No. 565,399
11 Claims. (Cl. 29-404)

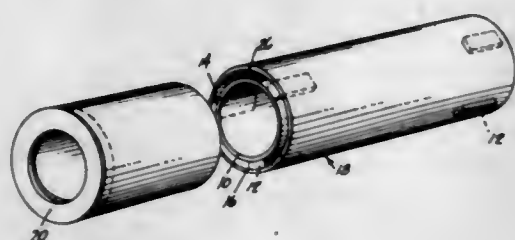
1. The method of making a stress-relieved metal tank comprising: forming and shaping metal plates as constituent parts for fabricating said tank; joining said plates to make a liquid-proof tank; filling said tank with a liquid mass having a specific gravity for said mass of filling liquid to exert a pressure of not less than the designed tank pressure and not more than twice said pressure; and maintaining said filling liquid in said tank for a period of time to relieve stresses in said tank.

3,343,250

MULTIPLE TUBE FORMING METHOD

Charles W. Berto and Richard L. Goforth, Long Beach, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed Apr. 22, 1964, Ser. No. 361,688
7 Claims. (Cl. 29-423)



1. A method of simultaneously bending a pipeline and shroud assembly comprising the steps of: attaching spacers to a substantially straight length of said pipeline; encompassing said spacers and said pipeline with said shroud in spaced relation forming a void therebetween; filling said void with a liquid, solidifiable substance; allowing said substance to solidify; and simultaneously bending said outer shroud and said pipeline into a predetermined shape.

3,343,251

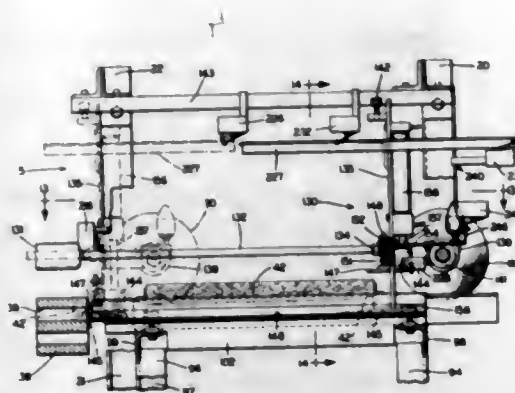
METHOD FOR FILLING STRUCTURAL CLAY TILE

Clyde Augsburger, Canton, Ohio, assignor to Natco Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Oct. 7, 1963, Ser. No. 314,195, now Patent No. 3,229,360, dated Jan. 18, 1966. Divided and this application Nov. 27, 1964, Ser. No. 414,356
2 Claims. (Cl. 29-451)

1. A method for filling a cell opening of structural clay tile with a pliable sound-absorbing pad including the steps of mounting a clay tile in a fixed position, aligning a pliable sound-absorbing pad with a cell opening in a tile, moving one end of said pad to one end of the cell opening, applying a partial vacuum to the other end of

the cell opening, clamping the other end of said pad and yieldingly restraining longitudinal movement of the pad

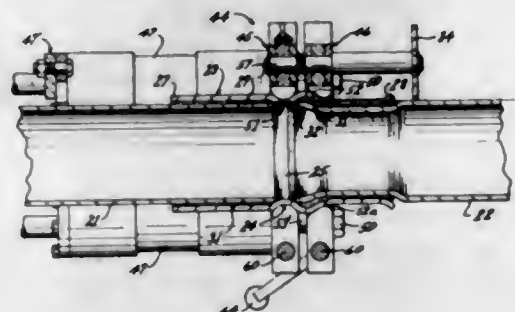


3,343,252

CONDUIT SYSTEM AND METHOD FOR MAKING THE SAME OR THE LIKE

James W. Reesor, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Mar. 3, 1964, Ser. No. 348,930
4 Claims. (Cl. 29-458)



1. A method for making a conduit system comprising the steps of

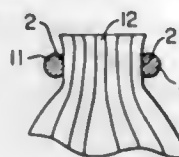
- (a) providing a pair of conduits respectively having adjacent ends;
- (b) providing a coupling sleeve having opposed ends;
- (c) providing a radially inwardly directed annular bead in said sleeve intermediate said opposed ends of said sleeve;
- (d) disposing adhesive means between said ends of said conduit and said coupling sleeve;
- (e) telescoping said ends of said conduits into said opposed ends of said coupling sleeve so that said annular bead spaces said ends of the conduits from each other and said adhesive means extends substantially over the entire overlapping area of said coupling sleeve and said conduct ends;
- (f) clamping said inwardly directed annular bead in said sleeve with a fixed die means while sequentially radially inwardly shrinking beyond their elastic limits the outer portions of said coupling sleeve and said ends of said conduits with a movable die means having a smaller diameter than said coupling sleeve drawn axially with respect to said conduit and said coupling sleeve toward said fixed die means to place said adhesive means and said ends of said conduits under compression, to secure said conduits and said sleeve together and to flare radially outwardly the ends of said sleeve and the ends of said conduits;
- (g) and thereafter reversing the axial direction of said movable die means to wipe radially downwardly the flared ends of said sleeve.

3,343,253

PROCESS FOR TYING BAGS

Shozo Omori, 44 Shimo Negishi-cho-Taito-ku, Tokyo, Japan

Filed Apr. 28, 1965, Ser. No. 451,573
Claims priority, application Japan, May 6, 1964, 39/25,452
3 Claims. (Cl. 29-505)



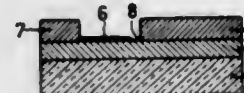
1. A process for tying a bag comprising the steps of bending a length of circular cross-section wire material having a flat portion extending in the longitudinal direction of said wire and a thickness substantially equal to the width of said flat portion so as to form a U-shaped tying medium with the flat portion facing inside, inserting the constricted mouth of a bag between the legs of said U-shaped tying medium and against said flat portion thereof, and compressing said tying medium so as to firmly apply the upper half portions of said legs around the bag mouth and into end abutting relationship whereby inwardly extending bulges may be formed on said portions of the legs and the flat portion thereof is in gripping relationship with said constricted mouth of the bag.

3,343,254

METHOD OF NARROWLY SPACING ELECTRICALLY CONDUCTIVE LAYERS

Ties Siebolt te Velde and Gertruda Wilhelmina Maria Theresia van Helden, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 20, 1964, Ser. No. 346,172
Claims priority, application Netherlands, Sept. 25, 1963, 298,353
9 Claims. (Cl. 29-572)



1. A method for providing closely-spaced electrically-conductive layers on a carrier, comprising forming on a carrier divergently directed first and second layers of electrocally-conductive material, said layers being contiguous over at least one region where a gap is to be provided between the layer edges, said layers being of different composition at least in the vicinity of the gap, the material of said first layer when heated exhibiting a gettering capacity for the material of said second layer, and forming said gap between said layers at said one region by subjecting at least said first layer to a heat treatment of such thermal magnitude and of such duration as to cause the material of said first layer at said region to absorb the contiguous portion of said second layer.

3,343,255

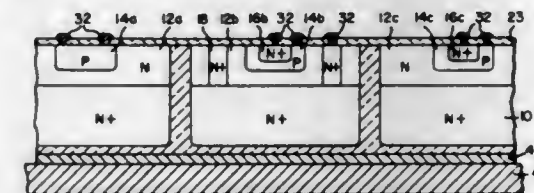
STRUCTURES FOR SEMICONDUCTOR INTEGRATED CIRCUITS AND METHODS OF FORMING THEM

Eugene P. Donovan, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 14, 1965, Ser. No. 463,702
4 Claims. (Cl. 29-577)

1. A method of making a semiconductor device structure suitable for an integrated circuit comprising the steps of: obtaining a unitary body of semiconductive material

with a plurality of semiconductive regions disposed therein to form a plurality of electronic functional elements in a first surface; forming a layer of insulating material on said surface; mounting said unitary body by said first surface onto a support member by means of a solder layer of material having a first melting point lower than that of said insulating layer, said solder being soluble in



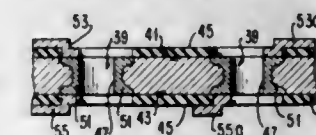
a solvent to which said layer of insulating material is inert; separating said functional elements by severing said body between said elements and disposing therebetween a quantity of insulating material having a second melting point that is lower than said first melting point; and removing said support member from said body by action of said solvent on said solder layer.

3,343,256

METHODS OF MAKING THRU-CONNECTIONS IN SEMICONDUCTOR WAFERS

Merlin G. Smith, Yorktown Heights, and Emanuel Stern, Mount Kisco, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,452
7 Claims. (Cl. 29-578)



1. The method of forming a thru-connection between conductive patterns formed over opposite surfaces of a semiconductor wafer of first conductivity type material comprising the steps of providing an opening in said semiconductor wafer extending between said opposite surfaces, degenerately-doping wall portions of said opening to define second conductive type material, forming a plurality of conductive patterns over and insulated from each of said opposite surfaces of said semiconductor wafer, and ohmically connecting a selected one of said conductive patterns thus formed on each of said opposite surfaces to said degenerately-doped wall portions of said opening whereby electrical continuity is provided between said selected conductive patterns.

3,343,257

METHOD OF APPLYING PRECIOUS METAL TIP TO BASE METAL SWITCH WIPER

Fred Glenger, Highland Park, and William P. Vollriede, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed May 5, 1965, Ser. No. 453,365
3 Claims. (Cl. 29-630)



3. The method of welding a precious metal element to the wiping surface of a switch wiper which consists in punching out a pair of beads or embosses on the surface

of the wiper tip extending toward the outer edges of the element, of providing a projection in the center of the element extending toward the wiper tip and of slightly greater height than the beads on the wiper tip, of placing the tip and the element in juxtaposition and welding the element to the wiper tip by projection welding so that the projection on the element is fused into the wiper tip at the center thereof and that the two beads on the wiper tip are fused into the outer edges of the element, and then forming the fused elements into a wiping surface with the element forming a convex wiping surface.

3,343,258

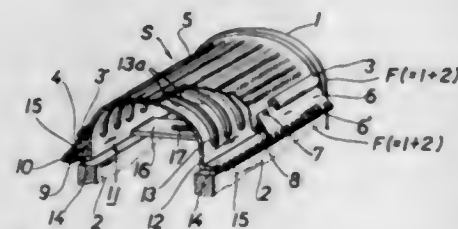
DRY SHAVER WITH ELASTICALLY DEFORMABLE CUTTER FOIL

Aldo Loner, Klagenfurt, Carinthia, Austria, assignor to Firma Carinthia Elektrogerate Gesellschaft m.b.H., Klagenfurt, Carinthia, Austria

Filed June 13, 1966, Ser. No. 556,960

Claims priority, application Austria, June 15, 1965, A 5,425/65

3 Claims. (Cl. 30-34.1)



1. A dry shaver comprising an elastically deformable cutter foil, a bar, said foil being supported at least on one side of the shaver head on the bar situated above the foil, a cutter arranged under the foil and movable to move to and fro in an axial direction and resiliently pressed against the foil, a separate plate, the cutter having a lateral row of cutting teeth thereon and cooperating with a row of cutting teeth projecting laterally beyond the bar and formed on the separate plate, which acts as an extension of the edge portion of the cutter foil supported by the bar and has greater rigidity than the cutter foil, the surface of the plate turned away from the bar, being provided with hooks directed away from the teeth, and the edge of the cutter foil being pushed into the interstice between the plate surface and the hooks, so that the plate with its row of teeth is pressed, by the part of the elastically deformed cutter foil supported by the bar, against the lateral row of teeth of the cutter.

3,343,259

RECIPROCATING CUTTER HEAD WITH FOAM RUBBER MOUNTING MEANS

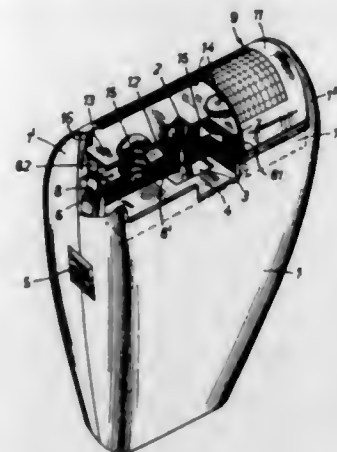
Charles F. Brodie, Zurich, Switzerland, assignor to Tyne Impex Est., Mauren, Liechtenstein

Filed June 28, 1965, Ser. No. 467,287

4 Claims. (Cl. 30-43.92)

1. An electric dry shaver comprising a casing, motor actuated oscillatory drive member in said casing, a shear head on said casing, said shear head including a stationary cutting member and a movable cutting member, said movable cutting member having a cutting portion in intimate contact with said stationary member, a transversely extending partition wall in said casing, said partition wall being provided with an aperture for passage of said oscillatory drive member, said shear head having a base plate coextensive with said partition wall at a distance therefrom to form a space between said partition wall and said base plate, a reciprocating web transversely extending above said base plate, said web carrying said movable cutting member and being engaged by said oscillatory drive member, a body of resiliently yielding foam material inserted into said space between the base plate

and the partition wall, said body being traversed by said drive member and being in intimate contact with said drive member, said base plate being provided with an aperture and the portion of said foam body surrounding said drive member being provided with a plug-shaped



extension integral with said body of foam material and embracing said drive member and penetrating through said aperture in the base plate to abut in prestressed condition against said web carrying the movable cutting member.

3,343,260

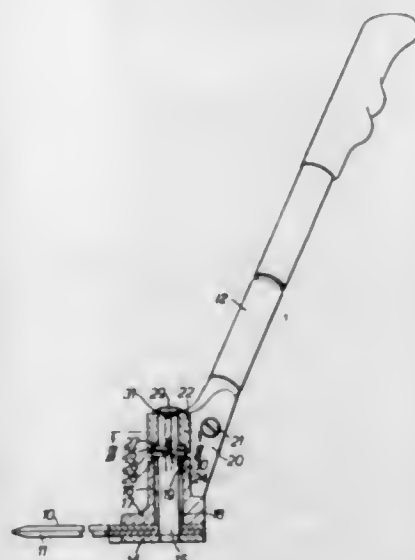
PIVOTALLY CONNECTED MEMBERS

Edward Albert Rogers, London, England, assignor to Wilkinson Sword Limited, London, England, a British company

Filed Nov. 22, 1965, Ser. No. 508,985

Claims priority, application Great Britain, Dec. 9, 1964, 50,012/64

8 Claims. (Cl. 30-248)



5. A pair of shears comprising two blades at least one of which has an aperture therein, a pivot pin secured to one said blade, extending normally from the upper surface thereof and passing through the aperture in the other said blade, a flanged boss having an aperture herein co-axial with a part of the pivot pin, the flange of the boss being rigid with said other blade, a pair of bearing bushes mounted in the aperture of said flanged boss spaced from one another and supporting the pin therein, a boss mounted on an end portion of the pin remote from the blades, a compression spring acting between that end face of the boss nearer the blades and the end face of the flanged boss remote from the blades,

securing means engaging the pivot pin to secure the boss against axial movement, extension pieces rigid with the said boss and said flanged boss respectively, and a handle detachably secured to each said extension piece.

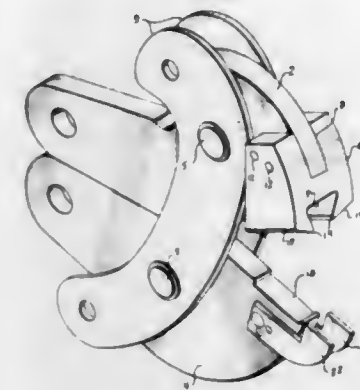
3,343,261

TERMINAL CUTTING DEVICE

Gregory Ronald Richards, Havertown, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed May 27, 1965, Ser. No. 459,228

4 Claims. (Cl. 30-258)



4. A cutting device for cutting edges from a ferrule member secured onto a carrier member comprising jaw members, pivot means pivotally connecting said jaw members together, cutting die means on one of said jaw members and including a recess defining cutting blade means mateable with the other of said jaw members, positioning means on the other of said jaw members for positioning said ferrule member in alignment with said recess and said cutting blade means, aligning means on the other of said jaw members for aligning said ferrule member within said positioning means thereby permitting the edges of said ferrule member to be sheared therefrom by said cutting blade means without damaging said carrier member, and means connected to said jaw members to move them toward and away from each other to effect the shearing operation.

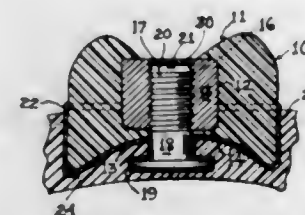
3,343,262

ARTIFICIAL DENTURE

Bernard Burg, 7756 Eastlake, Chicago, Ill. 60626

Filed Feb. 1, 1965, Ser. No. 429,306

10 Claims. (Cl. 32-2)



1. An artificial denture having a base plate supporting removable and adjustable teeth each comprising a molded tooth-like body, (a) said tooth-like body formed to provide in its top wall an enlarged opening entirely within the periphery of said tooth-like body, and a passage having open communication with said opening and extending out of the bottom wall of said tooth body, (b) an insert member confined within said opening and having an internally threaded center bore in alignment with said passage,

(c) threaded means projected through said passage into threaded engagement with said center bore of said insert member adjustably connecting said member and said body portion to said threaded means, and (d) retaining means carried by said threaded means externally of said tooth-like body and embedded in said base plate for rotatably connecting said threaded means to the denture base plate, (e) said threaded means having formed in its end portion projected into said insert member a transversely extending slot engageable by a suitable tool whereby said threaded means may be rotated relative to said base plate and said tooth-like body to axially move said tooth-like body relative thereto and to said denture base plate.

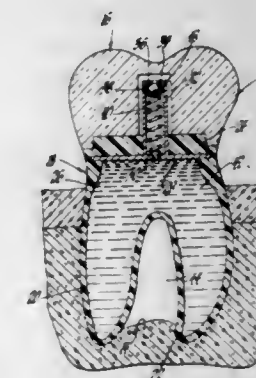
3,343,263

ARTIFICIAL TOOTH

Richard E. Henlotter, 6641 E. Dartmoor Road, Birmingham, Mich. 48010

Filed June 14, 1965, Ser. No. 463,609

15 Claims. (Cl. 32-10)



1. An artificial tooth comprising: a hollow root portion having resilient side walls adapted to be received in the recess in the gum and jawbone left by removal of the natural tooth; a fluid in said root portion under a predetermined pressure to force said side walls of said root portion outwardly against the jawbone and gum to prevent the jawbone and gum from growing into the recess left by removal of the natural tooth; means at least partially in said root portion to permit varying the pressure of said fluid; and a crown portion secured to said root portion and enclosing said means.

3,343,264

DENTAL ARTICULATOR AND METHOD OF USE

Niles F. Guichet, 320 Olympia Place, Anaheim, Calif. 92805

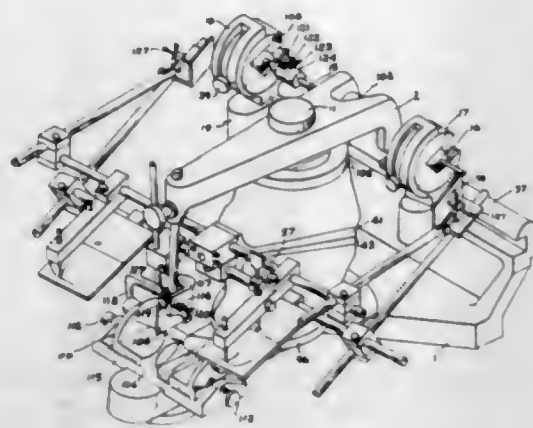
Filed May 3, 1965, Ser. No. 452,735

9 Claims. (Cl. 32-32)

1. The improved method of reconstructive dentistry that comprises:

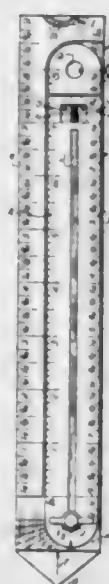
- (1) determining the border lateral excursions of a patient's mandible by recording said mandible excursions on a tracing device;
- (2) positioning said tracing device on a dental articulator having first and second members joined together at left and right condyle centers comprising adjustable stops bearing against rotational centers of the other member to simulate said excursions;
- (3) adjusting the articulator by rotation of one of said members about each of said left and right condyle centers to approximate said recording of the patient's mandible excursion;

(4) retracting said adjustable stops on said articulator to provide an initial and immediate lateral shift of said articulator members without encountering rotation about either of said condyle centers, followed by relative rotation of said members about simulated condyle joints;



(5) preparing models of dental occlusions on said articulator and moving said articulator members in a measured and controlled degree of immediate lateral shift to thereby provide a lateral tolerance in the cusp-fossa engagement of said occlusions.

3,343,265
DRAFTING INSTRUMENT
Miguel A. Puerta, 1164 Alta Ave., Apt. 13,
Atlanta, Ga. 30307
Filed June 3, 1965, Ser. No. 460,936
2 Claims. (Cl. 33—27)



1. A drafting instrument of substantially flat overall configuration comprising an elongated body portion defining an elongated groove along a major portion of its length and a transverse groove adjacent a first end thereof and intersecting said elongated groove, a pivot pin of non-circular cross sectional configuration located centrally of the intersection of said elongated groove and said pin having a small cross-sectional configuration adjacent the body and a large cross-sectional configuration at its distal end and said transverse groove, a plurality of bench marks defined in said transverse groove extending radially from said pivot pin, a sharpened member forming said first end of said main body portion, an elongated pivotal body portion of a width slightly smaller than said elongated groove and said transverse groove and defining a slot extending along a major portion of its length of a width generally equal to the small cross-sectional configuration of said pivot pin and including an

enlarged opening at one end of said pivotal body portion of a width generally equal to the large cross-sectional configuration of said pivot pin, said pivot pin being received within said slot and locking means for rigidly fastening said pivotal body portion to said main body portion, said pivotal body portion including an end portion at its other end generally coextensive therewith and pivotally connected thereto and defining a central aperture there-through, means for selectively maintaining said end portion in coextensive alignment with said pivotal body portion or in a position normal to said pivotal body portion, and said pivotal body portion including at least one bench mark at its said one end for selective alignment with the plurality of bench marks of said transverse groove.

3,343,266
DRAFTING INSTRUMENT
Gregory S. Dolgorukov, Ferndale, Mich.
(407 Fisher Bldg., Detroit, Mich. 48202)
Filed Jan. 19, 1967, Ser. No. 621,377
10 Claims. (Cl. 33—75)



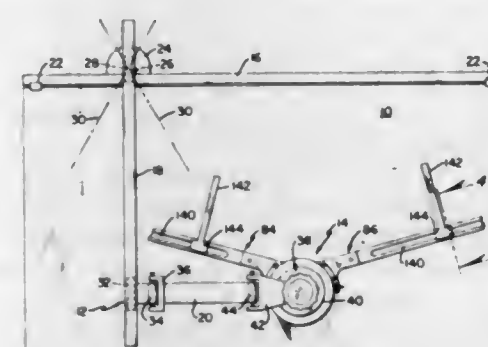
7. A T-square having a head with a squared guiding surface and a blade having squared side guiding surfaces, the upper surface of said head and said blade being permanently and unseparably connected together for the life of the T-square, the side guiding surfaces of said blade having continuous straight-line edges at the bottom thereof, two recesses extending into said head from the upper and guiding surfaces thereof and having substantially uniform depth and flat bottoms provided on the head, at the place of intersection of the guiding surface of the head with the guiding surfaces of the blade, a substantial part of each recess underlying said blade and a substantial part of each recess being exposed beyond the corresponding guiding surface of said blade, said recess having such configuration and size as to receive therein a side milling cutter of at least $\frac{1}{16}$ " dia. in recutting the respective side guiding surfaces to their full original length without touching any portion of the head, and thus to provide for repeat recutting the side guiding surfaces without decreasing the original effective length thereof, without forming a step within such length, and without separating the head from the blade.

3,343,267
DUAL PURPOSE DRAFTING MACHINE
Jesse David Wolf, Aurora, Colo., assignor to Universal Drafting Systems, Inc., Denver, Colo., a corporation of Colorado

Filed Sept. 13, 1965, Ser. No. 486,950
2 Claims. (Cl. 33—76)

1. A drafting machine adapted for both conventional drafting and the development of isometric views from orthogonal views, comprising: control arm means adapted to be secured to a drafting board and having a free end adapted to be moved over the surface of a drafting board without angular change with respect to a margin of said board; an instrument head having a body portion adapted to be secured to said free end for movement therewith and without angular change with respect to said margin, said head having a generally central axis normal to the plane of said board, said head including a base member in the form of a protractor plate located beneath said

body portion and mounted thereto for rotation about said axis; brake means to lock said plate in selected angular relation to said body portion; a pair of guide plates overlying each other and located beneath said protractor plate and mounted for rotation about said axis throughout the full range of 360 degrees, the overlapping portions of said guide plates being undercut on their confronting surfaces to reduce the combined thickness of such portions to the single thickness of other portions whereby the assembly is of uniform thickness throughout, said guide plates having bearing apertures concentric with said axis, the mounting means for said guide plates comprising a disk-like skid plate of low-friction material secured at the bottom of said head; a guide rule extending generally radially outward from each guide plate, each guide rule having a straight marker guiding margin intersecting the protractor plate of said head wherein said straight marker guiding margin extends away from the point of

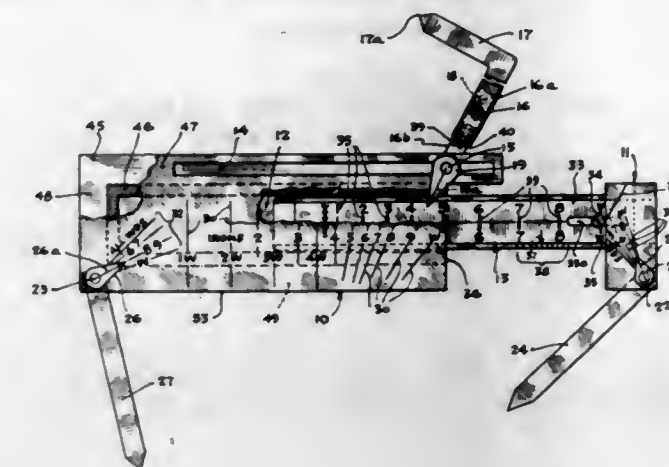


intersection at an angle of 45 degrees to a radius of said head passing through said point of intersection, said margins of the two guide rules diverging to opposite sides of said radius whereby when said guide rules are set at right angles to each other their margins will intersect to provide continuous guiding means for a drafting marker; each of said guide rules having a pair of opposed marker guiding margins one of which is said straight marker guiding margin, said opposed margins being straight and being at an angle of the order of 15 degrees to each other and converging outwardly, each of said guide rules being formed with a slot through its thickness extending longitudinally of the rule; a supplementary marker guide detachable mounted in each slot and slidable along its length, each marker guide having a longitudinal axis extending at right angles to the axis of its respective guide rule; and brake means to lock each guide plate independently in any selected angular relation to said head.

3,343,268
FOOT PLACEMENT GUIDE FOR GOLFERS
Russell T. Schennum, 5105 N. Keating,
Chicago, Ill. 60630
Filed Sept. 13, 1965, Ser. No. 486,625
5 Claims. (Cl. 33—174)

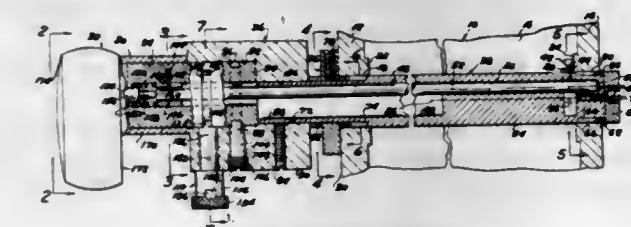
1. An apparatus for use with a golf ball to indicate to a golfer a correct stance to assume with respect to said ball in hitting the ball along a chosen line of flight with particular clubs, said apparatus including: a body having two mounting portions connected for movement lineally toward and away from each other, a first foot guide pivotally connected to one portion, a second foot guide pivotally connected to the other portion, said body having indicia to indicate the correct separation between the pivotal connections for particular clubs, said body having indicia to indicate the pivotal position of the two guides with respect to said body for particular clubs, and a line of flight guide movable pivotally with respect to said body and lineally with respect to said two portions of the body, said body including indicia to indicate the correct position of

said body with respect to the line of flight guide for particular clubs, whereby after a particular club and line of flight are chosen, said guides are positioned with respect



to the body, and said body is positioned with respect to said ball and line of flight to indicate to the golfer the correct positioning of his feet for the chosen factors.

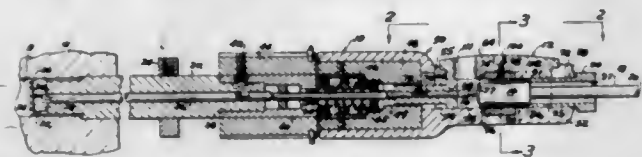
3,343,269
BORE-INSERTED SURFACE PERPENDICULARITY GAUGE
Andrew Elsele, 20460 Brookwood,
Dearborn Heights, Mich. 48127
Filed Sept. 14, 1965, Ser. No. 487,204
8 Claims. (Cl. 33—174)



1. A gauge for measuring the perpendicularity of a surface of a workpiece behind a reference bore relatively to the axis of said bore, said gauge comprising a hollow elongated support snugly but rotatably fitting the reference bore and insertable therethrough, said support having a feeler-receiving recess therein, a stop element on said support adapted to engage the workpiece, elongated motion-transmitting means essentially mounted in said support for rotational and reciprocary motions relatively thereto, a surface-perpendicularity-measuring feeler fixedly mounted on said motion-transmitting means adjacent said feeler-receiving recess and disposed transversely to said motion-transmitting means, said feeler being movable between a retracted position inside said recess and an extended position outside said recess, a handle structure connected to said support remote from said feeler, a rotary feeler retractor structure fixedly connected to said motion-transmitting means and connected to said handle structure for rotation relatively thereto, a locking device disposed between said structures for selectively locking and unlocking said structures for unitary and relative rotation thereof respectively, a dial indicator mounted on one of said structures and having a reciprocable operating element operatively connected to said motion-transmitting means and reciprocable in response to the reciprocary motion of said motion-transmitting means,

rotational motion of said hollow elongated support relatively to said motion-transmitting means in opposite directions respectively extending and retracting said feeler out of and into said recess.

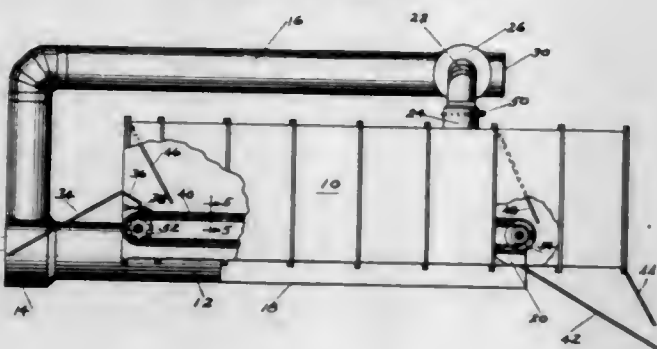
3,343,270
DIAL INDICATOR BORE GAUGE
CONVERSION DEVICE
 Andrew Elsele, 20460 Brookwood,
 Dearborn Heights, Mich. 48127
 Filed Dec. 20, 1965, Ser. No. 515,017
 9 Claims. (Cl. 33-178)



1. An adaptation device for replacement of the conventional dial indicator of a dial indicator bore gauge by the operating cylinder of a conventional air-actuated measurement indicating system, said bore gauge having a dial indicator holder, bore contacting elements and a mechanism for transmitting motion of said elements to the dial indicator mounted in said holder, said adaptation device comprising

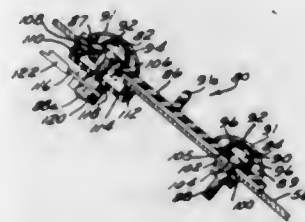
- an adaptation body configured to fit the bore gauge dial indicator holder and having a recess adapted to be aligned with the bore gauge motion-transmitting mechanism,
- an operating cylinder holder disposed in said recess for adjustment motion back and forth therein,
- means for securing said cylinder holder in its adjusted position within said recess,
- means for clamping the cylinder within said cylinder holder,
- and means for transmitting the motion from the bore gauge mechanism to said operating cylinder when in said holder.

3,343,271
APPARATUS AND METHOD FOR CURING
GRASS INTO HAY
 Alfred T. Pierce, 9½ Bond St.,
 Claremont, N.H. 03743
 Filed Oct. 4, 1965, Ser. No. 492,659
 3 Claims. (Cl. 34-33)



1. In a method for curing green grasses into hay which consists of passing said grasses disposed in a relatively thin layer in a bed through an elongated heat treatment chamber, the improvement which comprises introducing a flow of heated air solely below said bed at a predetermined rate of flow for a predetermined time, wherein said heated air has a temperature of 240° F., and is applied for substantially twenty minutes at a flow rate of substantially fifty cubic feet per minute per square foot of said grass bed; the rate of passage of said bed through the chamber being substantially 1.3 feet per minute.

3,343,272
SECTORED SENSING BAND FOR DRYERS
 Donald E. Janke, Benton Harbor, and Sandy C. Gay, St. Joseph, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
 Filed Nov. 17, 1964, Ser. No. 411,799
 3 Claims. (Cl. 34-45)

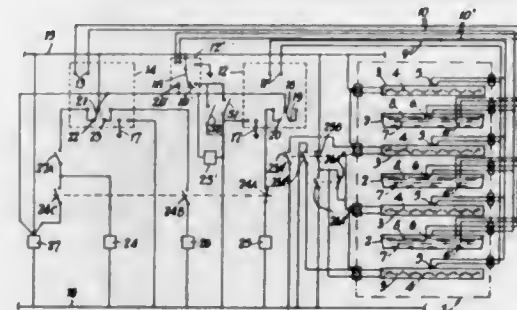


1. In a clothes dryer for drying fabrics, sensing means for a dryness sensing system comprising a plurality of sensing segments each including an arcuate member made of electrically insulating material and curved to conformably engage the inside surface of a dryer drum wall, each of said sensing segments having a pair of longitudinally extending channels formed therein, each of said arcuate members includes a radially inwardly extending rib disposed between said channels and being longitudinally coextensive therewith, a sensing band in each channel comprising a strip of electrically conductive material having a radially inwardly projecting portion extending out of each corresponding channel for contacting fabrics to be dried, and circuit means connected to said sensing bands to control the operation of the dryer as a function of the dryness of said fabrics.

3,343,273
CONTROL APPARATUS IN EQUIPMENT FOR
FREEZE-DRYING LIQUID, SEMI-LIQUID OR
GRANULATED MATERIAL
 Ronald Arthur James Ridge, Faringdon, England, assignor to Vickers-Armstrongs (Engineers) Limited, London, England, a British company
 Filed Feb. 24, 1965, Ser. No. 434,796
 Claims priority, application Great Britain, Feb. 26, 1964, 8,049/64
 10 Claims. (Cl. 34-48)

1. Control apparatus in equipment for freeze-drying liquid, semi-liquid, or granular material in a vacuum-tight chamber; the equipment including heating means heated by electrical heating elements for heating frozen material in the chamber; the control apparatus comprising a first temperature sensing means for sensing the temperature of said heating means, a first temperature controller operatively connected to this first temperature sensing means and to the heating means to receive, during a freeze-drying operation, a signal from the first temperature sensing means dependent upon the temperature of the heating means and to control this temperature in dependence upon said signal, during an initial heating-up of the frozen material in said chamber, so that the temperature of the heating means does not substantially exceed a desired maximum value which value is sufficiently high to ensure that the temperature of the free surface of the material being dried reaches a predetermined value; the control apparatus comprising a second temperature sensing means for sensing the free surface temperature of the material being dried in the chamber, a second temperature controller operatively connected to this second temperature sensing means and to the heating means to receive, during said freeze-drying operation, a signal from the second temperature sensing means dependent upon

said free surface temperature and to control this temperature in dependence upon said signal so that the heat supplied by the heating means to the material being dried maintains the temperature of the free surface of the material, after said initial heating-up of the frozen material, substantially constant at said predetermined value; and the control apparatus further comprising an electric current supply, first and second switching means for connecting the electrical heating elements to the current supply, the first and second switching means being operatively connected to the first and second temperature controllers whereby, during said initial heating-up, the first switching means is rendered operative by the first temperature controller to connect the electric heating elements to the current supply until the temperature of the heating means reaches said desired maximum value, the first temperature controller thereafter rendering said first



switching means alternately inoperative and operative to disconnect and connect the electric heating elements to the current supply to maintain the temperature of the heating means substantially at said desired maximum value, the first temperature controller exerting this control action until the free surface temperature of the material being dried reaches said predetermined value whereupon the second temperature controller renders said first switching means inoperative so that the first temperature controller has no further controlling effect on the temperature of the heating means, the second temperature controller thereafter rendering said second switching means alternately inoperative and operative to disconnect and connect the electric heating elements to the current supply to control the temperature of the heating means, whereby the heat supplied thereby to the material being dried maintains the free surface thereof at said substantially constant predetermined value.

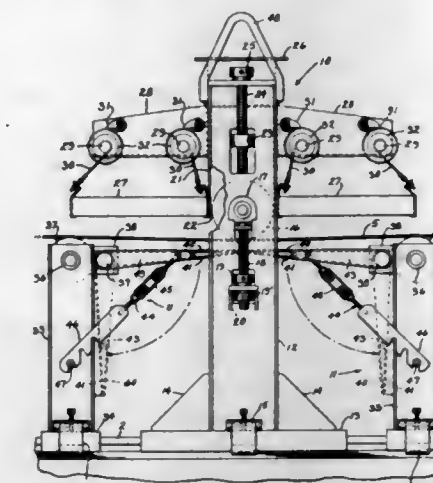
3,343,274
HEAT TREATING APPARATUS FOR WOVEN
FABRICS

Bruce B. Purdy, Freedom Township, Outagamie County, and Adrian T. Godschalx, Appleton, Wis., assignors to Appleton Wire Works Corp., Appleton, Wis., a corporation of Wisconsin
 Filed Jan. 27, 1965, Ser. No. 428,329
 2 Claims. (Cl. 34-68)

2. In a heat treating apparatus for an open mesh synthetic fabric suspended on a table having spaced side rails and stretch rolls for the fabric, the combination comprising:

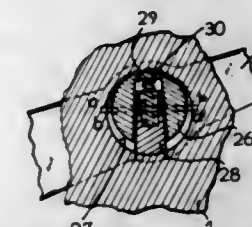
- a pair of stands each detachably mountable upon one of said side rails and rising upwardly from said rails when mounted thereon to an elevation above a fabric on the table;
- a first smoothing roll journaled in said pair of stands that extends across said table and over a fabric when said stands are mounted upon said rails, said roll being engageable with a fabric for smoothing the same;
- radiant heat lamp means supported between said stands which direct heat downwardly to a fabric passing beneath said roll;

a second pair of stands detachably mountable upon said rails which are on the opposite sides of the table; a lower smoothing roll journaled in and extending between said second pair of stands which is beneath



and engageable with the underside of a fabric when the stands are mounted upon said rails for smoothing the same; and a reflector supported on said second pair of stands that is positionable beneath a fabric and said radiant heat lamp means to reflect heat back to the fabric.

3,343,275
ELECTRIC HAIR-DRYERS
 Maurice Marie Achille Trouillet, Lyon, France, assignor to Calor Appareils Electro-Domestiques, Rhone, France, a corporation of France
 Filed Sept. 23, 1964, Ser. No. 398,668
 Claims priority, application France, Oct. 18, 1963, 951,170
 7 Claims. (Cl. 34-99)

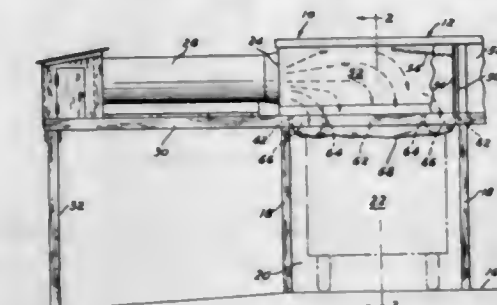


1. An electrical hair-drier comprising a helmet-forming member in the form of a substantially cylindrical lateral wall open at both ends, a substantially flat support-forming top plate mounted in said helmet-forming member at one end thereof, the resistances, the fan and the motor of the apparatus being attached to one side of said support-forming plate, said side of said support-forming plate being located toward the inner room defined by said cylindrical lateral wall, said hair-drier being carried by a support by means of an outer ring removably anchored on said support, surrounding said helmet-forming member and provided with two trunnion means, said trunnion means fitting with two bearings provided on said helmet-forming member the cooperating portions of said trunnions and said bearings being provided with registering teeth, resilient means being provided urging said trunnion teeth against the relevant bearing teeth.

3,343,276
CROP DRYING SHED
 Allison W. Blanshine, Little, and William W. Mann, Tallmage, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
 Filed Oct. 1, 1965, Ser. No. 492,044
 5 Claims. (Cl. 34-216)

1. A stationary drying structure for agricultural products comprising in combination, roof and ceiling structures arranged to define an elongated plenum chamber

sealed at the ends and sides, support members depending from said ceiling structure and engaging the ground to support said plenum chamber at a height above the ground adequate to permit vehicles loaded with agricultural products to be moved into position beneath said ceiling for drying said products, said support members being spaced apart in the direction of the length of said plenum chamber to define bays extending transversely to said chamber and respectively receiving individual vehicles, partitions extending transversely across said plenum chamber in vertical alignment with the planes defining opposite sides of said bays and correspondingly dividing said plenum chamber into compartments respectively directly over said bays, a heater at one end of said plenum chamber oper-

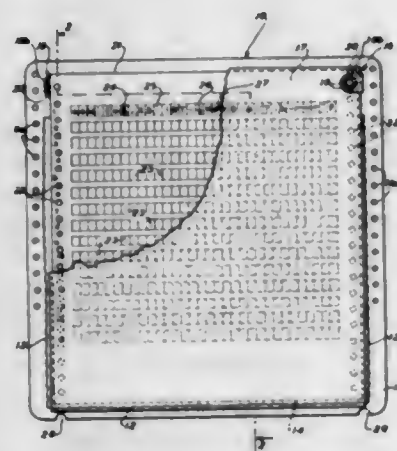


able to discharge heated drying air thereinto, each of said partitions having an opening therein, a closure door movably mounted relative to each opening to open and close the same and the ceiling portion of each compartment having a discharge opening therein to deliver drying air from said plenum chamber to a loaded vehicle in the bay therebelow, whereby loaded vehicles may be moved into said bays in succession from the one nearest the end of the plenum chamber to which the heater is attached and the doors of said partitions are opened in succession only into as many compartments as correspond to the bays containing vehicles to permit discharge of heated air into the loaded vehicles in said bays to dry the contents thereof while excluding heated air from those compartments over bays having no vehicles therein.

3,343,277

TEACHING MACHINE CARD

Richard Kobler, West Orange, Bruce N. Whitlock, Morris Plains, William Babooff, Newark, and Joseph Peterpaul, West Orange, N.J., assignors to McGraw-Edition Company, Elgin, Ill., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,160
9 Claims. (Cl. 35-6)



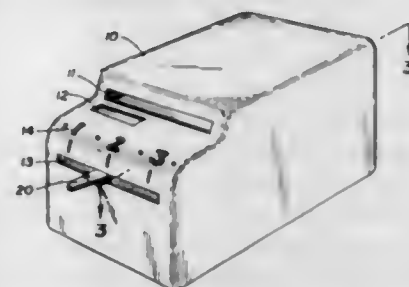
1. A composite teaching machine card for a visual-audio teaching machine comprising a semi-flexible base sheet of plastic material, a magnetically coated plastic sheet on the back side of said base sheet having lesser width and height dimensions than said base sheet to leave

exposed opposite side border portions and a top portion of the base sheet, a thin flexible rubber backing sheet interposed between said magnetic sheet and said base sheet having lesser width and height dimensions than said magnetic sheet to leave unbacked top and bottom border portions and one side border portion of said magnetic sheet, a flexible transparent cover sheet on the front side of said base sheet of substantially the length of said base sheet and of a narrower width than said base sheet to leave uncovered the side border portions of the latter, and a paper exhibitor sheet bearing successive lines of printed or written information and located between said base sheet and cover sheet, said exhibitor sheet being of substantially the same width as said cover sheet, and a common stitching securing (1) said magnetic sheet along its four borders to said base sheet, (2) said rubber backing sheet to said base sheet along its side border portion opposite to said one side border portion of said magnetic sheet, and (3) said cover sheet along its lower border portion to said base sheet.

3,343,278

EDUCATIONAL GAME DEVICES

Erling Jermundson, 11971 Quay St.,
Broomfield, Colo. 80020
Filed Oct. 18, 1965, Ser. No. 496,860
3 Claims. (Cl. 35-9)

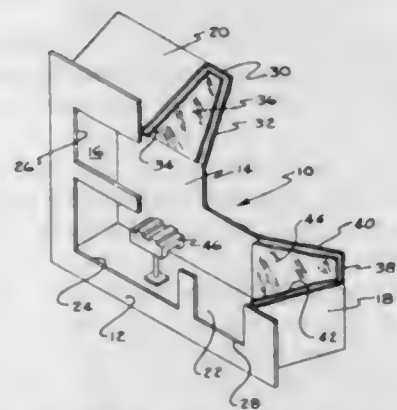


1. An educational game device comprising:
 - (a) a card having a statement and a plurality of numbered replies to the statement printed thereon and a plurality of holes punched therein;
 - (b) an outer case having an entry slot for receipt of said card, an exit slot for the discharge of said card and an indicating window;
 - (c) means in said case, instigated and actuated solely by the movement of said card through said case from the entry slot to the exit slot, to position a specific indication in said window when one of the holes in said card moves into a predetermined position in said case.

3,343,279

TEACHING AID

Richard L. Elkins, 110 Lillian Lane,
Silver Spring, Md. 20904
Filed Oct. 22, 1965, Ser. No. 502,224
8 Claims. (Cl. 35-26)



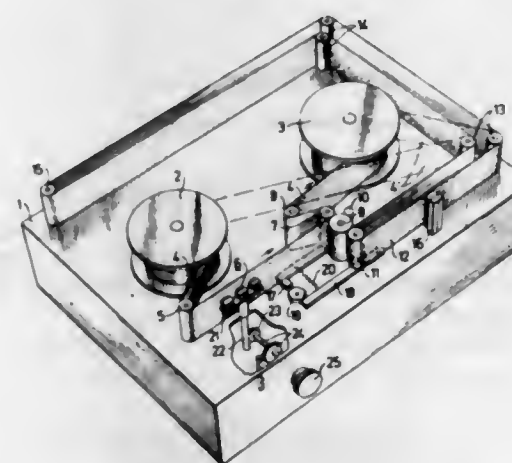
1. A device for use in instructing three-view projection drawing comprising, a housing having three viewing

windows arranged in one face thereof, means for supporting a drawing subject within said housing directly viewable through one of said windows, a reflective optical system associated with each of the two remaining windows, each said optical system being focused at right angles to the other on said subject support means, and each optical system including a reflective surface directly viewable through its associated window.

3,343,280

LANGUAGE TEACHING RECORDING-REPRODUCING APPARATUS AND METHOD

Gabor Kornel Tolnai, 14 Asbjornsens vag,
Bromma, Sweden
Filed Dec. 10, 1964, Ser. No. 417,408
Claims priority, application Sweden, Dec. 10, 1963,
13,677/63
9 Claims. (Cl. 35-35)



1. A sound recording and reproducing apparatus, particularly for language teaching purposes, comprising:
 - an endless tapelike sound recording carrier and means for moving same at a constant speed, said carrier having a series of laterally spaced tracks thereon;
 - some of said tracks having pre-recorded messages thereon and others of said tracks being blank to receive input messages;
 - a plurality of sound reproducing heads each being associated with one of said pre-recorded tracks, and a plurality of recording heads each being associated with one of said blank tracks, said heads being arranged crosswise of said recording carrier, the reproducing heads being arranged to reproduce pre-recorded messages from their associated tracks and the recording heads being arranged to record input messages on their associated tracks;
 - a plurality of playback means selectively coupled to said reproducing heads for selectively reproducing any one of said pre-recorded messages at several sound reproducing points; and
 - microphone means at said sound reproducing points coupled to said recording heads so that input messages can be recorded on the tracks associated with the respective recording heads.

3,343,281

EDUCATIONAL DEVICE

Thomas J. Greer, Jr., 204 Adams St. NE., Washington, D.C. 20002, and Thomas I. Davenport, Ambler, Pa.; said Davenport assignor to said Greer
Filed Apr. 8, 1965, Ser. No. 446,652
7 Claims. (Cl. 35-35)

1. An educational kit comprising a doll, said doll having means at an articulated extremity of the doll for picking up stored information, said doll provided with means

to convert said information into audible signals, and a planar surface carrying information thereon, said artic-

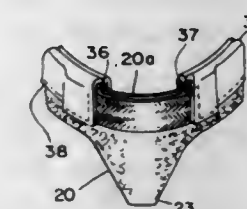


ulated extremity adapted to move across said planar surface, whereby said information is converted to audible signals.

3,343,282

STRETCHABLE GORE SHOE AND METHOD OF MAKING THE SAME

Benjamin Sneider, 56 Colborne Road,
Brighton, Mass. 02135
Filed Apr. 6, 1965, Ser. No. 445,903
14 Claims. (Cl. 36-51)

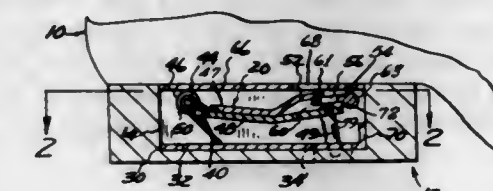


1. An open back shoe construction comprising a shoe bottom and a shoe upper having a band shaped to form an open back,
 - a lining attached to said upper, with said lining and upper lying in side-by-side relationship and defining a roll top upper edge,
 - an elastically stretchable gore, interconnecting spaced portions of said band of said shoe upper,
 - said gore having opposing ends with each end secured between said lining and said spaced portions of said band of said shoe upper.

3,343,283

RETRACTIBLE ANTI-SLIP DEVICE FOR SHOE HEELS

William Henry, 1046 Main St., Wellsburg, W. Va. 26070, and Carl Hilt, 20051 Pelkey St., Detroit, Mich. 48205
Filed Jan. 19, 1966, Ser. No. 521,722
8 Claims. (Cl. 36-61)



1. A retractable anti-slip device for installation in the cavity of a hollow shoe heel having spike holes through the bottom thereof, said device comprising
 - a supporting structure adapted to be mounted in the shoe heel cavity,
 - pivot means mounted on said supporting structure and having a horizontal pivot axis;

a spike carrier pivotally mounted on said pivot means for generally vertical swinging movement relatively thereto and having a first contact portion thereon spaced away from said pivot axis;

a plurality of pointed anti-slip spikes secured to and depending from said spike carrier remote from said pivot means and positioned thereon for alignment with the shoe heel spike holes;

a retraction member secured to said spike carrier and having a second contact portion thereon also spaced away from said pivot axis and from said first contact portion,

a rotary operating member,

means for rotatably supporting said rotary operating member in said supporting structure for rotation upon a horizontal axis of rotation therein,

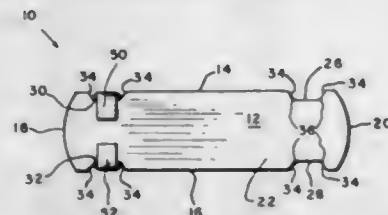
and a rotary actuating element operatively connected to said operating member and extending transversely to said axis of rotation,

said actuating element being responsive to rotation of said operating member for operatively engaging said first contact portion and thereby positively moving said spike carrier downward to project said spikes out from the heel and also responsive to further rotation of said operating member for operatively engaging said second contact portion and thereby positively moving said retraction member and spike carrier upward to retract said spikes into the heel.

3,343,284

COMBINED GOLF SPIKE RECEPTACLE AND ANCHORING STRIP

Arden B. MacNeill, 63 Riverview Ave., Waltham, Mass. 02154

Filed Mar. 11, 1965, Ser. No. 438,882
3 Claims. (Cl. 36-66)

1. A combined golf spike receptacle and receptacle anchor strip for the sole of a shoe comprising an elongated strip of thin flexible metal having two parallel sides, two ends and a top and bottom surfaces; a pair of oppositely disposed shallow notches formed at said sides adjacent each of said ends; a pair of golf spike receptacles, each having a threaded sleeve with two ends and an axis centrally of said threaded sleeve, one of said ends flared at substantially right angles to said axis forming a support base for said threaded sleeve, a pair of oppositely disposed ear extensions on said base, said base being positioned on said bottom surface between a pair of said shallow notches with each of said ear extensions in a corresponding notch and folded at the notch about said surfaces in engagement with said top surface of said anchor strip thereby holding said receptacles securely in place on said strip at said shallow notches.

3,343,285

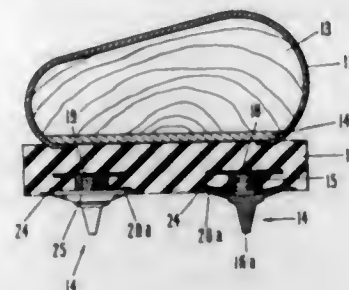
SPIKED SHOE

John P. Kowal, Middleton, Mass., assignor to Converse Rubber Corp., Malden, Mass.

Filed May 4, 1966, Ser. No. 547,478
6 Claims. (Cl. 36-67)

1. A shoe sole construction comprising, a molded shoe outer sole having an upper surface and a lower surface, a plurality of spikes extending downwardly from said lower surface at predetermined positions,

at least two positioning and supporting flanges attached to and extending about the axis of each of said spikes with one flange of each spike lying substantially at said lower surface and extending thereover and a second flange of each spike being firmly embedded in said sole between said upper and lower surfaces,

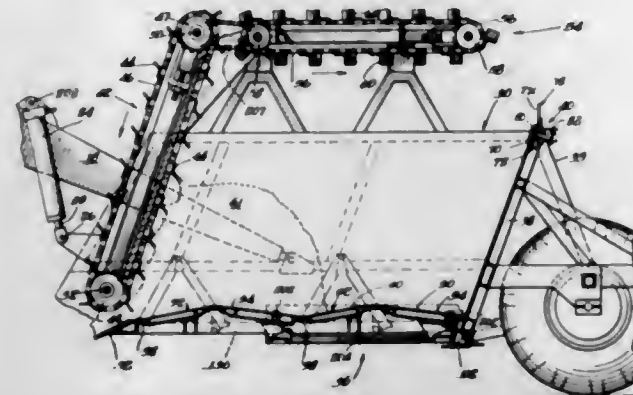


and a plurality of discs embedded in said shoe sole with each disc having a first portion thereof substantially coextensive with said lower surface and a second portion thereof underlying said one flange of one spike with said first portion extending outwardly of said one flange about its periphery.

3,343,286

ELEVATOR SCRAPER

Willie Odgen Ray, Jr., and Thomas Harrison Scott, Jackson, Miss., and Frank M. Maly, Chicago, Ill., assignors to M-R-S Manufacturing Company, Jackson, Miss., a corporation of Delaware

Filed May 6, 1964, Ser. No. 365,416
39 Claims. (Cl. 37-8)

28. A machine comprising: a body means for holding material, said body means including a rearward end portion and a forward end portion with a blade supported by the forward end portion of the body means; an elevator assembly supported by said body means with a lower end portion of said elevator assembly disposed adjacent to said blade, said elevator assembly including first material engaging means for pushing material upwardly from said blade; and conveyor means supported by said body means adjacent to an upper portion of said elevator assembly, said conveyor means including second material engaging means for pushing material away from said elevator assembly toward the rearward end portion of said body means.

3,343,287

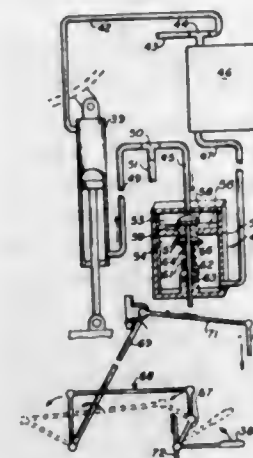
HYDRAULIC SAFETY SYSTEM

Edmund J. Kiras, Jr., Menlo Park, Calif. (128 N. 7th St., San Jose, Calif. 95112)

Filed May 22, 1964, Ser. No. 369,521
4 Claims. (Cl. 37-129)

1. A hydraulic safety system for a load suspension system which includes means for raising and lowering the load and a control means for actuating said raising and lowering means, said safety system preventing sudden falling of suspended loads upon a malfunction of the suspension system and comprising at least one hydraulic jack

operatively connected between the suspended load and the suspending frame, a single fluid circuit solely communicating the chambers of said jack formed by the hydraulic piston therein, a hydraulic valve within said fluid circuit, said valve comprising a valve seat plate having at least one valve opening therein, a valve gate adapted to seat within said opening upon fluid flow pressure through said opening from the jack chamber at the end

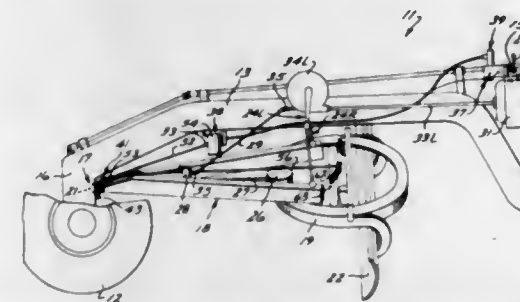


of said jack connected to said load to close said valve and prevent fluid flow between said jack chambers, and to open upon fluid flow pressure in the other direction through said opening, and means coacting with said suspension system control means for automatically maintaining said valve gate in the open position against said fluid flow pressure from the jack chamber at the end of said jack connected to said load at all times said control means is in the load lowering mode.

3,343,288

BLADE LEVEL CONTROL APPARATUS FOR A GRADING MACHINE

Jack G. Fisher, 337 S. Occidental St., Los Angeles, Calif. 90057

Filed Mar. 1, 1965, Ser. No. 437,007
14 Claims. (Cl. 37-156)

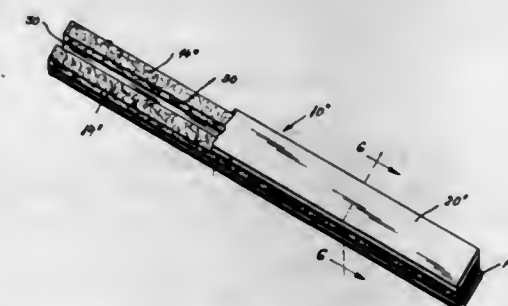
1. Blade level control apparatus for a grading machine of the type having main supporting framework means including a depending main framework portion having a rearwardly facing swivel connector means taking the form of a ball and socket joint means provided with and effectively swivelly interconnecting a rearwardly substantially longitudinally directed auxiliary movable circle frame means with respect to said depending main framework portion, said auxiliary circle frame means being provided adjacent to its rear end with a substantially coplanar circle member carrying thereunder a substantially coplanar and normally transversely directed earth scraping and leveling blade member and being provided with rotory mounting means and controllably powered driving means for effectively rotating said circle member around the center thereof with respect to said circle frame means, said main supporting framework means and left and right rear side portions of said circle frame means being effectively provided with and arcuately movably interconnected by a pair of

controllably and individually operable extension and retraction actuator means for controllably raising and lowering corresponding rear side portions of said circle frame means with respect to said main supporting framework means, comprising: a blade-position simulator means comprising first, second, and third relatively mutually perpendicularly rotatively interconnected portions, said first simulator means portion being effectively provided with first rotory mounting effectively for mounting same on a rear surface of said depending portion of said main framework means for rotation around a longitudinal fore and aft first axis passing centrally through the center of said swivel connector means, said first and second simulator means portions being effectively provided with and relatively rotatively interconnected by a second rotory mounting means effectively rotatively mounting same for rotation around a second axis substantially perpendicular to said longitudinal first axis, said second and third simulator means portions being effectively provided with and relatively rotatively interconnected by a third rotory mounting means effectively relatively rotatively mounting same for rotation around a third axis substantially perpendicular to both said longitudinal first axis and said second axis perpendicular thereto, said simulator means being provided with an output blade-position simulating portion and effective coupling means effectively coupling same with respect to said blade member for causing corresponding movement of said output portion, in an effective error and correction signal-producing manner, in response to movement of said blade member away from a desired horizontal angular position with respect to said longitudinal first axis.

3,343,289

SELF-ADHESIVE, CONFORMING PLASTIC PAD LABEL HOLDERS

Coleman R. Chamberlin, P.O. Box 1266, New Windsor, N.Y. 12550

Filed Dec. 9, 1963, Ser. No. 328,837
2 Claims. (Cl. 40-16)

1. A label holder for a label strip comprising an elongated flattened rectangular-shaped plastic tube open at both ends adapted to receive and hold a label strip, a pair of spaced adhesive binder strips on one of the outer surfaces of the tube, for a substantial portion of the area of said surfaces, said binder strips having pressure sensitive adhesive on both surfaces thereof, and a protective cover in strip form spanning the outer surfaces of said binder strips and the space therebetween, said protective cover being removable manually, said binder strips being composed of soft cellular material adapted to conform to irregularities in a supporting surface.

3,343,290

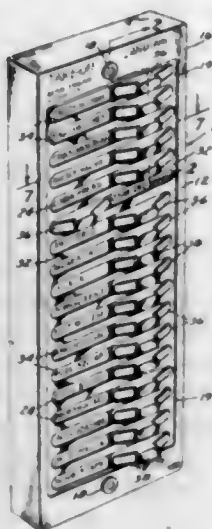
AIRCRAFT PANEL

Leslie E. Madansky, Burbank, Calif., assignor to California Plasteck, Inc., Reseda, Calif., a corporation of California

Filed June 16, 1965, Ser. No. 464,308
8 Claims. (Cl. 40-62)

1. A check list device for aiding an aircraft pilot in take-off and landing procedures, comprising: a container,

a panel in said container, said container having one side open to expose said panel, landing and take-off reminders on said panel and exposed to view to comprise a list of items to be checked off for correct landing and take-off procedures, said reminder items being disposed in vertical columns with landing check-off reminders in one column and take-off reminders in another column,



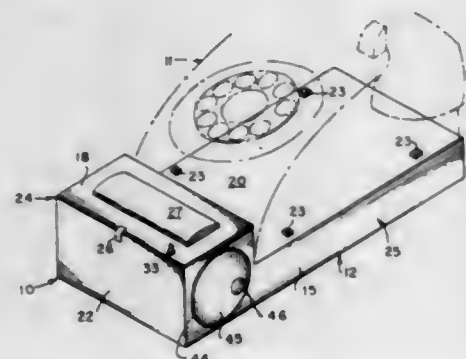
a second panel disposed over said first mentioned panel and provided with horizontal slots of a width sufficient to expose the indicia forming said reminder items and of a length to expose the reminder items of adjacent columns, and manually slidable means disposed in said slots to cover said reminder items individually in each column and slidable between said columns to alternatively cover and uncover the individual items for check-off procedures for landing as listed in one column and the items for check-off procedures for take-off as listed in the other column.

3,343,291

TELEPHONE ACCESSORY

Carmen W. Levang, 11241 14th Ave. SW., Seattle, Wash. 98146, and Neil D. Dahl, Watford City, N. Dak. 58854

Filed Dec. 1, 1965, Ser. No. 510,830
1 Claim. (Cl. 40-96)



In a telephone accessory, a hollow housing embodying a horizontally disposed bottom wall having a plurality of lugs depending therefrom, said housing further embodying spaced parallel vertically disposed side walls, a top wall portion, and spaced apart end walls, a vertically disposed wall portion, a top member hingedly connected to said wall portion, a latch for selectively maintaining the top member in closed position on the housing, a viewing member connected to said top member, magnets on

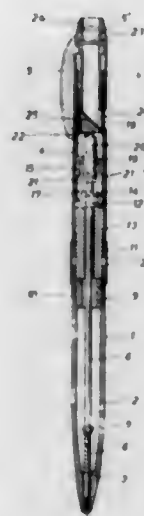
said top wall portion, said magnets adapted to selectively engage the lower base plate of a telephone, a manually operable light switch connected to the top member, a light bulb depending from the top member, a source of electrical energy embodying at least one battery in said housing adjacent the undersurface of the top member; the walls and said top member of the housing defining and providing a forwardly disposed generally enlarged section, and a rearwardly disposed section so that when the accessory is being used a telephone will rest on the rearwardly disposed section with an end portion of a telephone abutting the vertically disposed wall portion of the housing; first, second, and third rollers mounted in said housing, and said rollers being arranged in spaced parallel relation with respect to each other, said first roller being of greater diameter than said second and third rollers, said first roller being arranged in the enlarged section of the housing and said second and third rollers being arranged in the rearwardly disposed section of the housing, shafts fixedly connected to said rollers, rows of staggered teeth on said first roller adjacent the ends thereof, a continuous belt having indicia thereon, said belt extending around the first roller and below the second roller and around the third roller, and said belt having rows of staggered apertures adjacent the outer edges thereof for receiving and coacting with said teeth so that a positive drive is provided for the belt, there being a recess in the enlarged section of the housing adjacent the first roller, a manually operable wheel mounted in said recess and connected to the shaft having the first roller thereon, and a finger engaging hole in said wheel, said wheel being positioned in the recess so that the outer surface of the wheel is flush with the side of the housing.

3,343,292

WRITING IMPLEMENT WITH SELECTIVE ILLUSTRATION VIEWING MEANS

Gunnar Viktor Jørgensen, Sundevedsgade 16A, Copenhagen V, Denmark

Filed Nov. 2, 1964, Ser. No. 408,426
Claims priority, application Denmark, Nov. 2, 1963, 5,156/63
3 Claims. (Cl. 40-334)



1. A writing implement comprising an elongated housing; a writing member reciprocally mounted in said housing to a writing position and to a withdrawn position; a translucent film carrying illustrations and the like being mounted along the inner side of the housing at the rear part thereof behind a window provided in said rear part of the housing; a lens being provided in the rear end of the housing and an inclined mirror arranged centrally in the rear part of the housing to reflect light received from the window through the film to the lens, the film

being mounted in a holder slidable relatively to the window to show the upper part of the film when the writing member is in one of its two positions and the lower part of the film when the writing member is in its other position.

3,343,293

WRITING INSTRUMENT PROVIDED WITH DISPLAY FEATURE

George W. Kirklen, 754 Manchester Drive, Chattanooga, Tenn. 37415

Filed Sept. 10, 1965, Ser. No. 486,428
4 Claims. (Cl. 40-334)



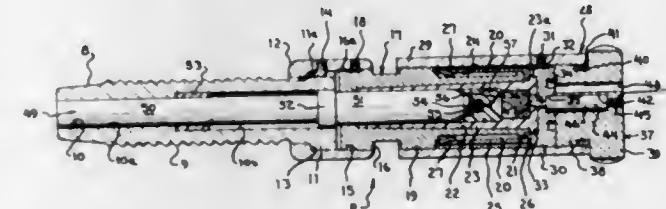
4. For use with a writing instrument of the character described, a cup-shaped ratchet adapted to accommodate the rear end of a cartridge and having longitudinally arranged circumferentially spaced ribs adjacent to its closed end, the outer surface of the ratchet adjacent to the open end being longitudinally extensive enough to engage the rear end of an elongated display sleeve and an elongated display sleeve bearing indicia on its outer surface and coaxially encircling and secured to the forwardly projecting part of said ratchet.

3,343,294

SHELL-EJECTION DEVICE FOR AN EXPLOSIVELY-OPERATED TOOL

Frederick William Wahl, Middletown, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Original application Jan. 30, 1964, Ser. No. 341,282, now Patent No. 3,292,363, dated Dec. 20, 1966. Divided and this application Oct. 10, 1966, Ser. No. 585,555
6 Claims. (Cl. 42-1)



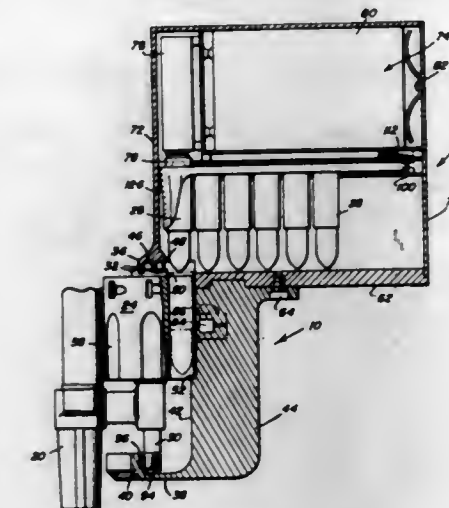
1. An ejection device for ejecting cartridge means from an explosively-operated device comprising a breech member having a cartridge-receiving chamber for receiving said cartridge means therein, a sleeve member disposed along an exterior surface of said breech member and mounted thereon for free and axial sliding movement therealong, said sleeve member having at one end integral inwardly-turned means for engaging an end of said cartridge means for ejecting said cartridge means from said cartridge-receiving chamber when said sleeve member is slidably moved relative to said breech member, and means on said breech member and said sleeve member to maintain said sleeve member on said breech member.

3,343,295

REVOLVER LOADER

Gregory Grosbard and Daniel L. Lazenberry, El Paso, Tex., assignors of two percent to Texas S. Ward, El Paso, Tex., four percent to Max Brooks, ten percent to Donald L. Lozow, and one percent to Marvin Smith, Morey A. Brooks, and Steve P. Levine, jointly, all of Denver, Colo.

Filed Aug. 5, 1966, Ser. No. 570,508
9 Claims. (Cl. 42-89)



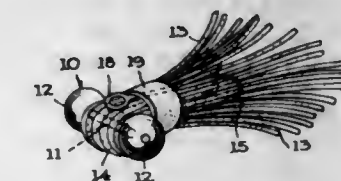
1. A revolver loader comprising an elongated body, positioning means on said body for receiving, guiding and rotating a revolver cylinder as it moves parallel to and adjacent said body, and means on said body for ejecting cartridges into the chambers in the cylinder sequentially as the chambers are orientated in sequentially longitudinally spaced positions along the body.

3,343,296

FISHING LURE

Herschel Samuel Davis, % Davis Rubber Company, P.O. Box 3774, 1600 E. 15th St., Little Rock, Ark. 72203

Filed June 22, 1965, Ser. No. 465,961
4 Claims. (Cl. 43-42.28)



1. In a fishing lure, a laterally disposed head bar, balls disposed at the extremities of said head bar, a hank of resilient strands doubled over said head bar between said balls and extending rearwardly therefrom, binding means disposed over said strands behind said head bar and holding said strands closely together thereover and a fish-hook disposed within said strands with its shank and eye extending outwardly through said binding means and over said head bar.

3,343,297

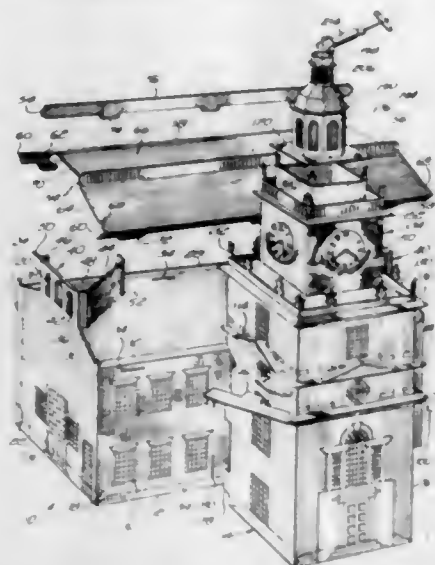
SMALL SCALE PAPERBOARD BUILDING REPRODUCTION

Florence L. Valentine, 410 Stuart St., Boston, Mass. 02116

Filed Oct. 19, 1964, Ser. No. 404,665
2 Claims. (Cl. 46-21)

1. A small scale model building, comprising (a) a plurality of initially flat paperboard components cut to predetermined configurations for interlocking assembly with one another to form an erected model building,

- (b) one of said components having means for forming a tube and dome, said means including a plurality of articulated panels joined edge to edge,
- (c) the upper portions of said panels being free ends formed into tapered sections of matching size and shape whereby said panels may be folded to form a tube and said tapered sections may be bent inwardly into edge to edge contact to form a dome,
- (d) another of said components comprising collar means having a central opening therein correspond-



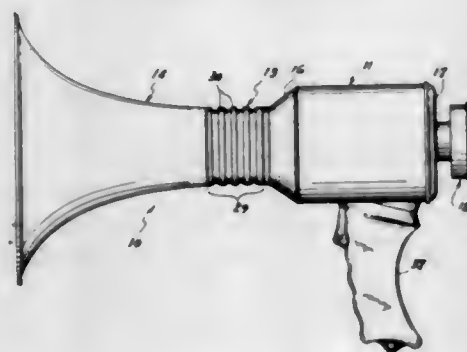
ing to the cross-section of said tube whereby said other component may be slipped over said tube to hold said panels in position, and

- (e) means for holding said tapered sections in the dome form, said means including a tab formed on the end of each tapered section and a second tube formed from a plurality of articulated panels, said second tube being of smaller diameter than the first tube and adapted to fit snugly over said tabs when coaxially arranged with respect to said first tube.

3,343,298

TOY HAND-HELD VOICE MODIFIER

Joseph Green, Hewlett, N.Y., assignor to Miner Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 4, 1965, Ser. No. 437,097
6 Claims. (Cl. 46-182)



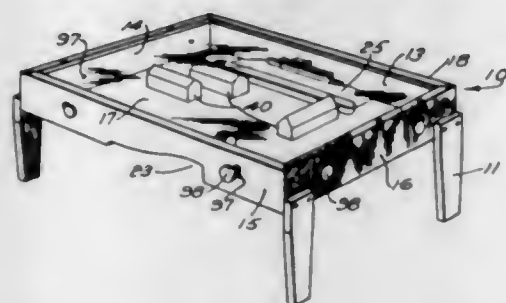
1. A toy, hand-held voice modifier comprising a hollow body having a generally cylindrical wall with interned, annular flanges at its opposite ends defining openings at the corresponding ends of the body which have diameters substantially smaller than that of said wall, a flexible membrane seated in one of said openings, a mouthpiece extending from said one opening and defining a chamber confined at one end by said membrane, a tubular open-ended member extending axially in said body along substantially the entire length of the latter and projecting through the other of said openings said tubular member being secured to said body only at said other opening and having an end

portion within said body which extends with clearance around said one opening and terminates adjacent the annular flange defining said one opening so that an annular cavity is formed within said body between said cylindrical wall and said tubular member, said cavity being confined, at its ends, by said flanges of the body, and a flaring bell member extending axially from the other end portion of said tubular member in the direction way from said body.

3,343,299

MAGNETIC TOY SIMULATING URBAN OPERATIONS

Gerald C. Kelly, 28 Abbott Ave.,
Warwick, R.I. 02886
Filed Oct. 29, 1964, Ser. No. 407,419
8 Claims. (Cl. 46-240)

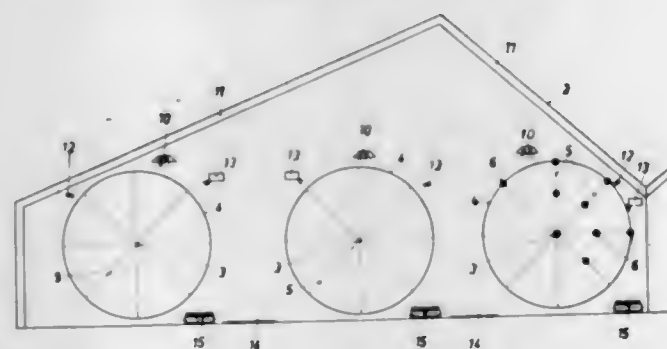


1. A toy comprising a container having a non-magnetic generally flat bottom wall of substantially uniform thickness and enclosing side walls, magnetic imitation vehicles within the container, a magnet for manipulating said vehicles over said bottom wall, said bottom wall being deflected upwardly from a generally flat surface raised to provide a platform with a ramp merging from the bottom wall and leading to the platform providing a void beneath said raised platform for the manipulation of the magnet in the void to move the vehicle up the ramp to the raised platform and loading means adjacent the platform comprising a conveyor with a shaft extending through an upwardly extending portion of the bottom wall into said void, and a handle on said shaft.

3,343,300

EQUIPMENT FOR GREENHOUSES

Ulrich Englert, Horrheim, Württemberg, Germany
Filed Mar. 24, 1966, Ser. No. 537,150
2 Claims. (Cl. 47-17)

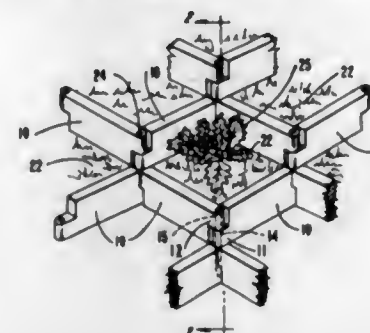


1. In a greenhouse, a central shaft, a pair of support wheels coaxially mounted on and spaced axially of the shaft for rotation about the axis of the shaft, a series of axially extending plant carriers pivotally mounted between said wheels and spaced radially from said central shaft in a plurality of circular series spaced at different radii from the axis of said central shaft, a plant spraying device past which the carriers move successively as the wheel rotates and which is disposed outside the orbit of said plant carriers, and means for slowly rotating said wheels to move said carriers in a circular path.

3,343,301

INCLINED PLANTER AND RETAINING WALL CONSTRUCTION

Philip Adelman, 8677 Evergreen St., Apt. D,
South Gate, Calif. 90280
Filed Nov. 23, 1964, Ser. No. 413,172
22 Claims. (Cl. 47-33)

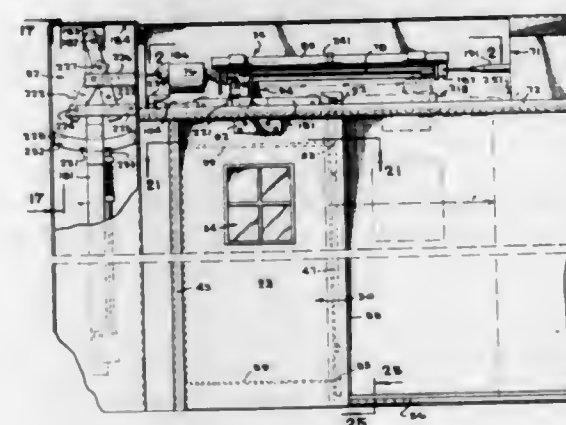


1. A combined retaining wall and planter box construction providing a substantially unitary assembly which is adapted to conform to the existing slope of a hillside, and comprising: a plurality of individual wall segments, each forming a different wall of a two level geometric shape defining the boundaries of an enclosed planter box, and each wall segment also serving as a common wall with an adjacent planter box at a different level, the wall segments intersecting at the corners of the individual geometric shape, at least two of the wall segments of each geometric shape being variably positionable relative to the point of intersection therebetween, to vary the height-to-length ratio of the geometric shape, and means mechanically engaging the all intersecting wall segments in restraining relation to provide a unitary structure.

3,343,302

KEYLESS OPERATING AND LOCKING MECHANISM FOR CELL DOORS

James E. Browning and David Hull Youngblood, San Antonio, Tex., assignors to Southern Steel Company, San Antonio, Tex., a corporation of Texas
Filed June 30, 1965, Ser. No. 468,490
9 Claims. (Cl. 49-18)



4. A system for keyless and remote control operation of a series of sliding cell bores to automatically and selectively lock and unlock and impart closing and opening movement to each cell door individually, comprising a unitary power operated driving mechanism for each door, reversible means for operating the door in either direction, remote control means for activating the reversible door operating means, a vertically movable locking bar mounted for movement adjacent the door opening for engaging the door when the door is in either its open or closed position and for movement to a second position allowing the door to be moved, a driving head mounted for movement on a support platform between first and second positions respectively engaged and disengaged with said driving mechanism, means interconnecting the driving head with

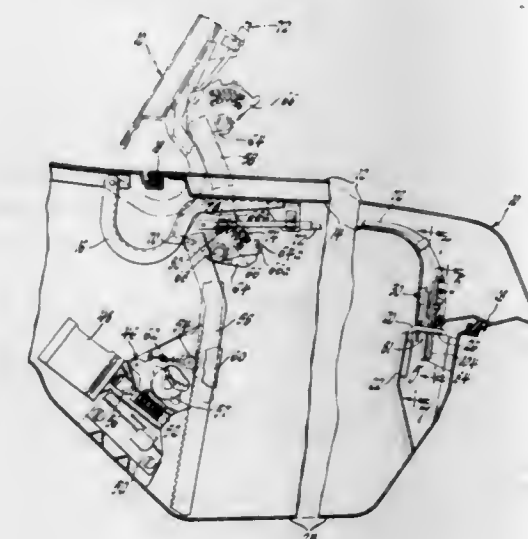
the cell door to effect reciprocative movement thereto and including camming means engageable with said locking bar to move said locking bar to effect locking and unlocking of the locking bar pivotable means on said driving head sensitive to blockage of said door to move into engaging position with switch actuating means connected to switch means for disconnecting power from said reversible means so that said blockage of said door causes power to said reversible means to be interrupted.

3,343,303

VEHICLE BODY DECK LID OPERATING SYSTEM

Bert R. Wanlass, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 27, 1965, Ser. No. 475,184
11 Claims. (Cl. 49-280)



1. In a vehicle body having a closure member movable between fully open and fully closed positions relative to a body member, and cooperable latch and striker means mounted on said members to be interengageable in the fully closed position of said closure member to hold said closure member therein, closure pulldown means comprising, grapnel hook means, means mounting said grapnel hook means on one of said members for bodily movement between extended and retracted positions, keeper means on the other of said members, said grapnel hook means in the extended position thereof being engageable with said keeper means when said closure member is moved to a partially open position thereof, and means responsive to said movement of said closure member to the partially open position thereof for engaging said grapnel hook means with said keeper means and moving said grapnel hook means from the extended to the retracted position thereof thereby to move said closure member from the partially open to the fully closed position thereof for interengagement of said latch and striker means.

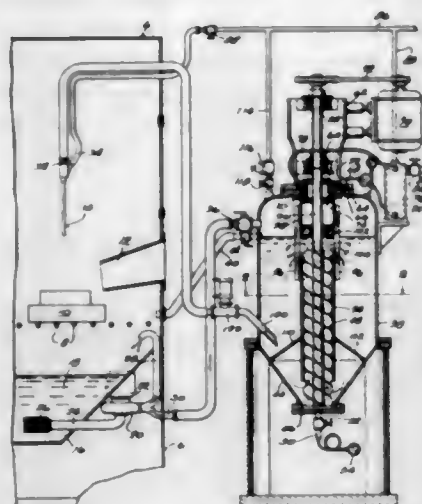
3,343,304

APPARATUS FOR WET ABRASIVE BLASTING

Arthur H. Eppler, 2518 W. Wisconsin Ave.,
Milwaukee, Wis. 53203
Filed Mar. 12, 1965, Ser. No. 439,198
12 Claims. (Cl. 51-8)

1. For use in wet abrasive blasting, the combination of a storage vessel for slurry used in such blasting, said vessel having upper and lower portion and an intermediate foraminous baffle, means for rapidly withdrawing slurry from beneath the baffle and delivering it at a point in said vessel above the baffle for flow subject to gravity

and pressure differential through the baffle, the rate of withdrawal from beneath the baffle being in excess of the rate of gravity flow through the baffle, means for sub-



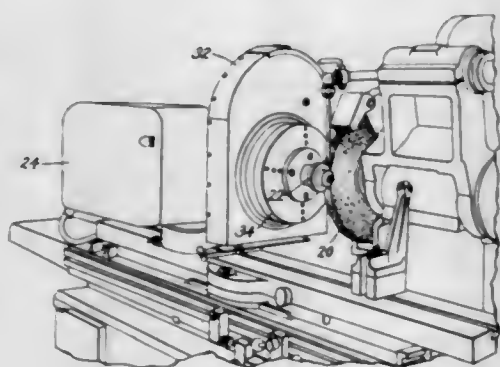
jecting the interior of the vessel and the slurry therein to pressure materially in excess of atmospheric pressure, and means for discharging slurry under such pressure from a level in said vessel above the baffle for use in blasting.

3,343,305

MECHANISM FOR SHAPING CAMS

Robert L. Benford, Swampscott, Mass., C. Walton Musser, Palos Verdes Estates, Calif., and John L. Wheeler, South Dartmouth, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Jan. 14, 1965, Ser. No. 425,456
3 Claims. (Cl. 51—105)



1. An attachment for a machine tool of the grinder type including a grinding wheel and a rotary spindle, comprising a faceplate for supporting a work piece, a ring gear eccentric to the spindle axis for supporting the faceplate, means for adjusting the eccentricity of the ring gear with respect to the spindle axis, and a floating gear system interconnecting the spindle and the ring gear to drive the latter at a speed in selected ratio to the spindle speed.

3,343,306

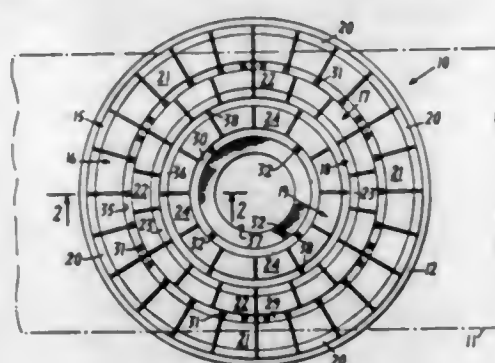
SURFACING SYSTEM

Carle W. Highberg, Murray Hill, N.J., assignor to Engelhard Hanovia, Inc., Newark, N.J., a corporation of New Jersey

Filed Jan. 11, 1965, Ser. No. 424,611
10 Claims. (Cl. 51—110)

1. Apparatus for sequentially surfacing flat sheets of glass and similar materials including a plurality of surfacing stations, at least some of the surfacing stations comprising a grinding wheel including a plurality of concentric, fixed abrasive, annular grinding means having

abrasive particles bonded therein in respective predetermined concentrations and having substantially coplanar grinding faces, at least the outermost one of said concentric grinding means having a materially lower concen-



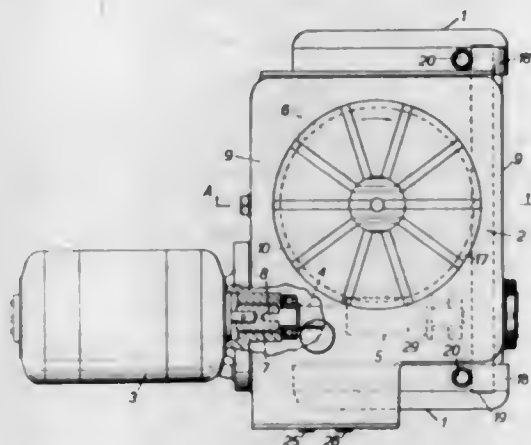
tration than the next adjacent radially inward one of said concentric grinding means, and the respective concentrations of corresponding grinding means in said grinding wheels of at least two successive stations being in a predetermined relation.

3,343,307

ROTARY WORK SUPPORT TABLE UNIT

Eric Bowers, Grange Park, Cottingham, England, assignor to T. Bowers & Co. (Toolmakers) Limited, Laisterdyke, England, a British company

Filed May 28, 1964, Ser. No. 370,977
Claims priority, application Great Britain, June 14, 1963, 23,763/63
1 Claim. (Cl. 51—237)



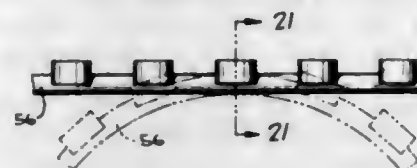
Rotary work support table unit, comprising a housing, bearings in said housing, a vertical spindle supported by said bearings, a rotary work support table on said spindle and above said housing, a worm wheel on said spindle, a shaft rotatably mounted in said housing, a worm on said shaft in mesh with said worm wheel, a motor connected to said shaft and located externally of said housing, a base plate for attaching the unit to a machine tool work-table, a pivotal connection between said base plate and said unit on said base plate, bearer means on said unit remote from said pivotal connection, means for adjusting said unit about said pivotal connection relative to said base plate for setting the rotary work support table at a predetermined inclination, said means for adjusting comprising a first slip plate of a predetermined thickness normally inserted between said base plate and said bearer means, and further slip plates of different thicknesses for selective use in place of said first slip plate, whereby said rotary work support table can be positioned normally in a horizontal plane and in selected upward and downward inclinations, one of said bearings being a free running main bearing located immediately under said rotary work support table between it and a fixed portion of said housing, a pendant skirt about the under edge of said rotary work support

table, an upstanding annular part of said housing closely within said skirt and about said bearing, said skirt having a bottom annular facing closely above an annular facing on the housing surrounding said upstanding annular part, and sealing means retained by said skirt between its facing and that of the housing, whereby there is a stepped joint and sealing means between the work support table and housing for excluding dust from said bearing.

3,343,308

CUTTING AND GRINDING DEVICES

Paul Fessel, 1111 Ocean Ave., Brooklyn, N.Y. 11230
Filed Dec. 30, 1965, Ser. No. 517,751
12 Claims. (Cl. 51—395)



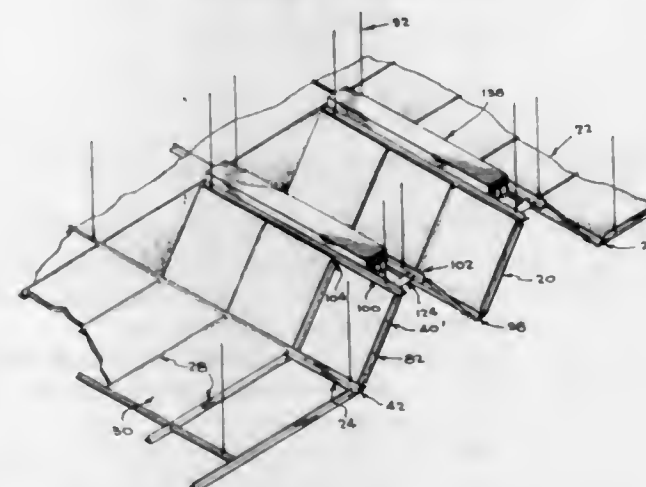
1. A prefabricated cutting device comprising a series of spaced apart abrading elements sintered to a ductile wire, the said elements being circular in cross-section, and of greater width than the wire.

3,343,309

COVED CEILING ASSEMBLY AND BRACKET MEANS THEREFOR

Norman Netz, Bloomfield, Conn., Emanuel D. Bauman, Loudonville, N.Y., and Eugene Baranowski, Forestville, and Seymour Freedman, West Hartford, Conn., assignors to Integrated Systems, Inc., Hartford, Conn., a corporation of Connecticut

Filed June 8, 1965, Ser. No. 462,381
4 Claims. (Cl. 52—28)



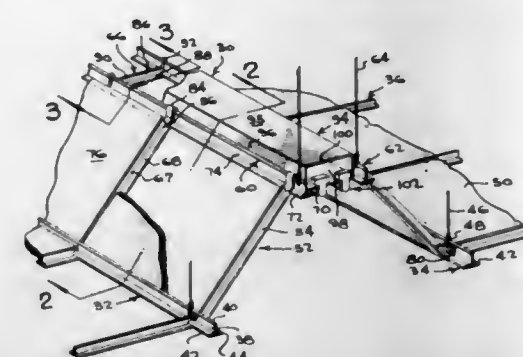
1. In an overhead ceiling construction which includes at least one pair of spaced longitudinal rails, a coved fixture support assembly comprising: bracket means engaging the longitudinal rails at spaced locations in substantially transverse pairs; the bracket means comprising sections with edges and bendable connection ears on said edges; side members supported by the bracket means in upwardly inclined positions; upper bracket means secured to each of the side members; longitudinally extending upper rails secured to the upper brackets in substantially parallel pairs; cross brace means extending between the upper rails at selected intervals; and the cross brace means comprising elongated straps having ends, and having securing elements on said ends for engagement with the upper rails; and fixtures mounted between the upper rails.

3,343,310

OVERHEAD CEILING STRUCTURE WITH AN INTEGRAL FIXTURE ASSEMBLY

Norman Netz, Bloomfield, Conn., Emanuel D. Bauman, Loudonville, N.Y., and Eugene Baranowski, Forestville, and Seymour Freedman, West Hartford, Conn., assignors to Integrated Systems, Inc., Hartford, Conn., a corporation of Connecticut

Filed Nov. 16, 1964, Ser. No. 411,297
7 Claims. (Cl. 52—28)



1. In a suspended ceiling construction having transverse and longitudinal rail members, ceiling materials supported between the rail members, and at least one pair of opposing, open rail members, a fixture support assembly comprising:

at least one elongated fixture housing mounted in upwardly coved relation between said one pair of open rail members in said fixture support assembly; fixture means associated with said housing; a plurality of yoke assemblies, each including upwardly inclined side members and apex means, the side members each having an upper end and a lower end; the apex means including transversely arranged apex elements which correlate the respective side member upper ends in a manner such that the fixture housing is engaged and supported thereby; each fixture housing being mounted between the upper ends of the side members; means connecting the lower ends of the side members to the rail members of said one pair at spaced locations; engagement means associated with the side members for retaining blocks of ceiling material; blocks of ceiling material between the side members engaged by said engagement means; the blocks being upwardly and inwardly inclined from the ceiling; and the blocks being inclined to the fixture housing to span the distance between said one pair of open rail members and to locate the fixture housing in said upwardly coved relation to the one pair of rail members.

3,343,311

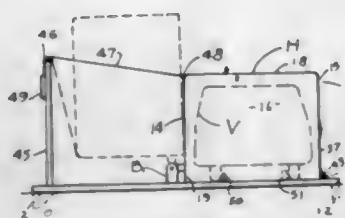
TIPPABLE PROTECTIVE COVERINGS FOR VEHICLES

Adrian P. Wright, 200 N. Merician, Valley Center, Kans. 67147

Filed June 28, 1965, Ser. No. 467,570
5 Claims. (Cl. 52—66)

1. A tippable housing device; said device having four walls and a cover thereover and carried by the said four walls, one of the said four walls being shorter in height than the other three walls, a sub-wall, said sub-wall being sufficient in height and long enough in length to fill the open space left by the shorter one of said walls resting on the said floor element, the lower edge portion of the said sub-wall also resting on the said floor element and being rigidly attached thereto to hold the sub-wall in a vertical position with the upper edge of the sub-wall abutting the lower edge of the shorter of the said four walls, a plurality of hinge means, each of said hinge means

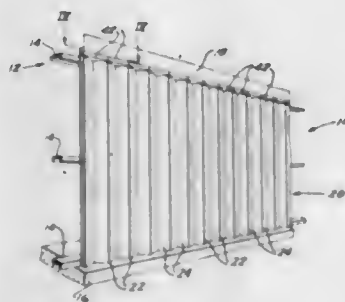
having a hinge pin therein that is in axial alignment each with the other and said axial alignment also being in parallelism with the abutting edge of the sub-wall and the shorter one of the four walls of the said housing portion, all of said hinge means being attached to the said housing portion and to other parts of the device to hold the housing portion of the device in a tippable position about the said axial alignment of the said hinge pins, the housing wall opposite sub-wall having an open-



able and closable, centrally located notch portion therein to provide clearance space in the last mentioned wall for rocking the housing wall over an object to be housed in the housing portion of the device on the said floor element when the housing portion of the device is in its closed position, and counter balance means associated with all the foregoing defined structure to prevent the falling of the housing portion of the device to an open or closed position during the operation of opening or closing the housing portion of the device.

3,343,312 CLOSER ELEMENT FOR BUILDING WALL STRUCTURES

Walter Tischuk, Richmond, Ind., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 13, 1965, Ser. No. 471,556
4 Claims. (Cl. 52-94)



4. In a building wall structure having a non-planar exposed surface including spaced, outwardly presented ribs and concave surfaces connecting said ribs, and having closer means extending along at least one exposed edge surface of said wall structure for closing and thereby finishing said exposed edge surface, the improvement in said closer means comprising:

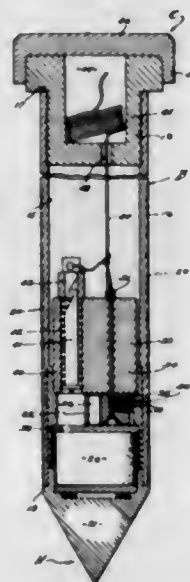
- a first central portion extending between adjacent ribs;
- a second central portion extending toward said concave surfaces and corresponding in its edge with the concavity of said concave surfaces;
- a wide tongue member extending from one end of said first central portion;
- said wide tongue member being provided with a receiving aperture;
- a narrow tongue member extending from the opposite end of said first central portion through a said receiving aperture of an adjacent one of said closer means to interlock adjacent ones of said closer means;

said wide tongue members and said narrow tongue members being displaced in the direction of said second central portion whereby said first central portion of all of said closer means reside in substantially the same plane; and

fastener means for securing each of said wide tongue members to said non-planar exposed surface of said wall structure, all of said fastener means being hidden from view by a said first central portion of an adjacent one of said closer means.

3,343,313 APPARATUS FOR INSTALLING CEMENTED ANCHORS

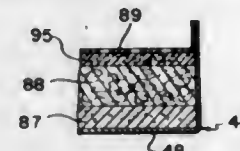
Vernon W. Luedloff, Torrance, and Albert E. Jonelkis, Long Beach, Calif., assignors to Harvey Aluminum (Incorporated), Torrance, Calif., a corporation of California
Original application Jan. 15, 1963, Ser. No. 251,576, now Patent No. 3,222,842, dated Dec. 14, 1965. Divided and this application Nov. 3, 1965, Ser. No. 509,257
5 Claims. (Cl. 52-98)



1. Integral driving stake and subsurface ground anchor structure comprising an elongated hollow stake having a metallic tubular body which is imperforate between longitudinal ends, ground piercing means secured to and closing one longitudinal end of the elongated hollow stake, plug means for substantially closing the remaining longitudinal end of the elongated hollow stake and for retaining driving cap means, means for securing the plug means to the remaining longitudinal end of the elongated hollow stake, longitudinally extending striations formed in the metallic tubular body, the longitudinally extending striations terminating contiguous to the ground piercing end of the elongated hollow stake, the longitudinally extending striations comprising indentions which diminish sidewall strength of a portion of the tubular steel body at the ground piercing end of the elongated hollow stake, and
- means for positioning explosive charge means within the metallic tubular body in close proximity to the longitudinally extending striations at the ground piercing end of the elongated hollow stake so as to open the ground piercing end of the hollow stake upon explosion for passage of a semi-fluid, settleable material through the elongated hollow stake and for expanding segments of the tubular steel body, at the ground piercing end of the elongated hollow stake between the longitudinally extending striations, laterally with respect to the remainder of the elongated hollow stake.

3,343,314 PREFABRICATED MODULAR PANEL STRUCTURE AND MODULAR PANEL UNITS THEREFOR

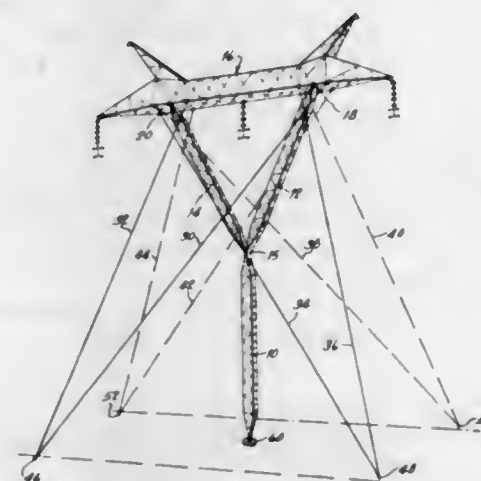
Cloyd D. Smith, 14928 La Cumbra Drive, Pacific Palisades, Calif. 90272
Filed June 15, 1965, Ser. No. 464,153
6 Claims. (Cl. 52-145)



1. A prefabricated soundproof enclosure panel, comprising:
 - a sheet metal outside wall;
 - a solid sheet of dense acoustic insulation material, of substantially greater thickness than said sheet metal wall, forming a substantially reflective barrier wall to low frequency sound bonded face-to-face to the inside surface of said sheet metal wall;
 - a layer of fibrous and porous acoustic absorptive material adjacent and bonded to said solid sheet, said layer being of substantially greater thickness than said solid sheet of dense material; and
 - an acoustically transparent sheet in front of said layer of fibrous and porous material.

3,343,315 GUYED Y TOWER

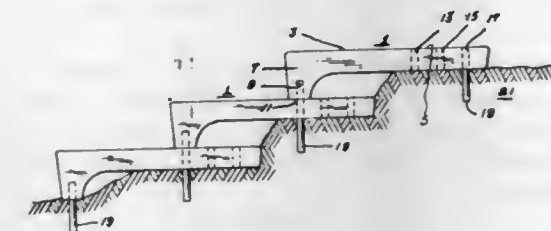
Cedric Marsh, Hudson Heights, Quebec, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada
Continuation of application Ser. No. 427,535, Jan. 11, 1965. This application Dec. 9, 1966, Ser. No. 611,504
Claims priority, application Great Britain, Aug. 4, 1964, 31,495/64
22 Claims. (Cl. 52-148)



7. A transmission line power requiring guying for proper support above ground and resistance to loads, comprising a vertical leg and first and second upwardly extending and outwardly diverging arms pivotally connected to the vertical leg, an entirely rigid cross-beam member bridging said arms to form with the arms a cross-beam assembly, said pivotal connection of said arms to said vertical leg constituting the sole attachment of the cross-beam assembly to said vertical leg, said vertical leg and cross-beam assembly comprising a Y-tower assembly, a plurality of guy wires connected to said Y-tower assembly, and means for anchoring said guy wires to the ground at positions about said Y-tower assembly for supporting said Y-tower assembly above the ground and resisting lateral and longitudinal loads.

3,343,316 PREFABRICATED STEP FOR STEPWAY CONSTRUCTION

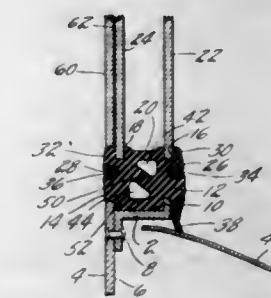
Frank C. McIntire, 2070 University Ave., Berkeley, Calif. 94704
Filed Oct. 14, 1964, Ser. No. 403,852
1 Claim. (Cl. 52-190)



- A prefabricated step for use in the construction of a stepway comprising
- a slab having a front portion and a rear portion, said front portion having a depending lip as an integral part of said slab,
- said slab having a centrally disposed pin depending from said lip in said front portion and of a length to extend through the rear portion of said slab an amount to anchor said step to the underlying terrain of a stepway a plurality of apertures disposed along the centerline of said slab; in said rear portion, whereby said slab may be pivotally connected at a variable angle at its forward section to the rear portion of a second slab in adjustable overlapping relationship thereto by the fitting of the pin of one slab into an aperture of an underlying slab, and a third slab may be similarly connected with its forward portion in overlapping relationship to the rear portion of said first slab and so on.

3,343,317 WINDOW CONSTRUCTION AND MOUNTING

Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,925
1 Claim. (Cl. 52-208)



- In a vehicle having a window opening, a window assembly comprising:
- inner and outer glass panes in lateral spaced relationship, the outer pane including an outwardly-directed offset portion comprising a third glass pane laminated thereto,
- a rubber sash encircling the panes and abutting the exposed edge of the window opening, the sash having a pair of peripheral grooves formed in its interior surface into which the inner and outer panes are closely fitted, the external surface of the third pane being substantially flush with the outer edge of the sash with its edge abutting the sash circumferentially, the inner and outer edges of the sash

each having a channel formed therein adjacent the periphery of the respective panes, the respective grooves and channels forming inner and outer deformable lips in the sash over which the inner and outer panes may be passed to engage in the grooves, the sash being cored internally on an axis parallel to the cross-sectional centerline of the sash and asymmetrically thereof to provide greater resilience of the sash at the inner groove than at the outer groove,

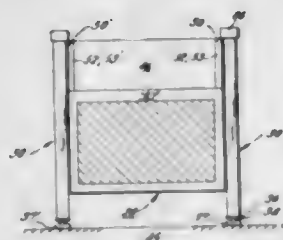
a zipper strip closely fitted in each channel to prevent disengagement of the inner and outer panes through unintentional deformation of the lips, and means for supporting the sash firmly in the window opening.

3,343,318

RAIL PARTITION ASSEMBLY

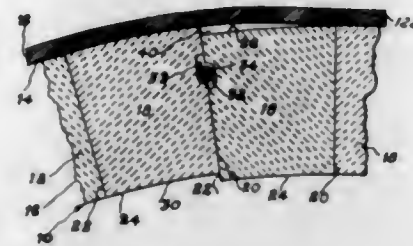
Herbert L. Birum, Jr., Pleasant Valley, Titusville, N.J., assignor to HLB Corporation, Lambertville, N.J., a corporation of New Jersey

Filed June 24, 1965, Ser. No. 466,569
12 Claims. (Cl. 52-239)



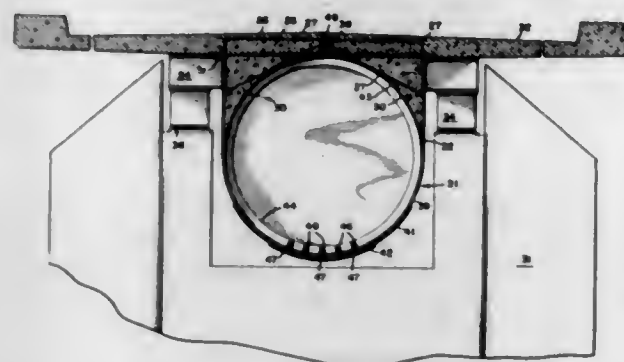
1. A partition assembly comprising:
 - at least one upright post;
 - a panel and frame assembly comprising:
 - a substantially rectangular panel member;
 - a frame surrounding said panel member, said frame being comprised of first and second pairs of channel members; all of said channel members being elongated, substantially U-shaped members having a pair of grooves positioned adjacent opposite sides of the base portion of the channel member;
 - both ends of each of the channel members having a projection integral with said base portion;
 - the projections of said first and second pair of channel members being bent at substantially right angles transverse to the length of the channel member;
 - the free end of said bent projection of said first pair being slidably engaged by the pair of grooves of the second pair of channel members, to form a substantially rectangular shaped frame for receiving said panel member with the arms of said U-shaped channel members embracing the marginal edges of said panel member;
 - the projections of the second pair of channel members engaging the first pair of channel members at each end thereof; said first channel member projections being notched adjacent said bent portion to enable the exterior surface of said base portion to be positioned in alignment with the end of said second channel member receiving the first channel member projections; and the grooves of said second pair of channel members being deformed at a spaced distance from the ends of the channel member to restrain all of said channel members from movement relative to one another while avoiding the need for any additional fastening means;
 - means for joining said panel and frame assembly to said post.

3,343,319
REFRACTORY LINER ANCHORAGE
George P. Relintjes, 5228 Rockhill,
Kansas City, Mo. 64110
Filed Apr. 29, 1965, Ser. No. 451,944
2 Claims. (Cl. 52-249)



2. In a rotary kiln:
 - a cylindrical shell;
 - a refractory lining on the inner surface of the shell, said lining including a plurality of courses in side-by-side relationship, each course including a number of circumferentially aligned pairs of refractory liner bricks, each brick having a pair of spaced, opposed tapered faces cooperating with the proximal tapered faces of adjacent bricks, whereby the bricks are retained in place in the corresponding courses before the bricks become worn, one of the tapered faces of each brick having a groove formed therein, the grooves in the bricks of each pair being in alignment to present a keyway;
 - a pin fitted loosely within said keyway to interlock the bricks of the corresponding pair, each groove having a central generally flat portion of a width greater than a first dimension of the pin and a pair of side portions of a depth less than a second dimension of the pin, whereby one of the bricks may shift relative to the other brick along the proximal tapered face thereof in opposed directions transversely of said pin, and portions of said pin will be disposed in both of said grooves to limit the travel of said one brick relative to the other brick to a predetermined distance, said pin being movable along said central, generally flat portion of the groove as the shifting of the bricks occurs.

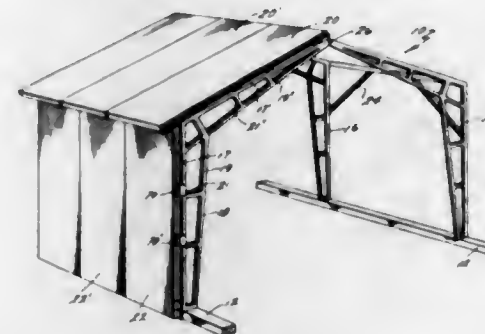
3,343,320
CONSTRUCTION OF CHanneled STEEL BEAMS
Peter Krajcinovic, 504 Fatti's and Moni's Mansions, Corner Jeppe and Harrison Sts., Johannesburg, Transvaal, Republic of South Africa
Filed June 23, 1965, Ser. No. 466,268
15 Claims. (Cl. 52-252)



5. A compound concrete-steel beam for resisting the bending effects of loads imposed thereon comprising:
 - a steel beam structure, longitudinal members defining at least one horizontally disposed channel with said beam structure, and a plurality of frame stiffeners transversely disposed along and engaging said channel, said frame stiffeners comprising rigid annular hoops at least substantially equal in thickness to said

longitudinal members with the sides thereof corresponding to said longitudinal members connected to each member forming said channel and conforming substantially to the cross sectional configuration of said channel and projecting upwardly therefrom; and a first concrete structure formed on said beam structure in contact with the longitudinal members defining said channel to substantially fill said channel and form a natural bond at the interfaces therebetween to maintain connection between the aforesaid structures against shearing stress along the plane of said interfaces and a second concrete deck structure formed on said first concrete structure in contact with the upper surface thereof to form a natural bond at the interface therebetween to maintain connection between said first and second concrete structures against shearing stresses along the plane of the interface between said first and second structures, said first and second structures further encasing said frame stiffeners, said frame stiffeners maintaining connection between each of said structures against forces tending to provide separation thereof in planes other than that of said interfaces.

3,343,321
BUILDING STRUCTURE WITH PANEL SUPPORTS AND A FOUNDATION
Folke A. Axelsson, Grand Haven, Mich., assignor to Air-Space, Inc., Fruitport, Mich., a corporation of Michigan
Filed Mar. 4, 1965, Ser. No. 437,136
5 Claims. (Cl. 52-296)

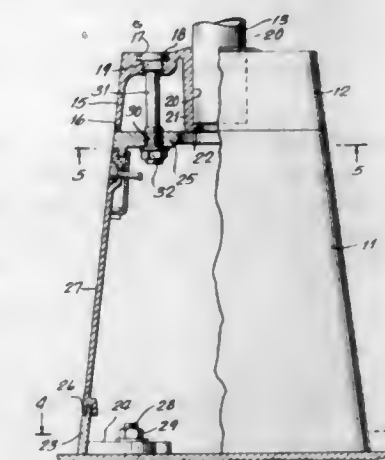


2. A building construction comprising: a plurality of frame supports; a plurality of anchor elements mounted to said frame supports and projecting therefrom; said anchor elements each being non-planar in configuration; a plurality of enclosure panels over said supports, inter-fitting tightly with each other edge to edge; said panels having interfitting connector means on the edges thereof; and said edges being configured to receive said non-planar anchor elements therebetween when interfitted, effecting securement of said panels to said clips and thus to said frame supports; and a foundation having a plurality of spaced receiving slot mounts thereon, and each of said frame supports having a foot slidably received in one of said slot mounts.

3,343,322
UTILITY POLE BASES
Alexander Lurkis, 193-12 Nero Ave., New York, N.Y. 10023, and Anton F. Pecha, 135 Buchanan St., Centerport, N.Y. 11721
Filed Feb. 17, 1964, Ser. No. 345,404
5 Claims. (Cl. 52-298)

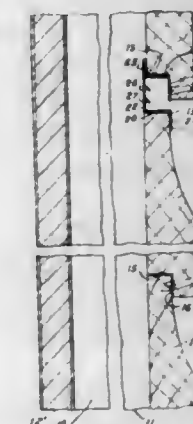
1. A base supporting a pole, comprised of an upper base element provided with an opening receiving said pole, a lower base element and a threaded securing means suitable for retaining the two base elements in rigid fixed position, said upper and lower base elements each having inwardly extending portions with the portion of the upper base extending above and over that of the lower base,

and the upper portion being defined by a hole there-through, and the lower portion by having an opening therein, and said hole and opening in said lower portion being axially aligned, and said hole having a locking section, and said threaded securing means being a bolt and



nut and said bolt having a locking head and a threaded shank, said locking head resting in and held by the locking section of the hole and the shank extending through the lower portion and said nut being screwed thereon and tightened against the underface of the lower portion, whereby the two base elements are held firmly together.

3,343,323
WOODEN SIDING VENT
Cornelius A. Mayfield, 133 E. Pacific, Grand Saline, Tex. 75140
Filed Apr. 12, 1965, Ser. No. 447,503
5 Claims. (Cl. 52-303)



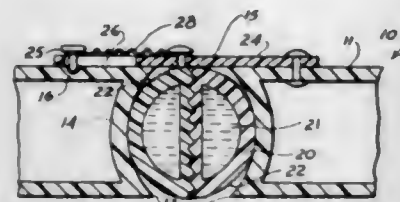
1. A venting member for wooden siding of the type in which the lower one of a pair of adjoining siding planks has the forward side of its upper longitudinal edge cut away to form an upstanding rib on the rearward portion of said upper edge and the upper one of the pair of planks has the rearward side of its lower longitudinal edge cut away to form a recess for receiving the upstanding rib of the lower plank and thus constitute an overlapping joint, the venting member including an elongate sheet metal body adapted to be received throughout the length of the joint between two adjoining siding planks, the body having a horizontal bottom wall substantially the same width as the upstanding rib of the lower plank and adapted to abut the upper face of the rib of the lower plank, a vertical flange depending from the forward edge of bottom wall adapted to abut the forward face of the rib, a vertical back wall having ventilation apertures therein extending upwardly from the rearward edge of the bottom wall adapted to lie in the vertical plane of the rearward faces of the upper and lower planks and of sufficient width as to extend upwardly behind the upper plank, the back wall

being folded forwardly upon itself and extending downwardly and then forwardly to form beneath the plane of the upper edge of the back wall a forwardly extending top wall substantially the same width as the bottom of the recess of the upper plank adapted to abut the bottom of the recess of the upper plank, and a vertical depending flange on the forward edge of the top wall adapted to abut the side wall of said recess.

3,343,324

UNDERWATER STRUCTURAL UNIT

William Gordon, Brooklyn, N.Y., assignor to William Gordon and Eve Gordon, jointly, Brooklyn, N.Y.
Filed Mar. 24, 1964, Ser. No. 354,412
8 Claims. (Cl. 52-403)

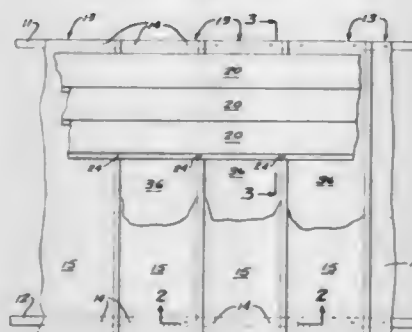


1. An underwater structural unit forming an enclosure under water comprising a plurality of construction elements in edge to edge relationship, each element comprising: a polygonal member having an inner and an outer surface and a substantially arcuate contoured peripheral portion; an annular flexible sealing member having an inside surface engaging said contoured peripheral portion, said sealing member being distortable and having at least its inside surface corresponding in shape to the contour of said peripheral portion for sealing engagement with said peripheral portion and extending about the entire periphery of said polygonal member; flexible connecting means flexibly securing said construction elements into sealing articulate engagement along their respectively adjacent edges for limited relative movement; whereby a water-tight articulate geodesic dome-like structure suitable for underwater use may be formed allowing relative movement of the elements.

3,343,325

EXTERIOR SIDING AND INNER SHEATHING STRUCTURE THEREFOR

Bernard E. Curran, Sewickley, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 24, 1965, Ser. No. 442,345
1 Claim. (Cl. 52-478)



A building outer wall construction comprising in combination:

- a plurality of vertically aligned side-by-side sheathing sections;
- each sheathing section having an essentially rectangular central flat surface and a pair of lateral outwardly disposed flanges at the side edges thereof, said sheathing elements being secured to a building framework

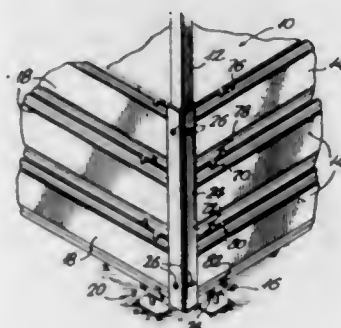
intermediate their side edges, said flanges terminating in marginal strips which are generally parallel with said flat surface, one of said marginal strips on each section overlying and engaging a complementary marginal strip of the next adjacent section and the other of said marginal strips of each section being disposed beneath and engaged with a complementary marginal strip of the other adjacent section;

- a plurality of horizontally disposed sheet-like siding elements, each having a weather-resistant outer covering and having tongue means along one longitudinal edge and corresponding groove means along the opposed longitudinal edge, each siding element being disposed in tongue-and-groove engagement along each of its longitudinal edges with the immediately adjacent siding elements, a portion of a longitudinal edge of each said siding element overlying and being directly engaged with the outer one of said marginal strips; and
- a plurality of fasteners securing said siding elements to said sheathing sections, each of said fasteners extending through said siding element at the longitudinal edge thereof and also extending through a pair of the overlying marginal strips.

3,343,326

SKIRTING MEANS

Raymond W. Sickler and Ernest C. Zimmer, Wellsburg, N.Y. 14894
Filed Apr. 15, 1966, Ser. No. 542,862
2 Claims. (Cl. 52-483)

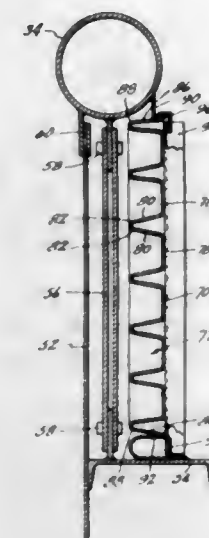


1. In a skirt for screening the space between the ground and the lower edge of a trailer, comprising a plurality of substantially vertical posts of sheet material spaced from one another along said lower edge; each of said posts having a ground contacting element at one end and a trailer engaging means on the other end, said posts having a flat front supporting surface; a plurality of elongated flexible panels including a top and bottom panel; support means on said flat front surface of said post supporting said panels against said surface in a substantially parallel relationship, said support means comprising tabs spaced apart vertically on said posts a distance substantially equal to the width of a panel, said tabs being struck from the sheet material to project at an acute angle from said front supporting surface, said tabs being arranged in pairs with their base portions in alignment along a substantially common horizontal line and the bodies of the tabs of each pair extending in opposite directions substantially normal to said substantially common horizontal line, said panels having upper and lower edges that are parallel along the length of said panel, said panels extending between at least two of said posts, the adjacent edges of adjacent panels each having one edge thereof received under one tab of said pair of tabs and the other edge of said adjacent panels received under the other tab of said pair of tabs, and tabs on said posts receiving thereunder the upper and lower edges of the top and bottom panels respectively.

3,343,327

EXPANSION PLATE

Konrad S. Svendsen, Bloomfield, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed May 5, 1964, Ser. No. 365,075
9 Claims. (Cl. 52-573)

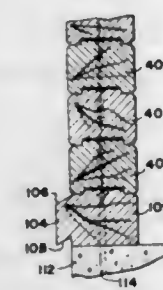


2. Means connecting, closing the space between, and forming an elongated joint between, adjacent separated portions of a wall, said portions being subject to relative movement longitudinally of said joint, said connecting means comprising a plate formed of at least one sheet having a plurality of cups arranged side-by-side, so as to absorb a force couple produced by said relative longitudinal movement, each cup having upstanding sides and a rim, said cups connected at their rim edges by connections which are narrow with respect to the depth of the cup, said rims being connected along opposite edges of the plate to the respective adjacent wall portion, said relative longitudinal movement of said portions and the resulting force couple being accommodated by shear deformation of said plate, causing skewing of said rims and warping of said upstanding sides.

3,343,328

WOOD BLOCKS WITH NAIL SECURING ELEMENTS

Enrique M. Rolle, Santiago, Chile, assignor, by mesne assignments, of one-half to Park Corporation, Eureka, Calif., a corporation of California
Continuation of application Ser. No. 31,736, May 25, 1960. This application Feb. 3, 1966, Ser. No. 533,755
4 Claims. (Cl. 52-573)



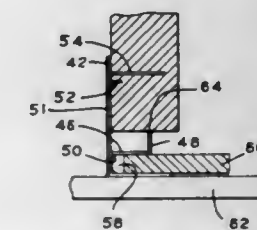
3. An upright wall comprising, in combination, a plurality of super-imposed courses of dimensionally unstable blocks made of wood, each of said wood blocks generally having a parallelepiped shape, a wide longitudinally extending groove in the lower face thereof defined by inwardly inclined side surfaces and a wide and flat bottom surface of a width sufficient to extend over a large portion of the width of said block, a wide longitudinally extending upwardly projecting tongue on the upper

face of said block defined by inwardly inclined side surfaces and a flat top surface of a width sufficient to extend over a large portion of the width of said block, said groove and said tongue being of width and said groove being appreciably deeper than said tongue is high an amount providing for maintaining spaced parallel lines of contact of the adjacent block when said block is warped arcuately transversely, said blocks forming in combination a stable upright wall having cavities in the central portion.

3,343,329

SPACER-SUPPORT CLIP FOR CEILING CONSTRUCTION

Arthur J. Pobutsky, 4925 Hampshire Drive, Utica, Mich. 48087
Filed May 14, 1964, Ser. No. 367,512
1 Claim. (Cl. 52-677)



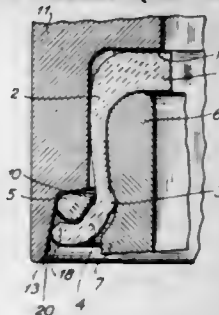
For use in acoustical building construction for the space-mounting of a wall panel, a supporting clip comprising:

- (a) an L-shaped flat, sheet material supporting plate having one leg formed with longitudinal reinforcing ribs adjacent the edges thereof,
 - (b) triangular strike out tabs cut from and adjacent the free end of said one leg extending in the direction of the second leg of said plate adapted to be driven into a joist,
 - (c) a combination recess-forming and spacing strip struck from said one leg having a relatively long portion extending over, parallel to, and spaced from, the said second leg of said plate, and a relatively short portion extending perpendicular to and away from said second leg,
- wherein said short portion forms a spacing tab to locate and space a wall panel having an edge lying between and supported by said second leg and said relatively long portion of said spacing strip.

3,343,330

APPARATUS FOR APPLYING CLOSURES TO BOTTLES

Kai Michael Brandtberg, Copenhagen, Valby, Denmark, assignor to Brinch & Spehr Aktieselskabet, Ballerup, Denmark
Original application Oct. 29, 1963, Ser. No. 319,752, now Patent No. 3,301,425, dated Jan. 31, 1967. Divided and this application Oct. 23, 1964, Ser. No. 406,018
3 Claims. (Cl. 53-19)



2. A method of applying a closure to a bottle having a mouth with an external circumferential cavity, said closure being constituted by a cap including a disc, and

a depending skirt on said disc, said skirt including a circumferential bulb facing inwardly, and an outwardly projecting extension below the bulb, a reinforcing ring encircling the skirt and having an edge portion of sharp profile facing the skirt, said method comprising: placing the cap with the ring thereon onto the mouth of the bottle, displacing the ring downwardly along the skirt while independently depressing said extension downwardly and inwardly to cause the bulb to enter the cavity and the sharp profile of the ring to compress the bulb in the cavity and prevent upward movement of the ring on the skirt.

3,343,331

METHOD FOR CLING PACKAGING AN OBJECT
David M. French, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Apr. 30, 1964, Ser. No. 364,034
12 Claims. (Cl. 53-22)

1. A method for cling packaging a rigid object having a fixed shape with a polymer film whereby a skin tight covering having essentially no spaces or pockets between the wrapping material and said object is obtained comprising:

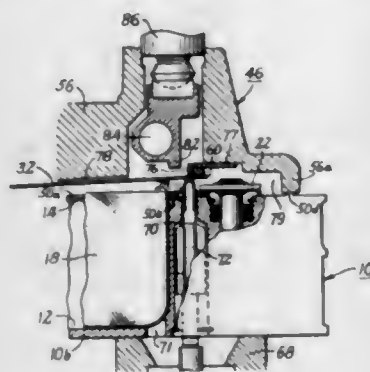
- placing said object in an atmosphere of a gas having a greater rate of diffusion through said film than does oxygen or nitrogen,
- encapsulating said object with said polymer film and sealing said object while within said atmosphere so as to entrap a quantity of gas along with said object,
- removing the package so formed from said gaseous atmosphere into a normal air atmosphere, and
- allowing the entrapped gas to diffuse through the polymer film at a rate which causes the film to collapse tightly around the said enclosed object within 24 hours, whereby said tightly clinging wrapper closely conforms to the shapes and contours of said enclosed object.

3,343,332

PACKAGING APPARATUS AND METHOD OF PACKAGING

Reid A. Mahaffy, Montclair, John R. Harder, Cedar Grove, and Wesley W. Pinney, Montclair, N.J., assignors to Mahaffy & Harder Engineering Company, Totowa, N.J.

Filed May 20, 1964, Ser. No. 368,926
9 Claims. (Cl. 53-22)



6. The method of making an evacuated package which comprises the steps of forming a first sheet of stretchable and flexible packaging material into the cavity of a die having marginal surfaces around the entire periphery of the cavity, said first sheet extending out over said marginal surfaces to form corresponding flanges; providing an opening in one flange; applying a second sheet of packaging material to said die to cover said cavity with one marginal side portion of said second sheet being positioned over

said flange opening, said two sheets forming a container therebetween; sealing said die cavity from outside atmosphere while maintaining said one marginal side portion including the side edge thereof free for movement perpendicularly away from said one flange; inserting an element through said opening to push said one marginal side portion away from said one flange to form an evacuation channel into the interior of said container; and evacuating said container through said channel.

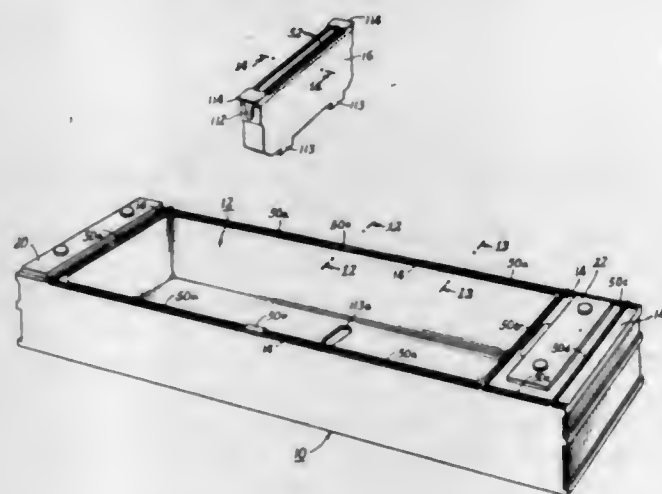
3,343,333

PACKAGING APPARATUS

Reid A. Mahaffy, Montclair, John R. Harder, Cedar Grove, and Wesley W. Pinney, Montclair, N.J., assignors to Mahaffy & Harder Engineering Company, Totowa, N.J.

Continuation of application Ser. No. 543,986, Apr. 20, 1966, which is a division of application Ser. No. 368,926, May 20, 1964. This application Nov. 16, 1966, Ser. No. 596,719

10 Claims. (Cl. 53-112)



7. In a packaging machine of the type having a die comprising a structure with first wall means defining a container-forming cavity having a marginal surface around the periphery thereof, said die being arranged to receive a first sheet of packaging material with a part thereof extending down into said cavity in the shape of a receptacle and a further part thereof forming a flange portion overlying said marginal surface, means for applying a second sheet of packaging material over said die with said second sheet overlying said first sheet flange portion, sealing means engageable with said die for partially sealing together said sheets of packaging material while leaving an evacuation passage communicating with the resulting container, a vacuum chamber engageable with the marginal surface of said die to cut off communication between outside atmosphere and the interior of the partially completed containers formed by said two sheets of packaging material to accommodate evacuation thereof; the combination wherein said die structure comprises second wall means in the form of a partition releasably secured in the cavity of said die to form two separate adjoining receptacles; first resilient material including a first beading on said marginal die surface extending around said periphery, second resilient material including a second beading secured along the upper surface of said partition, and first and second resilient elements at the ends of said partition respectively, each of said resilient elements being integral with one of said beadings and extending out laterally away therefrom to abut the other beading, at least a part of each of said resilient elements overlying a portion of the wall means supporting the corresponding other beading, said sealing means being arranged when actuated to press against said first and second beading and said resilient elements

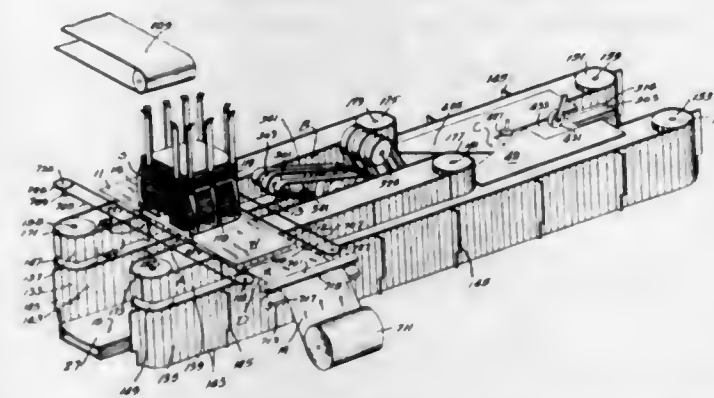
in the region of adjacency between said partition and said first wall means so as to form a seal between said two sheets across the junction at said region of adjacency, said wall means portion serving, during such sealing operation, as a pressure-resisting support for said laterally-extending resilient elements.

3,343,334

METHOD AND APPARATUS FOR BUNDLING STACKED MATERIAL

Robert H. Bode, Wenham, and Ira D. Boynton, Lexington, Mass., assignors, by mesne assignments, to The Journal Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 28, 1963, Ser. No. 261,717
32 Claims. (Cl. 53-124)



10. A stack wrapping apparatus comprising a frame, an elongated bed on said frame, means on said frame spaced above one portion of said bed for supporting a wrapper sheet entirely above said one bed portion, spaced sheet folding means on said frame spaced above said one portion of said bed and adjacent to said sheet supporting means whereby, when a wrapper sheet is supported on said sheet supporting means above said sheet folding means and a stack to be wrapped is engaged with the wrapper sheet, passed between said spaced sheet folding means, and deposited on said one portion of said bed, the wrapper sheet is folded about three serially extending sides of the stack with opposite end portions of the wrapper sheet extending outwardly from the stack, means on said frame adjacent to said bed for conveying the stack and the wrapper sheet along said bed from said one portion thereof, means including another portion of said bed and a surface supported on said frame in convergent relation to said other bed portion for compressing the stack in response to movement of the stack and the wrapper sheet along said bed, and means on said frame operable, while the stack is maintained in compressed condition, for folding the end portions of the wrapper sheet into mutual engagement with each other and in encircling relation to the stack and for uniting the end portions of the wrapper sheet.

3,343,335

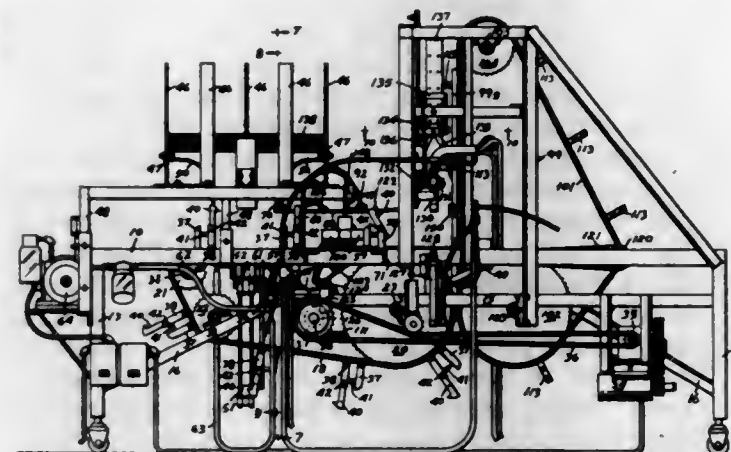
APPARATUS FOR SETTING UP AND FILLING CARTONS

Reinhold A. Pearson, S. 12 Division St., Spokane, Wash. 99202

Filed May 17, 1965, Ser. No. 456,332
21 Claims. (Cl. 53-186)

1. An apparatus for handling and filling cartons, comprising:
a rigid supported framework;
movable conveyor means on said framework adapted to transfer erected cartons longitudinally along said framework, said movable conveyor means including an intermittently movable conveyor operable to transfer directed cartons between successive stations located longitudinally along the length of said framework;

carton blank storage means on said framework adjacent to a first of said stations of said conveyor;
carton forming means fixed to said framework adjacent said first stations of said conveyor;
carton feed means on said framework to grasp individual blanks in said storage means in cooperation with said carton forming means to thereby erect said carton to a rectangular configuration and to place it on said conveyor;



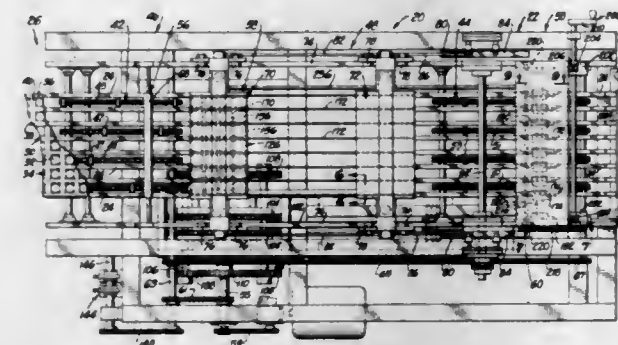
driving means on said framework operatively connected to said conveyor to intermittently move said conveyor relative to said framework to transfer directed cartons supported thereon between said stations;
carton filling means on said framework adjacent a second of said stations to place a charge of material within each erected carton located at said second station;
and carton flap closing and sealing means on said framework located beyond said second station to close and seal flaps of filled cartons.

3,343,336

PACKAGING MACHINE

Kenneth C. Bradford, Anaheim, Calif., assignor to Sta-Hi Corporation, Whittier, Calif., a corporation of California

Filed June 30, 1964, Ser. No. 379,250
7 Claims. (Cl. 53-329)



1. In a machine for making individual packages from a compartmented sheet provided therein with depending compartments closed by a superimposed covering sheet and arranged in transversely-spaced longitudinal rows and longitudinally-spaced transverse rows, the combination of:

- a supporting structure providing longitudinally-spaced inlet and outlet ends;

- (b) transversely-spaced longitudinal rails carried by and extending between said inlet and outlet ends of said supporting structure and receiving therebetween the longitudinal rows of compartments in the compartmented sheet;
- (c) propelling means upstream and downstream from a heat sealing station for propelling the compartmented sheet, and the covering sheet superimposed thereon, longitudinally along said rails from said inlet end of said supporting structure to said outlet end thereof;
- (d) heat sealing means carried by said supporting structure in a heat sealing station downstream from said inlet end thereof for heat sealing the compartmented and covering sheets together around the compartments in the compartmented sheet;
- (e) longitudinal shearing means carried by said supporting structure in a longitudinal shearing station downstream from said heat sealing station and in the vicinity of said downstream propelling means for longitudinally shearing the heat sealed compartmented and covering sheets into longitudinal strips along longitudinal lines between the longitudinal rows of compartments in the compartmented sheet during movement thereof, said longitudinal shearing means, longitudinal rails and the downstream propelling means being arranged with respect to one another to permit severance of the compartmented sheet substantially on the longitudinal centerlines of corresponding ones of said rails; and
- (f) transverse shearing means in a transverse shearing station downstream from said longitudinal shearing station for transversely shearing the longitudinal strips emanating from said longitudinal shearing station into individual packages along transverse lines between the transverse rows of compartments, said transverse shearing means being located downstream of the outlet ends of said longitudinal rails and downstream propelling means.

3,343,337

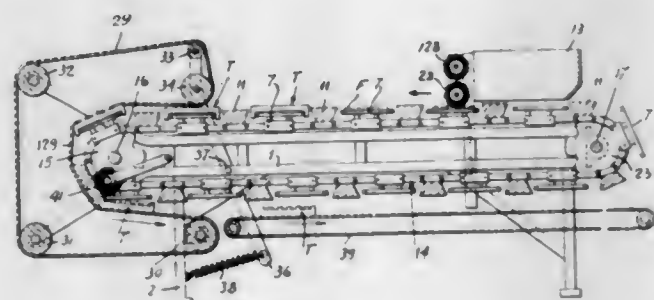
APPARATUS FOR PACKING FRUIT AND LIKE ARTICLES

Ercole Dalle Vacche, Massalombarda, Italy, assignor to Compagnia Italiana Nest-Pack, S.p.A., Bologna, Italy, a corporation of Italy

Filed Dec. 17, 1963, Ser. No. 331,331

Claims priority, application Italy, Dec. 17, 1962, 24,993/62

5 Claims. (Cl. 53—392)



1. Apparatus for packing fruits and the like in a composite tray, said apparatus comprising, in combination, a frame, endless conveyor means supported by said frame and presenting upper and lower flights, means for driving said endless conveyor means, a plurality of plates, each having an array of apertures therein, means for detachably connecting said plates to said endless conveyor means in longitudinally spaced relation thereon,

feed means disposed above said upper flight for discharging articles onto said plates as they pass therebeneath, bridge members carried by said endless conveyor means bridging between the adjacent edges of the spaced plates, and a fruit-ejecting brush fitted at the outlet end of said conveyor means in such a position as to act on the reverse of said plates to eject fruit which may be clamped in the plate openings.

3,343,338

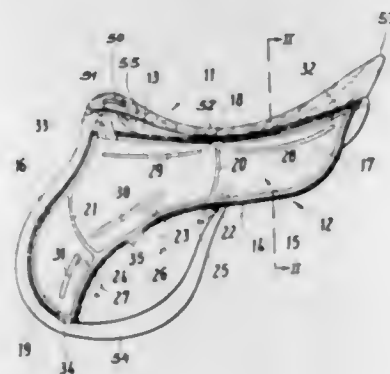
SADDLE-CUSHION ASSEMBLY

Werner Johannes Karl Stübgen, Krefeld, Germany, assignor to Joh's Stübgen, Krefeld, Germany, a corporation of Germany

Filed Feb. 7, 1966, Ser. No. 526,174

Claims priority, application Austria, Feb. 16, 1965, A 1,381/65

5 Claims. (Cl. 54—44)



1. A riding saddle, comprising a saddle structure having a pommel, seat, cantle, and a pair of fenders extending downwardly from said seat on opposite sides of the saddle structure; and a pair of pneumatic cushions underlying said saddle structure symmetrically on opposite sides of a vertical median plane extending longitudinally through said saddle structure, each of said cushions extending the entire length of said saddle and being subdivided by two longitudinally spaced seams into three individually inflatable and separate flat air chambers, including a rear chamber below said cantle, a forward upper chamber below said pommel and a forward lower chamber below and forwardly of said forward upper chamber along the fenders of the saddle structure, the chambers of each cushion being formed unitarily with one another and being provided with respective air tubes for individually filling said chambers.

3,343,339

METHOD FOR OBTAINING AN ENRICHED H₂ PHASE FROM A MIXTURE OF H₂, CH₄ AND NH₃

Jerrold J. Johnston, Orange, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing, Filed Jan. 11, 1965, Ser. No. 424,814

3 Claims. (Cl. 55—68)

1. A process for the separation of a feed mixture consisting essentially of from 30 to 98 mole percent of ammonia with from 2 to 70 mole percent of hydrogen and methane, the hydrogen to methane molar ratio being from about 0.5 to 10, which comprises adjusting the pressure of the feed mixture to 1,000–2,000 p.s.i.g. at a temperature of from 25° C. to 100° C., separating a gas phase containing predominately hydrogen to methane said gas phase having a hydrogen to methane ratio substantially greater than the hydrogen to methane ratio of said feed mixture, and a liquid phase consisting predominately of methane dissolved in liquid ammonia.

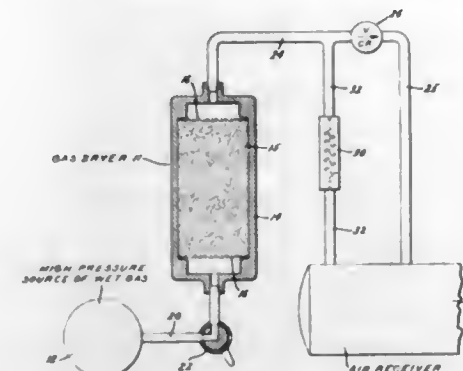
3,343,340

METERING DEVICE FOR CONTROLLING LOW RATES OF FLOW BETWEEN REGIONS OF WIDELY-DIFFERENT PRESSURES

George L. Couch, Media, Pa., assignor to General Electric Company, a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,284

3 Claims. (Cl. 55—189)



3. In a gas drying system that comprises a desiccant-type dryer, a high pressure gas receiver, and means for delivering dry gas from said dryer to said gas receiver; means for returning a small quantity of said dry gas from said receiver to said dryer to reactivate said dryer, comprising:

- (a) a generally helical long metallic tube of a generally helical form defining a capillary passage extending between opposite ends of said tube and connecting said receiver to said dryer,
- (b) a pair of fittings respectively located at the opposite ends of said tube, means joining said fittings to said tube in pressure-tight relationship for substantially preventing leakage between said tube and said fittings,
- (c) each of said fittings having an opening extending therethrough and communicating with said capillary passage, said opening having a larger cross-section than that of said capillary passage,
- (d) a porous metal filter in the opening in each of said fittings arranged in the path of any gas flowing through said capillary passage and spaced from said capillary passage, said porous metal filter having pores much smaller in cross-section than the cross-section of said capillary passage,
- (e) a tubular housing joined at its respective opposite ends to said fittings and surrounding said metallic tube,
- (f) and pressure-relieving means affording free communication between the interior and exterior of said housing.

3,343,341

APPARATUS FOR THE WET CLEANING OF DUST FROM GAS

Jean Wiemer, Oberhochstadt, Taunus, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

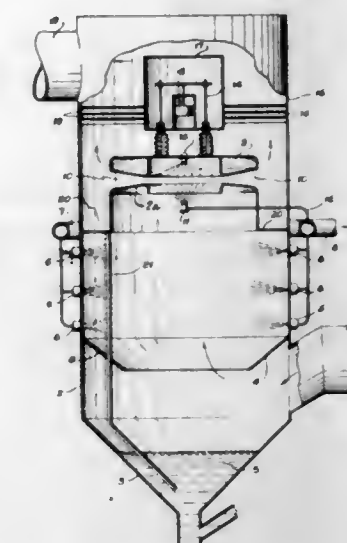
Filed Feb. 23, 1965, Ser. No. 434,327

Claims priority, application Germany, Feb. 25, 1964, M 60,050

7 Claims. (Cl. 55—225)

1. An apparatus for the wet cleaning of dust from gas comprising a housing having a side wall, a bottom and a ceiling, liquid spray nozzle means mounted on said side wall for spraying cleaning liquid into said housing, gas inlet means in said side wall adjacent said bottom, a gas outlet opening in said ceiling, and plate means mounted over said opening and part of said ceiling forming an annular diverging slot between said plate means and ceiling directed toward said side wall, said slot being formed between frusto-conically diverging surfaces of said ceiling and plate means, respectively, and together with said

opening form a venturi-like gas passageway substantially at a right angle to the vertical axis of said housing, said slot at its narrowest point having a smaller inlet



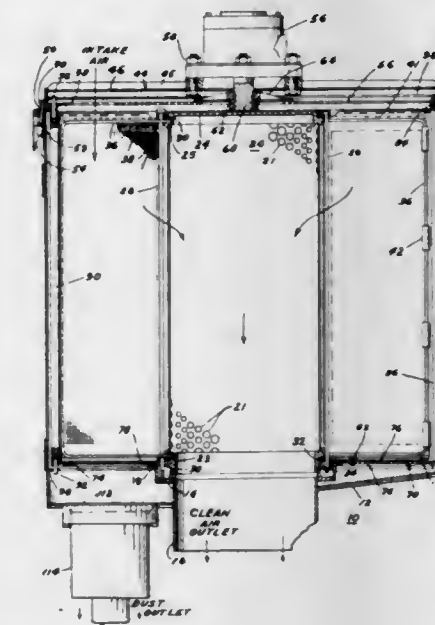
3,343,342

FILTER ASSEMBLY

Lionel J. Du Rocher, 29728 E. Jefferson Ave., St. Clair Shores, Mich. 48082

Filed May 11, 1964, Ser. No. 366,667

8 Claims. (Cl. 55—299)



1. In a self-cleaning air filter, a housing, a plurality of circumferentially spaced bolts attached to said housing, a plurality of radially extending resilient brackets anchored in said housing and spaced from said bolts, a filter material mounted on said brackets and said bolts defining radial fins, means for moving a first flow of particle-laden air over said radial fins and through said filter material, thereby entrapping particles on said filter material, a first means mounted for movement in opposed directions in said housing for individually bending each of said radial fins away from its radial direction when in contact with one end of said radial fin and for causing a vibrational snap movement of each said radial fin upon withdrawal from contact therewith, a second means mounted for movement in said housing for stopping the vibrational snap movement of each said radial fin by collision therewith when said first means is moving in a

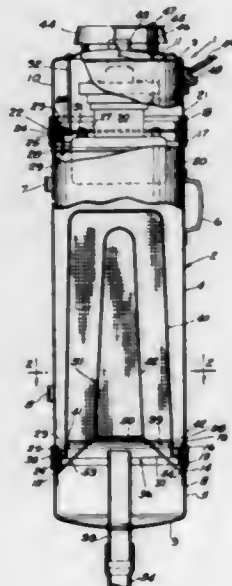
first direction, a third means mounted for movement in said housing for stopping the vibrational snap movement of each said radial fin by collision therewith when said first means is moving in a second direction, said collision causing dislodging of the entrapped particles from said filter material, and means for moving said first, second, and third means in said first and second directions.

3,343,343

VACUUM CLEANER UNITS

Dewey I. Doyle, Dewey I. Doyle, Jr., and Patrick E. Doyle, Grand Rapids, Mich., assignors to Doyle Vacuum Cleaner Company, Grand Rapids, Mich., a corporation of Michigan

Filed May 28, 1962, Ser. No. 198,155
1 Claim. (Cl. 55-320)

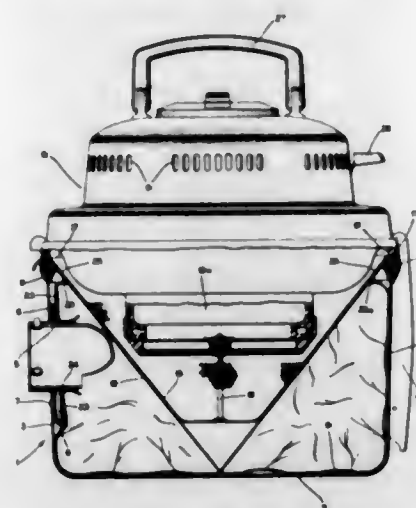


A vacuum cleaner unit comprising:

- (a) a casing having a lower portion, an upper portion, and an intermediate portion disposed between said upper and lower portions, with said lower portion removably mounted on the lower end of said intermediate portion in position to afford a recovery chamber,
- (b) said casing having an air outlet in said upper portion,
- (c) an air inlet nozzle projecting upwardly through said lower portion and terminating at its upper end substantially in uniplanar relation to the junction of said lower portion and said intermediate portion,
- (d) means for drawing air into said casing through said nozzle and discharging said air from said casing through said outlet,
- (e) a filter bag removably mounted on the bottom edge portion of said intermediate portion and extending upwardly therefrom into said casing in such position that air flowing from said nozzle to said outlet must pass through said bag,
- (f) said bag being open at the bottom and being removable from said casing through the bottom of said intermediate portion when said lower portion of said casing is removed from said intermediate portion,
- (g) a baffle partially filling said casing,
- (h) said baffle being disposed in the lower portion of said intermediate portion above said nozzle in such position that all foreign material entrained in the air flowing upwardly from said nozzle impinges against said baffle and is deflected downwardly thereby out of contact with said bag, and
- (i) means mounted on said baffle and projecting upwardly into said bag for supporting the latter.

3,343,344
SUCTION CLEANER AND FILTER CONSTRUCTION

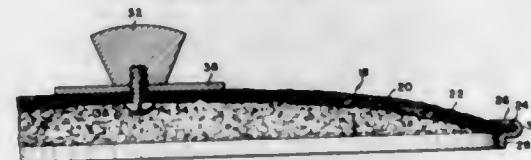
Max L. Fairaizl, Chagrin Falls, and Eugene F. Martinec, East Cleveland, Ohio, assignors to Health-Mor, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 14, 1965, Ser. No. 513,800
7 Claims. (Cl. 55-376)



1. In suction cleaner filter construction comprising an upright receptacle having an inlet connector in one side, a motor-fan unit mounted upon the upper edge of the receptacle, a foraminous filter support within said receptacle between the motor-fan unit and the inlet connector, a combination air filter and air impervious dust collector bag within the receptacle, the filter of said combination having an upper edge portion supported upon the foraminous filter support, the upper edge of the bag of said combination being attached to the filter at a zone spaced from the upper edge of the filter, there being an inlet opening in the bag fitting upon said inlet connector, and means on said filter support between the upper edge of the bag and the upper edge of the filter for equalizing air pressure on the inside and outside of the bag.

3,343,345
COVER MEANS FOR FRYING PANS AND THE LIKE

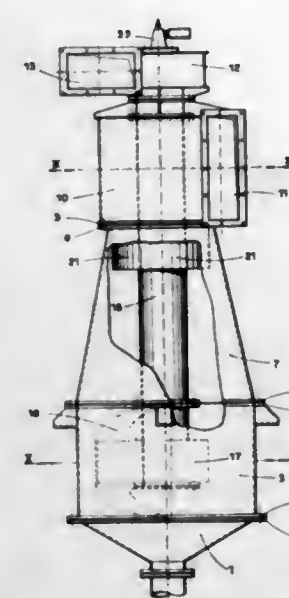
Claire L. Carolan, 1 Adelaide St., Belleville, N.J. 07109
Filed Feb. 15, 1965, Ser. No. 432,455
1 Claim. (Cl. 55-384)



A frying pan lid for covering a cooking utensil comprising a circular disk type member having a substantially horizontal peripheral portion and a central portion extending upwardly from said peripheral portion to form an overall dome-shaped lid, said peripheral portion and central portion being made from a single rigid mass of self-supporting steel wool material to provide a circular frying pan lid substantially completely foraminous throughout its entire area, the thickness of said steel wool mass being of such dimension to provide an opaque and non-transparent frying pan lid which permits vapors to pass therethrough throughout its entire area, while preventing passing of liquid and droplets therethrough, a bead secured to said peripheral portion, said bead consisting of a U-shaped section and a substantially vertically extending rim disposed inwardly of said U-shaped section to seat the lid on the pan, and central handle means secured to the upper central dome portion.

3,343,346
APPLIANCES FOR THE REMOVAL OF DUST OR PURIFICATION BY WET PROCESS OR WASHING OF A GASEOUS STREAM

Yvon Broyard, 2 Place Exeter, Montdidier, Somme, France
Filed Oct. 3, 1963, Ser. No. 313,494
2 Claims. (Cl. 55-413)



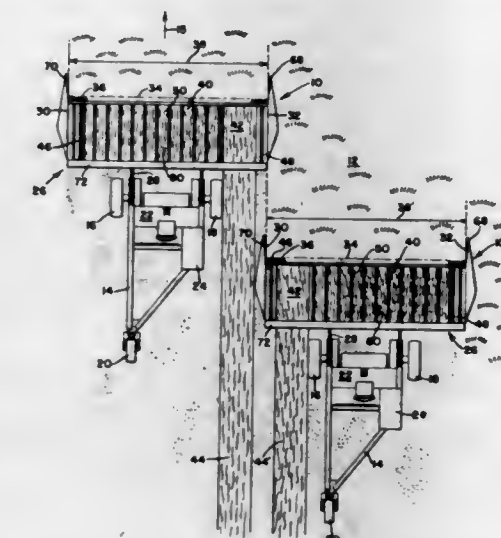
1. In an apparatus for treating a gaseous stream by wet process, including duct means adapted to be flown through by a stream of gas to be treated, said duct means including a stream inlet section shaped to provide for the formation of said gas into a free spiral vortex and having a circular outlet, a second section of circular cross-section extended downstream of said vortex forming section and connected to the outlet thereof, a third section connected to said second section to form an extension thereof and shaped to provide for unwinding of the free spiral vortex, said third section having a stream outlet and a discharge orifice for the escape of particles from said stream, a fourth section having an inlet connected to said stream outlet and being shaped to cause self-unwinding as a spiral vortex of the stream unwound in said third section, said fourth section having a circular outlet for said unwound stream and an outlet terminal section having a tangential outlet and a circular inlet connected to said circular outlet of the fourth section, said terminal section being shaped for final unwinding of said stream, said third section comprising a whirl unwinding duct means connected to the end of the second section to be entered by the whirl flowing through said second section and providing for an axifugal whirl unwinding flow of the stream whereby said whirl is turned into a much slowly rotating and relatively thin sheath within said third section and escaping therefrom into the fourth section and said duct means including two walls curved around and parallel to the axis of the whirl flowing from the second section into said duct means, the wall curvature being in accordance with a logarithmic spiral pattern.

3,343,347
WINDROWER TYPE HARVESTER

Donald E. Burrough and Raymond H. Fairbank, Ottumwa, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,515
4 Claims. (Cl. 56-23)

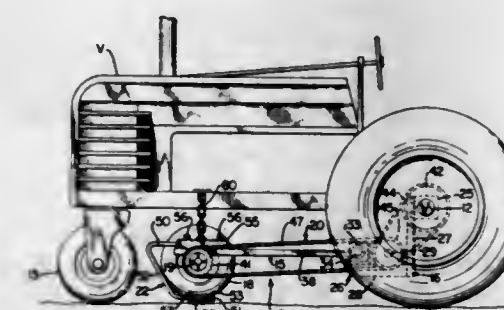
1. A crop harvester comprising: a main frame mounted for advance over a field; a forwardly disposed platform carried by said frame and having first and second opposite sides and a transverse cutter bar extending between said sides along the leading edge over which the

crops move rearwardly; a first relatively short transverse crop-receiving conveyor carried by the platform behind a portion of the cutter bar adjacent the first side; a second relatively short transverse crop-receiving conveyor carried by the platform behind a second portion of the cutter bar adjacent the second side; drive means operably connected to said first and second conveyors for moving the crop inwardly toward the opposite sides; a third transverse crop-receiving main conveyor carried by the platform behind part of a third portion of the cutter bar



which extends between said first and second portions, the remaining area behind the third cutter bar portion forming a discharge area, means for transversely shifting the third conveyor between a first position wherein it extends between the first conveyor and the discharge area and a second position wherein it extends between the second conveyor and the discharge area; and reversible drive means operably connected to said third conveyor in said first and second positions for moving the crop from the adjacent conveyor to the discharge area in either conveyor position.

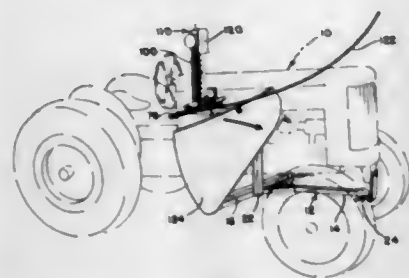
3,343,348
BEET TOPPING UNIT
Andrew F. Barnes, Rte. 1, Box 292, Longmont, Colo. 80501
Filed May 5, 1964, Ser. No. 365,864
5 Claims. (Cl. 56-121.44)



1. In a beet topping device mounted in attached relation to a tractor of the type having an elongated narrow chassis with a front center wheel member and a rear drive axle provided with spaced apart rear drive wheels, the combination therewith comprising a series of beet topper units including a common, relatively stationary support being mounted forwardly of and in spaced parallel relation to the rear drive axle and extending transversely across the substantial width of the tractor, a plurality of pivotal support members being pivotally connected to said stationary support for forward substantially horizontal extension therefrom in uniformly spaced, parallel relation to one another across the substantial width of the tractor

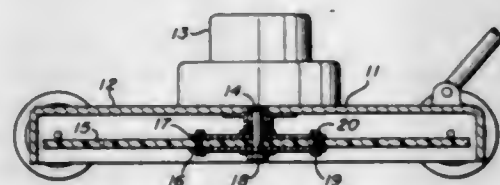
and being pivotal independently of one another on said stationary support, each of said topper units further including a topping knife assembly depending downwardly from the forward end of each pivotal support member, each knife assembly having a topping knife with a front cutting edge extending in horizontal transverse relation to the direction of movement of the tractor, a drive wheel being mounted for rotation on each pivotal support member in spaced, centered relation above the front cutting edge for engagement with the beet tops, said topping knives and associated drive wheels being suspended from said pivotal support members at uniformly spaced transverse intervals across the substantial width of the tractor and with the spacing therebetween corresponding to the spacing between beet rows, and drive means being drivingly connected to each of said drive wheels to simultaneously rotate said drive wheels in a direction urging the beet tops in each row toward and across the respective topping knives for topping and discharge therefrom.

3,343,349
GRAPE PRUNER
Harold E. Wagner, Rte. 2, Box 196,
Grandview, Wash. 98930
Filed July 13, 1964, Ser. No. 382,166
4 Claims. (Cl. 56—236)



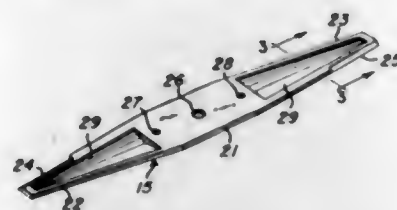
1. A pruning apparatus, comprising: (a) a supporting frame adapted for attachment to a farm vehicle, including a generally horizontally, linearly movable member and a generally vertically, linearly movable member attached to said horizontally movable member; (b) a trimmer base structure mounted on said vertically, linearly movable member; (c) a generally horizontally disposed trimmer support pivotally connected to said trimmer base structure for movement in a generally horizontal plane; (d) a trimmer means detachably and securely mounted on said trimmer support for movement therewith; (e) a vine guide bar means mounted on and extending from said trimmer base structure forwardly of trimmer means and curving upwardly; (f) control means for moving said horizontally and vertically movable members of said supporting frame.

3,343,350
LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,304
10 Claims. (Cl. 56—295)



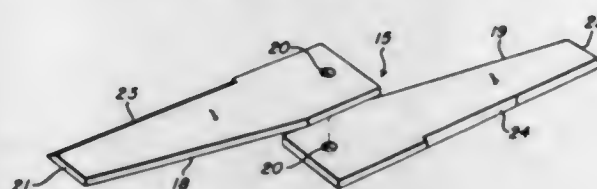
1. In a lawn mower having a rotatable shaft and a cutting blade mounted on said shaft, said blade composed entirely of a flexible urethane elastomer material.

3,343,351
FLEXIBLE LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,434
4 Claims. (Cl. 56—295)



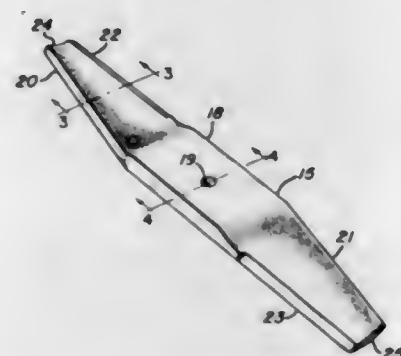
1. In a lawn mower having a rotatable shaft, a cutting blade mounted on said shaft composed entirely of a flexible urethane elastomer, said blade having outwardly extending arms with cutting edges and non-cutting surfaces, said arms having means on at least one non-cutting surface for increasing their flexibility.

3,343,352
OFFSET LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,105
3 Claims. (Cl. 56—295)



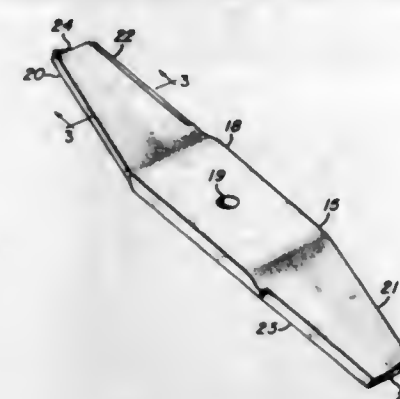
1. In a lawn mower having a rotatable shaft, a cutting blade mounted on said shaft composed entirely of a flexible urethane elastomer, said blade having opposite outwardly extending arms forming cutting surfaces, said arms being offset from each other on said shaft.

3,343,353
LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,106
3 Claims. (Cl. 56—295)



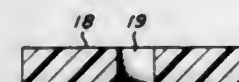
1. In a lawn mower having a rotatable shaft, a cutting blade mounted on said shaft composed entirely of a flexible urethane elastomer, said blade having a central mounting portion and a plurality of outwardly extending arms forming cutting surfaces, the upper surface of said arms forming a smooth continuous arc.

3,343,354
FLEXIBLE LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,109
3 Claims. (Cl. 56—295)



1. In a lawn mower having a rotatable shaft, a cutting blade mounted on said shaft composed entirely of a non-reinforced flexible urethane elastomer, said blade having a central mounting portion and a plurality of outwardly extending arms forming cutting surfaces, the upper surfaces of said arms forming an upwardly facing obtuse angle.

3,343,355
LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,900
4 Claims. (Cl. 56—295)

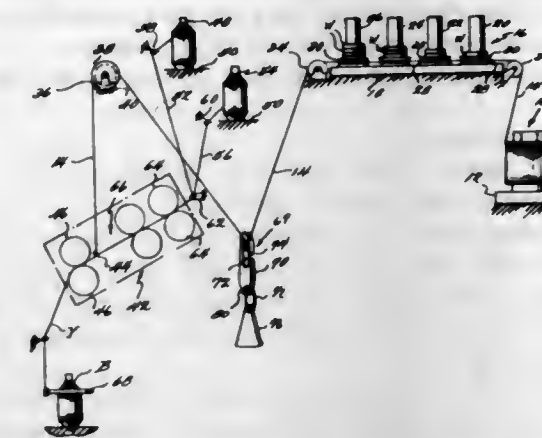


1. In a lawn mower having a rotatable shaft, a cutting blade mounted on said shaft composed entirely of a flexible urethane elastomer material, said blade having a central mounting portion and a plurality of outwardly extending arms having cutting surfaces, said arms being curved in a plane at right angles to said shaft.

3,343,356
METHOD AND APPARATUS FOR PRODUCING CORE YARN
Allen G. McKinnon, Asheboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 484,843
18 Claims. (Cl. 57—12)

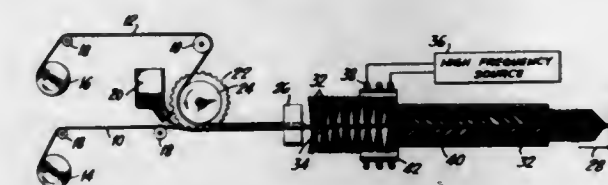
11. Apparatus for producing a core yarn from a continuous filament elastomer and at least one roving comprising: a spinning frame having a drafting zone and front rolls; means for feeding roving to and through the drafting zone and front rolls; and means for feeding the continuous filament elastomer at a substantially constant tension to the front rolls, said last mentioned means including a first means for applying a pretension to the elastomer and a second means for applying additional tension

to the elastomer after the same has been pretensioned, said second means also compensating for variations, such as elongation, modulus and the like, in the elastomer



and including a weight freely suspended from and movable relative to the elastomer intermediate its feed to the front rolls and the first means for applying a pretension to the same.

3,343,357
METHOD AND APPARATUS FOR FABRICATING ARTIFICIAL BRANCHES
Edward S. Goodridge, 23 Broadmoor Road, Scarsdale, N.Y. 10583
Filed Mar. 3, 1965, Ser. No. 436,828
7 Claims. (Cl. 57—24)



3. An apparatus for producing an artificial tree branch having angular plastic fibers comprising a dispenser for fibers of predetermined length, a head stock guiding two parallel wires, means for placing fibers between said wires, a movable tail stock containing a means for twisting and pulling of said wires containing fibers, an induction work coil for heating said wires to soften said fibers and tubular sizing means surrounding said branch.

3,343,358
POT SPINNING AND TWISTING APPARATUS
Lucian Nussbaum, Easley, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 17, 1967, Ser. No. 609,913
10 Claims. (Cl. 57—34)

1. In a twister frame or the like having a twisting unit including yarn input means, a twisting pot and yarn take-up means that improvement which consists of yarn feeding means for alternating the feeding of yarn from said yarn input means into said twisting pot and the feeding of yarn from said twisting pot to said yarn take-up means, comprising: yarn direction switch means associated with said pot selectively in a first mode for receiving yarn from said yarn input means and directing said yarn to said pot and in a second mode for receiving yarn from said pot directing said yarn to said yarn take-up means; yarn severing means located between said yarn input means and said yarn direction switch means and control means operable

to operate said yarn serving means to sever yarn extending from said yarn input means to said pot and

to operate said yarn direction switch means to direct the severed end of yarn extending from said pot to said yarn take-up means.

6. In a twister frame or the like having a twisting unit including

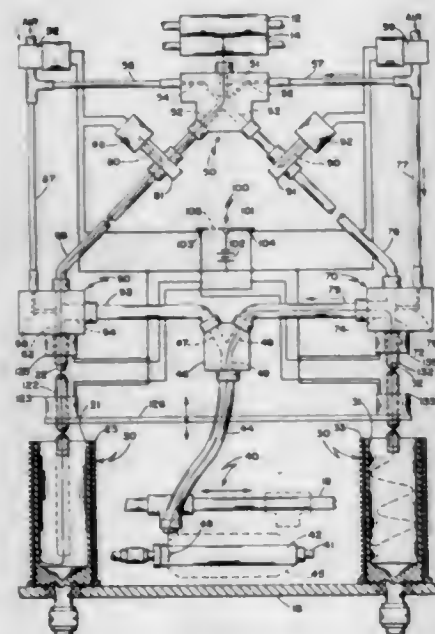
yarn input means

a pair of twisting pots and yarn take-up means that improvement which consists of

yarn feeding means for alternating the feeding of yarn from said yarn input means into one of said twisting pots while simultaneously feeding yarn from the other of said twisting pots to said yarn take-up means, comprising:

pot selection switch means for receiving yarn from said yarn input means and directing said yarn selectively toward one or the other of said twisting pots

yarn direction switch means associated with each of said pots selectively in a first mode for receiving yarn from said pot selection switch means and directing said yarn to said pot and in a second mode for receiving yarn from its associated twisting pot and directing said yarn to said yarn take-up means



yarn severing means located between said pot selection switch means and each of said yarn direction switch means and

control means operable in one position

to operate said yarn severing means to sever yarn extending from said pot selection switch means to one of said twisting pots,

to operate said yarn direction switch means associated with said one twisting pot to direct the severed end of yarn extending from said one twisting pot to said yarn take-up means and

to operate said pot selection switch means to direct the severed end of yarn extending therefrom to said other twisting pot and

operable in another position

to operate said yarn severing means to sever yarn extending from said pot selection switch means to the other of said twisting pots,

to operate said yarn direction switch means associated with said other twisting pot to direct the severed end of yarn extending from said other twisting pot to said yarn take-up means and

to operate said pot selection switch means to direct the severed end of yarn extending therefrom to said other twisting pot.

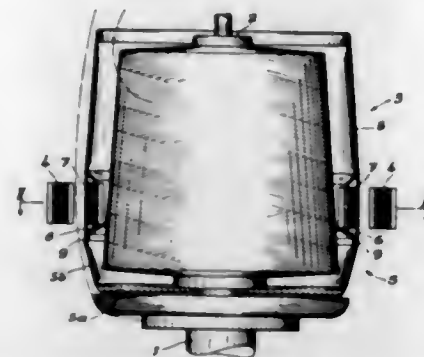
3,343,359 PROTECTIVE POT FOR MULTIPLE TWIST SPINDLES

Gustav Franzen, Neersen, near Krefeld, Kurt Briskin, Monchen-Gladbach, and Ulrich Lossa, Krefeld, Germany, assignors to Palitex Project-Company G.m.b.H., Krefeld, Germany

Filed Jan. 31, 1967, Ser. No. 612,848

Claims priority, application Germany, Feb. 7, 1966, P 38,715

9 Claims. (Cl. 57—58.76)



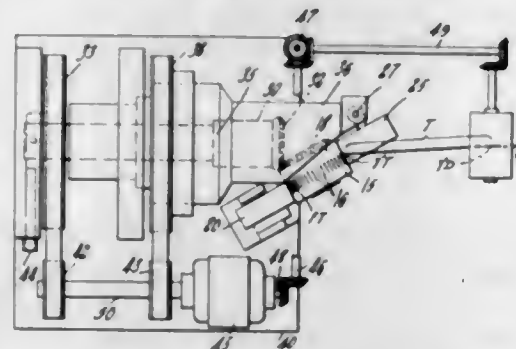
1. A protective pot for multiple twist spindles, especially for two-for-one spindles, adapted to receive a bobbin therewithin and to be mounted on a spindle rotor, which includes: a lower pot section, at least one upper pot section detachably connected to said lower pot section, and magnet means mounted on one of said pot sections for cooperation with magnets outside said pot to hold the same stationary, at least one joint between two adjacent pot sections being located within the range of said magnet means.

3,343,360 OPEN END SPINNING

Hugh M. Brown, Clemson, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 24, 1965, Ser. No. 442,430

23 Claims. (Cl. 57—58.91)



1. Apparatus for spinning yarn from staple fiber comprising

staple fiber assembly means having a movable fiber-carrying surface rotatable about an axis

staple fiber supply means including a fiber supporting surface constructed and arranged for intermittent fiber nipping contact with said fiber supporting surface for intermittently delivering staple fibers in sliver form and overlapping relationship onto the surface of said fiber assembly means at a fiber transfer point

yarn output means for removing staple fibers in yarn form from said fiber assembly means at a yarn transfer point remote from said fiber transfer point including

control means in contact with said surface of said staple fiber assembly means providing a continuous positive fiber nip therewith at said yarn transfer point and

yarn delivery means providing a yarn nip point at a yarn delivery point spaced from said yarn transfer point in a direction generally along said axis, power means for moving said movable surface relatively to said staple fiber supply means fiber supporting surface intermittently positively to apply fibers in overlapping relationship to said fiber assembly surface at said fiber transfer point

for moving said movable surface with said fibers on said movable surface from said fiber transfer point to said yarn transfer point and

for rotating about an axis said staple fiber assembly means together with said control means to rotate fibers at said yarn transfer point to spin said fibers into a yarn in a twisting zone between said yarn transfer point and said yarn delivery point.

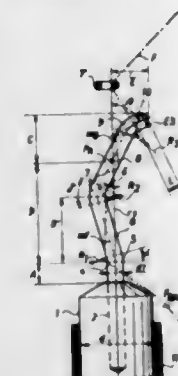
3,343,361 SPINDLE ATTACHMENT FOR SPINNING WITH REDUCED BALLOON

Arthur Würml, Winterthur, Switzerland, assignor to Maschinenfabrik Rieter A.G., Winterthur, Switzerland, a corporation of Switzerland

Filed Apr. 21, 1966, Ser. No. 544,311

Claims priority, application Switzerland, May 14, 1965, 6,879/65

21 Claims. (Cl. 57—73)



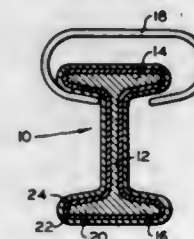
1. In combination with a spindle of a spinning frame, a fingerlike attachment for spinning with reduced balloon, said attachment comprising an oblong foot portion mounted on top of the spindle coaxially with the longitudinal axis thereof and extending therefrom, a middle portion extending from said foot portion and deviating from the longitudinal axis of the spindle to one side of a plane passing therethrough, and an upper end portion extending from said middle portion to the opposite side of the plane passing through the longitudinal axis of the spindle.

3,343,362 BEARING MEMBERS HAVING A PLURALITY OF COATINGS

Dallas F. Lunsford, Cambridge City, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed Jan. 25, 1965, Ser. No. 427,741

2 Claims. (Cl. 57—119)



1. A bearing member comprising a base portion formed from ferrous metal and having a wearing surface, a first coating intimately secured to at least a portion of said wearing surface and having a porous crystalline structure

selected from the group consisting of ferric oxide, ferrous-ferric oxide, a composite of ferric and ferrosioferric oxide and a composite of ferrous oxide and ferrosioferric oxide and a second anti-friction metallic coating intimately secured to said first coating at least at said portion of said wear surface selected from a group consisting of lead, copper, tin, cadmium and alloys thereof, whereby said anti-friction metallic coating is incompletely removed during initial operation of said bearing member.

2. A spinning ring comprising a base portion formed from ferrous metal and having an annular body portion and an annular flange formed coaxially and integrally with said spinning ring, said flange forming a wearing surface, a first coating intimately attached to said flange selected from a group consisting of ferric oxide, ferrosioferric oxide, a composite of ferric and ferrosioferric oxide and a composite of ferrous oxide and ferrosioferric oxide, a second anti-friction metallic coating deposited on said first coating to form an external surface on said spinning ring and covering the first coating on at least said flange, said second coating selected from a group consisting of lead, copper, tin, cadmium and alloys thereof, whereby said anti-friction metallic coating is incompletely removed during initial operation of said spinning ring.

3,343,363 NYLON TIRE CORDS

George C. Stow, Jr., and William C. Mallonee, Chapel Hill, N.C., and Homer D. Barrett, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 26, 1965, Ser. No. 443,170

11 Claims. (Cl. 57—140)

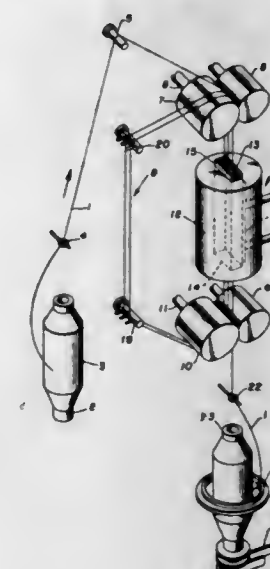
1. As an article of manufacture, a multifilament nylon strand exhibiting improved performance stability and characterized by a tenacity greater than 7 grams per denier, a maximum elongation of 22° C. of less than 20%, an initial modulus at 22° C. of between 25 and 60 grams per denier and a breaking strength at 22° C. of at least 0.0160 pound per denier.

3,343,364 MANUFACTURE OF TEXTURED FILAMENT YARNS

Euell K. McIntosh and Paul T. Howse, Jr., Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware

Filed Jan. 26, 1965, Ser. No. 428,088

9 Claims. (Cl. 57—157)



1. A method of treating twist-curved textured yarn having a torque to render same more voluminous and dimensionally stable comprising:

(a) longitudinally feeding twist-curved textured yarn from a source to a point of packaging;

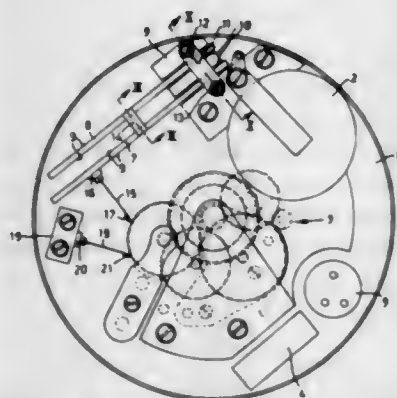
- (b) between the yarn source and packaging, relaxing the yarn while the same is being heated in at least two separate stages; and
- (c) between each of the stages, stretching the yarn while the same is being cooled.

3,343,365

OSCILLATOR FOR TIME-PIECES

Gerhard Vosseler, Basel, Switzerland, assignor to Georges Ceppl, Bassecourt, Switzerland
Filed Mar. 4, 1965, Ser. No. 437,208

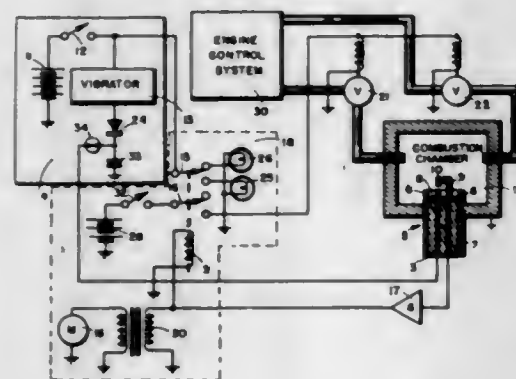
Claims priority, application Switzerland, Mar. 4, 1964, 2,764/64
4 Claims. (Cl. 58—23)



1. An electronic time-piece comprising, in combination, a bottom plate having mounted thereon: a battery, a dial train including a ratchet wheel, a resistor and a transistor forming part of a maintenance circuit for an oscillator, said oscillator comprising at least one collecting member and one driving member, said collecting member being in the input and said driving member being in the output of said circuit, said members each consisting of a crystal in the form of an elongated blade, said members being mechanically coupled when oscillating at their resonant frequency; a support on said plate in one section thereof near the periphery of said plate; said support having a pair of parallel grooves for mounting said members therein; a rider slidably mounted on said blades for modifying the efficient length thereof to adjust their oscillation frequency; and means carried by said driving member for transmitting the vibrations thereof to said ratchet wheel.

3,343,366

SPARK DISCHARGE MONITORING DEVICE
Robert S. Siegler and John P. Luciani, Canoga Park, Calif., assignors to North American Aviation, Inc.
Filed Nov. 25, 1958, Ser. No. 776,368
19 Claims. (Cl. 60—39.82)



1. In a spark discharge device for insertion in a combustion chamber the combination of a high potential electrode, a low potential electrode spaced from said high potential electrode to provide a sparking current path,

electrical means including a source of electrical potential for generating an ionized region between said high potential and said low potential electrodes, said ionized region having a sparking current and a non-sparking current flowing therein, a monitor electrode means for continuously detecting the magnitude of said sparking current spaced from said high potential electrode in said ionized region to provide a current path proportional to said magnitude for said non-sparking current, and means for indicating current in said current path.

7. In a spark discharge device having an elongated metal shell, an elongated insulator extending longitudinally of the shell, a longitudinally extending conductor in the insulator, and a spark gap between the conductor as a first electrode and the shell as a second electrode at the second, forward end of the device, the improvement which comprises monitor means for detecting spark discharges between the electrodes at said gap, said monitor means comprising a monitoring probe electrode overlying and spaced from the spark discharge gap, electrically insulating means mounting the probe electrode on the device, a terminal means on the shell and insulated therefrom adjacent the rear end thereof, a contact in said terminal means, and an electrical lead electrically isolated from the shell extending from the probe electrode in a rearward direction within the shell to the contact of said terminal means.

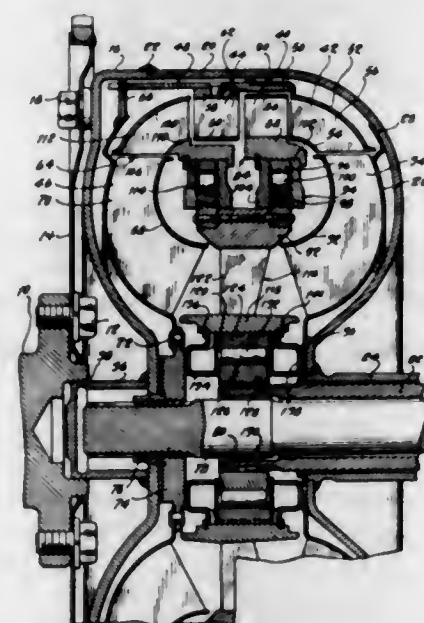
17. Ignition apparatus, comprising a source of electric energy, an igniter having two electrodes defining a spark gap and a third electrode adjacent the gap, means including two conductors connecting the respective terminals of the source to the two gap-defining electrodes, a third conductor connected to the third electrode, low impedance means connecting the third conductor to the source, and means responsive to the flow of current in the low impedance means.

3,343,367

HYDROKINETIC CONVERTER MECHANISM WITH MULTIPLE TURBINES

Norman T. General, Farmington, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Jan. 5, 1966, Ser. No. 518,934
4 Claims. (Cl. 60—54)



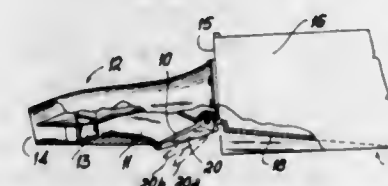
1. A hydrokinetic torque converter mechanism comprising a bladed impeller, a multiple element turbine assembly and a multiple element stator assembly situated in toroidal fluid flow relationship in a common torus

circuit, said turbine assembly comprising three bladed turbine elements connected together for rotation in unison, a turbine shaft connected to said turbine assembly, a power input member drivably connected to said impeller, a first stator of said stator assembly being situated between the flow exit section of the first turbine element and the flow entrance section of said second turbine element, a second stator of said stator assembly being situated between the flow exit section of said second turbine element and the flow entrance section of said third turbine element, a third stator of said stator assembly being situated between the flow exit section of said third turbine element and the flow entrance section of said impeller, overrunning brake means for anchoring said third stator against rotation in one direction while accommodating freewheeling motion in the opposite direction, second and third overrunning brake means for anchoring, respectively, said first stator and said second stator against rotation with respect to said third stator in one direction and accommodating freewheeling motion thereof in the opposite direction, the flow exit section of said impeller being situated at a radial outflow region of said circuit, the flow entrance section of said first turbine element being situated in a radial outflow region of said circuit and the flow exit section of said first turbine element being situated in a radially outward, axial flow region of said circuit.

3,343,368

GRID FOR A WATER INTAKE OPENING, ESPECIALLY THE WATER INTAKE OPENING OF A WATER JET PROPELLED BOAT

Luigi Castoldi, 161 Viale Mazzini, Abbiategrosso, Italy
Filed Dec. 27, 1965, Ser. No. 516,508
7 Claims. (Cl. 60—221)



2. A grid for preventing solid objects to pass in a water intake opening comprising, in combination, a first set of bars and a second set of bars alternately arranged and transversely spaced from the bars of said first set, said bars being mounted adjacent one of the ends thereof for pivotal movement about a common axis extending transverse to the elongation of said bars between a service position in which said bars extend substantially in one plane and substantially co-planar to said intake opening and a cleaning position in which the bars of said first set are turned about the common axis out of said plane through a greater angle than the bars of said second set; operating means movable between two end positions for turning the bars of said two sets between said positions thereof; and connecting means connecting said bars to said operating means, said connecting means for the bars of one set of bars including lost motion means constructed and arranged in such a manner so as to turn during movement of said operating means between said two end positions said first set of bars through a greater angle than the bars of said second set so that the bars of said sets in said cleaning position will be angularly displaced from each other so as to displace solid objects which became wedged between said bars while the latter were in said service position.

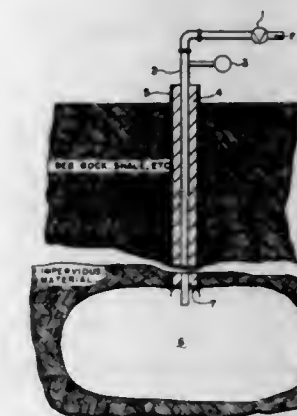
6. A grid as defined in claim 2, wherein said water intake opening forms the intake opening of a water acceleration and ejection passage of a jet propulsion unit of a boat, said intake opening being located adjacent to the boat hull bottom in a forwardly and upwardly sloping

plane and having a substantially rectangular configuration, said common axis extending substantially parallel to and adjacent the fore transverse edge of said intake opening.

3,343,369

METHOD OF INHIBITING EARTH SUBSIDENCE OVER A CAVITY

John R. Polhamus, Wheatridge, Colo., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1963, Ser. No. 323,833
13 Claims. (Cl. 61—5)



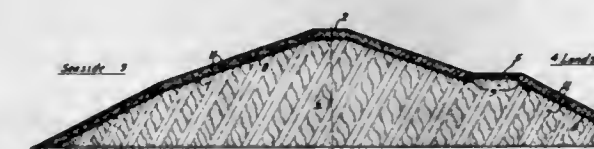
1. A method of providing against subsidence of the earth over an inactivated fluid containing cavity which comprises sealing said cavity against flow of fluid therefrom and adding fluid to said sealed cavity to establish and maintain a fluid pressure against the roof of the cavity sufficient to inhibit subsidence of the earth over said cavity.

3,343,370

EARTH EMBANKMENT WITH INTERNAL WATER BARRIER

Gunther Twele, Weisbaden, Germany, and Karl Helmut Rothaug, deceased, late of Weisbaden-Biebrich, Germany, by Johanne Helgard Rothaug, nee Werner, heir and legal representative of minor heirs, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

Filed Oct. 16, 1963, Ser. No. 317,111
Claims priority, application Germany, Oct. 18, 1962, K 48,012
3 Claims. (Cl. 61—31)



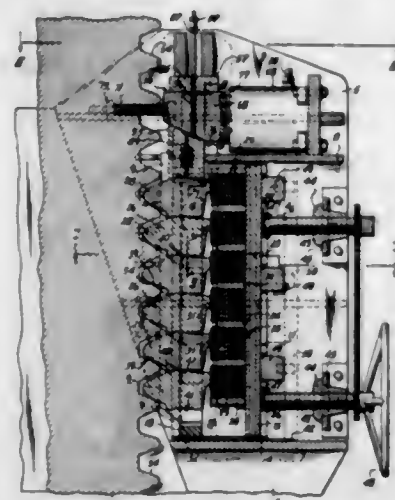
1. An earth embankment having an internal barrier to prevent water penetration, comprising a water-imperious thermoplastic film extending in an inclined position within the embankment, said film separating the embankment into an upper portion and a lower portion and being in contact therewith, said thermoplastic film being directly supported on said lower portion and having anchored to at least the upper surface thereof a plurality of small solid particles, said particles being dispersed completely over the upper surface of said film and protruding into said upper portion to prevent slippage of said upper portion.

3,343,371

LOCKING DEVICE FOR ESTABLISHING A LOAD-BEARING JOINT BETWEEN TWO STRUCTURES

Roy S. Heitkamp, Metairie, La., assignor to J. Ray McDermott & Co., Inc., New Orleans, La., a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,687
18 Claims. (Cl. 61-46.5)



1. In a locking device of the type described, the combination of

a rack having a series of rack teeth;
frame means disposed adjacent said rack;
support means mounted on said frame means for movement between a retracted position, in which said support means is spaced from said rack, and a second position, in which said support means is adjacent said rack;

a plurality of individual locking teeth carried by said support means and arranged in an elongated series which extends lengthwise of said rack when said support means is in said second position,

each of said locking teeth having a nose portion dimensioned for insertion between an adjacent pair of said rack teeth, the nose portion of each of said locking teeth including a load-bearing surface disposed to engage one rack tooth of the pair of rack teeth between which the nose portion is inserted, said load-bearing surfaces of said locking teeth all facing generally toward the same end of said series,

each of said locking teeth being carried by said support means for independent pivotal movement about a tooth axis extending transversely of said series,

engagement of said load-bearing surfaces of said locking teeth with the respective ones of said rack teeth tending to cause said locking teeth each to rotate in one direction about its tooth axis;

yieldable means carried by said support means and disposed to be engaged by said locking teeth to resist pivotal movement of said locking teeth in said one direction;

means carried by said frame means for releasably locking said support means in said second position against movement away from said rack,

said nose portions of said locking teeth all being engaged between said rack teeth when said support means is in said second position; and

loading means carried by said frame means and arranged to apply an axial load to said series of locking teeth in a direction toward the end of said series which is faced by said load-bearing surfaces,

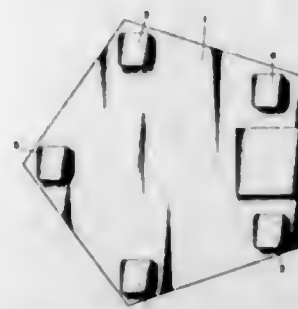
application of such axial load clamping said locking teeth against movement lengthwise of said series.

3,343,372

DRILLING PLATFORM

August Hendrik Maria Smulders, Wassenaar, Netherlands, assignor to N.V. Werf Gusto v/h Firma A. F. Smulders, Schiedam, Netherlands

Filed May 17, 1965, Ser. No. 456,084
Claims priority, application Netherlands, May 15, 1964, 64-5,458
3 Claims. (Cl. 61-46.5)



1. A drilling platform or the like, comprising a buoyant platform, five vertical supporting columns disposed in the corners of a substantially equilateral pentagon, and means mounting the columns for vertical sliding movement relative to the platform.

3,343,373

TWO-PHASE THERMO-ELECTRIC BODY COMPRISING A BORON-CARBON MATRIX

Courtland M. Henderson, Xenia, and Emil R. Beaver, Jr., Tipp City, Ohio, assignors to Monsanto Company, a corporation of Delaware

Filed May 27, 1963, Ser. No. 283,487
11 Claims. (Cl. 62-3)

1. As an article of manufacture, a shaped, semiconductor two-phase body comprising a matrix of consolidated boron and carbon in the proportion of between 75 mole percent to 95 mole percent boron and 25 mole percent to 5 mole percent carbon, the said matrix having dispersed therein a particulate material selected from the group consisting of the stable binary sulfides, oxides, borides, carbides, nitrides, silicides, and phosphides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series, the said dispersant being present in the range of from 0.001 mole percent to 29 mole percent of the matrix, and having an absolute melting point of at least 105% of the melting point of the said matrix material, the said dispersant also having a solubility in the matrix of less than 10 mole percent at a temperature which is 60% of the absolute melting point of the matrix, the said dispersant also being characterized by a percent cubic thermal expansion which differs arithmetically from that of the matrix by a deviation of from 1.50% to 6.00% over the range of 0° C. to 1500° C.

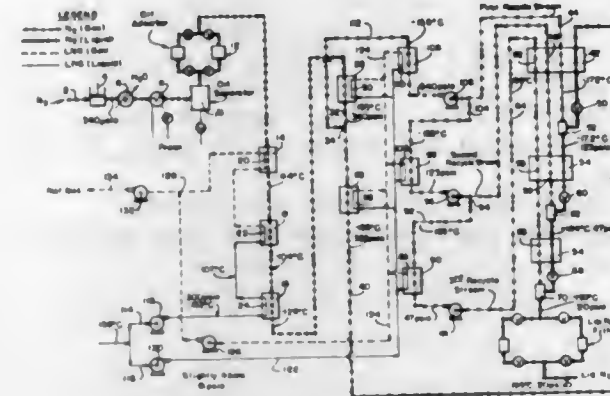
2. A thermoelectric unit comprising at least one shaped, semiconductor two-phase body, and electrical leads at opposed portions of the said body, the said body comprising a matrix of a combination of between 75 mole percent to 95 mole percent of boron, and 25 mole percent to 5 mole percent of carbon and having dispersed within the said matrix, particles of calcium oxide present at from 0.001 mole percent to 29 mole percent of the matrix, the said calcium oxide dispersant being characterized by a solubility in the matrix of less than 10 mole percent at a temperature which is 60% of the absolute melting point of the matrix, and a percent cubic thermal expansion which differs arithmetically from that of the matrix by a deviation of from 1.50% to 6.00%, over the range of from 0° C. to 1500° C.

3,343,374

LIQUID NITROGEN PRODUCTION

Warren L. Nelson and Nathan Kositsky, Montreal, Quebec, Canada, assignors to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company

Filed Sept. 2, 1965, Ser. No. 484,604
Claims priority, application Canada, Dec. 16, 1964, 918,917
5 Claims. (Cl. 62-9)



1. A method of liquefying a gas from the group consisting of nitrogen and oxygen utilizing a liquid refrigerant of a type having a boiling point, at a convenient pressure, lower than the critical temperature of said gas, said method comprising

- introducing a main stream of said gas at a selected pressure,
- liquefying said gas by indirect heat exchange with said liquid refrigerant,
- expanding a portion of said liquefied gas in a plurality of successive stages to form a plurality of individual gaseous recycle streams, each recycle stream being of lesser pressure than the preceding recycle stream,
- compressing each recycle stream to the pressure of the preceding recycle stream,
- removing the heat of compression generated by said step (d) by indirect heat exchange between such compressed recycle stream and said liquid refrigerant,
- combining such compressed and cooled recycle stream with the preceding recycle stream prior to compression of the latter,
- and feeding said combined recycle streams at said selected pressure into said main stream prior to its liquefaction in said step (b).

3,343,375

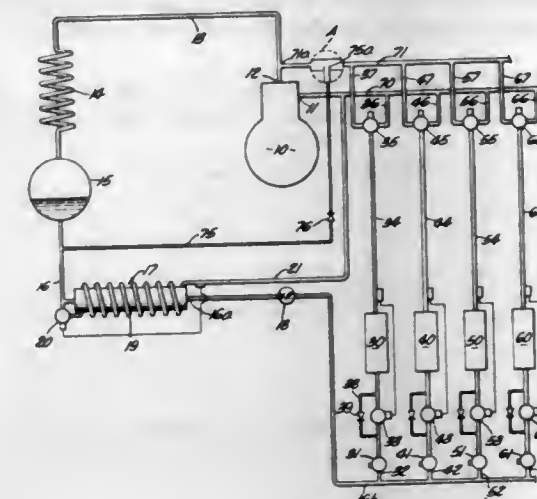
LATENT HEAT REFRIGERATION DEFROSTING SYSTEM

Lester K. Quick, 600 Howard St., Eugene, Oreg. 97402

Filed June 23, 1965, Ser. No. 466,201
15 Claims. (Cl. 62-81)

15. A process for defrosting remotely located evaporator means of a conventional closed cycle refrigeration system using a refrigerant having a saturation temperature above 32° F. at the condensing pressure of the system, comprising the steps of: compressing the refrigerant to the condensing pressure of that closed cycle refrigeration system, positively cooling at least a portion of that compressed refrigerant at a central location to substantially the saturation temperature of the refrigerant gas at that pressure without condensing the refrigerant, isolating the evaporator means to be defrosted from the normal refrigeration cycle, conducting only the saturated gaseous refrigerant to the remote location of the isolated

evaporator means, passing that saturated gaseous refrigerant through the isolated evaporator means for heating and defrosting that evaporator means with the refrigerant



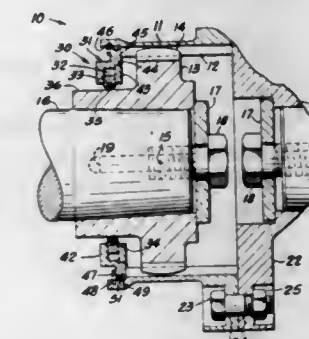
solely by the change in phase of the refrigerant from gaseous to liquid, and reintroducing that refrigerant used in defrosting back into the normal closed refrigeration cycle.

3,343,376

LUBRICANT SEAL FOR COUPLINGS

Kenneth K. Carman, Ellicott City, Md., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Sept. 13, 1965, Ser. No. 486,945
5 Claims. (Cl. 64-9)

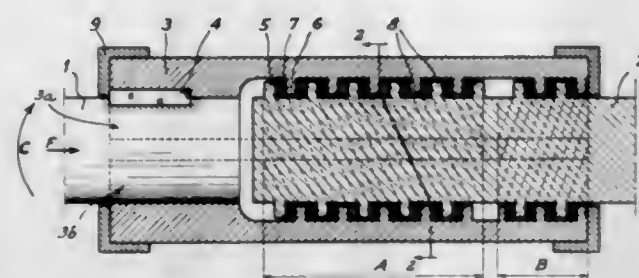


1. A coupling for transmitting torque between a pair of shafts whose axes may be misaligned, comprising: a coupling sleeve having internal spur gear teeth therein secured to one of the shafts for rotation therewith; a coupling hub having external spur gear teeth thereon secured to the other of said shafts for rotation therewith and operatively connected to said sleeve for rotation therewith; and means for retaining lubricant between said sleeve and said hub including, a first ring connected to said sleeve and surrounding said hub and having a first annular slot therein facing said hub, a second ring adapted to fit in said first annular slot and surround said hub and move in said slot radially of said hub should any misalignment of said shafts exist, said second ring having a second annular slot facing said hub, and a helical ring adapted to fit in said second slot and surround said hub, whereby misalignment of said shafts may cause relative movement of said second ring in said first slot and relative movement of said helical ring in said second slot.

3,343,377
DAMPING DEVICE FOR A SHAFT WHICH IS SUBJECT SIMULTANEOUSLY TO LONGITUDINAL AND ANGULAR OSCILLATIONS
 André Loupéré, Billiere, France, assignor to Societe Anonyme: Societe Nationale des Petroles d'Aquitaine, Paris, France

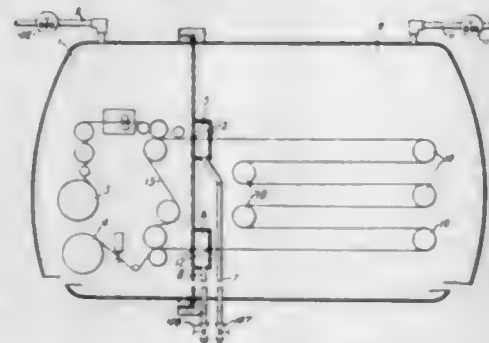
Filed May 12, 1965, Ser. No. 455,236
 Claims priority, application France, May 15, 1964, 974,676

5 Claims. (Cl. 64—27)



1. A device for damping longitudinal, angular and transverse oscillations to which a shaft is subjected, comprising two coaxial shaft stems having adjacent ends spaced apart by means of a sleeve, said sleeve being integral with one of said shaft stems and surrounding the other said shaft stem; a tapping provided in said sleeve to define threads on an inner surface thereof; a threading on the corresponding end of the other shaft stem of a diameter which defines an annular space between the head of the threads of the shaft stem and the base of the threads of the sleeve; and a damping material interposed between the sides of the profile of the threading and the tapping, said annular space being void of said damping material.

3,343,378
APPARATUS FOR THE TREATMENT OF TEXTILE MATERIALS
 Roy V. Hayman, Cwmbran, England, assignor to British Nylon Spinners Limited, Pontypool, England
 Filed Apr. 5, 1965, Ser. No. 445,426
 Claims priority, application Great Britain, Apr. 18, 1964, 16,144/64
 8 Claims. (Cl. 68—5)

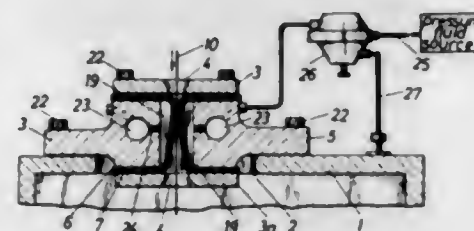


1. An apparatus for the treatment of textile materials in continuous lengths in steam under pressure and in aqueous liquids beneath an atmosphere of steam under pressure, comprising a steam chamber; steam supply means maintaining an above atmospheric steam pressure in said chamber, said chamber having a plurality of orifices designed closely to fit the cross-sectional contour of the textile material and permit its passage into and out of the chamber, a plurality of diffusion chambers with which diffusion chambers said orifices communicate; means including escape valves maintaining said diffusion chambers at a lower pressure than the pressure in said steam chamber; an air chamber communicating in turn by means of the same total number of similarly shaped orifices with the aforesaid diffusion chambers; air supply

means maintaining an air pressure in said air chamber about equal to the steam pressure in said steam chamber, said air chamber having sealed orifices to permit the untreated textile material to enter the air chamber from the outside and enable the treated material to return thereto by leaving the air chamber, and means for carrying the textile material into and out of the steam chamber by way of an air chamber and a diffusion chamber.

3,343,379
APPARATUS FOR PASSING MATERIALS THERE-THROUGH IN A PRESSURE-TIGHT MANNER, ESPECIALLY TEXTILES IN THE FORM OF WIDE WEBS AND ALSO IN THE FORM OF STRANDS
 Herward Duls and Peter Lopatz, Krefeld-Urdingen, Germany, assignors to Joh. Kleinewefers Söhne, Krefeld, Germany

Filed Apr. 8, 1964, Ser. No. 358,251
 Claims priority, application Germany, May 11, 1963, K 49,717, K 49,718
 10 Claims. (Cl. 68—5)



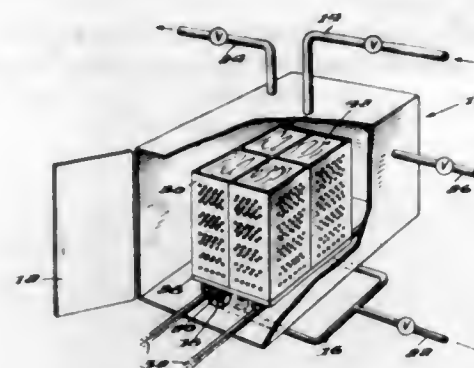
1. An apparatus comprising a container with an inlet passage and an outlet passage for continuously fluid treating materials in the form of webs and also in the form of strands, especially textiles, which includes: means to maintain the pressure in said container greater than atmospheric and sealing means arranged at least at one of said passages for the passage therethrough of said materials to be treated, said sealing means respectively including pressure chamber means and sealing diaphragm means arranged in opposed relation, said pressure chamber means when supplied with fluid pressure moving said diaphragm means into face to face engagement, each said diaphragm means comprising a relatively thin flexible element of prismatic shape having a relatively large surface, the surface of each of said diaphragm means which engage each other having a relatively thin temperature resistant, friction reducing covering thereon, means for conveying fluid pressure to said chamber and constituting means for urging those portions of said diaphragm means which face each other toward each other to thereby slidably and sealingly engage material being passed therebetween, said means for conveying fluid pressure comprising means to carry fluid to said chamber means at a pressure slightly greater than the pressure in said container also comprising means operable to vary the pressure of the fluid conveyed to said chamber means under control of variations in pressure in said container to maintain said pressure in said chamber means higher than in said container.

3,343,380
PERFORATED CRIMPSET CAN
 Juan Winter, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 8, 1965, Ser. No. 512,401
 3 Claims. (Cl. 68—6)

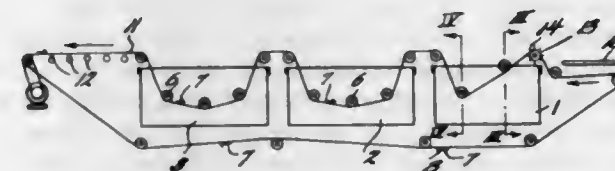
1. In combination with a fiber-steaming, pressure vessel having facilities for the admission of steam and for the discharge of condensate through at least one steam trap,

an open top can having side walls and a bottom wall, the latter having an opening located above and com-



municating with said trap when the can has been positioned for steaming fibers therein, at least two side walls being provided with perforations.

3,343,381
APPARATUS FOR THE TREATMENT OF TEXTILE GOODS
 Hans Christian Andersen, Lucerne, Switzerland, assignor, by mesne assignments, to Ultrasona A.G., Zurich, Switzerland, a corporation of Switzerland
 Original application Mar. 24, 1961, Ser. No. 98,041.
 Divided and this application Oct. 23, 1965, Ser. No. 503,990
 Claims priority, application Denmark, Apr. 6, 1960, 1,319/60
 2 Claims. (Cl. 68—9)

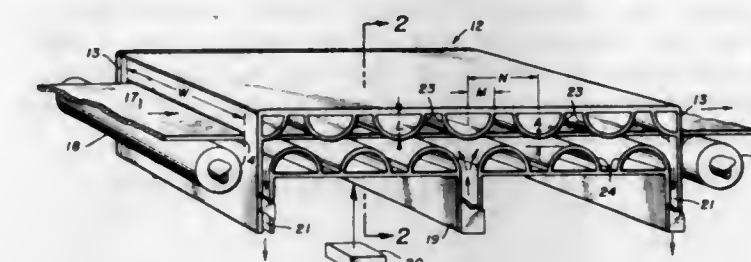


1. An apparatus for the treatment of textile goods made from synthetic yarn material comprising a plurality of strands, comprising a vessel for a shrinking liquid, at least one vessel for a neutralizing liquid, a pair of synchronously travelling and spaced conveyor chains with the space between the chains being open, each one of the chains extending along opposite sides of the vessels in paths diving into and rising from the vessels, and suspending bars extending between the said pair of chains and being constructed with suspending means for the textile goods to be treated as they travel through the vessels out of contact with and in the space between the chains.

3,343,382
WASHING APPARATUS
 Ernest A. Taylor, Jr., Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
 Filed Dec. 29, 1966, Ser. No. 605,705
 5 Claims. (Cl. 68—181)

1. An apparatus for treating a moving strand, comprising an elongated chamber having therein an inlet opening and an outlet opening, means for forcing a treating medium into the inlet opening and through the chamber to the outlet opening, said chamber having on opposite sides of the interior thereof a plurality of spaced protuberances for deflecting said treating medium from one side of the chamber to the other, said protuberances each having a convex surface configuration, said protuberances

on one side of the chamber being spaced longitudinally from the protuberances on the other side of the chamber in such a manner that each of said protuberances is positioned at the longitudinal midpoint between adjacent protuberances on the opposite side of the chamber, said



protuberances having a height L, a base width 2M and a spacing between centers N, where

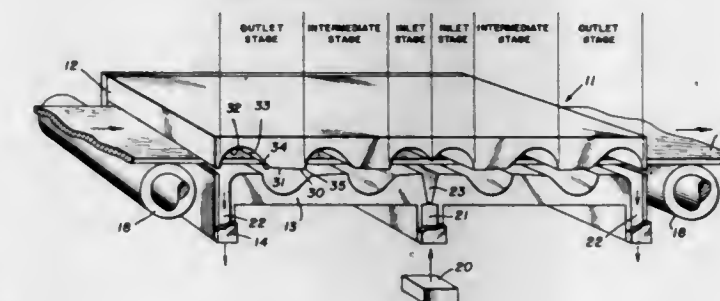
$$L=4-10A$$

$$M=6-12A$$

$$N=16-32A$$

where A is the distance from the plane defined by the apices of the protuberances on one side of the chamber to the plane defined by the apices of the protuberances on the other side of the chamber.

3,343,383
WASHING APPARATUS
 Ernest A. Taylor, Jr., Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
 Filed Dec. 29, 1966, Ser. No. 605,921
 3 Claims. (Cl. 68—181)



1. Apparatus for treating a moving strand; comprising an inlet stage for introducing a treating medium to the apparatus; a treating stage connected to the inlet stage and an outlet stage connected to the treating stage for conducting the treating medium from the apparatus; said treating stage having an upper portion, a lower portion and side walls; said upper and lower portions and side walls forming a chamber through which the treating medium and the strand pass; said chamber having a width slightly greater than the width of said strand; said upper portion extending upward from an upper horizontal plane; said lower portion extending downward from a lower horizontal plane; said planes being spaced apart a distance A; said upper portion having a first flat surface lying in said upper plane and extending downstream from the entrance end of said treating stage a distance L; said upper portion having a second flat surface connected to the first flat surface and extending upward and downstream therefrom; said second flat surface being positioned at an angle θ to said upper plane; said second flat surface extending downstream a distance M; said upper portion also having a concave cylindrical surface extending laterally thereacross; said cylindrical surface having a radius R, the downstream extremity of said cylindrical surface terminating in a sharp edge lying in

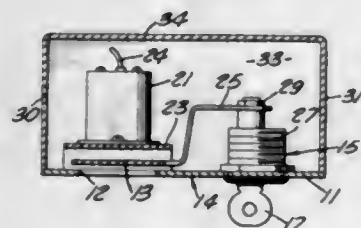
said upper plane; the axis of said cylindrical surface lying in said upper plane; said axis being spaced downstream from the entrance end of said treating stage a distance N ; said upper portion also having a third flat surface tangent to said cylindrical surface and extending upstream at an angle α relative to said upper plane; said upper portion also having a convex arcuate surface leading from the downstream end of said second flat surface to the upstream end of said third flat surface; said arcuate surface being tangent to said second and third flat surfaces and having a radius R' ; wherein

$A=1.5-15$ times the thickness of the strand
 $L=0-10A$
 $M=4-18A$
 $N=16-50A$
 $R=4-14A$
 $R'=2-10A$
 $O=1.5-10A$
 $\theta=0.5-8^\circ$
 $\alpha=10-90^\circ$;

said lower portion having an upper surface which is a mirror image of the lower surface of the upper portion; said lower portion having the surface configuration thereof so displaced longitudinally that the sharp edges at the downstream extremity of the cylindrical surface of the lower portion is positioned a distance O from said third flat surface of said upper portion, where

$O=2-5A$

3,343,384
LOCK FOR TELEPHONE RECEPTACLE
 Robert D. Barr, 5945 Cloverly Ave.,
 Temple City, Calif. 91780
 Filed Aug. 5, 1965, Ser. No. 477,479
 2 Claims. (Cl. 70-159)



1. A locking device for a telephone receptacle, comprising:

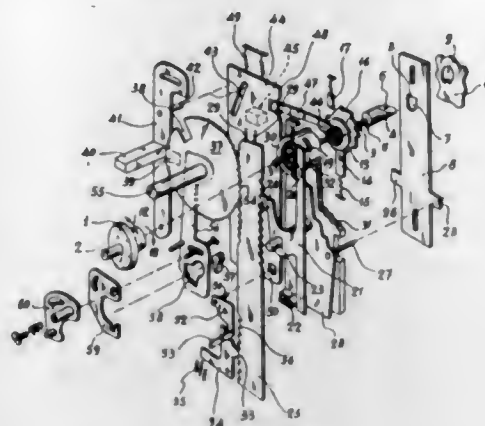
- a compartment including a panel having an opening therein,
- a telephone receptacle mounted upon support means within said compartment, said support means supporting said receptacle away from said panel and in alignment with said opening,
- a lock having a cylinder mounted at least partially within said compartment, and
- shutter means pivotally connected to said lock so that when said lock is in a first condition, said shutter means is positioned between said receptacle and said opening, thereby obstructing access to said receptacle through said opening, and when said lock is in a second condition, said shutter means is not positioned between said receptacle and said opening and thereby does not obstruct access to said receptacle through said opening, said shutter means having a bent configuration such that when it is positioned between said receptacle and said opening, a first extremity of said shutter is in close proximity to said opening, and a second extremity of said shutter is connected to said lock in spaced relationship to said panel whereby the cylinder of said lock is positioned between said second extremity and said panel.

3,343,385
SAFETY LOCK

Antonio Soler Marti, Jose Soler Marti, Juan Soler Marti, and Mario Soler Marti, all of Rambla de Catalunya, 10, Barcelona, Spain

Filed Apr. 16, 1965, Ser. No. 448,779
 Claims priority, application Spain, Apr. 24, 1964,
 299,140

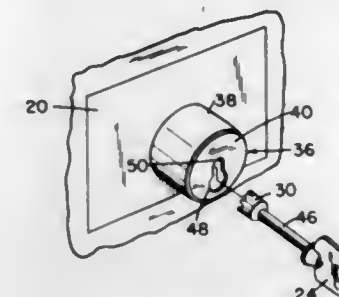
5 Claims. (Cl. 70-313)



1. A safety lock comprising a plurality of superposed discs each having a notch and a toothed portion on the circumferential edge thereof, an axle on which said discs are freely rotatably mounted, a plurality of toothed strips, one for each of said discs, and each having a toothed portion on one edge thereof engageable with the toothed portion of one of said discs, and a toothed portion on the opposite edge thereof, a plurality of levers, one for each toothed strip and each having a tooth thereon engageable between the teeth of said toothed portion on said opposite edge of said strip, and a finger portion spaced from said tooth, a lever carrying plate on which said levers are pivotally mounted in superimposed position, said lever carrying plate being vertically reciprocally movable, a rotatable selector axle having a knob on one end thereof and extending between the space between said teeth and said fingers on said levers and provided with a plurality of grooves axially and circumferentially spaced from each other and adaptable to receive one of said fingers on said lever on rotation of said selector axle in a first direction, spring means bearing against said lever urging said fingers into engagement with said grooves, whereby when a finger engages a groove the tooth on the lever is engaged with one of said strips, said selector axle having a longitudinally extending bore therethrough, a feeler axle mounted for longitudinal reciprocation in said selector axle bore and having a knob on one end thereof adjacent said selector knob, the other end of said feeler axle fixedly attached to a wedge member having an inclined surface, a feeler plate mounted for vertical reciprocation having adjacent one end an aperture therein to receive said wedge member and adjacent the other end projecting means engageable with said lever carrying plate whereby on longitudinal reciprocation of said feeler axle a predetermined number of times the inclined surface of said wedge is received in the aperture of said feeler plate to move the same upwardly so that the projecting members thereof engage said lever carrying plate to move said plate upwardly and in turn causing the tooth of said lever to move upwardly a predetermined number of times whereby said disc is rotated through a predetermined angle to locate the notch thereof at a preselected position, an axially extending bar mounted on a pivotable lever, said bar bearing against the periphery of said notched discs, said pivotable lever being in camming engagement with a vertically reciprocable locking plate, spring means urging said locking plate in a locking position, second pivotable lever means engaging at one end thereof with said locking plate and at the other end with pawl means provided on said selector axle whereby

on locating said notches of said discs at said preselected position to receive said axially extending bar said selector axle is rotated in a second direction so that said pawl means engages said second pivotable lever means engaging said locking plate thereby urging said locking plate into an unlocking position and simultaneously urging said axially extending bar into said notches.

3,343,386
ANTI-PROBE DEVICE FOR KEY LOCKS
 Mitchell A. Hall, 445 Rossford Ave.,
 Fort Thomas, Ky. 41075
 Filed Nov. 15, 1965, Ser. No. 507,867
 21 Claims. (Cl. 70-423)

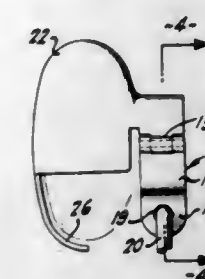


1. A protective device for a key actuated lock having a lock body, and a head portion including a keyhole for receiving a shank and an adjacent actuating head of a key whose head is larger than the shank thereof, said device comprising a hollow shield member for substantially covering the head portion of the lock, said shield member having a forward wall apertured for receiving a portion of a key, said forward wall and aperture being spaced from the head portion and the keyhole therein to provide a chamber intermediate said forward wall and said head portion, to interfere with unauthorized probing of the lock through the keyhole thereof, the aperture of the forward wall of the shield comprising an enlarged portion larger than the shank of the key, and a narrow slot projecting from said enlarged portion, said slot being larger than the key shank, smaller than the actuating head of the key, and smaller than the keyhole of the lock, whereby said narrow slot blocks a portion of the lock keyhole; the enlarged portion of the shield aperture being offset as to alignment relative to the keyhole of the lock, and a portion of the narrow connecting slot being in alignment with said lock keyhole, whereby alignment of the key head for insertion thereof into the keyhole of the lock necessitates an initial insertion of the key head through the enlarged portion of the shield aperture, followed by a lateral bodily shifting of the key for placing the shank thereof within the narrow connecting slot of the shield aperture and in alignment with the keyhole of the lock; and means fixing the shield member relative to the keyhole of the lock, to prevent unauthorized access to said keyhole.

3,343,387
DOOR KNOB SHIELD AND LOCK
 Aldrich Blake Cochran, San Francisco, Calif., assignor to Joe Paoli, San Francisco, Calif.
 Filed Apr. 16, 1965, Ser. No. 448,744
 4 Claims. (Cl. 70-424)

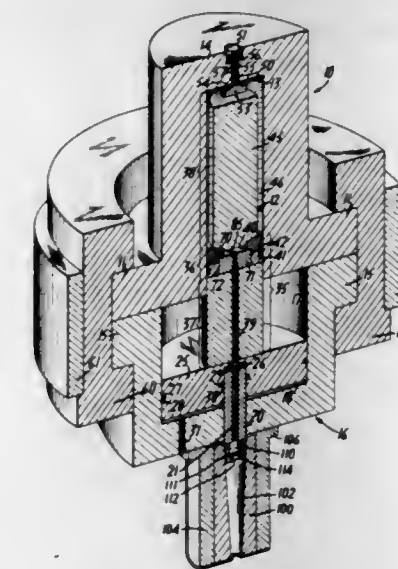
1. A shield for door knobs having key actuated lock mechanism extending axially therethrough with a key hole in the outer end of the knob comprising a collar formed as a center section of substantially semi-circular shape arranged to seat upon a stem portion of a knob between the knob and a door, and a pair of end sections of substantially quadrant shape pivotally hinged to the ends of the center section and arranged to substantially

encircle said stem a shroud attached to the center section of the collar and shaped to extend over the keyhole when the collar embraces the stem; and means upon opposing



end sections of the collar arranged to be engaged by separate locking means operable to lock the collar and shield onto the knob.

3,343,388
RAPID EXTRUSION DEVICES
 Alexander Zeitlin, White Plains, and Jacob Brayman, Staten Island, N.Y., assignors to Barogenics, Inc., a corporation of New York
 Filed June 2, 1964, Ser. No. 372,066
 9 Claims. (Cl. 72-56)

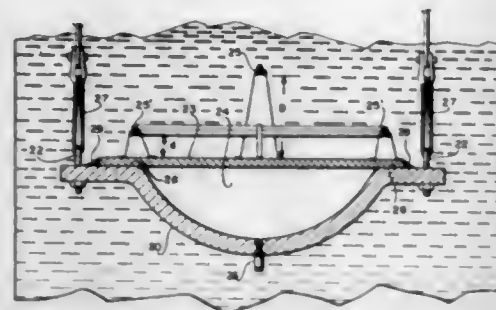


1. In a rapid extrusion device having means for imparting high energy to a billet of material and die means through which the billet is urged by the energy to form an extrusion, the improvement in combination therewith of a member having a channel aligned with the path of the extrusion, and a plug disposed in said channel and movable therein, at least one of said member and said plug being compressible and cooperating with the other to provide a predetermined frictional force resisting movement of the extrusion through said channel.

3,343,389
HIGH ENERGY RATE FORMING APPARATUS AND METHOD
 Frederick C. Hoffman, Los Altos, George E. Irving, Monte Sereno, Louis S. McCollum, Santa Clara, and Merle W. Heskett, Cupertino, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
 Filed Feb. 1, 1965, Ser. No. 429,223
 8 Claims. (Cl. 72-56)

1. A method of fabricating a metal work piece comprising the steps of: arranging a work piece to be formed within a mold shaped in a desired figuration; arranging an explosive charge above and around the outer edge of said work piece at a first standoff distance; arranging

a second explosive charge above the work piece at a second standoff distance; submerging the mold, work piece, and explosive charge in a fluid body; evacuating the region between the work piece and the top surface of the

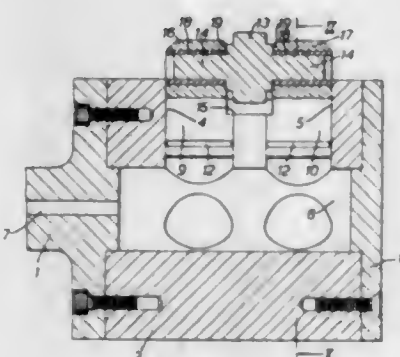


mold; and detonating said explosive charge in such a manner that the resulting explosion from the first charge strikes the work piece around the outer edge thereof before the second explosive charge strikes said work piece.

3,343,390

TOOLS FOR FINISHING SURFACES

Claude Spencer Harris, Love Lane, Cirencester, England
Filed Feb. 1, 1965, Ser. No. 429,343
Claims priority, application Great Britain, Jan. 31, 1964, 4,151/64, 4,152/64; Mar. 6, 1964, 9,539/64
8 Claims. (Cl. 72-122)



1. A rolling head having a rotatable body part, a plurality of rotatable rollers which are angularly spaced around an outer periphery of the body part and each of which is mounted on the body part for independent floating movement radially of the head, and two hydraulic pistons associated with each roller and slidable in separate parallel and adjacent bores in the body part, each roller being mounted between the corresponding two pistons, with rotational axes of the rollers being skewed through a small angle relatively to the rotational axis of the head to provide a "lead-in" which causes or assists the rolling head to move progressively along a bore being finished.

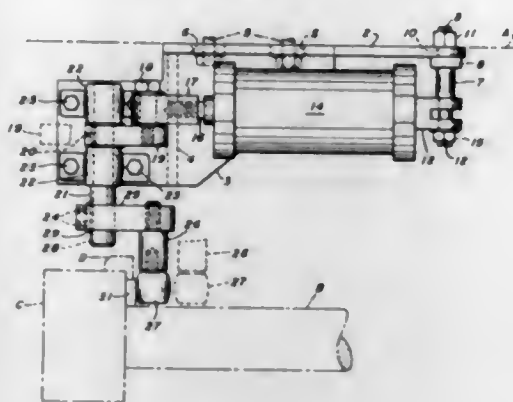
3,343,391

CHUCK END CONTROL DEVICE FOR HOT WOUND SPRINGS

Joseph P. Tempinski, Lower Burrell, Pa., assignor to Union Spring & Manufacturing Company, New Kensington, Pa., a corporation of Pennsylvania
Filed July 22, 1965, Ser. No. 474,004
3 Claims. (Cl. 72-142)

1. Apparatus for providing a flat bearing surface upon the initially forming end of an elongated helically coiled spring upon a conventional coiling machine having a rotating face plate against which the entering end of a hot bar abuts and a mandrel rotatable with said face plate and about which said hot bar is coiled, comprising,

a roller member freely rotatable about a vertical axis, means mounting said roller for selective advancement and retraction of said roller into engagement with said hot bar during the coiling operation, and means for selectively applying pressure upon said bar as it moves relative to said roller to maintain said

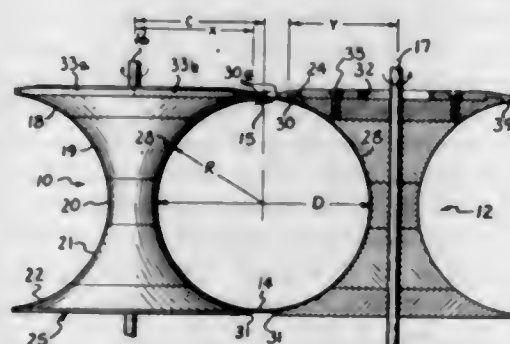


load bearing surface of the forming spring coil in a plane perpendicular to the longitudinal axis of the forming coil.

3,343,392

SYSTEM FOR CONVERTING FORMING ROLLS TO ACCOMMODATE VARIOUS SHELL DIAMETERS

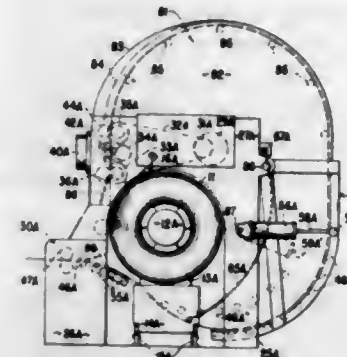
James J. Deegan, La Grange Park, Ill., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,956
13 Claims. (Cl. 72-182)



1. A roll for use in pressing a free edge of a metallic sheet into a Z-shaped strip preparatory to welding the opposite free edges together to form a generally cylindrical shell, said roll being generally spool-like in configuration including opposite end surfaces and an interconnecting arcuate surface having a radius generally corresponding to one-half the diameter of a first shell of given diameter, the junctures between said arcuate surface and said end surfaces, respectively, defining first and second annular flanges, said first flange having a radius a predetermined amount less than the distance between the centerline of the roll and the center of said first shell so as to permit accommodation of a second shell having a diameter smaller than said given diameter shell, means defining an annular removable cap separably mounted on said end surface adjacent said first flange, said cap means having an annular portion defining an enlarged annular flange adapted to encircle said adjacent first flange for increasing the radius of the latter by a predetermined amount, and said annular portion having an arcuate surface forming a continuation of and having a common radius with said inter-connecting arcuate surface for peripherally supporting a shell having a diameter greater than said second shell adjacent said Z-shaped strip.

3,343,393
SPACE SAVING STRIP STOCK UNCOILER WITH FEED LOOP

Alvin F. Groll, P.O. Box 391,
Napoleon, Ohio 43545
Filed July 17, 1964, Ser. No. 383,440
12 Claims. (Cl. 72-183)

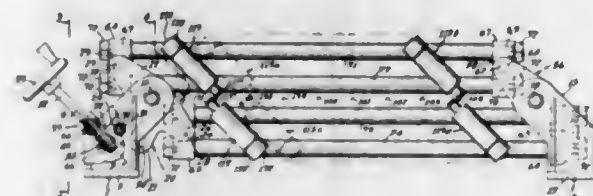


1. Apparatus for handling strip stock comprising a strip stock uncoiler; means on said uncoiler for rotatably mounting a coil of strip stock with its axis horizontal; a strip stock straightener above said coil mounting means and located to receive strip stock from a coil mounted on said coil mounting means; a support means for supporting the under surface of the strip stock and defining an arcuate path for straightened strip stock extending from said straightener with a radius of curvature sufficient to avoid developing a set in the straightened stock, said path turning downwardly, said support means having an extreme strip stock support station along said path and defining the point of support by said support means most remote laterally from said coil mounting means on the side of said coil mounting means opposite that from which said stock is withdrawn; means maintaining said extreme stock support station above a first open zone at a height sufficient to accommodate a loop of strip stock pendant from said extreme stock support station; a stock receiving means on the side of said coil mounting means from which the stock is withdrawn; and means maintaining said coil mounting means above a second open zone continuous with said first open zone to form a feed loop zone which is unobstructed to accommodate a range of lengths of feed loop of pendant strip stock between said extreme stock support station and said stock receiving means whereby the strip stock is maintained pendant in an unconstrained feed loop of variable length a portion of which is beneath said coil mounting means.

3,343,394

METAL STRIP EDGING APPARATUS

Walter Gauer, 48 S. 18th St., Kenilworth, N.J. 07033,
and Richard E. Hathaway, Colonial Road, Brookside,
N.J. 07926
Filed Apr. 27, 1964, Ser. No. 362,660
16 Claims. (Cl. 72-199)



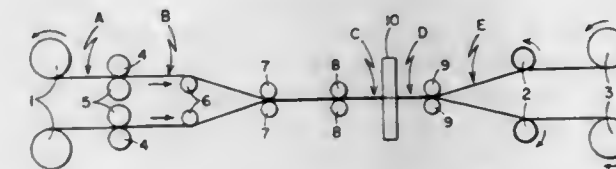
1. Apparatus for edging metal strip material, comprising first and second substantially cylindrical strip edging members, first and second edging member mount means, the edging members each being rotatably mounted on one of the mount means, a pair of elongated longitudinally movable carriage means, the mount means each being

secured to one of the carriage means, the carriage means being substantially parallel to each other and bridged at both ends by a lever means pivoted therebetween, the lever means being rotatably connected to the pair of carriage means, means for activating the levers about their pivots, whereby the carriage means are longitudinally movable relative to each other.

3,343,395

METHOD OF PRODUCING METAL IN ELONGATE FORM AND SEMIELLIPITICAL CROSS SECTION

Joseph P. Lagermasini, Towanda, Kenneth S. Roberts, Milan, and Joseph E. Smith, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 16, 1965, Ser. No. 464,318
5 Claims. (Cl. 72-206)

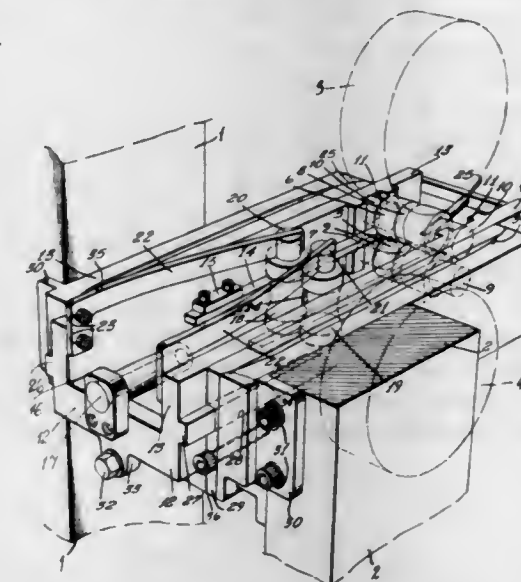


5. The process of producing half round wire which comprises simultaneously rolling two lengths of wire of circular cross section into lengths of flattened wire of generally rectangular cross section having a pair of opposed flat surfaces of width approximately double the thickness of the flattened wire, continuously orienting the two lengths in parallel arrangement with a flat surface of one length against a flat surface of the other length, drawing the two lengths simultaneously and at the same rate through a circular die having an opening of cross-sectional area less than the total cross-sectional area of the two flattened lengths to form each of the lengths into a length of wire of semicircular cross section and thereafter separating and separately reeling the lengths of semicircular cross section.

3,343,396

ARRANGEMENT IN ROLLING MILLS

Per-Olof Strandell, Bockstigen 3, Nasbypark, Sweden
Filed Nov. 20, 1964, Ser. No. 412,664
Claims priority, application Sweden, Nov. 26, 1963, 13,076/63
7 Claims. (Cl. 72-238)



1. A mill for rolling a workpiece comprising a roll stand; a supporting slide detachably mounted in said roll stand; a pair of working rollers for said workpiece mounted on said slide; said slide being adapted to slide with

respect to, and being removable from, said stand in a direction at right angles to the axes of said rollers; and means to lock said slide in a plurality of positions with respect to said stand.

3,343,397

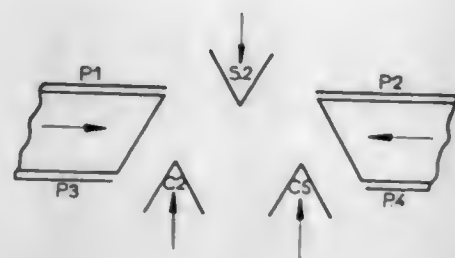
METHOD AND AUTOMATIC CORRUGATING MACHINE FOR IMPRESSING TWO INTERSECTING SETS OF PARALLEL CORRUGATIONS IN SHEET-METAL STOCK

Gilbert Fournier, Le Havre, and Jean Alleaume, Saint-Cloud, France; said Alleaume assignor to Technigaz, Paris, France, a body corporate of France

Filed July 1, 1964, Ser. No. 379,450

Claims priority, application France, Jan. 13, 1964, 960,086

16 Claims. (Cl. 72-375)



6. A method of providing a sheet, having at least one set of at least one continuous corrugation extending throughout said sheet in parallel relation to a first direction and projecting from a same side of said sheet, with at least one second set of at least one corrugation extending throughout said sheet in parallel relation to a second direction intersecting said first one, each corrugation being bounded, on either side thereof and outside of its intersecting regions, by smooth uncorrugated areas and each corrugation of said second set being divided into at least two wave sections by each corrugation of said first set, said method consisting in simultaneously forming, in a same and single shaping step through pure folding and bending without any stretching of the sheet material, on the one hand, at least one entire corrugation of the second set, by simultaneously driving in at least one sheet strip to form the crests of all wave sections thereof, and on the other hand, at least one pair of depressions recessed in and extending transversely of the crest of each corrugation of said first set on either side of and adjacent to its intersection with each corrugation of the second set, by transversely impressing the crest of each corrugation of the first set, at the same time, while enabling both sheet portions, located on either side of each corrugation of the second set, respectively, to gradually and freely move towards each other, as it is being formed in order to shorten the sheet in said second direction by an amount corresponding to the thus buckled portion being formed, whereas, simultaneously all the sheet portions, lying outside of the regions to be deformed, are kept invariable in their shape to retain in particular at least the cross-sectional contour of each corrugation of the first set during the whole shaping process while preventing it from being deformed during the latter.

3,343,398

CRIMPING PRESS

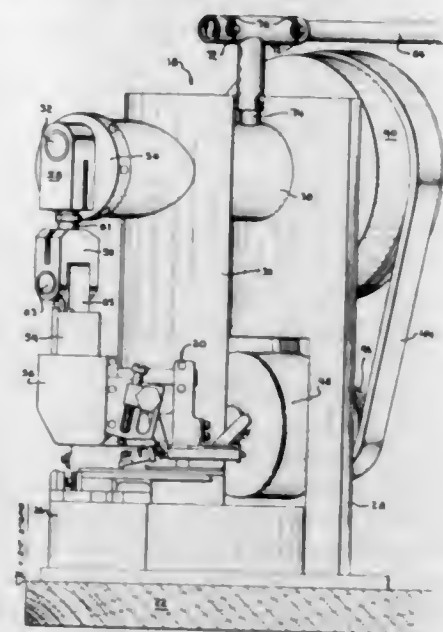
David Ronald Kerns, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Oct. 15, 1964, Ser. No. 404,051

3 Claims. (Cl. 72-413)

1. A bench press of the type adapted to have an applicator mounted thereon, said applicator comprising a reciprocable ram, crimping die means mounted on said ram,

and strip feeding means for feeding connecting devices in strip form to position the leading connecting device of said strip beneath said die means, said press comprising a press frame, first and second applicator supporting surfaces on said frame, said surfaces being coplanar and extending substantially normally of each other, said surfaces merging with each other in a common zone, applicator ram actuating means in said press above said common zone for coupling to said applicator ram and for imparting reciprocatory motion thereto, said press being mounted on a supporting surface having a front edge extending parallel to the side of one of said surfaces whereby, an applicator intended to apply connecting devices in ladder strip can be mounted on one of said surfaces and



an applicator intended to apply connecting devices in end-to-end strip form can be mounted on the other of said surfaces, and said connecting devices will be delivered to said common zone with the axes of their ferrule-forming portions extending normally of said front edge, a reel spindle for supporting a reel of said connecting devices, said spindle being mounted on said press frame and above the plane of said surfaces, said spindle being shiftable from a first position in which the axis of said spindle extends normally of said front edge to a second position in which said axis extends parallel to said front edge whereby, said spindle can be utilized for supporting reels of either end-to-end strip connecting devices or ladder strip connecting devices.

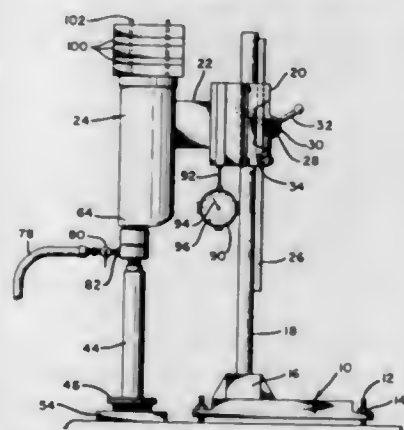
3,343,399

ABRASION TESTER

Richard C. Baker, 278 E. Blythedale, Mill Valley, Calif. 94941

Filed May 3, 1965, Ser. No. 452,684

7 Claims. (Cl. 73-7)



1. An abrasion testing apparatus for measuring the wear qualities of a test material with a generally flat horizontal surface, said apparatus comprising a row of rolling

abrading elements arranged in a circle and adapted to engage the surface of the test material, a retainer ring for maintaining said abrading elements in a circle, a rotary load plate positioned on said abrading elements, a drive shaft attached to said load plate and extending upwardly therefrom, means for rotating said drive shaft, means for applying a load on said elements through said load plate to provide a high contact stress between said abrading elements and the surface of the test material, and means for raising the drive shaft and attached load plate to remove the load plate from the abrading elements, said abrading elements and retainer ring comprising a separate unit which is removable from the test material when the load plate is raised.

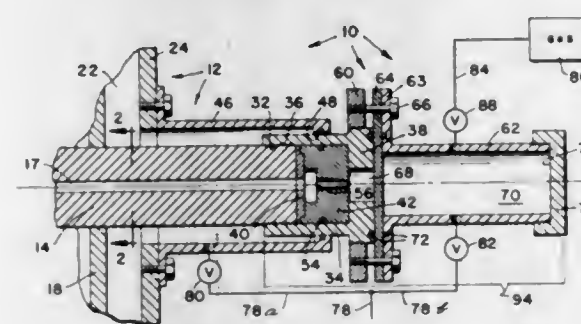
3,343,400

IMPACT TEST APPARATUS

James W. Rogers, deceased, late of Ridgecrest, Calif., by Bernice Parks Rogers, representative, Ridgecrest, Calif., and Marvin E. Backman and Robert G. S. Sewell, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 2, 1965, Ser. No. 460,602

3 Claims. (Cl. 73-12)



1. In combination with a smooth bore impact test gun of the type for impelling a projectile along a rectilinear trajectory, apparatus for use in investigating the results of impact of a fragment of a sample of a specimen metal material against a rigid impact surface in an effectively sealed chamber for containing a sample of a specimen of a gaseous medium, comprising:

- said gun having a barrel with a front end and being of a type having a gas venting barrel extension and having a vacuum chamber surrounding the barrel extension, the wall of the barrel extension containing a plurality of longitudinally extending lateral openings equiangularly spaced about the bore axis to vent the gun propellant gases from behind a projectile during the period same travels along the barrel extension, said vacuum chamber having evacuation port means for connection to a vacuum line,
- a first cylindrical housing defining a cylindrical space adjoining the front end of muzzle extension, said first housing being rigidly connected to the front end of the gun barrel in coaxially aligned relationship about the gun bore axis, said space enclosed by said first housing communicating with the interior of the vacuum chamber through the bore and lateral openings of the barrel extension,
- a second coaxially aligned cylindrical housing, said second housing disposed axially adjacent the front end of the first housing and having evacuation and gas entry port means for evacuating gas from the interior of the second housing and for admitting a precisely metered sample of a specimen gaseous medium thereto,
- a specimen plate of said specimen metal material disposed between the first and second housings and transversely across the projectile trajectory path from the gun,

- a pair of flanges, one rigidly affixed to the forward end of the first cylindrical housing, and the other to the rearward end of the second cylindrical housing, the flanges having confronting faces, and means to rigidly fasten said flanges together with their respective faces in clamping and sealing engagement against opposite faces of the specimen plate, said specimen plate forming a rupturable wall between the interiors of the first and second housings,
- a closure affixed over the front end of the second housing, the interior surface of the closure forming the rigid impact surface against which the fragment of specimen metal material is impacted,
- a sleeve support block having a coaxially aligned tapered bore extending between its ends and rigidly supported in said space within the first housing, the sleeve support block having its outer surface in gas sealing engagement with the wall of the first cylindrical housing, said tapered bore having its maximum internal diameter at the bore opening at the rear end of the sleeve support block, which maximum internal diameter is equal to the internal diameter of the gun bore, said diameter of the bore decreasing in the forward direction along the sleeve support block,
- a tapered walled sleeve of ductile material fitted into the tapered bore of the sleeve support block, said tapered walled sleeve having a uniform diametered bore between its ends, the wall thickness decreasing in the forward direction to provide an outer sleeve surface matched to fit the tapered bore of the sleeve support block, the rear end of the sleeve forming a transverse annular sabot impact surface,
- a first projectile forming a sabot for forward propulsion along the bore of the gun and barrel extension and for exit from the front end of the barrel extension along a rectilinear trajectory, said sabot projectile being of an external diameter essentially equal to that of the gun bore for engagement with the internal surface of the bore, said first projectile at its front end forming an annular transverse impact surface confronting the impact surface at the rear end of the tapered wall sleeve,
- a second projectile for punching out a sample of the specimen plate, said second projectile being separately carried by the first projectile at its front end in the central zone inside the impact surface,
- the construction and arrangement of the first and second projectiles, the sleeve support block, and the tapered walled sleeve being such that upon impact of the transverse impact surfaces of first projectile and the tapered walled sleeve, the tapered walled sleeve is constrained against forward axial movement by constriction effects provided by the forwardly decreasing diameter of the tapered bore in the sleeve support block, and the second projectile separates from the first projectile and passes through the bore of the tapered wall sleeve and out of the front end of the latter along a rectilinear trajectory into collision with the specimen plate to punch out and impel a fragment of the latter into impact with the impact surface at the front end of the gas and impact chamber, and such that after said second projectile has passed through the bore of the tapered walled sleeve the energy imparted to the tapered walled ductile sleeve by the impact of the first projectile causes the tapered walled sleeve to collapse to close and hermetically seal the bore of the sleeve support block to prevent escape of the gases flowing from the interior of the second housing through the fractured specimen plate, said second projectile accelerating to a velocity greater than that of the first projectile under the energy imparted thereto by the impact between the projectile and the tapered walled sleeve.

3,343,401

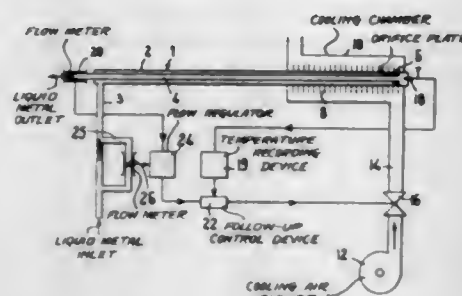
METHOD AND APPARATUS FOR CONTINUOUSLY MEASURING LIQUID METAL OXIDE SATURATION TEMPERATURES

Jean-Paul Delisle, Manosque, Basses-Alpes, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed June 1, 1964, Ser. No. 371,693

Claims priority, application France, June 14, 1963, 938,208

9 Claims. (Cl. 73-17)



1. Device for the continuous measurement of the oxide saturation temperature of a liquid metal, said device comprising a conduit for the circulation of liquid metal which is partially obturated at one point by a perforated plate, characterized in that said conduit comprises an economizer consisting of two coaxial tubes wherein one tube is an outer tube for the admission of hot liquid metal and the other is an inner tube for the discharge of cooled metal liquid which has passed through the perforated plate, a cooling unit placed around said economizer in the vicinity of the perforated plate, a thermometric element for measuring the temperature of liquid metal adjacent said plate, a flow meter for measuring the rate of outflow of said metal and means for automatically controlling the cooling unit in dependence on a constant value of the flow rate and in dependence on a stable partial precipitation of the oxide of the metal within the perforation of said plate.

3,343,402

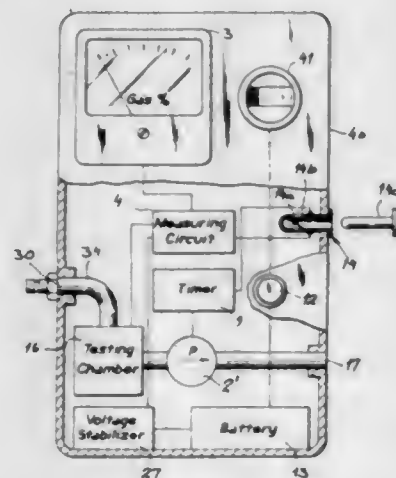
GAS ANALYZER WITH TESTING MODE

Rolf Hübner, Gabelsbergerstr. 31, Dortmund, Germany

Filed Mar. 16, 1965, Ser. No. 440,223

Claims priority, application Germany, Mar. 19, 1964, H 52,104

7 Claims. (Cl. 73-23)



1. In a gas analyzer having electrically actuatable gas-aspirating means communicating with the ambient atmosphere; electrically operable measuring means including sensing means for the analysis of aspirated gas and indicator means responsive to said sensing means for providing a measurement derived from said analysis; a source of electric potential for operating said gas-aspirating

means and said measuring means; and electrically operable timer means for connecting said source with said gas-aspirating means and with said measuring means for actuating the latter after a predetermined period of operation of said gas-aspirating means, the improvement which comprises:

testing-switch means for inactivating said timer means to permit nondelayed operation of said measuring means.

3,343,403

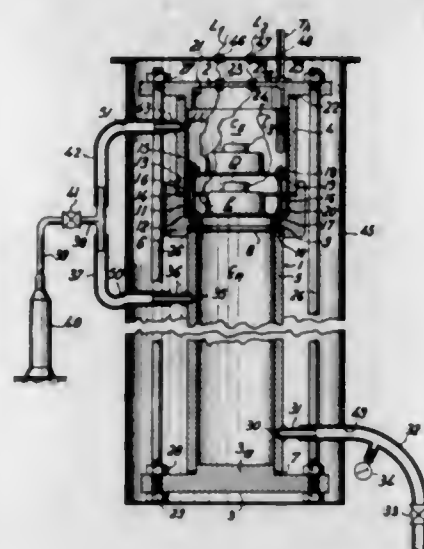
APPARATUS FOR THE MEASUREMENT OF THE VELOCITY OF SOUND IN A GAS

Lucien Romanl, Le Plessis-Robinson, Jean Meuwese, Saint-Maur, and Claude Frierese, Clamart, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 13, 1964, Ser. No. 337,373

Claims priority, application France, Jan. 28, 1963, 922,831

7 Claims. (Cl. 73-24)



1. Apparatus for the absolute measurement of the velocity of sound within a gas comprising, means forming a fully enclosed resonance cavity having the shape of a right circular cylinder and having one base formed by a thin fluid-tight diaphragm; means forming an excitation cavity which is external to said resonance cavity and includes a portion of said diaphragm as a wall thereof; excitation means housed within said excitation cavity for generating vibrations; means housed within said excitation cavity for detecting vibrations; means for filling said cavities with gas; and means for discharging said gas from said cavities.

3,343,404

NON-DESTRUCTIVE QUICK LEAK TESTER

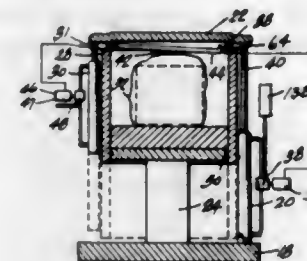
William A. La Rosa, Canoga Park, and James A. Sargeant and Edgar P. Troeger, Los Angeles, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Feb. 10, 1965, Ser. No. 431,625

4 Claims. (Cl. 73-49.3)

1. A non-destructive quick leak tester comprising: a variable volume cabinet within which a package under test may be placed, said cabinet having a roof thereon that may be vertically adjustable to vary the volume within said cabinet; means for adjusting said roof vertically to vary the volume within said cabinet and to bring said roof into a predetermined vertical relationship with said package;

a sensing device mounted under said roof for establishing said predetermined vertical relationship of said roof with said package;



means for reducing pressure within said cabinet to thereby cause said package to bulge; and indicating means to indicate whether said package is in a bulged condition.

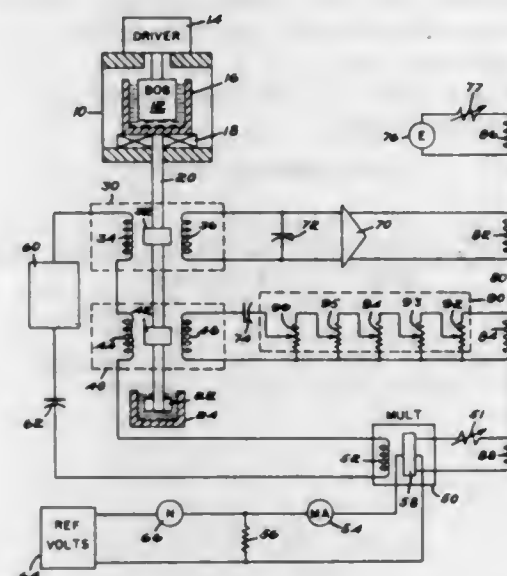
3,343,405

VISCOMETER

Philip J. Gillson, Jr., 8 Fuller Road, Chelmsford, Mass. 01824; Charles R. Dauwalter, 56 Hinckley Road, Waban, Mass. 02168; and Edward W. Merrill, 56 Stone Road, Belmont, Mass. 02178

Continuation of abandoned application Ser. No. 176,261, Feb. 28, 1962. This application Jan. 27, 1965, Ser. No. 428,314

2 Claims. (Cl. 73-59)



1. In a viscometer having two relatively rotatable elements shaped, dimensioned, and disposed to provide an annular space between them for fluid the viscosity of which is to be measured, means for rotating one of said elements, the other element rotating in response to the viscous drag of the fluid in said space, electrically operated means comprising first and second microsensors whose rotors turn with said other element, said electrically operated means including a circuit for connecting the primaries of said microsensors to a power source and a circuit interconnecting the secondaries of the two microsensors as a closed feedback loop with the secondary of the first microsensor being the input, said first microsensor thus being a signal generator, and the secondary of the second microsensor being the output, the second microsensor thus being a torque generator, said closed feedback loop also including an amplifier, a pair of windings of a transformer, and an adjustable attenuator whereby angular displacement of the rotor of said first microsensor relative to its stator due to the viscous drag of said fluid results in torque being applied by the second microsensor to counterbalance said displacement in terms of an attenuated output derived from and in a predetermined ratio to an unattenuated and

amplified input, both proportional to said angular displacement, a third transformer winding and electrically operated means including said third transformer winding to measure the countering force in terms of said amplified, unattenuated input.

3,343,406

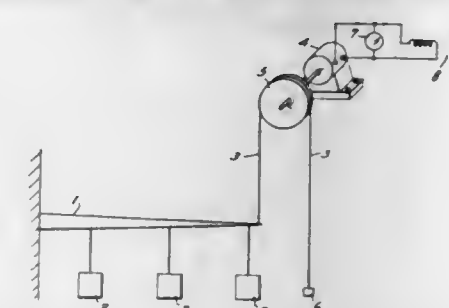
PAUSE DETECTOR FOR CREEP TEST LOADING MACHINES

Jürg Branger, Lucerne, Switzerland, assignor to Eidgenössisches Flugzeugwerk, Emmen, Lucerne, Switzerland, a company of Switzerland

Filed Feb. 17, 1964, Ser. No. 345,520

Claims priority, application Switzerland, Feb. 20, 1963, 2,224/63

4 Claims. (Cl. 73-90)



1. In combination with a fatigue behavior testing machine for solid structures in which loads are to be applied at time intervals such that a new load is to be applied to the structure to be tested only after the structure has reached a final position under application of a preceding load, an indicator arrangement for indicating the moment the test structure has reached said final position, said indicator arrangement comprising an electric generator having a rotor; transmission means connecting a portion of the test structure which is deflected during application of a load to said rotor to drive the latter for the duration of movement of said portion during application of a load to said structure so as to produce an electric current; and signal means in circuit with said generator for signaling cessation of the current and thereby indicating the moment the test structure has reached its final position so that the next load may be applied thereto.

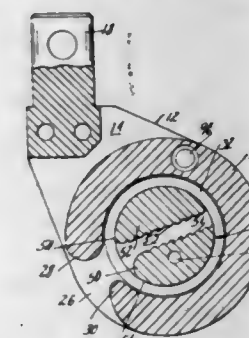
3,343,407

MATERIALS TESTING GRIP

Ronald C. Cavanaugh, Holbrook, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Filed May 26, 1965, Ser. No. 458,865

8 Claims. (Cl. 73-103)



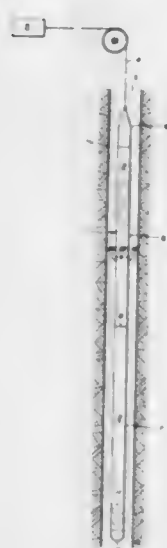
1. A grip for use in testing a specimen, comprising a frame; a first capstan supported by said frame and having a first specimen receiving surface; a second capstan having a second specimen receiving surface and mounted for rotation relative to said first capstan about an axis parallel to both of said receiving surfaces;

one of said capstans having a securing portion for securing an end of said specimen and being mounted inside the other capstan;
 said other capstan having an opening through its specimen receiving surface communicating with the specimen receiving surface of said one capstan, said opening being sized to admit said specimen; and
 a locking member having a locked position in which relative rotation of said capstans is prevented and an unlocked position in which said rotation is permitted.

3,343,408

TRACER INJECTOR AND DETECTOR

Robert Mayer, Jr., Dallas, Tex., assignor to Well Reconnaissance, Inc., Dallas, Tex., a corporation of Texas
 Filed May 13, 1963, Ser. No. 280,050
 6 Claims. (Cl. 73-151)



1. A device for determining conditions in a well comprising a container supportable by a cable within said well, a cylindrical chamber in said container for storing a fluid tracer, a piston slidable in and sealingly engaging a side wall of said chamber for ejecting substantially all of said tracer therefrom, motor means in said container and controllable from the surface for intermittently driving said piston at a predetermined rate in said chamber and thereby determining the exact quantity of said tracer ejected from said chamber in any ejection, and sensing means in said container for sensing the tracer so injected.

3,343,409

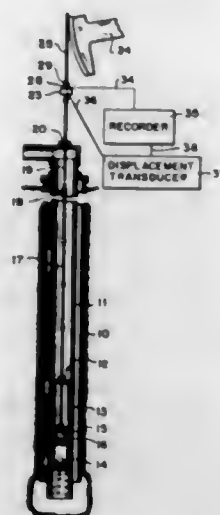
METHOD OF DETERMINING SUCKER ROD PUMP PERFORMANCE

Sam G. Gibbs, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
 Filed Oct. 21, 1966, Ser. No. 596,371
 3 Claims. (Cl. 73-151)

1. A method of determining the performance characteristics of a pumping well wherein a reciprocating pump is located below the fluid level of the well and has a piston therein with a sucker rod string extending upward to a polished rod which is connected to a reciprocating prime mover means at the top of the well, said method comprising:

- measuring the area of each rod size in the sucker rod string, the combined length of the rods in the sucker rod string, the weight of the sucker rods and the pump, and the weight of that portion of the sucker rod hanging in said fluid;
- actuating said sucker rod string to reciprocate the pump, whereby said pump piston generates acoustic waves which move along the sucker rod;

- measuring and recording the load and displacement of the polished rod as functions of time;
- selecting a depth within the well to be investigated and combining the corresponding components of the size and weight data measured in step (a) with the load and displacement versus time data measured in

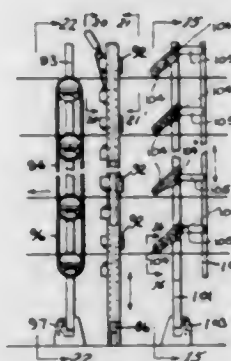


step (c) as the boundary conditions for a wave equation which describes the linear vibrations in a long slender rod, to determine the corresponding forces and displacements in the sucker-rod stream at the selected depth; and
 (e) plotting a curve of the load versus displacement for the selected depth.

3,343,410

APPARATUS FOR DETECTING CREEL CORD IRREGULARITIES

Louis J. Cashore, 113 E. 7th Ave.,
 Conshohocken, Pa. 19428
 Filed Mar. 18, 1965, Ser. No. 440,822
 21 Claims. (Cl. 73-160)



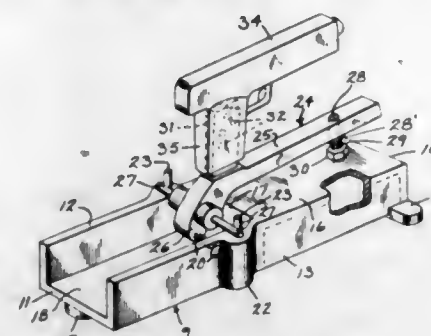
1. Apparatus for detecting abnormally tensioned cords in an array of parallel cords normally moving in a substantially common plane under predeterminedly established uniform tension comprising, in combination, cord-marking means disposed adjacent each cord of the array in non-contacting uniformly spaced relation thereto, cord deflector means also disposed adjacent each cord of the array in uniformly spaced relation thereto, said cord deflector means being formed of resilient material capable of yieldingly engaging the cords of the moving array, means operative to uniformly shift said deflector means into yielding engagement with the several cords of the array to thereby variably displace said cords out of their normal coplanar relation in accordance with

variations in tension of the cords from their predeterminedly established tension, and means for rendering said cord-marking means effective to mark discrete cords of the array as the same moves through said apparatus.

3,343,411

MACHINE RESTS FOR PISTOLS

Richard J. Lee, R.R. 2, Hartford, Wis. 53027
 Filed Sept. 10, 1965, Ser. No. 486,327
 6 Claims. (Cl. 73-167)

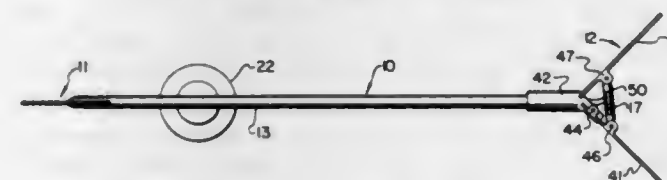


1. A pistol machine rest, comprising: a rectangular base member having a forward end and a rearward end, the forward portion of said base member having a flat top surface and the rearward portion having a bottom wall with a screw-receiving aperture therethrough, there being a transverse center wall defining said base forward and rearward portions; a pair of side walls on said base member, one of said side walls having a lateral positioning bolt projecting therethrough into the base interior rearwardly of said central wall; a pair of studs projecting upwardly from said base side walls rearwardly of said central wall; a pistol-support movably mounted on said base having an elongated leg adapted to be positioned substantially horizontally over the flat top surface of the base forward portion, and said pistol-support having a depending rearward end portion positionable with a side face thereof abutting said lateral positioning bolt; a pair of trunnions projecting laterally from the rearward portion of said pistol-support adapted to rest on the base side walls in abutting relationship to said upright studs, said studs and the lateral positioning bolt providing contact elements for repeatedly accurately locating said movable pistol-support in the same position on said base; a flat, upright mounting arm formed on the rearward portion of said pistol-support and projecting upwardly therefrom, said arm having a plurality of tapped bores therein permitting the hand grip of a pistol to be bolted thereto; and a vertical adjustment bolt threaded into the underside of said pistol-support horizontal leg adjacent the forward end thereof and resting on the top surface of said base member, said bolt being adjustable to raise or lower said leg to align said pistol-support with a target.

3,343,412

HORIZONTAL WIND DETECTOR

Allison B. Stout, Jr., Salt Lake County, Utah, assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
 Filed Sept. 17, 1964, Ser. No. 397,214
 5 Claims. (Cl. 73-189)



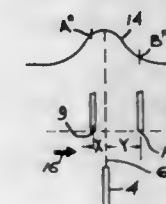
1. A horizontal wind detector, comprising a wind direction indicator including an elongate freely rotatable member weighted at one end and supported for rotation, so

as to assume positions indicative of wind direction; a pair of tail vanes at the other end of the rotatable member; means mounting at least one of said tail vanes for pivotal movement with respect to said rotatable member; means for resiliently restraining said pivotal movement; and sensing means positioned between said tail vanes to detect relative movement therebetween occurring in response to wind conditions.

3,343,413

FLUID FLOW MEASURING DEVICE

Peter South, Ottawa, Ontario, and John W. Tanney, Bell's Corners, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
 Filed Sept. 28, 1964, Ser. No. 399,612
 10 Claims. (Cl. 73-194)



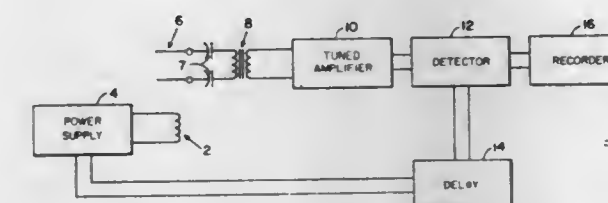
1. A device for measuring the velocity of a fluid stream comprising:

- a power nozzle,
- means for connecting said nozzle to a pressure source of said fluid to cause to issue from said nozzle a jet of fluid having an approximately Gaussian pressure distribution in a plane transverse to the axis of said jet,
- receiver means including first and second receiver mouths,
- means mounting said receiver means to space said receiver mouths from said nozzle substantially in the direction of flow of said jet, with each mouth oriented to receive fluid from said jet,
- means for locating said nozzle and said receiver mouths in said fluid stream with said jet extending directly across the stream direction,
- said means (e) including means for locating said first receiver mouth at a first distance upstream of said nozzle in said stream direction and means for locating said second receiver mouth downstream of said nozzle in said stream direction at a second distance greater than said first distance,
- and means connected to said receiver means for measuring the differential fluid pressure between said receiver mouths.

3,343,414

GAS VELOCITY PROBE FOR FLOWING IONIZED GASES

Charles M. Cason, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
 Filed Jan. 5, 1965, Ser. No. 423,612
 1 Claim. (Cl. 73-194)



A system for measuring the velocity of a flowing plasma comprising: a coil for producing a magnetic field at right angles to the direction of flow of the plasma; an alternating current power supply connected to said coil;

a plurality of wire electrodes disposed in said plasma and oriented parallel to the flow of plasma so that a line drawn between said electrodes is perpendicular to the magnetic field and plasma flow direction, said wire electrodes being positioned in a plane in the plasma where gradients in velocity of the plasma are perpendicular to the applied magnetic field; an isolation transformer having a primary winding connected to said electrodes; a tuned amplifier having its input connected to a secondary winding of said transformer; a detector having a first input connected to the output of said amplifier; a delay network connected to said power supply and to a second input of said detector; and an indicator connected to the output of said detector for providing an indication of the velocity of said plasma.

3,343,415

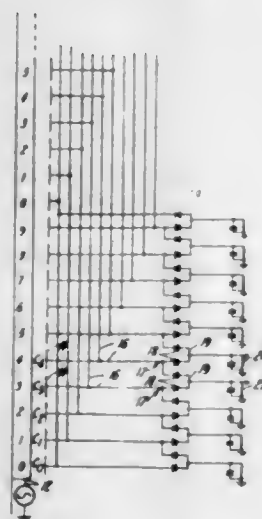
FLUID LEVEL SENSORS

James Stewart Johnston, Bognor Regis, England, assignor to Rosemount Engineering Company Limited, a British company

Filed June 2, 1965, Ser. No. 460,801

Claims priority, application Great Britain, June 4, 1964, 23,263/64

8 Claims. (Cl. 73—304)



4. A fluid level sensor comprising a probe for insertion in the fluid, a plurality of capacitors arranged on the probe at different levels in the fluid, connecting means for connecting the capacitors in parallel to an alternating current source, first and second pluralities of diode means, each diode means having an anode and a cathode, each of said capacitors being coupled to the anode of a diode means in said first plurality of diode means and to the cathode of a diode means in said second plurality of diode means, a plurality of junctions, each of said junctions being connected to the cathode of the diode means in said first plurality of diode means and to the anode of the diode means in said second plurality of diode means, a plurality of output terminals, and respective means connecting one of said junctions to one of said terminals.

3,343,416

LIQUID LEVEL TELEMETERING

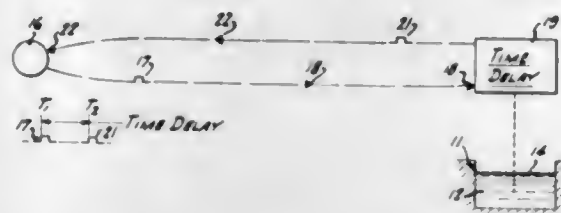
Franklin C. Chiang, Palo Alto, Calif., assignor to Hewlett-Packard Company, a corporation of California

Filed June 17, 1965, Ser. No. 464,791

5 Claims. (Cl. 73—313)

1. A liquid level telemetering system for monitoring the level of a liquid body, said system comprising: time delay means for delaying an electrical pulse, said time delay means being positioned out of contact with the liquid body; time delay control means for varying the time delay

of the time delay means in proportion to changes in the level of the liquid body; means for transmitting an electrical pulse from a measuring station to the time delay means; means for transmitting the same electrical pulse back



to the measuring station after it passes through the time delay means; and indicating means for indicating the time delay of the electrical pulse through the time delay means to provide an indication of the level of the liquid body.

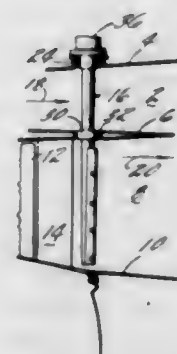
3,343,417

TEMPERATURE AND PRESSURE PROBE

Charles A. Peek, Jr., Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 12, 1965, Ser. No. 447,253

1 Claim. (Cl. 73—345)



The combination with a turbofan gas turbine engine having inner, intermediate and outer concentric annular duct walls defining inner and outer passages, the inner of which receives and conducts turbine exhaust gas and the outer of which receives and conducts fan air of a probe having a base attached in the outer wall, said base having a projecting finger extending substantially radially across both passages, said finger having an integral ring in alignment with the intermediate duct wall and slideably fitting in an opening therein, said ring being larger in diameter than the combined dimension of the portion of the finger and shield in the inner passage and substantially sealing the opening in the intermediate duct between the inner and outer passages, said finger also having a longitudinal passage therein and having a row of holes in one side thereof, said openings facing in an upstream direction with respect to the flow of gas in the passages, the dynamic pressure of the gases in both passages being transmitted to said longitudinal passage, means for sensing the average pressure in said longitudinal passage, a shield on the side of the finger opposite to the holes and on the part of the finger in the inner passage, said shield extending longitudinally of the finger and being open at one end, a plurality of uniformly spaced scoops on the shield open in the same direction as the openings in the finger, said scoops communicating with the interior of the shield, and a thermocouple located in the shield adjacent to the open end thereof.

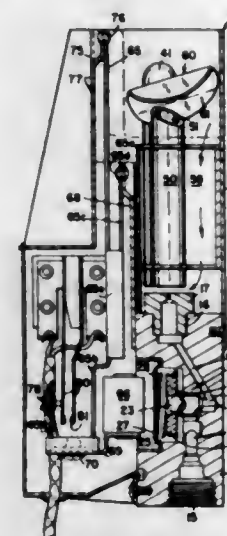
3,343,418

THERMAL RESPONSIVE ASSEMBLY

William H. Branche, Indianapolis, and Glen A. White, Westfield, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Original application Sept. 15, 1961, Ser. No. 143,992, now Patent No. 3,216,479, dated Nov. 9, 1965. Divided and this application Aug. 6, 1965, Ser. No. 487,349

1 Claim. (Cl. 73—363)



A thermal responsive assembly including a member comprising a first leg portion having an end fixedly secured to supporting structure and a generally U-shaped free end, a second leg having an end fixedly secured to a supporting structure, said legs being connected by a bridge portion with the area of attachment disposed intermediate the first leg and at the other end of the second leg; an adjustable bracket mounted on a first section of the U-shaped free end of the first leg, said bracket being effective to support valve actuation means; an adjustable switch actuator mounted on a second section of the U-shaped free end of the first leg; said adjustable bracket and actuator being effective upon warpage of the member in response to the application of heat to the first leg to effect valve and switch actuation.

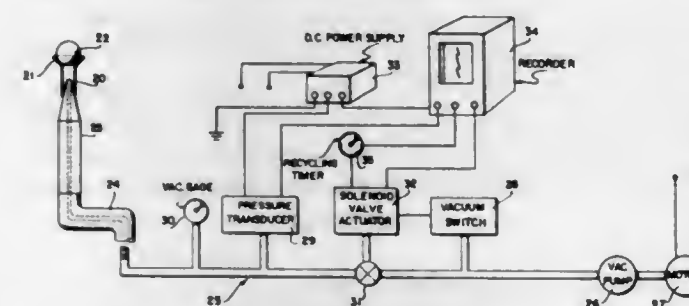
3,343,419

SURFACE ROUND INDICATOR

Carl A. Conrath, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Dec. 30, 1965, Ser. No. 517,643

4 Claims. (Cl. 73—37.5)



1. In a vacuum gauging system for measuring the roundness of a workpiece, the combination comprising a source of negative fluid pressure, air passage means operatively connected to said workpiece, a stopper means having a round outer surface positioned relative to said workpiece so that its round outer surface rests against the surface of said workpiece to be measured, pressure measuring means operatively connected into the system between the source of negative fluid pressure and the workpiece and means for isolating said system between the pressure measuring means and source of negative fluid pressure.

3,343,420

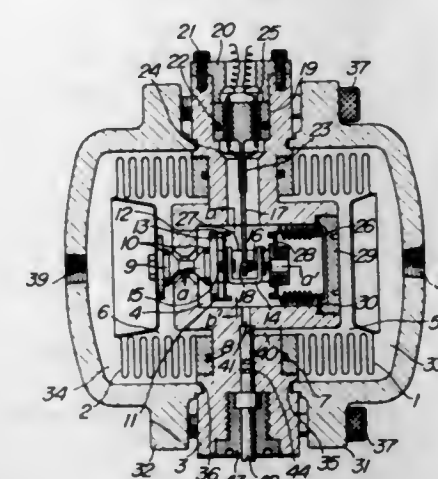
DIFFERENTIAL PRESSURE TRANSMITTERS

Hideo Kondo and Mitsuo Ai, Katsuta-shi, and Keiichi Sato, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Nov. 23, 1964, Ser. No. 413,146

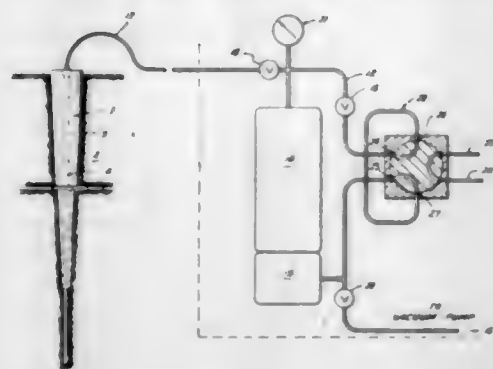
Claims priority, application Japan, Nov. 29, 1963, 38/63,747

4 Claims. (Cl. 73—398)



1. A differential pressure transmitter, comprising: an outer hollow generally sealed housing; a hollow body member mounted within said housing and having a central chamber; first bellows means mounted between one side of said housing and said body member for forming a first outer chamber between said first bellows means and said one side of said housing, and a first inner chamber between said first bellows means and said body member that is sealed with respect to said first outer chamber; second bellows means mounted between the other side of said housing and said body member for forming a second outer chamber between said housing other side and said second bellows means and a second inner chamber between said body member and said second bellows means that is sealed with respect to said second outer chamber; said first and second outer chambers being sealed with respect to each other; first passage means forming fluid communication between said first inner chamber and said central chamber and having first valve means therein for damping and preventing fluid pulsations through said first passage means; second passage means providing fluid communication between said second inner chamber and said central chamber and having second valve means therein for preventing excess differential pressures; rod means drivingly connecting said second valve means for movement with said second bellows means; a cantilever attached to said body member and extending into said central chamber; strain gauges bonded to said cantilever and having electrical connections extending through said body member to the outside of said housing; incompressible fluid filling said first and second inner chambers and said central chamber; said first inner chamber, said second inner chamber and said central chamber being sealed with respect to said first outer chamber; said second outer chamber and the exterior of said housing; a cantilever contact member; bimetallic temperature responsive means drivingly connecting said rod means and said contact member; said bimetallic temperature responsive means compensating for variations in temperature by providing relative movement between said rod means and said contact member in response to temperature changes; said cantilever and said contact member including means providing contact therebetween for bending the outer free end of said cantilever in response to movement of said contact member; range spring means drivingly connected between said body member and said rod means within said central chamber.

3,343,421
METHOD AND APPARATUS FOR EXTRACTING SOIL GAS SAMPLES
 Norvel L. Miller, 3827 Childress, Houston, Tex. 77005
 Filed Jan. 15, 1965, Ser. No. 425,879
 10 Claims. (Cl. 73-421.5)



3. A method of extracting soil gas samples from the soil comprising:
 inserting into the area of the soil to be tested, smaller end first, a tapered probe,
 said probe being characterized by a plugged longitudinal bore therein,
 thereby compacting the soil in the area adjacent the surface of the probe,
 removing the plug from said bore,
 drilling through said bore to effect a hole in the soil adjacent the lower end of said bore,
 inserting into said bore and hole a displacing rod adapted to displace as much gas as can feasibly be displaced while still affording fluid flow along the hole and bore, and
 removing the soil gas sample to be tested.

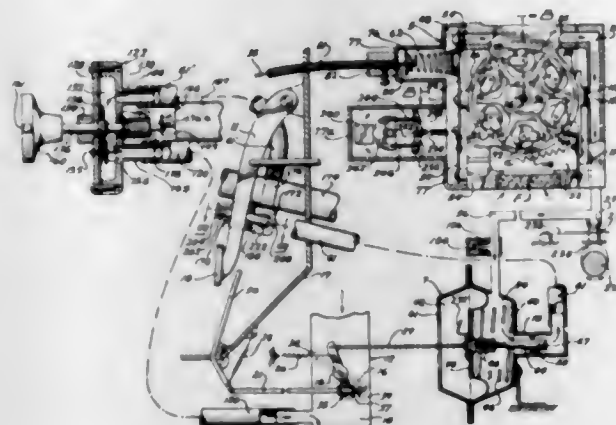
3,343,422
PIPETTE SAFETY DEVICE
 Dwight G. McSmith, 500 Chapel St., Hampton, Va. 23369
 Filed Aug. 12, 1965, Ser. No. 479,354
 10 Claims. (Cl. 425.6)



1. A mouth protective safety device for use with a pipette when extracting measured quantities of hazardous liquids comprising:
 a separable container,
 pliable means dividing said container into two compartments,
 first tubular means leading from one of said compartments and adapted to serve as a mouthpiece,
 second tubular means leading from the other of said compartments and adapted to frictionally engage a pipette, whereby

upon application of suction on said mouthpiece said pliable means will move in said one compartment toward said mouthpiece causing a partial vacuum in said other of said compartments and thereby permit the ambient air pressure to force a quantity of the hazardous liquid into said pipette without endangering the mouth to the liquid or its fumes.

3,343,423
AUTOMOTIVE SPEED CONTROL SYSTEM
 Robert H. Thorner, 8750-F W. Chicago Blvd., Detroit, Mich. 48204
 Filed Feb. 8, 1965, Ser. No. 430,910
 7 Claims. (Cl. 73-535)

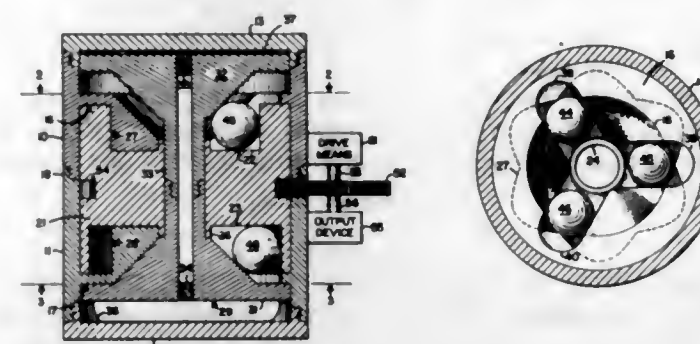


1. In a centrifugal weight mechanism to produce centrifugal forces acting on means operated by said mechanism, the combination of; a housing including a curved internal perimetrical surface, said surface including a fixed segment and a segment movable in a substantially radial direction in relation to said fixed segment and operatively associated with said operated means, weight means disposed within said housing and adapted to travel around said perimetrical surface, rotating means acting on said weight means to drive same around said surface and to urge said weight means against said surface as a result of centrifugal forces produced by said weight means varying as a function of the rotary speed of said rotating means, frictionless swingable means operatively connecting said weight means to said rotating means for enabling substantially frictionless radial movements of said weight means in response to said centrifugal forces, said weight means including a sufficient number of spaced weights for enabling one of said weights to bear on said segment substantially at all times to transmit consecutively said centrifugal forces of each of said weights to said movable segment for causing said radial movements thereof in relation to said fixed segment substantially independent of pulsations to operate said operated means in response to changes in the rotary speed of said rotating means.

3,343,424
TIMING DEVICE
 Norman F. Green, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
 Filed May 7, 1965, Ser. No. 453,904
 12 Claims. (Cl. 74-25)

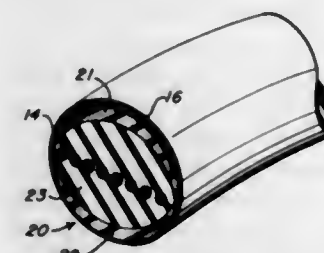
12. A device for converting rotary motion to reciprocating linear motion, comprising: a frame; a first member mounted in said frame having first and second inclined ramp surfaces formed at opposite ends thereof, said first member being axially reciprocable along an axis extending through said opposite ends; at least one movable force transfer member mounted in said frame adjacent each of said ramp surfaces; guide means on said

frame for limiting the movement of each of said force transfer members to a predetermined path of travel in a plane perpendicular to said axis; and movable cam



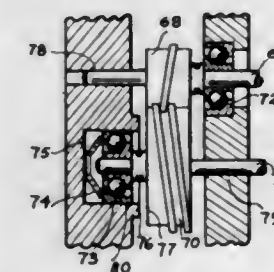
means mounted in said frame for alternately driving said force transfer members against said first and second ramp surfaces to cause axial reciprocation of said first member.

3,343,425
TRANSMISSION BELT
 Hugh D. Terhune, Springfield, Mo., assignor to Dayco Corporation, a corporation of Delaware
 Filed Sept. 14, 1965, Ser. No. 487,136
 4 Claims. (Cl. 74-238)



1. An endless transmission belt having a circular cross section containing a plurality of windings of a longitudinally extending helically wound continuous cord located at a major axis, said windings spaced laterally across substantially the entire width of said belt, and a rubber body surrounding said cord, a portion of the periphery of said body consisting of blown rubber material.

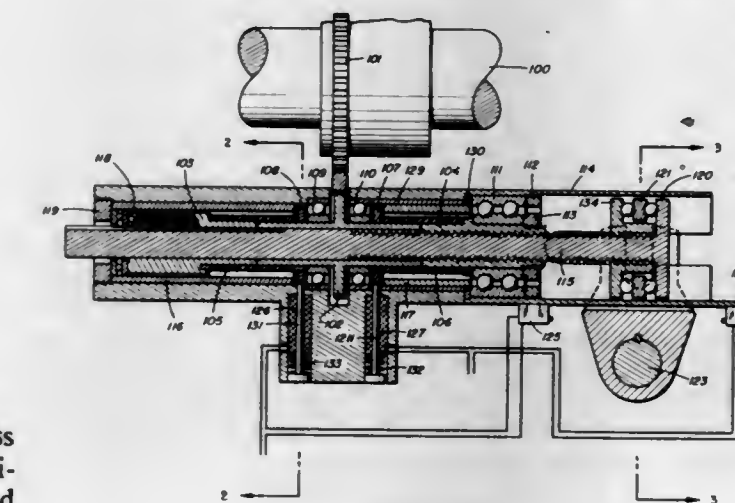
3,343,426
COOPERATING WEDGES INCLUDING MATING WORMS
 Jakhin Boas Popper, Kiryat Motzkin, Israel, assignor to Twinworm Associates, Philadelphia, Pa., a partnership
 Filed Oct. 21, 1965, Ser. No. 499,566
 41 Claims. (Cl. 74-424.5)



1. In a self-locking motion transmission device, an input element adapted to move and transmit motion, having an input wedge surface angularly disposed to the direction of

motion of the input element and thus defining an input wedge angle; a bearing friction surface guiding said input element with a coefficient of sliding bearing friction between them, said bearing friction producing a reflected coefficient of input-element bearing friction at the input wedge surface having a value greater than 0.01; and an output element adapted to move and be driven by the input element, having an output wedge surface angularly disposed to the direction of motion of the output element and thus defining an output wedge angle; said input wedge surface and said output wedge surface being in engagement during motion transmission with a coefficient of friction between them; the tangent of said input wedge angle being equal to or less than the sum of said coefficient of friction between the two wedge surfaces and said reflected coefficient of input-element bearing friction at the input wedge surface; and said output wedge angle being greater than said input wedge angle by an amount which is not in excess of 15 degrees.

3,343,427
ELECTRO-MECHANICAL LINEAR MOTION ACTUATOR
 Giovanni J. Silvestri, Barrington, R.I., assignor to the United States of America as represented by the Secretary of the Navy.
 Filed Jan. 4, 1966, Ser. No. 518,743
 6 Claims. (Cl. 74-424.8)



1. A linear motion actuator which allows the power of a continuously rotating shaft to be intermittently applied directly as a linear force to produce linear motions of a reciprocating kind comprising
 power takeoff means for engaging said continuously rotating shaft,
 a nut and screw gear mechanism,
 a first clutch spring having one end operatively attached to said screw, said first clutch spring frictionally engaging said power takeoff means to provide a transmission path for the rotational motion of said continuously rotating shaft to said screw,
 a second clutch spring having one end fixedly attached to said nut, said second clutch spring frictionally engaging said power takeoff means to provide a transmission path for the rotational motion of said continuously rotating shaft to said nut,
 first braking means connected to the other end of said first clutch spring operative upon actuation for disengaging said first clutch spring from said power takeoff means to thereby lock said screw against rotation,
 second braking means connected to the other end of said second clutch spring operative upon actuation for disengaging said second clutch spring from said power takeoff means to thereby lock said nut against rotation, and

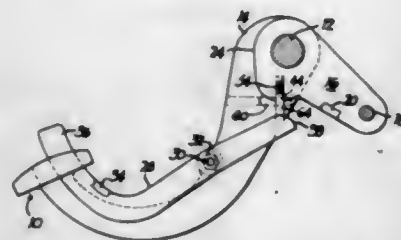
electrical actuation means connected to said first and second braking means for selectively actuating said first and second braking means whereby said screw is made to translate in one direction by said nut threading onto said screw while said screw is locked against rotation and said screw is made to translate in the opposite direction by screwing into said nut while said nut is locked against rotation, there being no translational movement of said screw while said screw and said nut are rotating together.

3,343,428

BRAKING MECHANISM

Eugene R. Hackbarth, Kenosha, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Oct. 12, 1965, Ser. No. 495,051
7 Claims. (Cl. 74-478)



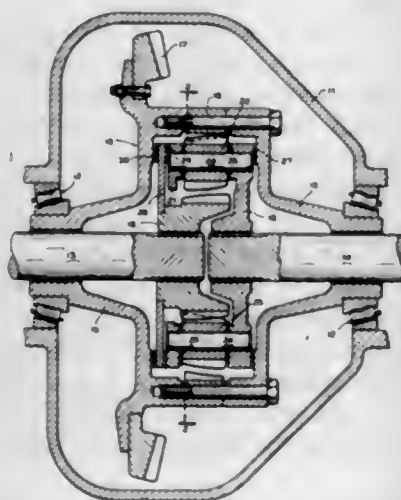
1. A braking mechanism for a vehicle having right and left hand traction wheel brakes; said mechanism including a pivotal support on said vehicle, a master pedal on said support and having a hub portion, a first brake lever and a second brake lever on said support, each of said levers having a hub portion, shiftable means on said master pedal positioned to engage with said first and second brake levers, actuating means pivotally connected to said master pedal, and means connected with said actuating means and engagable with said shiftable means positioned to shift said shiftable means by reason of actuation of said actuating means in the direction to disengage said shiftable means from one of said brake levers whereby depression of said master pedal rotates its hub portion and the hub portion of the other of said brake levers for braking one of said traction wheels.

3,343,429

LIMITED DIFFERENTIAL MECHANISM

Barry L. Frost, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Dec. 27, 1965, Ser. No. 516,276
5 Claims. (Cl. 74-711)



1. A limited slip differential mechanism comprising a pair of aligned shafts with opposed ends in adjacency, an internal gear coaxial with said shafts, means supporting

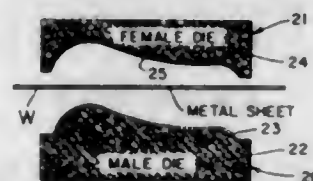
said internal gear for rotation and fixed thereto, a sun gear within the internal gear splined on one of said shafts, a planet gear carrier splined on the other shaft, a plurality of pairs of planetary gears mounted on said carrier extending between the internal gear and sun gear, the gears of each pair meshing with each other and one also meshing with the sun gear and the other with the internal gear, all of said gears being helical gears, first clutch means fixed on the sun gear disposed adjacent said supporting means, and second clutch means disposed between the carrier and the supporting means and fixed on one thereof.

3,343,430

METHOD OF MAKING METAL FORMING DIES

Charles H. Haas, Philadelphia, and Michael Mattia, Upper Darby, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 15, 1965, Ser. No. 514,093
1 Claim. (Cl. 76-107)



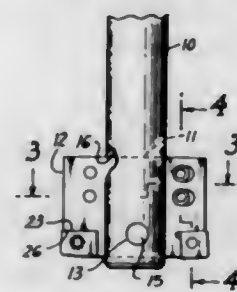
The method of forming a die member with a hard metal facing layer or jacket and a rigid, shape-stable, backing body which comprises, providing a master pattern, conforming a sheet replica to the master pattern, applying a flow-forming hardenable body to the sheet replica conformed to the master pattern, removing the hardened transfer body from the sheet replica and master pattern and applying to the transfer body a flowable, disposable, hardenable material to form a rigid shape-stable mandrel body, forming a hard metal facing layer on the mandrel body, forming a body of flowable hardenable material on the back of the metal facing layer to form a rigid, shape-stable, adherent, backing body thereon, and removing the mandrel body from the backing body.

3,343,431

TOOL HOLDER

Donald H. Boyer, 1819 Antoine Drive, Houston, Tex. 77055

Filed Oct. 11, 1965, Ser. No. 494,723
12 Claims. (Cl. 77-58)



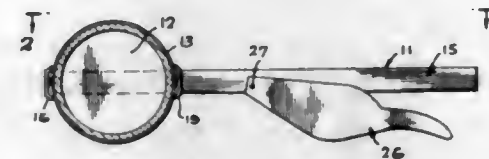
1. A tool holder for throw away inserts having a central mounting hole, comprising a member having an insert receiving pocket defined by a bottom surface and first and second side walls that intersect the bottom surface and each other, said member having an opening normal to the bottom surface, first means rotatably mounted in the opening and second means carried by the first means to engage the mounting hole of such insert and move such insert into engagement with the first side wall when the first means is rotated in one sense and with further rotation of the first means in the same sense to move such insert into engagement with the second side wall, said first and second means cooperating to hold the insert in engagement with the first side wall while the insert is moved and held against the second side wall.

3,343,432

HOUSEHOLD WRENCH

Sigmund Nagy, Whittier, Calif., assignor of one-half to Lewis A. Nehaus, Whittier, Calif.

Filed Oct. 22, 1965, Ser. No. 501,354
8 Claims. (Cl. 81-3,42)



1. A household wrench, comprising an elongated body, a ratchet bar mounted on said body for sliding movement longitudinally thereof, said body and bar having opposed jaws at the forward ends thereof, respectively, a handle lever pivotally mounted at its inner end on said body at a point intermediate the ends thereof and normally disposed at an acute angle to the body, a pawl support lever pivotally mounted at one end on said body on an axis parallel to the pivotal axis of said handle lever but spaced rearwardly thereof, a pawl pivotally mounted on the other end of said pawl support lever with its inner end engageable with said rack, and an operable connection between the outer end of said pawl and said handle lever.

3,343,433

THERMAL WIRE STRIPPER

Walter J. Rozmus, Hubbardsville, N.Y., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed June 15, 1966, Ser. No. 559,049
11 Claims. (Cl. 81-9,5)



1. In a thermal wire stripping tool, a first pair of wire gripping jaws, a second pair of wire gripping jaws, a pair of thermal elements interposed between said first and second pairs of jaws, means for moving said first and second pairs of jaws and said pair of thermal elements between open and closed position, and means supporting one of said pairs of gripping jaws for longitudinal sliding movement relative to a wire to be stripped, and means including slideway means on said supporting means and actuating handle means for sequentially moving said pairs of said jaws and said thermal elements to said closed position and thereafter moving said one pair of jaws longitudinally of the wire, whereby to remove a section of insulation axially therefrom.

3,343,434

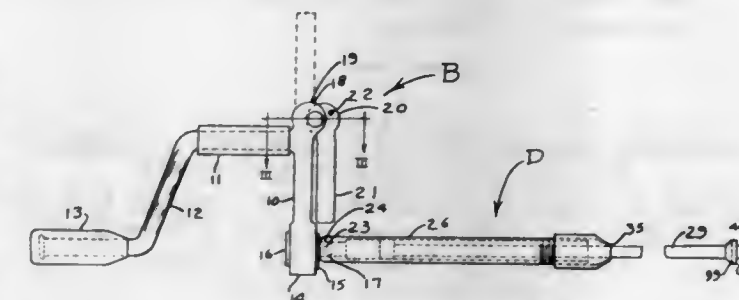
EXTENSIBLE TOOL DRIVER DEVICE

Rudolf Schroeder, R.F.D. 2, Box 125, Hillsboro, Kans. 67063

Filed Aug. 27, 1965, Ser. No. 483,193
1 Claim. (Cl. 81-60)

A wrench device comprising a generally V-shaped crank arm, one leg of said crank arm having a ratchet wheel case formed thereon, an extension handle means pivotally connected to the opposite end of said one leg of said crank arm, said handle means when in an extended position forming a continuation of said leg and

when in a folded position being adjacent to and substantially parallel to said leg, a ratchet wheel including a drive stud carried in said case, an extension means carried by said drive stud, said extension means including a tubular element with a chuck means on the outer end thereof and a multisided shaft carried therein, a socket receiving portion on the outer end of said multisided shaft, said chuck means comprising a plurality of chuck jaws, the inner end portion of each jaw being V-shaped and the



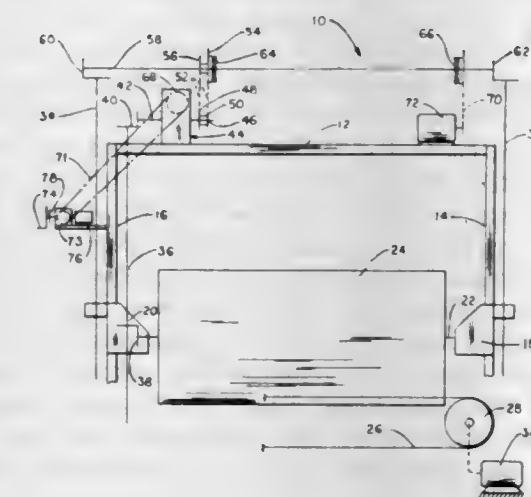
outer end portion of the tubular element having V-shaped notches therein, one for each jaw, and the V-shaped portion of each jaw being seated in its respective V-shaped notch, the outer surface of the notched end of the tubular element being threaded, an internally threaded chuck collar screwed on the threaded portion of the tubular element, the inner surface of the outer end portion of the collar being conical in shape and bearing against said jaws so as to forcibly press each of said jaws against its respective face.

3,343,435

CIRCUMFERENTIAL PEELING MACHINE WITH SELECTIVE THICKNESS CUTTING ADJUSTMENT

Richard M. Kuts, Cuyahoga Falls, and John L. Rehman, Barberton, Ohio, assignors to The Falls Engineering and Machine Co., Cuyahoga Falls, Ohio, a corporation of Ohio

Filed Jan. 24, 1966, Ser. No. 522,654
9 Claims. (Cl. 82-102)



1. In a circumferential peeling machine, the combination of a frame including a pair of spaced parallel vertically extending supports, a slide assembly vertically slidably received on each support, a bun receiving mandrel rotatably journaled at each end by the respective slide assemblies,

a separate vertically extending screw for each slide assembly rotatably mounted at its top end to the frame and threadably received through one of the slide assemblies whereby similar rotation of the screws uniformly controls the vertical height of the slide assemblies,

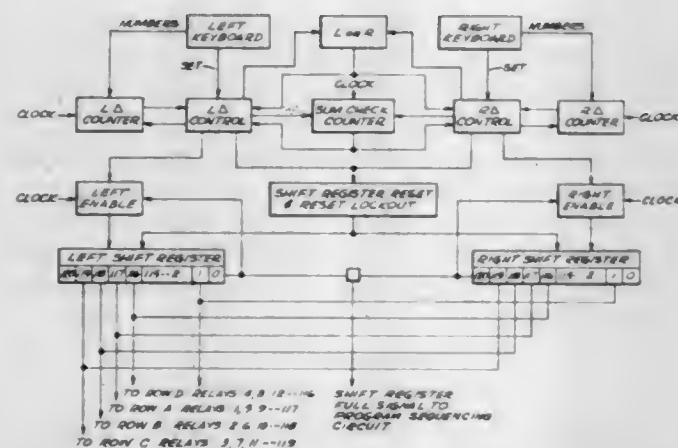
shaft and gear train means mechanically interlocking the rotation ratio of the mandrel to the rotation of the screws, and

speed variator means associated with the shaft and gear train means to selectively vary the rotation ratio of the mandrel to the screws.

3,343,436

CONTROL MEANS FOR SEQUENCING A PLURALITY OF GLASS SCORING MEANS

William D. Cockrell, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1962, Ser. No. 247,968
16 Claims. (Cl. 83-11)



5. An apparatus for scoring a glass sheet in continuous movement along a line, including control means for selectively operating a plurality of selected glass scoring means disposed at progressively spaced intervals in a line parallel to the leading edge of said glass sheet and extending between the side edges of the glass sheet, said control means including an input device for serially generating pulse signals representative of the selected glass scoring means; a checking device, having predetermined total maximum allowable input pulse signal information for each glass sheet, coupled to said input device; an information storage device, for storing information respective the selected glass scoring means to be operated, coupled to said input device; means for first applying said pulse signals to said checking device; means responsive to said pulse signals in the aggregate not exceeding the maximum allowable by said checking device for applying said pulse signals to said information storage device; means for sensing the approach of the leading edge of said glass sheet; and means for bringing said glass scoring means into contact with a flat surface of said glass sheet responsive to said means for sensing the approach of the leading edge of said glass sheet and the information in said information storage device.

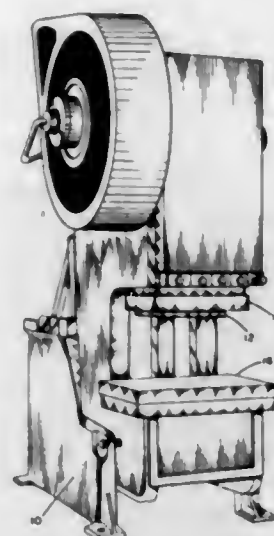
3,343,437

AUTOMATIC PUNCHING MACHINE

Werner Oster, Am Zollstock 23, Bad Homburg, Germany
Filed Jan. 18, 1965, Ser. No. 426,124
Claims priority, application Germany, Jan. 16, 1964,
O 9,893
4 Claims. (Cl. 83-533)

1. In an electrically responsive automatic punching machine, comprising: a reciprocally disposed punch at least partly formed of conducting material; a punch plate

disposed for intermittent operating contact with said punch, the punch plate comprising a matrix of non-conducting material having omnidirectionally oriented and uniformly distributed therethrough in substantially close physical contact insert means formed of conducting ma-

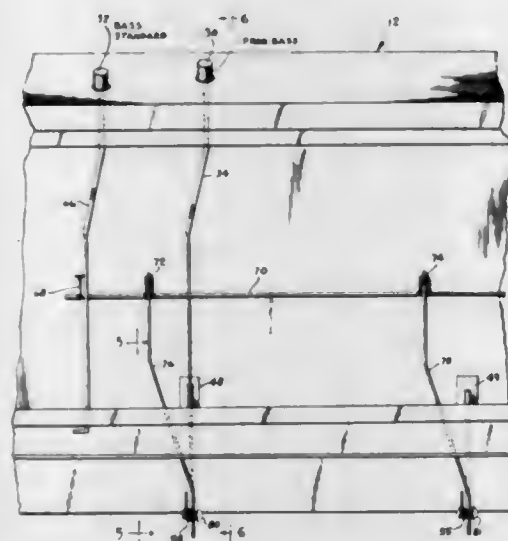


terial arranged for contact with a conducting portion of said punch; and electric control means coupled to the conducting portions of said punch and said punch plate and effective for controlling the length of the punching stroke of said punch.

3,343,438

BASS SECTION OF ACCORDIONS

Julio Giulietti, Brooklyn, N.Y., assignor to Giulietti Accordion Corporation, New York, N.Y.
Filed Apr. 13, 1964, Ser. No. 359,129
3 Claims. (Cl. 84-376)



1. In an accordion bass section, free bass reed blocks and valves associated therewith for producing tones in the free bass range, free bass actuating buttons and bass standard actuating buttons, valve actuating elements connected to each of said valves and its corresponding free bass actuating button, whereby depression of one of said free bass actuating buttons produces a tone in the free bass range; two such valve actuating elements also being connected to each of said bass standard actuating buttons, the tone produced by a second valve so connected being the octave higher complement of the tone produced by a first valve so connected, whereby depression of one

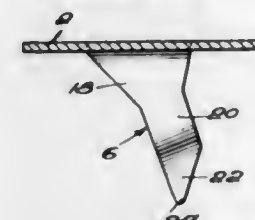
of said bass standard buttons produces a tone in the bass standard range which corresponds to the tone produced in the free bass range by said first valve in conjunction with the octave higher complement thereof.

3,343,439

CONNECTOR PLATE

Gerald A. Koenigshof, Kensington, Md., assignor to Timber Engineering Company, a corporation of Delaware

Filed July 29, 1965, Ser. No. 475,632
6 Claims. (Cl. 85-13)



1. A connector plate for joining together abutting wood members comprising:

a sheet having a plurality of openings therein, each opening having a single tooth projecting therefrom, said tooth projecting from one side of each opening, said one side being substantially straight, said openings being in the shape of the profile of the tooth and being arranged in a plurality of rows,

said tooth having a root portion joined to the sheet and a shank portion joined to the root portion and an end portion joined to the shank portion,

said root portion being substantially flat and being wider than said shank portion and end portion, said root portion having opposite edges converging toward said shank portion, one of said root portion edges having a greater length than the opposite root portion edge, said shank portion having a substantially greater width than thickness and a substantially uniform width, said root and shank portions being angularly inclined toward said opening with respect to the plane of said sheet, said end portion being angularly inclined away from said opening with respect to the plane of said sheet,

said end portion having opposite edges, one of said end portion edges being a continuation of said shank edge adjacent said one root portion edge and the other of said end portion edges being inclined at an acute angle with respect to said one end portion edge to define a penetrating point,

said opening having a longitudinal axis extending substantially parallel to the edges of the opening which correspond to said shank portion, said straight side defining an axis intersecting said longitudinal axis at an acute angle, whereby the tooth is deformed upon being inserted in wood members and resists withdrawal.

3,343,440

SELF-LOCKING TWO-PIECE FASTENING DEVICE

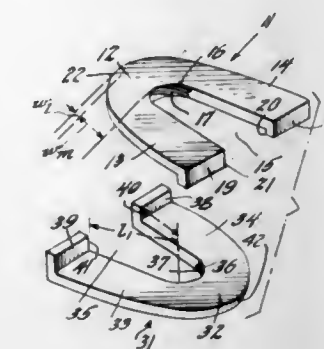
Arthur H. Jones, Winston-Salem, and Joseph W. Westbrook, Jr., Greensboro, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 18, 1965, Ser. No. 496,879
8 Claims. (Cl. 85-33)

1. A self-locking two-piece fastening device for attachment in abutting relation at any selected position on a rod comprising:

a pair of identical members each member symmetrical about an axis provided with an open ended slot extending from the outer periphery of said member and terminating in an inner curved bight, each of said members having a lobe formed on the outer

periphery thereof and opposite the inner curved bight, said lobe having a width which gradually increases from subtended opposed portions of said bight and having a maximum width opposite the center of the bight, and



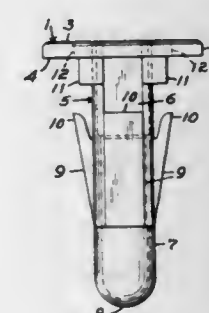
resilient means upstanding from the peripheral edge of said member on each side of said slot for engaging the lobe of the other member to lock said identical members against said rod.

3,343,441

SELF-SECURING FASTENER

Harold S. van Buren, Jr., Cambridge, Mass., assignor to United-Carr Incorporated, Cambridge, Mass., a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,741
7 Claims. (Cl. 85-70)

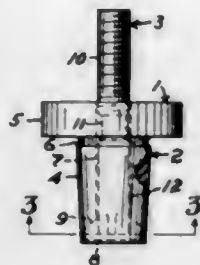


1. A fastener adapted to cooperate with a screw in securing an article to an apertured support comprising an enlarged head, a hollow screw-receiving shank extending from said head, and a plurality of resilient fins disposed about the exterior of said shank, said fins projecting outwardly of said shank towards said head at an acute angle to said shank, whereby said fastener may be snapped into an apertured support, a section of said shank between said head and said fins having external dimensions appreciably less than the dimensions of the aperture in the support, said section being substantially thinner in cross section than the remainder of said shank, said shank having at least two spaced opposed posts adjacent said head, each of said posts including at least one angular corner facing outwardly from said shank and extending substantially parallel to the axis thereof for engaging the corners of a polygonal aperture in the support to prevent rotation of said head with respect to the support when the screw is torqued into said shank, whereby, responsive to the torquing of a screw into said shank, a portion of said section adjacent said fins is twisted and collapsed into the aperture in the support and said fins are flared outwardly from said shank and are drawn against the surface of the support at points spaced from the edges of the aperture therein.

3,343,442

VIBRATION DAMPING FASTENER

Edward A. Knowlton, Winchester, and Henry W. Patterson, Jr., Stow, Mass., assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Aug. 13, 1965, Ser. No. 479,369
3 Claims. (Cl. 85-70)

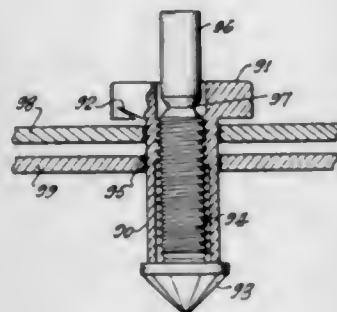


1. An anchor assembly for securing an article to an apertured support, said assembly having been formed by casting a resilient sleeve about a fastener member and comprising a resilient, hollow sleeve having a body portion adapted to be passed through the aperture in the support, a peripheral flange joined to and extending outwardly from one end of said body portion, and a fastener member having a shank and a head at one end of said shank, said head being securely bonded to the body portion of said sleeve, said shank extending axially through said hollow sleeve and outwardly thereof a predetermined distance beyond said peripheral flange, the portion of said shank within said sleeve being coated with a release agent, said body portion being axially and radially deformable, responsive to the application of a cooperating fastener member to the portion of said shank extending beyond said flange, whereby said body portion forms a bulb at the side of the support remote from said flange, said shank having an intermediate necked portion of smaller diameter than portions of said shank within said sleeve and portions of said shank extending beyond said sleeve, whereby the axial extent to which the cooperating fastener member may be applied to said shank is limited and the extent to which said body portion may be deformed is controlled.

3,343,443

BLIND RIVET ASSEMBLY

Anthony W. Moore, 5173 Hallwood, Riverside, Calif. 92506
Filed Oct. 21, 1965, Ser. No. 499,335
3 Claims. (Cl. 85-61)



1. A rivet comprising an elongated hollow portion terminating at one end in a radially enlarged head, said elongated portion having internal threads adjacent said head and a deformable tubular extension adapted to extend beyond one side of members being joined together; a shank passing through said elongated hollow portion having threads over part of its length, said threads being

engaged in the internal threads in said hollow portion, said shank having a reduced diameter portion defining an area of reduced strength adjacent the threaded portion near the enlarged head of said rivet, and a drill tip having a substantially flat base of greater diameter than the outside diameter of the tubular portion rigidly attached to said threaded portion at its other end and adjacent to said tubular portion, whereby said drill tip base is adapted to engage the end of said tubular portion upon rotation of the shank and to cause said tubular portion to collapse outwardly upon further rotation thereof.

3,343,444

SHOTGUN SHELL RELOADING IMPLEMENTS

Richard J. Lee, R.R. 2, Hartford, Wis. 53027
Filed Oct. 4, 1965, Ser. No. 492,601
1 Claim. (Cl. 86-24)



In combination with a used shotgun shell having an open-top cylindrical body and a wad column and shot cup unit adapted to be seated on a predetermined quantity of powder in the bottom portion of said body with the top of said wad column unit spaced a predetermined distance below the top of said body, a one-piece molded plastic wad column guide for use with a reloading ram, comprising: a sleeve-like tubular element molded in one piece of plastic adapted to be removably mounted on and surrounding the upper end of said shell body, said tubular element having an open top and bottom and being of a size to receive said wad column unit; and a plurality of flexible and resilient fingers formed integrally on and around the inner annular surface of said tubular element adjacent the upper end thereof adapted to project downwardly within said shell body when said guide is mounted thereon, said flexible fingers normally being gradually curved radially inwardly toward their lower ends to provide a yieldable, progressively restricted opening to guide the downward travel of a wad column inserted in the upper end of said guide and pushed downwardly there-through by means of a ram, said flexible and resilient fingers being substantially flattened against the inner surface of said shell body as said wad column unit passes therethrough and being adapted to snap radially inwardly when said wad column is pushed completely through said guide and is pressurably seated on a predetermined quantity of powder in the bottom portion of said shell body, and said fingers being of a length whereby the lower ends thereof are located immediately above the top of said wad column unit and prevent upward movement of the same when said unit has been pressurably seated on said powder to allow the withdrawal of the ram from the shell body without effecting the compression of said powder.

3,343,445

CONTROL APPARATUS

Thomas Norman, Los Angeles, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,693
2 Claims. (Cl. 88-1)

1. Apparatus for use with a substantially circular source of radiant energy comprising, in combination: a hollow cone having a base end, a truncated end and a reflecting inner surface; a lens having an image plane and being mounted proximate to the truncated end of said cone;

means mounting said cone so that the base end thereof is normally directed toward the source, radiant energy from the source entering the hollow cone and traveling both directly to the lens and by reflection from the inner surface to the lens so that at least two images are formed by said lens on the image plane, a first of the images being a substantially circular image of the source the radius of which changes with the distance from the cone to the source and a second of the images being a normally circular annulus normally surrounding and concentric with the first of the images, the first and second images moving out of concentricity on the image receiving plane with variation in the direction between the base end of said cone and the source;



first energy detecting means mounted proximate to the image receiving plane and providing an output whenever the second image moves from concentricity with the first image;

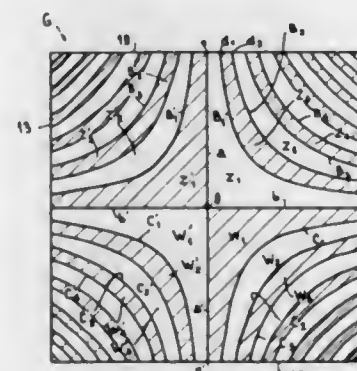
means connected to said first energy detecting means to receive the output therefrom and operable to position the cone so as to direct the base thereof toward the source;

and second energy detecting means mounted proximate to the image receiving plane so as to extend from inside to beyond the periphery of the first image and to provide an output indicative of the radius of the first image.

3,343,446

OPTICAL ELEMENT UTILIZABLE AS ENTRANCE OR EXIT GATE FOR SPECTROMETRIC APPARATUS

André Jean Girard, Chatillon-sous-Bagneux, Seine, France, assignor to Office National d'Etudes et de Recherches Aero-Spatiales
Filed Feb. 27, 1962, Ser. No. 175,911
Claims priority, application France, Apr. 21, 1961, 859,532; Oct. 12, 1961, 875,743
38 Claims. (Cl. 88-14)



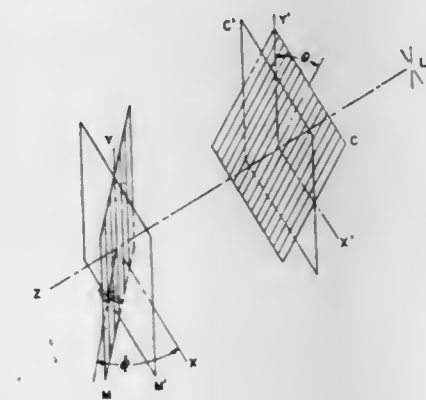
1. An optical element adapted to be used as a gate for radiant flux in spectrometric apparatus, comprising a flat body with a surface divided into two sets of zones of different transmissivity for said flux alternating along said

surface, the combined area of one set of zones being substantially equal to that of the other, said zones being separated from one another by boundary curves of generally hyperbolic shape divided into a first group with relatively wide spacing along a predetermined direction between successive curves, a second group remote from said first group with relatively narrow spacing along said direction between successive curves, and an intervening third group wherein the spacing of the curves along said direction ranges between said relatively wide and said relatively narrow spacing.

3,343,447

COMPENSATING PLATE FOR OBLIQUE INCIDENCE

Paul D. Flynn, Joseph T. Gilbert, and Arthur A. Roll, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 30, 1963, Ser. No. 277,428
4 Claims. (Cl. 88-14)

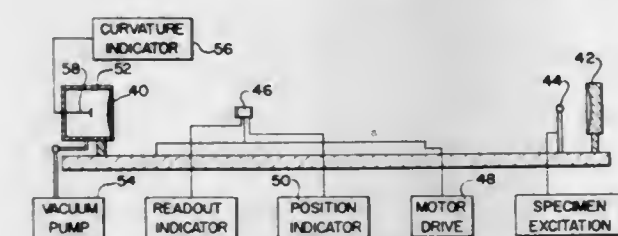


2. In the method of oblique incidence for separating principal stresses in a photoelastic model of a structural part, the improvement comprising eliminating oblique incidence, initial birefringence in said model by inserting a compensating plate made from the same sheet of material as said model in series and coaxial therewith and rotating said compensating plate about a second axis perpendicular to the first axis about which said model is rotated by an angle of oblique incidence, said first axis and said second axis being mutually perpendicular and said first axis and said second axis each being perpendicular to the axis of coaxial alignment of said plate and said model, the angle of rotation of said compensating plate being equal to the angle of rotation of said model.

3,343,448

SPECTROSCOPIC APPARATUS

Walter S. Baird, Lexington, Mass., assignor to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed June 27, 1963, Ser. No. 290,966
1 Claim. (Cl. 88-14)

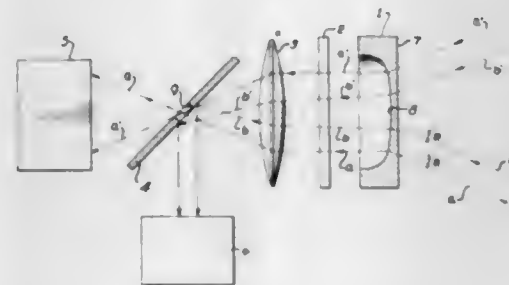


A spectrometer for axially dispersing a beam of light from a radiating source, comprising a zone mirror generally facing said source, a photo-detecting device located

along the axis of said mirror between said source and said mirror and facing said mirror, said mirror comprising a flexible diaphragm, a series of concentric rings alternately reflecting and non-reflecting on said flexible diaphragm, an open-ended cylindrical drum, said diaphragm being mounted across the open end of said drum and means connecting said drum for evacuating the interior thereof to vary the curvature of said mirror.

3,343,449

VEILING LUMINANCE MEASUREMENT DEVICE
Harold Richard Blackwell and Glenn A. Fry, Columbus, Ohio, and Benjamin S. Pritchard, deceased, late of Columbus, Ohio, by Mildred M. Pritchard, executrix, Columbus, Ohio, assignors to Photo Research Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 165,706, Jan. 11, 1962. This application Feb. 7, 1966, Ser. No. 526,324
5 Claims. (Cl. 88—23)



1. In a device for measuring veiling luminance, a combination of: a glare lens having an optical axis and an aspherical refractive surface, said surface including incremental areas to refract incident light from sources in spaced relation to said optical axis to render a portion of said refracted light substantially parallel to its optical axis in proportion to the veiling luminance effect of said light sources with respect to the subject matter being measured, said light sources being located within 90° from the optical axis of said lens; an objective lens to receive refracted light from said glare lens; a photosensor means spaced from said objective lens; and a plate having an aperture at the focal plane of said objective lens for transmitting to the photosensor only refracted light proportionate to the veiling luminance effect of the light source; said aspherical surface being substantially determined by evaluating y and R for various values of θ in the following equations:

$$R^2 = 2K \int_{\theta=0}^{\theta=90} \frac{\sin \theta \cos \theta}{T_1 T_2 (1.5 + \theta)} d\theta$$

$$\frac{dy}{dR} = \frac{\sin \theta}{(n^2 - \sin^2 \theta)^{1/2} - 1}$$

where

θ = the angle between the optical axis of said lens and the said light sources in degrees;

R = radial perpendicular distance from the optical axis of said lens to said incremental areas;

y = distance from the plane passing through the center of said surface perpendicular to the optical axis of said lens;

n = the refractive index of the lens material; and

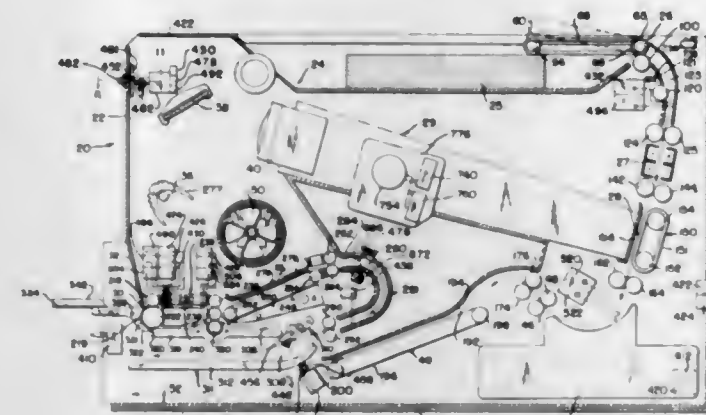
T_1 and T_2 = the transmittances at the two surfaces of the lens;

K = a proportionality constant relating the luminance of an incremental source area to the luminance measured over an incremental area in the plane perpendicular to the optical axis of the lens 1 between lens 3 and lens 1,

and when $\theta = 90^\circ$, the constant determines the value of R .

3,343,450

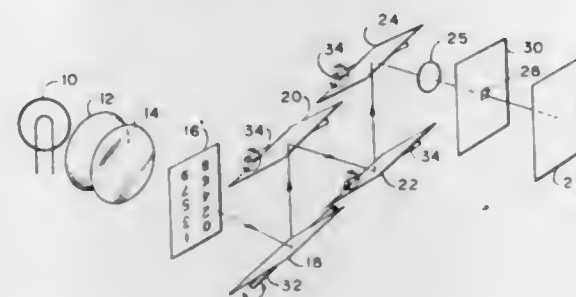
AUTOMATIC DOCUMENT SKEW ADJUSTMENT FOR DUPLICATING MACHINES
Ronald A. Glaser, Arlington Heights, and Gustav Faust, Chicago, Ill., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Nov. 16, 1964, Ser. No. 411,522
25 Claims. (Cl. 88—24)



1. A duplicating machine having a duplicating station, means for cyclically routing a document to be copied through an exposure zone in said duplicating station, means for feeding copy paper serially through said duplicating station in timed relation with the movement of said document therethrough to transfer an image on the document to said copy paper as it passes through said duplicating station, and characterized by means responsive to a predetermined skewed orientation of said moving document relative to its direction of travel for automatically imparting a predetermined different movement to said document than would otherwise occur.

3,343,451

SELF-DECODING INLINE READOUT
Hector Romeo Durocher, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 4, 1965, Ser. No. 477,234
3 Claims. (Cl. 88—24)

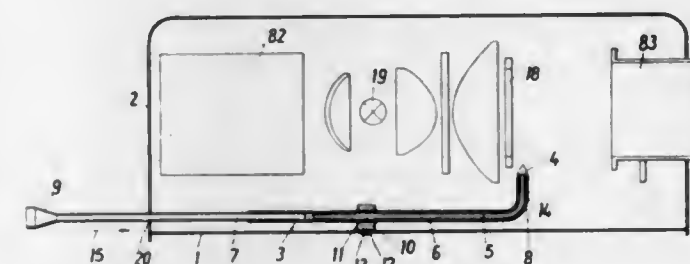


1. A digital readout device comprising in combination (A) image record means having at least four items of information recorded thereon in a preselected spatial relation, (B) source means for producing an optical beam that illuminates said information items simultaneously, (C) means forming a viewing screen, (D) first and second optical beam-shifting means (1) each of which assumes only first and second different conditions in response to different electrical signals applied thereto,

- (2) said first beam-shifting means directing said beam, after it impinges on said record means, to first and second different positions on said second beam-shifting means when it is in said first and second conditions respectively,
- (3) said second beam-shifting means directing said beam from each of said first and second positions to different positions relative to said viewing screen when it is in said first and second conditions respectively,
- (4) so that each of said information items is separately projecting onto said viewing screen according to the conditions of said first and second beam-shifting means, and
- (E) an optically opaque mask, (1) having means forming an optically transparent aperture therein, (2) disposed intermediate said second beam-shifting means and said viewing screen with said aperture in optical alignment with said viewing screen,
- (F) said beam-shifting means being structured to project through said aperture only the information item to be displayed on said viewing screen.

3,343,452

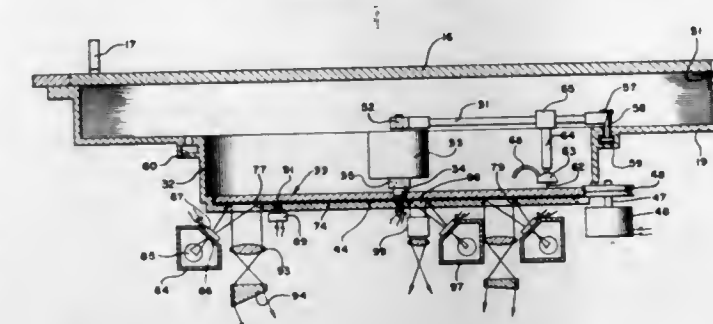
POINTER FOR A SLIDE PROJECTOR
Karl Ackermann, Klaus Bartos, and Siegfried Schöne, Berlin, Germany, assignors to Robert Bosch Elektronik G.m.b.H., Berlin-Wilmersdorf, Germany
Filed Aug. 20, 1965, Ser. No. 481,299
Claims priority, application Germany, Nov. 17, 1964, B 79,354
15 Claims. (Cl. 88—24)



1. In a slide projector having a picture aperture through which a light beam is passed, a device for indicating a selectable point on a projected picture, said device comprising, in combination:
- (1) an at least partially opaque marker; and
- (2) means mounting said marker within the path of the light beam for movement within a plane which is at least substantially parallel to the plane of the picture aperture and displaced a small distance therefrom, said mounting means comprising:
- (a) guide means having a longitudinal axis;
- (b) means for mounting said guide means within the projector for turning movement about a turning axis;
- (c) reciprocity means carried by said guide means for longitudinal movement with respect thereto, one end of said reciprocity means being located in the region of said plane of movement and said marker being mounted on said one end of said reciprocity means; and
- (d) handle means connected at the other end of said reciprocity means for longitudinally moving said reciprocity means and connected to said guide means for turning said guide means about the turning axis.

3,343,453

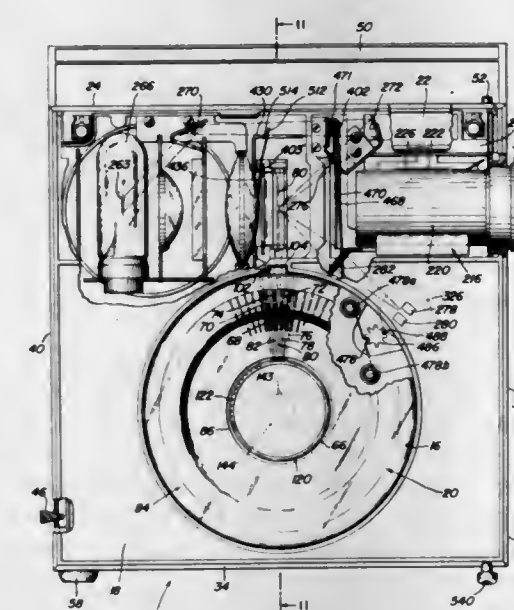
SOUND REPRODUCTION MEANS HAVING APPARATUS FOR PRODUCING FORMS AND COLORS IN MOTION
James F. Butterfield, North Hollywood, Calif., assignor to James F. Butterfield and Edward Levitt, both of North Hollywood, Calif., a co-partnership
Original application Aug. 1, 1960, Ser. No. 46,726 now Patent No. 3,122,966, dated Mar. 3, 1964. Divided and this application Dec. 11, 1963, Ser. No. 336,091
4 Claims. (Cl. 88—27)



1. Picture-sound projector, comprising: an interchangeable, movable member having sound recording means on one portion and a plurality of images on another portion, means for moving said member, second means for progressively projecting said plurality of images for super positioning upon a screen and for traversing the screen in different directions, and means for deriving sound from said sound recording means, synchronized with said projecting means.

3,343,454

PROJECTING APPARATUS HAVING A ROTARY SLIDE TRAY AND A MAGNETIC SLIDE CHANGE MECHANISM
John P. Mahoney, Jr., Wheatridge, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 480,062
11 Claims. (Cl. 88—27)



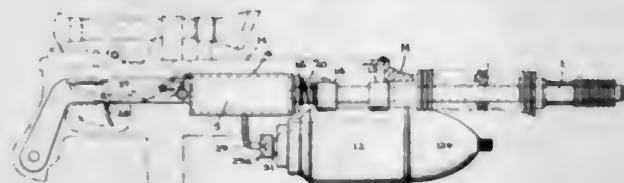
1. A slide actuator for a projector, comprising a motor, a first cam rotatably driven by the motor, a follower in physical surface to surface operable contact with the outer surface of the cam to move a drive arm to which it is attached in a vertical direction about a pivot during an initial movement of the cam, a drive bar slidably connected for vertical movement along a stationary guide bar, a wall in the bar forming a slot therein to accommodate the passage of the free end of the arm therethrough and the vertical movement of the drive bar therewith,

a rotatable magnet operably mounted for vertical movement with the drive bar to lift a clip and a slide in the tray to which the clip is attached in a vertical direction out a rim portion of the tray through a groove in a stationary guide and into an editing gate where the slide is projected, and the cam being further constructed of a shape that will allow the lowering of the follower, the drive arm, the drive bar, the magnet and the slide solely by the force of gravity into its original tray position during further movement of the cam.

3,343,455

GUN

Riley Lohr, Lancaster, Pa., assignor to John H. Hartman, Jr., Strasburg, Pa.
Filed Sept. 8, 1965, Ser. No. 485,890
6 Claims. (Cl. 89—7)



1. A gun comprising, a firing compartment forming an enclosed combustion chamber therein, a barrel having a bore communicating with said chamber, explosive gas supply means mounted on said barrel for reciprocating movement relative thereto, said firing compartment including a movable wall, slide means on said barrel connecting said wall and said gas supply means whereby when said gas supply means is moved in one direction said wall and barrel slide means are likewise moved as a unit in the same direction to open said chamber to the atmosphere to permit air to enter therein and when said gas supply means is moved in the reverse direction said wall and barrel slide means are moved to close said chamber, conduit means fixedly attached at one end to said wall and leading to said gas supply means to inject the explosive gas into said chamber, said slide means constantly urging the other end of said conduit means into engagement with said gas supply means, and means adjacent said chamber for igniting gas injected therein.

3,343,456

CONTROL DEVICE FOR A CARTRIDGE
MAGAZINE OF A GUN

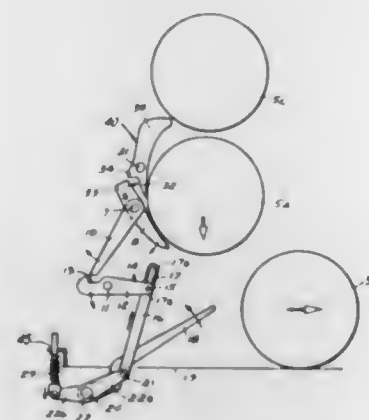
Carl Mauritz Christiansson, Bofors, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

Filed May 10, 1965, Ser. No. 454,624
Claims priority, application Sweden, May 13, 1964,
5,881/64

3 Claims. (Cl. 89—33)

1. An assemblage comprising, in combination, a cartridge magazine of a gun, said magazine comprising at least one compartment for stacking therein a plurality of cartridges in lengthwise substantially horizontal and mutually parallel relationship, said cartridges being arranged to move downwardly one by one along a vertical path due to the weight thereof and to be discharged at the bottom of the magazine: a generally horizontal cartridge conveying path for feeding discharged cartridges to a point of utilization, said path extending underneath said compartment transversely of the cartridges and the path of the downward movement thereof; and a cartridge control device, said device comprising cartridge retaining means, a pivot shaft supporting the retaining means pivotal about an axis parallel to the cartridges in the compartment and laterally spaced apart of said downward path of the cartridges, said cartridge retaining means including a cartridge support means supported on said

shaft pivotal between an active position protruding into said vertical cartridge path to block cartridges from moving downwardly in the same, and an inactive position withdrawn from said path thereby freeing said cartridges to move downwardly and out of the compartment into said path due to the weight of the cartridges, said cartridge retaining means further including a releasable catch means having a first and second movable retaining member, the first retaining member controlling the position of the cartridge support means and the second retaining member being movable between an active position engaged with the first retaining member and an inactive position disengaged from the first retaining member, said first retaining member when engaged by the second retaining member preventing a pivotal movement of the cartridge support means out of the path of cartridges in the compartment and when disengaged permitting such movement thereby freeing the cartridges for downward



movement, and a movable feeler means connected to said second retaining member and movable between a first position extending into said horizontal cartridge conveying path below the compartment and a second position withdrawn from said path, linkage means connecting said feeler means and said second retaining member, said linkage means including a slot and pin connection to provide a predetermined play allowing movement of the feeler means within the limits of said play while maintaining the second retaining member in its inactive position, and yieldable directional force means biasing said feeler means into said first position, said feeler means being moved into said second position by engagement with a cartridge discharged from the compartment upon a conveying path portion underneath said compartment, said feeler means controlling the second retaining member to hold the same when in the first position in the inactive position and when in the second position in the active position.

3,343,457

HOUSING STRUCTURE FOR AN
AUTOMATIC FIREARM

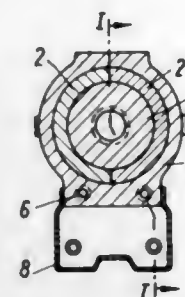
Hartmut Menneking and Hermann Henning, Dusseldorf, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany

Filed Dec. 10, 1965, Ser. No. 512,901
Claims priority, application Germany, Dec. 19, 1964,
R 39,504

5 Claims. (Cl. 89—199)

1. An automatic firearm comprising a breechblock housing consisting of two mirror-image halves as similar guide tracks for a breechblock, semi-cylindrical shell halves at front ends of the housing halves to receive a barrel of the firearm, a sleeve surrounding the shell halves and which has a bore to tightly receive the shell halves, tension means provided around one end of the two mirror-image halves, and a locking member at the other

end of the two mirror-image halves and having ridges which interfit with the other end of the two mirror-image



halves, said locking member being adapted to receive a buffer device.

3,343,458

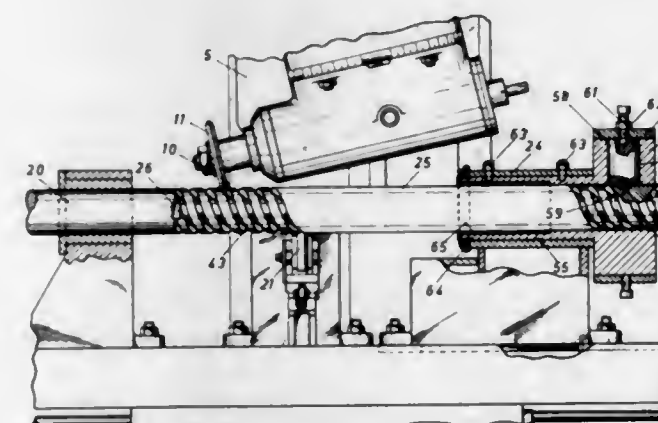
METHOD AND A MACHINE TOOL FOR CUTTING
AND/OR TREATING THREADS OF ROD-SHAPED
WORK PIECES

Bertil Ivar Torsten Larsson, Bredaryd, Sweden, assignor to Aktiebolaget Sigfrid Stenberg, Nassjo, Sweden, a corporation of Sweden

Filed Oct. 5, 1965, Ser. No. 493,074

Claims priority, application Sweden, Oct. 23, 1964,
12,781/64

4 Claims. (Cl. 90—11.62)



1. A machine tool for cutting and treating threads of a rod shaped work piece, said machine provided with a driven cutting tool, a nut being adjustable relative to said tool and passed through by a driven guide screw at one end of a rod-shaped work piece, means adapted, during rotation, to move said work piece, after it has been provided with threads by means of said cutting tool, axially through said nut so that said work piece thereupon may serve as a guide screw, said nut shaped as a head carried in a lathe head of the machine tool, said head adapted to be passed through by the work piece and being provided with at least one inset piece adapted to be inserted radially into said head, and inset being at the radially inner end provided with a thread cam adapted to engage and guide the thread entrance of the thread of the work piece being actually treated.

3,343,459

CONTROL SYSTEM

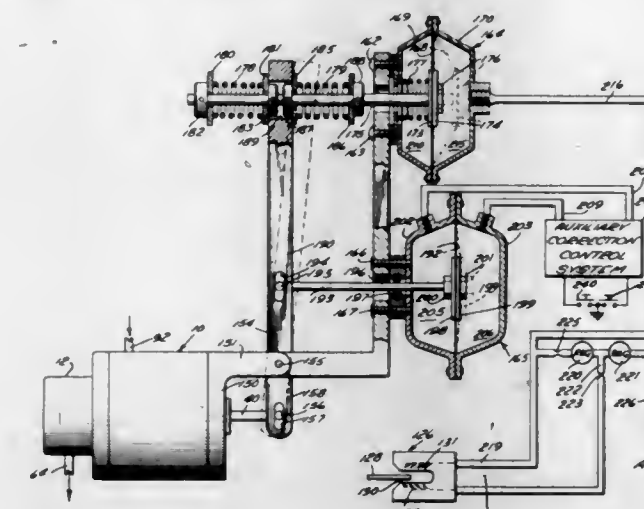
Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin

Filed Nov. 30, 1964, Ser. No. 414,608

3 Claims. (Cl. 91—3)

1. An edge alignment control system comprising: a sensing head having fluid pressure means for sensing edge position and for generating changes of static pressure in response to errors in the position of the edge,

first diaphragm means for actuation in response to said changes of static pressure from said sensing head, second diaphragm means for actuation in response to a jog signal to move an edge alignment correction device over a relatively long distance, a force amplifier actuated by said first and second diaphragm means and having an output element for controlling the edge alignment correction device, valve means in said force amplifier for controlling the acceleration and deceleration of the movement of said output element,



said valve means comprising a pair of tapering elements each having a gradual taper to provide a gradual opening and closing of said valve means and each having a precipitous taper adjacent the larger diameter portion of said gradual taper to provide for closure of said valve means when said force amplifier is not actuated, and means for supplying a liquid under pressure to said force amplifier for actuating said output element under the control of said valve means.

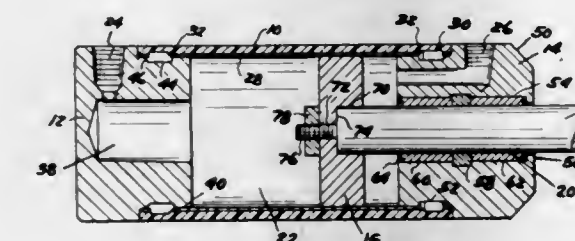
3,343,460

METHOD AND MEANS FOR JOINING END
CAPS TO A CYLINDER

Otis V. Jones, 6028 Huron St., Dearborn, Mich. 48125

Filed Aug. 20, 1965, Ser. No. 481,228

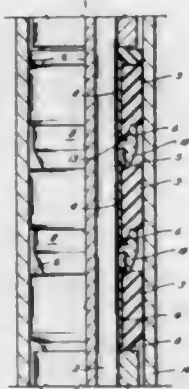
3 Claims. (Cl. 92—168)



1. A linear actuator of the cylinder-piston type, comprising: a cylinder wall formed of a section of tube of a glass filament construction, reinforced with an epoxy resin, having first continuous and unperforated grooves formed on one of its surfaces adjacent to each of its ends; end caps for the cylinder each having a diameter formed thereon which is complementary to the diameter of the surface of the tube which is grooved; second continuous and unperforated grooves formed in the end caps; the end caps being disposed in mating relationship with the ends of the tubes so that the grooves on the tube and the grooves on the end caps are in opposition to one another; either the first or second grooves being displaced from the end of its respective member by a distance less than the width of the respective opposed grooves; a resin

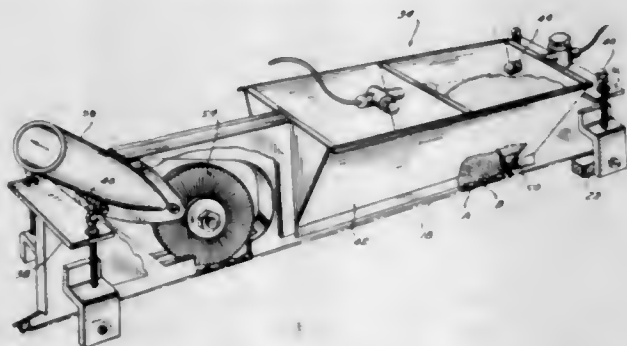
filling the space formed by the grooves on the tube and the grooves on the end caps, whereby an intimate bond is formed with said tube and said end caps; a piston movable within said cylinder; and a rod connected to said piston and passing through an aperture in one of the end caps.

3,343,461
SWAB CUP ADAPTER
William B. Tinsley, 1926 Colony Drive,
Irving, Tex. 75060
Filed Mar. 24, 1965, Ser. No. 442,450
1 Claim. (Cl. 92—180)



In combination, a swab cup adapter for use on swab mandrels and swab cups having rigid vertically moveable cores and bonded rubber on said rigid cores, said adapter comprising an annular body member having an inwardly tapering inside wall at one end and an annular abutment on said inside wall at the terminal of said taper midway between the respective ends of said body member, the outside wall at the other end of said member being tapered inwardly and said annular member having a bore in said other end terminating at said abutment, said bore being greater than the outside diameter of the rigid core of the swab cups permitting free vertical movement thereon.

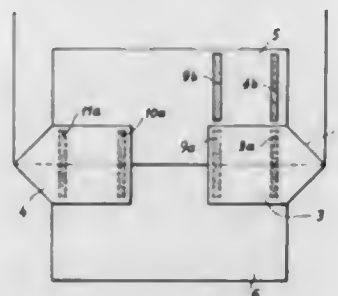
3,343,462
MULTIPLE FILTER MAKING MACHINE
John H. Sexstone, Louisville, Ky., assignor to Brown & Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed July 3, 1964, Ser. No. 380,145
10 Claims. (Cl. 93—1)



1. A method of making cigarette-mouthpiece rods divisible into individual mouthpieces having an adsorbent granule component in line with other components, said method comprising the steps of: feeding said other components endwise in line, spacing these components a predetermined distance from one another, partially enclosing them in a continuous wrapper, providing a source of adsorbent granules, passing the partially enclosed components in the wrapper beneath the source of adsorbent granules, providing direct communication between the source of adsorbent granules and the space between components, introducing adsorbent granules between the

spaced components directly from the source of adsorbent granules while partially wrapped while maintaining direct communication between the source of adsorbent granules and the space between components and simultaneously regulating the amount of adsorbent granules introduced in the space by removing excess granules and simultaneously regulating the shape of the adsorbent granules in the space, then completing the enclosing of the wrapper around the spaced components and introduced adsorbent to form a continuous composite rod and then sub-dividing said continuous rod by cutting it at predetermined intervals to thereby produce rods each of which contains at least one adsorbent granule section.

3,343,463
METHOD OF FORMING A CROSS BOTTOM AT THE END OF A FLAT TUBULAR BLANK OF HEAT SEALABLE MATERIAL AND BAG HAVING A CROSS BOTTOM SO MADE
Kurt Georg Nielsen, Lille Varlose, and Svend Aage Jensen, Bagsvaerd, Denmark, assignors to Ingeniørfirmaet Elwis, Copenhagen, Denmark, a partnership
Filed Feb. 11, 1964, Ser. No. 344,126
Claims priority, application Denmark, Feb. 15, 1963, 726/63
12 Claims. (Cl. 93—35)

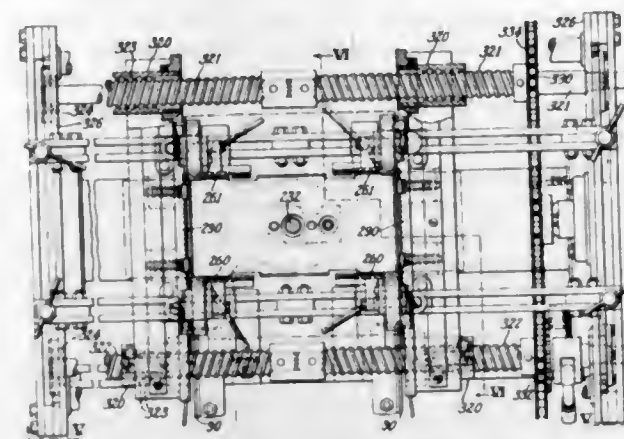


1. A method of forming a cross bottom at the end of a flat tubular blank of heat sealable material by means of corner flaps folded along diagonal lines and bottom flaps folded along lines extending longitudinally of the bottom end of the blank, characterized by the step of clamping the said corner and bottom flaps together with the adjoining end portions of the side wall of the blank between exteriorly applied heat sealing tools along lines extending transversely across the cross bottom, thereby to form transverse sealing seams, a seal preventing agent such as silicone being beforehand applied to the areas of at least one of the surfaces of the corner flaps and the side wall to be clamped against one another in the transverse heat sealing operation.

3,343,464
BOX FORMING MACHINES
Charles J. Gross, Winchester, Mass., assignor to Hoague-Sprague Corporation, Lynn, Mass., a corporation of Massachusetts
Original application May 10, 1963, Ser. No. 279,419, now Patent No. 3,237,535, dated Mar. 1, 1966. Divided and this application Jan. 20, 1966, Ser. No. 521,868
3 Claims. (Cl. 93—36)

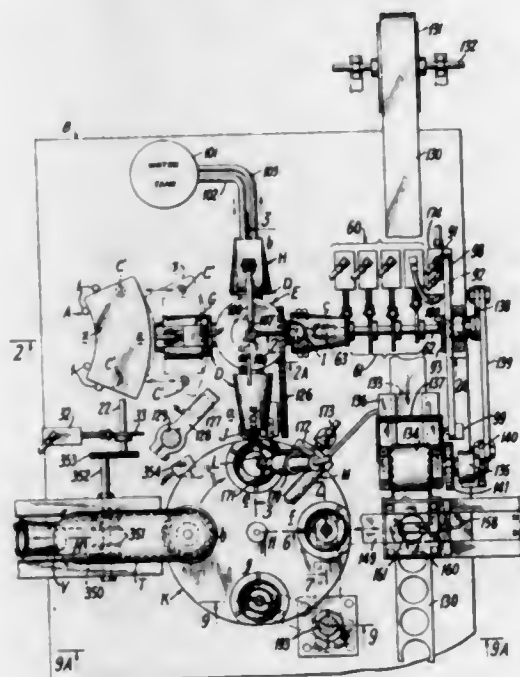
1. In a machine for forming boxes from blanks of sheet material, a forming station including a form having a shape corresponding generally to the interior of a finished box, at least one pressure plate at one end of said form, means mounting said plate for movement toward and away from said form for applying pressure to the end of a blank folded over the form, said mounting means comprising a pair of shafts each having screw threads thereon and fixed against axial movement with respect to the form, a pair of nut units fixed to said plate and through which extend the threaded portions of said shafts;

each of said units having ball bearings running in the threads of said screws for mounting the plate on the shafts for substantially friction-free movement of said plate with



respect to said form and for causing said movement by rotation of said shafts, and means for rotating said shafts simultaneously for moving the pressure plate toward and away from said form.

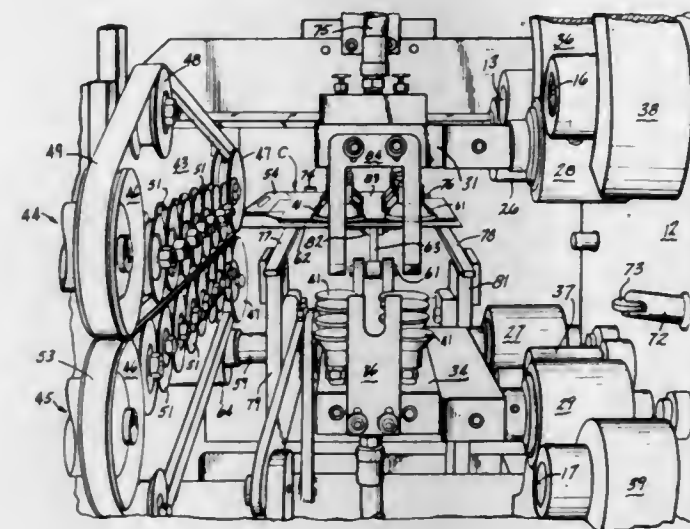
3,343,465
CUP-MAKING MACHINE
Marcel O. Albert, Falls Church, Va., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 31, 1962, Ser. No. 234,476
26 Claims. (Cl. 93—39.3)



1. A cup-making apparatus comprising a rotor supported for rotation about a vertical axis, at least one mandrel carried by said rotor and extending radially from said rotor, means for imparting rotation to said rotor to carry the mandrel through a plurality of stations, means feeding a blank to a mandrel at one station, means at a station for wrapping said blank around said mandrel, means at a station for heat sealing said blank in tubular form, means at a station for removing the sealed tube from the mandrel, said mandrel and the tube formed thereon being tapered and including a turntable in proximity to the path of travel of said mandrel, at least one receptacle carried by said turntable, means for imparting rotation to said turntable to carry the receptacle through a plurality of stations, means for transferring the sealed tube from the mandrel to the receptacle, said receptacle being tapered so as to support the tube with the upper and lower ends of the tube exposed, means for delivering a bottom to the tube within the receptacle at one station,

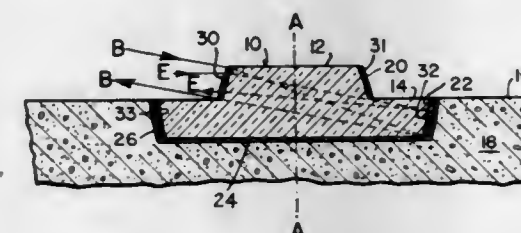
said bottom having a downwardly depending outer skirt, a heated ring movable into an operative position surrounding the lower edge of the tube, and a rotatable tool movable into position within the lower end of the tube, said rotatable means including means for turning up the lower edge of the tube inside the depending skirt of the cup bottom and means urging the turned-up edge outwardly toward the heated ring.

3,343,466
CARTON ERECTOR APPARATUS AND PROCESS
Earle C. Sherman, Monroe, La., assignor, by mesne assignments, to Olinkraft, Inc., West Monroe, La., a corporation of Delaware
Filed Mar. 16, 1965, Ser. No. 440,103
4 Claims. (Cl. 93—53)



1. An apparatus for erecting a collapsed folding carton and for locking the carton in an erect position, said carton including a handle portion, a multi-cell body portion, and a carton lock comprising means for engaging and feeding the handle portion at a uniform speed, opposed reciprocating vacuum plates operable to engage and expand said body portion into a generally rectangular structure, stop means carried by said plates operable to engage and block advance of said body portion while said handle portion is being advanced at said uniform speed and plunger means engageable with said body portion operable to actuate said carton lock, said plates being timed relative to the operation of said plunger means effective to withdraw said stop means after said carton is locked.

3,343,467
REFLEX MARKER
Gordon G. Bonvallet, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 29, 1965, Ser. No. 443,581
8 Claims. (Cl. 94—1.5)

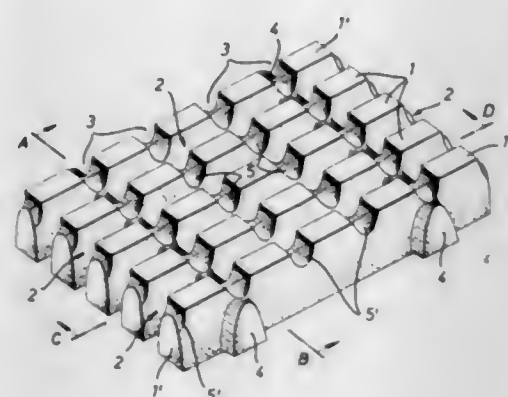


1. A reflex lens comprising a solid transparent body having an incident surface and a reflecting surface, said surfaces being surfaces of revolution about a common axis and being on opposite sides of a plane perpendicular

to said common axis, the intersections of each said surface with planes through said common axis being outwardly convex, each said surface sloping away from said plane towards said common axis, at least one of said incident and reflecting surfaces having at least one sector provided with filter means for modifying the perceptible color of light falling upon said surface and reflected by said lens so as to differ from the perceptible color of light falling on at least one other sector of the same said surface and reflected by said lens.

3,343,468 PAVING BLOCK

Paul Schraudenbach, 53A Agnes-Bernauer-Strasse, Munich 42, Germany
Filed May 13, 1965, Ser. No. 455,369
Claims priority, application Germany, May 14, 1964, Sch 35,163
8 Claims. (Cl. 94—11)



1. A paving block comprising a plurality of bar-shaped, parallel tread members spaced from each other, a plurality of parallel connecting webs interconnecting said tread members and extending transverse thereto, said connecting webs being spaced from each other in a manner such that said spaced tread members and said spaced connecting webs form intermediate apertures extending entirely through the block from the top to the bottom surface thereof, at least the upper surface of said tread members being broken away at appropriate points so as to form a plurality of spaced apart transverse grooves, the bottom of each groove having a narrow central longitudinal portion and downwardly slanting chamfered portions on each side of said central portion which merge into the side surfaces of said tread members to promote the growth of grass in said grooves upon said intermediate apertures being substantially filled with soil and grass being sowed thereon so as to form sod.

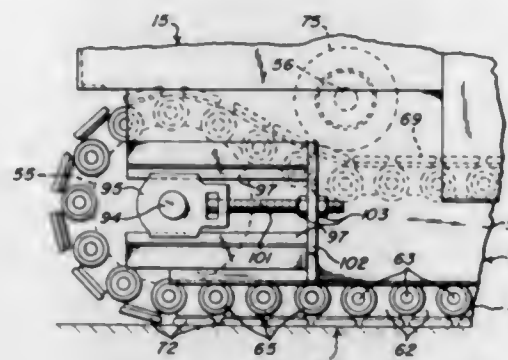
3,343,469 MACHINE FOR DISTRIBUTING CONCRETE MATERIAL

James E. Ingle, Tell City, Ind., assignor to Maxson Construction Company, Inc., Dayton, Ohio, a corporation of Ohio

Filed Aug. 19, 1965, Ser. No. 480,862
3 Claims. (Cl. 94—46)

1. An improved machine for distributing flowable material such as concrete along a prepared roadbed without requiring pre-erected rail-like forms and being adapted to receive material directly from supply trucks adjacent either side of the machine, said machine comprising a frame defining a generally rectangular opening adapted to extend transversely across the roadbed, a pair of parallel spaced support rails mounted on said frame and adapted to extend longitudinally along opposite sides of the roadbed, an endless articulated track mounted on each said rail, each said track including pivotally connected

links and track pads, at least one roller connected to each said link for engaging the corresponding said rail, front and rear sprockets for each said track, means connected to each said rail and supporting the corresponding said sprocket in alignment with said rail, a snub roller supported adjacent each said sprocket for engaging said track pads to direct each said track more than 180° around each said sprocket for positioning the upper reach portion of each said track close to the lower reach portion to provide said track with a low overall height along said opening, means for mounting said track pads on each said track in spaced apart relationship so that said tracks can make a reverse bend around said snub rollers, power

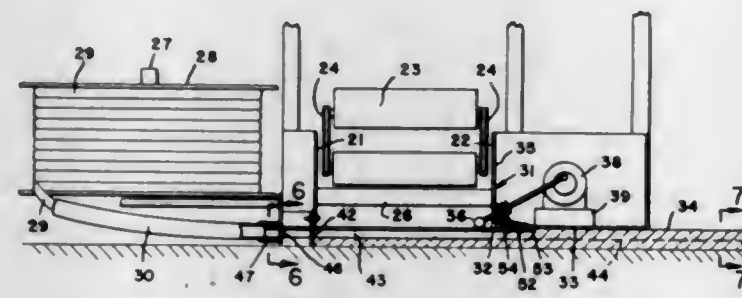


supply means carried by said frame and connected for driving said tracks through said rear sprockets, a form member connected rigidly to each said rail and said form members spaced in parallel relationship for defining parallel vertical surfaces adjacent the roadbed along the inward portions of said tracks, a hopper mounted for traversing movement within said opening and including a portion extending outwardly above said upper reach of each said track when said hopper is positioned adjacent said track, and means defining a longitudinally extending elongated discharge outlet in the bottom of said hopper for spreading the material at a predetermined elevation between said form members as said hopper traverses within said opening.

3,343,470 CONCRETE JOINT FORM INSERTER

Ray N. Atkinson, Hillsborough, Calif., assignor to Guy F. Atkinson Company, South San Francisco, Calif., a corporation of Nevada

Filed May 28, 1965, Ser. No. 459,838
2 Claims. (Cl. 94—51)



1. A device for paving a surface and simultaneously inserting a flexible longitudinal joint form in the paving material including:

a framework movable over said surface, said framework being provided with means defining a trough for receiving paving materials and discharging them onto said surface,

said trough including a front wall and a rear wall, said rear wall including an extrusion plate to extrude and strike off the paving material discharged from said trough,

means for delivering said joint form into said paving material as the material is discharged onto said surface,

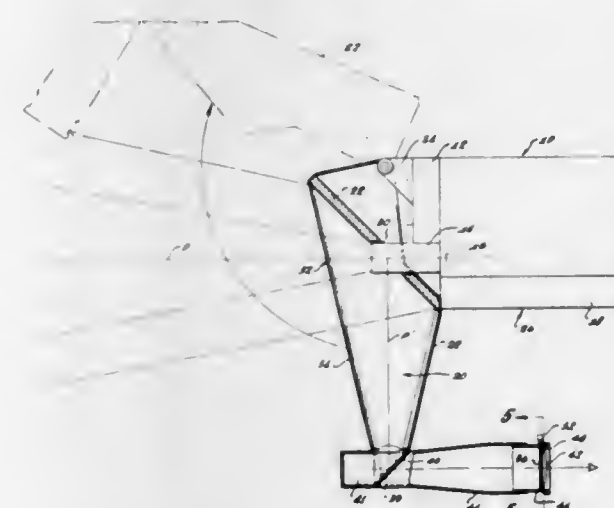
said delivering means including an inserter tube of generally the same cross-section as said form so that the paving material can consolidate about said form as it is discharged from said inserter tube, said inserter tube having an inlet end and an outlet end, said inserter tube being mounted on said framework with said inlet end spaced forwardly of the front wall of said trough to be free from contact with said paving material, and said outlet end being near said extrusion plate,

said inserter tube having a relatively flat upper portion, the lower surface of said portion being coplanar with the lower surface of said extrusion plate, and vibrating means connected to said inserter tube for applying vibration to the paving material.

3,343,471 CAMERA VIEWFINDER

George A. Mitchell, 687 Prospect Crescent, Pasadena, Calif. 91103

Filed July 1, 1965, Ser. No. 468,883
4 Claims. (Cl. 95—42)



1. A camera, comprising:

a camera body,
a camera objective lens mounted at the forward end of said camera body;

a viewfinder housing pivotally mounted upon said camera body on an axis positioned laterally of said objective lens and arranged to swing said housing laterally out of the maximum field of view of said objective lens, said housing having an aperture therein in front of said objective lens;

a planar reflex mirror supported within said housing behind said aperture and outside the field of said objective lens, said mirror having a hole therein for permitting light to pass through said mirror and said objective lens, said mirror being inclined at 45° to the optical axis of said lens so that said mirror and said lens both receive light directly from the same subject along a common optical axis, the field of view defined by said aperture and said mirror being at least as great as the maximum field of view of any objective lens mounted upon said camera body;

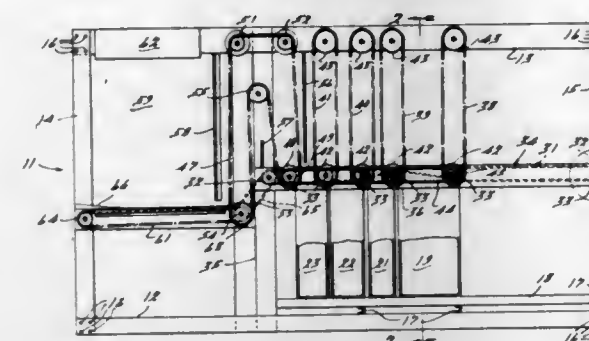
a viewfinder screen mounted within said viewfinder housing; and

optical means for focusing the light reflected from said mirror to form an image upon said screen of the subject observed by said mirror and said lens.

3,343,472 PHOTOGRAPHIC PROCESSING MACHINE

Philip Rosenberg, 23131 Sussex, Oak Park, Mich. 48237

Filed Jan. 21, 1965, Ser. No. 426,759
6 Claims. (Cl. 95—94)

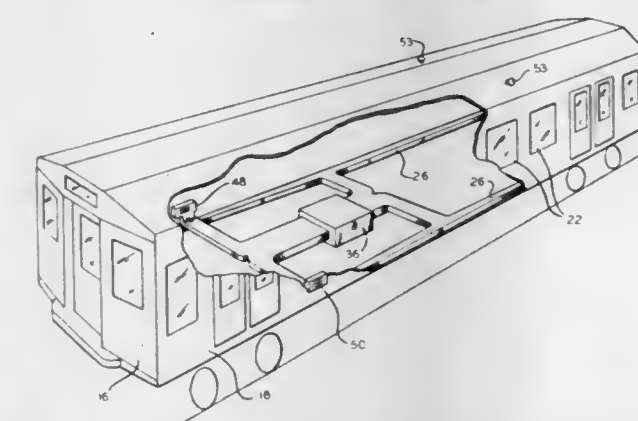


1. A chemical processing machine comprising a plurality of longitudinally spaced tanks for containing chemical baths,
horizontal transfer means for moving a piece horizontally through each of said tanks,
a plurality of vertical transfer means for withdrawing the workpieces from the horizontal transfer means and a respective tank and for inserting the pieces into the next adjacent tank and transferring the pieces back to the horizontal transfer means,
a single driving motor coupled to said horizontal transfer means and to said vertical transfer means for driving said transfer means simultaneously, and control means for intermittently operating said driving motor for driving said vertical transfer means through a substantially complete cycle simultaneously with driving of said horizontal transfer means.

3,343,473 AIR DISTRIBUTION SYSTEM

Laurance H. Gillick, Wilmette, and Alexander P. Stickers, Elgin, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware

Filed Sept. 7, 1965, Ser. No. 485,383
15 Claims. (Cl. 98—10)



9. In a vehicle having an air distribution system for obtaining distribution of air within a vehicle having a floor exposed on the underside to the atmosphere, a ceiling, and front, back and side walls, air discharge openings within said vehicle and along opposite sides thereof, return air openings within said vehicle, a duct extending below the floor and exposed to the atmosphere along each side of the vehicle for delivering primary air to said air discharge openings, means for conditioning and delivering primary air to each duct, said means including a central box mounted below the floor of the vehicle and exposed to the atmosphere having means therein for conditioning air and having an inlet opening and an outlet opening, conduit means connecting the outlet opening to

said ducts, fresh air inlets outside of the vehicle, and conduit means connecting the inlet opening to a fresh air inlet and a return air opening.

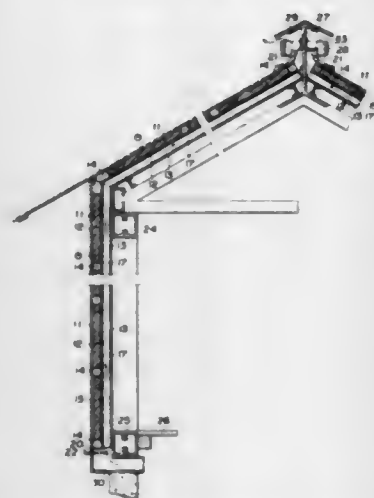
3,343,474

BUILDING WITH A VENT DEVICE

Yoshitoshi Sobda, Room 1003, 6-4 3-chome, Shibuya, Shibuya-ku, Tokyo, Japan, and Yoshimi Sobda, 38, 95-banchi, Hosoya, Kawasaki-shi, Kanagawa-ken, Japan
Filed Sept. 16, 1965, Ser. No. 487,773

Claims priority, application Japan, Sept. 22, 1964, 39/54,138

1 Claim. (Cl. 98—31)



A building consisting essentially of a foundation, a framework, a prefabricated wall structure and a prefabricated roof structure thereon, each structure comprising an exterior board, an interior board, a layer of heat insulating material against the inner surface of said exterior board, and a plurality of layers between said insulating material and said interior board and each layer having a plurality of side by side air passages extending from the lower end to the upper end of said wall structure and from the edge to the center of said roof structure; controlling plates at the lower ends of said air passages in said wall structure and controlling plates at the central ends of said air passages in said roof structure, said controlling plates being mounted on said structure for opening and closing, and the air passages in said wall structure being in communication with the air passages in said roof structure at the juncture of said structures.

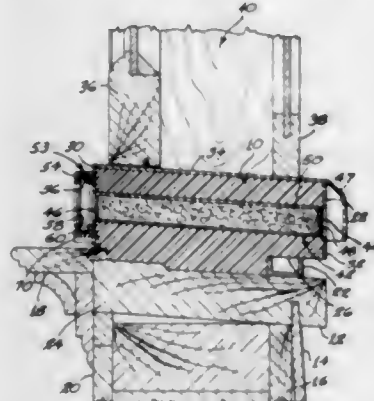
3,343,475

BUILDING WALL WITH INSULATING AND AIR-FILTERING VENTILATOR

James H. Costley, 719 9th Ave.,
Two Harbors, Minn. 55616

Filed Oct. 20, 1965, Ser. No. 498,945

5 Claims. (Cl. 98—37)



1. In combination with a building having an outside wall, an insulated ventilating device comprising a block of lightweight, rigid foam plastic, heat insulating material

disposed through the outside wall of said building and having an inner face, an outer face and a slot extending completely through said wall from the outer face of said block to its said inner face to form a passage for the flow of air from said outer face to said inner face, said slot being elongated in the direction of air flow from said outer face to said inner face, a cartridge filter containing filter material filling said slot, and means adjacent said inner face for selectively blocking and opening said slot whereby, upon the opening of said means, filtered air may enter said building from the exterior to the interior thereof through said slot.

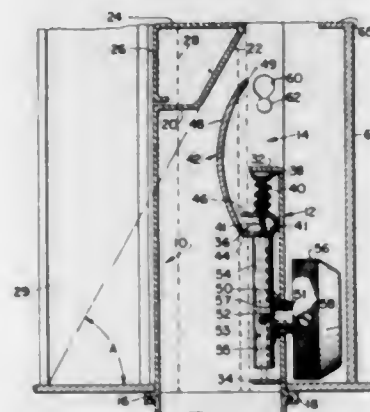
3,343,476

AIR DIFFUSER

Carlos E. Dominguez, Chagrin Falls, Ohio, assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia

Filed Aug. 2, 1965, Ser. No. 476,551

7 Claims. (Cl. 98—40)



1. An air diffuser comprising a stationary vane means having a planar surface extending upwardly and outwardly at an acute angle from the horizontal; vertical guide members disposed adjacent said stationary vane opposite said planar surface; a movable vane slidably mounted on said vertical guide members for vertical movement toward and away from said planar surface of said stationary vane between fully closed abutting relation and fully open spaced relation to provide an elongated air outlet of varying width; means disposed about said guide members in abutting relation with said movable vane for biasing said movable vane toward its fully open spaced relation; rotatable camming means fixed in opposed abutting relation with said movable vane for moving said movable vane against the force of said biasing means; and manual means connected to said camming means for selectively rotating said camming means to adjust the position of said movable vane and the width of said air outlet.

3,343,477

ARRANGEMENT IN APPARATUS FOR HOT WATER TREATMENT OF GOODS

Martin Rudolf Ekstam, Ekstad,
Fjalkestad, Sweden

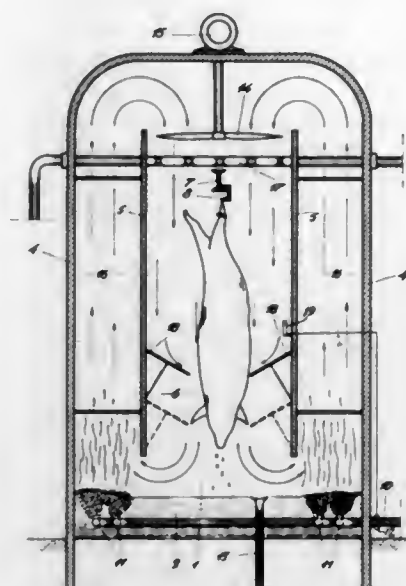
Filed Sept. 27, 1965, Ser. No. 490,593

Claims priority, application Sweden, Sept. 30, 1964, 11,724/64

2 Claims. (Cl. 99—234)

1. In an apparatus for hot water treatment of goods, a heat insulated chamber having entrance and exit openings at two opposite ends, means in said chamber for transporting the goods to be treated from the entrance to the exit end of said chamber, means for producing a mixture of air and wet steam in said chamber, means for blowing said mixture downwards through said chamber

from the top to the bottom thereof and cooling means provided in the path of flow of said mixture for condens-



ing the steam to a mist of hot water before encountering the goods transported through the chamber.

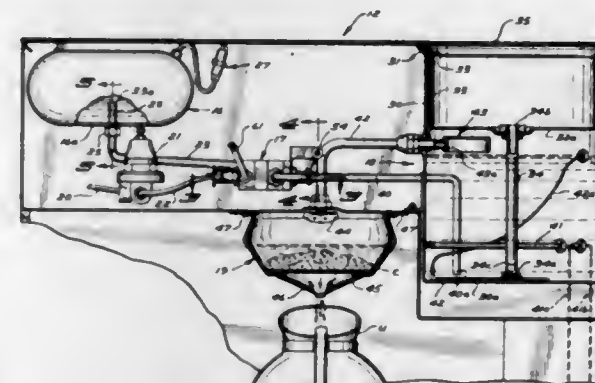
3,343,478

AUTOMATIC COFFEE MAKER

Leonard P. Hausam, Minneapolis, Minn., assignor to Charter Design and Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed June 23, 1966, Ser. No. 563,017

8 Claims. (Cl. 99—283)



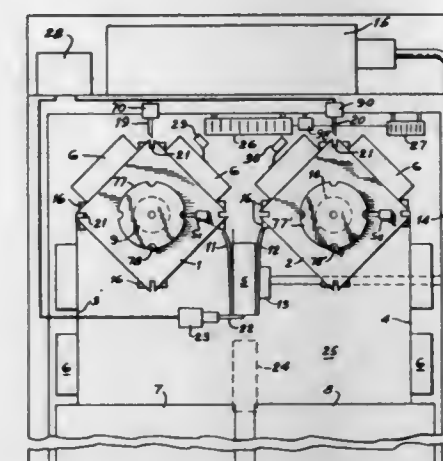
1. An automatic coffee maker including:
 - (a) coffee confining basket for holding a predetermined amount of ground coffee therein;
 - (b) a reservoir unit for storing a predetermined amount of water;
 - (c) means for heating the water in said reservoir;
 - (d) a hot water supply conduit receiving and siphoning water from an uppermost portion of said reservoir and delivering the same into said coffee confining basket;
 - (e) a second water storage tank arranged to receive water from an external source of supply;
 - (f) means for delivering a predetermined amount of water from said second tank to said reservoir unit; and,
 - (g) selective control means controlling the flow of water from the source to said second tank in one position and from said second tank to said reservoir in a second position.

3,343,479
SYSTEM FOR HEATING AND VENDING PACKAGED FOOD

Yugve Adolf Eugen Wassberg, Linköping, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 8, 1965, Ser. No. 485,851

1 Claim. (Cl. 99—352)



A hot food vending machine comprising a housing member containing a cold storage compartment, a heating station within said cold storage compartment, said heating station comprising a microwave horn and food package retaining means; a radiant energy generator of high frequency, radiant energy conducting means interconnecting said horn and said generator, said generator being located outside of said cold storage compartment, at least one food package storage container within said compartment, means for sequentially removing food packages from said container and delivering a single food package to said heating station, refrigerating means within said cold storage compartment, a heater device means positioned in said cold storage compartment, said refrigerating means and said heater device means being interconnected thereby regulating the temperature of said cold storage compartment, and means for delivering said heated food package from said heating station.

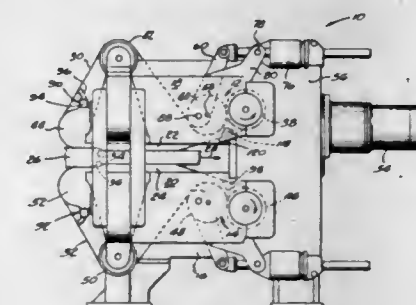
3,343,480

BELT DRIVE MECHANISM

Carroll H. Van Hartesveldt, Toledo, Ohio, and Buddy D. Wahl, Ann Arbor, Mich., assignors to Hoover Ball and Bearing Company, Ann Arbor, Mich., a corporation of Michigan

Filed Mar. 26, 1965, Ser. No. 443,147

10 Claims. (Cl. 100—93)



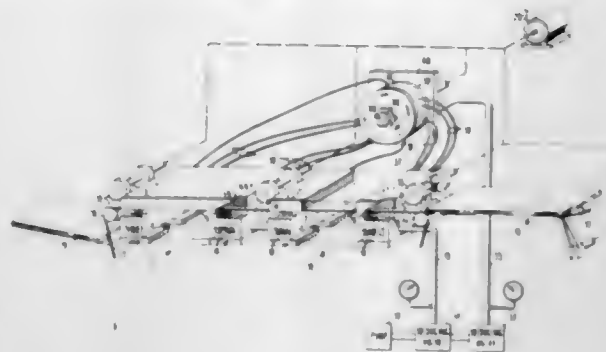
1. In a machine for forming workpieces in sheet form; first and second shoes having opposed surfaces in spaced apart relation, first and second sheets of thin flexible metal having a high tensile strength positioned to move over the surfaces respectively of said first and second shoes, drive roll means for pulling said sheets across the surfaces of said shoes with a workpiece sandwiched in between said sheets, means for applying a lubricant between said sheets and their respective shoes, and means intermediate

said shoes and said drive roll means for removing lubricant from said sheets, each of said last-named means comprising an applicator for applying a diluent to the surface of its associated sheet and a scraper arranged to scrape diluted lubricant from the surface of the sheet.

3,343,481

FLUID-ACTUATED TRANSLATING AND PRINTING MEANS

George A. Giannuzzi and Donald W. Haney, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 29, 1965, Ser. No. 443,288
8 Claims. (Cl. 101-93)

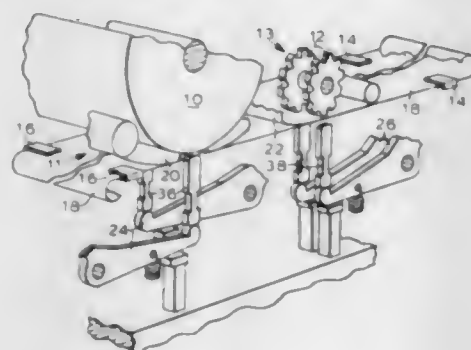


1. In apparatus for decoding columnar code indicia contained in a document, the combination comprising: a printing element operable in response to a fluid pressure pulse transmitted thereto for printing a designated character; sensing means having pressurized fluid supplied thereto connected to said printing means for generating a said pulse upon detecting a predetermined columnar arrangement of said indicia on said document; means for transporting said document column by column past said sensing means; manifold means for supplying said pressurized fluid to said sensing means; and control means moving in synchronism with said transport means and said document for disabling or enabling said sensing means in accordance with a predetermined variable format of printed characters.

3,343,482

AUTOMATICALLY CONTROLLED PRINTER FOR PRINTING AND CODING DOCUMENTS

Dean P. Scott, Livonia, Kenneth Staugaard, Rochester, and Sylvester F. Pelowski, Warren, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 14, 1965, Ser. No. 448,114
6 Claims. (Cl. 101-90)



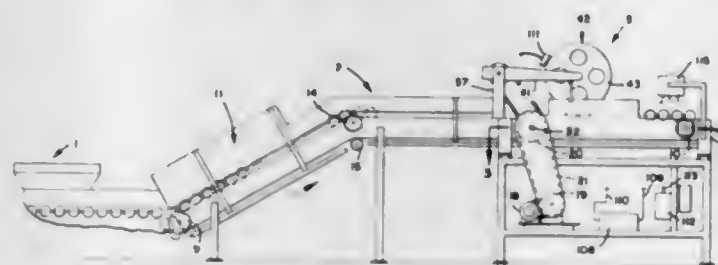
1. The combination comprising: transport means for moving a recording medium in at least a first direction; first printing means for transferring information to said recording medium human readable form;

- second printing means, spaced apart from said first printing means in said first direction, for transferring information to said recording medium in machine readable form;
- a source of serially presented information having correlated sections representing human readable information and machine readable information in proximity to each other for printing on the same document by said first and second printing means;
- buffer means, electrically connected to said information means and to one of said printing means, for temporarily storing information which is to be printed by said second printing means by a period of time corresponding to the time required to move a point on said recording medium between said first printing means and said second printing means by said transport means;
- format control means for selectively connecting said serially printed information to said first printing means and to said buffer means.

3,343,483

ELECTROSTATIC PRINTING WITH STENCILS MOUNTED ON A DRUM

Marlin A. Schueler, Danville, Calif., assignor to Unimark Corporation, a corporation of California
Filed Mar. 15, 1965, Ser. No. 439,720
8 Claims. (Cl. 101-114)



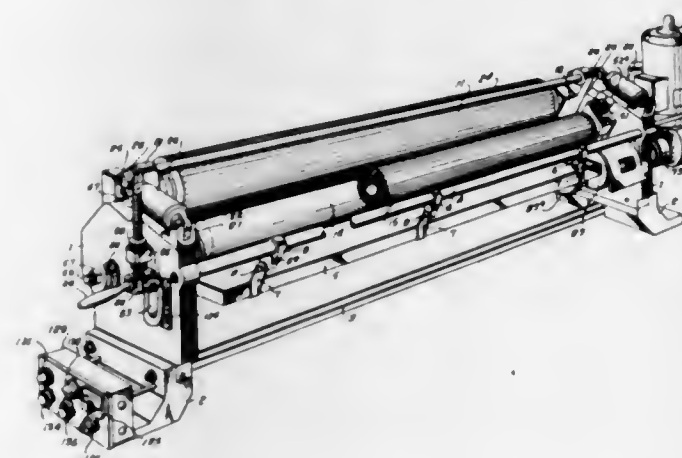
1. In an electrostatic printing machine, the combination comprising:
 - (a) a drum-like wheel supported for rotation about a horizontally disposed axis, and having radially outwardly outer peripheral walls that, in turn, include an annular row of screens coaxial with said axis, each having radially inwardly and radially outwardly facing sides relative to said axis, and each formed with a plurality of openings in a predetermined pattern corresponding to the designs to be printed;
 - (b) a conveyor including article supporting means for supporting articles to be printed upon for movement along a predetermined path of travel projecting from said article supporting means and means for actuating said conveyor for moving said article supporting means to move the articles thereon along said path;
 - (c) wheel supporting means for supporting said wheel over said path at a point therealong for movement of one of said screens into opposed printing relation to each of said articles when each article is closest to said wheel, and means connecting said conveyor with said wheel rotating the latter to move screens to said opposed printing relation upon actuation of said conveyor;
 - (d) a supply of printing powder within said wheel;
 - (e) powder distributing and moving means within said wheel between said supply and each screen when the latter is in printing relation to one of said articles for depositing powder from said supply onto the radially inwardly facing side of said screen, and for moving the powder so deposited through the openings in each screen to the radially outwardly side of each screen;

- (f) means for establishing an electrostatic field between the screen and article in said printing relation for conducting the powder moved through said openings onto the article opposed thereto upon any one screen and article being moved to said printing relation;
- (g) means on said wheel rigid therewith and around the plurality of openings in each screen projecting radially outwardly of each screen relative to the axis of said wheel for engaging the outer surface of an article on said conveyor around the portion to be printed upon when a screen is in said opposed printing relation to such article for spacing the screen from said article.

3,343,484

LITHOGRAPHIC DAMPENER WITH SKEWED METERING ROLLER

Harold P. Dahlgren, 6919 Blackwood, Dallas, Tex. 75231
Filed Dec. 16, 1964, Ser. No. 418,680
13 Claims. (Cl. 101-148)



5. In a device for dampening the plate on a lithographic press; a dampening fluid transfer roller having a smoothly finished, hard surface thereon; a resilient ink coated applicator roller in rotative contact with the plate and with the surface of the transfer roller; a dampening fluid metering roller having a smooth resilient surface thereon in rotative contact with the surface of the transfer roller and adapted to be indented in metering relationship with the transfer roller; a common mounting housing for the metering roller and transfer roller at each end thereof; bearings mounted in said housing on which the metering roller and transfer roller are rotatably supported; at least one of the housings being rotatable about the bearing support for the transfer roller; means to rotate said mounting housing about the end of the transfer roller to thereby spirally twist the resilient surface of the metering roller about the transfer roller; and means to fix the said mounting housing against further rotation after such adjustment is made.

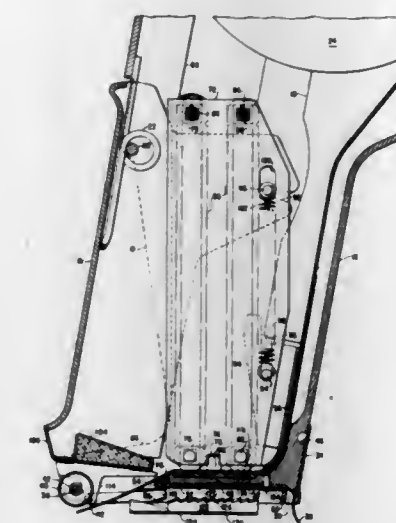
3,343,485

LABEL PRINTER AND DISPENSER HAVING RECIPROCAL PRINT CARRIAGE

Herbert H. Loeffler, Brooklyn, N.Y., assignor to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed Feb. 5, 1965, Ser. No. 430,565
8 Claims. (Cl. 101-288)

1. Apparatus for printing and dispensing labels from an indefinite length of label strip, comprising, in combination:
 - a housing having a printing platen surface;
 - a hand lever pivotally mounted for pivotal movement about an axis in said housing for oscillatory movement through a feed stroke and a return printing stroke;

a print carriage bearing a type font and being reciprocally slidable in said housing between a printing position in which said type font is positioned to engage said strip resting on said platen surface, and withdrawn position spaced from said platen surface; said lever and said carriage having pivotal connection at a point spaced from said axis to effect movement of said carriage to the withdrawn position during said feed stroke, and movement of said carriage to the printing position during said printing stroke; a pawl element pivotally mounted in said lever for travel therewith, said housing having a ratchet element spaced from said platen surface to provide passage for said pawl element therebetween, said



ratchet element being constructed and arranged to engage with and deflect said pawl element during said feed stroke into position to engage and feed said strip over said platen surface and to release said pawl element from engagement with said strip at the conclusion of the feed stroke, said housing further providing a channel for return movement of said pawl element disengaged from said ratchet element during said return printing stroke; said ratchet element blocking a reverse movement of said pawl element and said lever through the feed stroke prior to completion thereof, whereby said strip is fed in one direction over said platen surface, and printed only upon completion of a full feed stroke.

3,343,486

PRACTICE BOMB

Meredith W. Patrick, P.O. Box 188, Carmel, Calif. 93921
Filed Jan. 11, 1966, Ser. No. 520,308
5 Claims. (Cl. 102-7.6)



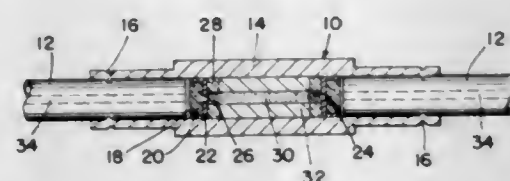
1. A recoverable practice bomb which may be used in practice bombing runs on targets such as vessels, vehicles and structures, said bomb comprising:
 - a nose section provided with means for recording bombing run data, said nose section being otherwise primarily composed of lightweight filter material to absorb shock on landing;

a central section of hollow configuration containing a ballast material in the form of water-jettisonable during flight, said central section having formed therein at least two ballast release openings respectively closed by doors biased when in closed position; and a tail section having a parachute housed in the rear portion thereof, said tail section also containing therein buoyant material for assisting in recovery of said bomb from bodies of water; said bomb further including latch means for holding said doors closed; individual door latch means operable by differing force applications so that all latch means may not be rendered inoperable by a common malfunction.

3,343,487

PYROTECHNIC DELAY DEVICE FOR MILD DETONATING FUZE

George F. Hare, Jr., Feasterville, and James F. Kowalick, South Hampton, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Dec. 22, 1965, Ser. No. 515,705
7 Claims. (Cl. 102-27)



1. A pyrotechnic delay device for mild detonating fuze including a delay element comprising a case open at either end, means for securing the ends of said case to the ends of said mild detonation fuze, a lead tube contained in said case, containing a column of delay composition, a paper disc adjacent to each end of said mild detonating fuze within said case, a first vented washer adjacent said paper discs, a primary explosive composition contained within said vented washer, a second vented washer between said first vented washer and said lead tube, and a gasless igniter mixture contained within said second vented washer.

3,343,488

MORTAR SHELL

Robert J. Sherwood, Hamburg, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 10, 1965, Ser. No. 507,259
2 Claims. (Cl. 102-49.1)

1. A mortar training shell comprising a hollow shell body having an open forward end and a closed rearward end; a fuze member secured to said body forward end; means in said body for simulating the weight characteristics of an explosive; a tail section removably fixed to the rearward end of said body, said tail section including a first forwardly open cavity, a second rearwardly open cavity for receiving a propelling cartridge, stabilizing means adjacent said second cavity, and gas discharge means defined by radial passage means in said tail section communicating with said first cavity; a smoke generator assembly slidably arranged in said first cavity, said assembly including a housing having a rearwardly opening bore communicating with said gas discharge means and receiving a smoke generating cartridge, and firing pin assembly threadably

secured to a forward end of said housing and including a firing pin, a centrally apertured rearward guide slidably receiving said firing pin, and a compression spring normally biasing said pin forwardly away from said guide and smoke generating cartridge

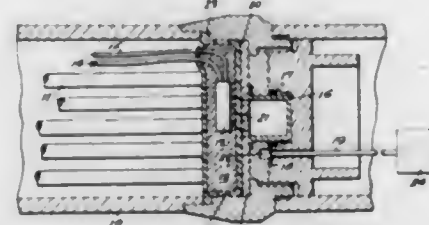


and against said shell body rearward end, said guide having rearward protuberance means in engagement with a forward face of said smoke cartridge and normally maintaining said smoke cartridge spaced longitudinally rearward of said firing pin.

3,343,489

SAFETY FOR PRESSURE ARMED ROCKET FUZE

Howard G. Whitehouse, Garden Grove, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 14, 1967, Ser. No. 616,448
6 Claims. (Cl. 102-49.6)



1. A safety device for a rocket comprising a rocket having a warhead fuze, a rocket motor, an igniter assembly for the motor, a squib within the igniter assembly, a heat-insulated casing containing the igniter assembly adapted to seal said assembly from accidental ignition, a release pin normally holding directly said warhead fuze in an unarmed position, expandable means supporting the release pin in the holding position, said insulated casing adapted to shatter only by ignition of the igniter assembly from within to permit the combustion gases to enter said means and said means expanded by the pressure of the combustion gases to free the release pin for movement from the unarmed position.

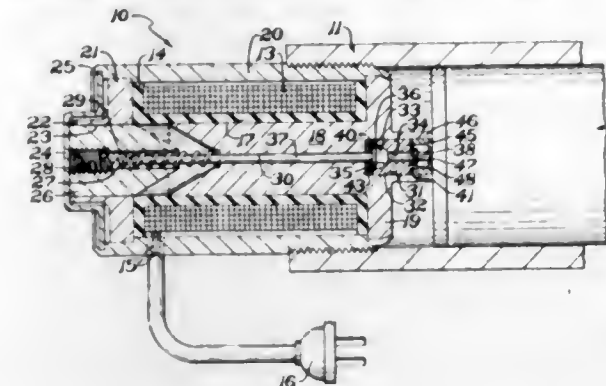
3,343,490

ORDINANCE FIRING DEVICE

John S. Barrett, Chagrin Falls, Ohio, assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Aug. 12, 1966, Ser. No. 572,005
3 Claims. (Cl. 102-70)

1. An apparatus for firing a detonatable device, comprising fluid linear displacement means; fluid velocity amplifying means, a linearly displaceable firing pin; incompressible fluid means contained within said fluid velocity amplifying means and between said displacement

means and said firing pin, whereby linear displacement of said fluid by said displacement means causes said firing

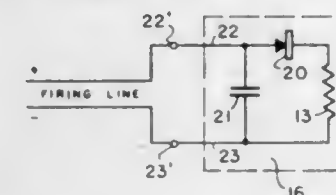


pin to be linearly displaced a distance greater than the linear displacement of said fluid displacement means.

3,343,491

PROTECTIVE CIRCUIT FOR ELECTRO-FIRING DEVICES

Carl I. Peters, Jr., 307-A Fowler Ave., China Lake, Calif. 93555
Filed Aug. 13, 1963, Ser. No. 301,922
1 Claim. (Cl. 102-70.2)



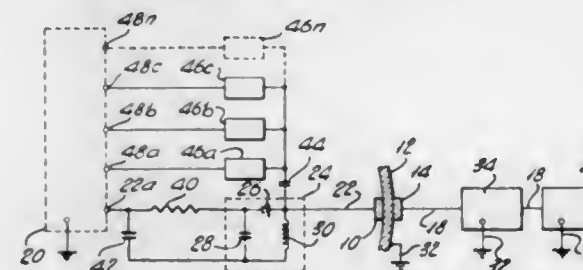
In an electrical ignition circuit including an electro-firing device and a wiring harness comprising a firing line for conducting firing voltage and current from a DC energy source to the electro-firing device, an improved spurious ignition hazard suppression means comprising:

- a semiconductor diode series-connected between said wiring harness and said electro-firing device; said diode exhibiting a high resistance to RF energy and a negligible resistance to the DC energy source;
- an RF by-pass capacitor connected in shunt relationship across the series-connected semiconductor diode and electro-firing device;
- said diode being poled to present negligible resistance to said DC energy source.

3,343,492

SYSTEM FOR ULTRASONIC TRANSLATION OF ELECTRICAL ENERGY

Jack Kritz, Westbury, N.Y., assignor to Janus Products, Inc., Syosset, N.Y., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,952
14 Claims. (Cl. 102-70.2)



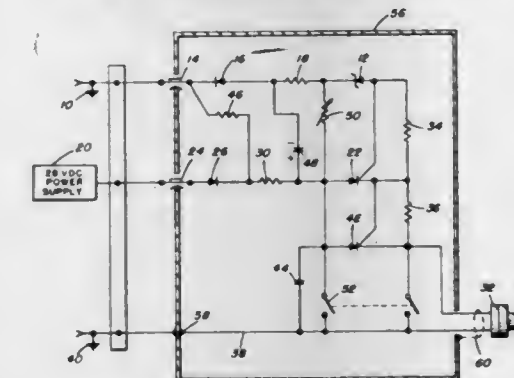
4. A system for ultrasonic translation of electric power and command signals to arming and disarming circuitry, situated within a weapon, from power and command signal sources, which are situated outside of the weapon, without breaching the weapon housing; said system comprising: first transducer means situated within the weapon housing and in intimate contact with a wall

surface thereof, the first transducer means being adapted for providing electrical signals in response to vibration of the weapon housing's wall surface; second transducer means situated outside the weapon housing and placed in intimate contact with a wall surface thereof substantially opposite of said first transducer means; power and command signal source situated outside the weapon housing for electrically exciting the second transducer means whereby the second transducer means causes the weapon housing wall to vibrate; circuit means within the weapon housing for coupling the electrical signals from the first transducer to the weapon's arming and disarming circuitry.

3,343,493

ARMING AND FIRING CIRCUIT

Darrell D. Aulds, Ruston, La., and Harold R. Scheibe, Jr., King George, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 11, 1966, Ser. No. 520,316
6 Claims. (Cl. 102-70.2)



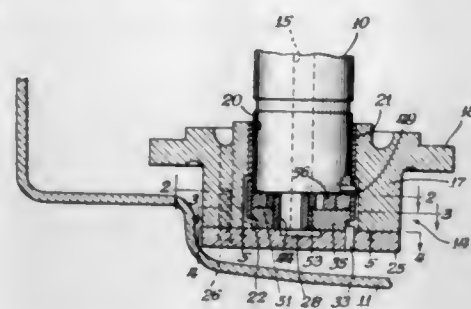
1. A circuit for controlling a load comprising electrical ground means; a first and a second silicon controlled rectifier, each of said rectifiers having an anode, a cathode and a control gate, said cathode of said first rectifier connected to said gate of said second rectifier, the anodes of said first and second rectifiers electrically coupled to said ground means; a firing capacitor electrically connected to said anode of said second rectifier; a Zener diode electrically connected to said control gate of said first rectifier; a resistance-capacitance network means electrically connected in parallel between said Zener diode and said anode of said first rectifier; a potential source means electrically coupled to said circuit for charging both the capacitance of said network means and said firing capacitor whereby if the circuit is disconnected from both said potential source means and said electrical ground means the capacitance discharges through the resistance of said network means and causes said Zener diode to conduct after a predetermined time lag which in turn allows the first and second rectifiers to conduct and thus permits the firing capacitor to discharge through said second rectifier to a load to be controlled.

3,343,494

AUTOMATICALLY REVERSIBLE GEAR PUMP
Robert W. Erikson and Nils Einar Swedberg, Rockford, Ill., assignors to Sundstrand Corporation, a corporation of Illinois
Filed Sept. 12, 1966, Ser. No. 589,150
7 Claims. (Cl. 103-126)

1. In a gear pump, the combination comprising: an input shaft rotatable about an axis, an outer ring gear adjacent one end of said input shaft and driven thereby, an indexible port plate slidably engaging said outer ring gear and having two generally arcuate ports extending axially therethrough, said port plate having an arcuate

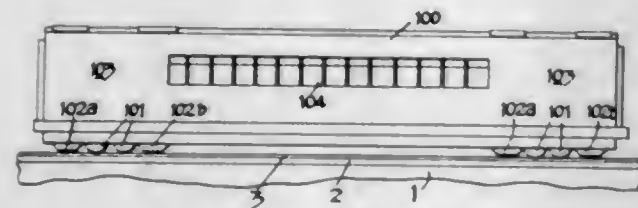
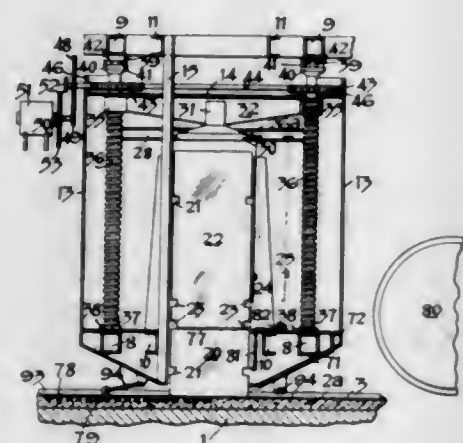
recess in the periphery thereof extending substantially 180 degrees, a hollow shaft mounted in said port plate and extending within said ring gear, said hollow shaft having an axis spaced from said input shaft axis, an inner pinion gear mounted for rotation on said hollow shaft and meshing with said outer ring gear, a passage in said input shaft communicating with the interior of said hollow shaft adapted to convey fluid from the pump, a relatively stationary cover member engaging one side of said port plate, a projection on said cover member extending into said port plate recess for limiting the indexing movement thereof whereby when the input shaft rotates the port plate,



the hollow shaft and inner gear rotate approximately 180 degrees to reverse the location of the arcuate ports, an outlet recess in said cover member in continuous communication with the interior of said hollow shaft, said outlet recess extending radially in said cover member to selectively communicate with said arcuate ports in said port plate, an inlet passage in said cover member located to selectively communicate with the arcuate ports in said port plate, whereby inlet fluid enters through said inlet passage and passes through one of said arcuate ports, and high pressure outlet fluid passes through one of said arcuate ports, into said outlet recess, through said hollow shaft and out said input shaft passage regardless of the direction of rotation of said input shaft.

3,343,495

RAILWAY SYSTEM WITH LOCOMOTIVE HAVING WHEEL SUBSTITUTE SUPPORT MEANS
 Dragan Rudolf Petrik, 274 Trouw St., Capital Park, Pretoria, Transvaal, Republic of South Africa
 Filed Jan. 7, 1966, Ser. No. 519,344
 Claims priority, application Republic of South Africa, Apr. 22, 1963, 1,697/63
 7 Claims. (Cl. 104-1)



1. A vehicle adapted to travel by sliding on a solid smooth support and comprising holders for holding ice

blocks with a downwardly directed side of said blocks exposed and bearing downwardly onto said smooth support in sliding contact therewith, said blocks carrying the weight of the vehicle, and means for advancing the blocks in a downward direction relative to the holder, adapted to compensate for the melting and wearing away of ice.

3,343,496

METHOD FOR LINING CURVES

Adolf Warnick, Nurnburg, Germany, assignor to Franz Plasser Bahnbaumaschinen, Vienna, Austria
 Filed Mar. 31, 1965, Ser. No. 444,354
 Claims priority, application Germany, Apr. 3, 1964, W 36,494; Apr. 17, 1964, W 36,597; Austria, Feb. 10, 1965, A 1,164/65

7 Claims. (Cl. 104-7)

1. A method of lining a track curve to produce a track curve section constituting a substantially circular arc extending between two end points, a chord extending between said end points and a first portion of the track curve section extending between a first one of said end points and a first intermediate point of the track curve section having been lined to form a first portion of said circular arc, the steps of establishing the length of a first straight line from the chord to the first intermediate point, establishing a second straight line from the chord to a second intermediate point in a second portion of the track curve section extending between the first intermediate point and the second end point, the second straight line being geometrically analogous to the first straight line and its length being accordingly derivable from the length of the first straight line on the basis of geometrical theorems concerning the circle, and moving the second track curve section portion perpendicularly to the direction of elongation of the track until the second straight line has the derived length from the chord to the second intermediate point.

3,343,497

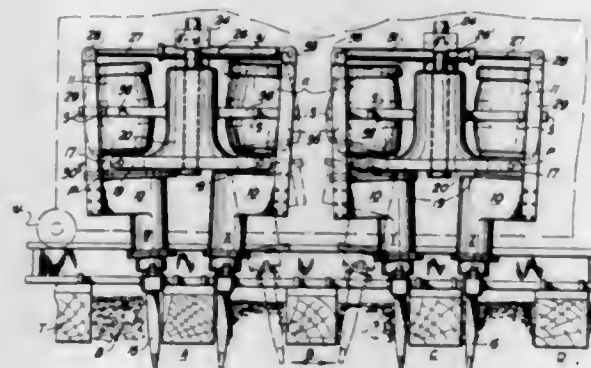
RAILWAY TRACK TAMPING APPARATUS

John K. Stewart, Dorval, Quebec, Canada, assignor to Canada Iron Foundries, Limited, Montreal, Quebec, Canada

Filed July 25, 1966, Ser. No. 567,637

Claims priority, application Great Britain, July 28, 1965, 32,329/65

5 Claims. (Cl. 104-12)



1. A railroad tamping device mounted on a railroad vehicle for movement along the track, which tamping device comprises at least two pairs of tamping units arranged on the vehicle longitudinally of the track, each unit of each pair being spaced apart longitudinally of the track so as to span a tie therebetween and the unit of one pair adjacent the unit of the other pair being spaced apart longitudinally of the track so as to span a tie therebetween; squeezing means for pivoting each unit of each pair towards and away from the other unit of its pair and for pivoting the said adjacent units towards and

away from each other whereby, in operation to impart a squeezing action to the ballast beneath the ties between each pair and to the tie between said adjacent units.

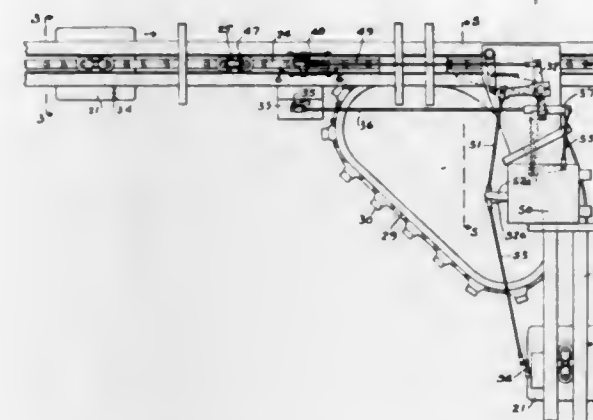
3,343,498

COUNTER MECHANISM FOR CONVEYOR SYSTEMS

Paul Klamp, St. Clair Shores, Mich., assignor to Mechanical Handling Systems, Inc., Warren, Mich., a corporation of Michigan

Filed Dec. 7, 1964, Ser. No. 416,275

11 Claims. (Cl. 104-96)



1. In a conveyor system, the combination comprising a plurality of carriers, a main track, a conveyor for moving said carriers along said main track, a branch track, conveyor means operatively connected to said main conveyor for conveying the carriers to said branch track, switch means for directing the carriers operable in one position to guide said carriers along said main track and in another position to guide said carriers along said branch track, signal means along the main track adapted to be actuated by a carrier to provide a mechanical movement for operating said switch means, and a counter mechanism having a mechanical input mechanically connected to said switch means for producing a mechanical input signal and adapted to be mechanically actuated by a carrier as it moves along the branch track for producing an opposing mechanical output signal, said counter mechanism including means adapted to be actuated when the number of counts of carriers moving into the branch track exceeds the number of counts of carriers moving out of the branch track by more than a predetermined amount to prevent the mechanical movement from said signal means from being transmitted to said switch means.

3,343,499

CONVEYOR SYSTEMS

Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Stevenage, England, a British company

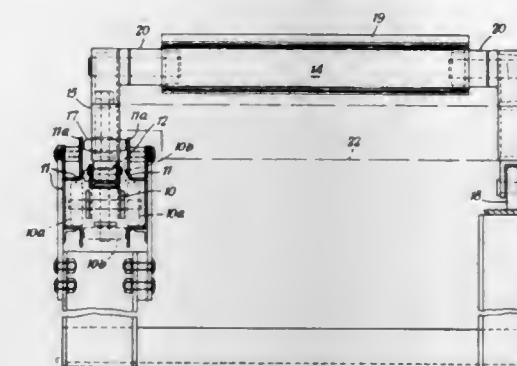
Filed Oct. 13, 1965, Ser. No. 495,383

Claims priority, application Great Britain, Oct. 21, 1964, 43,022/64

7 Claims. (Cl. 104-172)

1. A conveyor system comprising:
 a first track means;
 endless chain means disposed in spaced parallel relation to the first track means;

at least one load carrier adapted to bridge the first track means and the endless chain means and having first means at one end movably associated with the first track means and second means at the other end frictionally engaging the chain means whereby the frictional engagement of the second means with the chain means causes the load carrier to travel in the direction of the engaged portion of the chain means and whereby the movement of the load carrier can be stopped at any time without interrupting the movement of the chain means;



said chain means including at least one roller freely rotatable about an horizontal axis and frictionally engaging and solely supporting the second means of the load carrier; and
 guide means for retaining the second means in frictional engagement with the chain means, and for simultaneously retaining the first means in movable association with the first track means.

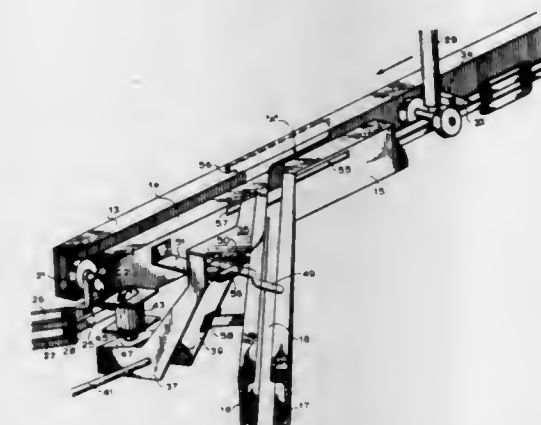
3,343,500

SWITCH FOR A TOW LINE CONVEYOR SYSTEM

James L. Chengges, Roanoke, Va., assignor to General Electric Company, a corporation of New York

Filed June 29, 1965, Ser. No. 468,086

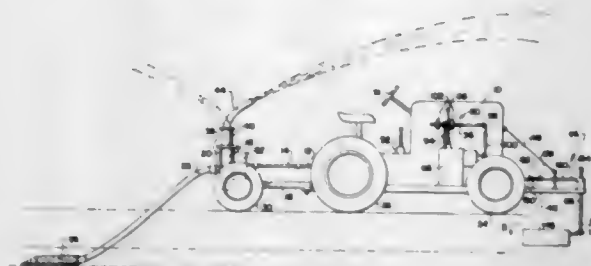
5 Claims. (Cl. 104-172)



1. In a tow line conveyor system where vehicles towed by an under-the-floor continuously moving tow means such as chains or cables are switched from the main route to a spur by diversion of the pin of the vehicle contacting the tow means to a spur, the improvement comprising a mechanical switch having a diverter blade adapted to be interposed across the continuous tow means, pivot means connected to said diverter blade and pivoted on an axis parallel to said continuous tow means so that said diverter blade operates in a vertical arc perpendicular to the continuous tow means, and means for pivoting said pivot means to interpose said diverter blade across the continuous tow means to divert the pin of the vehicle to the spur.

3,343,501 SELF-STEERING AND SELF-PROPELLED FARM VEHICLE

Francis H. Banderet, Rte. 2, P.O. Box 98,
Berthoud, Colo. 80513
Filed June 29, 1965, Ser. No. 467,878
17 Claims. (Cl. 104-244.1)

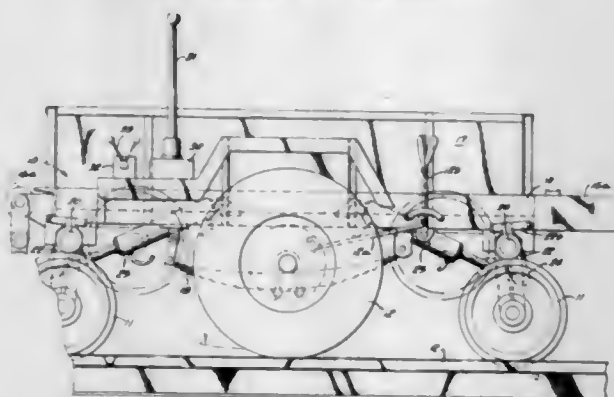


11. A hydraulically-operated front wheel drive for use on farm tractors of the type having an internal combustion engine, a pair of rear drive wheels powered by the engine, a main transmission operative in engaged position to propel the vehicle at moderate highway speeds and in neutral position to disengage the rear wheels from the engine, a pair of steerable front wheels, and a hydraulic system including a pump and reservoir operated by the engine, which comprises: a front differential connected in driving relation to the front steerable wheels, a hydraulic motor connected to receive fluid from the hydraulic system and produce a secondary source of rotational drive power, a speed reducer drive train operative by interconnecting the hydraulic motor and front differential in driving relation, and a second transmission connected into the drive train, said transmission having an engaged position operative to transmit rotational drive power from the hydraulic motor to the front wheels and a neutral position operative to disengage the front wheel drive thus returning control of the vehicle to the rear wheel drive.

3,343,502 CONVERTIBLE RAILWAY VEHICLE HIGHWAY TRAILER

Glenn W. Merritt, Bowerston, Ohio, assignor to The Nolan Company, Bowerston, Ohio, a corporation of Ohio

Filed Jan. 29, 1964, Ser. No. 341,081
10 Claims. (Cl. 105-215)



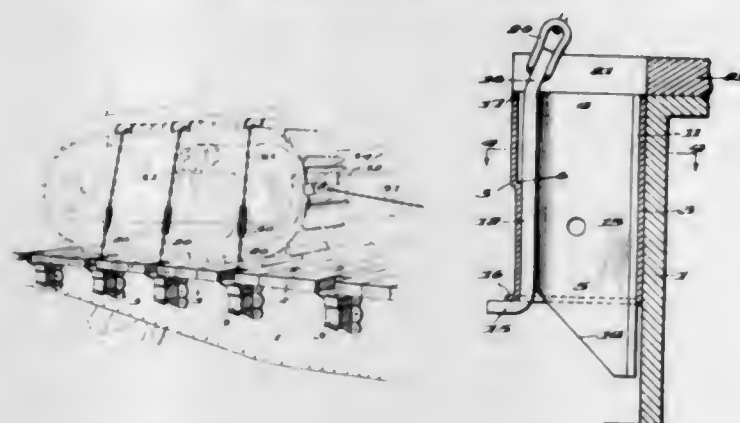
1. A combined track and highway vehicle comprising a chassis frame, flanged wheels arranged in leading and trailing pairs of two opposed wheels for supporting the frame on rails, highway engaging wheels arranged in a single pair of two opposed wheels between the pairs of flanged wheels for supporting the vehicle on a highway and to facilitate manipulation of the vehicle when the flanged wheels are not in engagement with the rails, means for adjusting the flanged wheels and the highway wheels in pairs relatively, said means comprising crank arms connected to the frame for vertical swinging movement, and hydraulic rams connected between the crank arms and the frame for swinging said crank arms vertically.

10. An attachment for adapting a highway vehicle for travel on rails of a railway track; said attachment comprising means adapted to be attached to the under side of a highway vehicle adjacent the front and rear ends of the vehicle, upwardly retractable rail engaging wheel units on said means adjacent each end of the vehicle, which units, in downwardly extending position, support at least part of the weight of the vehicle on the rails of the railway track and which, in upwardly retracted position, permit the vehicle to run along the highway on its own wheels, said units each including a pair of arms having pivotal connections respectively at each end of the vehicle for swinging about a horizontal pivotal axis spaced above the running surface and extending transverse of the vehicle, axle means having flanged rail-engaging wheels thereon, means mounting said axle means on the free ends of said arms, said free ends, during movement of said units from said upwardly retracted position to said downwardly extending position, swinging along an arc which passes downwardly and thence upwardly beyond a center disposed directly below the pivotal axis of the arms, stop means engaging said arms in the downwardly extended beyond-center position for limiting the upward swinging thereof and maintaining the flanged wheels against the rails, the pivotal connections between each pair of arms at the respective end portions of said vehicle each comprising a transverse operating rod on the pivotal axis of the arms journaled in said means attachable to the underside of the vehicle, said arms being non-rotatably connected to said operating rod, and actuating means on said operating rod to rotate said operating rod, whereby said operating rod may be rotated to swing the arms of said wheel units from retracted to extended position or vice versa.

3,343,503 TIE-DOWN ANCHORING DEVICES FOR HEAVY EQUIPMENT ON RAILWAY FLAT-CARS

Harold M. Johnson, Peoria, Ill., assignor to Toledo, Peoria & Western Railroad Company, Peoria, Ill., a corporation of Delaware

Filed Mar. 9, 1965, Ser. No. 438,220
1 Claim. (Cl. 105-369)



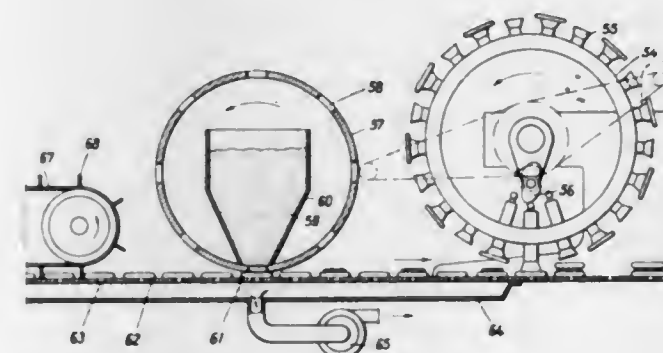
In combination, a conventional flatbed track vehicle, having a continuous unbroken surface thereon and provided with the usual conventional standard stake pockets so positioned on said track vehicle that they form no obstructions on said continuous surface, a road vehicle having its load supporting means resting upon said track vehicle, and a plurality of means for anchoring said load vehicle in fixed relation to said track vehicle, each means comprising a clamp attached to said load supporting means, independent means connecting each of said load supporting means directly with said track vehicle, said independent means each including a turnbuckle tensioning mechanism secured to one end of a link chain, the other end of said chain being secured to an anchoring device removably secured in a stake pocket, said

anchoring device being provided with an outwardly directed lip in the lower region of a flange member which in width is as wide as the interior width of said stake pocket, said flange member being secured to a web member which in turn is secured to a second flange member in I-Beam cross-section said first and second flange members being spaced so that the first flange member is adapted to contact the stake pocket wall and the second flange member is adapted to contact the track vehicle, said first flange member being provided at its upper portion with an integral tab member to which said link chain is secured, whereby when said link chain is tensioned, said anchoring device will be anchored in said stake pocket when said lip abuts the lower marginal edge of said stake pocket.

3,343,504 APPARATUS FOR PLACING PASTRIES IN PAIRS ONE ON TOP OF THE OTHER

Hermann Beik, Hannover, Germany, assignor to
Werner Bahlens, Hannover, Germany
Filed June 15, 1965, Ser. No. 464,051

Claims priority, application Germany, June 23, 1964,
B 77,378
12 Claims. (Cl. 107-1)



1. In an apparatus for bringing a pair of cake elements into superposed relationship, such cake elements being carried in uniform sequence on a conveyor, more particularly on a conveyor belt coming from an oven, the improvement comprising substantially radially extending suction nozzles disposed on a rotatable drum whose axis extends transversely of the conveyor, there being an odd number of nozzles around the periphery of the drum and the nozzle spacing in the peripheral direction corresponding substantially to the spacing of the cake elements across the conveyor, and means effecting rotation of the drum in synchronism with the movement of the conveyor that the suction nozzles are lowered onto the cake elements on the conveyor in the zone of the nozzle rotation nearest the conveyor and means for applying suction to each of the nozzles only during every other revolution, while the immediately preceding and following nozzles are disconnected from said suction applying means.

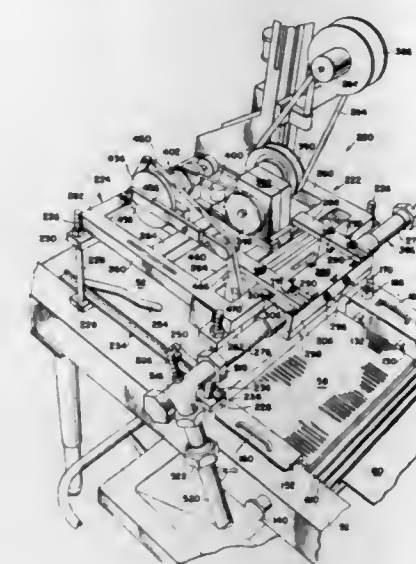
3,343,505 CONFECTION OR ICING EXPRESSING AND DEPOSITING APPARATUS

Howard N. Lathey, Old Tappan, Kurt Preuss, Teaneck, and George A. Hofmann, Closter, N.J., assignors to Basic Foods, Inc., Englewood, N.J., a corporation of New York

Filed Nov. 5, 1965, Ser. No. 506,456
14 Claims. (Cl. 107-29)

1. Confection or icing expressing and depositing apparatus for dressing edible products with a desired predetermined pattern comprising, in combination: a conveyor table comprising infeed and outfeed sections, and a removable wet section disposed therebetween; a signal sending-and-receiving assembly positioned upon said conveyor

table; a confection or icing expressing and depositing assembly for dressing edible products that are translated therepast by said conveyor table comprising a frame positioned upon said table; a drive assembly positioned upon said frame, and comprising a motor; a rotatable cam assembly for receiving the motion at the output of said motor; a motion translating assembly positioned between the output of said motor and said cam assembly for causing the rotational movement thereof; said motion translating assembly being constructed and arranged to enable

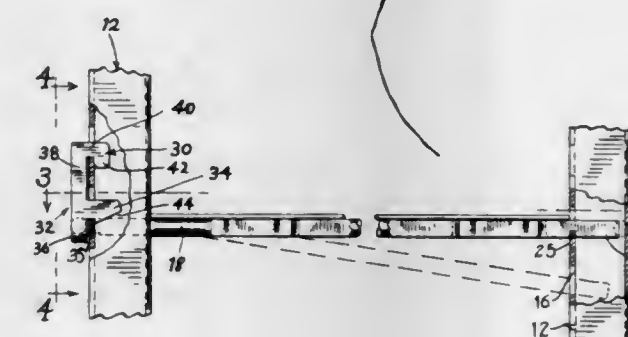


said cam assembly to rotate through only a single revolution for each signal received by the signal sending-and-receiving assembly; a linkage assembly operatively associated with said cam assembly, and being actuable thereby; and a confection or icing expressing and depositing head positioned upon said frame, and comprising an icing portion having a plurality of apertures; means for sequentially symmetrically exposing said apertures; and actuating means operatively associated with said linkage assembly for causing the actuation of said exposing means.

3,343,506 FOUR POST SHELVEING WITH INSERTABLE SHELVES

Henry M. Buchbinder, Flossmore, and Henry F. Duignan, Sycamore, Ill., assignors to Ardco, Inc., a corporation of Illinois

Filed June 24, 1966, Ser. No. 560,201
11 Claims. (Cl. 108-107)

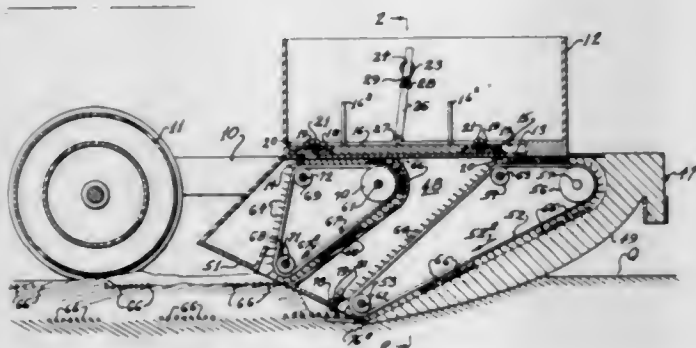


1. In a shelving system, the combination comprising at least one shelf of generally rectangular shape, four vertical posts arranged in a generally rectangular pattern for supporting said shelf, each of said posts having a plurality of vertically spaced openings in the rear side thereof,

said shelf having a pair of laterally spaced forwardly projecting front prongs rigidly mounted on the front portion of the shelf and receivable in the openings in the front pair of said posts, and a pair of laterally spaced hooks rigidly mounted on the rear portion of said shelf and projecting forwardly for reception in the openings in the rear pair of said posts each hook being provided with a forwardly projecting portion and a downwardly projecting portion for retaining the hook in the corresponding opening. said front prongs being longer from front to rear than said hooks, the distance between the front end of each front prong and the front end of the corresponding hook being greater than the distance between the rear sides of the front and rear posts whereby said front prongs may be inserted into the openings in said front posts before said hooks are inserted into the openings in said rear posts, and whereby said shelf may be mounted on said posts in either a horizontal position or an inclined position.

3,343,507 PLANTER

John E. Smith, Joppa, Ala., assignor of twenty-five percent to James R. Goodlett, Joppa, Ala.
Filed May 11, 1965, Ser. No. 454,824
5 Claims. (Cl. 111—73)



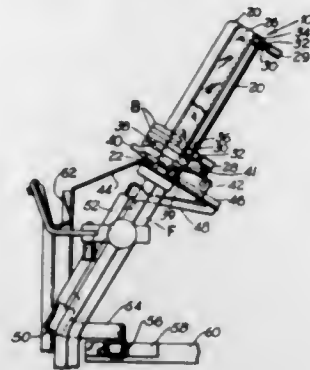
1. In a planter for planting seed beneath the surface of soil:

- a translatable frame having at least one ground engaging wheel thereon,
- a receptacle on said frame for holding seed to be planted,
- a pair of seed discharge openings in said receptacle,
- means to alternately open and close said discharge openings whereby seed are first discharged from one opening and then the other,
- a housing carried by said frame and depending from said receptacle with the lower end of said housing being adapted to pass beneath the surface of the soil and having a lower rearward portion which slopes upwardly and rearwardly,
- a first endless conveyor unit within said depending housing and disposed to convey seed discharged from one of said discharge openings to a first location of a predetermined depth beneath the soil adjacent the lower end of said upwardly and rearwardly sloped portion,
- a second endless conveyor unit within said depending housing and disposed to convey seed discharged from the other of said discharge openings to a second location along said upwardly and rearwardly sloped portion rearwardly of and at an elevation above said first location, and
- power transmitting means operatively connecting said ground engaging wheel to said first and second endless conveyor units and to said means to alternately open and close said discharge openings.

3,343,508

BUTTON STITCHING MACHINE

Mathias Pedersen, Valley Stream, and Robert J. Cook, Westbury, N.Y., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 28, 1964, Ser. No. 407,137
15 Claims. (Cl. 112—113)



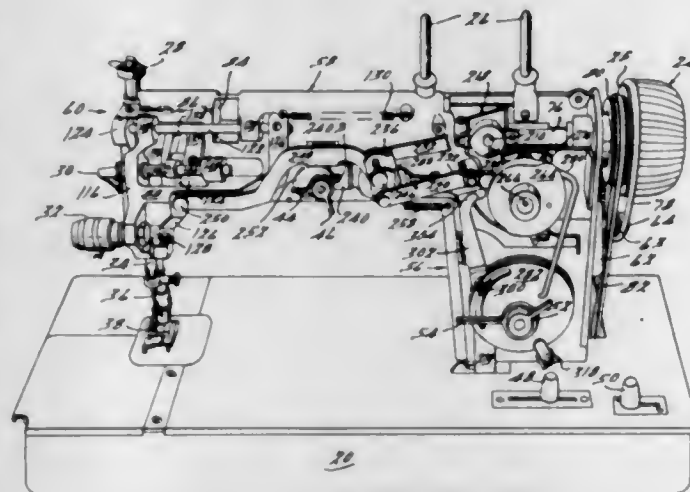
- In a button stitching machine including a button rack for holding a stack of buttons, a guard member, means mounting said member adjacent said rack to prevent the removal of more than one button at a time from said stack, a button ejector, and means for operating said ejector to effect the delivery of a single button from said rack; the combination with said button holding rack of a button adapter wherein said button holding rack can accommodate a range of size of buttons, and said button adapter can hold a range of size of buttons different from that which can be held by said rack alone, and means for mounting said adapter within said rack, whereby said different range of button sizes can be fed by said ejector from said rack.

3,343,509

ZIG ZAG SEWING MACHINE

Courtney F. Dolan, Syracuse, N.Y., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Dec. 27, 1963, Ser. No. 333,990
7 Claims. (Cl. 112—158)



- A sewing machine comprising a supporting structure, a needle mounted in said supporting structure for longitudinal reciprocation and for movement laterally of the direction of reciprocation, a driving member supported on said supporting structure for reciprocatory movement of a predetermined magnitude relative to said supporting structure, power means for imparting reciprocation to said driving member in synchronism with the needle reciprocating movements, driven mechanism operatively connected to said needle for shifting said needle

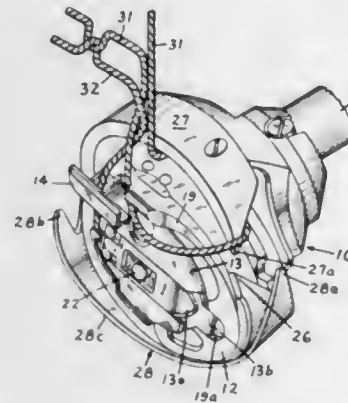
in a lateral reciprocatory motion in response to reciprocation of said driven mechanism, a first cam follower slidably carried by said supporting structure, means defining a pivot carried by said cam follower, a motion translating device pivotally supported on the above mentioned pivot means, said driving member being operatively connected to said motion translating device to impart oscillation thereto in response to reciprocation of the driving member, said motion translating device having an elongated track provided with portions located at different radial distances from the above mentioned pivot means, said driven mechanism including drive transmitting means cooperating with the above mentioned track to transmit motion from said motion translating device to said driven mechanism, a second cam follower movably mounted on said supporting structure, means carried by said second cam follower and operatively connected to said drive transmitting means to selectively position said drive transmitting means in said track to selectively establish an effective lever arm between said drive transmitting means and said pivot means to preselect the magnitude of motion to be transmitted to said driven mechanism and needle from the predetermined reciprocatory movement of the driving member, a first cam rotatably carried by said supporting structure and operatively connected to said power means and to said second cam follower to vary the effective lever arm in response to information derived from said first cam, and supplemental control means operable to slide said first cam follower and its associated pivot laterally relative to said supporting structure to a plurality of preselected stations which serve as reference points for the above mentioned lateral reciprocatory motion of said needle and its associated driven member, said supplemental control means including a cam rotatably carried by said supporting structure and operatively connected to said power means in driving relationship with said first cam follower.

3,343,510

HIGH SPEED ROTARY HOOK

John G. Attwood, Oak Park, and Bernard F. Bishop, Chicago, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 29, 1964, Ser. No. 407,483
14 Claims. (Cl. 112—228)



- In a lockstitch sewing machine having a driven shaft, a rotary hook having a rotary component secured to said shaft, said rotary component having a loop seizing beak, a bobbin case holder within said rotary component, a stationary retaining finger cooperating with said holder to prevent rotation thereof with said rotary component, said rotary component having a substantially annular raceway therein and said bobbin case holder having a radially extending rib cooperating with said raceway, said raceway being disposed slightly eccentrically in relation to the axis about which said rotary component is rotated, the region of said raceway which is at a maximum distance

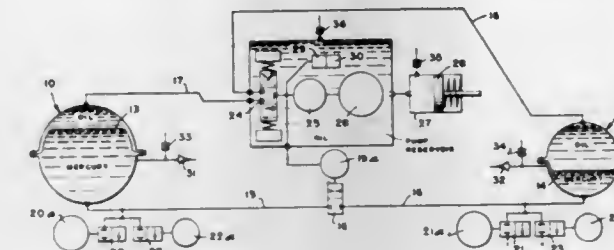
from the axis of rotation of said rotary component being located within a one-quarter circumferential arc extending forwardly of the hook beak and being so disposed as to maintain said bobbin case holder with minimum orbital movement within said rotary component.

3,343,511

HYDRAULIC MERCURY TRANSFER SYSTEM

Ray F. Hinton, Davidsonville, and Roland W. Robins, Jr., Arnold, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 13, 1966, Ser. No. 557,870
2 Claims. (Cl. 114—16)



1. A mercury transfer system which comprises:

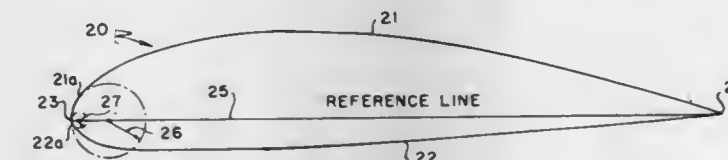
- a pair of container means;
- a movable partition means mounted in each of the container means;
- a body of liquid mercury disposed in each of the container means and on one side of the partition thereof;
- a body of a second fluid disposed in each of the container means on the other side of the partition thereof;
- a first conduit means establishing communication between the container means and the bodies of liquid mercury therein;
- a second conduit means establishing communication between the container means and the bodies of said second fluid therein;
- and means for forcibly transferring some of said second fluid from a first one of said container means to the second container means for displacing some of the mercury from the second container means to the first container means;
- each of said container means being provided with mercury jettison means adapted both for automatic and manual jettison control.

3,343,512

HYDROFOIL WITH UNSYMMETRICAL NOSE PROFILE

Francis R. Rasmussen, Danville, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 20, 1966, Ser. No. 551,773
5 Claims. (Cl. 114—66.5)

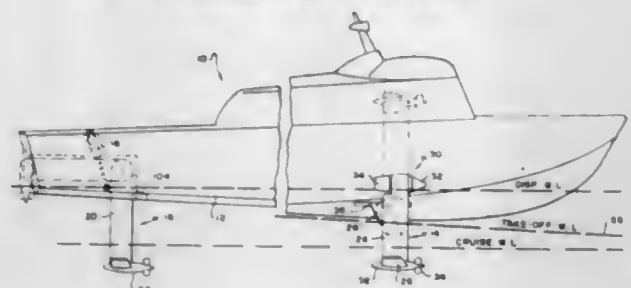


- A hydrodynamic body having upper and lower surface portions which lie above and below a reference line and which extend from a nose portion at the leading edge of said body and terminate at the trailing edge of said body, wherein the improvement comprises: a curved nose for said body wherein the portion of said nose above said reference line has a radius of curvature substantially larger than the radius of curvature for the portion below said reference line,

said improvement affording a hydrodynamic body which may be operated at greater speeds without cavitation and with more effective lift and one having wider ranges of operating limits and improved lift to drag ratios and penetrability characteristics.

3,343,513 HYDROFOILS AND RETRACTION MECHANISM THEREFOR

John Bader, Montgomery County, Md. (4513 Sangamore Road, Apt. 101, Washington, D.C. 20016)
Filed May 27, 1966, Ser. No. 554,935
9 Claims. (Cl. 114—66.5)

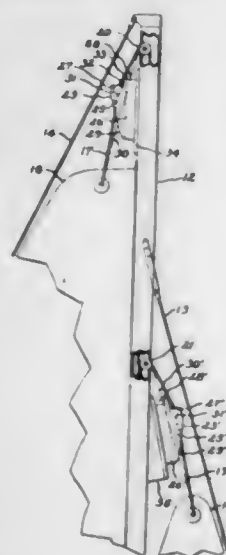


1. An improved hydrofoil craft having at least two forward foils and at least one aft foil, said foils being supported by strut members extending from the hull of said craft to said foil members, wherein the improvement comprises:

- strut brace members having the first ends thereof attached at a point on said strut members intermediate the ends of said strut members, and releasably attached at the second ends thereof to the hull of said craft;
- releasable locking means on the hull on said craft for releasably locking the second ends of said strut brace members to the hull of said craft during the hydrofoil operations of said craft;
- each of said releasable locking means including a locking member and actuating means; and
- retraction means for raising and lowering said forward strut members and foils between an operative position and a retracted position.

3,343,514 HALYARD SECURING MEANS

Harry E. Brett, 51 E. 211th St.,
Euclid, Ohio 44123
Filed Sept. 2, 1966, Ser. No. 581,134
5 Claims. (Cl. 114—108)

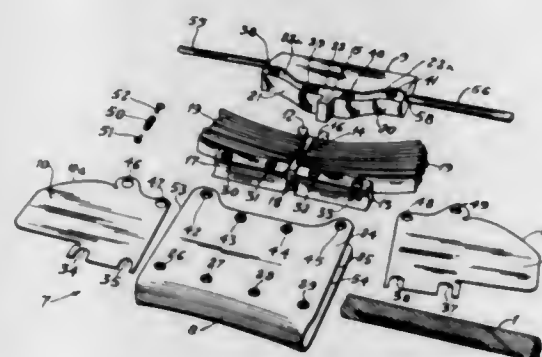


1. A sustainer for releasably securing a stop on a halyard of a sail to the mast of a sailboat comprising a base attachable to an upper mast portion in the plane

of the sail and intermediate and extending bifurcated portions projecting from the base in that plane, forming an open guide slot for the halyard, the intermediate bifurcated portion also defining a passageway along the line of origin of the slot adjacent the base of a size to allow free passage of the stop when the sail is lowered, and the extending bifurcated portion defining adjacent one end of the passageway an open pocket intersected by the slot and of a size to hold the stop when the sail is fully set, and further, having a contour of gradually greater extent adjacent the pocket so that the stop is deflected outward around the extending bifurcated portion and into the pocket when the halyard is moved upward to set the sail.

3,343,515 MINIMUM WIDTH TOWLINE WITH DAMAGE SHIELD

Donald A. Nichols, Old Lyme, Conn., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 31, 1966, Ser. No. 576,790
6 Claims. (Cl. 114—235)



1. A towline with fairings thereon by which a submerged object may be towed from a ship comprising:
- a flexible strength member,
 - a plurality of electrical cables,
 - a plurality of fairing units each having a channel-shaped nose piece and a tail piece having a forward edge portion received in and closing the open face of said channel-shaped nose piece to define a passage for said strength member and cables,
 - means securing said cables in said fairings and pivotally securing said fairings on said strength member,
 - each of said fairings including a pair of shields fixed to the fairing on opposite sides of said cables and extending each slidably into the next adjacent fairing to provide continuous mechanical protection for said cables,
 - each of said shields being formed convexly arcuate along its trailing edge to avoid interference in fan spread of said fairings upon bending of said strength member.

3,343,516 MINIMUM WIDTH TOWLINES WITH STRETCH- ABLE ELECTRICAL CABLE AND IMPROVED CLAMPING MEANS

Donald A. Nichols, Old Lyme, and Julius O. Natwick, Niantic, Conn., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 31, 1966, Ser. No. 576,793
6 Claims. (Cl. 114—235)

1. A towline with fairings thereon by which a submerged object may be towed from a ship comprising:
- a flexible strength member,
 - a plurality of fairing units arranged in end-to-end abutting relationship along and individually pivotally mounted upon said strength member,

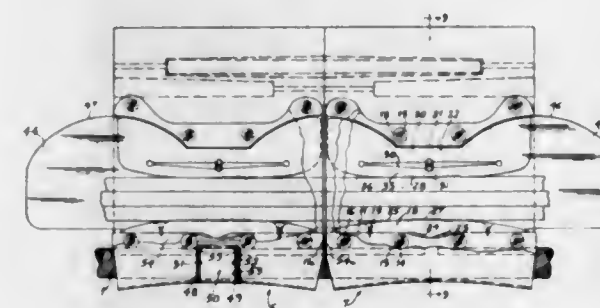
each such unit having a channel-shaped nose piece, with the strength member received in and extending along the channel of the nose piece, and a tail piece having an edge portion received in and closing the open face of the channel,

a support column positioned in each said nose piece adjacent said strength member and spaced from said tail piece,

each said support column extending beyond the opposite edges of said nose piece to prevent rubbing of adjacent nose piece surfaces and to act as pivot members for said fairings as said strength member curves in being towed through water,

stretchable electrical cables received in the space between said tail piece and column along said strength member for establishing electrical communication between said ship and submerged object,

clamp means for clamping and supporting said electrical cable at spaced points therealong,



means for pivotally securing selected of said fairings in spaced relation along said strength member to support on each of said selected pivoted fairings one or more of the remaining fairings,

said clamping means including:

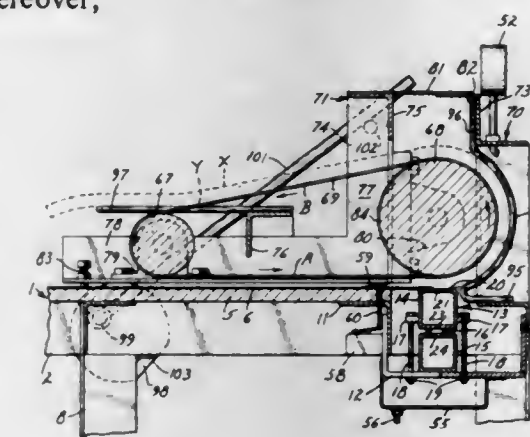
- a forward clamping block fixed to said column and adjacent one side of said electrical cables,
- a rearward clamping block fixed to said tail piece and adjacent the opposite side of said electrical cables,
- said rearward block being slotted to form a face portion integral with said block and movable in the direction of said electrical cable, and
- cam means positioned in said slot and rotatable to urge said face portion forward to clamp said electrical cable between said blocks,
- said tail piece being formed with a tongue or projection, and
- said rearward block being formed with a groove to receive said tail piece tongue to support said rearward block on said tail piece.

3,343,517 LIQUID APPLICATOR FOR FLOOR MATS AND THE LIKE

Reuben A. Mohn and Angelo A. Antonelli, Fargo, N. Dak., assignors to American Uniform Company, Cleveland, Tenn., a corporation of Minnesota
Filed May 3, 1965, Ser. No. 452,836
16 Claims. (Cl. 118—2)

1. In a liquid applicator for floor mats and the like:
- (a) a generally horizontally disposed table having front and rear edges;
 - (b) an elongated hollow dispensing head disposed adjacent the rear edge of the table and extending longitudinally of said rear edge;
 - (c) said dispensing head defining, an elongated liquid receiving chamber, an elongated liquid delivery chamber, and passage means establishing communication between said receiving and delivery chambers;

- (d) said dispensing head including a generally horizontally disposed top wall substantially level with the top of the table and having a slot therethrough to said delivery chamber for discharge of said liquid upwardly from said delivery chamber, said slot extending longitudinally for the greater part of the length of said dispensing head;
- (e) conveyor means overlying said table and engaging a mat placed on the table for delivery of said mat toward and over said dispensing head;
- (f) means including a pump for supplying liquid to said receiving chamber;
- (g) means for automatically controlling the rate of flow of said liquid to said receiving chamber in accordance with the longitudinal dimension of the mat-covered portion of said slot when a mat is conveyed thereover;

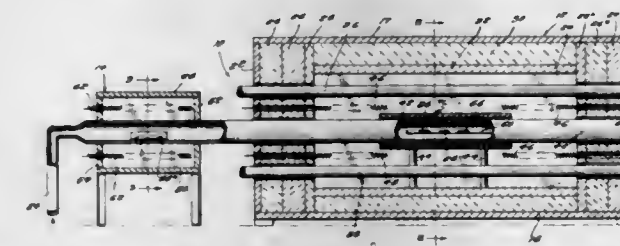


- (h) said conveyor means comprising an endless belt means entrained on parallel, generally horizontally arranged front and rear rolls with the rear roll disposed in overlying spaced parallel relation to the dispensing slot;
- (i) said conveyor means further being mounted on a hinged support biased towards said slot whereby to exert a feed force on the mats to be coated and to maintain said mats associated with the dispensing slot; and
- (j) guide means generally concentric with said rear roll and associated therewith whereby to guide coated mats from the dispenser, about the periphery of the belt portion trained about said rear roll and, in a reverse direction with respect to mat infeed, onto the upper flight of said belt.

3,343,518 HIGH TEMPERATURE FURNACE

Herbert W. Western, Barrington, Vincent Scotto, Warwick, and William G. Sefton, Coventry, R.I., assignors to C. I. Hayes, Inc., Cranston, R.I., a corporation of Rhode Island

Filed Sept. 30, 1964, Ser. No. 400,452
2 Claims. (Cl. 118—49.5)



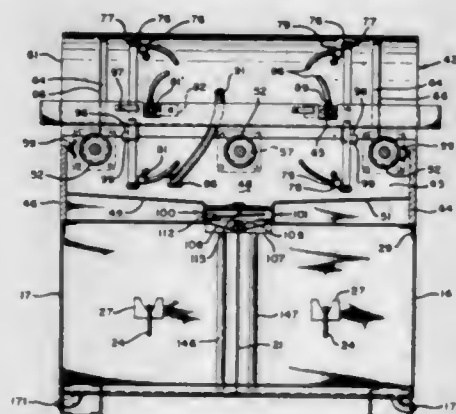
1. In a high temperature furnace, a housing having a heating chamber located therein, an elongated conductor tube formed of a quartz material extending through said heating chamber and receiving articles for heat treatment in a confined area therein, a heat storage tube located generally central in said heating chamber and disposed in enveloping coaxial relation around only a

portion of said conductor tube so as to be substantially spaced from the ends of said heating chamber to define a confined heat control zone at the enveloped portion of said conductor tube, wherein said enveloped conductor tube portion and the articles located therein are maintained at a predetermined temperature, a plurality of elongated heating elements projecting through said heating chamber in spaced relation from said conductor tube for supplying the required heat for heating said heat storage to the predetermined temperature, and auxiliary heating elements located in said heating chamber adjacent to the ends of said heat storage tube and cooperating with said elongated heating elements to heat said storage tube to a required temperature level.

3,343,519

LUMBER SPRAY MACHINE

Alfred Dale Chapman, Atherton, and Robert E. Stutz, Palo Alto, Calif., and Robert E. Branch, Memphis, Tenn., assignors to Chapman Chemical Company, Memphis, Tenn., a corporation of Illinois
Filed June 24, 1963, Ser. No. 289,995
5 Claims. (Cl. 118—314)



1. A lumber spray machine for spraying lumber with a wood preservative, or like material, comprising a storage tank for material to be sprayed, a spray tunnel comprising a spray tank covered by a hood, a plurality of spray nozzles in the tunnel, said plurality of spray nozzles being integrally formed in a nozzle assembly which is removably mounted in the tunnel, the nozzle assembly comprising a pair of spaced ring-like members interconnected by a pair of spaced guide rails, means for passing lumber through the tunnel, lumber to be sprayed traveling through said ring-like members and between said guide rails in passing through the tunnel, means for pumping material from the storage tank to the nozzles for spraying lumber passed through the tunnel, and means for returning over-spray from the tunnel to the storage tank.

3,343,520

ANIMAL CAGE FILTER COVER

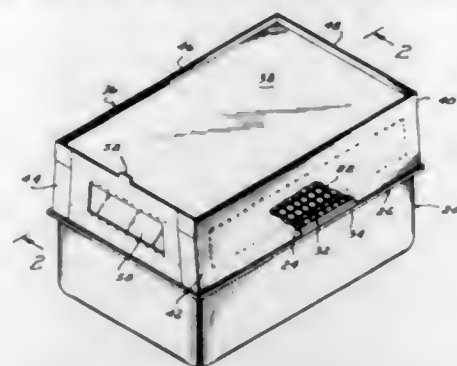
Robert Schwarz, Jr., Tenafly, N.J., assignor to Becton, Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey

Filed June 3, 1965, Ser. No. 460,965

29 Claims. (Cl. 119—15)

10. A self-supporting filter cover of predetermined configuration for placement on an open top tray of an animal cage, said filter cover being constructed and arranged to filter air-borne virus and disease transmitting particles, said filter cover being constructed of relatively thin air and gas pervious imperforate sheet material, said sheet material being of relatively low structural strength, integral strengthening means forming part of said filter cover for rigidifying said sheet in the predetermined configuration, said filter cover having a raised top and a downwardly depending side means providing an apron, said apron

having a lower edge adapted to sealably receive the open top animal holding tray and form a seal with the top thereof, and the top and apron of said filter cover co-

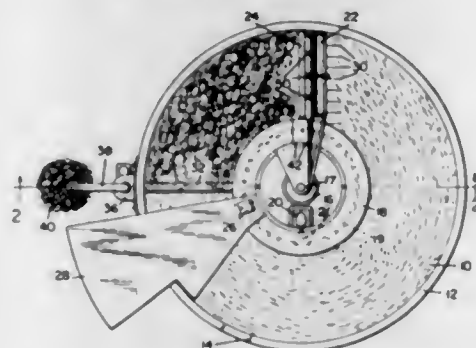


operate in providing sufficient surface area to insure adequate air and gas exchange into and out of the cage through the filter cover.

3,343,521

AUTOMATED BARN

Urban A. Moores, R.F.D. 1, Springfield, Maine 04487
Filed Apr. 27, 1966, Ser. No. 545,615
5 Claims. (Cl. 119—20)



1. An automated barn, comprising a generally circular floor and wall means, a circular track mounted on the wall means, a central support secured with the floor, a centrally arranged annular manger rotatably mounted about the central support, power means for rotating the manger, a bedding hopper for the floor mounted in radially arranged position with respect thereto and supported by pivotally mounted means on the central support and means engaging the track, said bedding hopper having a cleaning blade secured therewith and detachable means connecting the pivotally mounted means to the manger for rotation of the bedding hopper and blade.

3,343,522

CLEANING APPARATUS FOR CAGES

Heinrich Biehl, Witzhave, near Hamburg, Tritttau, Germany

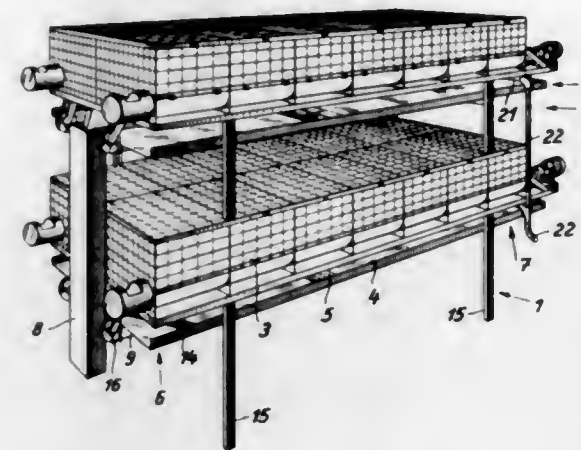
Filed Feb. 25, 1966, Ser. No. 530,115

Claims priority, application Germany, July 21, 1965, B 82,930

1 Claim. (Cl. 119—22)

A breeding device for piglets comprising, in combination, a plurality of adjacently disposed cages, a perforated floor defined in said cages, a substantially flat, elongated, waste-receiving tray disposed under said cages and floors having a first end and a second end, an elongated tray cleaning member supported upon said tray transversely extending thereacross including a sponge-like material directly engaging said tray, said tray cleaning member consisting of a plurality of sections of substantially rigid material interconnected by flexible means whereby said cleaning member may adapt itself to the configuration of said tray, driving means including an electric motor connected to said cleaning member adapted to translate said cleaning member from said first tray end to said

second end and return said cleaning member to said first end, waste receiving means defined at said second end of said tray, a cleansing liquid distributing conduit transversely extending across said tray, said conduit being located adjacent said first end and intermediate said cleaning member and said second end when said cleaning member is disposed at said first end whereby said conduit is capable of depositing cleansing liquid on said tray forwardly of the direction of movement of said cleaning member before being translated from said tray first end to said second end, an electrically operated valve controlling the supply of cleansing liquid to said conduit, a

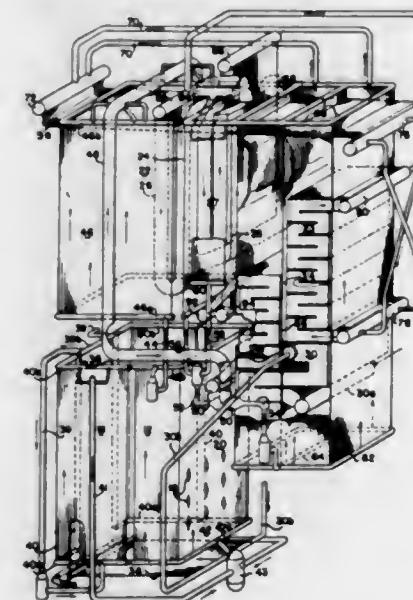


first limit switch disposed adjacent said tray first end adapted to sense the presence of said cleaning member at said first end, a second limit switch disposed adjacent said tray second end adapted to sense the presence of said cleaning member at said second end, and time-actuated programed control means connected to said motor, switches and valve automatically regulating movement of said cleaning member and dispensing of said cleansing liquid whereby a predetermined amount of liquid is dispensed on said tray prior to movement of said cleaning member from said first end to said second end and said cleaning member is automatically returned to said first end after being moved to said second end.

3,343,523

VAPOR GENERATOR

Walter P. Gorzegno, Florham Park, and Jacob Cooper, Livingston, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,269
17 Claims. (Cl. 122—406)



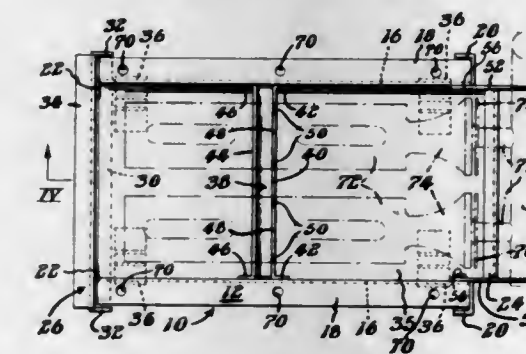
1. A once-through vapor generator comprising a rectangular vertically oriented furnace enclosure; the enclosure comprising side-by-side panel sections defining at least three upflow flow passes;

each panel section comprising parallel vertically oriented finned tubes welded together; the panel sections being welded together so that the enclosure is essentially gas-tight; burner means radiantly heating said enclosure; header means connecting the flow passes in series, the enthalpy of the fluid increasing in successive passes; the panel sections being arranged whereby an intermediate enthalpy pass comprising multiple panel sections is disposed on opposite sides of and intermediate the panel sections of the higher and lower enthalpy passes.

3,343,524

BURNER BASE

Joseph M. Bove, 512 Fairmont Road, Havertown, Pa. 19083
Filed Sept. 17, 1965, Ser. No. 488,158
4 Claims. (Cl. 122—494)

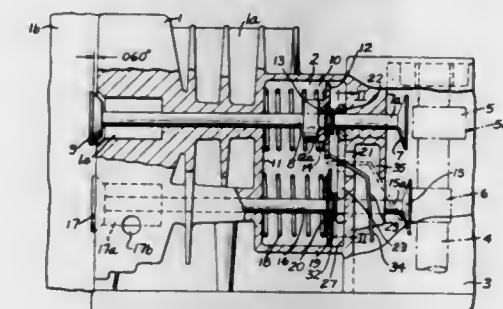


1. In a gas boiler, the burner base comprising a main body part having a horizontally extending bottom wall made of sheet metal, upright opposite side walls made of sheet metal, and an upright rear wall made of sheet metal, the front and top of said main body part being open, the front ends of said side walls being turned outwardly to afford flanges for stiffening said side walls, and the tops of said side walls and of said rear wall being turned outwardly to afford flanges for seating the boiler, a crossbar carried by said main body part for supporting a gas burner assembly, said crossbar being disposed in overlying relation to said bottom wall and in forward spaced relation to said rear wall, and means providing legs for carrying said main body part with its bottom wall spaced from an underlying supporting surface.

3,343,525

COMPRESSION RELEASE FOR INTERNAL COMBUSTION ENGINES

David E. Weglage and Albert A. Weglage, Dayton, Ohio, assignors of one-third to Walter Becker, Dayton, Ohio
Filed May 4, 1966, Ser. No. 547,503
9 Claims. (Cl. 123—182)



7. A compression release unit for installation in an internal combustion engine having a crankcase, spring chamber means, reciprocable valve stem means in said spring chamber means, spring keeper means on said valve stem means, and conduit means leading from said crankcase into said spring chamber means, said compression release

unit comprising: plate means for mounting on that wall portion of said spring chamber means which defines one end of said conduit means, said plate means having an opening therethrough and having that surface which when said unit is installed will face said wall portion of said spring chamber means provided with groove means extending along a diameter line of said opening, cranked lever means adapted to be journaled in said groove means and provided with a cranked portion for extension through said opening and also being provided with arm means for extension through said conduit means into said crankcase, said lever means when journaled in said groove means having the tendency by gravity to occupy a first position and when installed into an internal combustion engine being movable to a second position by a gaseous blow passing from said crankcase through said conduit means into said spring chamber means during the operation of the engine.

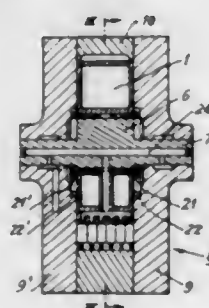
3,343,526

LUBRICATION OF THE RADIAL SEGMENTS OF ROTARY ENGINES

Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Mar. 16, 1964, Ser. No. 352,161

Claims priority, application France, Mar. 21, 1963, 928,785, Patent 1,369,351; Feb. 21, 1964, 965,255, Patent 1,394,949

6 Claims. (Cl. 123—196)



1. A rotary engine comprising a lobed stator; a rotatable crankshaft having an eccentric portion; a lobed rotor mounted on said eccentric portion of said crankshaft, said rotor rotating relative to said crankshaft in an opposite direction therefrom and shaped so as to form with said stator a plurality of chambers; a plurality of radial segments carried by said stator; means to bias said segments into engagement with the outer surface of the lobes of said rotor to define said chambers; a first oil passage formed in at least one cold lobe of said rotor; and a second oil passage formed in said crankshaft and communicating with an external oil source; said passages being located so, and said relative rotation being such, that when said first oil passage passes in front of each of said radial segments, said first and second passages register to lubricate said segments.

3,343,527

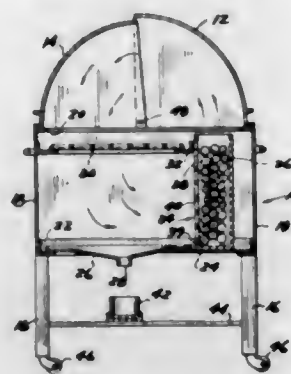
OUTDOOR GRILL

Nick P. Manteris, 10310 Saratoga, Oak Park, Mich. 48237
Filed Oct. 21, 1965, Ser. No. 499,977

2 Claims. (Cl. 126—25)

1. An outdoor cooking unit, comprising:
a body having an open top and defining a heating chamber therein;
a horizontal food supporting grill spanning a portion of the upper part of said body and mounted thereon;
a tall, thin firebox for holding burning fuel, said firebox being vertically disposed in said chamber along one edge of said grill and spaced outwardly therefrom;
said firebox being so dimensioned that its upper edge is at least as high as said grill;

said firebox being open at its top, closed at its bottom and at three of its four sides and being substantially open on its fourth side, with said fourth side facing toward said one edge of said grill;
said fourth side of said firebox being partially closed by a horizontal strip on non-porous material extending the length of said fourth side from a height just



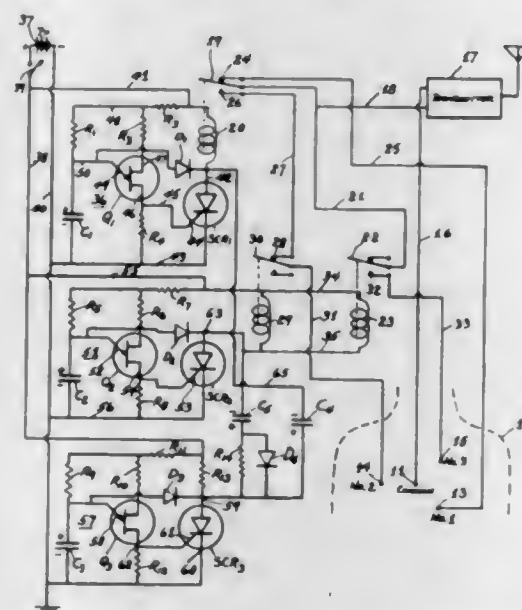
above the top of said grill, downward to a point intermediate the lower edge of said grill and the bottom of said firebox;
whereby the configuration and orientation of said grill and firebox induce a circular flow of heated air to simultaneously and uniformly cook all sides of food placed on said grill.

3,343,528

ELECTROCARDIOGRAPHIC SWITCHING SYSTEM

Lindsay J. Kirkham, 222 6th St. NW., Mason City, Iowa 50401
Filed Oct. 9, 1964, Ser. No. 402,762

17 Claims. (Cl. 128—2.06)



1. In an electrocardiographic transmission system, transmission means having an input terminal, a plurality of electrodes adapted to be mounted on spaced portions of a living body, a plurality of R-C timing circuits, each having a chargeable capacitor and having successively slower charging rates, a source of charging potential connected to said timing circuits, a normally non-conducting electronic switch associated with each timing circuit, means to sequentially render the electronic switches conducting responsive to the reception of respective predetermined charges by the capacitors, means to successively connect the electrodes to said input terminal responsive to the conduction of the respective electronic switches, means to discharge each capacitor responsive to the conduction of its associated electronic switch, and means to restore all the electronic switches to non-conducting conditions responsive to the conduction of the electronic

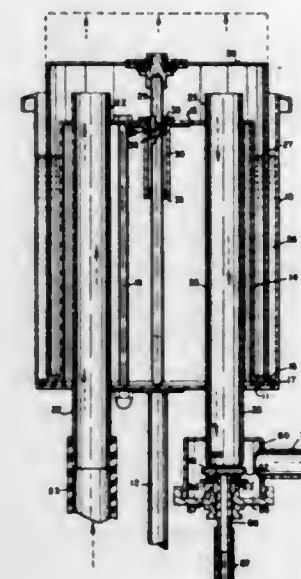
switch associated with the timing circuit having the slowest charging rate.

3,343,529

SPIROMETER

Ronald A. Miller, 207 Woodland Road, Syracuse, N.Y. 13219, and John R. Potrafka, Otter Lake, N.Y. 13427

Filed Mar. 31, 1965, Ser. No. 444,332
4 Claims. (Cl. 128—2.08)



1. Apparatus for the measurement of pulmonary tidal ventilation comprising a vertically disposed tank member having a bottom wall and being open at the top, intake and exhaust tubes extending upwardly from the lower portion of said tank and terminating at the upper portion thereof, a dividing bell member mounted for vertical movement in said tank member and enclosing the area above the upper ends of said tubes, a volume of water in said tank member forming a water seal at the lower open end of said diving bell, a conduit connected to said intake tube, a first and a second normally closed check valve in said conduit, said conduit having means arranged intermediate said check valves for connection to the respiratory system of the patient, said first check valve being normally closed and movable to open position upon exhalation by the patient for the admission of exhaled air to the upper portion of said diving bell, said second check valve being normally closed and being movable to open position upon inhalation by the patient, an exhaust valve positioned at the lower end of said exhaust tube for movement into and out of engagement therewith, a tube connected to said conduit intermediate said check valves and extending to the underside of said valve for conducting expired air thereto to effect positive pressure to said valve to move the same against the lower end of said exhaust tube, and serving to establish a negative pressure on the underside of said valve upon inhalation by the patient to effect movement of said diaphragm downwardly from said exhaust tube to permit air to exhaust from within said driving bell.

3,343,530

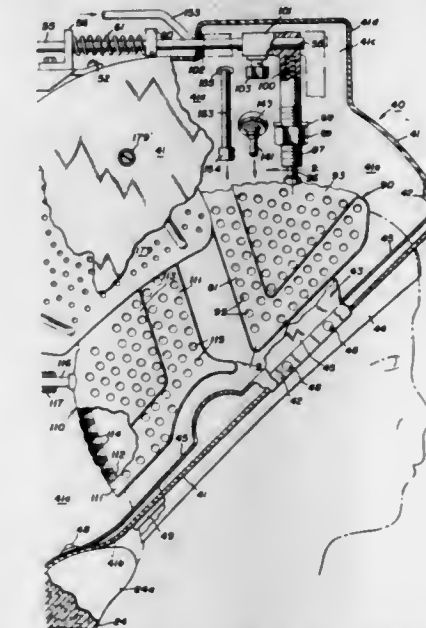
APPARATUS FOR TREATING A PERSON'S HAIR AND SCALP

Louis P. Solos, Chicago, and Vito Re, Cicero, Ill., assignors to Salon at Lincoln Hills, Chicago, Ill., a corporation of Illinois

Filed Dec. 20, 1963, Ser. No. 332,185
16 Claims. (Cl. 128—65)

1. Apparatus for treating a person's hair and scalp, comprising a helmet having a substantially annular opening in the lower front portion thereof accommodating the insertion therethrough of the upper and rear portions of

the person's head so as to enclose in said helmet the person's hair and scalp, a substantially annular sealing gasket carried by said helmet and surrounding said opening and adapted to engage an annular band of the person's head disposed adjacent to the person's hairline, thereby to form a substantially liquid-tight seal between said helmet and the engaged annular band of the person's head and to define a chamber within said helmet disposed above and rearwardly of the upper and rear portions of the person's head thus enclosed in said helmet, a plurality of water nozzles carried by said helmet and disposed in spaced-apart relation in said chamber and adapted to project a corresponding plurality of water streams onto the person's hair and scalp, means selectively operative to supply water to said water nozzles, a treatment nozzle carried by said helmet and disposed in the upper portion of said chamber and adapted to project a charge of treatment liquid onto the person's hair and scalp, means selectively operative to supply treatment liquid to said treatment nozzle, a drain tube carried by said helmet and communicating with the lower rear portion of said chamber adjacent to the



nape of the person's neck so as to accommodate draining of water and treatment liquid from said chamber to the exterior, a first applicator arranged in the upper portion of said chamber and mounted upon said helmet for first cyclic reciprocatory movement fore-and-aft with respect thereto and along a first generally horizontal axis, said first applicator being adapted to engage the upper portion of the person's hair and scalp so as to effect a corresponding first reciprocatory mode of massage fore-and-aft thereof, a second applicator arranged in the rear portion of said chamber and mounted upon said helmet for second cyclic oscillatory rotary movement left-and-right with respect thereto and about a second generally horizontal axis, said second applicator being adapted to engage the rear portion of the person's hair and scalp so as to effect a corresponding second oscillatory rotary mode of massage left-and-right thereof, mechanical means operative to impart said first cyclic movement to said first applicator and to impart said second cyclic movement to said second applicator, and a motor selectively operative to operate said mechanical means.

3,343,531

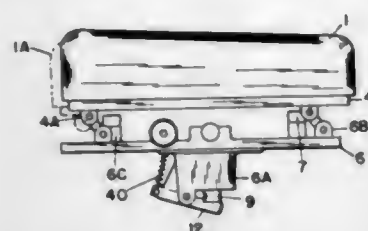
CHIROPRACTIC TABLE

Joseph Clay Thompson, 4126 El Rancho Drive, Davenport, Iowa 52806

Continuation of application Ser. No. 279,947, May 13, 1963. This application Oct. 18, 1965, Ser. No. 511,264
12 Claims. (Cl. 128—69)

1. A headrest structure for a chiropractic table having an elongated portion for supporting a body of a patient,

comprising: a base member fixed to the elongated portion, a headrest support above the base member; means connecting the headrest support to the base member for guiding the headrest support in a path having longitudinal and vertical components and between an upper position adjacent the end of the elongated portion of the table and a lower position spaced longitudinally a greater distance

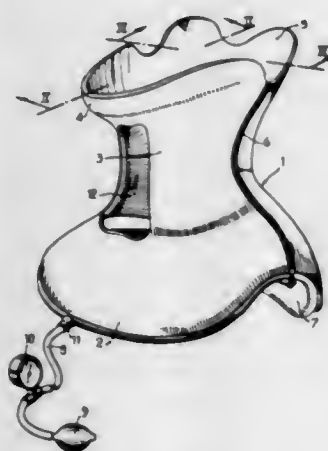


away from the end of the elongated portion, and releasable latch means rigid with the base member for holding the headrest support in its upper position and adapted to release upon downward pressure being applied to the headrest support, and adjusting means associated with the latch means for regulating the amount of resistance to downward pressure before releasing the latch means.

3,343,532
ORTHOPAEDIC APPARATUS FOR IMMOBILIZING AND STRETCHING THE CERVICAL COLUMN
Giovanni Zumaglini, Turin, Italy, assignor to Officina Medico-Ortopedica Dott. Giovanni Zumaglini, Turin, Italy

Filed Feb. 2, 1965, Ser. No. 429,740
Claims priority, application Italy, Feb. 27, 1964,
1,149/64

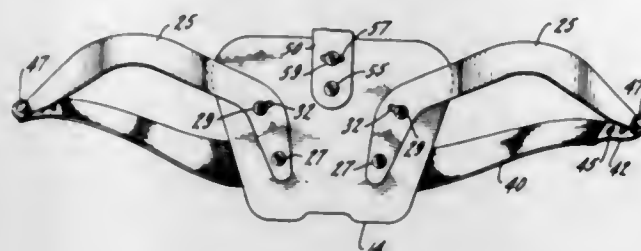
2 Claims. (Cl. 128—75)



1. A cervical brace for immobilization and traction of the cervical rachis comprising in combination: a semi-rigid shell of synthetic resin material comprising a middle portion, an upper portion, and a bottom portion, said bottom portion shaped to abut the shoulders, the upper part of the chest and the upper part of the back, said upper portion shaped to form rests for the sub-mandibular region in front and for the occipital region in the back, and said middle portion shaped to surround the neck; an inflatable tube secured to and extending along said bottom portion of said shell, and confined between said abutting body parts and said shell and adapted to partially project downwardly and outwardly from the latter when inflated, said inflatable tube comprising two independent semi-circular sections each arranged on opposite sides of a longitudinal middle plane of symmetry through said shell; a longitudinal slot extending through said shell along said longitudinal middle plane and provided with closure means therealong, whereby said brace may be applied to and

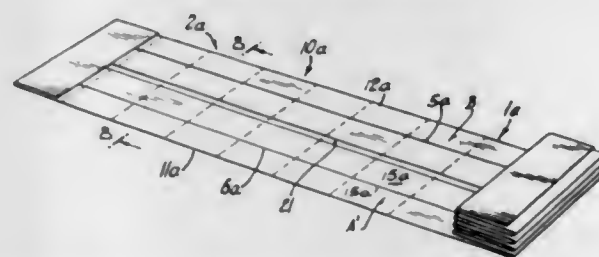
removed from a patient; an inflating appliance for inflating said tube comprising a pump, a pressure gauge and a valve unit of the sphygmomanometric type; and a conduit connected to each of said inflatable sections and said inflating appliance, each of said conduits having a valve for controlling the fluid flow therethrough, whereby said inflatable sections may be independently inflated to control the lateral inclination of the skull.

3,343,533
HERNIA TRUSS
Glen Le Roy Hulben, 2442 W. 108th St.,
Chicago, Ill. 60655
Filed Sept. 8, 1965, Ser. No. 485,903
5 Claims. (Cl. 128—102)



1. A hernia truss comprising a pad having a broad surface area in excess of the area of the hernia damage, said pad being relatively thick, resilient, but firm material, a backing plate adapted to hold said pad against the area of the hernia, said backing plate being flat, and adapted to support the entire area of the pad, a pair of elongated arms, pivotally mounted on said backing plate, and adapted to extend about a portion of a body on either side thereof from said backing plate, said arms each having a hooked end, and a relatively non-resilient strap engaged with said hooked ends, and adapted to pivot about said hooked end, to permit movement of said body without disturbing the position of said pad.

3,343,534
SURGICAL DRAPE
Sidney F. Keoughan, Jr., Fanwood, and Henrietta K. Krzewinski, Old Bridge, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed July 25, 1966, Ser. No. 567,467
16 Claims. (Cl. 128—132)



1. A folded surgical drape comprising a main sheet having a top surface and a bottom surface and having essentially opposing first side edge and second side edge and first end edge and second end edge and having a portion adjacent the first side edge and a remainder portion,

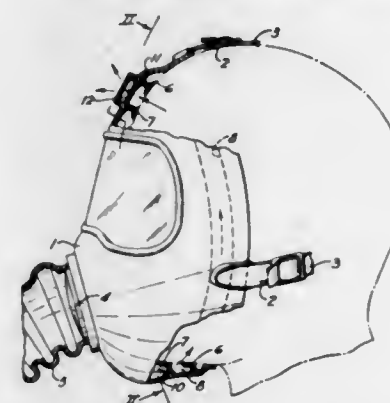
the portion of the main sheet adjacent said first side edge being fan-folded to form a first plurality of stacked folds overlying said top surface of said main sheet and a first folded unit having opposing exterior side edges, each of said stacked folds overlying at least a portion of each of the underlying of said stacked folds and of said remainder portion and said first plurality of stacked folds having an outermost fold, a next innermost exposable fold, and an innermost fold,

the innermost fold of the first plurality of stacked folds overlying only a portion of the remainder portion of the main sheet to form a hand receiving flap, the outermost fold of said first plurality of stacked folds having a terminal edge which lies somewhat inward of said exterior side edges of said first folded unit, and overlying only a portion of the next innermost exposable fold to form a second hand receiving flap,

a portion of said remainder portion adjacent said second side edge of said main sheet being folded to form an outermost second fold overlying said top surface of said main sheet, and said second outermost fold having a terminal edge which lies somewhat inward of said interior side edges of said first folded unit, and said innermost fold of said first plurality of stacked folds overlying only a portion of said second outermost fold.

the combined width of said portion adjacent said first side edge of said main sheet and said portion of said remainder portion adjacent said second side edge of said main sheet being no less than 1/2 of the width of said main sheet, to provide a drape compactly folded in at least one direction.

3,343,535
BREATHING MASK SEAL
John P. Lytle, Whitehall, and David G. Hannan and Charles C. Roberts, Pittsburgh, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1965, Ser. No. 457,957
5 Claims. (Cl. 128—141)

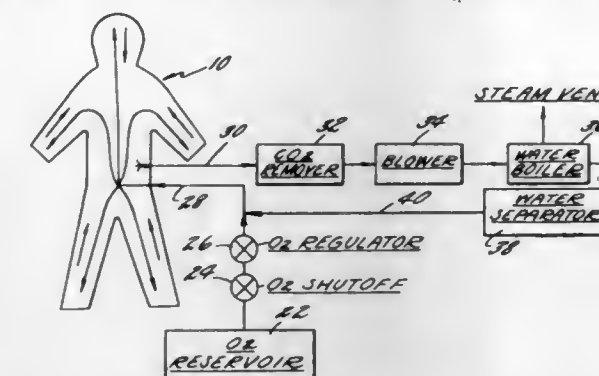


1. A breathing mask comprising a face-piece for covering at least the nose and mouth, an inhalation valve connected with the face-piece, the inside of the face-piece being provided around its marginal portion with an inwardly opening channel having spaced flexible side walls for sealing engagement against the face, the channel being provided with an air inlet from the inside of the face-piece, the face-piece having an outlet therein at a point remote from said inlet and connecting the channel with the atmosphere, and an exhalation valve for said outlet, whereby air exhaled in the face-piece will flow through said inlet into the channel and through the channel to said exhalation valve.

3,343,536
SPACE SUIT HEAT EXCHANGER WITH LIQUID BOILING POINT CONTROL
Edgar H. Brisson, Hazardville, Conn., and Kenneth L. Hower, Longmeadow, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 27, 1964, Ser. No. 392,402
5 Claims. (Cl. 128—142.5)

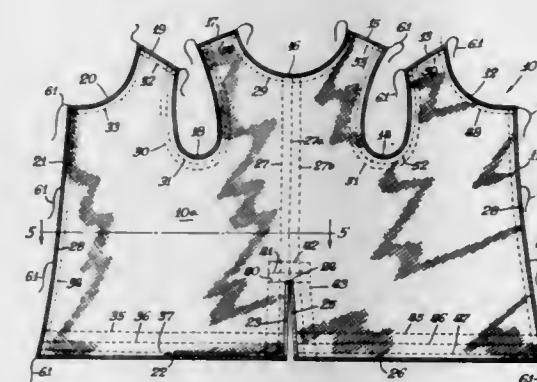
1. A pressure suit, a lift support system connected to provide gas to and extract gas from said suit, a gas-liquid heat exchanger forming part of said life support system,

said heat exchanger including a gas passage system through which the suit gas is passed, a liquid reservoir in heat exchanger arrangement with said gas passage system and a steam exhaust system, and means responsive to the temperature of the gas extracted from said suit



to regulate the pressure in said steam exhaust system and said liquid reservoir to control the boiling point of said liquid and hence the temperature differential between the liquid and gas to regulate the temperature of the gas provided to said suit.

3,343,537
BURN DRESSING
James F. Graham, 10509 S. Drake,
Chicago, Ill. 60655
Filed June 4, 1965, Ser. No. 461,405
6 Claims. (Cl. 128—156)



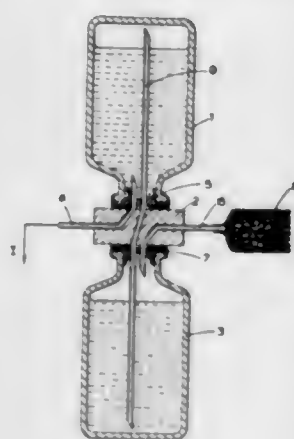
2. A burn dressing shaped to conform generally to the anatomical contours of the human body adaptable to be quickly wrapped around it and comprising an inner lining of non-adhering permeable, surgical rayon acetate of fine mesh known as "parachute silk" adaptable for placement in contact with burned, and surrounding non-burned, body areas of a person suffering from burns, an absorbent outer material of 2 to 20 layers of type VII U.S.P. surgical cotton gauze of mesh size in the general area of 20" by 12" stitched together at such locations and along such lines as will limit sliding of the multiple layers with respect to each other and effective to reinforce, strengthen and give structure to said multiple layers of surgical cotton mesh gauze, and placed next to, and coextensive in size and shape with, said inner lining and affixed thereto along their respective contiguous edges by tape wrapped around said contiguous edges and stitched thereto and fastening means for securely fastening said burn dressing over, and with the inner lining in contact with, the burned portion of the patient, effective to cover said burned portion and surrounding unburned areas and become embedded in the burned portion and act as a reinforcing thereof which together with the supporting cellular tissue acts as a structure as it heals to a scab while at the same time, not adhering to the unburned portion of the skin it is in contact with, and simultaneously to allow the exudate to issue from the burned portion and pass through said permeable inner

lining and be absorbed by the absorbent loosely woven outer material, and also to permit sufficient ventilation of the burned portion by allowing the surrounding air to pass through the loosely woven absorbent outer material to and through the permeable inner lining to the burned portion of the patient to accelerate healing thereof.

3,343,538 APPARATUS FOR FEEDING MULTIPLE DOSE JET INJECTORS

David C. Morley, St. Albans, England, assignor to Allen and Hanburys Limited, London, England, a British company

Filed Aug. 5, 1963, Ser. No. 299,895
Claims priority, application Great Britain, Aug. 3, 1962, 29,956/62
1 Claim. (Cl. 128—215)



An apparatus for feeding a multidose injector with liquid and preventing air from being introduced into the injector between injections which comprises a first stoppered container, a second stoppered container, said second container being substantially upright and said first container being substantially inverted, a holder disposed between the stoppers of said containers in contiguous relationship thereto, a liquid feed tube extending from a position inside said first container near the stopper thereof through said stopper and holder outwardly of said holder, said tube being adapted to be connected to said multidose injector, a communication tube extending from a position near the base of said first container to a position near the base of said second container through said stoppers and holder, an air inlet tube extending from within said second container just below the stopper thereof outward through said stopper and holder and a filter substantially impervious to bacteria connected to the outward end of said air inlet tube, whereby any air within the communication tube is displaced into the air space above the liquid in the inverted container and is not introduced into the multidose injector.

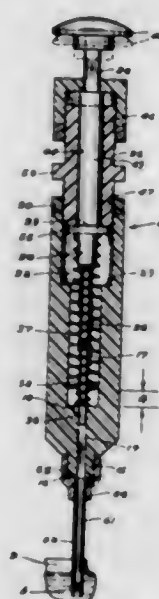
3,343,539 PISTON TYPE ARTIFICIAL INSEMINATION SYRINGE HAVING STROKE ADJUSTING MEANS

John H. Moorhouse, % Moorhouse Turkey Hatchery Inc., Clear Lake, Minn. 55319

Filed Oct. 22, 1964, Ser. No. 405,657
1 Claim. (Cl. 128—234)

A device for artificial insemination having in combination,
a barrel,
a cylindrical chamber within said barrel having a forward end wall,
a restricted passage running forwardly from said chamber to the atmosphere,
a threaded passage running rearwardly from said chamber to the atmosphere,

a plunger disposed into said barrel comprising a shaft,
said shaft having at the rear end thereof an end portion of reduced width forming a shoulder at its inner end, a threaded cup-shaped collar disposed on said end portion, a handle secured to the free end of said end portion,
said shaft having a first forwardly extending portion of somewhat reduced width having a shoulder formed therebetween,
a second forwardly extending portion of reduced width being at least partially disposed within said restricted passage having sealing engagement with the walls thereof,
a circular stop member disposed over said shaft abutting said shoulder of said first forwardly extending portion and being spaced from said end wall,



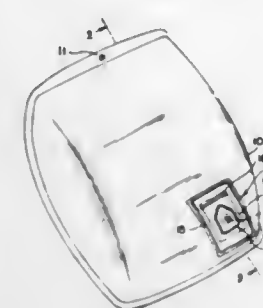
a supporting member comprising a cylindrical portion having a bore therethrough disposed over said shaft, said cylindrical portion having each end thereof provided with a threaded portion, one of said threaded portions being threaded into said collar and the other of said threaded portions being threaded into said threaded passage of said barrel,
a coiled spring disposed in said chamber carried on said forwardly extending portions of said shaft and being disposed between said end wall and said circular stop member,
a second coiled spring within said chamber disposed over said first mentioned coiled spring, and
one of said coiled springs being of a certain greater length within said chamber than the other of said coiled springs.

3,343,540 SWAB-TYPE APPLICATOR WITH IMPREGNATED MEDICAMENT

Frederick P. Siegel, Chicago, Ill., assignor to Frederick P. Siegel, Chicago, Ill., and Howard S. Siegel, Skokie, Ill.
No Drawing. Filed Apr. 27, 1964, Ser. No. 362,927
9 Claims. (Cl. 128—269)

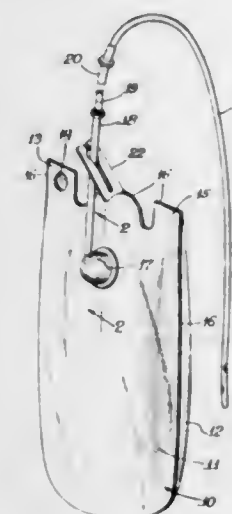
1. A medicative applicator which comprises a stem having a wad of absorbent material affixed to at least one end thereof, said absorbent material being impregnated with a mixture comprising a medicinal ingredient carried by a water dispersible low melting point resinous material.

3,343,541
PARENTERAL CONTAINER
David Bellamy, Jr., Glenview, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,569
1 Claim. (Cl. 128—272)



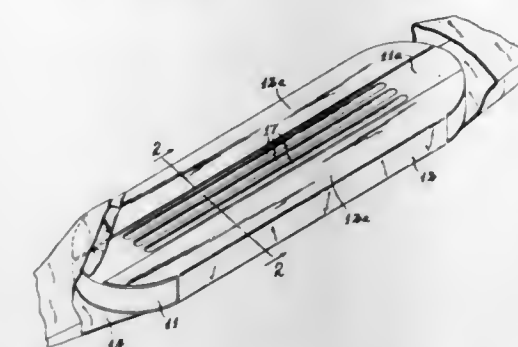
In a plastic solution bag for containing a sterile parenteral solution and provided with port means including a tubular extension through the wall of said bag, a tamper proof closure for said port means comprising a relatively thin tearable plastic film permanently sealed to said bag around its edges and encompassing a sterile zone, said port means being located within said sterile zone, tab means for rupturing said tearable plastic film to expose the sterile zone and port means, said tab means including a relatively thick tear tab being located within the periphery of the seal which joins the thin plastic film to the bag.

3,343,542
URINE COLLECTION BAG
Richard E. Ericson, Barrington, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed July 30, 1964, Ser. No. 386,302
15 Claims. (Cl. 128—275)



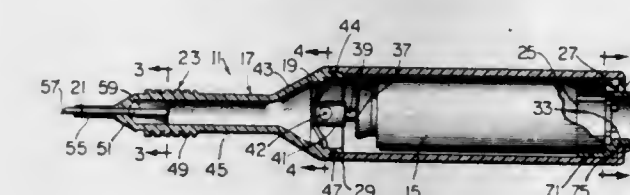
1. A urine collection bag comprising a urine retention chamber, a flexible wall of said chamber, an aperture in said wall, said chamber being watertight except for said aperture, a drip chamber attached to said flexible wall and forming a watertight seal with said wall around said aperture and means integral with said drip chamber for attachment thereto of a tube whereby urine may flow out of said tube into and through a portion of said drip chamber having an internal diameter substantially greater than that of said tube and then into said retention chamber, said drip chamber having a portion through which the progress of urine therethrough may be viewed.

3,343,543
SANITARY NAPKIN
Jacob A. Glassman, 1680 Meridian Ave., Miami Beach, Fla. 33139
Filed June 10, 1964, Ser. No. 373,987
3 Claims. (Cl. 128—290)



1. A sanitary napkin comprising a flat substantially rectangular mass of fluid absorbent material having a body contacting top surface, a bottom surface and side surfaces; a fluid resistant barrier overlying the bottom surface, the side surfaces and longitudinal marginal areas of the top surface; each longitudinal marginal area comprising approximately one-third the width of the absorbent mass so as to leave the longitudinal medial portion of the top surface uncovered; and a pair of longitudinal laterally spaced grooves in said medial portion, said grooves terminating short of the ends of said mass and defining between them an area that will protrude from the top surface of the mass in the form of a ridge when the mass is folded along a medial longitudinal line into an inverted U-shape.

3,343,544
CRYOGENIC SURGICAL INSTRUMENT
Crawford B. Dunn, Dallas, and Guy Glenworth Crawford and Eldon G. Weston, Fort Worth, Tex., assignors to Alcon Laboratories, Inc., Fort Worth, Tex., a corporation of Texas
Filed Dec. 21, 1965, Ser. No. 515,377
4 Claims. (Cl. 128—303.1)



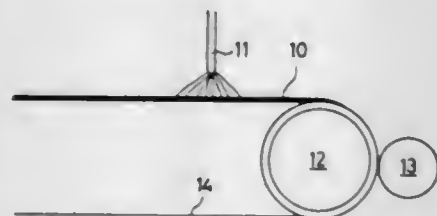
1. A lightweight compact self-contained cryogenic surgical instrument comprising,
(a) a hollow receptacle for receiving a valved container of refrigerant under pressure,
(b) an expansion chamber communicating with the forward end of said receptacle,
(c) a valve actuator stop within said expansion chamber adapted to engage and open the valve of the container when the container is pressed forwardly,
(d) an elongated solid heat-conductive probe rigidly supported intermediate its ends in a wall of said expansion chamber with the inner end of said probe extending into said expansion chamber, said probe having a relatively small cross-sectional dimension in comparison to its length,
(e) a manually movable pusher on said receptacle adapted to press the container forwardly against said stop for opening the valve to dispense the refrigerant into said expansion chamber,
(f) and vent means formed in the pusher and in the rear end of the receptacle for exhausting spent gases from said instrument

3,343,545
BRASSIERE-SLIP
 Herman Kress, 136 Fox Meadow Road,
 Scarsdale, N.Y. 10583
 Filed June 29, 1965, Ser. No. 467,834
 5 Claims. (Cl. 128-454)



1. A long-line brassiere-slip comprising a brassiere having two breast cups, a diaphragm section extending from and connected to lower edges of said breast cups and a back section of extensible material extending between and connected to side edges of said breast cups and diaphragm section for figure-controlling, said diaphragm section having its lower edge with alternating peaks and valleys extending above and below the natural waistline and a slip portion extending down from and connected to the lower edge of said diaphragm section whereby the alternating peaks and valleys of the figure-controlling brassiere portion provide a smooth transition to the slip portion for a more perfect fit.

3,343,546
SALIVA RESISTANT TOBACCO SHEET, PROCESS OF MAKING SAME, AND CIGAR INCLUDING SUCH SHEET
 Ernst-Rolf Detert, Schutzenstrasse 2, Lubbecke, Germany, and Wilhelm Buchholz, Obermehnen, near Lubbecke, Germany
 Filed Jan. 21, 1965, Ser. No. 426,898
 Claims priority, application Germany, Dec. 29, 1964, G 42,472
 15 Claims. (Cl. 131-17)

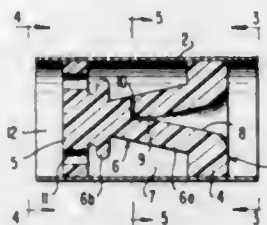


1. A saliva resistant smoking tobacco sheet which is pliable and thermoplastic, comprising a homogeneous mixture of a predominant proportion of tobacco meal, from about 10% to about 50% by weight of the tobacco meal of an organic solvent soluble extract of tobacco, and acetylcellulose as a binder.

3,343,547
CIGARETTE FILTER
 George A. Gill, Jr., Rock Hill, S.C., assignor to Robert M. Ward, Rock Hill, S.C.
 Filed Sept. 22, 1964, Ser. No. 398,174
 4 Claims. (Cl. 131-261)

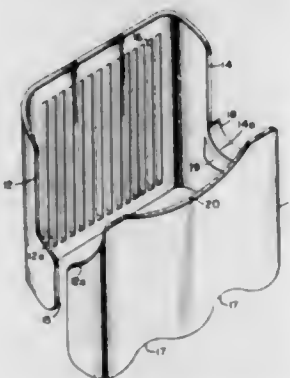
1. A filter of the character described comprising, a pair of axially spaced cylindrical members, a medial portion interconnecting said cylindrical members, an axially extending conical bore formed in one of said cylindrical members and extending into said medial portion, an axially extending orifice formed in said medial portion,

one end of said orifice communicating with the apex of said conical bore, a transversely extending slot formed in the medial portion and communicating with the oppo-



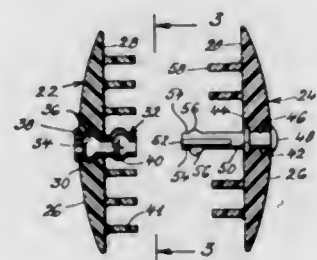
site end of said orifice, said slot being spaced a substantial distance from the first of said cylindrical members, and a plurality of axially extending apertures formed in the other of said cylindrical members.

3,343,548
HAIR ROLLER LIFT FOR STRAIGHTENING HAIR ADJACENT THE SCALP WHILE CURLING THE OUTER END PORTION
 Justin W. Morgan, 925 N. Atlantic Ave.,
 Daytona Beach, Fla. 32018
 Filed Feb. 11, 1966, Ser. No. 534,614
 8 Claims. (Cl. 132-9)



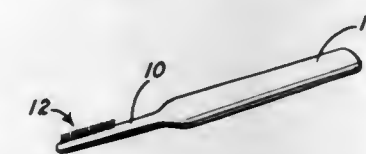
1. A roller lift for effecting straightening of the hair while simultaneously supporting a roller for curling of a portion thereof comprising:
 a hollow body member having side walls and being open at both ends thereof, the interior of said body member being entirely free of obstruction,
 a pair of curved grooves within the edges of said side walls at diametrically opposite points adjacent to one open end thereof to accommodate a roller therein, and
 a longitudinal slot extending as a continuation of one of said grooves in the side wall of said body member to the other open end thereof opposite said one open end.

3,343,549
ADJUSTABLE SPOOL SHAPED HAIR CURLER WITH HAIR ENGAGING PROJECTIONS
 Dorothea M. Weltzner, 8 E. 62nd St.,
 New York, N.Y. 10021
 Filed Dec. 21, 1964, Ser. No. 419,948
 2 Claims. (Cl. 132-40)



1. A hair curler comprising a sectional plastic body of yo-yo shape in configuration and of saucer-shape in plan, each section having a convex outer surface and a

3,343,551
MASCARA APPLICATOR
 Douglas D. Anderson, 245 W. North Ave.,
 Chicago, Ill. 60610
 Filed Dec. 16, 1964, Ser. No. 418,686
 2 Claims. (Cl. 132-88.7)



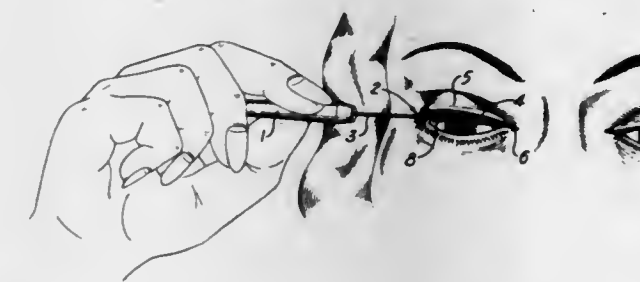
flat inner surface, said sections having holes through the centers thereof, one section having a socketed sleeve in the hole therein projecting radially therefrom, spaced annular beads on the body of the sleeve, the other section having a plug in the hole therein projecting radially therefrom, said plug having opposed detents adapted to be received in the beads of the socketed sleeve, said sleeve and plug adapted to receive a tress of hair therearound and adapted to be moved toward each other carrying the sections for compressing the hair on the sleeve and plug into a curl, and spaced pin-like projections extending from the inner surfaces of the sections in opposed relation, adjacent the peripheries thereof, the projections of one section being offset from the projections of the other, said plastic body being adapted to be attached to a flexible member conformable to the shape of the head of the wearer.

3,343,550
APPARATUS FOR REMOVAL OF CORNS AND HORNY SKIN
 Erich Werner, Schleffenstrasse 40,
 Wuppertal-Vohwinkel, Germany
 Filed Feb. 8, 1965, Ser. No. 431,014
 1 Claim. (Cl. 132-75.8)



An apparatus for removal of corns and horny skin comprising
 a hand-piece adapted to be coupled with a drive shaft, a head-piece rotatably mounted in and disposed at one end of said hand-piece,
 said head-piece including a multi-edged cutting head having a plurality of cutting edges angularly spaced apart from each other,
 said hand-piece having a flattened portion at its forward end,
 said flattened portion including a longitudinal slot, said head-piece rotating within the range of said longitudinal slot,
 the radius of each pair of adjacent cutting edges increasing for the same amount in the direction of rotation, except between the last and the first of said cutting edges,
 a first hand-piece shaft operatively connected with said cutting head for joint rotation therewith,
 a first flexible shaft operatively connected with said first hand-piece shaft at the other end of said hand-piece,
 a second flexible shaft connected to said hand-piece, a coupling head connected to the free end of said second flexible shaft, and
 a second hand-piece shaft operatively connected to the free end of said first flexible shaft and rotatably mounted in said coupling head.

3,343,552
EYE LINING METHOD
 Glenn W. Steffen, 16015 W. Mark Drive,
 New Berlin, Wis. 53151
 Filed Nov. 12, 1964, Ser. No. 410,431
 1 Claim. (Cl. 132-88.7)

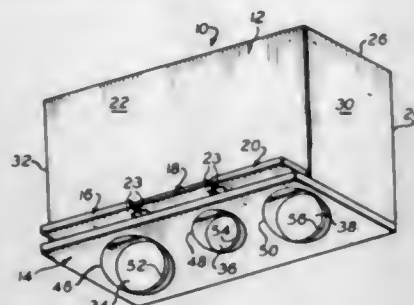


A method of applying eye liner material to an eye lid, comprising:
 (a) applying eye liner material to a rigid elongated curved applicator member,
 (b) first bringing said applicator member with said material thereon into contact with the eye-lashes outwardly of their roots,
 (c) and then sliding said member inwardly along said lashes in a single stroke until the concave portion of the curved member engages the eye lid at the roots of said lashes so that said liner material is applied to the lid in a single uniform line.

3,343,553
COIN-DISPENSING DEVICE
 Frank C. Whitmore, 279-B Spring St.,
 Red Bank, N.J. 07701
 Filed Mar. 30, 1966, Ser. No. 538,804
 4 Claims. (Cl. 133-4)

1. A coin-dispensing device comprising a body having a plurality of cylindrical bores therein which are adapted to receive and stack coins of different denominations, a base plate covering said bores, said base plate having an article discharge opening therein, the axis of each of said discharge openings being laterally offset from the axis of the

respective cylindrical bores, a space between said bottom plate and said body, a slide received between each cylinder and its respective discharge opening and each slide having an aperture therethrough, said slides being individually and selectively movable between a first position wherein the apertures are aligned with the respective cylinder to receive a coin therefrom and a second position wherein said apertures are aligned with said respective discharge openings to dispense a coin therethrough, a groove defined



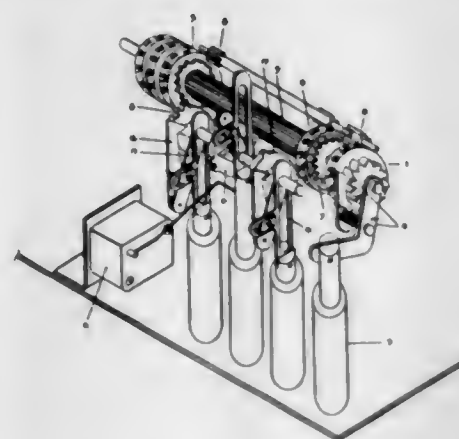
in said body and base plate and positioned adjacent each one of said slides, each of said slides having a lateral projection extending into the associated groove adapted to engage the front wall of the groove when said slide is in said second position, and biasing means in each one of said grooves in engagement with the lateral projection on the associated slide to bias said slide to the second position, whereby said slide normally remains in said second position.

3,343,554

CASH TOTALIZING COUNTER

David Neustadt, Long Beach, and Thomas Migliore, New York, N.Y., assignors to Automatic Components, Inc., Plainview, N.Y.

Filed Dec. 2, 1965, Ser. No. 511,161
2 Claims. (Cl. 133-8)

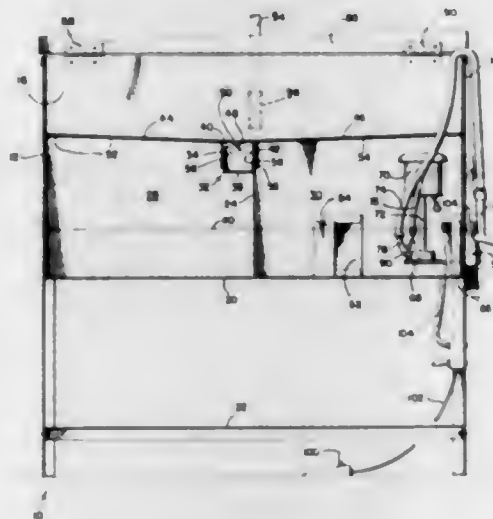


1. A totalizing counter, comprising display means having a first drum with characters displayed thereon, a gear element rotatable with said drum, pinions operable to engage and drive said gear element, said pinions being divided into sectors each having a section with gear teeth adapted to mesh with said gear element and another section blank adapted to be free of the gear element, individual actuating means for rotating each of said pinions a sector at a time in response to the dropping of a coin, whereby each pinion rotates the main gear element and said first drum predetermined amounts and is thereafter disengaged from the gear element, each of said actuating means being operable in response to the dropping of a particular denomination coin, each sector of a particular pinion having a given number of gear teeth proportional to the denomination of the coin to be received by the actuating means for said pinion, each of said actuating means comprising a solenoid operable in response to the drop of a coin, and a mechanical connection between the

solenoid and its pinion to rotate the latter an amount dependent on the number of sectors in each pinion, said mechanical connection comprising a crank arm actuated by said solenoid, a pawl mounted on said crank arm, and a star wheel on said pinion engaged by said pawl, for rotating the pinion.

3,343,555

PARTS CLEANING APPARATUS
Kermit M. Kasner, 16916 12th Place NE.,
Seattle, Wash. 98155
Filed Oct. 23, 1965, Ser. No. 503,510
4 Claims. (Cl. 134-111)



1. A parts washing apparatus, comprising: (a) a generally rectangular tank means having bottom, end, front and rear walls, said tank also including a general vertically disposed partition means extending between the front and rear tank walls to define first and second sedimentation compartments in said tank and having ports therein above the bottom tank wall to allow cleaning fluid to flow from one compartment to the other, (b) a catch basin detachably secured on and extending over substantially the entire upper portion of said partition on the first compartment side thereof, (c) filter means within said second compartment defining a pump area, said pump area having power driven pump means therein and hose means attached to said pump means, and (d) work surface means disposed over each of said compartments, said work surface means being formed to define an opening over said catch basin, whereby cleaning fluid directed to said work surface means by said hose means flows into said catch basin, thence overflowing into said first compartment, thence passing into said second compartment through said partition means ports and finally through said filter means into said pump area for recirculation through said hose.

3,343,556

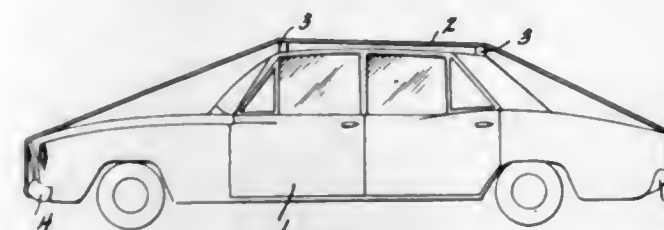
VEHICLE PROTECTIVE COVER

Paul Stamberger, 552 W. University Parkway, Baltimore, Md. 21210, and Arthur Nolan, Rte. 3, Box 401, Annapolis, Md. 21403

Filed Aug. 23, 1965, Ser. No. 481,544
5 Claims. (Cl. 135-5)

1. A protective cover for a motor car adapted to be placed over the top portion thereof to protect the same from sun, sleet, snow and rain, comprising a sheet of flexible, impervious material overlying at least said top portion; transversely-extending, longitudinally-spaced spacer elements secured to the underside of said cover and adapted to rest on said top portion, said spacer elements being of substantial height to maintain said cover in substantially parallel spaced relation above and with respect to said top portion to form an air space of substantial

height to permit circulation of air between said cover and said top portion, each spacer comprising a plurality of blocks arranged in an aligned row and extending in a direction transverse to the length of said top portion and

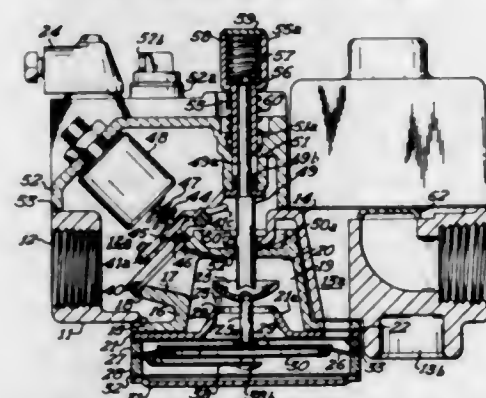


each block having its top surface secured to the underside of said cover; and means for attaching the front and rear ends of said cover to the front and rear portions, respectively, of said motor car.

3,343,557

MANIFOLD VALVE

William R. Dunn, Los Angeles, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed Apr. 26, 1963, Ser. No. 275,839
6 Claims. (Cl. 137-66)

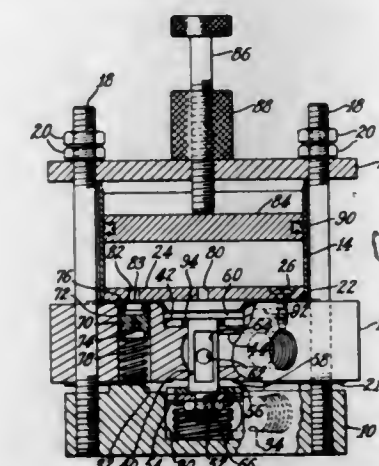


1. A manifold valve comprising a valve body having an inlet chamber with an inlet passageway and an outlet chamber with an outlet passageway and a partition wall therebetween, said chambers having openings at their top and bottom surfaces; an apertured cover for said inlet chamber; a safety valve in the inlet chamber; a pressure regulator valve housing secured to the bottom of said valve body and covering the openings in the bottom surface of the body, said housing having an inlet chamber projecting into the inlet chamber of said valve body with an inlet formed therein to provide a valve seat for said safety valve to engage and with an opening in the top thereof and an opening in the bottom thereof; a valve seat partition plate covering said last-mentioned opening and having an annular valve seat portion projecting into the inlet chamber of said housing in series flow communication with the first mentioned valve seat; a diaphragm positioned below and clamped at its periphery to the periphery of said plate so as to form a pressure chamber therebetween; a pressure regulator valve positioned in the inlet chamber of said housing and having a stem extending through said plate and connected to said diaphragm so as to cooperate with the valve seat of said plate to provide pressure regulation; means biasing said pressure regulator valve to its open position; a manually operable reset plunger mounted in the aperture of said cover and extending through said opening in the top of said housing; said plunger being movable inwardly to engage and close said pressure regulator valve; means on said reset plunger so arranged as to engage and open said safety valve after said pressure regulator valve is closed and upon continued movement of said reset plunger; a passageway leading from said pressure chamber through said plate and through said housing to said outlet chamber; and a control valve unit positioned in said outlet chamber and closing the opening thereof

in the top surface of the outlet chamber of said valve body and having a valve positioned to control flow through said outlet passageway.

3,343,558
TIMING VALVES

Raymond A. De Vita, Winchester, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Dec. 22, 1964, Ser. No. 420,271
6 Claims. (Cl. 137-102)



1. A timing valve comprising a body portion provided with an inlet passage, an outlet passage and an exhaust passage, a valve for controlling the flow of fluid under pressure from said inlet passage to said outlet passage and from said outlet passage to said exhaust passage, means for yieldingly holding said valve in a closed position to prevent flow of pressure fluid from said inlet passage to said outlet passage while connecting said outlet passage to said exhaust passage, fluid pressure operated means for moving said valve to an open position in which said inlet passage and said outlet passage are in communication and said outlet passage is shut off from said exhaust passage, means providing a timing chamber in communication with said fluid pressure operated means, means providing a passage leading from said inlet passage to said chamber, and means in said last mentioned passage for metering the flow of fluid under pressure from said inlet passage to said chamber, said metering means comprising a plunger provided with a metering orifice and loosely fitted within the passage between the inlet passage and said chamber, said plunger being adapted to serve as a valve for restricting the flow of pressure fluid from said inlet passage to said chamber through said metering orifice and to permit relatively free flow of fluid under pressure from said chamber to said inlet passage.

3,343,559

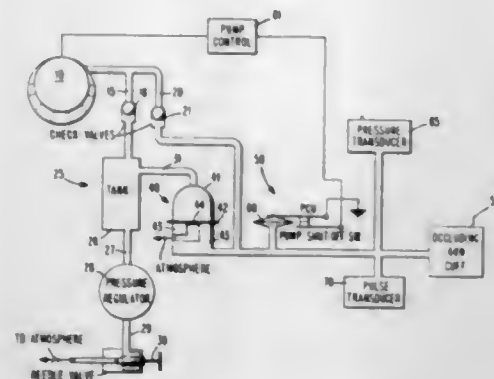
APPARATUS FOR CONTROLLING CHANGES IN AIR PRESSURE IN AN UNKNOWN VOLUME AND PRESSURE AIR SYSTEM

Francis A. Goplen, Zumbrota, and Gerald R. Willis, Rochester, Minn., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 14, 1964, Ser. No. 396,086
2 Claims. (Cl. 137-109)

1. In an air pressure control system: a control air system consisting of an air tank having a fixed volume, means for pressurizing said air tank to a predetermined air pressure, and means for bleeding the air pressure from said tank at a constant rate including a constant flow valve connected to said tank to control the amount of decrease in air pressure and a needle valve connected in series with said constant flow valve to control the rate of decrease in air pressure;

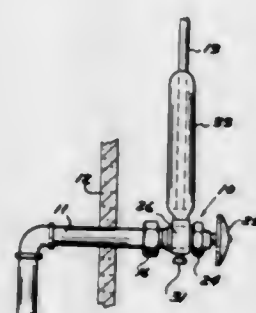
a working air system consisting of a variable volume inflatable and deflatable air device, means for inflating said air device to a predetermined air pressure, and means for deflating said variable volume device including a control valve having first and second chambers with a diaphragm separating said first chamber from said second chamber and an orifice communicating said second chamber with the atmos-



phere, the effective size of said orifice being controlled by said diaphragm, said first chamber being connected to said air tank and said second chamber being connected to said air device whereby as pressure decreases in said control air system at a constant rate, the effective size of said orifice is varied by said diaphragm to vary correspondingly the decreasing air pressure of said working air system at a constant rate.

3,343,560

ANTI-HAMMER UNDER-FIXTURE VALVE
Paul H. Nankivell, Elkhart, Ind., assignor to Brass-Craft Manufacturing Company, Detroit, Mich.
Filed Mar. 29, 1965, Ser. No. 443,323
5 Claims. (Cl. 137-207)



1. An anti-hammer, under fixture valve, comprising a hollow valve body having an inlet port, an outlet port, and a valve seat arranged within the body between said ports; a valve member arranged inside said body for sealing against said seat for shutting off fluid flow between said ports, and valve member means for moving the valve member into and out of sealing engagement with said seat; the improvement comprising an upwardly opening, cup-shaped socket member secured to the outside of the body member and having a passageway communicating the interior of the socket to the interior of said valve body between said seat and said outlet port; an opening formed in the lower end of said socket member, and a cap means normally closing said opening, but being manually openable for draining fluid from said socket member; and a vertically elongated tube having a closed upper end and an open lower end fitted into and sealed within said socket member.

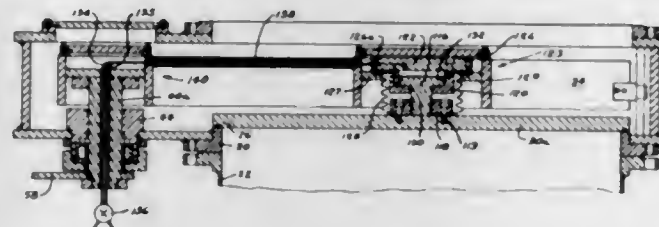
3,343,561
PIPELINE BALL AND METHOD OF MAKING
Hulle E. Bowerman, 904 Meadow Oaks Drive,
Arlington, Tex. 76010
Filed May 28, 1964, Ser. No. 371,004
6 Claims. (Cl. 137-268)



1. A pipeline go-devil comprising:
(a) a hollow elastomeric ball having inner and outer surfaces separated by thick walls;
(b) an elastomeric neck portion formed integrally with the body and extending inwardly from the inner surface, the neck portion being long as compared with its thickness and tapering down to an inner end of thickness less than said wall thickness, the body having a socket extending into and part-way through its wall from the outer surface and located in alignment with said neck portion;
(c) an elastomeric element at the inner end of the socket and extending outwardly therefrom to provide a conoidal surface;
(d) an elastomeric plug bonded in and substantially filling the socket flush with the surface of the ball and having in its inner end a clearance recess sized and shaped to provide clearance for the conoidal surface of said element, the plug and the valve element and the body and the neck portion all having a slit pierced therethrough to provide a self-closing valve action at the neck portion to prevent escape of fluid pressure from within the ball and at the valve element to prevent entry of fluid pressure into the ball.

3,343,562

PIVOTED VALVE CONSTRUCTION
Marvin G. Combes, Castro Valley, Calif., assignor to Grove Valve and Regulator Company, Oakland, Calif., a corporation of California
Filed Jan. 15, 1965, Ser. No. 425,885
11 Claims. (Cl. 137-315)



1. A valve construction comprising:
a valve body having inlet and outlet flow passages, a valve seat intermediate said passages, a shaft member rotatably mounted on said body, a fluid-tight hollow carrier arm supported on said shaft member intermediate said flow passages for oscillatory movement in a plane generally parallel to said seat, a valve closure plate carried by said carrier arm for movement therewith between an active position in alignment with said seat and an open position displaced therefrom, said closure plate being axially movable on said carrier arm,

means forming a passageway longitudinally through said shaft member into sealed communication with said hollow carrier arm, and motion transmitting means separate from said passageway and said carrier arm and extending therethrough to produce axial movement of said closure plate, said motion transmitting means being in fluid-tight isolation from the interior of said valve body continuously from a power source outside said valve body through said carrier arm.

3,343,563

BALANCED DEMAND VALVE
William James Carter, Jr., Williamsville, N.Y., assignor to The Firewel Company, Inc., Buffalo, N.Y., a corporation of Ohio
Filed Apr. 24, 1963, Ser. No. 275,444
1 Claim. (Cl. 137-517)



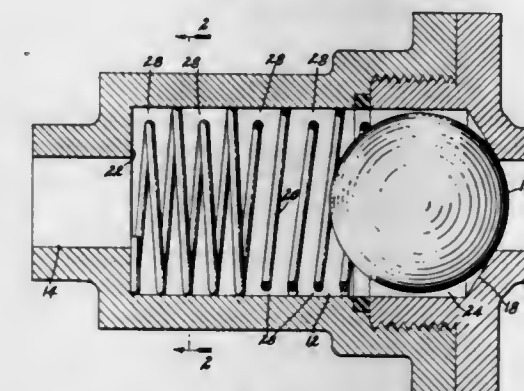
A demand valve for supplying pressurized oxygen from an inlet tube to an outlet tube in response to human inhalation demand impressed on the outlet end of said outlet tube, comprising

(A) a one-piece valve body having
(a) a through bore concentric with a single axis and formed to provide, successively
(1) a cylindrical outlet chamber of relatively large diameter at the end of said through bore opening into said outlet tube,
(2) a concentric cylindrical valve seat bore of smaller cross sectional size than said outlet chamber and forming a direct continuation thereof with a valve seat rim of abrupt cross section separating said valve seat bore from said outlet chamber,
(3) a concentric channel of larger diameter than and forming a direct continuation of said valve seat bore,
(4) a concentric cylindrical piston bore of substantially the same diameter as said valve seat bore and forming direct continuation of said channel,
(5) a concentric cylindrical plug seating bore of at least the same diameter and forming a direct continuation of said piston bore, and
(6) a cylindrical inlet chamber of at least the same diameter and forming a direct continuation of said plug seating bore and opening into said inlet tube,
(b) at least one passageway connecting said cylindrical inlet chamber and said channel, and
(c) a passage supplying reference pressure to the end of said piston bore remote from said channel,

(B) a cylindrical plug press fitted in said plug seating bore closing the end of said piston bore adjacent said passage and having at least one passage connecting said cylindrical inlet chamber with said passageway,
(C) a piston slidable in said piston bore,
(D) a valve head having knife edge contact with said valve seat rim and movable axially of said through bore to make and break contact with said rim, and
(E) a stem connecting said piston and valve head.

3,343,564

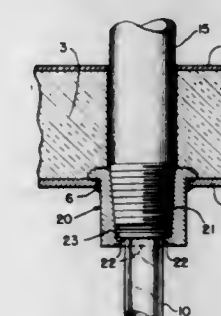
BALL CHECK VALVE HAVING PARTICULAR SPRING MEANS
Denny L. Peeples, Dayton, and George E. Kellogg, Miamisburg, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 8, 1964, Ser. No. 416,812
5 Claims. (Cl. 137-539)



1. A check valve having a spring and ball movable in a cylindrical passage, said spring comprising: a series of resilient wire loops engaging an inside periphery of the passage; said series of resilient wire loops including a first group of alternate loops formed in a polygon and being aligned axially so that faces of said polygon correspond in spatial relationship; said series of resilient wire loops including a second group of alternately spaced loops formed in a polygon with faces of said polygon corresponding in spatial relationship with each loop in said second group but being angularly offset from the faces of the polygonal loops of said first group of alternate loops, the ball of the check valve substantially filling the cross section of the passage and allowing fluid flow thereby, said first and second groups of alternately spaced loops engaging the inside periphery of the passage and allowing fluid flow by the spring through spaces created by the offset disposition of the adjacent polygonal loops relative to the passage.

3,343,565

DOMESTIC APPLIANCE
Harry L. Johnson, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York
Filed Dec. 20, 1963, Ser. No. 332,169
2 Claims. (Cl. 137-592)



1. An inlet structure for a water heater comprising:
(a) a spud secured in the top wall of the water tank,
(1) said spud having a passage therethrough,

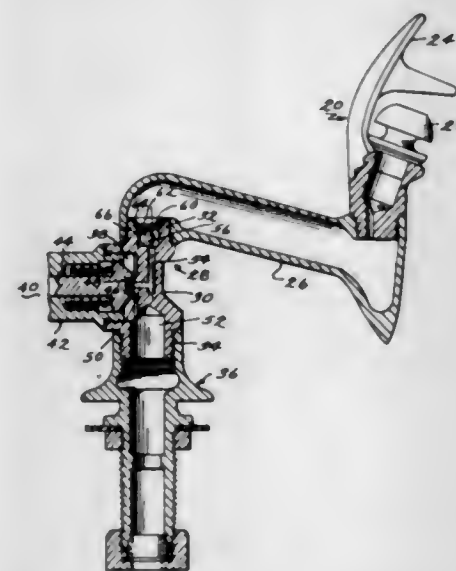
- (2) the upper portion of said spud adjacent said passage being threaded to receive a water supply pipe,
 (3) support means formed in the lower portion of said spud and extending into said passage in spaced relationship with said threaded portion,
 (b) a dip tube received in said passage and extending downwardly into said tank to deliver water to the lower portion thereof,

(1) the upper end of said dip tube including an integral flange which rests on said support means and terminates in close proximity to said threaded portion, the thickness of said flange being related to the spacing between said support means and said threaded portion that a water supply pipe threadedly engaged in said threaded portion of said spud will closely overlie said dip tube without exerting substantial compressive effort against the said flange.

3,343,566

FLOW CONTROLLER

Lawrence F. Luckenbill, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
 Filed Dec. 17, 1963, Ser. No. 331,209
 2 Claims. (Cl. 138—43)



1. A flow control device for maintaining a substantially constant flow of fluid therethrough despite variations in pressure of the supply of fluid thereto comprising: conduit means; a rigid orifice plate member interposed in said means and having an orifice therein; a deformable, spherical valve member disposed in said conduit means on the upstream side of said plate; said conduit means including means defining a pocket for maintaining said sphere in spaced close adjacency with the orifice when fluid is not flowing therethrough and also including means for directing a stream of fluid off-center with respect to the pocket and off-center with respect to the sphere against said sphere on the initiation of flow of fluid through said conduit means thereby to partly turn said sphere at each said initiation of flow to present a different area of said sphere for engagement with the edges of said orifice, said valve member being disposed, while fluid is flowing through said conduit means, in partial covering relation with said orifice, the relative proportions and configurations of said valve member and orifice being such that restricted flow areas are provided through said plate member when said valve member partially covers said orifice, said restricted flow areas varying in inverse proportion to the pressure of the supply of fluid to said device to thereby maintain a substantially constant rate of flow of fluid therethrough.

3,343,567

COLLAPSIBLE TUBING

Robert J. Mulligan, Westport, and Garry T. Higgins, Cos Cob, Conn., assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware
 Filed June 1, 1964, Ser. No. 371,430
 4 Claims. (Cl. 138—119)

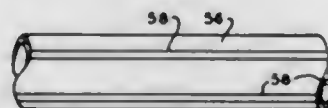


1. A seamless polygonal extrusion of plastic material having a percent elongation of at least 20 having side walls of uniform density and composition and being between 0.008 inch in thickness to 0.025 inch characterized by having at the corner angles a thinner cross-section between about 0.004 inch and 0.010 inch whereby the said extrusion can be collapsed to a substantially flat shape.

3,343,568

EXTRUDED TUBULAR ARTICLE WITH CLEAR STRIPE AND TRANSLUCENT TO OPAQUE BODY

Tony E. Branscum, Winfield, Kans., and John E. Havelly, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
 Application Oct. 25, 1962, Ser. No. 232,929, which is a division of application Ser. No. 46,402, Aug. 1, 1960, now Patent No. 3,097,058. Divided and this application Feb. 23, 1965, Ser. No. 434,259
 1 Claim. (Cl. 138—178)



A tubular article of substantially uniform diameter, open at both ends, and formed of at least two thermoplastic resins, one forming the major portion of the wall of said article consisting essentially of a translucent to opaque resin, another consisting essentially of a transparent unpigmented resin forming a relatively narrow stripe or band longitudinally of said tubular article extending substantially thru the wall of the article.

3,343,569

COMBINED CARDING AND WEAVING

Hugh H. Barr, Chappaqua, N.Y. (20 Old Mamaroneck Road, Apt. 7C, White Plains, N.Y. 10605)
 Filed Dec. 17, 1965, Ser. No. 514,554
 5 Claims. (Cl. 139—11)



1. A machine for weaving a textile fabric which comprises separate, loose, entangled warp fibers in filaments, in the nature of slivers, said machine including means for carding stock and traveling the carded material in the form of a loose filmy sheet of entangled fibers, dividing the sheet into a plurality of ends, slightly compacting the ends while still substantially retaining their characteristic

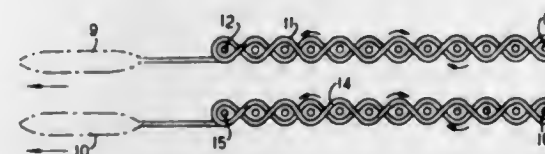
of being loose, means forming a shed of the ends by alternately raising and depressing the individual ends in an alternative relationship, and means providing a filler material passing through the shed at each alternate motion thereof, wherein said shed is formed by a weaving chamber having a series of vertical openings therein, and means providing for alternate pneumatic pressure and suction with respect to each opening so that air pressure is applied to the sides of the individual ends alternately with suction being applied at the opposite sides thereof in an alternate relation.

3,343,570

APPARATUS AND METHOD FOR MANUFACTURE OF CARPETS

Jan Sabbe, Courtrai, Belgium, assignor to Societe Libre Anstalt, Vaduz, Liechtenstein, a corporation of Liechtenstein

Filed Mar. 1, 1965, Ser. No. 435,994
 Claims priority, application France, Mar. 4, 1964, 18,365
 6 Claims. (Cl. 139—21)



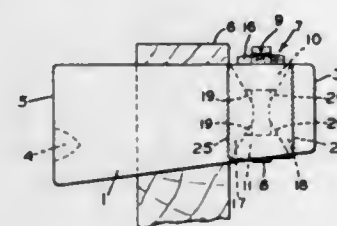
1. A method of producing pile fabrics face-to-face having an upper component and a lower component and a shuttle for each of said components in a two-shuttle loom, comprising the steps of
 throwing each of said two shuttles separately and alternately in a shed to surround a warp yarn by a weft yarn in each of said components.

3,343,571

LOOM PICKER RETENTION MEANS

Martin S. Fidler, Jr., Columbia, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Mar. 29, 1966, Ser. No. 538,396
 5 Claims. (Cl. 139—159)

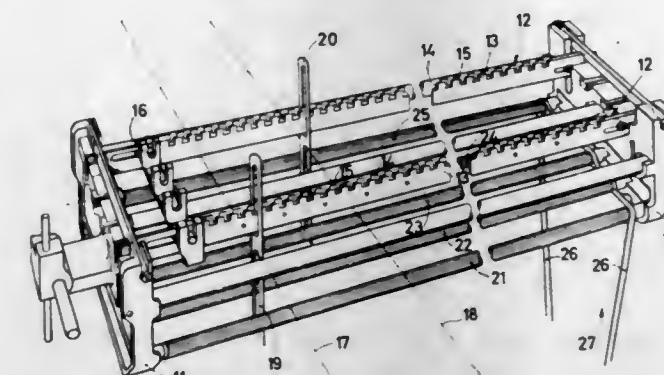


1. In combination, a loom picker comprising a picker head having a vertical opening in the rear portion thereof adapted to receive the upper end of a picker stick, adjustable picker head mounting means positioned in said vertical opening in said picker head between said picker stick and the rear surface of said opening, said mounting means comprising an actuator rod having oppositely disposed threaded portions thereon, two internally threaded wedge elements each having at least one oblique surface thereon and mounted one on each of said oppositely disposed threaded portions of said actuator rod for longitudinal movement therealong upon rotation of said rod, clamping means having oblique surfaces thereon positioned in contact with said oblique surfaces on said wedge elements mounted on said actuator rod, said clamping means adapted to be forced outwardly by said wedge members as they move toward each other along said actuator rod when said rod is rotated.

3,343,572

DROP WIRE SEPARATING SHAFT FOR A WEAVING LOOM

Otto Geiger, Ruti, Zurich, Switzerland, assignor to Ruti Machinery Works Ltd., formerly Caspar Honegger, Ruti, Zurich, Switzerland, a corporation of Switzerland
 Filed Aug. 30, 1965, Ser. No. 483,557
 Claims priority, application Switzerland, Sept. 3, 1964, 11,509/64
 11 Claims. (Cl. 139—358)



1. In a warp stop motion for a weaving loom having means for separating the warp stop motion drop wires arranged in various rows and supported by the warp threads, the improvement which comprises a separating shaft positioned between adjacent rows of said drop wires, said separating shaft having a profile delimited by a cylindrical surface and rotating about its longitudinal axis during operation of the weaving loom whereby fluff produced from said warp threads is prevented from matting up on said drop wires and on said separating shaft.

3,343,573

ROVING CAN SPRING

John J. Dillon, Warwick, R.I., assignor to James Hill Manufacturing Company, a corporation of Rhode Island

Filed Apr. 14, 1965, Ser. No. 448,143
 2 Claims. (Cl. 140—89)



1. The method of making a roving can spring which comprises the steps of winding high carbon hard drawn medium bright wire about a mandrel to form a predetermined number of coils, pulling out the coils to a predetermined distance, and during this step of pulling out the coils, turning the coils a predetermined number of revolutions, then heat treating the pulled-out coils to relieve the stresses therein, and cooling the heated coils at room temperature.

3,343,574

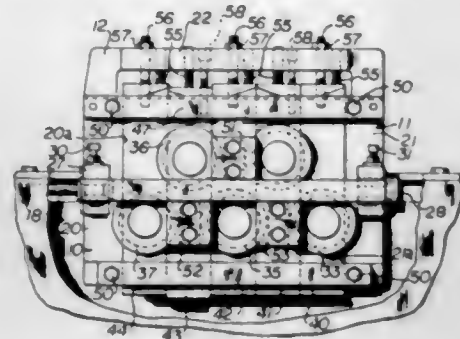
WIRE STRAIGHTENING UNIT

Leo D. Mersek, Richmond Heights, Ohio, assignor to The Ajax Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 22, 1965, Ser. No. 450,089
 3 Claims. (Cl. 140—147)

1. A wire straightener unit or the like comprising a frame, guide means for guiding wire transversely of said frame, two contiguous bars supported on said frame for

sliding movement in parallel paths, a wire straightener roller on each of said bars for engaging opposite sides of a wire passing therebetween, a scale member extending adjacent to said bars and having a surface lying in a plane intersecting the adjacent faces of said bars, said member having linear indicia means along one edge thereof adjacent said faces of said bars, linear indicia means extend-



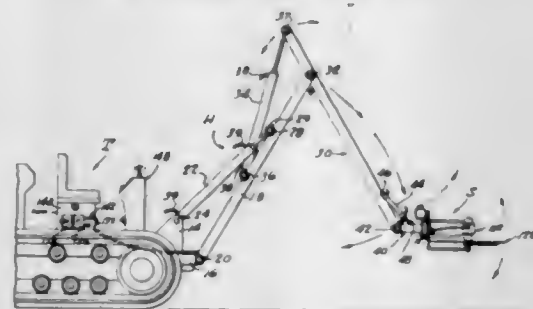
ing across said face of one of said bars and converging with the plane of said one surface toward the edge of said one bar remote from the other bar, linear indicia means extending across said face of said other bar and converging with the plane of said surface toward the edge of said other bar remote from the adjacent edges of said bars, and means to position said bars relative to said frame.

3,343,575

TREE AND BRUSH ROTARY SAW ATTACHMENT

Thomas E. Trout, 2628 E. Cornell St.,
Lubbock, Tex. 79403

Filed July 9, 1965, Ser. No. 470,852
6 Claims. (Cl. 144-34)



1. In combination, a tractor, an extensible and dirigible carrier assembly mounted on the tractor, a circular saw blade carried by said assembly at the end thereof remote from the tractor, first means controllable from the tractor for extending and retracting, and steering said assembly, and second means controllable from the tractor for rotating the saw blade, said blade being a component of a saw assembly, said saw assembly comprising an arm mounted on the carrier assembly, a carriage rotatably mounted on said arm, a drive motor on the carriage having a vertical shaft on which the saw blade is fixed, a plate on the carriage formed with circumferential teeth, a rotating motor on the arm having a pinion in mesh with said teeth.

3,343,576

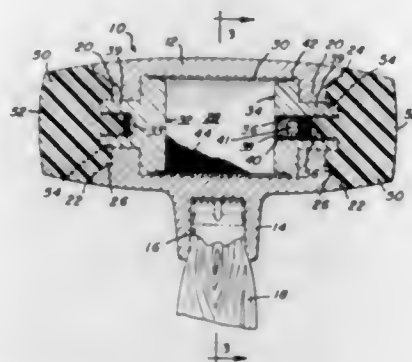
DEAD-BLOW HAMMER HEAD

John C. Norcross, Bushnell, Ill., assignor to Vaughan & Bushnell Mfg. Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 20, 1965, Ser. No. 524,668
5 Claims. (Cl. 145-36)

1. A dead-blow hammer head comprising a generally cylindrical body portion of tubular configuration presenting a cylindrical inner wall surface terminating in oppositely facing open circular rims, a sub-assembly of parts disposed within said tubular body portion and including a cylindrical open-ended tube having an outside diameter

equal to the internal diameter of said wall surface, a first end cap closing one end of the tube, a second end cap closing the other end of the tube, and a quantity of flowable inertia material disposed within the tube between the end caps, said sub-assembly of parts being so disposed within the tubular body portion that the tube is coaxial with the cylindrical wall and in coextensive contiguity therewith and centered between said open rims, each of said end caps being formed with an axial stem portion projecting outwardly of the sub-assembly of parts, the stem portion of each end cap being formed with a thread-



ed axial recess therein, abutment means formed integrally with said body portion and joining said inner wall surface and said circular rims for retaining said sub-assembly within said body portion, and a pair of identical impact end tips for the opposite ends of said body portion, each end tip comprising a generally cylindrical body of a diameter conformable to the diameter of said tubular body portion and, in addition, a threaded stud on the central portion of said cylindrical body, the stud of each end tip being threadably received within one of said threaded recesses.

3,343,577

SWIVEL TOP RATCHET DRIVER

William Wagner, Miami, Fla., assignor to
Watsco, Inc., Hialeah, Fla.

Filed Aug. 8, 1966, Ser. No. 570,910
3 Claims. (Cl. 145-61)



1. A swivel top driver comprising:

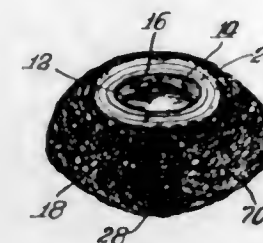
- a handle;
- a tool shank secured to and projecting from one end of said handle;
- a post permanently secured to the other end of said handle and having a portion of polygonal cross-section projecting from said other end;
- a spring-urged ball carried by said projecting polygonal portion; and
- a top removably and rotatably secured to said post by said spring urged ball whereby said top may be removed to expose said projecting polygonal portion of said post for engagement by a standard socket ratchet wrench.

3,343,578

DOOR KNOB COVER

Morris M. Rubin, % M. Rubin & Co., Inc.,
325 N. Water St., Milwaukee, Wis. 53202

Filed May 14, 1965, Ser. No. 455,908
1 Claim. (Cl. 150-52)



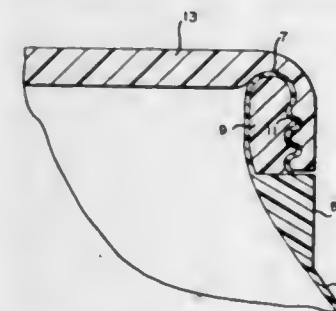
A door knob cover comprising a unitary blank of fabric in the shape of a Grecian cross having a rectangular center portion and four rectangular side portions of substantially identical size each integrally secured to a different edge of the center portion, the adjacent edges of said side portions being stitched together to form said blank into a box-like structure having an open top, a friction-increasing coating on the interior sides of said box-like structure, the free edges of said side portions defining said open top being shirred to form them into a generally circular opening and a strip of elastic material secured to the free edges of said side portions and surrounding said circular opening.

3,343,579

DISPOSABLE CONTAINER

Hudson P. Clark, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,847
2 Claims. (Cl. 150-8)



1. A composite container comprising in combination; a flexible body portion having a closed portion at one end and an open portion at the other end terminating into an outwardly and downwardly turned lip, said body being of a wall thickness sufficient to insure flexibility to the container, a flange member positioned around said body portion at a predetermined point below said lip; an externally threaded ring positioned around said upper portion of said container in a space between the said lip and the said flange member, said lip depending over said external threads and a threaded closure means adapted to engage the threads in said ring thereby pressing the lip portion of said container between the external threads on said ring and the interior of said closure means in order to insure a tight seal.

3,343,580

SELF-LOCKING FASTENER DEVICE

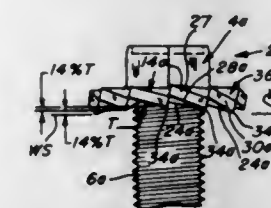
Chester P. Coldren, Canton, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Filed May 14, 1965, Ser. No. 455,876
1 Claim. (Cl. 151-37)

In a self-locking threaded fastener of the type used with mating threads to hold a workpiece having in combination, a tool engageable head portion, a radially extending flange portion, the flange portion having a sub-

stantially planar bearing surface, and a threaded portion extending along an axis away from the flange portion; the improvement comprising:

a plurality of tabs dependent from the bearing surface, the tabs being canted about an axis normal to the axis of rotation of the fastener such that one edge of the tabs is raised above the bearing surface and another edge is lowered below the bearing surface; successive tabs being variously canted such that the lowermost points of the tabs form a sinusoidal curve throughout the entire circumferential extent of the flange; and



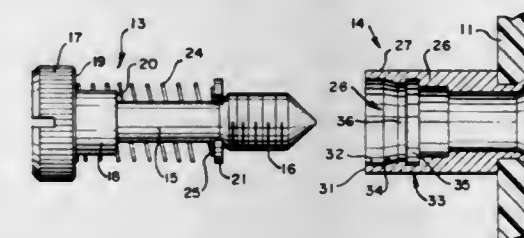
one radial edge of the canted tabs being inclined with respect to the axis of rotation of the fastener; whereby, as the fastener is tightened into engagement with the workpiece, first contact of the fastener with the workpiece will be point contact by the lowermost point of the tabs, continued tightening resulting in transformation of that point contact into line contact along the inclined radial edge and a portion of the peripheral edge of the tabs.

3,343,581

CAPTIVE SCREW FASTENER

Elmer L. Martin, Gardena, John J. MacLyman, Lawndale, and Clifford L. Kelsey, Los Angeles, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed July 1, 1966, Ser. No. 565,040
4 Claims. (Cl. 151-69)



1. A screw fastener permanently mounted in an assembled relation on a closure for fastening said closure to a container comprising

- (a) an elongated screw member having a centrally located shank portion,
- (b) a threaded end portion on one end of said screw member of a larger diameter than said shank for threading into a container,
- (c) a head portion on the end of said shank opposite to said threaded end portion and having a larger diameter than said shank,
- (d) an intermediate portion of smaller diameter than said head portion but of larger diameter than said shank portion positioned between said head portion and said shank portion to define a first annular shoulder between said head portion and the intermediate portion and a second annular shoulder between the intermediate end portion and the shank,
- (e) a smooth bore resilient split ring retainer member snapped over and slidably mounted on the shank of the screw member,
- (f) spring means surrounding said shank and biased between said retainer member and the first annular shoulder portion,

- (g) a generally cylindrical receptacle member having an axial bore extending therethrough with means at one end portion thereof for attachment to the closure and the opposite extended end portion thereof having at the inlet opening a cylindrical portion of a depth greater than the thickness of the split ring and of a diameter greater than the outer diameter of the split ring in its radially uncompressed condition,
- (h) an inwardly beveled inner wall surface portion of the cylindrical member converging from the cylindrical portion, to a diameter less than the outside diameter of the split ring in its uncompressed condition at a center portion of the receptacle,
- (i) an annular groove of a diameter at least equal to the outside diameter of the split ring in its radially uncompressed condition and of a depth at least equal to the thickness of the split ring, said groove terminating the inwardly beveled surface portion to define a third annular shoulder between the inwardly beveled surface portion and the annular groove,
- (j) a second cylindrical portion of a diameter less than the diameter of the split ring at its radially uncompressed condition immediately adjacent to the annular groove to define an annular seat between the annular groove and the second cylindrical portion, and
- (k) said spring means and the intermediate portion of the elongated screw portion forming combined driving means having an axial length exceeding the axial length from the third annular shoulder to the inlet opening of the receptacle member, but not exceeding the axial length from the seat to the inlet opening of the receptacle, so that in assembly the driving means will axially and positively contact the split ring member to axially advance and radially inwardly compress the split ring member as it moves along the inwardly beveled wall surface portion until it is advanced to the annular groove of the receptacle where it radially expands into the groove and is permanently retained by the third shoulder and the seat to prevent disassembly of the screw member from the receptacle member without rupture of the parts.

3,343,582

COVULCANIZATE COMPRISING POLYISOPRENE, ETHYLENE-PROPYLENE-DIENE RUBBER, AND CONJOINT ACCELERATORS

Glenn R. Himes, Torrance, and Dean E. Carter, Fullerton, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 27, 1965, Ser. No. 428,532

7 Claims. (Cl. 152-330)

1. A blend of an uncured synthetic homopolyisoprene rubber and an interpolymers rubber, said interpolymers being of ethylene, at least one alpha olefin having the structure $R-CH=CH_2$ wherein R is a C_{1-8} alkyl radical, and at least one diene of the group consisting of a t-methylene-2-norbornene, dicyclopentadiene, and an aliphatic open chain diolefin containing 5-22 carbon atoms in which the double bonds are separated by more than 2 carbon atoms and in which at least one double bond is terminally located, the diolefin comprising from about 1 to 40 mol percent of the interpolymers, said interpolymers having an iodine number of from 3 to 60, the weight ratio of polyisoprene to interpolymers being between about 80:20 and 60:40 and, as cure accelerators therefor a combination of:

Phr.

- | | |
|---------------------------------------|-----------|
| (1) A benzothiazyl sulfide compound | 0.25-2.5 |
| (2) An aryl-substituted guanidine and | 0.1-1.0 |
| (3) A thiuram sulfide | 0.025-0.5 |

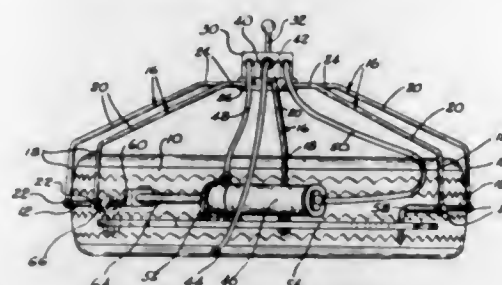
3,343,583

TIRE MOUNTING TOOL

Bervia Plunk, 6105 Morningside, Dallas, Tex. 75214

Filed May 19, 1965, Ser. No. 456,913

8 Claims. (Cl. 157-1.21)



1. A device for spreading the beads of a tubeless tire into contact with the rims of a vehicle wheel in order to mount said tire on said wheel comprising:

- a generally-circular support disc having a plurality of cylindrical holes bored radially into its periphery at equally spaced points about said periphery;
- a plurality of spring steel rods each having one end thereof frictionally engaged in one of said cylindrical holes and extending horizontally from said disc, thence at an acute angle downwardly from the horizontal, and thereafter vertically downwardly a distance equal to about half the breadth of said tire;
- a plurality of horizontally-disposed annular sleeves mounted on the lower free ends of all except one of said rods;
- a flexible, steel cable, having a degree of flexibility such that it will not be self-supporting when formed into the general configuration of a circle a length sufficient to encompass between about 180° and 270° of the circumference of said tire, passing slideably through said sleeves;
- hook means mounted on the top of said support disc whereby said support disc and its appurtenant elements may be suspended in an elevated position;
- a four-way air valve mounted on the top of said support disc and having a fluid inlet coupling, two fluid outlet couplings and a fluid exhaust means operatively associated with each of said outlet couplings;
- an arcuate, flat, horizontally-disposed sector having an inner radius slightly smaller than the radius of said tire;
- means for fixedly attaching the free end of said one radial rod to said sector adjacent the center of said sector;
- a hydraulic cylinder having an air-operable piston slideably mounted therein and a piston rod attached to said piston and passing through one end of said cylinder;
- pivot means fixedly attached to one end of said cylinder and pivotally attached to said sector adjacent the center, outer edge thereof to pivotally support said cylinder on said sector;
- sleeve-type means mounted on the end of said sector adjacent the free end of said piston rod and adapted to receive one end of said cable;
- coupling means adapted to couple said one end of said cable to said free end of said piston rod, whereby said one end of said cable will be moved back and forth through said guide means as said piston rod is moved back and forth;
- air line means connected between one of said outlet couplings of said valve and the interior of said cylinder adjacent one side of said piston;
- air line means connected to the other of said fluid outlets of said valve and the interior of said cylinder adjacent the other side of said piston; and

- (o) L-shaped hook means attached to the other end of said cable with its free end oriented downwardly;
- (p) said sector having a plurality of holes bored therethrough along an arcuate line adjacent the end of said sector opposite the free end of said piston rod and adapted to receive the downwardly projecting end of said L-shaped hook and permit adjustment of the circumference of the circle formed by said sector and said cable.

3,343,584

HEATING DEVICE FOR HEATING A FLUIDIZED BED OF PULVERULENT MATERIAL

Michel Boucraut, Metz, and Imre Toth, Hy-Metz, France, assignors to Institut de Recherches de la Siderurgie Francaise, Seine-et-Oise Department, France

Filed May 17, 1965, Ser. No. 456,238

Claims priority, application France, Oct. 27, 1964,

992,846

16 Claims. (Cl. 158-4)



1. Device for heating and fluidizing a bed of pulverulent material comprising, in combination, combustion chamber means having an upper closed portion and a lower open end, at least said upper closed portion being formed by a wall of material having a high heat conductive quality; burner means in said upper portion of said combustion chamber means; conduit means communicating with said burner means for feeding combustible material to the latter; circulating means in said upper portion of said combustion chamber means for imparting in said upper portion of said combustion chamber means a circular movement to the combustion gases emanating from said burner means to provide for an increased heat exchange between said combustion gases and said wall forming said upper portion of said combustion chamber means before the combustion gases leave said combustion chamber means through said lower open end thereof; and guide means communicating with said lower open end of said combustion chamber means for guiding the combustion gases emanating therefrom in upward direction.

3,343,585

BURNER CONTROL APPARATUS

Patrick J. Eckelberry, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,646

6 Claims. (Cl. 158-28)

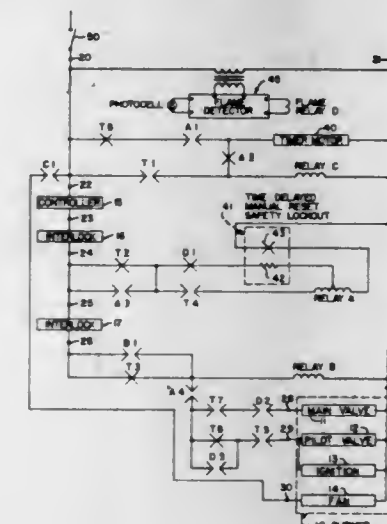
1. A burner control apparatus for use with a burner installation having a fan, a fuel valve, first and second interlock means to monitor first and second physical conditions, and a controller responsive to the need for operation of the burner installation, the control apparatus comprising:

timer means to time a prepurge operating period of the burner installation,

first control means adapted to be controlled by the controller and the first interlock means to actuate said first control means upon a need for operation of the burner installation and upon the absence of the first physical condition such that the subsequent temporary presence of the first physical condition is effective to interrupt the actuation of said first control means followed by a recycling of said first control means,

means operable upon actuation of said first control means to actuate said timer means and adapted to actuate the fan to begin the prepurge period,

second control means controlled by said timer means for a first time period shorter than the prepurge period, and adapted to be controlled by the controller and both of the first and second interlock means to actuate said second control means upon a need for operation of the burner installation and upon the absence of the first and the second physical condition,



means operable upon actuation of said second control means to maintain actuation of said second control means after said first time period independent of said timer means, such that the subsequent temporary presence of the first physical condition is effective to interrupt the actuation of said second control means followed by a recycling of said second control means, and a subsequent momentary presence of the second physical condition is effective to interrupt the actuation of said second control means with no recycle, means adapted to open the fuel valve and controlled by said second control means and said timer means to initially open the valve at the end of the prepurge period, and to maintain the valve open upon continuous actuation of said second control means,

flame detecting means adapted to detect flame at the burner installation, and

latching safety lockout means controlled by said flame detecting means effective to assume a latched lock-out condition upon the absence of flame after the end of prepurge period.

3,343,586

CATALYTIC HEATER

Donald V. Berchtold, William J. Marsh, and Ellwood E. Little, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas

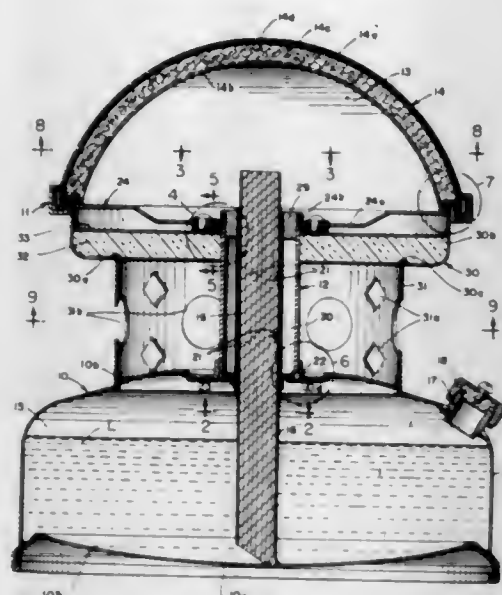
Filed Apr. 26, 1965, Ser. No. 450,710

14 Claims. (Cl. 158-96)

1. A catalytic heater capable of sustaining a substantially uniform high rate of fuel consumption from full fuel charge to empty:

said heater being of the kind having a base housing, a combustion head thereabove providing an enclosed fuel vapor collection space, the top portion of said head being formed by a porous catalytic combustion element in vapor transfer relation with said collection space, and a tubular connector extending between said combustion head and said base housing; said heater being characterized by

- (a) an unpacked reservoir for liquid fuel provided within said base housing,

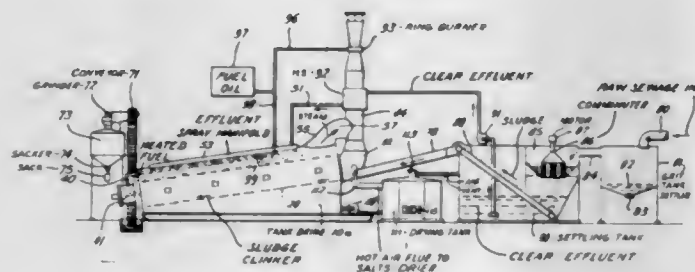


- (b) fuel transfer means including a capillary action wick for transferring the fuel from said reservoir in the liquid state through said connector to said collection space for evaporation therein, (c) said connector including an outer support tube and an inner wick tube with an annular space therebetween, the inner of said tubes receiving an intermediate portion of said wick, and (d) means for positioning and holding said intermediate wick portion within said wick tube to prevent shifting of said wick with respect thereto.

3,343,587

DRUM DRYING OF LIQUEFORM SUBSTANCES
William C. Triplett, 1 Capeheart, and Walter H. Brauer, Jr., Box 393, both of Ingleside, Tex. 78363, and George R. Garrison, 417 Southern, Corpus Christi, Tex. 78404

Filed Apr. 1, 1966, Ser. No. 539,340
7 Claims. (Cl. 159—10)



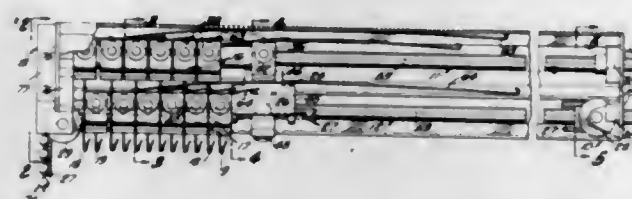
1. Apparatus for treatment of liquid base fluent comprising:
a casing,
a tube rotatably mounted in the casing with a space between the tube and casing,
means to admit fluent into said space and direct it to flow into contact with the tube,

means whereby the tube can be caused to rotate in the casing,
means to admit combustible material into one end of the tube,
means to exhaust products of combustion from the other end of the tube,
means providing for the exit of vapor from said space produced when liquid in said fluent flashes upon contact with the tube,
and outlet means in the casing to allow withdrawal of the non-vaporized residue of the fluent remaining after flashing of liquid thereof, characterized by the fact that said tube is mounted with its axis inclined downwardly toward the end at which is located the means to admit combustible material, and including:
means to separate sludge from the fluent prior to admission of the fluent to said space, and
means to feed said sludge to said end of the tube from which products of combustion are exhausted.

3,343,588

TRANSVERSING VERTICAL VENETIAN BLIND
Robert J. Cayton, Pacific Palisades, Calif., assignor to Louverdrap, Inc., Santa Monica, Calif., a corporation of California

Filed Feb. 7, 1966, Ser. No. 525,705
6 Claims. (Cl. 160—176)



1. In a blind of the type having series of rotatable vertically extending louvers, the combination of a single channel member,
a plurality of substantially parallel rod members positioned within said channel member, said rod members being spaced substantially one above the other,
a plurality of trunk means mounted on each of said rod members for supporting louvers, each of said trunk means having motion translating means for rotating said louvers in response to rotation of respective rod members, and
operating means coupled with an end of said channel member, said operating means including sprocket means coupled with said rod members to impart rotation to said rod members, said operating means including a substantially U-shaped guide means extending therefrom and having an interior wall for retaining flexible motion imparting means in engagement with said sprocket means to ensure rotation of all of said rod members in unison as said motion imparting means is moved.

3,343,589

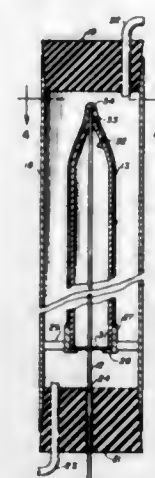
GASEOUS DEPOSITION METHOD OF MAKING A THERMOCOUPLE PROBE

Robert A. Holzl, La Canada, Calif., assignor to San Fernando Laboratories, San Francisco, Calif., a corporation of California

Filed June 25, 1964, Ser. No. 377,895
3 Claims. (Cl. 164—46)

1. A method of making a thermocouple probe comprising providing an electrical wire conductor, supporting a tubular mandrel about said wire conductor with an end portion of said mandrel in substantial engagement with said wire and with said wire projecting exteriorly beyond said mandrel end portion, and exposing said mandrel and said projecting portion of said wire to a gaseous metal

compound, heating said wire and said mandrel to effect gaseous deposit of said metal onto the projecting portion



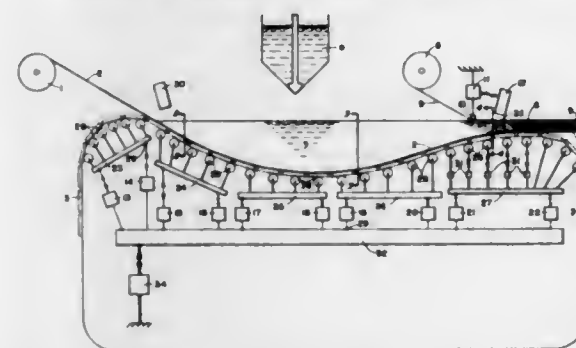
of said wire and onto said mandrel to form a junction with said exteriorly projecting portion of said wire.

3,343,590

CONTINUOUS HORIZONTAL CASTING IN A SACRIFICIAL WEB

Frederick J. Radd, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Feb. 24, 1965, Ser. No. 434,867
5 Claims. (Cl. 164—87)



1. The method of continuously casting a fusible material which comprises:
(a) providing a source of said material in molten form,
(b) continuously passing a sacrificial web of heat-resistant material in a substantially horizontal direction, said web being externally supported so as to define a molding zone open at the top and one end thereof,
(c) passing molten material from said source to said molding zone,
(d) regulating the speed of travel of said web so as to maintain at a constant predetermined locus a transition of said molten material from the molten to the solid state, and
(e) subsequently removing a substantial portion of said web from the cast material.

3,343,591

AUTOMATIC MOLD POURING WITH STOP MEANS RESPONSIVE TO MOLTEN METAL IN OVERFLOW BASIN

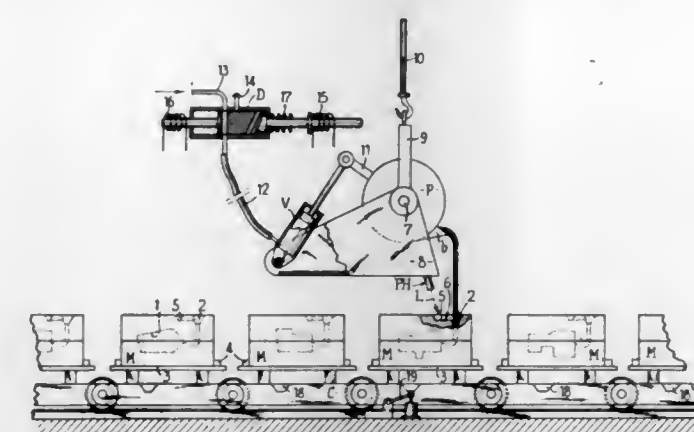
Pierre Edouard Lorang, Nancy, France, assignor to Centre de Recherches de Pont-a-Mousson, Pont-a-Mousson, France, a French body corporate

Filed Nov. 23, 1964, Ser. No. 413,236
Claims priority, application France, Nov. 28, 1963, 955,316

3 Claims. (Cl. 164—155)

1. Automatic molten metal pouring unit comprising a mold having a runner gate, a pouring mechanism so positioned relative to the mold as to pour molten metal di-

rectly into said runner gate, means defining a basin on said mold and a short relatively narrow overflow passage interconnecting the runner gate and the basin and located somewhat below the upper end of the runner gate, stop



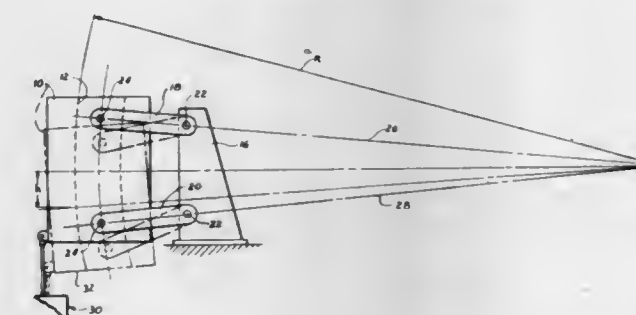
means associated with said mechanism for stopping the pouring and an optical device for actuating said stop means and directed onto said basin and responsive to the presence of molten metal in said basin.

3,343,592

RECIPROCATING CONTINUOUS CASTING CURVED MOLD MOUNTING SYSTEM

Eric T. Vogel, Elmhurst, N.Y., assignor to Concast, Inc., New York, N.Y.

Filed Sept. 22, 1965, Ser. No. 489,247
3 Claims. (Cl. 164—260)



1. In combination, a continuous casting mold, said mold having an open-ended mold shaft extending there-through, said mold shaft being curved about a center of curvature, a mold support positioned adjacent said mold and on the same side of said mold as lies said center of curvature, an upper and lower control link extending between said mold and said support and being pivotally coupled to said support and to said mold at the respective ends of each of said control links, said upper control link and said lower control link lying along radii extending from said center of curvature of said mold shaft to said mold shaft.

3,343,593

PROCESS AND APPARATUS FOR MELTING AND SOLIDIFYING CONTINUOUSLY REFRACTORY MATERIALS

Roland Pierre Goton, Avignon, and Joseph Recasens, Sorgues, France, assignors to L'Electro-Refractaire, Paris, France, a company of France

Filed Oct. 21, 1965, Ser. No. 499,444
Claims priority, application France, Dec. 29, 1964, 232, Patent 1,430,962; July 9, 1965, 24,197, Patent 88,438

3 Claims. (Cl. 164—273)

1. In an apparatus for continuously melting and solidifying refractory products comprising at least one refractory oxide, said apparatus comprising a high-

frequency inductive melting zone of substantially cylindrical shape whose cross-section is the same as that of the solidified billet of refractory material to be produced, and a moving base for removing the solidified material, the improvement which comprises an electrically conductive metal wall defining said cylindrical melting zone



and having a longitudinal gap, a refractory insulating joint obturating said gap, means for externally cooling said wall by fluid circulation and means for supplying high-frequency current to said wall whereby said wall forms a single-turn inductor coil in addition to being a crucible and a mold for the melted material.

3,343,594

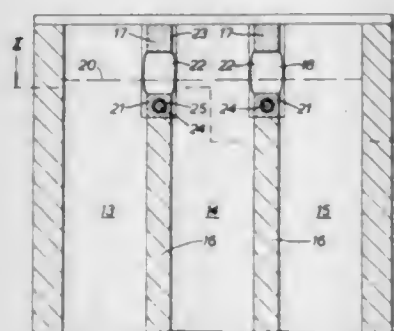
MULTIPLE BILLET CONTINUOUS CASTING MOLD

Richard James Dain, Tonbridge, England, assignor to Davy and United Engineering Company Limited, Sheffield, England

Filed Aug. 25, 1965, Ser. No. 482,377

Claims priority, application Great Britain, Aug. 31, 1964, 35,501/64

7 Claims. (Cl. 164—281)



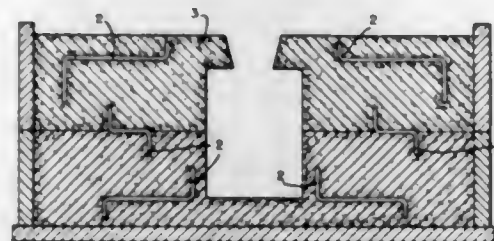
1. A reciprocable open ended mould formed from high heat conductivity material and having at least two mould channels, the walls of which are adapted to be cooled, the cross section of the mould being substantially the same at the end into which molten metal is poured as at the end from which the cast strands are withdrawn, each two adjacent channels being separated by a partition defining a connecting passage at the level of the meniscus of molten metal during casting whereby metal poured into one channel can flow through the passage into an adjacent channel, at least the portion of each partition around a passage being formed of refractory or graphitic material, and heating means arranged to heat the portion of each partition around the passage.

3,343,595 PLASTIC SELF-VENTING GAGGER FOR SAND MOLDS

Milton Kessler, 4535 Grove Drive, Youngstown, Ohio 44505

Filed June 28, 1965, Ser. No. 467,256

4 Claims. (Cl. 164—349)



1. In combination, a sand mold and a plurality of gaggers embedded in the sand thereof, each said gagger being made of plastic material which volatilizes at or near the temperature of molten casting metals, each said gagger being in the form of an elongated rod-like member of uniform cross-section along its length, said member having angular bent sections along its length for engaging and retaining the formed molding sand in the sand mold, said rod-like member being axially apertured throughout its length, including the bent sections, so as to form a thick-walled tube, the wall of which is of greater thickness than the maximum diametric extent of the aperture, whereby the angular sections can be formed by simple bending without appreciably distorting the cross-section of the gagger at the bend.

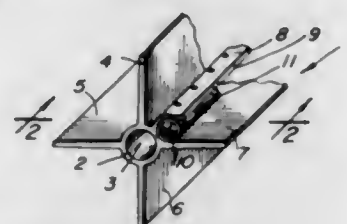
3,343,596

HEAT EXCHANGER AND DEFROSTER THEREFOR

Richard W. Kritzer, Chicago, Ill., assignor to Peerless of America, Incorporated, Chicago, Ill., a corporation of Illinois

Filed June 30, 1965, Ser. No. 468,344

10 Claims. (Cl. 165—67)



1. A heat exchanger comprising
(a) an elongated tubular body portion having
(1) a passageway extending axially therethrough
(b) elongated fins
(1) projecting laterally from said body portion,
(2) extending longitudinally thereof,
(3) each comprising a plurality of elongated spines projecting longitudinally from said body portion,
(c) an elongated cable extending longitudinally of said body portion, and
(d) means for retaining said cable on said body portion
(e) said means including one of said fins supportingly engaging said cable.

3,343,597

PROTECTION OF MICELLAR SYSTEMS IN OIL RECOVERY

William B. Gogarty and Russell W. Olson, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 2, 1966, Ser. No. 576,863

9 Claims. (Cl. 166—9)

1. A process for the recovery of fluid petroleum from permeable subterranean formations having at least one

injection means and one recovery means in communication with such formations, the steps comprising injecting into the said formation through said injection means a slug of insulating water, thereafter injecting into said formation a micellar system, displacing said slug of insulating water and micellar system towards a recovery means and recovering fluid petroleum displaced by said water and said micellar system.

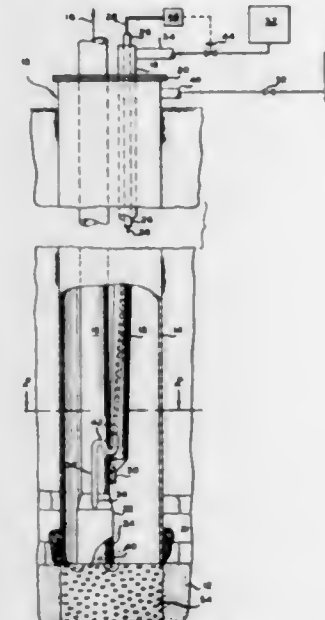
3,343,598

PROTECTION OF PRODUCTION WELL EQUIPMENT IN IN SITU COMBUSTION OPERATION

Robert F. Meldau and Jerald L. Oaks, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 3, 1965, Ser. No. 430,000

6 Claims. (Cl. 166—11)



1. Apparatus comprising in combination:
(1) a well extending into a permeable carbonaceous stratum provided with a casing extending from a wellhead at ground level to said stratum;
(2) a tubing string within the casing of (1) extending thru said wellhead to said stratum;
(3) a jacketed tubing shoe on the lower end of the tubing string of (2) having inlet means in an upper section and an outlet means in a lower section for fluid coolant;
(4) a coolant tubing string within said casing extending thru said wellhead to the proximity of the tubing shoe of (3);
(5) conduit means connecting the lower end of the tubing string of (4) with the inlet means of (3);
(6) a macaroni tubing string within the tubing string of (4) providing an annulus therewith and carrying internally a thermocouple cable extending from outside said wellhead thru the lower end of the tubing string of (4); and
(7) temperature sensing means on the lower end of the cable of (6) outside of the tubing strings of (2), (4), and (6) and within the casing of (1).

3,343,599

METHOD OF REDUCING THE POROSITY OF SUBTERRANEAN POROUS FORMATIONS

William N. Eddins, Jr., and Kenneth J. Lissant, St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 10, 1965, Ser. No. 454,719

4 Claims. (Cl. 166—21)

1. A method of reducing the porosity of subterranean porous formations which is characterized by injecting into said formations a fluid immiscible with the connate fluid

and containing in said fluid, emulsifier capable of emulsifying the connate fluid into the immiscible injected fluid so as to produce a viscous, high internal phase, thixotropic emulsion, the internal phase of said emulsion comprising at least about 70% by volume of the emulsion, said emulsion having a viscosity sufficient to block the permeable formation.

3,343,600

METHOD OF COMPLETING OIL AND GAS WELLS

Achyut K. Phansalkar and Herbert C. Walther, Jr., Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed July 8, 1964, Ser. No. 381,242

11 Claims. (Cl. 166—33)

1. The method of completing a well to produce hydrocarbons from a semi-consolidated formation of low permeability which comprises:
(a) injecting a fracturing fluid under pressure into said formation via said well to extend a fracture into said formation;
(b) during the circulation of said fracturing fluid into the fracture, injecting a liquid consolidating agent in a concentration of from about 1 percent by weight to about 20 percent by weight into said fracture under sufficient pressure to force said liquid consolidating agents and fracturing fluid into the formation adjacent said fracture; and
(c) shutting in the well for a time sufficient for the consolidating agent to set and bond together the particles of the formation adjacent said fracture into a permeable oil-insoluble mass.

3,343,601

WATER FLOODING PROCESS

David J. Pye, Alamo, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 17, 1965, Ser. No. 488,278

6 Claims. (Cl. 166—42)

1. In a process for the secondary recovery of oil which comprises injecting an aqueous fluid containing a dispersed iron compound into an oil-bearing formation, the improvement which comprises incorporating into the injection fluid a water-soluble, hydrosulfite in an amount sufficient to prevent ferric hydroxide plugging of the formation.

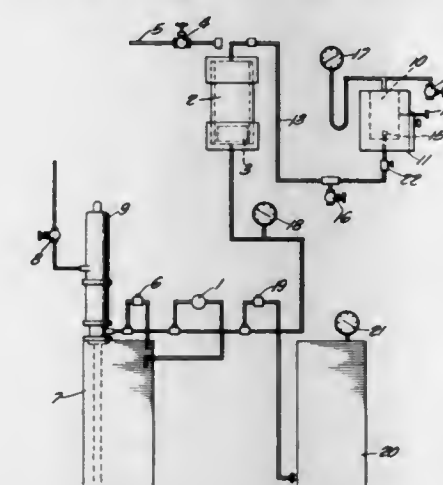
3,343,602

METHOD OF RETARDING REACTION OF ACID ON LIMESTONE

John A. Knox and Walter R. Dill, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,069

19 Claims. (Cl. 166—42)

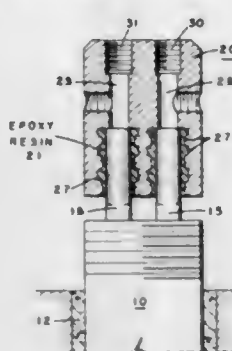


1. A method of chemically retarding the reaction time of acid solutions on calcareous formations, comprising

the steps of contacting the calcareous formation to be acidized with an oily fluid comprising an oil and an oil film-forming agent in an amount effective to provide a tenacious oily film on the calcareous formation whereby the reaction time of acid on the calcareous formation is substantially increased, and thereafter contacting the calcareous formation with an aqueous acidizing fluid.

3,343,603 WELLHEAD FOR MULTIPLE LOW-PRESSURE WELLS

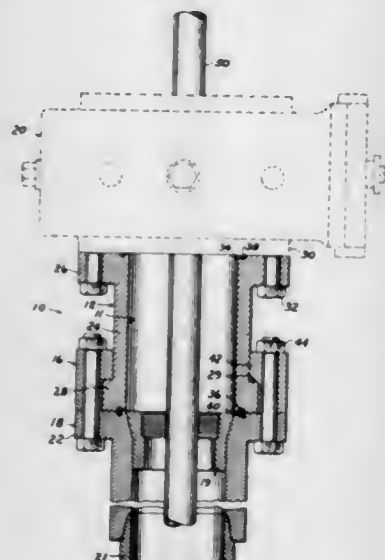
Terrell V. Miller, Houston, Tex., assignor to Esso Production Research Company
Filed Aug. 2, 1965, Ser. No. 476,269
7 Claims. (Cl. 166-46)



1. A method for installing a wellhead bonnet on a well containing surface casing and multiple casing strings cemented in place, said wellhead bonnet having spaced-apart bores therethrough, one for each multiple casing string arranged in said well, comprising the steps of: positioning said wellhead bonnet on said casing strings in a manner such that the upper end of each casing string is arranged in a different one of the bores in said wellhead bonnet; and gluing each casing string to its respective bore with a resin adhesive.

3,343,604 APPARATUS AND METHOD OF RUNNING MULTIPLE TUBING STRINGS

William D. Werner, Oklahoma City, Okla., assignor to Acme Tool, Inc., Oklahoma City, Okla., a corporation of Kansas
Filed Oct. 22, 1965, Ser. No. 501,340
3 Claims. (Cl. 166-46)

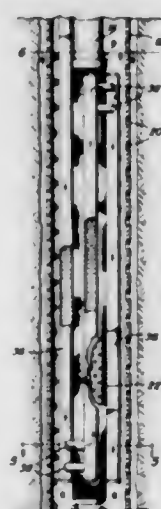


1. A method of maintaining a well equipped with a casing and a tubing head under pressure control while parallel tubing strings are being run, comprising: running a first tubing string into said well through a blowout preventer and a connector spool coaxially connected with said tubing head; landing said first tubing string in said

well by connecting said first tubing string to a first opening of a multiple opening hanger means in said tubing head; temporarily plugging said first tubing string; horizontally rotating said blowout preventer about the vertical axis of said casing and said tubing head so that the opening is aligned with a second opening in said multiple opening hanger means; running a second tubing string into said well through said blowout preventer, said connector spool and said second opening; landing said second tubing string in said well by connecting said second tubing string to the second opening in said tubing hanger means; temporarily plugging said second tubing string; and removing said blowout preventer and said connector spool from said tubing head.

3,343,605 HEATER FOR OIL RECOVERY

John Henry Phelan III, P.O. Box 2270, Beaumont, Tex. 77704
Filed Feb. 17, 1965, Ser. No. 433,335
4 Claims. (Cl. 166-61)



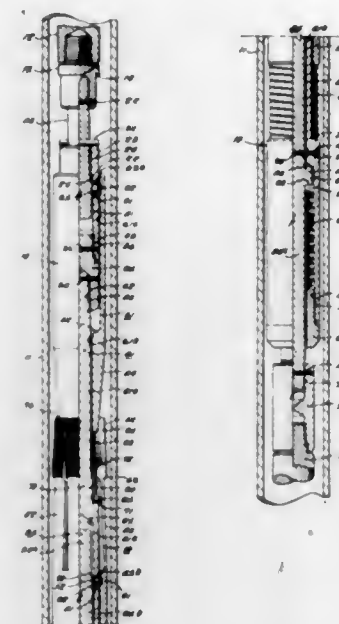
1. An apparatus for the thermal recovery of oil from an oil bearing formation traversed by a well bore having an oil producing flow tubing therein comprising means including a conduit system disposed in a well bore and constituting a closed circulatory path of travel for a heating fluid, said conduit system being in good heat exchange relation with the oil in said flow tubing and well bore whereby to heat and lower the viscosity thereof, means for heating and circulating a heating fluid through said conduit system, means in said conduit system disposed contiguous said formation for effecting a relatively increased rate of heat flow from said fluid into said formation thereby increasing flow of oil from the formation into said well bore, said means in said conduit system disposed contiguous said formation comprising a plurality of vertically extending branch conduit sections, said vertically extending conduit sections being joined at their top and bottom portions by circumferentially extending conduit sections whereby said heating fluid follows a sinuous path in its circulatory path through said vertically extending branch conduit sections, said circumferentially extending conduit sections being disposed so as to position said vertically extending conduit sections in encompassing relation to said oil producing flow tubing adjacent the oil bearing formation.

3,343,606 WELL TOOLS

William W. Dollison, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Feb. 11, 1965, Ser. No. 431,939
19 Claims. (Cl. 166-98)

1. A well tool including: body means adapted to be supported in a well conduit; gripping means associated

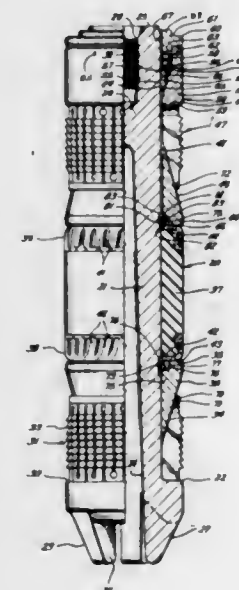
with said body means for releasably gripping the wall of the well conduit; impact means associated with said body means and said gripping means for moving said body means and said gripping means longitudinally of said conduit in response to impact forces applied thereto; connecting means operatively connected with said body means adapted to be connected to an object within



said well conduit for applying a pulling force thereto; and means associated with said body means and said connecting means for receiving and storing mechanical energy delivered to said tool by said impact means, said means translating said mechanical energy into a pulling force for moving said connecting means with respect to said body means to apply a pulling force to the object connected therewith.

3,343,607 NON-RETRIEVABLE BRIDGE PLUG

James H. Current, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Original application Oct. 11, 1965, Ser. No. 500,467, now Patent No. 3,298,440, dated Jan. 17, 1967. Divided and this application Aug. 31, 1966, Ser. No. 576,388
4 Claims. (Cl. 166-182)



1. In a packer having a packing element operatively mounted around a mandrel and adapted for expansion into sealing engagement with a wall of a well bore for

packing off the well bore in response to an upwardly directed force on said mandrel in conjunction with a downwardly directed force on said packing element, the combination with said packer of: means operatively coupled to the upper end of said packing element for imparting a downwardly directed force thereto including a sleeve member movably mounted around said mandrel, said sleeve member having an annular internal recess facing said mandrel and forming a downwardly facing shoulder; detaining means for temporarily preventing upward travel of said mandrel relative to said sleeve member including an annular expansible mandrel-gripping member disposed within said recess below said shoulder and releasably engaged with said mandrel, and an annular yieldable restraining member contracted around said gripping member and expandable in response to an upwardly directed force of a predetermined magnitude on said gripping member for releasing said gripping member from engagement with said mandrel; and cam means on said mandrel below and against said gripping member for expanding said gripping and restraining members outwardly whenever such an upwardly directed force of predetermined magnitude is applied to said mandrel in conjunction with a downwardly directed force on said sleeve member.

3,343,608 TWO-STAGE CENTRALIZER

James R. Solum, Los Angeles, Calif., assignor to B & W Incorporated, Torrance, Calif., a corporation of California
Filed Aug. 10, 1966, Ser. No. 571,604
10 Claims. (Cl. 166-241)



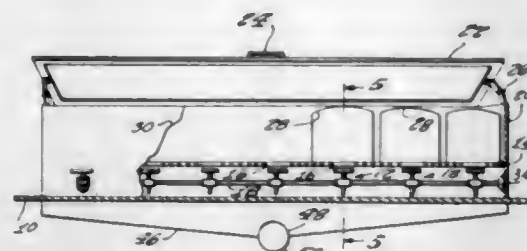
1. In a well pipe centralizer, the combination of: a pair of axially spaced and aligned collars adapted to fit the well pipe, a plurality of circumferentially spaced and outwardly bowed staves extending longitudinally between and mounted on said collars, and a strap means extending longitudinally of and having ends secured to the interior side of each staff for engaging the well pipe during inward deflection of said staves and substantially resisting further inward deflection of said staves.

3,343,609 LIQUID FOAM DISPENSING SYSTEM

James P. Charters, San Francisco, Calif. (% Laskar, 215-43 48th Ave., Bayside, N.Y. 11364)
Filed Dec. 27, 1965, Ser. No. 516,462
5 Claims. (Cl. 169-2)

1. A liquid foam system for fire trucks comprising a hollow compartment, a horizontal removable grating in said compartment having a plurality of spaced apart openings disposed along a horizontal line, a like plurality of liquid foam filled cans, the bottom of each can being in registration with and resting upon a corresponding one of said openings, and a like plurality of can puncture

devices, each device being disposed below a corresponding opening and having a first withdrawn position spaced



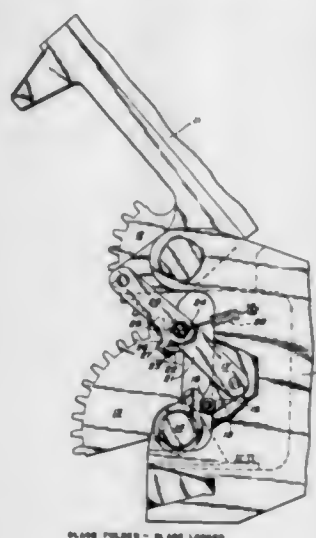
apart from the corresponding can, and having a second position at which said device punctures the corresponding can and releases the liquid foam therein.

3,343,610

MECHANICAL BLADE LOCKS

Luigi Vacca, Milford, and Donald L. Ferris, Newton, Conn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 29, 1965, Ser. No. 468,171
3 Claims. (Cl. 170—160.12)



1. A mechanism for locking the folded blade of a helicopter comprising

- a gear segment mounted for pivotal movement through a predetermined arc, said gear segment being attached to the base of a helicopter blade;
- a driving gear segment in mesh with said blade carrying gear segment, said driving gear segment being mounted for limited pivotal movement;
- a crank lever mounted for pivotal movement and formed with a cam follower at the end of its short leg and a projection adjacent the end of its long leg;
- a cam carried by and rotating with said driving gear segment, said cam being adapted to engage said cam follower during the initial pivotal movement of said driving gear in the unlocking operation;
- a link pivoted at one end to the long end of said crank lever and being pivotally mounted at the other end to the blade carrying gear segment, said link being formed at its crank lever end with a projection adapted to engage the projection of the crank lever;
- spring means attached to the juncture of the link and crank lever to bias the movement of the lever and link in one direction, said levers being moved by the combined movement of the driving gear segment and the blade carrying gear segment to a straight line position; and

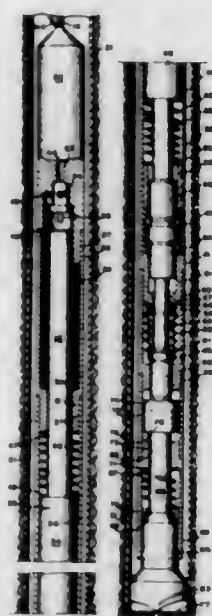
means integral with the driving gear permitting additional movement of the driving gear without corresponding movement of the blade carrying gear segment to permit movement of the lever and link to a position beyond the straight line position to bring the projections into contact and lock the blade and blade carrying gear segment in blade folded position.

3,343,611

ELECTROMAGNETIC HAMMER DRILL

Grover Stephen Jones, Jr., 251 Fallsbrook Road, Timonium, Md. 21093

Filed Feb. 23, 1965, Ser. No. 434,203
9 Claims. (Cl. 173—117)



1. An electromagnetic tool comprising an elongated tubular body, a tool element carried at one end of the body for longitudinal reciprocation relative thereto, said tool element having an anvil head, a solenoid comprising a reciprocable armature disposed within the tubular body in longitudinal spaced relation to the said anvil head, a separate transmission bar slidably disposed between said spaced armature and tool element, said bar receiving and transmitting impact forces from said armature to said tool element, resiliently yieldable means between the body and armature urging the armature in opposite directions longitudinally, said solenoid also comprising an electromagnetic coil within and secured to the tubular body surrounding said armature, an electric switch secured to the body and connected electrically to said coil, means lying in the path of movement of the armature for opening and closing said switch, and force transmission means between said armature and tool element.

3,343,612

ADAPTER FOR POSTHOLE DIGGER

Ira P. Flowers, R.F.D. 1, Corning, Iowa 50841

Filed Mar. 19, 1965, Ser. No. 441,019
8 Claims. (Cl. 173—163)

1. A device for setting screw anchors in the ground comprising a power unit including a power output shaft, an elongate adapter unit adapted to be connected to said shaft, said adapter unit including a shaft mounting section and a screw anchor mounting section, and an anchor adapted to be connected to said adapter unit whereby rotation of said power output shaft is transmitted to said screw anchor through said adapter unit, said power output shaft including a mounting flange and a longitudinally extending protruding shoulder attached below said mounting flange for fixedly connecting said adapter unit to said power output shaft for rotation therewith, said shaft mounting section including a shaft receiving opening, a

flange portion in surrounding relationship to said shaft receiving opening and adapted to engage said mounting flange, a shoulder receiving slot extending substantially



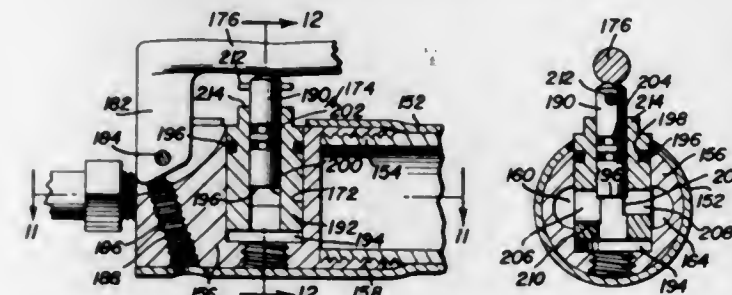
parallel to the longitudinal axis of said adapter unit for receiving said protruding shoulder, and ear means for fixedly connecting said adapter unit with said protruding shoulder.

3,343,613

POWER OPERATED TOOL

Joseph Carnesecca, Jr., Springville, Utah, and Egidio C. Carnesecca, deceased, late of Springville, Utah, by Bernice D. Carnesecca, executrix, Springville, Utah, assignors to New Draulics, Inc., a corporation of Utah

Filed Aug. 1, 1966, Ser. No. 569,540
12 Claims. (Cl. 173—169)



1. In combination with a fluid pressure operated device, a handle assembly having inlet and outlet passages connected to said device and valve means mounted by the handle assembly for controlling circulatory flow of fluid under pressure to said device comprising, a valve body being mounted by the handle assembly having a bore through which continuous fluid communication is established between said inlet passage and the fluid pressure operated device, a valve element mounted for movement within said bore of the valve body, actuating means mounted by the handle assembly and engageable with the valve element for displacement thereof from a release position to an operating position establishing bidirectional flow of fluid under pressure to and from the fluid pressure operated device, and fluid pressure means connected to the bore of the valve body for continuously urging the valve element toward said release position preventing said bidirectional flow.

3,343,614

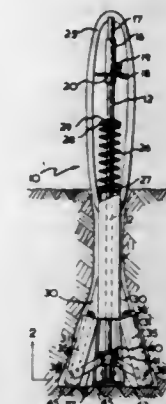
BORE HOLE FORMING APPARATUS

Rudolph E. Parisien, Box 807, Montreal Road, RR. 1, Ottawa, Ontario, Canada

Filed June 1, 1965, Ser. No. 460,135
4 Claims. (Cl. 175—19)

1. An apparatus for expanding the lower portion of a post hole, said apparatus comprising a frame including a guide member, a push rod slidable on said guide, exten-

sible means acting between said frame and said push rod for moving said push rod axially outwardly relative to said frame, at least a pair of concavo-convex plates, an inner end of each plate being pivotally secured to one end of said guide, at least a pair of links, each said link pivotally interconnecting an outer end of one of said plates with an end of said push rod remote from said extensible means



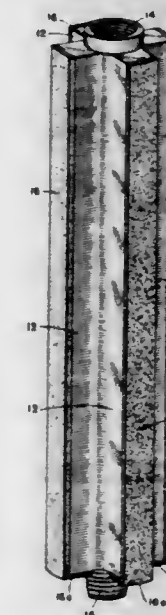
whereby operation of said extensible means causes said push rod to move said links and the outer ends of said plates connected thereto radially outwardly to compress soil at the bottom of said post hole and means for moving said push rod axially inwardly thereby moving said plates radially inwardly to permit said apparatus to be withdrawn from said post hole.

3,343,615

DRILL COLLAR WITH CUTTING SURFACE

William M. Terry, Houston, Tex., assignor to Esso Production Research Company

Filed Aug. 15, 1966, Ser. No. 572,568
7 Claims. (Cl. 175—406)



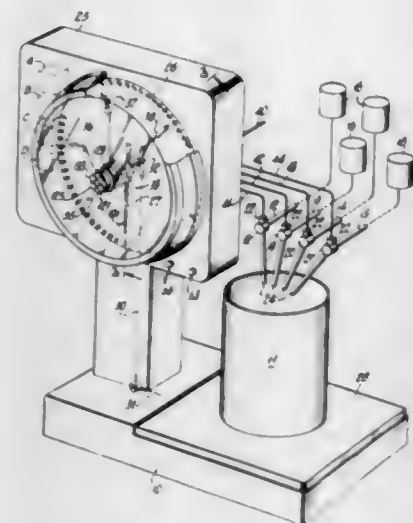
1. A drill collar comprising an elongated member adapted to be threadedly arranged in and form part of a rotatable drill string employed in drilling a well and provided with longitudinally and radially extending fins forming a cross in horizontal cross section, each fin being perpendicular to the next fin, said fins extending continuously substantially the length of said member and having an outer cutting surface on the periphery thereof, said fins extending radially a distance slightly less than the gauge of said well, said member having a continuous axial fluid passageway extending therethrough, said fins having a cross-sectional thickness within the range from about half to about twice the diameter of said fluid passageway, the spaces between adjacent fins providing passageways for

fluid and providing a space between the wall of the well drilled by said drill string substantially equal to a ratio of horizontal cross-sectional area of said drill collar to the gauge of said well within the range from about 3:1 to about 15:1.

3,343,616

CONTROL PROVISION FOR WEIGHING SYSTEMS
James W. Fellows, St. Johnsbury, Vt., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 26, 1965, Ser. No. 509,929
10 Claims. (Cl. 177-70)



1. Means for use in combination with a weighing scale dial unit having an index dial, a transparent front plate spaced from the index dial and an indicating hand between the index dial and front plate movable relative to the index dial, provided for causing operation of pneumatic relay means when said hand reaches a predetermined position relative to said index dial, comprising

- (a) support means on said front plate in axial alignment with the axis of said hand,
- (b) an arm rotatable on said support means and extending radially between said front plate and index dial,
- (c) a pair of axially aligned and spaced apart nozzles carried by said arm,
- (d) means for supplying low pressure air to one of said nozzles for normally maintaining an air stream therefrom into the other nozzle,
- (e) and an interceptor element on said hand positioned thereon for entrance between said nozzles to intercept said air stream when the hand approaches the nozzles.

3,343,617

TARE DEVICE FOR WEIGHING SCALES

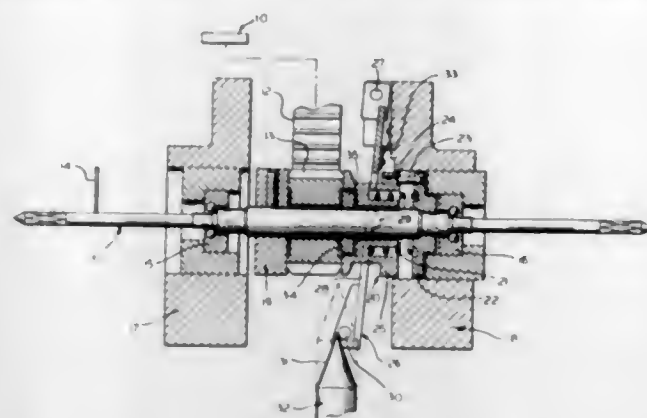
Jacobus Hendrik Kardol, Schiedam, Netherlands, assignor to Maatschappij van Berkel's Patent N.V., Rotterdam, Netherlands, a company of the Netherlands

Filed May 10, 1965, Ser. No. 454,352
Claims priority, application Great Britain, May 15, 1964, 20,256/64

5 Claims. (Cl. 177-165)

1. A weighing apparatus comprising a weighing mechanism, an indicator shaft and a tare clutch between said weighing mechanism and indicator shaft for adjustably placing tare into said mechanism before normal weighing operations, said tare clutch including a driving member connected to said weighing mechanism and freely rotatable on said shaft when the clutch is in disengaged position and a driven member coupled to said shaft for rotation therewith and movable into and out of engagement with said driving member, means operable for conditioning the clutch between engaging and disengaging conditions,

and means for permitting free rotation of said driving member before engagement with said driven member but subsequent to operation of said conditioning means to



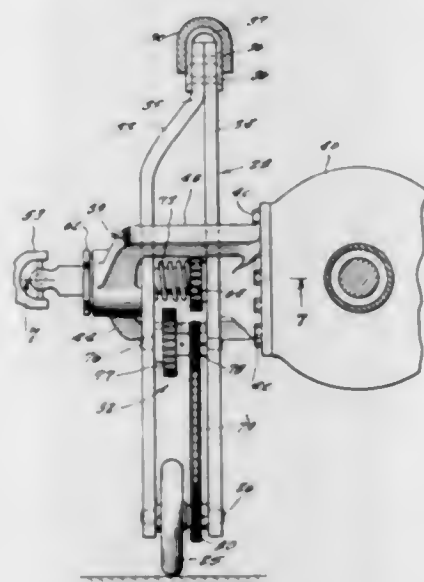
cause engagement of the clutch to allow the settling of oscillations in the weighing mechanism normally created between weighing operations to minimize incorrect weight readings.

3,343,618

AUTOMOBILE BUILT-IN PARKING DEVICE

Amikam Lvnat, 96-02 57th Ave.,
Leffrak City, N.Y. 11368

Filed June 13, 1966, Ser. No. 557,265
3 Claims. (Cl. 180-1)



1. In an automobile parking device, the combination of a fifth wheel unit, and a control unit, said fifth wheel unit being mounted under the rear part of an automobile and said control unit being mounted on the dashboard of said automobile, said control unit providing remote control means for operating said fifth wheel unit to park said automobile within a limited parking space between two automobiles, wherein said fifth wheel unit comprises an arm carrying a fifth wheel at one end, said arm being centrally pivotable between a retracted horizontal position and an operative vertical position for said wheel becoming engaged upon a road surface and the other end of said arm raising said rear part of said automobile to disengage contact of the rear wheels of said automobile with said road surface, wherein said fifth wheel is rotatable about an axis extending in a longitudinal direction relative to said automobile so to transport said rear end selectively leftward or rightward, wherein said arm is comprised of a pair of bars, said bars at their one end forming a shoe, a cross channel mounted on the chassis of said automobile, said shoe being receivable within said cross channel, said fifth wheel being mounted

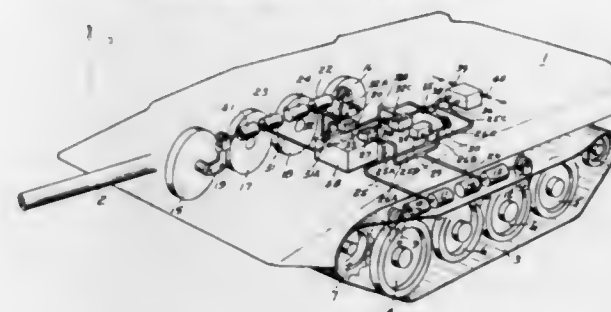
on a cross-shaft between said bars, a sprocket affixed on said cross shaft, an endless chain around said sprocket and a second sprocket mounted on a second cross-shaft between said bars, said second cross shaft having a gear mounted thereupon engageable with a slidable transmission unit to provide rotational power to said fifth wheel.

3,343,619

DEVICE FOR REGULATING THE POSITION OF A TRACK-LAYING VEHICLE IN RELATION TO THE GROUND

Nils Olov Johansson, Karliskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

Filed Oct. 21, 1965, Ser. No. 499,190
Claims priority, application Sweden, Nov. 27, 1964, 14,318/64
9 Claims. (Cl. 180-9.2)



1. An adjustable wheel suspension device for adjusting the position of the front and rear wheels of a track-laying vehicle in reference to the vehicle body, said suspension device comprising in combination:

- a pair of front wheels and a pair of rear wheels;
- a suspension means for each of said wheels, each of said suspension means pivotally supporting the respective wheel on the vehicle body to vary the position thereof in reference to the vehicle body;
- a hydraulic servo-unit for each wheel, each of said units being coupled with the respective suspension means to control the pivotal position thereof by the setting of fluid pressure in the respective servo-unit;
- a hydraulic pressure storage means for each servo-unit connected with the respective unit;
- first pressure fluid conduits connecting the servo-unit at each front wheel with the servo-unit at the corresponding rear wheel;
- a reversible variable pump included in each of said first conduits to pump pressure fluid from the servo-unit at each front wheel to the servo-unit at the respective rear wheel and vice-versa thereby correspondingly varying the pivotal positions of the respective suspension means;
- second pressure fluid conduits directly interconnecting the servo-units at the two front wheels to equalize fluid pressure between the front wheel servo-units;
- third pressure fluid conduits connecting the servo-units at the rear wheels with each other;
- a pair of oppositely directed one-way valves included in said third conduits, each of said valves permitting flow of pressure fluid into one of the servo-units at the rear wheels;
- valve means having an inlet for feeding pressure fluid into the valve means and an outlet for discharging pressure fluid from the same, said valve means being connected by a first pipe to the second conduits and by a second pipe to the third conduits; and
- valve control means for controlling said valve means, said control means being settable so that selectively either one of said pipes is open for the feed of fluid via the valve means to said conduits or both pipes are closed, or that the first pipe is open for the discharge of fluid through the outlet of the valve means.

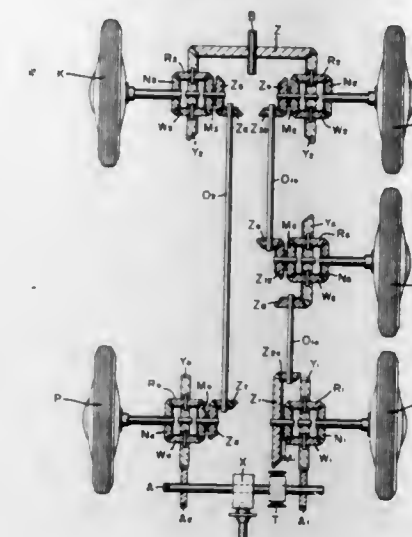
3,343,620

SELF-COMPENSATING TRANSMISSION FOR DRIVING AND/OR BRAKING THE WHEELS OF A VEHICLE

Alexander Nicolas Karavias, 21a Aristotelous St.,
Athens 103, Greece

Filed June 7, 1966, Ser. No. 555,867
Claims priority, application Greece, July 12, 1962, 25,691

6 Claims. (Cl. 180-23)



4. An arrangement for automatically changing the relative speeds of the wheels of a vehicle having more than two wheels to compensate for the frictionally engaging of a wheel of the vehicle with the ground to a degree different from the degree to which another of the wheels of the vehicle frictionally engages the ground, said arrangement comprising two parallel power train systems, each power train system including a number of differentials corresponding to the number of the wheels in said system, each of said systems including an input, a first differential having an input, a first output from said first differential for driving the corresponding one of said wheels, a second output from said first differential, at least one of said parallel systems including at least another said differential, each said other differential being connected in series with said second output of said first differential in said one system, said other differential including a first output for driving the corresponding wheel and a second output for each of said other differentials which comprises in part said series connection, whereby said second output of said serially connected differentials constitute the input of the immediately succeeding serially connected differential, and balance means interconnecting the respective second outputs of the last one of the differentials of each of the parallel systems, whereby when one of the wheels frictionally engages the ground to a degree different from the degree to which another of the wheels frictionally engages the ground, the respective second outputs of the respective last differentials differ in magnitude and thereby unbalance the balance means and cause the balance means to transmit from the last differential having the greater second output to the last differential having the lesser second output the difference between said greater and lesser second outputs.

3,343,621

MEANS FOR DRIVING TANDEM WHEELS ON EACH SIDE OF A VEHICLE

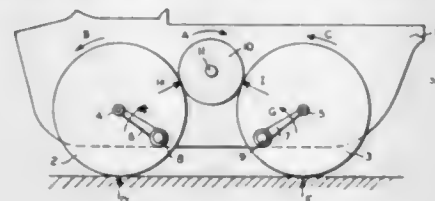
Hubertus J. van Doorne, 54A Stationsstraat,
Deurne, Netherlands

Filed Dec. 31, 1964, Ser. No. 422,759
Claims priority, application Netherlands, Dec. 31, 1963, 302,979

2 Claims. (Cl. 180-74)

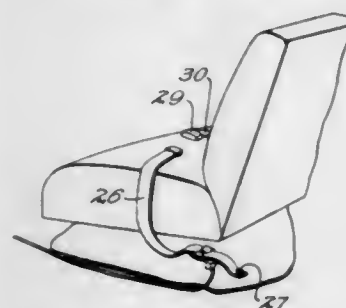
1. A motor vehicle comprising a body, wheels placed in tandem at each side of said body, stub axles upon which

said wheels are rotatably mounted, arms mounted on fixed pivots upon said body at one end having said stub axles rotatably mounted at the other end, said pivots being mounted on said body below said stub axles, a friction roller at each side of said vehicle located intermediate



and above said stub axles in driving connection with the vehicle motor through transmission means engaging said wheels, said pivots being so arranged that by an upward force due to the reaction of the ground each of said tandem wheels is urged into driving engagement with said friction roller.

3,343,622
SEAT BELT SWITCH
Edward C. Maurer, 746 E. 7th St.,
St. Paul, Minn. 55106
Filed June 21, 1965, Ser. No. 465,281
7 Claims. (Cl. 180—82)



1. A switch for use in combination with a seat belt and including:

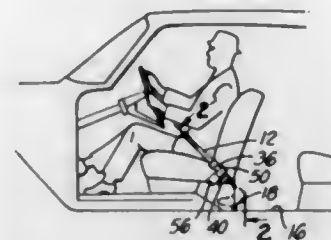
- a mounting bracket including a plate bent along a line intermediate its ends to provide a concave side and a convex side,
- a pair of opposed belt engaging members extending to opposite sides of one of said ends of the plate and overlying portions of said one end on the concave side of said bracket and adapted to hold a portion of the belt in face contact with said portions of said one end of the plate,
- a switch housing secured to the other end of said plate on the convex side of said bracket,
- a switch within said housing and including a switch actuating plunger extending through said other end of said plate,
- a spring plate secured to said one end of said plate overlying the concave side of the bracket and having an angularly bent end extending over said plunger and engageable therewith,
- said spring plate being adapted to kink a belt extending over the concave side of the bracket.

3,343,623
AUTO-LOCK SEAT BELT
Irwin C. Porter, Quinter, Kans. 67752
Filed Aug. 9, 1965, Ser. No. 478,122
7 Claims. (Cl. 180—82)

1. An improved seat belt arrangement for holding an occupant in a seat of a vehicle comprising:
- a seat belt having two halves anchored respectively to the structure of the vehicle and adapted to fit about the waist of the seat occupant with the free ends of the two belt halves releasably coupled together;

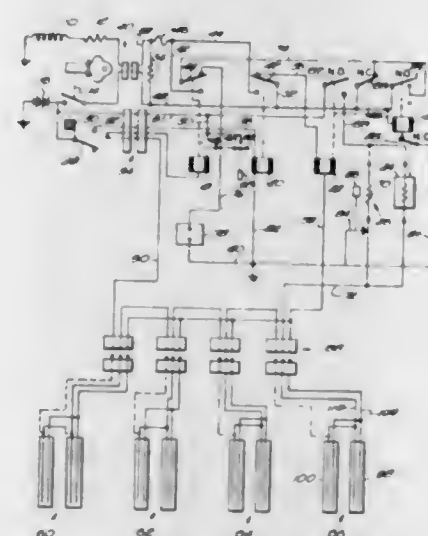
said seat belt halves having retracted positions to provide a substantially clear seat;

power drive means for ejecting the seat belt halves from their respective retracted positions; and



said seat belt halves including stiffening means pre-shaped to curve said halves about the waist of the seat occupant as ejected from said retracted positions.

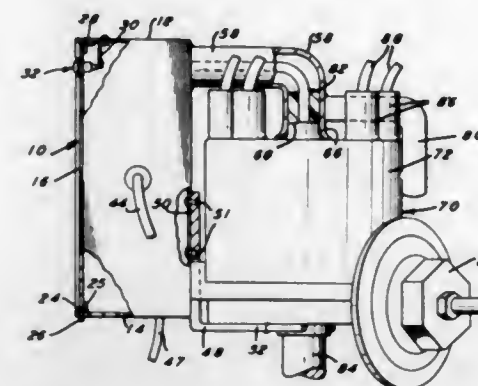
3,343,624
TAXI METER MONITORING SYSTEM
John Shaheen, 119 Farquhar St.,
Roslindale, Mass. 02131
Filed Oct. 22, 1965, Ser. No. 502,032
12 Claims. (Cl. 180—102)



1. A monitoring system for a taxicab having a battery, an ignition system, an ignition switch and a meter, comprising

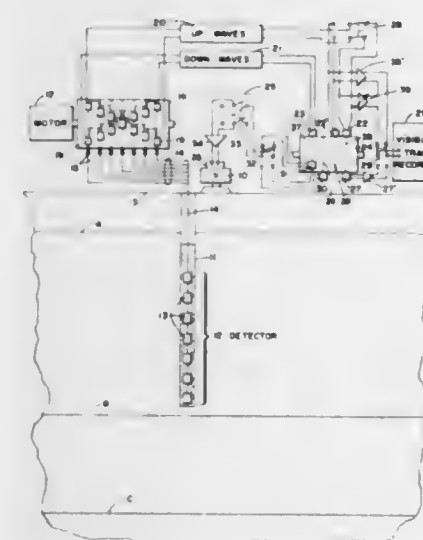
- (a) at least one switching device adapted to be closed by a passenger seated in said cab,
- (b) a meter switch operatively connected to said meter,
- (c) first, second, third and fourth relays,
- (d) a normally closed time delay switch operatively connected to said third relay,
- (e) said first relay being normally energized by said battery and normally forming part of a primary circuit to said ignition system through said fourth relay,
- (f) said second relay adapted to be energized by closing of said meter switch and to thereby complete a secondary circuit to said ignition system,
- (g) said third relay being energized by closing of any one of said passenger switching devices and to thereby actuate said delay switch,
- (h) said delay switch being connected to said fourth relay and responsive to said third relay whereby said primary circuit will be opened after a predetermined period.

3,343,625
IGNITION SYSTEM FOR PREVENTING UNAUTHORIZED USE OF VEHICLES
Kurt Philipp Scheuermann, 211 Eastbourne Terrace,
Moorestown, N.J. 08057
Filed Nov. 2, 1965, Ser. No. 506,083
9 Claims. (Cl. 180—114)



1. A system for the prevention of unauthorized use of a vehicle comprising a housing, a normally closed relay within said housing, a normally open relay within said housing, a transformer to transmit voltage to a distributor, said transformer being connected to ground when said normally open relay is open, said transformer being electrically coupled to said distributor when said normally open relay is closed, said normally open relay adapted to be closed by current flowing through said normally closed relay, and means responsive to tampering with the system to open said normally closed relay and thereby prevent closing of said normally open relay to cause transmission of voltage from said transformer to ground and thereby prevent unauthorized use of the vehicle.

3,343,626
CANCELLING SEISMIC MULTIPLE REFLECTIONS BY TRANSMITTING ONLY THE DOWN-TRAVELLING SEISMIC SIGNALS DETECTED FROM THE ORIGINAL TRANSMITTED SIGNAL
Neil R. Sparks, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 18, 1965, Ser. No. 426,315
13 Claims. (Cl. 181—5)



1. A method of seismic geophysical surveying wherein certain multiple reflections are at least partially cancelled, which method comprises the steps of

- generating in the earth at a given input location an initial seismic-wave signal,

detecting at a detection point about vertically below said input location, at a depth beneath at least one down-reflecting interface, the resulting down-travelling seismic waves including a first arrival of said initial signal and subsequent arrivals representing down reflections of seismic waves from at least said interface,

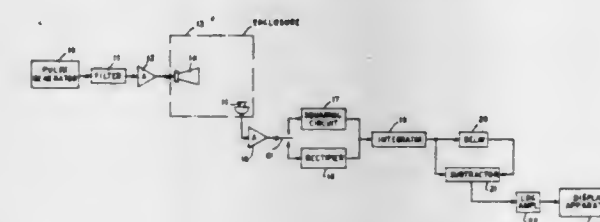
reproducibly recording said down-travelling seismic waves,

reproducing said recorded down-travelling waves as a second seismic-wave input signal,

utilizing said second input signal alone to generate corresponding seismic waves in the earth at said location, detecting at said detection point second up-travelling seismic waves resulting from said second input signal wherein the waves corresponding to said subsequent arrivals have altered the ratio of primary to multiple-reflection amplitudes as compared with its value for said initial signal, and

displaying said up-travelling waves in such a way as to utilize said altered reflection-amplitude ratio to produce a substantial degree of multiple-reflection cancellation.

3,343,627
APPARATUS FOR AND METHOD OF DETERMINING THE ACOUSTIC PROPERTIES OF AN ENCLOSURE
Manfred R. Schroeder, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 16, 1966, Ser. No. 534,791
8 Claims. (Cl. 181—5)



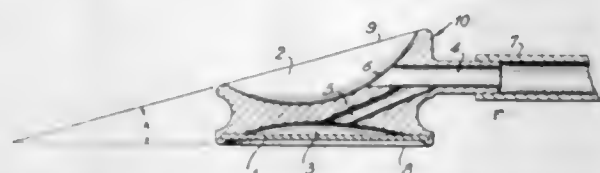
1. Apparatus for measuring automatically the sound decay characteristic of an enclosure which comprises:

- a source of an impulse of energy having a predetermined frequency range and a relatively short time duration,
- means for exciting said enclosure with said impulse of energy at a first predetermined point,
- means for detecting at a second predetermined point within said enclosure an output signal representative of the impulse response of said enclosure,
- means for selectively processing said output signal,
- means for developing a signal which is the continuous integral of said processed signal,
- means for delaying said integrated signal for a predetermined interval of time,
- means for developing a signal proportional to the difference between the continuous integral of said processed signal and said delayed integrated signal,
- and means responsive to said difference signal for developing an indication representative of the decay characteristic of said enclosure.

3,343,628
FLEXIBLE STETHOSCOPE
Isaak Abramovich Shlyakhter, V.O. 2, Linia 43, kv. 14, and Dmitry Dmitrievich Verner, Siezhinskaya ulitsa 29, kv. 24, both of Leningrad, U.S.S.R.
Filed Sept. 7, 1966, Ser. No. 577,661
3 Claims. (Cl. 181—24)

1. A stethoscope comprising two bell-mouths of different volumes; a membrane closing the smaller of said bell-mouths, means provided with two conduits connected to

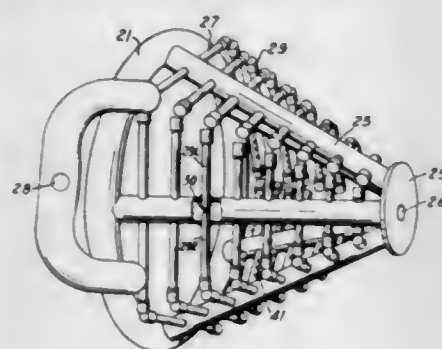
said bell-mouths, means provided with a common conduit for an acoustic system, the conduit of the open bell-mouth having an aperture in a position to be closed by a finger



of an operator, the conduit of the open bell-mouth being connected to said common conduit and the conduit of the closed bell-mouth opening into the conduit of the open bell-mouth.

3,343,629

SOUND SUPPRESSOR FOR REACTION ENGINES
Guy J. Sanders, Severna Park, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 11, 1965, Ser. No. 424,679
3 Claims. (Cl. 181-52)



1. Noise attenuation apparatus for gas streams comprising an entrance section adapted to receive said gases, a stack spaced downstream from said entrance section to discharge said gases and a diffuser between said entrance section and said stack extending longitudinally of the flow of gases for suppressing noise therein, said diffuser comprising:

- a truncated pyramidal structure having a longitudinal axis substantially parallel to the flow of said gases;
- an annular base portion adjacent said entrance section through which said gases may flow;
- an apex portion smaller than said base portion and spaced downstream therefrom along said longitudinal axis;
- a plurality of main members connecting said base to said apex, said main members converging toward said longitudinal axis from said base to said apex;
- a plurality of stub members spaced along each said main member and extending in a substantially flat plane from both sides thereof transversely to the flow of gases between said base and said apex, said stub members being progressively shorter from said base to said apex and terminating short of transverse intersection with stub members extending from adjacent main members,
- whereby said main members and said stub members form disconnected sides converging from said base to said apex of said pyramidal structure.

3,343,630

FRONT LOADING EXTENSION LADDERS
James Charles Redman, Hadley, and Richard Lawrence Werner, Sharon, Pa., assignors to R. D. Werner Inc., Greenville, Pa., a corporation of Pennsylvania
Filed Oct. 24, 1965, Ser. No. 504,601
7 Claims. (Cl. 182-209)

1. In a device of the class described, a pair of ladder sections including a base section and a fly section for extending upwardly above said base section, each said section comprising substantially parallel side rails connected

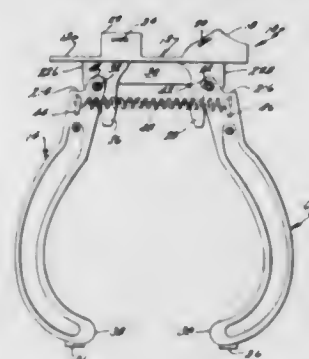
together by a plurality of rungs, a first pair of guide means carried by the side rails respectively of said base section, a second pair of guide means carried by the side rails respectively of said fly section, said side rails of said sections being spaced apart the same distance with the side rails of said fly section overlapping the side rails of the base section in side-by-side pairs, each said rail having a laterally projecting flange throughout substantially its entire length projecting parallel with and in the same direction as the flange of the rail with which it is



paired, said flanges of each said pair of rails being closely adjacent to each other and having lips at their distal edges, with the lips of each said pair of rails being turned away from each other and disposed in a common plane, each said guide means having means engaging both the lip of the side rail to which it is attached and the adjacent lip on the side rail to which it is not attached whereby said sections are longitudinally slidably movable in use thereof, and means for retaining said sections in different longitudinally adjusted positions.

3,343,631

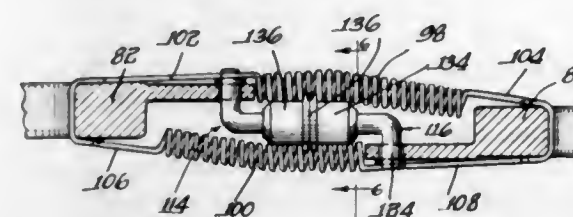
VERTICALLY ADJUSTABLE STILT FOR ARTISANS AND THE LIKE
Justin D. Tieri, 628 Parkside NW., Grand Rapids, Mich. 49504
Filed Feb. 1, 1966, Ser. No. 524,301
7 Claims. (Cl. 182-230)



1. A vertically adjustable stilt construction for artisans and the like, comprising in combination: a platform member arranged to be stood upon with one foot and securable to such foot; a plurality of legs depending generally downwardly from said platform and pivotally secured thereto; said platform having a first portion for limiting pivotal movement of each of said legs toward said platform by direct abutment against a part of such legs; said platform further having second portions depending downwardly therefrom for limiting pivotal movement of each of said legs away from said platform by abutment against another part of said legs; and a resilient biasing member connected to each such leg for holding the same in abutment with each of said movement-limiting platform portions when said parts of said legs are brought into contact therewith, to thereby retain such legs in a selected position.

3,343,632

SELF-ADJUSTING DISC BRAKE
Osborn A. Kershner, St. Joseph, and Virgil A. Matrau, Benton Harbor, Mich., assignors, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Filed July 12, 1965, Ser. No. 471,108
2 Claims. (Cl. 188-72)



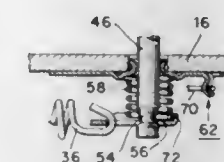
1. A friction device comprising: first and second relatively movable members for energizing the friction device; activating means for relatively moving said members in one direction from a retracted position for energizing said friction device; first spring means mounted on a first side of said first and second members and interconnecting said first and second members for biasing said members for relative movement in a second direction toward the retracted position; second spring means mounted on a second side of said first and second members and interconnecting said first and second members for further biasing said members for relative movement in the second direction toward the retracted position; and wear compensation means connected to said first and second members, said wear compensation means being responsive to the relative movement of said members in the one direction from the retracted position for limiting return movement of said members in the second direction and thereby adjusting the retracted position to compensate for wear in the friction device, said wear compensation means including first and second screw elements each having the outer end portion thereof extending in opposite directions and respectively connected at said outer end portions to said first and second members and having thread convolutions of opposite hands, and nut means including first and second portions having internal thread convolutions of opposite hands respectively engaging said first and second screw elements with said outer end portions disposed to prevent binding action between the screw elements and the nut means, said nut means being rotatable relative to and axially adjustable along said screw elements in response to relative movement of said first and second members in the one direction, said first and second spring means having portions on opposite sides of said nut means biased into engagement therewith for restraining said nut means against reverse rotation as said first and second spring means urge said first and second members in the second direction toward the retracted position.

3,343,633

BRAKE RELEASE MECHANISM
Robert E. Kennel, Grosse Pointe Park, and John Edward Haug, St. Clair Shores, Mich., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 28, 1962, Ser. No. 247,923
5 Claims. (Cl. 188-78)

4. In a drum type brake a brake shoe retracting, aligning and supporting device comprising, a backing plate, a stub anchor on said backing plate, a brake shoe movably mounted on said backing plate for engagement with said anchor, said brake shoe comprising an arcuate rim attached to a flat web, said rim of said shoe being slidably engaged on said backing plate and an end of said web being slidably engageable with said stub anchor,

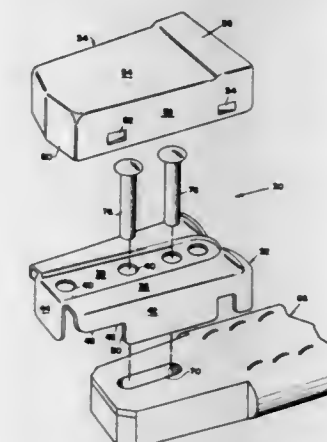
an alignment rod pivotally mounted through an aperture in said backing plate at its pivoted end and extending through an aperture in said web at its outer end, a bearing bushing mounted in said aperture in said web for engagement with said alignment rod, an alignment spring concentrically mounted on the outer end of said alignment rod,



a slotted keeper fitted to the end of said outer end of said alignment rod compressing said alignment spring between said keeper and the web of said shoe supporting and aligning said shoe in frictional engagement with said backing plate, and a retraction spring connected between said keeper and stub anchor exerting a retraction force on the outer end of said alignment rod which in turn exerts a retraction force on, and in axial alignment with, the web of said shoe whereby the alignment rod serves to support, align and retract the brake shoe.

3,343,634

BRACKET FOR HANDLE
Ervin H. Goldman, Philadelphia, Pa., and John B. Humphries, Stamford, Conn., assignors to American Handle Sales Co. (also known as American Handle Sales Company), Philadelphia, Pa., a corporation of Pennsylvania
Filed May 28, 1965, Ser. No. 459,801
16 Claims. (Cl. 190-58)

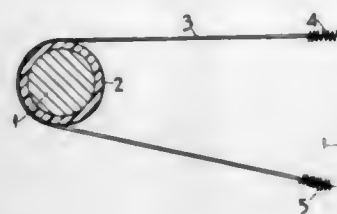


1. A bracket for a handle comprising a mounting plate and a cover plate, said mounting plate having a top surface and dependent vertical side walls projecting downwardly from said top surface, said vertical side walls tapering outwardly from one end of said top surface, said cover plate including a top surface and dependent vertical side walls, said vertical side walls on said cover tapering outwardly at the same taper as those on said mounting plate, said mounting plate including at least one recess in each of said vertical side walls, said cover plate including at least one inwardly and angularly projecting finger in each of said vertical side walls, said fingers adapted to be urged adjacent said cover plate when in contact with the vertical side walls of said mounting plate so that said cover plate can be secured to said mounting plate by sliding the tapering walls of the cover plate along the tapering walls of said mounting plate until said fingers project into said recesses.

3,343,635

ELECTROSTATIC CLUTCHES

Hugh Wilson Davidson, Pinner, and Howard Harold Walter Losty, Watford, England, assignors to The General Electric Company Limited, London, England
Filed Mar. 12, 1965, Ser. No. 439,409
6 Claims. (Cl. 192—21.5)



1. An electrostatic clutch of the kind depending for its operation upon the production of an electrostatic attraction, between an electrically conducting surface of a first component and an adjacent semiconductive surface of a second component co-operating therewith, when a voltage is applied between the said components, the said attraction being of sufficient magnitude to cause adhesion between the said surfaces for effecting engagement between the said components, wherein the material of which the semiconductive part of said second component is formed consists of semiconductive carbon, being a member of the group consisting of cellulosic and hemicellulosic materials, regenerated from an aqueous dispersion of said material in a comminuted state and partially carbonized to form semiconductive carbon containing more than 80% by weight of carbon and having an electrical resistivity in the range of 10^3 to 10^8 ohm centimetres.

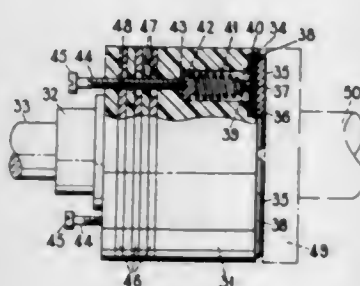
3,343,636

ELECTROSTATIC CLUTCHES

James A. Donelan, West Harrow, and Howard H. W. Losty, Watford, England, assignors to The General Electric Company Limited, London, England, a British company

Filed Dec. 7, 1965, Ser. No. 512,064
Claims priority, application Great Britain, Dec. 8, 1964, 49,935/64

9 Claims. (Cl. 192—84)



1. An electrostatic clutch of the kind

(A) operated by means of an electrostatic attraction produced between a surface of an electrically conducting member and a closely adjacent surface of a semiconductive member when a voltage is applied between the said members

(I) which voltage is sufficiently high to produce a said electrostatic attraction of such magnitude as to cause adhesion between the said surfaces, and

(B) said clutch comprising two components each of which comprises a main body having a surface member directly engageable with a surface member of the other component, the said surface members being composed respectively of an electrically conducting material and a semiconductive material,

(I) which components are capable of relative motion when the said mutually engageable surface members are disengaged, in the absence of a said applied voltage, the said surface members being in slipping contact with one another when disengaged, and

(II) between which components there is substantially no relative motion when the said mutually engageable surface members are engaged as a result of the application of a said voltage;

(C) wherein the said engageable surface member of a first said clutch component consists of a plurality of separate sections

(I) each individually mounted on a ball bearing located in a recess in the main body of the said component so as to be capable of universal pivotal movement relative to said main body,

(a) whereby, when the said mutually engageable surface members are in the disengaged position and in slipping contact, each said individually mounted section is automatically aligned with, so as to be wholly in close interfacial contact with, the engageable surface member of the second of said clutch components,

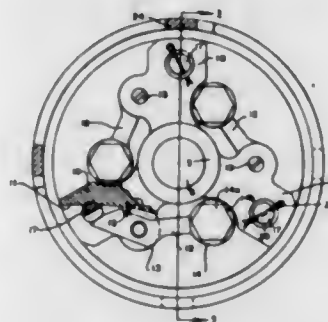
(i) for enabling engagement between each section of the engageable surface member of said first clutch component and the engageable surface member of said second clutch component to take place rapidly on the application of a said voltage between the said members.

3,343,637

FRICTION CLUTCH MECHANISM

Paul Christian Kuehn, Box 189, Kendallville, Ind. 46755

Filed Dec. 15, 1965, Ser. No. 513,923
8 Claims. (Cl. 192—105)



1. In a clutch mechanism having a drive head rotatably mounted on a drive shaft, said drive head adapted to be axially moved to engage a friction plate on a hub rotatably associated with said drive shaft, said drive head having a plurality of centrifugal levers adapted to actuate studs which are axially movable in the drive head to urge said clutch plate into engagement with said friction plate, the improvements which include:

a notch in each stud,

each notch characterized by an intermediate wall spacing a transverse wall at one end and a cam surface at the other end, said cam surface inclined in two different directions, a first direction inclined to the longitudinal axis of the stud and a second direction inclined to the transverse axis of the stud, said spaced transverse wall further inclined to the transverse axis of the stud in substantially the same manner as the transverse incline of the cam surface so that said transverse incline of the cam surface is substantially parallel to the transverse incline of the wall.

ERRATUM

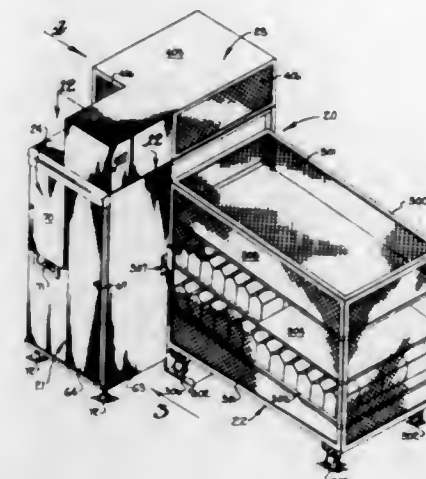
For Class 193—36 see:
Patent No. 3,343,639

3,343,638

ARTICLE RECEIVING AND STORAGE**APPARATUS**

Raymond C. Putman, Sr., Hickory, N.C., assignor to Taylor Manufacturing Company, Salisbury, N.C., a corporation of North Carolina

Filed May 31, 1961, Ser. No. 113,908
24 Claims. (Cl. 194—4)



7. Apparatus for successively receiving cartons having two parallel rows of bottles confined therein and unconfined individual bottles, said apparatus comprising a carton receiving station for successively receiving cartons of bottles, carton conveying means operatively associated with said carton receiving station for moving each carton through and out of said carton receiving station, first bottle sensing means comprising switch means disposed on opposite sides of the path of travel of a carton through and out of said carton receiving station and disposed in position to be successively engaged by each bottle in the two rows of bottles confined in a carton, a bottle receiving station for successively receiving unconfined bottles, bottle conveying means operatively associated with the bottle receiving station for moving the bottles through and out of said bottle receiving station, second bottle sensing means positioned in the path of movement of the bottles through and out of said bottle receiving station for sensing the presence and size of each unconfined bottle received, and common refund means responsive to each actuation of said switch means of said first bottle sensing means for totaling the number of bottles sensed in each carton received and operable upon movement of each carton out of said carton receiving station for dispensing a composite refund for the total number of bottles in each carton received, and responsive to actuation of said second bottle sensing means for dispensing a refund for each unconfined bottle received in accordance with the size thereof.

3,343,639

TRANSFER UNIT FOR ROLLER-TYPE CONVEYOR SYSTEM

Gunnar Thure Ellassen, Partille, and Börje Egon Andersson and Allan Ivar Nordh, Saffle, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Mar. 15, 1966, Ser. No. 534,383
Claims priority, application Sweden, Mar. 15, 1965,

3,354/65

5 Claims. (Cl. 193—36)

1. The combination with a roller conveyor system for moving articles thereon by gravity, the system including a first roller conveyor and a second roller conveyor trans-

verse thereto, of a transfer unit for selectively transferring articles from the first roller conveyor to the second roller conveyor, said transfer unit comprising:

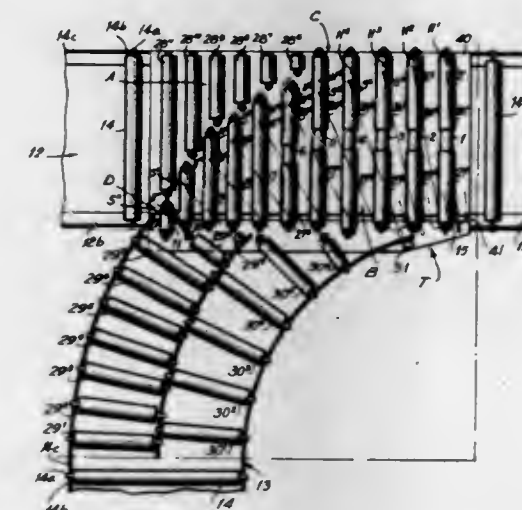
roller means including rollers forming a part of the first roller conveyor, said roller means defining first and second areas of said transfer unit,

said roller means in said first area comprising some of said rollers, means for mounting said rollers in said first area for rotation about fixed axes substantially perpendicular to the direction of movement of articles on the first conveyor,

said roller means in said second area comprising other of said rollers, said rollers in said second area being shiftable between perpendicular and inclined positions,

said rollers in said second area in their perpendicular positions having their axes of rotation perpendicular to the direction of movement of articles on the first roller conveyor and in their inclined positions having their axes of rotation at acute angles with respect to their perpendicular positions and inclined toward the side of the first roller conveyor nearer to the second roller conveyor,

structure providing a horizontal surface, said surface having a first elongated slot at the side of the first roller conveyor nearer to the second roller conveyor and a plurality of second slots opposite the first slot and perpendicular thereto,



means for journaling said rollers in said second area in their perpendicular and in their inclined positions, means for shifting said rollers in said second area between their perpendicular and their inclined positions, said means for shifting said rollers in said second area between their perpendicular and their inclined positions comprising structure for moving the ends of said rollers nearer the second roller conveyor back and forth lengthwise of the first roller conveyor between their perpendicular and their inclined positions and for simultaneously moving therewith the opposite ends of said rollers remote from the second roller conveyor back and forth transversely of the first roller conveyor between their perpendicular and their inclined positions,

said rollers in said first area and said rollers in said second area in their perpendicular positions functioning to move articles on the first roller conveyor, said rollers in said second area in their inclined positions functioning to divert articles from the first roller conveyor to the second roller conveyor, and the line of demarcation between said rollers in said second area and said rollers in said first area of said transfer unit extending diagonally across the top of said

transfer unit from a first region at the side of the first roller conveyor remote from the second roller conveyor and initially reached by articles moving on the first roller conveyor to a second region at the opposite side of the first conveyor nearer to the second conveyor and subsequently reached by the articles moving on the first roller conveyor, whereby said rollers in said second area in their inclined positions always exercise control over articles on the first roller conveyor that move thereon and function to divert said articles from the first roller conveyor to the second roller conveyor,

said means for journaling said rollers in said second area in their perpendicular and in their inclined positions comprising a plurality of brackets having vertical and horizontal arms, the vertical arms of said brackets being notched at the tops thereof,

the ends of said rollers in said second area having shafts, each of said shafts receiving a different one of said shafts,

elements fixed to the horizontal arms of said brackets and depending downward therefrom, said elements at the ends of said rollers nearer the second roller conveyor extending downward through the first slot and each of said elements at the opposite ends of said rollers remote from the second roller conveyor extending downward through a different one of the second slots,

the horizontal arms of said brackets being movable over the surface,

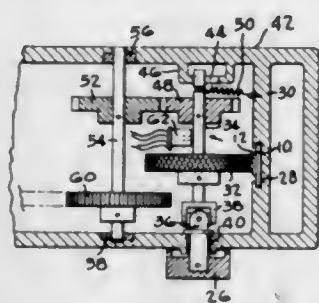
the first slot defining a substantially straight first line extending lengthwise of the first roller conveyor and the second slots defining substantially straight second lines which are substantially perpendicular to the first slot,

said means for shifting said rollers in said second area between their perpendicular and their inclined positions including mechanism for imparting back and forth movement to said elements in the first slot, and said elements in the second slots moving back and forth therein responsive to back and forth movement of said elements in the first slot.

3,343,640

CANCELLABLE DISK-TOKEN SYSTEMS

George N. Wagenhauser, New York, N.Y., assignor of one-third to Edward Langerman, and one-third to Joseph Bragin, both of Philadelphia, Pa.
Filed June 28, 1966, Ser. No. 561,278
4 Claims. (Cl. 194-4)



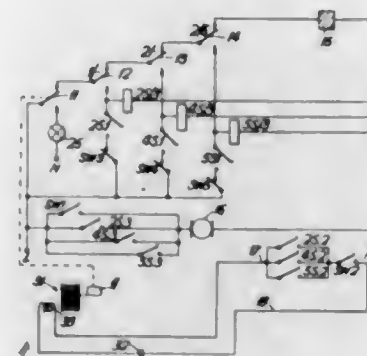
1. A disk-token system comprising a housing, a slot in said housing, a passage in said housing connecting with one end of said slot, a disk-token movable through said slot and passage, said disk-token having an aperture therein with an insert removably secured therein, said insert extending away from one face of said disk-token, marking means for distorting said insert as it passes through said passage, indicating means operatively connected with said marking means, and actuating means for simultaneously operating said marking means and said indicating

means, said indicating means being operatively connected to a clock mechanism which is operatively connected to said marking means.

3,343,641

CHANGE-GIVING APPARATUS

William Lovell Robinson, North Wembley, England, assignor to Electric Shop Developments Limited, London, England, a British company
Filed Sept. 14, 1965, Ser. No. 487,196
Claims priority, application Great Britain, Sept. 15, 1964, 37,604/64
18 Claims. (Cl. 194-10)



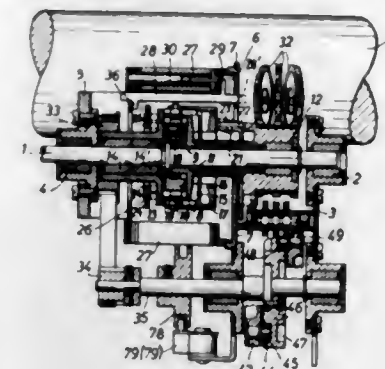
1. Sensing apparatus comprising a rotatable disc having around its periphery a predetermined number of notches or projections, a motor connected to drive the disc, plurality of relays providing at least one relay for each value of money for which articles are to be dispensed, each relay being adapted to be energised when a coin of the respective value is received by the apparatus, a holding switch on each relay, a first normally open switch associated with an operable by each relay, the first normally open switches of all the relays being connected in parallel with each other and in series with the motor, a second normally open switch associated with and operable by each relay and connected in one of a number of dispensing circuits, a normally closed stopping switch adjacent the disc which is momentarily opened each time a notch or projection passes, the stopping switch being connected in parallel with the first normally opened switch on the relays, a normally open signalling switch connected to the dispensing circuits and positioned adjacent the disc, the signalling switch being momentarily closed each time a notch or projection passes, and a number of normally closed further switches, equal in number to the number of relays and associated one with each relay, disposed at intervals around the disc and positioned to be momentarily opened each time a notch or projection passes, each further switch being connected in the holding circuit of its associated relay and arranged so that upon the receipt by the sensing apparatus of a coin of the respective value the corresponding relay is momentarily energised so that its holding switch is closed, the first normally open switch of the energised relay closed to start the motor, the second normally open switch of the energised relay closed to select a dispensing circuit, the repeated closure of the signalling switch by the passage of the notches or projections producing a series of pulses in the selected dispenser circuit, the further switch in the holding circuit of the energised relay being so spaced from the signalling switch that after the correct number of pulses has been applied to the selected dispenser circuit the respective further switch is momentarily opened by a notch or projection so that the relay is de-energised and released, whereby the dispenser circuit is broken, the current supplied to the motor being maintained by the stopping switch until the first notch or projection reaches the stopping switch and allows it to open, whereupon the motor is stopped.

3,343,642

TYPING APPARATUS HAVING PLURAL TYPE WHEELS WHICH SELECTIVELY STRIKE PLATEN

Herbert Weldanz, Cologne-Lindenthal, and Heinrich Ostermeyer, Cologne, Germany, assignors to Wanderer-Werke Aktiengesellschaft Koln, Cologne-Deutz, Germany

Filed Apr. 25, 1966, Ser. No. 545,024
Claims priority, application Germany, Apr. 24, 1965, W 39,043
19 Claims. (Cl. 197-18)



1. A typing apparatus comprising, in combination rotary type means having a plurality of type faces; movable support means supporting said type means for rotation; means mounting said support means for movement with said type means to and from an operative position in which one type face is in a printing position; actuating means for moving said support means to and from said operative position; a differential transmission including a rotary drive element, and rotary first and second driven elements, said type means being connected with said first driven element for rotation therewith, and said actuating means being connected with said second driven element to be operated by the same; control means connected with said first and second driven elements for blocking said second driven element when said first driven element rotates with said type means, for blocking said first driven element and automatically releasing said second driven element for rotation when said first driven element is blocked so that said second driven element is rotated by said drive element and operates said actuating means to move said support means to and from said operative position during rotation of said second driven element through a predetermined angle, and for again automatically blocking said second driven element and releasing said first driven element for rotation by said drive element after said second driven element has turned said predetermined angle; and selector means having a plurality of selecting positions associated with said type faces and being operable between said positions for actuating said control means to block rotation of said first driven element in different angular positions so that said type means stop in an angular position in which a type face associated with the respective selecting position is selected whereupon said control means first cause movement of said support means with said type means to and from said printing position for producing an imprint of said selected type face and then cause again rotation of said type means.

3,343,643

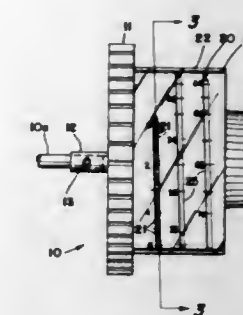
TYPEWRITER INDICATING DEVICE

Paul M. Unterweiser, Bainbridge Township, Ohio, assignor to Rotocator Corporation, Bainbridge Township, Ohio

Filed Oct. 15, 1964, Ser. No. 404,019
5 Claims. (Cl. 197-189)

1. A device for indicating the progression of a sheet of paper around a platen comprising means defining a closed helical track carried by and normally rotating with said platen, a flowable substance confined and retained by said track defining means in a portion of said track

and visible from the exterior of the device, said flowable substance in said track filling more than 180 degrees of the annular extent of said track, and a scale on said de-

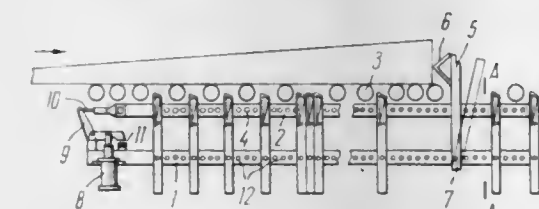


vice adjacent said track indicating the angular progression of said track relative to said flowable substance and, therefore, the progression of a sheet of paper around said platen.

3,343,644

ARRANGEMENT FOR PRESETTING LOG LENGTHS IN CROSS-CUTTING TREE LENGTHS

Vitaly Jurievich Kljuchnikov, Evgeny Borisovich Tsvetkov, Vasily Vasilievich Fetisov, and Anatoly Ivanovich Murlykin, Khimki, Mikhail Alexeevich Rudensky, Moskovskaya Oblast, and Ekaterina Nikolaevna Taruntaeva, Moscow, U.S.S.R., assignors to Tsentralny Nauchno-Issledovatel'skiy i Proektiro-Konstruktorskiy Institut Mekhanizatsii i Energetiki Lesnoi Promyshlennosti, U.S.S.R., Khimki ulitsa Moskovskaya
Filed July 19, 1965, Ser. No. 472,924
3 Claims. (Cl. 198-1)



1. Apparatus for presetting the position of tree trunks to be cross-cut into logs, said apparatus comprising a stationary frame, roller conveyor means on said frame for transporting tree trunks thereon; a flat horizontal frame with rearrangeable cross bars, said flat frame being supported on the stationary frame on the upper portion thereof for longitudinal reciprocal movement in relation to said stationary frame; sliding catchers for arresting tree trunks on the conveyor means, said catchers being hingedly attached to said stationary frame and interacting with said rearrangeable cross bars of said flat horizontal frame, and buffer means coupled to said flat frame for yieldably resisting displacement of said flat frame and for returning the same to its original position, thereby absorbing impact applied to the catchers by the tree trunks.

3,343,645

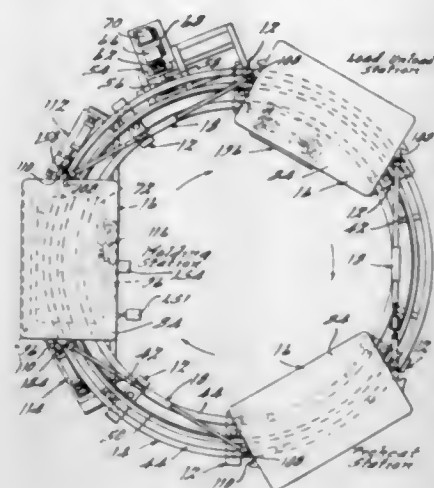
ROTARY WORK STATION CONVEYOR

Ralph G. Doerfling, Walled Lake, Mich., assignor to Detroit Gasket and Manufacturing Company, a corporation of Michigan

Filed Nov. 2, 1966, Ser. No. 591,593
10 Claims. (Cl. 198-19)

1. A processing machine for transferring materials through a plurality of work stations comprising a framework, circular track means on said framework, means for rotatably supporting said track means, drive means for

continuously rotating said track means, a plurality of work carts movably supported on said track means, connecting means interconnecting said work carts for maintaining them in appropriate circumferentially-spaced relationship,



and stop means for periodically engaging the said work carts and retaining them in stationary relationship for a preselected interval at selected circumferentially-spaced stations.

3,343,646

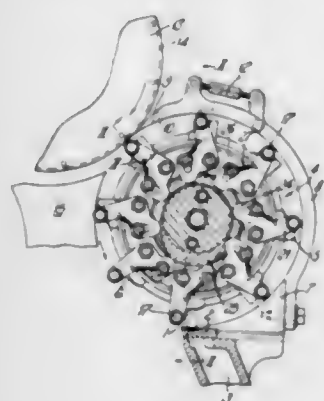
CIGARETTE CONVEYING AND ALIGNING APPARATUS

Tom Rowlands, Deptford, London, England, assignor to The Molins Organisation Limited, London, England, a corporation of Great Britain

Filed Oct. 8, 1965, Ser. No. 493,974

Claims priority, application Great Britain, Oct. 19, 1964, 42,498/64

8 Claims. (Cl. 198—25)



1. Article-feeding apparatus for rod-like articles including means to feed articles in the direction of their longitudinal axes, a conveyor which sweeps across the axial path of the articles to engage articles and move them transversely of said axes, pairs of opposed presser members arranged to move with said conveyor and to engage ends of articles carried by said conveyor, each pair including a first member to engage a leading end of an article and a second member to engage a trailing end of an article, considered in the direction of axial movement of the articles, means to move at least one member of each pair towards the other, and means mounting said second members for movement out of line with the said first members so that they clear axially moving articles, and for subsequent movement in line with said first members for endwise engagement of transversely moving articles.

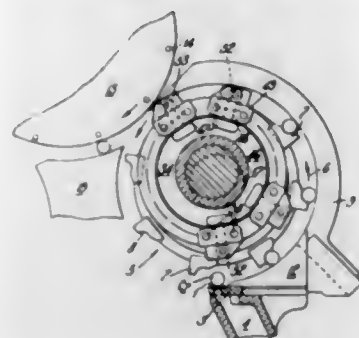
3,343,647 CIGARETTE CONVEYING AND ALIGNING APPARATUS

Edward George Preston, William Charles London, and Brian Arthur Hodsall, Deptford, London, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain

Filed July 11, 1966, Ser. No. 564,153

Claims priority, application Great Britain, July 19, 1965, 30,639/65

9 Claims. (Cl. 198—25)



1. Apparatus for feeding rod-like articles, comprising a rotary conveyor to carry articles transversely of their lengths, means to feed articles lengthwise to said conveyor in a direction parallel to its axis of rotation, and presser members at opposite sides of the conveyor to engage ends of articles thereon and movable with said conveyor, the presser members at one side at least of the conveyor being mounted for movement in a circular path eccentric to said axis of rotation so as to register with articles on the conveyor over part of said path and to be clear of articles moving lengthwise to the conveyor for reception thereon.

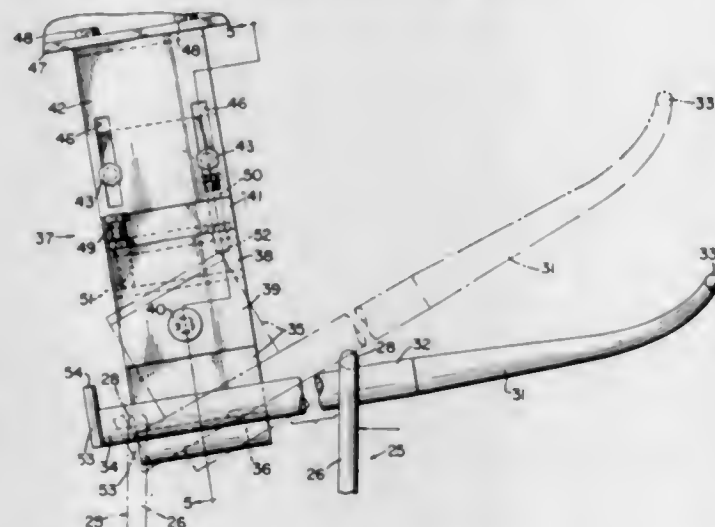
3,343,648

CONVEYING MEANS AND METHOD

James A. Rakel, Cincinnati, Ohio, assignor to The National Marking Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 22, 1965, Ser. No. 500,752

8 Claims. (Cl. 198—27)



1. In combination, a support means, and a pick-off member pivoted to said support means intermediate the opposed ends of said pick-off member, said pick-off member being pivoted to a pick-off position when unloaded to pick-off a product-conveying member by the natural weight of said pick-off member, said pick-off member being pivoted to an out of the way position when the pick-off conveying member is loaded against the other end of said pick-off member by the weight of said product-conveying member, said pick-off member is disposed at an

angle relative to the horizontal in its pick-off position with said one end elevated above said other end whereby said pick-off conveying member slides by gravity from said one end to said other end.

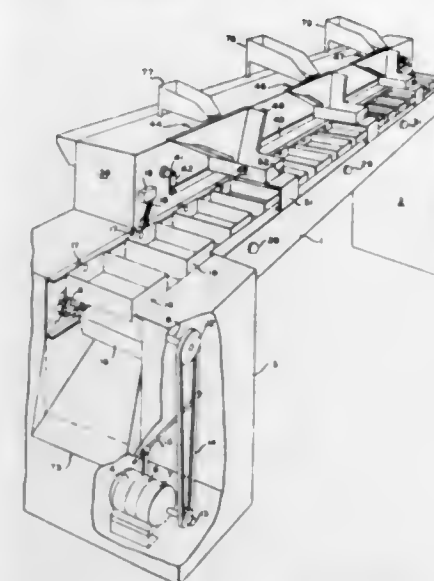
3,343,649

CONVEYOR APPARATUS

Harry C. House, Cincinnati, Ohio, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,645

8 Claims. (Cl. 198—46)



1. Apparatus for transmitting articles from a plurality of separate locations to a single location comprising, in combination, conveyor means including a plurality of buckets mounted for travel over a path adjacent said separate locations; separate hopper means located along the conveyor means and associated with each of said separate locations and said conveyor means for receiving articles from each of said locations; control means connected to said conveyor means and actuated by movement of said conveyor means for effecting intermittent movement of said conveyor means to successively stop the buckets in a position to receive articles from said hopper means; and means connected to said hopper means for allowing articles to be transferred from said hopper means to the buckets of said conveyor means at times only when the buckets are stopped.

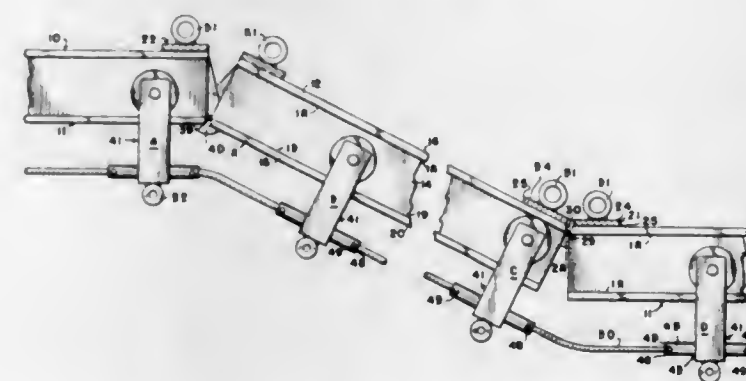
3,343,650

ADJUSTABLE CONVEYOR SYSTEM

George W. Brown, Atlanta, Ga., assignor to Gainesville Machine Company, Inc., Gainesville, Ga., a corporation of Georgia

Filed Sept. 28, 1966, Ser. No. 582,577

5 Claims. (Cl. 198—117)



1. A conveyor track comprising a plurality of track sections, means for selectively positioning certain of said track sections at different elevations, said track sections

each comprise an I-shaped beam including an upwardly extending central web and upper and lower laterally extending flanges, means for pivoting at least some adjacent track sections with respect to each other about a pivot point common to the planes of the lower surface of their upper flanges and means for pivoting other adjacent track sections with respect to each other about a pivot point common to the planes of the upper surface of their lower flanges.

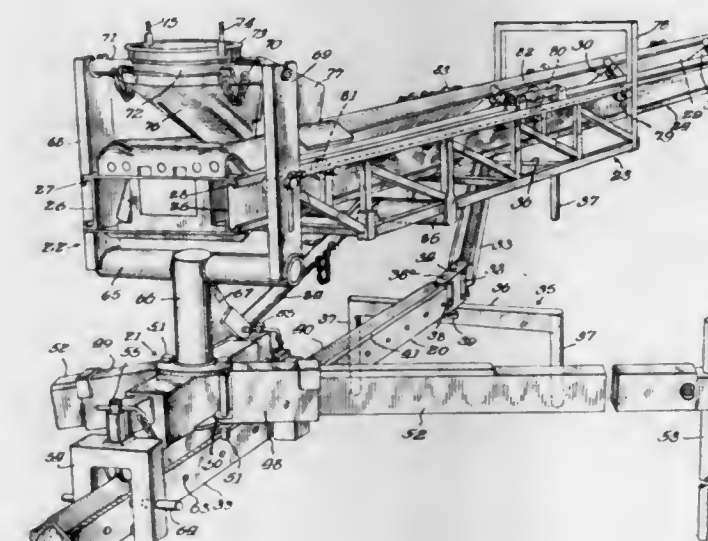
3,343,651

APPARATUS FOR DISTRIBUTING CONCRETE MIX

John F. Oury, deceased, late of Wheaton, Ill., by Alice M. Oury, acting as executor, Wheaton, Ill., and Robert F. Oury, Wayne, Ill., assignors to Oury Engineering Company, Elmhurst, Ill., a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,503

27 Claims. (Cl. 198—118)



1. In a device for transporting concrete mix and the like, the combination comprising:
track means;
a movable carriage adapted for movement on the track means adjacent the location at which the transported material is to be deposited;
a coupling yoke rotatably mounted for movement about a vertical axis upon the movable carriage;
a support frame assembly mounted adjacent one of its ends upon the rotatable coupling yoke in a cantilever fashion;
conveyor means;
anti-friction means mounting the conveyor means on the support frame assembly in a cantilever fashion for longitudinal movement thereon; and
stabilizing means provided on the carriage and movable therewith and adapted to provide vertical stability to the device for transporting concrete mix and the like.

3,343,652

CONVEYOR BELTS

Charles Thomson, Esher, Surrey, England, assignor to Solar Thomson Engineering Company Limited, Cobham, Surrey, England

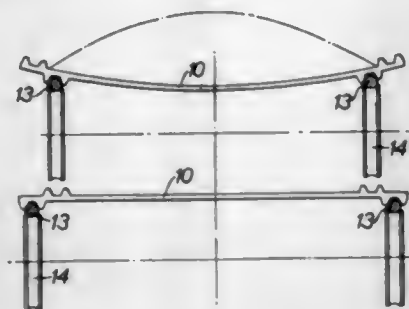
Filed Jan. 7, 1966, Ser. No. 519,378

Claims priority, application Great Britain, Jan. 12, 1965, 1,434/65

6 Claims. (Cl. 198—191)

1. A conveyor belt adapted to be supported and frictionally driven by cables engaging the opposite faces of said belt, wherein the improvement consists of two longitudinally extending first projections extending from the load-carrying face of said belt adjacent each edge thereof,

and two pairs of longitudinally extending additional projections extending from the nonload-carrying face of said belt, said projections forming guideways for cables engag-



ing the respective faces of the belt, said additional projections being sufficiently closer to the longitudinal central axis of the belt than said first projections to permit nesting of said additional projections between said first projections during coiling of the belt.

3,343,653

CONVEYOR BELTS

Charles Thomson, Esher, Surrey, England, assignor to Solar Thomson Engineering Company Limited, Cobham, Surrey, England

Filed Mar. 15, 1965, Ser. No. 439,558

Claims priority, application Great Britain, Mar. 18, 1964, 11,519/64

14 Claims. (Cl. 198—203)



1. A belt conveyor system comprising an endless conveyor belt; means for driving said belt, said means extending over substantially the whole length and over substantially the whole of at least the central portion of said conveyor belt, said means comprising a plurality of driving belt sections frictionally engaging the conveyor belt; a plurality of motor drives for actuating said driving means and associated with different driving belt sections; control means for controlling the power supplied by said motor drives to their driving belt sections; and means for regulating said control means in dependence on the loading of the conveyor over different driving belt sections to supply more power when neighboring regions of the conveyor are heavily loaded than when they are lightly loaded, thereby limiting the power required to be transferred between driving belt sections.

3,343,654

BUCKET ELEVATOR

Chester Donald Fisher, Muncy, Pa. 17756

Filed Oct. 11, 1965, Ser. No. 494,543

9 Claims. (Cl. 198—207)

1. A bucket elevator comprising an elongated, generally enclosed housing including a boot at one end having spaced apart sidewalls and a bottom wall and a head at the opposite end, means defining an inlet opening in the boot, means defining a discharge outlet in the head, means supporting a plurality of buckets for movement in an endless path in said housing to convey material fed to the housing through said inlet opening in the boot to said discharge outlet in the head, and means for purging the boot and buckets including at least one nozzle mounted in each sidewall of the boot having discharge openings disposed interiorly of the boot and adapted to be connected to a suitable air supply source, said nozzle discharge openings being directed downwardly to discharge

jets of air against the bottom wall of the boot thereby to suspend material in the boot so that it may be picked up by the buckets and said discharge openings also posi-



tioned relative to the buckets to direct jets of air interiorly of the buckets thereby to effect loosening of any material in the buckets to completely clean the elevator.

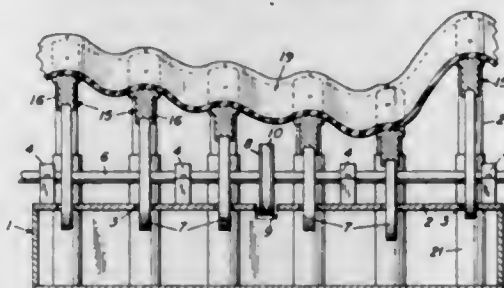
3,343,655

UNDULATORY CONVEYOR

Thomas E. Howard, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Interior

Filed Dec. 12, 1966, Ser. No. 601,225

10 Claims. (Cl. 198—218)



1. A conveying apparatus for conveying solid materials comprising; a flexible belt, a plurality of belt supporting means transverse to the longitudinal axis of said belt spaced at predetermined distances along said belt, means to attach said flexible belt to each of said supporting means and means to raise and lower said supporting means in substantially vertical plane in a timed relationship whereby there is imparted to said belt an undulatory movement having a wave-like appearance.

3,343,656

ELEVATING AND LOWERING APPARATUS

Frederick W. Koepke, Jr., Detroit, Carroll A. Taylor, Plymouth, and Orlan M. Arnold, Grosse Pointe Park, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.

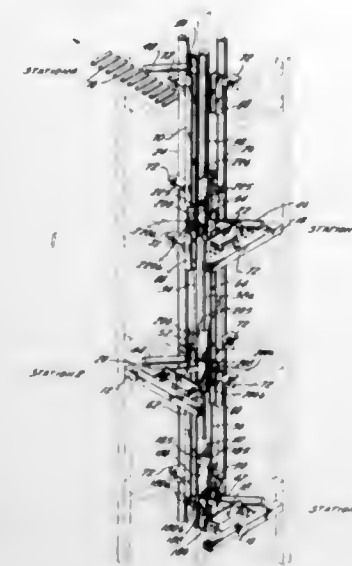
Filed Oct. 25, 1966, Ser. No. 589,320

11 Claims. (Cl. 198—219)

1. Apparatus for transporting articles vertically comprising:

a plurality of stationary platforms upon which said articles are deposited and from which said articles are removed, said stationary platforms being located at different elevations with alternate stationary platforms being aligned vertically and successive stationary platforms being offset horizontally;

a plurality of movable platforms upon which said articles are transported from one stationary platform to the next, each of said movable platforms movable back-and-forth between two successive stationary platforms;



means for moving said movable platforms vertically between successive stationary platforms; and means for moving said movable platforms horizontally from vertical alignment with one stationary platform to vertical alignment with the next successive stationary platform.

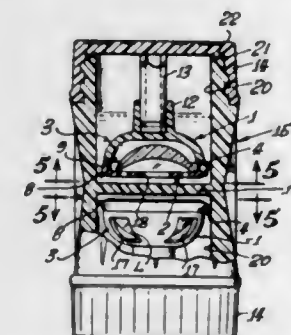
3,343,657

CONTACT LENS CONDITIONING FACILITY

Reuben F. Speshyock, 3221 Mills Ave., La Crescenta, Calif. 91014

Filed Sept. 2, 1966, Ser. No. 576,894

11 Claims. (Cl. 206—5)



1. In a contact lens conditioning means, a lens containing chamber comprising a dome-shaped lens housing portion having an open end and a perforate side wall, a perforate, lens supporting tray portion connected to said housing portion and having detachable, self securing engagement with the open end of said dome portion to complete the formation of said chamber; said housing portion having means at a point thereon remote from said open end affording detachable engagement with an interior face of a closure cap for a container of fluid by which a contact lens confined in said chamber is to be treated.

3,343,658

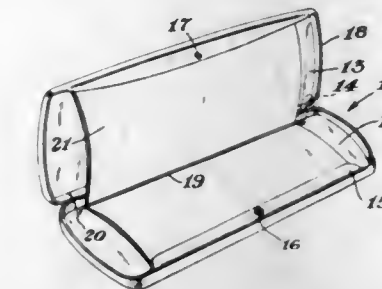
EYEGLASS CASE

William C. Renwick, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Aug. 10, 1966, Ser. No. 571,625

2 Claims. (Cl. 206—6)

1. An eyeglass case comprising a base member, a hinged lid mounted thereon, a rod means positioned within the



case adjacent to the hinge, said rod means releasably retaining an inner lining composed of a plurality of replace-

3,343,659

DISPLAY CONTAINER

Günther Marondel, Erlangen, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Filed Feb. 10, 1965, Ser. No. 431,649

Claims priority, application Germany, Feb. 14, 1964, D 28,499

1 Claim. (Cl. 206—45.31)



A two-partite, multi-purpose shipping and display package of parallelepipedic shape for boxes and similar articles adapted to be stacked, comprising a parallelepipedic shipping container part which is open at the top thereof, only one of the sides of said container being provided in a major portion with only one aperture open in the direction toward said top and extending to within proximity of the bottom, and a cover part of complementary shape to said container part so as to be adapted to be slipped over said container, said cover part having side walls substantially coextensive with said container part side walls when said cover is slipped over said container and a non-transparent relatively stiff top wall covering the entire top area of said cover, said aperture in said container being of such a size as to leave margins along the three remaining sides of substantially equal width, said display window being of such a size as to leave in said cover in the sides thereof corresponding to said one side four margins of substantially equal width corresponding to the first mentioned width.

3,343,660

BOX CLOSURE

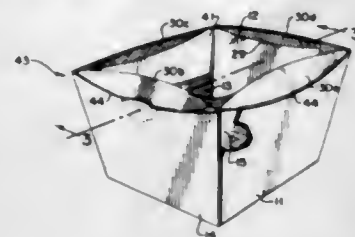
Ernest L. Bailey, Atlanta, Ga., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 14, 1966, Ser. No. 520,684

15 Claims. (Cl. 206—45.31)

1. A carton construction comprising
(a) a tray portion having a closed bottom and a plurality of upstanding side walls extending therefrom;
(b) the upper edges of said tray side walls being arcuate in configuration;
(c) at least one substantially elliptical support panel articulated to an upper edge of said side walls along an arcuate score line;

- (d) locking slit means defined at at least one of the upper edges of said side walls by a cut intersecting said wall and said support panel;
- (e) a cover comprising a plurality of elliptical bulge panels substantially identical in shape to said elliptical support panel and being arrayed in a manner whereby their major axes define a polygon similar in configuration to that defined by the closed bottom;
- (f) said elliptical bulge panels being integrally interconnected by web portions articulated thereto along



- inner terminal edge portions of said elliptical panels;
- (g) whereby upon the infolding of said elliptical panels and the engagement of said bulge panels with said upper tray edges, said side walls will be outwardly bowed and said cover will be bulged; and
- (h) locking tab means articulated to at least one outer free edge of said elliptical cover panels and adapted to be lockingly engaged in said locking slit to maintain said cover in a predetermined bulging relation and to effect a stiffened closure of said tray portion.

3,343,661

REUSABLE PACKAGE

Anthony R. Nugarus, Chicago, Ill., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

Filed June 14, 1965, Ser. No. 463,777
3 Claims. (Cl. 206-45.34)



1. A reusable package comprising a product, a tray of relatively stiff impervious material including a flat and rectangular body portion upon which the product is supported with the edges of the product terminating inwardly from the edges of the tray, a flap hingedly and integrally connected along one edge of the tray body portion, a strip of relatively stiff material separably attached to said body portion along the edge thereof opposite the flap, and a layer of relatively transparent impervious material over said product and in sealing relation with the tray body portion and strip along the edges of the product to completely enclose the product, the layer extending under said flap which is in adhering relation thereto, said material being of a type that is applicable in liquid form at elevated temperatures and hardens at lower temperatures after taking the shape of the product and is easily strippable from the product and body portion.

3,343,662

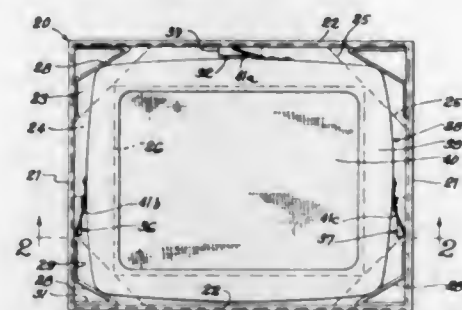
PACKAGING MEANS FOR SHADOW MASKS AND THE LIKE

Edward H. Bendoff, Lincolnwood, Ill., assignor to Northern Metal Products Company, Franklin Park, Ill., a corporation of Delaware

Filed Sept. 9, 1965, Ser. No. 486,035
3 Claims. (Cl. 206-46)

1. In combination
- (a) a plurality of packaging means arranged in stacked relation within a container,
- (b) each of said packaging means comprising a relatively shallow tray structure having vertical walls and support means adjacent said walls,

- (c) each of said tray structures containing a body including a frame having a relatively fragile plate in concavo-convex formation extending across said frame and having a plurality of mounting brackets extending laterally thereof,



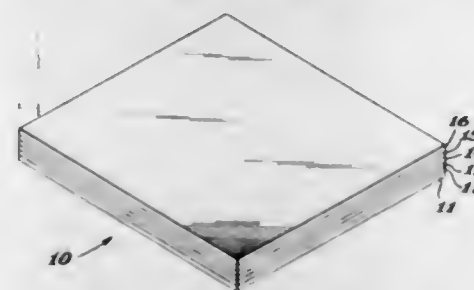
- (d) said brackets being rested on said support means with said plate being lowermost and in spaced relation to the bottom of said structure.

3,343,663

PACKAGE AND LAMINATE THEREOF

Don W. Seidler, Rocky River, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,964
10 Claims. (Cl. 206-46)



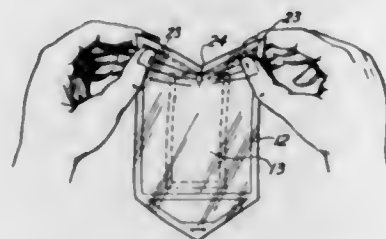
1. A composite packaging film comprising a first layer of a flexible material adapted to receive printing, a first layer of polyethylene adhered to the flexible, printable layer, a layer of biaxially oriented polypropylene adhered to the first polyethylene layer, a second layer of polyethylene adhered to the polypropylene layer, a layer of metallic foil adhered to the second polyethylene layer, and a third layer of polyethylene adhered to the metallic foil, the layers of the laminate being adhered together with a strength equivalent to that obtained by extrusion lamination.

3,343,664

COMPARTMENTED PACKAGE

Edward J. Poitras, 198 Highland St., Holliston, Mass. 01746

Filed May 31, 1966, Ser. No. 554,044
25 Claims. (Cl. 206-47)



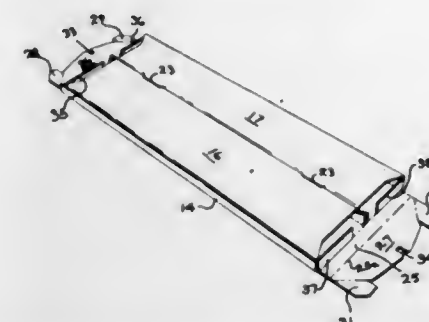
1. A compartmented package for dispensing a fluid conditioning medium and comprising: a sealed substantially air-free storage container containing and impervious to the fluid conditioning medium, said storage container adapted for opening to permit emptying of said fluid conditioning medium, a sealed substantially air-free dispensing container having flexible and collapsible wall portions,

said dispensing container adapted upon opening and emptying of said storage container to receive said fluid conditioning medium while preventing exposure thereof to the surrounding environment, and wherein said dispensing container comprises wall portions through which said fluid conditioning medium is diffusible.

3,343,665

REEL FOR WEB-LIKE MATERIAL AND BLANK THEREFOR

Joseph A. Marino, Brooklyn, N.Y., assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 11, 1964, Ser. No. 417,723
7 Claims. (Cl. 206-50)



1. A reel for web-like material comprising, in combination: a rectangular panel having an opposed pair of side edges and an opposed pair of end edges; first and second side wall means foldably attached to said panel along said opposed pair of side edges, respectively, and extending from the same side of said panel generally perpendicularly thereto; second and third panels foldably attached to said first and second side wall means, respectively, along lines spaced from, and parallel to, said opposed pair of side edges, respectively, said second and third panels extending generally parallel to said panel toward one another and having terminating edges disposed closely adjacent one another; support wall means foldably attached to one of said second and third panels along said terminating edge and extending toward said rectangular panel and generally perpendicularly thereto; means for attaching said second panel and said third panel to one another; first and second end wall means foldably attached to said rectangular panel along said opposed pair of end edges and extending therefrom for a distance substantially equal to the distance which said first and second side wall panels extend from said rectangular panel; first and second tuck-in flaps foldably attached to said first and second end wall means, respectively, along lines spaced from, and parallel to, said opposed pair of end edges, the extent of each of said tuck-in flaps in the direction parallel to its line of attachment being defined by a pair of spaced apart lines which converge with respect to one another as they proceed from said line of attachment, said tuck-in flaps being folded to lie in the space between said rectangular panel and said second and third panels; and a pair of tabs foldably attached to each of said tuck-in flaps along said spaced apart lines and being folded along said lines to extend toward said rectangular panel when said tuck-in flaps lie in the space between said rectangular panel and said first and second panels.

3,343,666

TAPE REEL CASE WITH LOCK

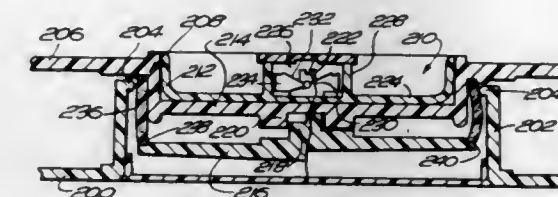
Gregory Mathus, West Hartford, Conn., assignor to Data Packaging Corp., Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 22, 1965, Ser. No. 515,598
10 Claims. (Cl. 206-52)

1. A reel case comprising a cover and a bottom tray,

a cylindrical wall extending upwardly in the center of the bottom tray of a diameter slightly less than that of a reel hub for fitting within the hub of a reel placed in the tray with the cylinder defined by the cylindrical wall being open at the top,

a circular well extending downwardly in the center of the cover and of a diameter slightly less than the diameter of the cylinder and extending into the cylinder through the open top when the cover is placed on the bottom tray,

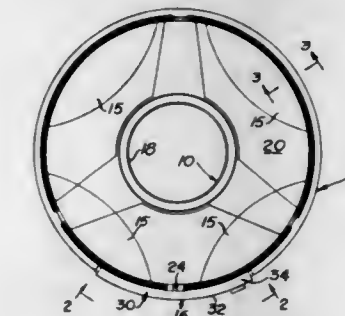


- a flexible grommet surrounding the well in the cover and fitting within the cylindrical wall when the case is closed,
- grippable means provided on the inside of the cylindrical wall and adapted to be engaged by the grommet, a movable handle disposed within the well of the cover, and actuating means connecting the handle to the grommet causing it to enlarge and engage the grippable means to lock the case closed when the handle is in an operative position.

3,343,667

LOCKING MECHANISM FOR WRAP-AROUND COVER FOR TAPE REELS

Chester J. Tellen, Mount Prospect, Ill., assignor to Amerline Corporation, a corporation of Illinois
Filed Sept. 23, 1965, Ser. No. 489,581
10 Claims. (Cl. 206-52)



1. A device for locking together the end portions of a wrap-around type tape reel cover, said device comprising an overlap member fixed to one end portion of said cover, the other end portion of said cover slidably received by said overlap member, a longitudinal slot having an inner end in said other end portion, teeth on said cover at said inner end of said slot, a retainer member mounted on said overlap member and engaging said slot, and teeth on said retainer member engaging the teeth at said inner end of said slot to thereby maintain said wrap-around cover in a locked condition around said reel regardless of the dimensional variations of said cover and of said reel.

3,343,668

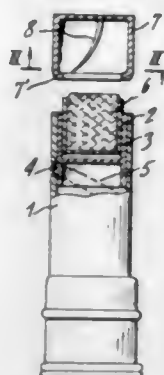
LIPSTICK CASE

Eugène Jim Politzer, 65 Rue Jouffroy, Paris 17, France
Filed Oct. 7, 1963, Ser. No. 314,406

Claims priority, application France, Oct. 19, 1962, 912,848, Patent 1,344,498
5 Claims. (Cl. 206-56)

1. A lipstick holder comprising: a case, a base, a lipstick in the base, means comprising a projection on said base riding in a helical groove in the case for raising and

lowering the base in said case, said base in its uppermost position in said case projecting from said case, an extractor for removing residual lipstick from said base, said extractor comprising a hood adapted to be slipped over the outer surface of the projecting portion of said base when the latter is in its uppermost position in said case, and a penetrating component carried by said hood on the



inside and operable for penetrating the lipstick in said base when said hood is slipped over the base to connect the lipstick to the hood, the lower edge of said hood being formed inwardly slightly so as to closely embrace said base whereby removal of the hood from said base will also withdraw the lipstick from the base and any residue of lipstick on the outside of the base will be scraped therefrom.

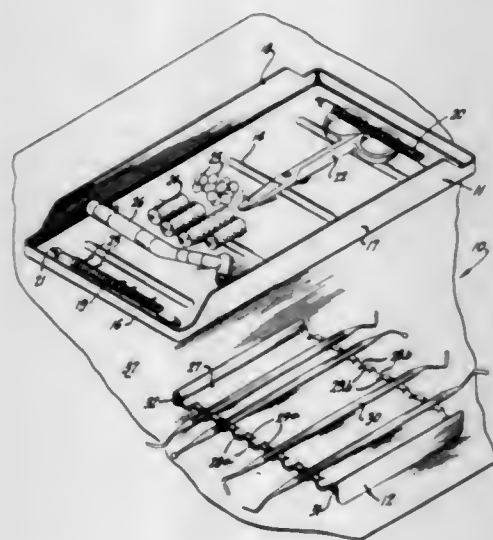
3,343,669

INSTRUMENT TRAY

William Loran, 112 Janes St.,
Mill Valley, Calif. 94941

Original applications July 8, 1964, Ser. No. 381,062, now Patent No. 3,285,409, and Jan. 26, 1966, Ser. No. 523,076. Divided and this application May 2, 1966, Ser. No. 546,729

4 Claims. (Cl. 206-63.5)



1. An instrument package, comprising first and second dissimilar and separable tray sections each having a bottom wall provided with support elements for receiving and supporting elongated dental instruments and the like of various configuration and dimension, support structure removably supporting said second tray section with respect to said first tray section and including upwardly extending side walls provided by said first tray section and terminating a spaced distance above the bottom wall thereof, said support structure also including a pair of

downwardly opening longitudinally extending channels provided by said second tray section and being respectively adapted to removably receive said side walls therein, said side walls and channels being cooperatively interrelated to dispose the bottom walls of said tray sections in spaced apart relation to provide a predetermined clearance space therebetween for accommodating dental instruments supported upon the bottom wall of said first tray section, said tray sections having openings therebetween to provide relatively free access to such clearance space between said bottom walls for facilitating admission of a sterilizing atmosphere thereinto, said channels being defined at least in part by wall portions of said second tray section which extend upwardly from the bottom wall thereof to a location a spaced distance above such bottom wall and any instruments supported thereon, a plurality of instruments supported by said first and second tray sections, and a wrapper enclosing the instrument-equipped tray sections to maintain the same in a substantially aseptic condition subsequent to sterilization of the entire package, said channel-defining wall portions of said second tray section being in engagement with said wrapper and tending to support the same above the elevation of such instruments carried by the bottom wall of said second tray section to provide access to such instruments for facilitating admission of a sterilizing atmosphere to the space thereabout.

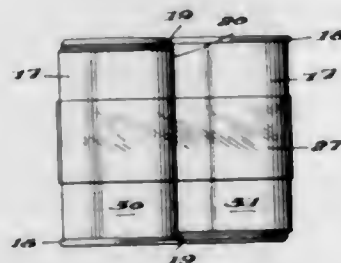
3,343,670

MANUFACTURED ARTICLE

Paul Glenn Stephan, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 9, 1965, Ser. No. 470,676

8 Claims. (Cl. 206-65)



1. A package comprising a plurality of cans, each can thereof having a cylindrical surface terminating at one end with a chime, the other end of said surface being chimeless and terminating with a recessed portion, said cans being so arranged that adjacent cans are inverted relative to each other such that the recessed portion of the surface of one can receives the chime of its adjacent cans, said cans thus being in substantial contact along the length of their cylindrical surface, with said cans being secured into a package form by means of a sleeve of sheet material tightly surrounding said plurality of cans.

3,343,671

CONTAINERS FOR FRAGILE ARTICLES

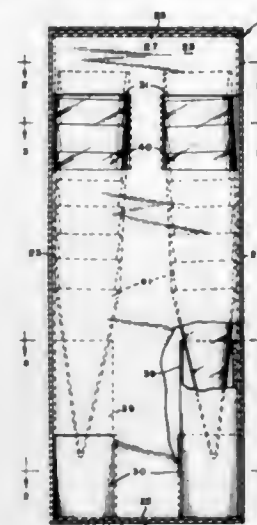
David Weinstein, Baltimore, Md., assignor to Maryland Baking Co., Inc., Baltimore, Md., a corporation of Maryland

Filed Sept. 9, 1965, Ser. No. 486,122

8 Claims. (Cl. 206-65)

1. A container comprising panels forming an enclosure, a tubular liner on the interior of the container, said liner having portions thereof inwardly offset forming loops adapted to hold articles to be packaged, said loops being

disposed in the vicinity of one end of the container and tubular members aligned with said loops, respectively,



said tubular members being secured to the liner at the other end of the container.

3,343,672

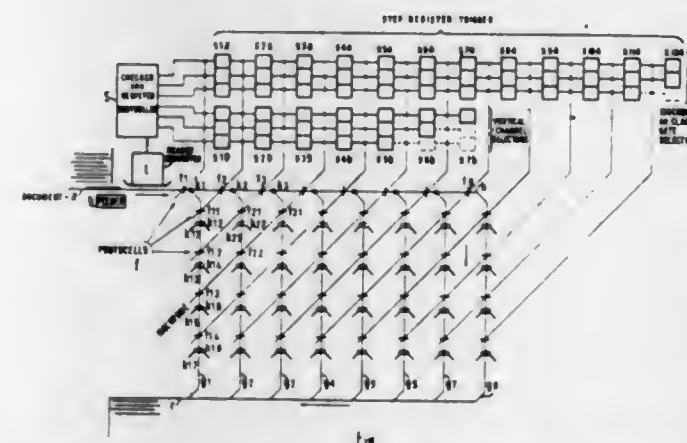
SYSTEM FOR SORTING DOCUMENTS

Hans Jacobus de Vries, Leidschendam, and Arie Adriaan Spanjersberg, Leiderdorp, Netherlands, assignors to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen Telegrafie en Telefonie, The Hague, Netherlands

Filed June 17, 1965, Ser. No. 464,685

Claims priority, application Netherlands, June 26, 1964, 64-7,349

8 Claims. (Cl. 209-74)



1. A device for sorting documents into a plurality of outlets, said device comprising:

- (a) means (b) for feeding the documents one at a time into and through said device,
- (b) means (S) for setting up bits of information in a set of triggers corresponding to said outlets,
- (c) means (f) for detecting the leading edge of each document fed through said device at substantially equal time-distance intervals throughout said device,
- (d) a main (h) and a plurality of branch (g1 through g8) channels from said feeding means for passage of said documents, along which channels said detecting means are relatively evenly distributed and located,
- (e) a step register means (S1a through S12a and S1b through S7b) for said information bits set up in said triggers, which register means is stepped each time a document's leading edge passes one of said detecting means in said channels,
- (f) switch means (k1 through k8) for said documents between said main and each said branch channels, and switch means (k1.1 through k8.8) in said branch channels between each said detecting means for discharging said documents into said outlets,

(g) separate electronic gate means (P8, P9) corresponding to each said switch means and each said information bits, whereby each document is switched into its corresponding outlet when it reaches its said branch channel and its said outlet at its passage through said device, and

(h) timing means (D1, D2, L1 through L8, and L1.1 through L8.4) controlled by said detecting means and said gate means for detecting irregularities in the movements of said documents through said device.

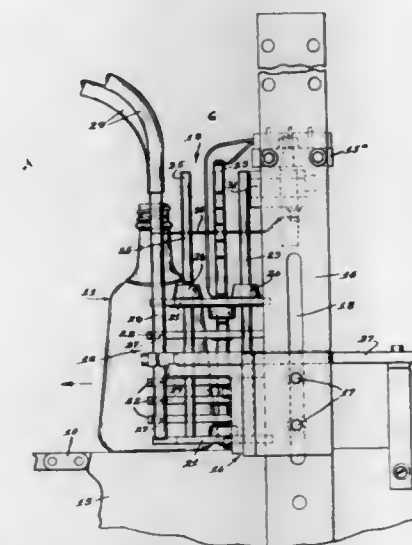
3,343,673

FLASK GAUGES

Clarence H. Thacker and Albert F. Uhlig, Oakland, Calif., assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Aug. 23, 1965, Ser. No. 481,673

13 Claims. (Cl. 209-80)



10. In a gauge for detecting bulged and sunken side panels of bottles advancing upright along a prescribed path with the panels facing opposed sides of the path, a vertical series of pivoted horizontally swingable current conductive feeler fingers at each side of the path, means yieldingly urging one end of each of the fingers into contact with the panels of a bottle moving along said path, a pair of vertical rods at each side of and spaced apart along said path and comprising elements of electric circuitry, each said rod positioned near and for contact one at a time with an end of said fingers, and means operable in response to engagement of a finger with either of the adjacent pair of rods for ejecting a bottle from said path.

3,343,674

FROTH FLOTATION PROCESS AND APPARATUS

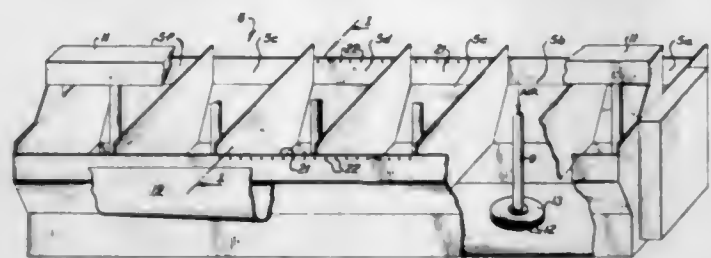
Victor A. Zandon, Carlsbad, N. Mex., J. Stanley Mitchell, Vicksburg, Miss., and Charles W. Abernethy and Milton H. Klein, Carlsbad, N. Mex., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

Filed Feb. 23, 1965, Ser. No. 434,392

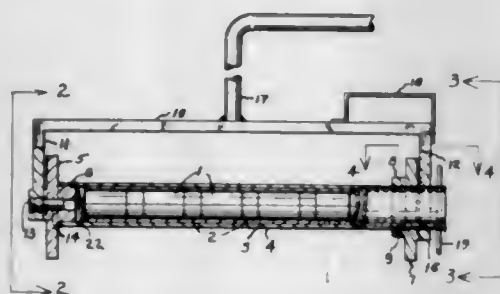
7 Claims. (Cl. 209-166)

1. A froth flotation machine particularly adapted for recovering mineral values of a coarse, intermediate and fine particle size from a liquid pulp containing such values which comprises a bottom wall, end walls and side walls, each of said side walls having an upper portion with a substantially horizontal froth-overflow edge and a liquid pulp-froth interface level which is below said edge and substantially parallel thereto and at least one of said side walls having a plurality of orifices for receiving and carrying coarse particle size mineral values therethrough to a launder, said orifices being substantially horizontally disposed in the upper portion of said wall along said interface level.

6. A process for improving the recovery of coarse particle size sylvite value from sylinite ores in a liquid pulp condition which comprises placing said sylinite in a flotation enclosure having an open top and sides containing overflow edges, producing a froth column containing sylvite values atop the liquid of the liquid pulp and producing a quiescent interface zone containing coarse sylvite particles between the froth column and the liquid, longitudinally moving said liquid in the enclosure and transversely removing sylvite values from the froth column over the overflow edges of the sides of the enclosure without disturbing the quiescence of the interface zone while transversely removing coarse particles contained in the interface zone through orifices located at a level below that at which the sylvite values from the froth column are removed.



3,343,675
MAGNETIC SWEEPERS
Robert W. Budd, 22525 Telegraph,
Southfield, Mich. 48075
Filed Sept. 8, 1965, Ser. No. 485,747
2 Claims. (Cl. 209-215)

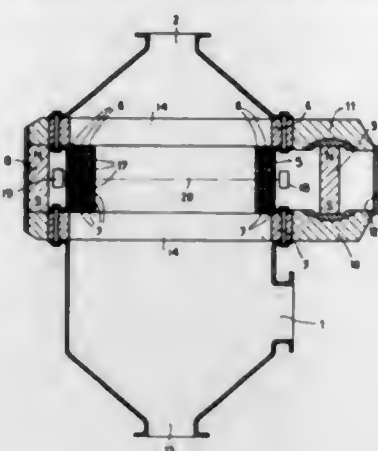


1. An improvement in magnetic sweepers for magnetizable debris, said improvement including, an elongated tubular housing, one or more magnets received in said housing, a first means to elevate said housing to a predetermined height from a surface to be swept, a second means associated with said magnets to afford removal of said magnets as a unit from said housing to release accumulated debris from the effect of the magnetic field, and a third means interconnecting said housing and said second means to resist undesired withdrawal of said magnets from said housing.

3,343,676
MAGNETIC FILTER
Arthur James Tyrrell, Ashted, Surrey, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,544
Claims priority, application Great Britain, Apr. 23, 1964, 16,875/64
11 Claims. (Cl. 210-90)

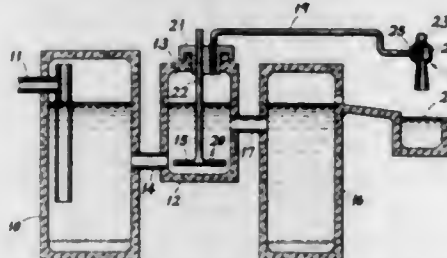
1. A magnetic filter comprising a housing provided with an inlet and an outlet, a first grate-like element of magnetic material having a plurality of parallel-disposed slots therein and positioned across said inlet, a second

grate-like element of magnetic material having a plurality of parallel-disposed slots therein and positioned across said outlet and substantially parallel to the first grate-like element, a plurality of screens located between said first and second grate-like elements and extending in a direction substantially perpendicular to said grate-like elements, each of said screens comprising at least two non-magnetic, spaced supporting strips and a plurality



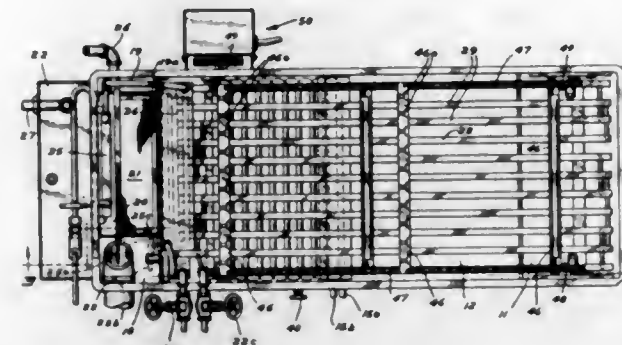
of spaced, parallel magnetic strips mounted on said supporting strips and perpendicular thereto, the spaces between said supporting strips being aligned with the openings in at least some of the grate-like elements, and means for applying a magnetic field between said first and second grate-like elements, said housing being non-magnetic and surrounding said grate-like elements and screens in a water-tight enclosure.

3,343,677
SEWAGE TREATMENT PLANT
Tamotsu Okada, 9 Umegae-cho 1, Gifu, Japan
Filed June 14, 1965, Ser. No. 463,803
6 Claims. (Cl. 210-151)



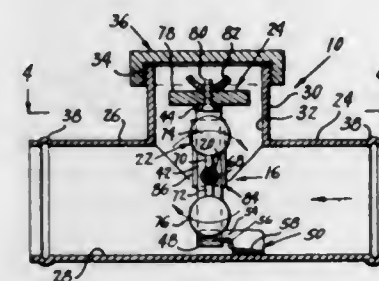
1. A sewage treatment plant comprising a sewage tank adapted to hold raw sewage for a period of time, a hermetically closed aeration chamber means communicating with said sewage tank to receive effluent therefrom, aerator means disposed in said aeration chamber means beneath the surface of said effluent, said aerator means being in communication with the atmosphere, said aeration chamber means having a space between the top thereof and the surface of said effluent therein, a sedimentation chamber means communicating with said aeration chamber means to receive aerated effluent therefrom, said aerated effluent settling in said sedimentation chamber into clarified liquor and activated sludge, overflow means operatively associated with said sedimentation chamber means to expose at least a portion of said clarified liquor to the atmosphere, and jet pump means adapted to be connected to a source of clear high pressure water, said jet pump means including a water discharge nozzle positioned to discharge into said overflow means and a suction conduit communicating with said space in said aeration chamber means, said jet pump means being operative to draw the air from said space to thus cause said aerator means to draw in atmospheric air to aerate said effluent and said jet pump means simultaneously being operative to discharge clear high pressure water into said clarified liquor in said overflow means.

3,343,678
BEESWAX CAPPING SEPARATOR AND MELTER
McFord E. Olson, 5201 Douglas Drive,
Minneapolis, Minn. 55429
Filed June 1, 1964, Ser. No. 371,625
5 Claims. (Cl. 210-182)



1. A beeswax capping separator for recovering honey, beeswax and other products including:
 - (a) a separating tank having a plurality of partitions therein to provide at least a melted honey collection compartment and a melted wax collection compartment and to provide means for segregating the products as they are melted within the tank;
 - (b) a plurality of elongated substantially parallel heating elements mounted in the upper portion of the tank for heating and separating of the capping products as they flow therepast including:
 - (1) a first set of said heating elements arranged in substantially planar relation being connected in series to provide a predetermined heating area to beeswax cappings having inlet means on one end thereof and outlet means on the other end thereof;
 - (2) a second set of heating elements connected in series and arranged in substantially co-planar relation within said first set to provide additional heating area to the beeswax cappings having inlet means on one end thereof and outlet means on the other end thereof;
 - (c) means supplying heat to the first set of said heating elements to melt beeswax cappings supplied thereto;
 - (d) means for selectively connecting the outlet of the first of said heating element sets to the inlet of said second heating element sets to increase the heated area; and
 - (e) communication means for removal of the products from the collecting compartments of the tank.

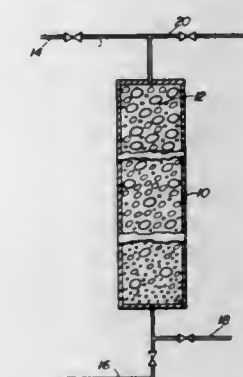
3,343,679
MAGNETIC SEPARATOR
Anthony E. Lavender, 200 N. Main St.,
Terryville, Conn. 06786
Filed Sept. 10, 1965, Ser. No. 486,386
7 Claims. (Cl. 210-222)



1. A magnetic separator comprising a fluid conduit, a frame providing an axis of rotation transverse to said conduit, a balanced magnet means rotatably mounted about

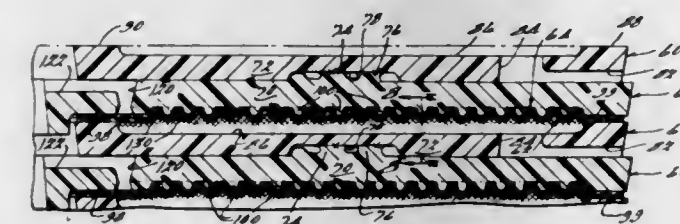
said axis forming an arc of rotation, said magnet means secured to said frame in a plane perpendicular to said axis of rotation spaced from said axis closely adjacent said arc of rotation, said magnet means including a magnet having a shank, an enlarged magnet fixed at each end of said shank and a center of gravity, said center of gravity lying on said axis of rotation.

3,343,680
FILTER AND METHOD OF MAKING SAME
Archie H. Rice and Walter R. Conley, Corvallis, Oreg., assignors to General Services Company, Corvallis, Oreg., a corporation of Oregon
Filed Feb. 17, 1964, Ser. No. 345,204
6 Claims. (Cl. 210-263)



1. A filter for filtration of water comprising: a bed having a continually increasing number of particles per unit area in the direction of water flow through the bed; said particles comprising intermixed filter media of at least three different specific gravities; there being at least five percent by weight of a media of each specific gravity present.

3,343,681
RUPTURE PROOF FILTER ASSEMBLY
Eugene Madden, Detroit, Mich., assignor to Cox Instruments, Division Lynch Corporation, Detroit, Mich., a corporation of Indiana
Filed Nov. 23, 1965, Ser. No. 514,749
15 Claims. (Cl. 210-343)

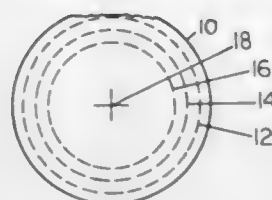


1. In a fluid filter having a fluid inlet and a fluid outlet, filter assembly means for filtering fluid flowing from said inlet to said outlet, said filter assembly comprising a filter medium, and backing means for supporting said filter medium between the inlet and the outlet including a backing plate having an area generally coextensive with said filter medium, said backing plate including a plurality of projections extending from said backing plate toward said filter medium forming grooves in an area between said filter medium and said backing plate, said projections being relatively closely spaced and relatively shallow so that, if the pressure differential across said filter medium becomes sufficiently great, said filter medium will not be self-supporting and will enter said grooves to supportingly seat in said grooves, said filter medium and said backing plate coacting to fully support said filter medium and prevent rupture of said filter medium upon seating in said grooves.

3,343,682

COFFEE FILTER ELEMENT

Erwin Harvith, Southfield, Mich., assignor to Star Filter Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 12, 1966, Ser. No. 586,264
4 Claims. (Cl. 210-477)



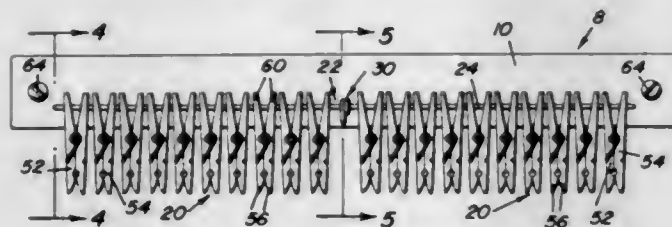
1. A filter element useful in combination with the ground coffee holding basket of coffee making apparatus including coffee percolators having a tubular section extending through the basket and coffee dripulators which do not have a tubular section extending through the basket, said filter element comprising:

- (a) a planar section of a fluid pervious material having a perimeter corresponding to the lower portion of the ground coffee holding basket; and
- (b) a centrally formed incision provided in said planar section, said incision having an arcuate configuration with a diameter generally corresponding to the diameter of the tubular section, so that said filter element may be laid on the bottom of a coffee dripulator basket to substantially cover the entire area thereof, and may also be laid in a coffee percolator with the tubular section extending through the arcuate incision so that the edges of the incision intimately contact the outer surface of the tubular section.

3,343,683

RACK FOR SOCKS

Mary W. Wheeler, 3924 Bay Court Ave.,
Tampa, Fla. 33611
Filed July 29, 1965, Ser. No. 475,781
2 Claims. (Cl. 211-89)



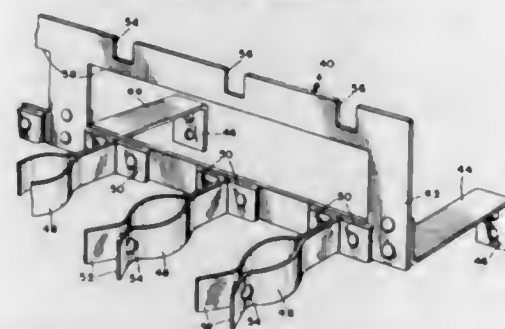
1. A rack for systematically storing, displaying and detachably suspending a plurality of pairs of socks, neckties or similar small articles of apparel for readily viewable selective use comprising, in combination, an elongated flat-faced base panel capable of being superimposed and accessibly mounted on a clothes closet door, wall or similar stationary support surface, a hanger embodying a stout rigid wire rod U-shaped in plan and having lateral end portions disposed at right angles to, affixed to and projecting laterally forwardly from a front face of said base panel and a linearly straight bight portion parallel to and spaced from said base panel, said rod being round in cross-section and providing a support, and a plurality of independent selectively usable clothespins having the capability of detachably clipping and suspending individual pairs of socks, each clothespin comprising a pair of like elongated component parts provided at lower ends thereof with opposed normally closed gripping jaws, at upper ends with opposed normally spread fingergrips and having opposed median portions abutting each other face-to-face and hingedly joined together by coiled spring means acting on and spreading said fingergrips apart and

said jaws together, said fingergrips having substantially round holes aligned with each other, a coating portion of said bight portion passing through said holes, said holes being of a diameter greater than the cross-section of said bight portion in a manner to permit said clothespins to be bodily and shiftably slid along a cooperating median portion at will and to allow the fingergrips to be squeezed toward each other without hindrance and, in so doing, to spread said jaws to open positions, said holes being large enough to slide freely on the bight portion of said wire rod but not big enough to slide around the bent portions at the juncture of the bight and lateral end portions unless the fingergrips are intentionally squeezed together.

3,343,684

SHUFFLEBOARD CUE HANGER

Vincent Q. Galier, 1251 Via Barranca,
San Diego, Calif.
Filed Oct. 21, 1965, Ser. No. 499,168
1 Claim. (Cl. 211-89)

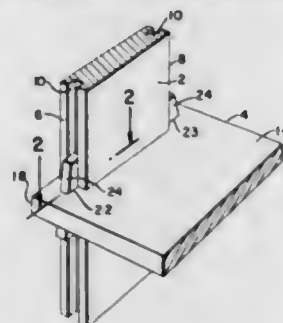


A shuffleboard cue hanger, comprising:
a plurality of resilient open forked clip portions for engaging cue handles;
an upright support member including a notched plate portion extending above and transverse to the forks of the clip portions to receive the yoke elements of cues;
said clip portions being secured to one face of the support member; and
extension brackets secured to the other face of the support member for attachment to a supporting surface.

3,343,685

MODULAR SHELF CONSTRUCTION

Joseph Giambalvo, 1118 Willoughby Ave.,
Brooklyn, N.Y. 11237
Filed Oct. 23, 1965, Ser. No. 503,169
12 Claims. (Cl. 211-148)



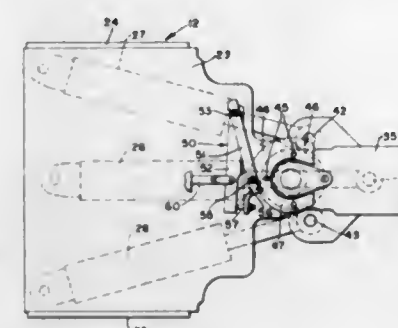
1. An adjustable furniture construction comprised of a vertical and horizontal member, said members being adjustably connectible in perpendicular relation, said vertical member having oppositely directed side edges, said side edges each having a groove provided longitudinally thereof, said horizontal member having upper and lower surfaces and an end edge extending normally between said surfaces, said end edge being partially cut away to provide a recessed portion extending inwardly of said horizontal member, a pair of oppositely disposed grooves within said recessed portion, said grooves extending between said upper and lower surfaces, said ver-

tical member being receivable within the recessed portion of said horizontal member whereby grooves of said respective members are oppositely disposed and in longitudinal alignment, and wedge means, said wedge means being receivable between said oppositely disposed grooves to thereby preclude movement between said vertical and horizontal members.

3,343,686

BOOM-TYPE IMPLEMENT

Arthur Jerome Bjerkan, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 533,080
12 Claims. (Cl. 212-66)



12. On a boom-type implement having a main support and a boom support interconnected for relative movement about an upright axis, the improvement residing in: at least three angularly spaced pivotal connections radially spaced from the axis with two outer connections being on opposite sides of the upright axis and on opposite sides of the third pivotal connection; extensible and retractable hydraulic units carried at one of their ends on the main support and connected at their other ends to the respective pivotal connections with each of the hydraulic units being capable of angularly moving the boom support toward and away from a position in which the radius between the respective pivotal connection and upright axis is close to alignment with the axis of the respective hydraulic unit and the effective lever arm on the respective hydraulic unit and the effective lever arm on the respective pivotal connections are so disposed in relation to their respective hydraulic units that the effective lever arms of the two pivotal connections in relation to their respective hydraulic units increase and decrease substantially in unison and in reverse order to the effective lever arm of the third pivotal connection in respect to its hydraulic unit.

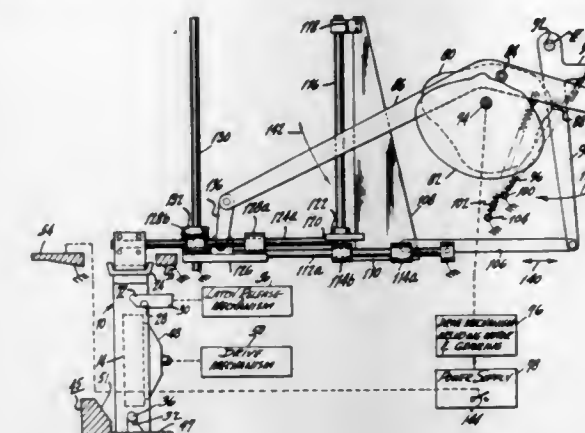
3,343,687

MAGNETIC TAPE CARTRIDGE CHANGING MECHANISM

Ward Deighton, Glen Mills, Pa., and Anthony G. Caprio, Cherry Hill, N.J., assignors to Radlo Corporation of America, a corporation of Delaware
Filed Aug. 4, 1965, Ser. No. 477,134
7 Claims. (Cl. 214-1)

1. In a cartridge changing mechanism for a magnetic tape system, in combination:
a magnetic tape cartridge having a base;
a receiving station for the cartridge having a horizontal base adapted to receive the base of the cartridge and a cam surface which extends at a generally oblique angle from said base; and
means coupled to the cartridge for lowering the cartridge along a straight line first path, onto said cam surface, thereby causing a lower edge of the cartridge to ride along the cam surface until it abuts said base of said receiving station, the cartridge tilting in the process, and for then moving along

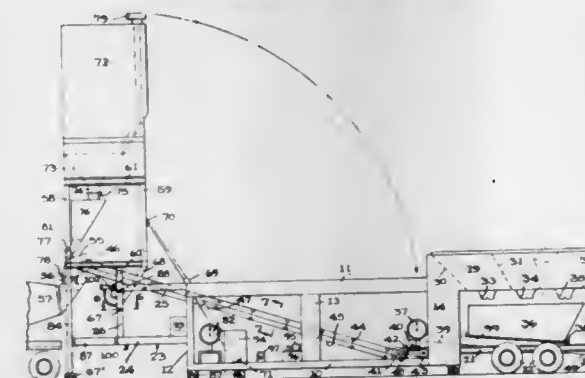
a substantially horizontal path in a direction toward said horizontal base, for pivoting the cartridge about



said lower edge until it is in its upright position on said base of said receiving station.

3,343,688

MOBILE CONCRETE BATCHING UNIT
Arnold Ross, Lakeland, Fla., assignor to Harsco Corporation, Wormleysburg, Pa., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,382
5 Claims. (Cl. 214-2)



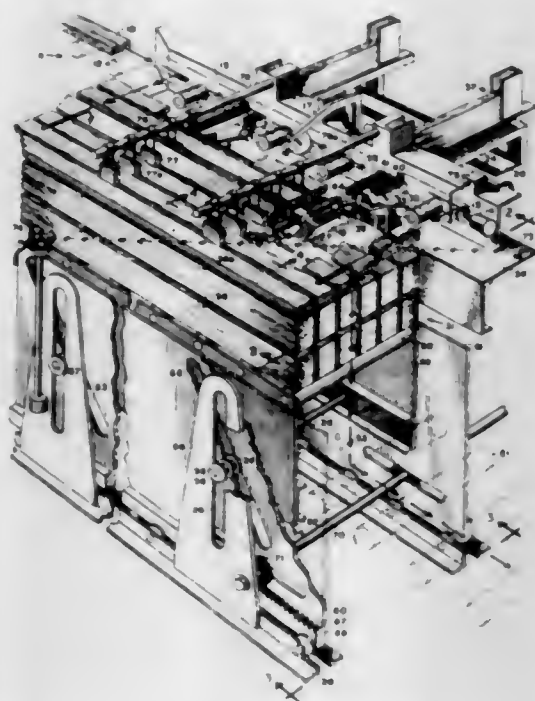
1. A mobile concrete batching plant comprising an elongated rectangular frame, wheels mounted at one end of said frame supporting said end of said unit on the road, means at the other end of said frame for removably connecting said frame to a tractor, aggregate bins mounted on said frame over said wheels, a weigh batcher beneath said bins, a conveyor extending beneath said weigh batcher and extending within and to said other end of said frame, a chute mounted adjacent the top of and on said other end of said frame receiving aggregate from said conveyor for discharge into a concrete mixer, a silo frame pivotally mounted on said other end of said frame and extending within said frame when in lowered position, a cement silo carried by said silo frame, hydraulic piston means extending between said frame and said silo frame for raising said silo frame and said silo to vertical position, means for loading said silo with cement, a cement weigh batcher mounted on said silo frame and receiving cement from said silo and discharge means for said cement weigh batcher discharging cement directly into said chute.

3,343,689

LUMBER PACKAGING UNIT
Glenn D. Fehely, Arcata, Calif., assignor to Lumbermatic, Inc., Arcata, Calif., a corporation of California
Filed Jan. 14, 1965, Ser. No. 425,390
12 Claims. (Cl. 214-6)

1. A packaging unit for boards and the like comprising: a frame; a plurality of horizontal parallel forks mounted for reciprocal movement on said frame between a starting position and a position of maximum advance; a loading station adjacent said forks including means for feed-

ing boards sequentially across the top of said forks; said forks having side walls defining a central channel therebetween; pusher dogs pivotally mounted on said forks within said channel; means for advancing said forks a preselected distance after receiving a board and then stopping said forks, so that a vacant section on said forks is adjacent said loading station; said dogs being spaced along each fork to permit a board to fit therebetween and lying in parallel transverse rows across the several forks; each dog normally positioned with a portion extending above the surface of its fork to engage the trailing edge of an adjacent board that has been fed onto the forks, thereby

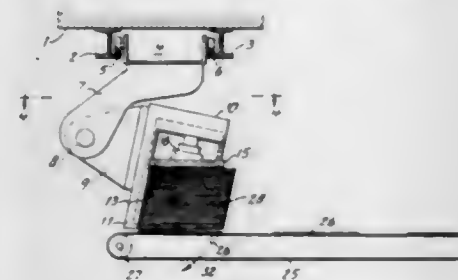


positively advancing the board with the advance of said fork; said pusher dogs being pivotally flush with the surface of said forks by contact with boards during said return movement of said forks; an unloading station adjacent the point of maximum advance of said fork; means for discharging all of the boards so loaded on said forks together at an unloading station while retaining their general relative positions after the forks return from the position of maximum advance.

3,343,690

SYSTEM FOR TRANSPORTING SHEET MATERIAL
George A. Dean, Overland Park, Kans., assignor to Dean Research Corporation, Kansas City, Mo., a corporation of Missouri

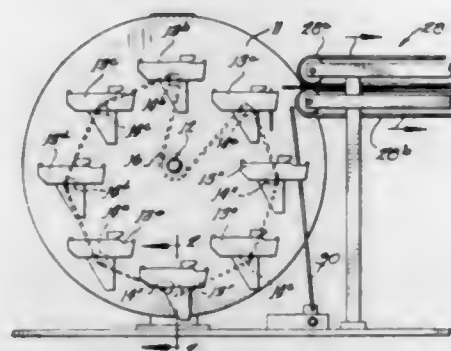
Filed Feb. 14, 1966, Ser. No. 527,175
13 Claims. (Cl. 214-6)



1. Apparatus for transporting sheets comprising a support, a head secured to said support, said head having a recess for the reception of a stack of sheets, a leveling plate in said head adapted to contact the top of said top sheet, a cavity in said head connected to a source of vacuum, the edges of said sheets communicating with said cavity, said vacuum drawing air from between said sheets to maintain said sheets in a stack supported by the head, and means for raising a sheet into said head.

3,343,691
PANEL COUNTING AND SEPARATING APPARATUS
Kenneth Arnold Anderson, Waterford, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Oct. 26, 1964, Ser. No. 406,396
15 Claims. (Cl. 214-7)



1. Panel counting and separating apparatus, comprising a pair of generally horizontal parallel arms having first portions for receiving and supporting uncounted panels and second portions for supporting counted panels in their vertical positions, a lever pivotally mounted on said arms, said apparatus having a projection that normally extends above the arms to separate the two portions thereof and which is pivoted through a prescribed arc when a panel is moved from the first portions of the arms into engagement with and past the projection to the second portions of the arms, a ratchet wheel mounted on the apparatus for rotational movement relative thereto in a prescribed direction and having a plurality of teeth corresponding to a prescribed number of panels to be counted, a pawl pivotally mounted on the lever for drivingly engaging a tooth on the ratchet wheel each time the lever is pivoted through the prescribed arc to steppingly advance the ratchet wheel, a spring secured between the pawl and the lever for causing the lever to be returned to its normal position subsequent to the passage of a panel, a cam member associated with the ratchet wheel and movable through its total travel during each complete rotation of the ratchet wheel, a separator pivotally mounted on the apparatus for movement between separating and nonseparating positions, and separator control means mounted on the apparatus which is normally maintained in a position whereat the separator may thereby be maintained in the nonseparating position and which moves to a second position when the cam member reaches a prescribed position in its total travel indicative of a prescribed number of panels having been counted to cause the separator to be pivotally moved to the separating position so that subsequently counted panels are separated from the panels already counted, the separator control means returning to its normal position subsequent to the cam member reaching the prescribed position in its total travel, the separator being adapted to be moved, subsequent to the removal of the counted and separated panels, to the nonseparating position whereat it is maintained by the separator control means.

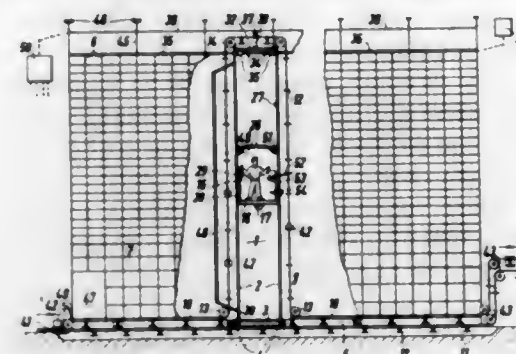
3,343,692

MATERIALS HANDLING INSTALLATIONS
Alfred Erwin Reginald Arnot, The Bell House, Basingstoke, England

Filed Dec. 7, 1964, Ser. No. 416,657
7 Claims. (Cl. 214-16.4)

1. An order-picking installation comprising storage racking, guide means disposed longitudinally parallel to said racking and constraining a vehicle comprising a vertical structure and a load-handling carriage vertically movable in the structure, drive means operable to drive

the vehicle along the guide means, conveyor means disposed longitudinally in the path of the vehicle and comprising a series of load carriers that pass continuously over said structure such that a load can be raised on a



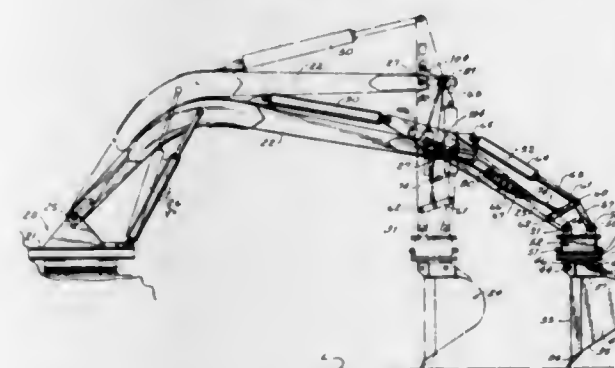
first side of the structure and lowered on a second side of the structure, means to transfer a load between a load carrier and the load-handling carriage, and means to transfer a load between the load-handling carriage and the storage racking.

3,343,693

BUCKET CONTROL MECHANISM FOR POWER SHOVELS

Carl P. Becker, 931 St. Andrews Drive, Sarasota, Fla. 33580

Filed Dec. 23, 1965, Ser. No. 515,955
15 Claims. (Cl. 214-138)



1. A power shovel comprising a boom, a dipper stick pivoted to said boom, a bucket, pivot means pivotally attaching said bucket to said dipper stick for movement of said bucket about an axis normal to the plane in which said dipper stick swings, means for shifting said bucket about said pivot axis in response to a change in the angle between said dipper stick and said boom and comprising a motor for moving said bucket about said pivot means, and control means for said motor operative in response to a change in angle between said dipper stick and said boom.

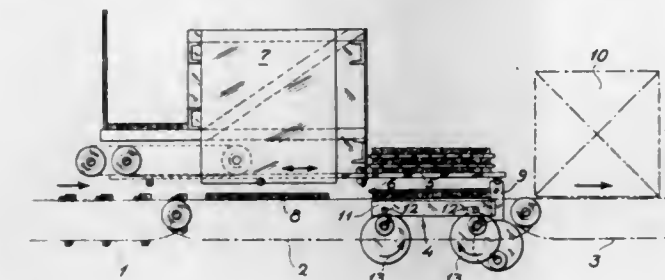
3,343,694

METHOD FOR COMPOSING A TIMBER PACKET
Viljo Tuomas Kurki, Kaukas, Finland, assignor to Oy Kaukas Ab, Kaukas, Finland, a corporation

Filed Oct. 15, 1964, Ser. No. 403,984
Claims priority, application Sweden, Oct. 15, 1963, 11,301/63
2 Claims. (Cl. 214-152)

1. A method of forming a timber packet which includes transverse intermediate slabs between layers formed by the timber pieces proper, which comprises the following steps in the order named: forming a completed layer of at least three side by side elongated timber pieces proper, dropping transverse intermediate elongated slabs upon the completed timber layer transverse to the timber pieces at a first zone thereby to form

a first unit composed of the timber layer and the intermediate transverse slabs superimposed thereupon, conveying said first unit with the timber piece lengths at right angles to the direction of travel and the slab lengths parallel to the direction of travel to a second, unit assembling zone, raising the first unit at such zone, and supporting the first unit in its raised position from its underside by supports disposed at a fixed vertical position, forming a second unit in the same manner as the first unit, conveying the second unit beneath the raised



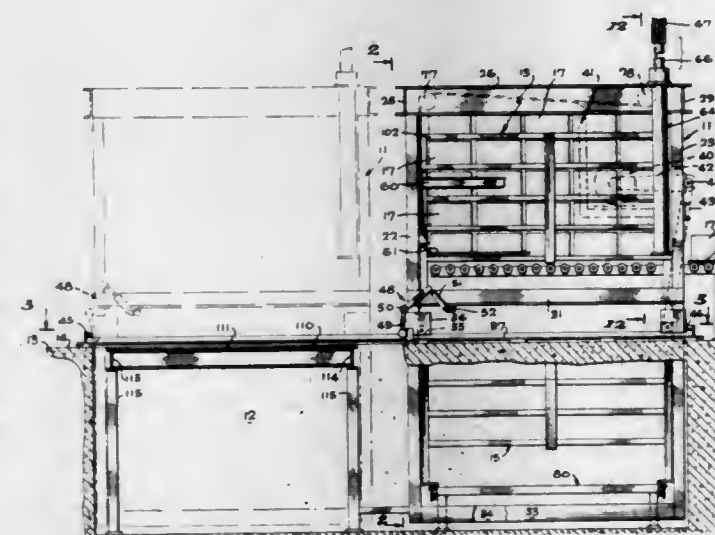
first unit at the unit assembling zone, raising the second unit into contact with the underside of the first unit so that the weight of the first unit is borne by the second unit, supporting the first and second units at the unit assembling zone from the underside of the second unit by said supports, withdrawing the supports laterally from beneath the underside of a completed packet to the level at which the layers of timber of other units are formed, and transporting the completed thus formed packet away from the unit assembling zone.

3,343,695

BLOCK LOADING AND UNLOADING APPARATUS

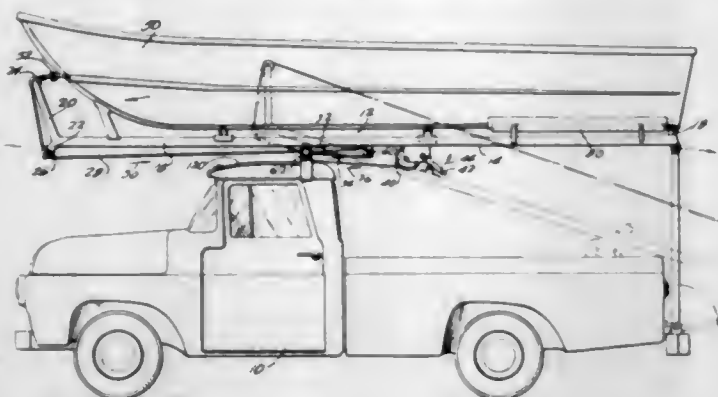
Charles W. Howe, 27265 Santa Charita Ave., Saugus, Calif. 91350

Filed Apr. 12, 1965, Ser. No. 447,467
8 Claims. (Cl. 214-164)



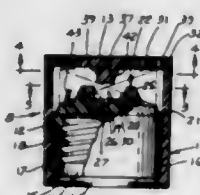
3. In a machine for handling concrete blocks, a cage mounted for limited horizontal movement from a first position to a second position, a pair of vertically movable, powered, rack support means carried by the cage for independently supporting and moving a pair of racks within the cage in parallel relation, and a rack transfer means extending transversely of the direction of movement of the cage for supporting and moving a rack deposited by one of said rack support means in one position of said cage to a position where said rack can be picked up by the other of said rack support means in the same position of said cage.

3,343,696
SELF-LOADING BOAT CARRIER
 Wayne K. Morrison, 1334 Grand Ave.,
 Oroville, Calif. 95965
 Filed Oct. 20, 1965, Ser. No. 498,348
 5 Claims. (Cl. 214—450)



1. A self-loading boat carrier comprising a Y-frame having a hinge at the upper free ends of the Y-frame and opposing extension arms at the other ends thereof, a pulley mounted on one of the opposing extension arms, a pair of hinged posts one end of which is adapted to be hingedly mounted from a frame portion of the automobile or truck, and the other end connected to the free ends of the Y-frame, a winch and crank arm mounted from said Y-frame, a series of keel rollers mounted along the mid-portion of said Y-frame, and a roof-mounted pulley mechanism for the Y-frame to engage in rolling contact, a boat snubbing post being disposed on the lower portion of said Y-frame, and said roof-mounted pulley mechanism being clamped upon the roof of said automobile or truck by a set of web straps to anchor it thereto, said roof-mounted pulley mechanism having a pulley being centrally mounted on said roof and in alignment with said pulleys of said opposing extension arms and said winch so that a cable provided on said winch and said pulleys is reeled therebetween.

3,343,697
SAFETY CLOSURE
 Simon Roberts, 20177 McIntyre, Detroit, Mich. 48219,
 and Joseph D. Rankin, Jr., 532 Harrison, Rochester,
 Mich. 48063
 Filed Nov. 30, 1966, Ser. No. 598,100
 28 Claims. (Cl. 215—9)

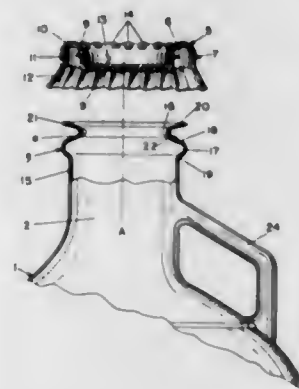


1. A safety cap for a container, comprising:
- (a) an inner cap member provided with means for sealing engagement with a container;
 - (b) an outer cap member telescopically mounted over said inner cap member and normally rotatable independently thereof and movable longitudinally thereof;
 - (c) self-releasable, torque limiting, drive clutch mechanism for connecting said cap members together for self-releasable positive drive action for rotation of the inner cap member when the outer cap member is rotated in one direction to remove the safety cap from a container, and for torque limiting, self-releasable drive action for rotation of the inner cap member

when the outer cap member is rotated in another direction to attach the safety cap to the container, and including:

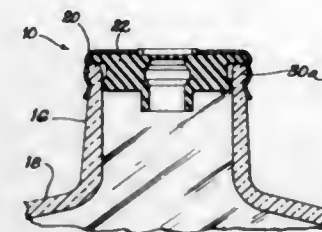
- (1) multiple clutch driven means on one of said cap members, and
- (2) multiple clutch drive means on the other of said cap members for selective engagement with said clutch driven means; and,
- (d) generally circular spring means mounted between said cap members and located outboard of and surrounding said multiple clutch driven and drive means for normally biasing the clutch drive and driven means apart to inoperative positions to allow independent rotation of the outer cap member relative to the inner cap member.

3,343,698
PLASTIC CONTAINER CONSTRUCTION
 Russell H. Anderson, Hartsdale, and John P. Campanelli,
 Bethpage, N.Y., assignors to Haskon, Inc., Long Island
 City, N.Y., a corporation of Delaware
 Filed May 16, 1966, Ser. No. 550,485
 3 Claims. (Cl. 215—31)



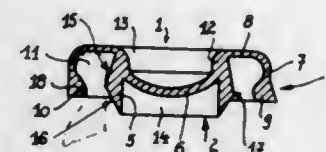
1. A semi-rigid plastic container having a neck and a finish comprising an integral extension of said neck, which finish has an opening defining the mouth of the container and is adapted to receive a closure having a plug portion for closing the mouth and a cover portion for covering the end of the finish, said finish comprising a plug-receiving wall about the mouth and having an inner surface adapted to cooperate in sealing engagement with the plug portion of the closure and an outer surface opposite from said inner surface, a shoulder circumferentially of the finish between said plug-receiving wall and said neck and extending radially outwardly relative to the axis of the opening, and a flange defining a pouring lip extending radially outwardly from said plug-receiving wall at the end of said wall opposite from said shoulder and terminating in a peripheral edge having a diameter substantially equal to the maximum diameter of said shoulder, said flange being substantially normal to the axis of the opening and cooperating with said shoulder and said plug-receiving wall to define an outwardly-open groove, said flange and said shoulder being arranged at substantially equal angles to and diverging in opposite directions outwardly from a plane centrally of said groove and normal to the axis of the opening, said container being blow-molded by fluid pressure applied at said inner surface of said plug-receiving wall whereby said outer surface of said plug-receiving wall and the corresponding surfaces of said flange and said shoulder are deformed and the inner surface of said plug-receiving wall and the corresponding surfaces of said flange and said shoulder are characterized by smoothly-drawn blow-molded features, and whereby the thickness of said flange and said shoulder are reduced relative to the thickness of said plug-receiving wall.

3,343,699
COMBINATION CAP AND TAPPING PLUG FOR SPOUTS, BOTTLES OR THE LIKE
 Stanley Nicko, Chicago, Ill., assignor to Flake Ice Machines, Inc., Chicago, Ill., a corporation of Illinois
 Filed Feb. 9, 1966, Ser. No. 526,224
 1 Claim. (Cl. 215—38)



A closure for a can, bottle or other container, said closure comprising the combination of a sheet metal cap having a disc-shaped top wall and an annular skirt projecting downwardly from the periphery of said top wall, said skirt having a crimped lower portion for securing the cap to the neck of the container, a soft resilient plug mounted in said cap and engaging the underside of said top wall, said plug having an outwardly projecting annular sealing flange engaging the underside of said top wall adjacent said skirt and adapted to form a seal with the upper end of the neck of the container, said plug having a downwardly projecting stopper portion adapted to form a seal with the inside of the neck of the container, said stopper portion being of smaller diameter than said skirt, said plug having a central diaphragm adapted to be penetrated by a tapping pipe or the like, said central diaphragm being of reduced thickness, said stopper portion having a cylindrical opening therein below said diaphragm for tightly receiving and gripping the tapping pipe, said top wall of said cap having a central opening affording access to said diaphragm, said plug having an upwardly projecting annular flange extending around said diaphragm and received in said opening in said cap for guiding the tapping pipe through the diaphragm, and a layer of adhesive between the upper side of said plug and the lower side of said stopper for securing said plug to said cap.

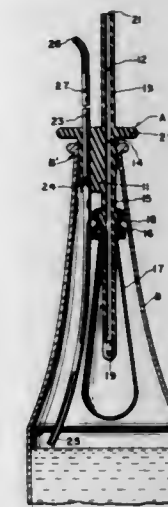
3,343,700
BOTTLE STOPPER
 Walter Heubl, Wolfgangstrasse 89,
 Augsburg, Germany
 Filed Nov. 5, 1964, Ser. No. 409,326
 Claims priority, application Germany, Nov. 7, 1963,
 H 50,774
 5 Claims. (Cl. 215—41)



1. A bottle closure comprising a stopper unitarily formed of a synthetic resin and consisting essentially of an outer annular wall portion provided with an inner bead and adapted to be forced over the mouth of a bottle whereby said bead underlies a bead of the bottle, a central tubular generally cylindrical stopper portion hingedly connected with said wall portion at the top of said stopper portion and receivable in the mouth of the bottle, and a

downwardly convex diaphragm-like partition spanning the interior of said stopper portion and integral therewith at a level below the region at which said stopper portion is connected to said wall portion, said stopper portion extending axially downwardly beyond said level and bulging annularly outwardly from said top down with progressively increasing wall thickness to a zone of maximum girth and thickness confronting said inner bead at an intermediate location just below said level, application of upward pressure to said partition deflecting the bulge of the stopper portion resiliently outwardly against the inner wall of the mouth of the bottle.

3,343,701
SEALING AND EXHAUSTING DEVICE FOR CONTAINERS
 Frank D. Mahoney, 68 Mulberry Lane,
 Atherton, Calif. 94025
 Filed July 14, 1965, Ser. No. 471,843
 6 Claims. (Cl. 215—52)

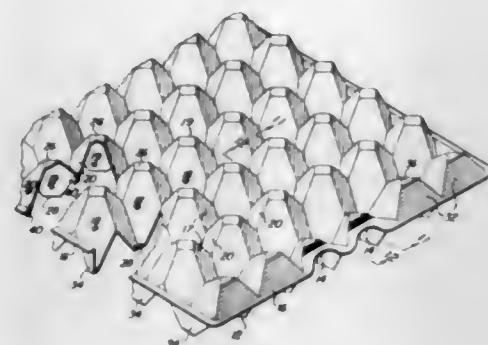


1. A vessel sealing and exhausting apparatus comprising: a main body adapted for location in an aperture in the vessel; means defining a passageway from the portion of said body at the exterior of said vessel to a portion of said body within said vessel when said body is located in said aperture; an expansible bulb; means for sealing said bulb to said body in direct communication with said passageway and located within said vessel when said body is located in said aperture; and an exhaust tube slidably extending through said body at a location spaced from said passageway with the portion of said tube extending within the vessel beyond said body being open only at the inner end thereof and slidable to place said inner end at a position within said vessel beyond the location at which said expansible bulb contacts the walls of said vessel upon expansion.

3,343,702
SPRING CUSHION EGG FLAT
 Ammon M. Leitzel, Portland, Oreg., assignor, by mesne assignments, to Keyes Fibre Company, Waterville, Maine, a corporation of Maine
 Filed Dec. 14, 1964, Ser. No. 417,900
 7 Claims. (Cl. 217—26.5)

1. In combination, a plurality of like egg flats adapted to be placed one on top of the other with each upper egg flat being supported directly by the egg flat immediately therebelow, each egg flat being provided with upwardly facing sockets for receiving eggs, the upwardly facing sockets having substantially horizontal bottoms and planar walls defining with the bottoms downwardly directed posts for supporting the egg flat and eggs therein,

each egg flat also being provided with downwardly facing sockets having substantially horizontal tops for fitting over eggs nested in the upwardly facing sockets of the egg flat immediately therebelow, the downwardly facing sockets having tops adapted to engage the bottoms of the upwardly facing sockets of the egg flat immediately thereabove and having planar walls defining with the tops upwardly directed posts adapted to be engaged by and support the downwardly directed posts of the egg flat immediately thereabove,

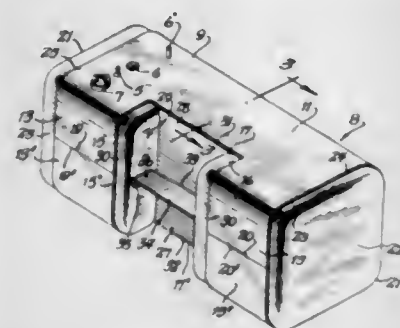


the walls of the downwardly directed sockets forming continuations of and lying in the same planes as the walls of the upwardly directed sockets and all of the walls of each of the sockets extending from the top of the downwardly directed socket to the bottom of the upwardly directed socket and being resilient and of a spacing and slope sufficient to space all points of contact between eggs in the upwardly directed sockets of each egg flat above all the points of contact with the walls of the downwardly directed sockets thereof of eggs in the egg flat immediately therebelow.

3,343,703

TANK CONSTRUCTION

Gerald J. Snyder, 7213 Old Lakeshore Road,
Lake View, N.Y. 14085
Filed Jan. 18, 1965, Ser. No. 426,046
14 Claims. (Cl. 220-1)



1. A liquid tank comprising an upper body section, a lower body section secured to said upper body section in fluid tight relationship, first and second end sections secured to said upper and lower body sections in fluid tight relationship, a first cut away section in said upper body section, a second cut away section in said lower body section, first edge portions defining said first cut away section, second edge portions defining said second cut away section, said first and second cut away sections being located in contiguous relationship to each other, and an insert portion secured to said first and second edge portions in fluid tight relationship, said insert portion providing an indentation within said tank.

3,343,704
ELECTRICAL OUTLET BOX
Bobby L. Terry, 843 Zachry Drive,
San Antonio, Tex. 78228

Substituted for abandoned application Ser. No. 272,629,
Apr. 12, 1963. This application Oct. 11, 1965, Ser. No.
500,470

5 Claims. (Cl. 220-3.4)

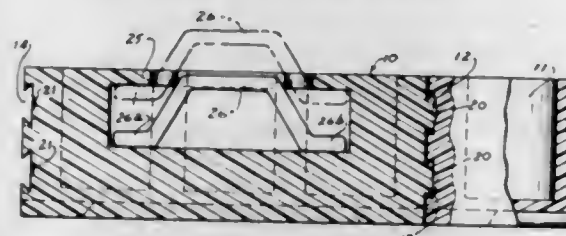


5. An electrical outlet box to be inserted in a poured concrete floor comprising an integrally formed casing consisting of a base, a junction box and a vertically extending cylindrical member of uniform inside diameter, a receptacle holder consisting of an annular plate with first and second downwardly depending and diametrically oppositely positioned projections integral with said plate, a cylindrical sleeve positioned radially outwardly of said projections, a horizontally extending female threaded portion in each of said first and second projections, said sleeve including diametrically aligned bearing portions corresponding to the positions of the female threaded portions in said projections, a screw threadingly inserted into each female threaded portion in said first and second projections and terminating in a reduced smooth shank portion received in the respective aligned bearing portions in the sleeve whereby the said sleeve may pivot relative to the annular plate and the annular plate of said receptacle holder may be adjusted to a position wherein its top surface is parallel to the top surface of the poured concrete, said sleeve being inserted in the cylindrical member in tight fitting relationship therewith.

3,343,705

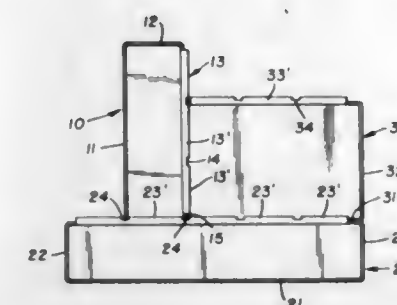
DIVISIBLE CARRYING CASE

Gerald Erickson, 69 Brand Ave.,
Huntington, N.Y. 11743
Filed Feb. 18, 1966, Ser. No. 534,943
5 Claims. (Cl. 220-23.4)



1. A sectional carrying case which can be moved horizontally from one support to another at substantially the same level into interlocking relationship with another sectional carrying case to make up a composite carrying case, said sectional carrying case comprising a base, upstanding side walls cooperating with the base to define an interior chamber, alternately spaced tongue and groove formations extending horizontally at least part way across the exterior of at least one of the side walls, the tongue and groove formations extending horizontally from the exterior and being slidably engageable endwise with complementary mating tongue and groove formations carried by another wall to permit the carrying case to be detachably connected to the other wall, and means carried on said side wall cooperating with complementary means of another sectional carrying case for limiting the horizontal movement of the sectional carrying case with said other sectional carrying case and releasably locking the two in proper side-by-side relation.

3,343,706
MULTIPLE SIZE DRAWER DIVIDER
CONSTRUCTION
Peter M. Berend, Wooster, Ohio, assignor to Rubbermaid
Incorporated, Wooster, Ohio, a corporation of Ohio
Filed June 30, 1966, Ser. No. 561,801
4 Claims. (Cl. 220-23.4)

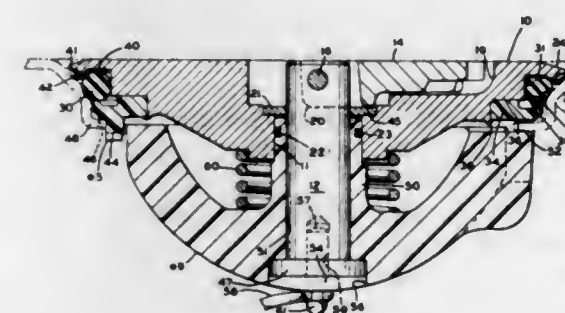


1. Multiple size drawer divider compartments each being at least one unit wide and at least two units long and having notched downturned flanges on one side edge only for engaging over unflanged edges or like units, said notches dividing said flanges into equal portions each slightly less than one unit in length, and said notches on one compartment being adapted to span the edges of another like compartment at right angles to said one compartment when one or more of said flange portions engages over the adjacent parallel edge of said other compartment.

3,343,707

CLOSURE CAP FOR FUEL TANKS

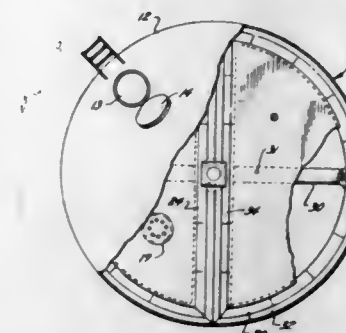
Chester C. De Pew, Farmingdale, N.Y., and Anthony J.
Bacewicz, Hartford, Conn., assignors to Chester Corpo-
ration, Wilton, Conn.
Filed Oct. 22, 1965, Ser. No. 501,628
13 Claims. (Cl. 220-25)



1. A filler cap assembly for a fuel tank fitted with an adapter to receive the assembly in secured relation and including a removable filler cap whose outer rim is closely spaced from the adapter ring, a resilient fluid sealing ring below said rim, a retaining ring of insulating material below the resilient ring for retaining the latter, and an electrical baffle seal ring above the resilient ring, a pressure plate of insulating material rotatably carried below said filler cap and formed with lugs which underlie the adapter ring when the assembly is closed.

3,343,708
FLOATABLE SEAL FOR PILLAR
SUPPORTED TANKS

Milford F. Haas, Brooklyn, N.Y., assignor to Mayflower
Vapor Seal Corporation, Little Ferry, N.J., a corpora-
tion of New Jersey
Filed May 22, 1961, Ser. No. 123,332
8 Claims. (Cl. 220-26)



1. A collapsible floating seal assembly for positioning within an enclosed tank having one or more supporting pillars for the roof section of the tank, the assembly being constructed for disposition upon the surface of readily vaporizable liquid within the tank, the assembly comprising a plurality of separate units, each unit being capable of separate handling and having an effective area of less than the total area of the liquid surface, all of the units, when positioned on the liquid surface, floating thereon and fitting together to cover substantially the entire liquid surface, each unit having edge portions to fit to the tank walls and edge portions to conform to adjacent edge portions of other of the units, certain of said edge portions being shaped to conform to the transverse cross-section of a supporting pillar, each separate unit having inflatable pontoon elements extending about the edge portions at the periphery of that separate unit, means for forcing pontoon elements of the units, when all of the units are positioned in the tank, into engagement with each other to cooperate to form a substantially continuous peripheral pontoon member conforming to the contouring of the tank walls and other immediately adjacent pontoon elements of other of the units, and edge portions at a supporting pillar engaging thereagainst, deformable cushioning members carried by the pontoon elements for direct engagement with the tank walls, and with each other at other of the edge portions of the units, and a substantially imperforate body portion for each unit extending between the pontoon elements of that unit, and all cooperating to seal against the passage of vapor from the liquid past the assembly.

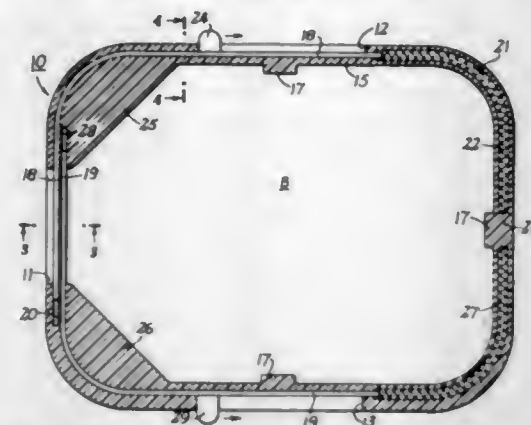
3,343,709

SAFETY CLOSURE

Edward Henderson, 220 Central Park S.,
New York, N.Y. 10019
Filed Mar. 24, 1967, Ser. No. 625,719
7 Claims. (Cl. 220-41)

1. Safety closure for a container for tablets, pills or the like, wherein the container wall has a discharge opening and a slot spaced from each end thereof, said closure including two gates for controlling said discharge opening, each being slidable independently of the other toward and from operative position across said opening and each having a knob projecting through one of said slots to facilitate manual actuation of said gate and to limit the extent of endwise movement thereof in the slot, each of said gates being biased to extend across and thus to automatically close said discharge opening and normally retain the same in closed condition, and gate guiding channels in the container wall having spaced parallel end portions disposed in mutually overlapping relation opposite to and coextensive with said discharge opening and each of said gates being mounted in one

of said channels whereby said end portion of one or the other of said gates is normally conditioned to extend

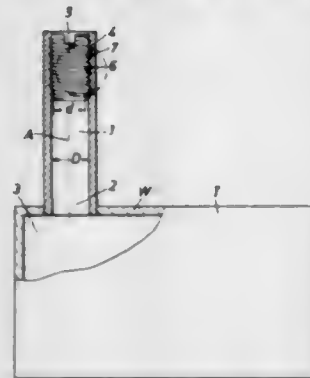


across and thus to close said opening which thereby normally remains closed unless both gates are held in retracted open position at the same time.

3,343,710

VENTING ARRANGEMENT, ESPECIALLY FOR TANKS

Anton Wehle, Stuttgart, and Dietmar Mierzwa, Klein-Heppach, Germany, assignors to Andreas Stihl Maschinenfabrik, Neustadt, Waiblingen, Germany
Filed Nov. 27, 1964, Ser. No. 414,190
Claims priority, application Germany, Nov. 29, 1963, St 16,522
4 Claims. (Cl. 220-44)



1. In combination with a fuel tank having a top wall, especially for use in connection with portable internal combustion engines: a tubular member having one end portion connected to the top wall of said tank and having its interior in communication with the interior of said tank, at least the other end portion of said tubular member being of yieldable elastic material and normally having an inner smooth surface for receiving a closure member, and a closure member arranged in said other end portion of said tubular member and provided with a peripheral thread, the core diameter of said thread being less than the smallest inner diameter of said tubular member at said other end portion, and the outer diameter of said thread being at least slightly greater than the smallest inner diameter of said tubular member so that the inner wall of said other end portion of said tubular member only partially enters said thread and thereby together with adjacent inner wall surface portions of said tubular member forms a helical venting passage leading from the inner end of said thread to the atmosphere.

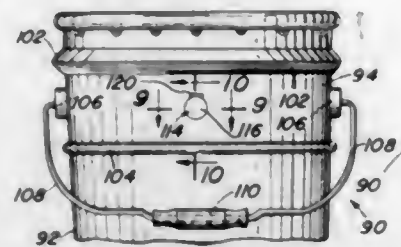
3,343,711

PLASTIC CONTAINERS

Alva J. Godshalk, Homewood, Ill., assignor to Bennett Industries Inc., Peotone, Ill., a corporation of Illinois
Filed Aug. 4, 1965, Ser. No. 479,687
11 Claims. (Cl. 220-73)

1. A reinforced container comprising:
an open end plastic pail having a downwardly facing bead adjacent the open end thereof;

a cylindrical supporting collar formed of a material substantially more rigid than the plastic and having a downwardly facing bead along the upper edge thereof, the said collar being positioned externally of the plastic pail and adjacent the open end thereof so that the bead of the collar is received within the bead of the plastic pail;

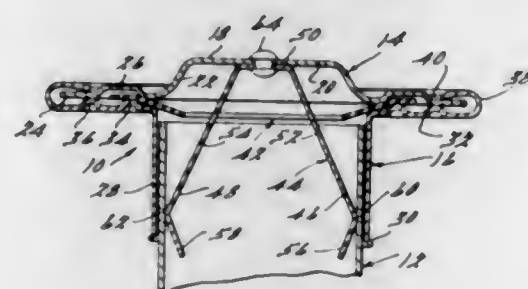


at least one opening formed in the supporting collar; a corresponding number of protuberances formed on the plastic pail and extending through aligned openings in the supporting collar; and interlocking means for positively locking each protuberance in its corresponding opening, whereby the collar serves to support and reinforce the plastic pail.

3,343,712

CAP

Ervin C. Lentz, Jackson, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,367
3 Claims. (Cl. 220-46)



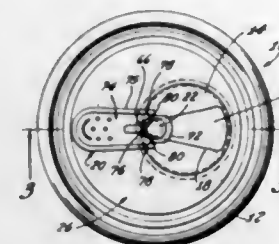
1. In a cap construction for sealing one end of a thin-walled tubular member,
a first body member comprising a central cup-shaped section and a first radially outwardly extending flange section,
said cup-shaped section defining a circular medial portion and a radially outwardly and downwardly projecting side portion,
said first flange section defining an upwardly projecting embossed portion,
a second body member comprising a cylindrical support section and a second radially outwardly extending flange section,
said support section defining an annulus with the outer periphery of the tubular member,
said second flange section defining at least one upwardly projecting ridge engageable with the lower surface of said first flange section,
said second flange section including a rim portion bent upwardly and radially inwardly around the outer peripheral edge of said first flange section whereby to secure said first and second body members together,
a flat annular sealing ring having a medial portion interposed between said embossed portion and said ridge and an inner peripheral section engageable with one end of the tubular member,
said sealing ring having a first area exposed to said annulus and a second area exposed to the interior of the tubular member,

said first and second areas being substantially unequal whereby said inner peripheral section of said ring is sealingly engaged with said one end of the tubular member.

3,343,713

EASY OPENING CAN END

Ermal C. Frazee, 355 W. Stroop Road, Dayton, Ohio 45429
Filed Jan. 29, 1965, Ser. No. 429,063
8 Claims. (Cl. 220-54)

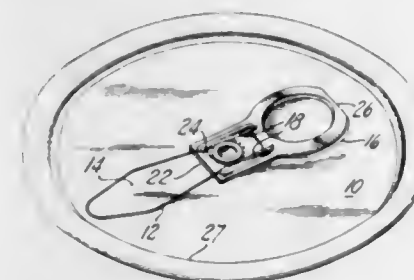


1. In a container:
a container wall segment constructed of strong sheet material and having an opening therein;
a panel of relatively soft material covering said opening;
portions of said container wall segment and said panel being curled radially one within the other to form a continuous seam in the interior of the container extending continuously and completely around said panel to securely interlock and seal said panel to said container wall segment;
a line of weakness in said panel defining a tear strip; and
tab means secured to said tear strip on the exterior of the container to initiate severance thereof from said panel.

3,343,714

FASTENER FOR CAN TOPS

Charles P. Cardani, South Hamilton, and Raymond L. Peterson, Beverly Farms, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 18, 1965, Ser. No. 433,646
3 Claims. (Cl. 220-54)

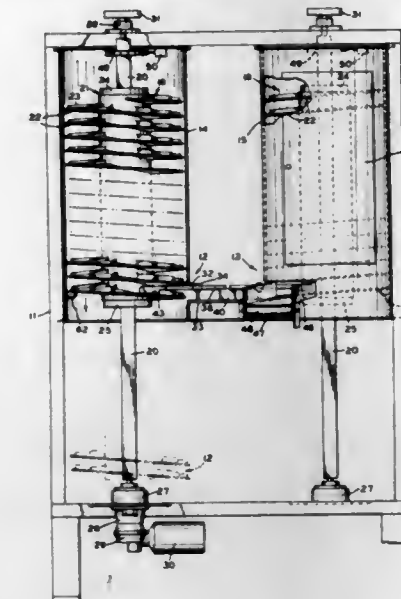


1. An easy open can top of generally uniform thickness having a removable portion defined at least in part by a score line and a tool secured to the removable portion and adapted to being manipulated for initiating tearing along the score line and for progressively removing the portion, in combination with a tubular rivet upstanding from the removable portion and integral with the outer surface of the can top and open at its upper end, a flange around the open end of the rivet securing the tool to the removable portion and inside the base of the rivet a wall having a thickness less than that of the remainder of the can top.

3,343,715

HELIX BUN DISPENSER

James H. Edwards, Newtown, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 7, 1965, Ser. No. 485,317
7 Claims. (Cl. 221-13)

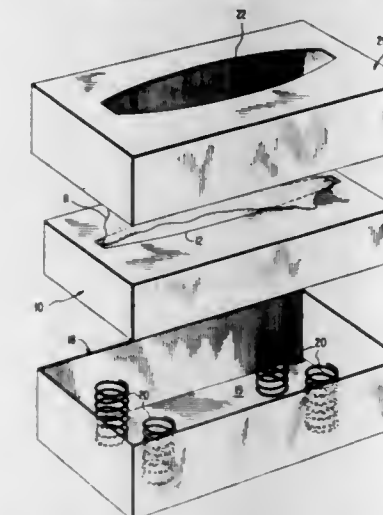


1. An apparatus for automatically dispensing individually items comprising in combination: a vertically mounted storage compartment; a vertically mounted helical element rotatably mounted in said compartment and arranged to store items to be dispensed on the flights of said element; means to incrementally rotate and axially translate said element; a dispensing station at the base of said compartment to receive an item on said element as said element rotates and axially translates; means to sense the presence of an item at said station; transfer means for removing an item delivered to said station and to dispense it; and electrically interconnected means to actuate said transfer means and to activate said element rotating means after said transfer means has removed an item previously positioned at said station.

3,343,716

DISPENSERS FOR FACIAL TISSUES AND THE LIKE

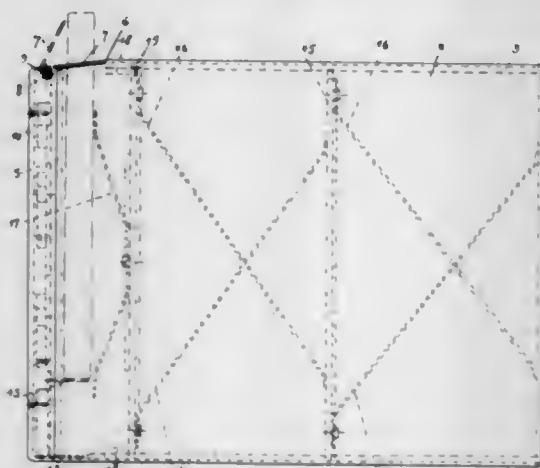
David Meade Peebles, 325 Marcy Ave., Oxon Hill, Md. 20021
Filed Mar. 22, 1966, Ser. No. 536,341
4 Claims. (Cl. 221-46)



1. A dispenser for facial tissues or the like comprising in combination an interior tissue box containing a stack of tissues to be dispensed and having at least one bottom wall opening, upper and lower vertically telescoping dispenser body sections enclosing the tissue box and together constituting an exterior box-like dispenser body,

the lower dispenser body section adapted to rest on a level supporting surface, and at least one upstanding element on the bottom wall of the lower dispenser body section projecting through said opening in the bottom wall of the tissue box, the top of the upstanding element bearing against the bottom of the tissue stack and continually biasing the stack upwardly into contact with the top wall of the tissue box and also maintaining contact between the top walls of the tissue box and upper dispenser body section as the tissue stack is diminished from the top thereof, the top walls of the tissue box and upper dispenser body section having registering slots through which the tissues are withdrawn, the tissue box and tissues being bodily supported within the dispenser body solely by the upstanding element.

3,343,717
COMPARTMENTED CIGARETTE CASE
WITH EJECTORS
Raymond Leclercq, Georges Leclercq, and Denise Leclercq, all of 184 Blvd. Zenobe Gramme, Herstal lez-Liege, Belgium
Filed Mar. 18, 1965, Ser. No. 440,695
2 Claims. (Cl. 221-124)

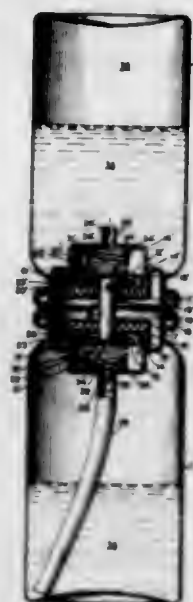


1. A cigarette case comprising in combination, a central longitudinally extending frame, plates slidable on each side of said frame, said plates serving as covers and forming with said frame a pair of cigarette receiving compartments, means in the forward portion of said frame for lifting cigarettes, said means comprising a pair of pivoted levers disposed one above the other, the extreme portions of said levers extending outward of said case, a pair of lifting plates, one in each of said compartments, said lifting plates being coupled directly to the other ends of said respective levers, and delivery opening means through which the cigarettes are lifted.

3,343,718
METHOD OF FORMING AND DISPENSING
AEROSOL DISPENSIBLE POLYMERIZABLE
COMPOSITIONS
Jerome J. Siegel and Seymour Leavitt, Lincolnwood, Ill., assignors to Capitol Packaging Co., a corporation of Illinois
Filed Apr. 6, 1965, Ser. No. 446,125
12 Claims. (Cl. 222-1)

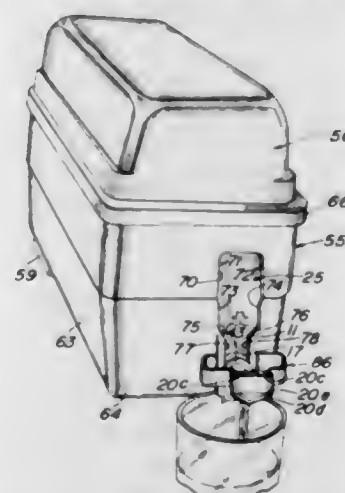
8. The method of aerosol dispensing of polymerizable materials which comprises initially establishing two separate systems at least one of which is under pressure generated by volatile propellant, said systems each being adapted for controlled egress of liquid therefrom at a single point, said controlled egress of liquid of one system having associated therewith a flow director and said controlled egress of the other system being adapted for the dual purpose of egress and ingress of liquid into its system, one system comprising polymerizable material and the other system comprising polymerization

promoter in amounts which provide after mixing a predetermined period for polymerization during which a viscosity of less than 30 seconds as measured by a No. 4 Ford Cup will be attained, maintaining one of said systems at a relatively low pressure, bringing the systems together and discharging the contents of the system held under higher pressure through a continuous communication path formed when the flow director simultaneously



engages and opens said liquid egress controllers of both pressurized systems into the other system whereby a composite composition is obtained, breaking the continuous communication path after transfer of at least part of the contents of the higher pressure system at the point of liquid egress control in the system containing composite composition and dispensing the composite composition during the predetermined period prior to development of a viscosity in excess of said 30 seconds under the pressure of propellant developed in the accumulator system.

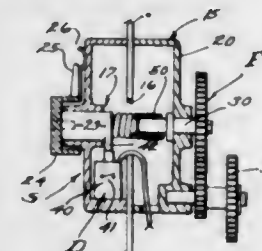
3,343,719
METHOD AND APPARATUS FOR DISTRIBUTING
AND DISPENSING LIQUID PRODUCTS
James L. Kastamo, Zion, Richard N. Means, Lake Bluff, Leslie Barr, Glenview, Efre M. Ostrowsky, Highland Park, and Aaron R. Best, Wheeling, Ill., assignors to Nibot Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 20, 1965, Ser. No. 498,355
9 Claims. (Cl. 222-1)



1. Apparatus for distributing and dispensing a fluid product, comprising: a pair of flexible, synthetic, organic, plastic film tubes disposed axially, one inside the other, with the walls of said tubes at one end thereof sealed together in liquid-tight fashion; a carrying handle disposed between and sealed to the walls of said tubes at a second

end thereof, thereby to provide a flexible, double-walled, generally-pillow-shaped, liquid-tight flexible bag with said carrying handle on one end thereof; a dispensing valve body mounted upon and sealed in liquid-tight fashion upon the wall of the outer one of said tubes; and a movable valve member co-operating with said valve body to open and close the same for selectively dispensing from the interior of said bag the fluid contents which may be contained therein, said flexible bag being adapted to contain a fluid product both during shipment and transportation thereof and during the dispensing of said product at a consumer location.

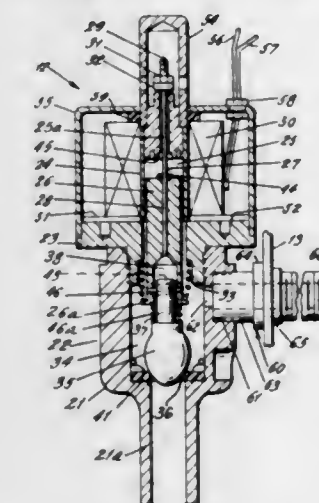
3,343,720
LIQUID DISPENSING QUANTITY SELECTOR
William R. Barry, Mission Hills, Calif.
(12657 Darla Ave., Granada Hills, Calif. 91342)
Filed July 6, 1965, Ser. No. 469,582
7 Claims. (Cl. 222-20)



1. A liquid dispensing quantity selector for a meter controlled pump unit having a quantity register and a nozzle valve adapted to be tripped to a closed position, and including:

- (a) a manually settable quantity preselecting means mounted adjacent said register;
- (b) a quantity following means mounted to and driven with said register;
- (c) an overriding coupling means connecting the first two mentioned means for free advancement of the first mentioned means and driving retraction thereof;
- (d) and a quantity determining means responsive to retraction of the first mentioned means from the manually set position to a null position and thereat to trip said valve to a closed position.

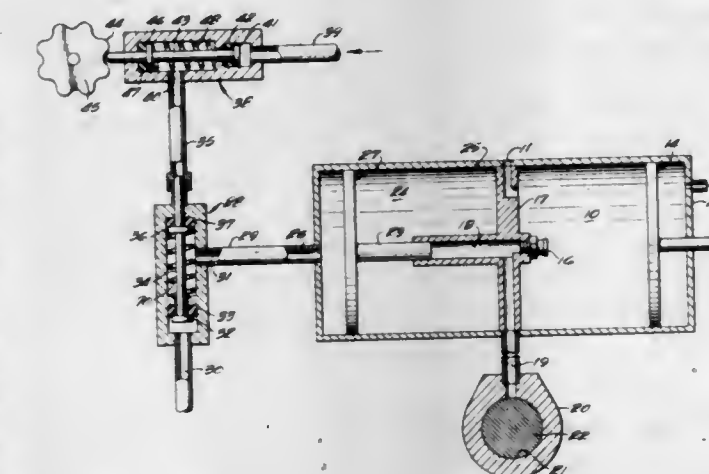
3,343,721
DISPENSING DEVICE FOR LIQUIDS
Warren D. Paley, 45 Walters Place, Great Neck, N.Y. 11023
Filed July 2, 1965, Ser. No. 469,097
20 Claims. (Cl. 222-70)



1. A valve means comprising a hollow body defining a chamber having an entrance, a first exit and a second exit, a solenoid including an operating coil and an arma-

ture movable in response to energization of said coil; said entrance being continuously open to said chamber; so long as said first exit is open, said chamber providing a direct open passage between said entrance and said first exit to the exterior of said valve means; first and second means secured to said armature for operation thereby; biasing means normally maintaining said first exit closed by said first means and normally maintaining said second exit closed by said second means; energization of said coil being effective to move said armature through a stroke during which said first and second means operate in sequence to open said second exit, then open said first exit while said second exit remains open and thereafter close said second exit while said first exit remains open.

3,343,722
AUTOMATIC INJECTING DEVICE
Ernest W. Santos, Belleville, Ohio
(378 Best St., San Leandro, Calif. 94577)
Filed July 14, 1965, Ser. No. 471,887
16 Claims. (Cl. 222-70)



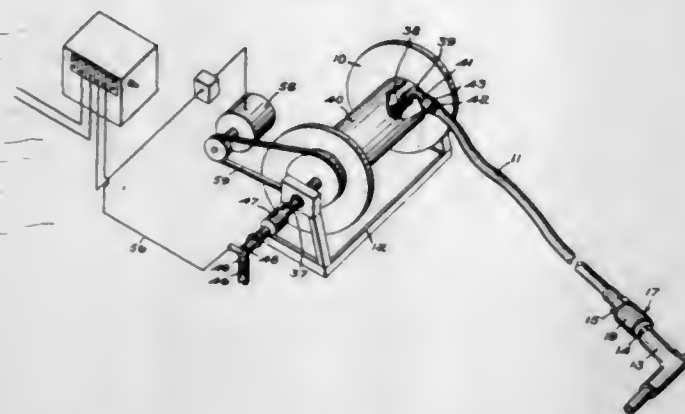
1. A device for automatically injecting into a receptor in fluid communication therewith a selected measured quantity of a selected fluid at selected intervals of time by the automatic periodic development in said device of a pressure greater than the pressure in said receptor, said device comprising: a cylinder having a uniform diameter substantially throughout its length and having a partition intermediate its ends and providing:

- (1) a reservoir in which to store said selected fluid, said reservoir being provided in one end of said cylinder and being provided with an inlet port formed in said partition through which to supply said selected fluid to said device;
- (2) a chamber of selected volume provided in a hollow cylindrical extension of said partition positioned concentrically in said cylinder and being in fluid communication with said reservoir and in fluid communication with said receptor;
- (3) means for automatically refilling said chamber from said reservoir each time said chamber is emptied;
- (4) control means; and
- (5) pressure increasing means periodically actuable by said control means to increase the pressure on said fluid in said chamber and to effect the ejection of said fluid from said chamber said pressure increasing means including a cylindrical piston positioned in said hollow cylindrical extension and also concentric in said cylinder.

3,343,723 NOZZLE SWITCHES FOR FLUID DELIVERY SYSTEMS

William D. Richards, 167 Holliston St.,
Medway, Mass. 02053

Original application Nov. 4, 1963, Ser. No. 321,161, now
Patent No. 3,277,254, dated Oct. 4, 1966. Divided and
this application June 23, 1966, Ser. No. 559,935
2 Claims. (Cl. 222-75)

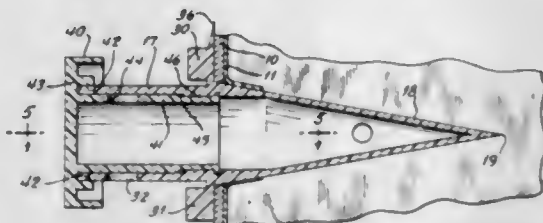


1. In fuel oil or like delivery apparatus, a reel, a hose including a nozzle and wound on said reel, a conduit axially of said reel and including a swivel at one end and externally of the drum and a connection with said hose at the other end thereof, and a lead including a portion extending from end-to-end of said hose and including a switch attached to said nozzle, a portion externally of said reel, and a connection between said portions including a stationary tubular portion extending along said conduit, a rotatable rod part extending along said conduit through said swivel and connected to said lead portion contained within said hose, and a coil spring lodged within said tubular portion with the rod extending within it and frictionally engaged thereby.

3,343,724 TAP FOR A CONTAINER INCLUDING A PROBE AND A VALVE ASSEMBLY

Charles Henry Malpas, Newton, Geelong, Victoria,
Australia, assignor to American Flange & Manufacturing Co. Inc., New York, N.Y., a company of Delaware

Filed Aug. 2, 1965, Ser. No. 476,548
1 Claim. (Cl. 222-90)



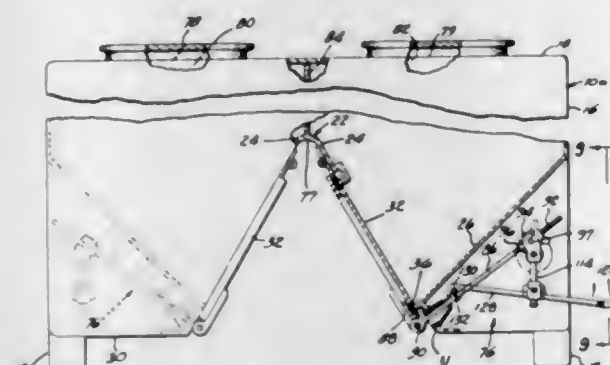
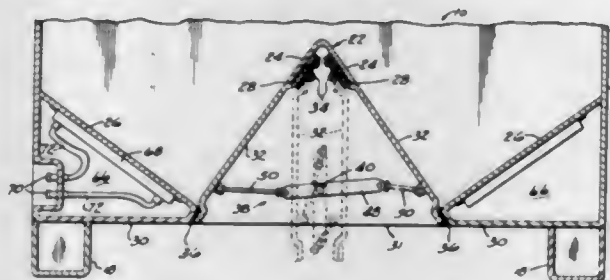
In a tap for insertion into a container wall, the combination of a probe member and a valve member, said probe member comprising a hollow cylinder molded of synthetic plastic resin having an inner end formed into a closed conical portion and an open outer end, an inlet opening adjacent said inner end communicating with the interior of said probe member, a lateral discharge opening adjacent said outer end of said probe member, a radially outwardly extending collar surrounding said probe and positioned between said openings, securing means extending radially outwardly from said probe positioned between said collar and said inlet opening, said collar and said securing means adapted to cooperatively engage and tightly compress the peripheral portion of a container wall opening therebetween so as to prevent axial and rotational movement of said probe relative to the container wall during actuation of said valve member, said valve member

comprising a hollow cylinder formed of synthetic plastic material having an open inner end and a closed outer end and telescopically and rotatably received within said probe member, a discharge opening in said valve member positioned in alignment with said probe discharge opening so as to be rotatable into communication therewith, an axially inwardly facing groove including and outer wall surrounding the outer end of said valve member, for telescopically and rotatably receiving the outer end of said probe member, gripping means extending outwardly of said outer wall, said outer end of said probe member having a recessed portion providing circumferentially spaced apart axially inwardly extending shoulder portions, a stop member extending across said groove for selectively engaging said shoulder portions upon rotation of said valve member to position said valve member discharge opening in or out of alignment with said probe discharge opening and interengaging gasketing means formed along the outer cylindrical surface of the inner end portion of said valve member and the interior cylindrical surface of said probe member to prevent inadvertent axial displacement of said valve member relative to said probe member.

3,343,725 BOTTOM DISCHARGE BIN

Robert B. Cannon, Northport, N.Y., assignor to Hoover Ball and Bearing Company, Salline, Mich., a corporation of Michigan

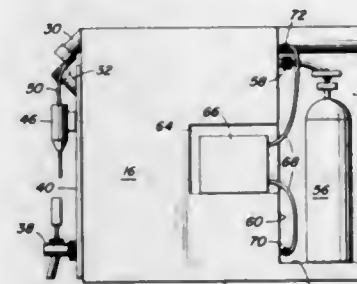
Filed June 9, 1965, Ser. No. 462,646
7 Claims. (Cl. 222-129)



1. A bin for transporting and storing bulk flowable material, said bin comprising an upright hollow body having side walls, a substantially rectangular floor and depending legs disposed substantially at the corners of said floor, said floor having a central opening of substantially rectangular shape, a bottom wall section of substantially inverted V-shape disposed above said opening, a pair of horizontally spaced bin discharge openings in said bottom wall section at the lower end thereof extending substantially the fully length of said section in a horizontal direction, a pair of door members hinged at their upper ends on said wall section above said discharge openings for movement between positions opening and closing said discharge openings, each door member in the closed position thereof being positioned so that the weight of bulk material in said bin urges said door

3,343,726 BEVERAGE MIXER AND DISPENSER

Charles R. Johannsmeyer, Springville, Iowa 52336
Filed Oct. 24, 1965, Ser. No. 504,318
5 Claims. (Cl. 222-129.1)

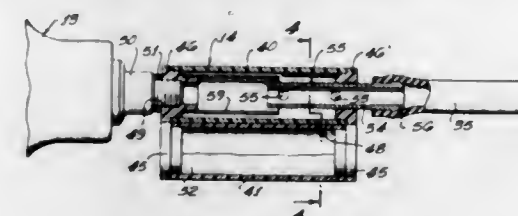


1. A beverage dispenser and mixer comprising, a closable fluid container that is substantially airtight when closed, means for introducing liquid into said container, means for introducing and supplying pressurized gas into said container, pump means for continuously recirculating gas in said container through the liquid in said container, said pump means having its inlet communicating with the interior of said container at a point above the maximum liquid level and its discharge connected so as to communicate with the liquid in said container near its lowest level, and means for dispensing the liquid from the container.

3. A method of producing carbonated liquid of a desired concentration comprising: introducing liquid into an enclosed, fluid tight container; filling the container less than completely full of liquid to provide a space above the liquid; introducing carbon dioxide gas into said container; maintaining a predetermined pressure greater than atmospheric within said container; and continuously recirculating said gas through said liquid by withdrawing gas from said space and introducing it into said container near the lowest level of said liquid until the desired concentration is attained.

3,343,727 GARMENT MARKING DEVICE

Romaine M. Ohlin, 409 1/2 S. Alhambra, Calif. 91801
Original application Dec. 10, 1962, Ser. No. 243,336, now
Patent No. 3,210,849, dated Oct. 12, 1965. Divided and
this application Dec. 23, 1964, Ser. No. 451,082
6 Claims. (Cl. 222-193)

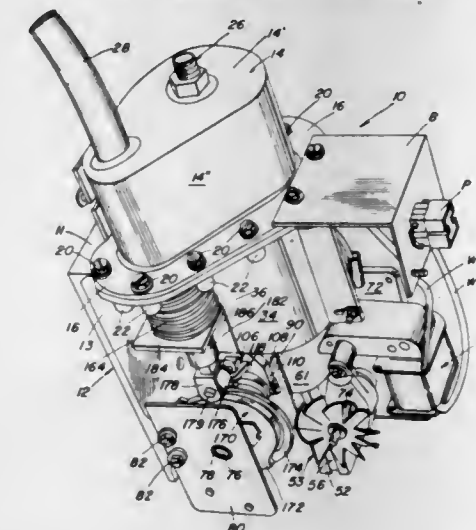


1. A nonrefillable powder container and dispensing device for use with a garment marker, said device comprising a housing for fine powder, partition means di-

viding the interior thereof into a powder storage chamber and a powder dispensing chamber, said dispensing chamber having an air inlet opening adapted to be connected to a squeeze bulb and an air and powder outlet adapted to be connected to a garment marking device, said dispensing chamber having a pair of tubular members therein of different diameters, each having one end thereof connected to a respective one of said inlet and outlets and their other ends in aligned telescopic relationship, said partition having a small port for releasing a small quantity of powder from said storage chamber into said dispensing chamber, and said telescoped ends being sufficiently spaced apart so that when a stream of air is conducted through said tubular members, a portion of the air will escape between their telescoped ends to create a cloud of powder in said dispensing chamber for entrainment into said stream of air.

3,343,728 METERING PUMP

Frank Daniel Brill, Norridge, Roy A. Johnson, Chicago, Frederick A. Ackermann, Berwyn, and Carl Biagi, Berkeley, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 13, 1965, Ser. No. 447,670
14 Claims. (Cl. 222-309)



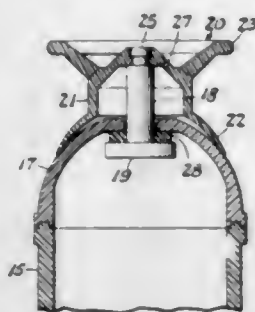
5. A device for pumping predetermined metered volumes of liquid comprising:
means defining a pumping chamber having an inlet and an outlet, the liquid fed to the pumping chamber through the inlet being propelled solely by the force of gravity;
reciprocally movable piston means for altering the effective volume of the pumping chamber to discharge the liquid therein;
piston driving means for reciprocating the piston means;
valve means in association with the chamber inlet for governing the flow of liquid through the inlet; and
cam means in association with the piston driving means for controlling the opening and closing of the valve means in such a manner that a predetermined volume of liquid in the pumping chamber is discharged through the inlet, whereby the volume of liquid pumpable from the pumping chamber through the outlet is metered.

3,343,729 FLUID PRESSURE DISPENSING CONTAINER WITH VALVE ACTUATED BY NOZZLE

Joseph M. Rait, 95 Huxley Drive, Snyder, N.Y. 14226
Filed Nov. 4, 1966, Ser. No. 592,133
7 Claims. (Cl. 222-402.21)

1. In a dispensing closure structure for pressurized containers, a container wall having an aperture and an outer surface portion surrounding said aperture, an op-

erating member having a medial shank portion extending through said aperture with a valving formation at its inner end and a skirt formation at its outer end, said shank and said aperture being proportioned to permit free angular tilting movement of said shank in said aperture, said skirt formation being of resilient material, the marginal edges of said skirt being in slidable abutment with said container wall outer surface and the more central portions of said skirt being normally spaced from said surface whereby an eccentric portion of said skirt inwardly of said marginal edges may be depressed against the



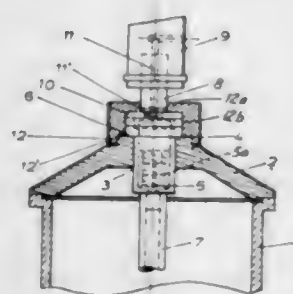
resilient resistance of the material thereof, to displace said shank portion angularly and tilt said valving formation by flexure of said skirt with said marginal edges of said skirt slidable radially on said container wall outer surface to permit relatively free flexure of said skirt formation, said valve being normally biased outwardly toward an inner portion of said container wall by the resiliency of said skirt formation to seal the pressurized contents of said container, and discharge passage means leading from the interior of said container wall to the exterior of said dispensing closure structure.

3,343,730 PRESSURIZED CONTAINER, MORE PARTICULARLY SPRAY CAN

Erich Arthur Nier and Richard Ernst Nier, Bleidenstadt, Germany, assignors to Nirona-Werke Nier & Ehmer KG, Bleidenstadt, Taunus, Germany

Filed Oct. 21, 1965, Ser. No. 499,298
Claims priority, application Germany, May 12, 1965, N 26,703

5 Claims. (Cl. 222-402.24)

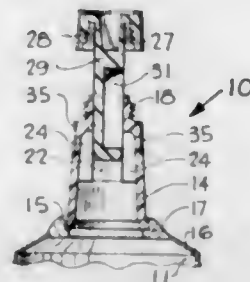


1. In a pressurized container of material to be dispensed, the flow of which material is controlled by valve elements in a valve head mounted in the head of container, the improvement comprising: said container head being made of plastic and defining an opening through which said valve head extends, said container head defining an external shoulder, said valve head having an annular shoulder abutting an inner portion of said external shoulder immediately about the opening, and a retaining cap having an internal cavity in which the annular shoulder is received, said cap defining an annular face about said cavity which face abuts the portion of said external shoulder outside of said valve head annular shoulder, said cap being affixed to said container head.

3,343,731 COLLAPSIBLE TUBE CLOSURES

Stanley Wonso, 9940 S. Crawford Ave., Oak Lawn, Ill. 60453

Filed Aug. 18, 1966, Ser. No. 573,345
9 Claims. (Cl. 222-519)



1. A closure for a collapsible tube or other container, comprising a neck affixed to a collapsible tube and a cap mounted for limited reciprocation toward and away from said neck and threadingly engaging the neck to seal the tube, said neck having a central cylindrical passage there-through, a pair of oppositely disposed longitudinally extending slots opening into the central passage and terminating short of the upper end of the neck, and a third slot in the neck defining a flexible tab extending into the central passage in said neck between the opposed slots, and said cap including a depending plunger having a pair of oppositely disposed notches adjacent its lower end, either of said notches adapted to cooperate with said tab to limit longitudinal movement of the plunger in the cylindrical passage, and an elongated longitudinally extending slot opening along one side of the plunger and adapted to be aligned with one of said opposed slots in the neck for the passage therethrough and dispensing of a limited quantity of the contents of the tube, the upper end of the slot in the plunger being exposed above the neck when the cap and plunger are withdrawn to dispensing position as limited by the flexible tab cooperating with a notch on the plunger, said neck terminating at the juncture with the collapsible tube and said plunger in retracted position being wholly within the neck so that the interior of the collapsible tube is free from the neck and plunger depending therein.

3,343,732 HOSIERY FORM

John W. Glaze, Jr., Charlotte, N.C., assignor to Auto-board Corporation, Charlotte, N.C., a corporation of North Carolina

Filed Nov. 18, 1964, Ser. No. 412,095
8 Claims. (Cl. 223-75)

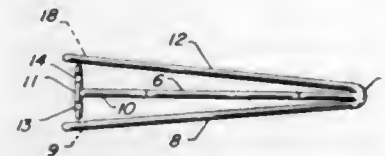


1. A form for holding hosiery and the like for processing comprising a body dimensioned to be inserted into hosiery to shape the same, a channel member having a base fixed to one side of said body and having opposite inturred portions extending from the base to define a recess, and gripping material in the recess spaced below said inturred portions to engage and hold hosiery in set position on the body when a portion of the hosiery is depressed into said recess.

3,343,733 GARMENT HANGER

Fred C. Schmednecht, 39 Dover Drive, Des Plaines, Ill. 60018

Filed Jan. 3, 1966, Ser. No. 518,200
6 Claims. (Cl. 223-95)

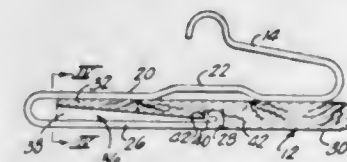


1. A stirrup pants hanger which comprises:
a neck portion;
a suspension element upwardly extending from said neck portion;
a downwardly sloping shoulder extending from said neck portion;
two horizontal arms each connected at one end to and extending from a common point on said shoulder, and having a length of from about 0.5 to about 6 inches, each horizontal arm to support a stirrup of a pant leg;
a downward sloping arm extending at one end from the neck portion; and
holding bracket means connected to the other end of the downward sloping arm to separately engage the other end of each horizontal arm forming a closed hanger loop to lock each stirrup therein.

3,343,734 GARMENT HANGER

Henry H. Merriman, 751 W. Washington St., Jackson, Mich. 49201

Filed Mar. 14, 1966, Ser. No. 534,184
8 Claims. (Cl. 223-96)



1. A garment hanger comprising, in combination, a supporting portion, a horizontal elongated first portion extending from said supporting portion defining a first surface, a horizontal elongated equalizing bar portion having a second surface defined thereon, said equalizing bar portion including spaced end portions and a central portion disposed between said end portions, one of said end portions being unobstructed and freely accessible, and cantilever supported resilient biasing means supporting said equalizing bar portion in vertical alignment with respect to said horizontal elongated first portion whereby said first and second surfaces are related in an opposed relationship to hold a garment therebetween, said resilient biasing means supportingly engaging said equalizing bar portion only at said central portion and supporting said equalizing bar portion for angular movement relative to said first portion and biasing said equalizing bar portion toward said first portion for holding a garment between said first and second surfaces.

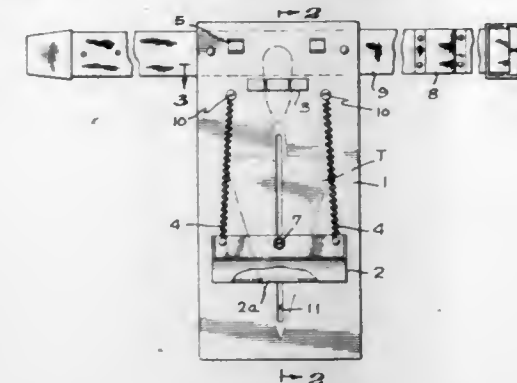
3,343,735 TROWEL HOLSTER

Donald C. Breeding and Mary Lou Breeding, both of 19500 Lull, Reseda, Calif. 91335

Filed June 1, 1965, Ser. No. 460,600
1 Claim. (Cl. 226-2.6)

A trowel holster comprising a back plate, means to attach the upper part of the plate to a person's waist-belt, an outwardly open spring clip mounted on and extending out from the upper part of the plate, a slot

extending longitudinally of the plate, a cup mounted for vertical movement along the slot; means to restrain the cup for movement along the slot, an opening in the bottom of the cup, spring means connected to the

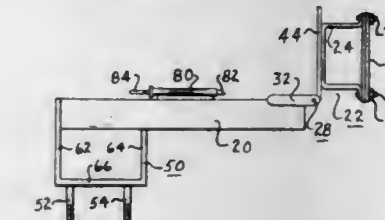


cup and to the upper part of the plate whereby trowels of various sizes may be accommodated in the holster by locating the leading end of the trowel in the bottom opening of the cup and the handle within the spring clip.

3,343,736 TIRE CARRIER

Howard E. Sellers, Syracuse, Ind. (Wakarusa, Ind. 46573)

Filed Jan. 11, 1966, Ser. No. 521,485
1 Claim. (Cl. 224-42.06)



A spare tire carrier for a trailer having a support member, comprising a base for mounting on said support member and projecting outwardly therefrom, a body pivotable between a raised position and a lowered position for supporting a tire, said body being an elongated member standing in an upright position when in its raised position and lying in a substantially horizontal position when in its lowered position, a hinge means connecting said body to said base at the lower end thereof, a latch means for releasably holding said body in its raised position and having a member secured to said base at the top thereof and a lock engaging said member and automatically latching said body in upright position when the body is raised, and a tire mounting means joined to the rear side of said body for supporting a tire and wheel on said carrier and consisting of an upper member attached to the top of said body, a lower member joined to the rear side of said body, and a vertical member attached to said upper and lower members and spaced from said rear side, said lock being mounted on said body on the side thereof opposite said tire mounting means and slidable downwardly longitudinally of the body when the body is in a raised position into engagement with the latch member on said base.

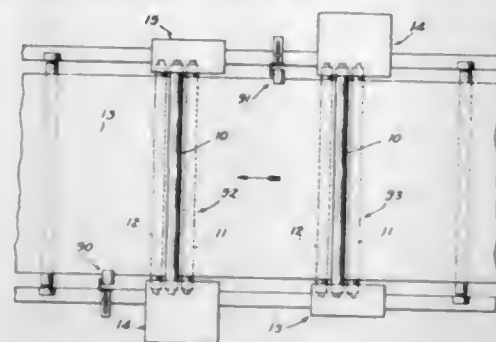
3,343,737 WEB GUIDING AND EDGE MAINTAINING MEANS

Alexander V. Alexeff and Harvey Snyder, Cleveland, Ohio, assignors to Industrial Ovens, Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 22, 1965, Ser. No. 501,033
3 Claims. (Cl. 226-21)

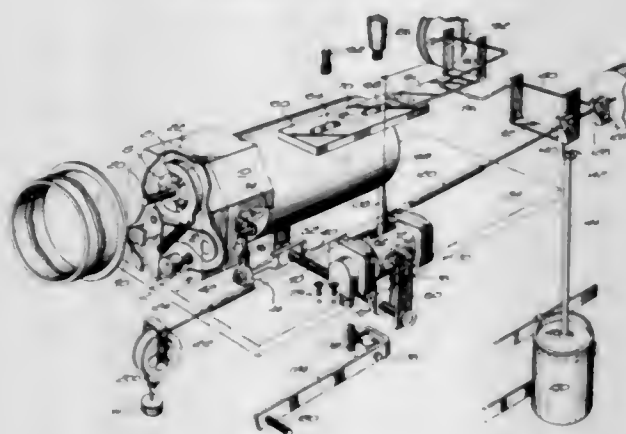
1. Web guiding apparatus comprising first and second roll means for guidingly engaging a web traveling along a given direction and extending under one of said first

and second roll means and over the other whereby the degree of interference between the web-engaging profiles of the first and second roll means as viewed along said direction of web travel determines the degree of wrap of said web thereon, said first and second roll means each traversing the entire web width, roll mounting means to progressively adjust the profile relationship of said first and second roll means relative to each other back and forth from or through a first or centered condition at



which, as between said first and second roll means, there are relatively low degrees of (1) skewing and (2) profile interference to either one of laterally opposed second and third conditions at each of which, as between said first and second roll means, there are relatively high degrees of (1) skewing and (2) profile interference, with said profile interference being highest at one end of said first and second roll means at said second condition and at the other end of said first and second roll means at said third condition.

3,343,738
PRECISION FEEDER FOR DYNAMIC STRAND TESTERS
John B. Lawson, 368 New Meadow Road, Barrington, R.I. 02806
Filed Apr. 29, 1965, Ser. No. 451,733
4 Claims. (Cl. 226—30)

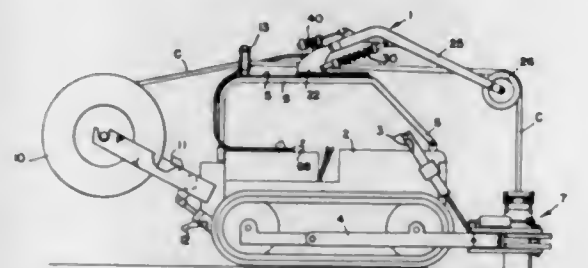


1. In a feeding apparatus for supplying a strand of material to a testing machine or the like, said apparatus having a frame and including a feed drum rotatably supported by said frame, means for guiding said strand from its source of supply about said feed drum, and variable speed drive means for rotating said feed drum to advance the strand to the testing machine, said drive means including movable speed regulator means, the movement of which determines the rotational speed imparted to said drum, and a movable strand tensioning arm pivotally mounted upon said frame for forming said strand into a loop between said feed drum and said testing machine, that improvement comprising means for adjusting the rotational speed of said feed drum to maintain the rate at which the strand is fed in balance with the rate at which the strand is demanded by said testing machine including, in combination:

(a) a cylinder supported by said frame,

- (b) a piston movably disposed within said cylinder and means for forming a first hermetically sealed chamber within said cylinder, adjacent one end of said piston,
- (c) means for supplying hydraulic fluid into said first sealed chamber under sufficient pressure to move said piston,
- (d) valve means connected to said piston and movable therewith for governing the flow of hydraulic fluid into said first chamber,
- (e) means operatively connecting the strand tensioning arm to said valve means whereby any movement in the arm creates an immediate and proportional movement of said valve, and
- (f) linkage means operatively connecting said piston to said speed regulator means for said drive means whereby said speed regulator means is moved simultaneously and proportionately as said piston moves in response to a change of hydraulic pressure in said chamber induced by movement of the valve by the tensioning arm.

3,343,739
POWER ACTUATED CABLE FEED AND TENSIONING MECHANISM
Frank R. Kinnan, Camas Valley, Oreg., assignor to Henkels and McCoy, Inc., Blue Bell, Pa., a corporation of Pennsylvania
Filed Oct. 24, 1965, Ser. No. 504,834
8 Claims. (Cl. 226—187)

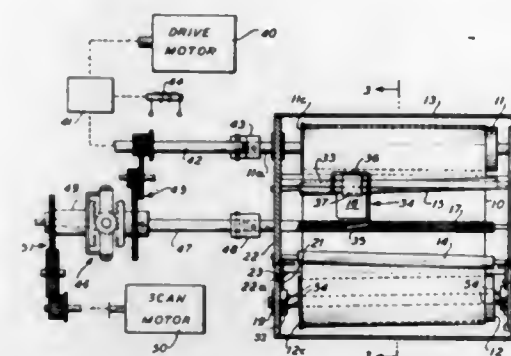


1. Apparatus for the controlled unreeling of cable or conduit from a storage reel providing a continuous and properly tensioned run thereof to a cable burying plow carried by a mobile unit, said apparatus comprising: cable feed means carried by said unit in engagement with the cable for powering the latter in a linear direction including control means whereby the linear speed of the cable driven thereby may be regulated, cable guide and tensioning means carried by said mobile unit in a resilient manner and in engagement with the cable intermediate said feed means and said plow whereby momentary changes in either the cable speed or mobile unit speed will result in said guide means automatically repositioning to properly tension the run of the cable adjacent the cable plow.

3,343,740
BELT RECORD TRANSPORT MECHANISM FOR DICTATING MACHINES
Albert L. Seifried, Mendham, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,657
5 Claims. (Cl. 226—189)

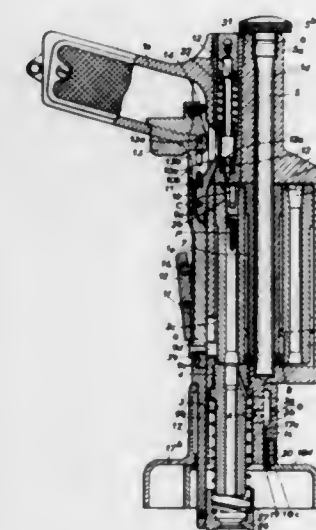
1. A transport mechanism for an endless flexible belt record comprising a drive roller of uniform diameter journaled on a fixed axis and having a rim flange at its inner end, means for rotating said drive roller in forward and reverse directions, a take-up roller spaced from said drive roller and having also a rim flange at its inner end, journal means at the ends of said take-up roller respectively mounted for freedom of movement in directions

towards and away from said drive roller, means biasing said journal means in directions away from said drive roller to hold said belt record in a tautened condition, an idler roller between said drive and take-up rollers across which one run of said belt record is trained to cause the belt record to have a greater than fifty percent wrap-around relationship to the drive and take-up rollers, means



for shifting said journal means towards said drive roller to allow a belt record to be slid onto and off from said drive and take-up rollers, said idler roller being skewed relative to said drive roller to cause the take-up roller when said shifting means is released to be constrained by the belt record in an oblique position wherein the take-up roller is inclined at its outer end towards the drive roller.

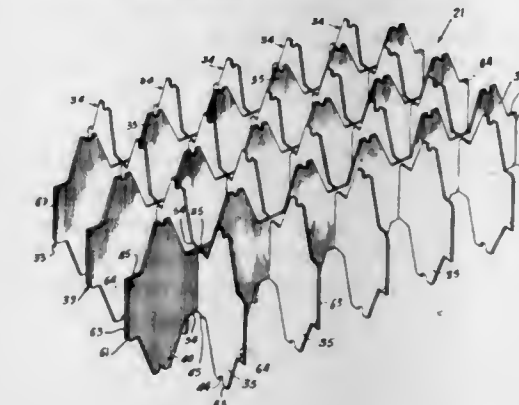
3,343,741
DOWEL DRIVING DEVICE
Jean Marie Frederic Massacrier, 29 Rue Camelinat, Saint-Etienne, Loire, France
Filed July 21, 1965, Ser. No. 474,213
Claims priority, application France, Aug. 4, 1964, 8,981; Nov. 3, 1964, 9,048
18 Claims. (Cl. 227—8)



1. A dowel driving device comprising a body member having a forward portion and a rear portion, a barrel member defining a bore and being mounted in said forward portion of said body member, a magazine defining a plurality of parallel and axial chambers adapted to accommodate cartridges for firing dowels from the device, the chambers being arranged for successive axial alignment with said bore of said barrel member, means for rotatably mounting said magazine in said body member,

a breech member mounted for selective forward and rearward axial movement in said rear portion of said body member proximate the magazine for effecting, in said forward axial movement, frictional engagement between said breech member and said magazine so as to secure the magazine in position for firing the device, and in said rearward axial movement, movement of said breech member away from said magazine, trigger means mounted on said body member, a firing pin mounted for longitudinal movement in and relative to, said breech member, and arranged in axial alignment with said barrel member for firing cartridges in the magazine chambers, a cocking slider mounted for longitudinal displacement relative to said body member, and a sear mounted on said cocking slider and arranged for releasable engagement with said trigger means and said firing pin.

3,343,742
PARTITION
Lawrence Siegler, 2965 Randy, Farmers Branch, Tex. 75234
Filed Dec. 13, 1965, Ser. No. 513,381
9 Claims. (Cl. 229—15)

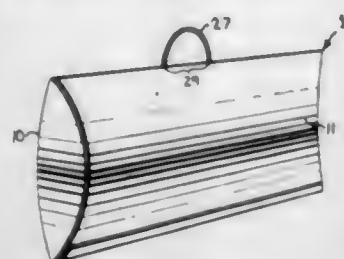


1. A partition assembly for use in a box comprising: a plurality of first partitions extending in parallel, spaced-apart relationship; a plurality of second partitions extending in parallel, spaced-apart relationship connected transversely to said first partitions forming with said first partitions a plurality of cubical storage chambers; each of said first and second partitions having vertically aligned spaced pairs of upwardly and downwardly extending legs, said pairs of legs being uniformly spaced apart along the length of said partitions providing spaced apart pairs of upwardly and downwardly opening recesses, said recesses opening transversely to the longitudinal axis of said partition; each of said first partitions having slots between said pairs of legs opening downwardly into its downwardly recesses, each of said slots receiving a portion of one of said second partitions; each of said second partitions having upwardly opening slots between its pairs of legs opening into its upwardly opening recesses, each of said slots of said second partitions receiving a portion of one of said first partitions.

3,343,743
CARRYING CONTAINER
Alexander Hamilton, Jr., and Charles D. Hamilton, St. Joseph, Mo., assignors to St. Joseph Paper Box Company, St. Joseph, Mo., a corporation of Missouri
Filed Sept. 12, 1966, Ser. No. 578,567
1 Claim. (Cl. 229—21)

A carton suitable for receiving blouses and similar wearing apparel, said carton having upper and lower edges and side walls and end walls, said carton having a handle and being made from a single piece of semi-rigid material having first and second side panels and an end flap comprising,

- (a) a first fold line between said end flap and said first side panel, said first fold line forming said carton lower edge, said end flap being provided with an adhesive material and secured to said second side panel adjacent said lower edge making said carton three layers thick at said lower edge, a second fold line between said first and second side panels and parallel to said first fold line, said second fold line forming said carton upper edge and making said carton two layers thick at said upper edge,
- (b) said end walls each being characterized by a pair of overlapping end panels constituting integral extended portions of said side panels and connected thereto by arcuate fold lines, one of said end panels in each of said pairs being adapted to be folded in-

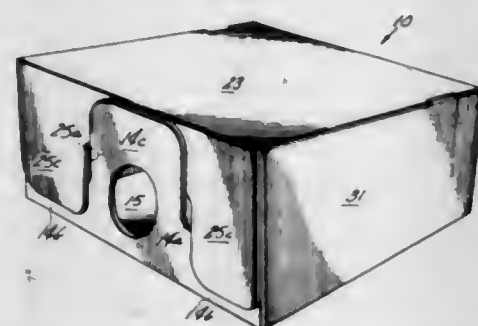


wardly and having its outer arcuate edge engaging against the inside surface of the opposite side wall and the other end panel of each pair overlying the last mentioned end panels whereby said end walls, when formed, assume concave shaped end members for said carton,

- (c) a pair of spaced-apart openings through said material on said second fold line and intermediate said end walls, an elongated flexible member forming a handle loop externally of said carton and having opposite end portions received through said openings, and keeper means associated with each of said end portions and preventing said end portions from pulling out of said openings, said end portions adding to the thickness of said carton adjacent said upper edge.

3,343,744

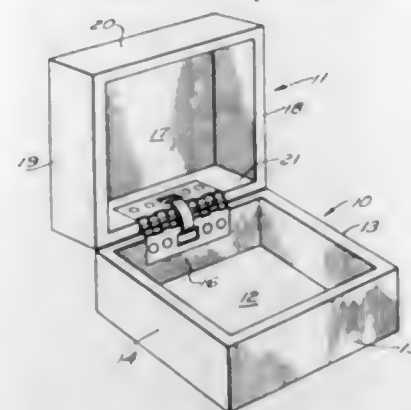
BOX CONSTRUCTION AND BLANK THEREFOR
Richard C. Morell, Denver, and Claude L. Gilbert, Derby, Colo., assignors to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 391,917
8 Claims. (Cl. 229-27)



6. A box construction formed from a sheet of foldable material, comprising a bottom; wall panels delimiting said bottom and disposed upright with respect thereto, one of said wall panels being provided with an opening for access to the interior of said box; flap means foldably connected to a wall panel and disposed within the interior of said box and forming a plurality of interior spaced peripheral compartments and a central compartment, the opening in said one wall panel communicating only with said center compartment; and a cover foldably connected to a wall panel and adapted to overlie and close the top of said box; said flap means, when in a predetermined position of folded relation, interlockingly engaging said bottom.

3,343,745
THICK-WALLED CARDBOARD BOX
Lewis Douglas Young, Providence, R.I., assignor to Douglas Young, Inc., a corporation of Rhode Island

Filed Dec. 20, 1965, Ser. No. 515,061
2 Claims. (Cl. 229-44)



1. In a cardboard box, a body section and a cover section, each section having vertically disposed thick rear walls with their edges substantially parallel, a metal plate extending along the inner surface of the rear wall of each section, each plate having a plurality of holes along its length with a plurality of integral projections along the edge of each hole embedded in the rear wall over which the plate extends, said plates having at their adjacent edges, longitudinally spaced portions extending angularly outwardly between the edges of the rear walls of the sections with the portions on both plates staggered with reference to the portions on the other plate so that the portions on one plate are located at the spaces between portions in the other plate and hinge eyes on each of said portions, a pintle pin hingedly connecting said hinge eyes, each plate having intermediate its length an opening providing a lip, an arcuate spring with intumed ends engaging said lips and urging said plates in a box opening or box closing direction depending upon the relative position of said sections.

3,343,746

COMBINED CONTAINERS
Seymour B. Shiffman, 50 Dolphin Drive, Treasure Island, Fla. 33740
Filed Nov. 12, 1964, Ser. No. 410,672
1 Claim. (Cl. 229-51)

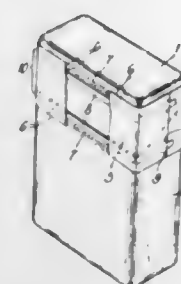


- In a container assembly, the combination which comprises:
- (a) a plurality of containers, open at the top and having closed lower ends, said containers having annular recesses in outer surfaces and positioned at upper ends thereof, end surfaces of the containers being in abutting relation,
- (b) an endless tape with an adhesive coated inner surface positioned with the edges in overlapping relation with end surfaces of the containers,

- (c) a tear string positioned against the inner surface of said strip of adhesive material,
- (d) and a ring secured in the outer end of said string to facilitate pulling the string outwardly to tear the tape at the upper edge of the container.

3,343,747

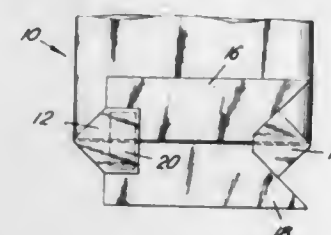
PACKETS
Desmond Walter Molins, Deptford, London, England, assignor to Molins Machine Company Limited, Deptford, London, England, a corporation of Great Britain
Filed Jan. 25, 1966, Ser. No. 522,961
Claims priority, application Great Britain, Feb. 12, 1965, 6,118/65
2 Claims. (Cl. 229-51)



1. A packet made of moisture-proof material and consisting of parts which are movable relatively to one another for opening and closing the packet, and wherein the joints between the relatively movable parts are at different portions of the packet surface, located at different distances from one end of the packet, said packet being sealed by a straight band of moisture-proof material which extends over the joints and is secured along its margins to the packet along lines enclosing between them the whole of the area of the packet surface where joints are located, said band having two tear strips located between and adjacent said secured margins whereby when the tear strips are pulled, substantially the whole of the band between said secured margins and covering said joints can be removed from the packet to expose the joints.

3,343,748

SEAL BARRIERS FOR THERMOPLASTIC BAGS
William L. Calvert, Westfield, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Apr. 25, 1966, Ser. No. 545,099
1 Claim. (Cl. 229-59)

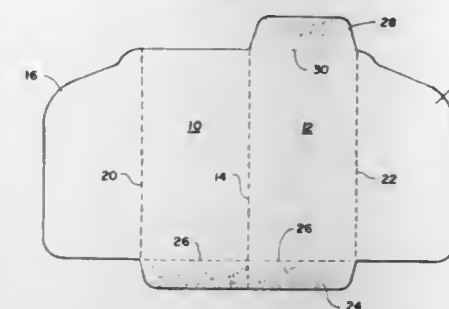


- A square-ended polyethylene bag wherein at least one of said ends comprises two side flaps and two end flaps, said end flaps being infolded and at least one of said end flaps having a membrane of barrier material inserted thereunder and sealed solely to the underside of said end flap and wherein said barrier material is selected from the group consisting of polyethylene-polypropylene laminates, polyethylene coated polyethylene terephthalate, polyethylene coated paper wherein the polyethylene side of the aforesaid barrier materials is sealed to the underside of said end flap, and carboxyl containing olefin polymer coated aluminum foil wherein the carboxyl containing olefin polymer side of said barrier material is sealed to

the underside of said end flap; said side flaps being infolded over said end flaps and sealed to each other, and a portion of said side flaps being sealed to the end flap in the area backed up by said membrane of barrier material.

3,343,749

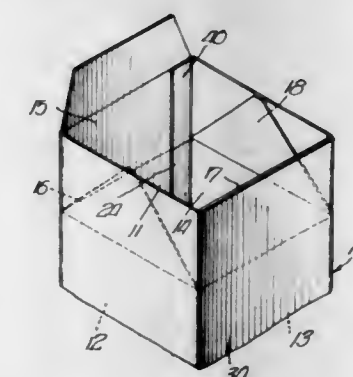
CHURCH CONTRIBUTION ENVELOPE
John Stanley Probst, East Liverpool, Ohio, assignor to The American Paper Products Company, Youngstown, Ohio, a corporation of Ohio
Filed Apr. 27, 1966, Ser. No. 545,679
1 Claim. (Cl. 229-72)



- A blank for making a duplex church contribution envelope, said blank comprising first and second panels joined along a fold line and disposed to overlie each other when said envelope is closed, means forming first and second pockets on said first and second panels respectively, said means comprising first and second flaps attached to the sides of said first and second panels respectively, said first and second flaps being devoid of adhesive and of reduced dimensions in comparison with said first and second panels, a first tab associated with one end of said first and second panels and having adhesive applied to one side of said blank for securing said first and second flaps against said first and second panels, and a second tab associated with an opposite end of but one of said first and second panels and having adhesive applied to the same side of said blank for securing the envelope when folded in a closed position.

3,343,750

PREWRAPPED CARTON
John D. Desmond and Joseph J. Hart, Philadelphia, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 544,728
2 Claims. (Cl. 229-87)



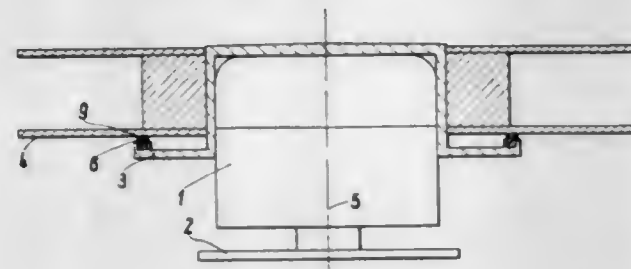
1. A prewrapped carton, comprising:
- (a) a unitary blank of paperboard having side wall panels hinged to one another at their adjacent side edges and having a glue panel hinged to a first of these side wall panels at one end of the blank and adapted to underlie and be adhesively secured relative to a second of these side wall panels at the opposite end of the blank to form thereby a tubular body open at one end;

valve disposed at the end of said suction pipe, a main suction conduit connected with said suction pipe through said stop valve, whereby in a first stage of retrieving a yarn end from said supply cop, said control mechanism is actuated by said programming cam mechanism so as to close the upper portion of said slit for preventing reduction of suction pressure, while said lower portion of said slit is left open, said upper slit portion being thereafter opened by said control mechanism for transferring said retrieved yarn end to said automatic knot-tier.

3,343,757

TURNABLE FOR MAGNETIC SOUND- OR VIDEO-TAPE RECORDERS

Karl-Heinz Greifenhagen and Dieter Sohnlein, Kronach, Upper Franconia, Germany, assignors to Loewe Opta G.m.b.H., Berlin, Germany, a company of Germany
Filed Sept. 23, 1965, Ser. No. 489,766
Claims priority, application Germany, Sept. 26, 1964, L 38,035, Patent No. 1,911,749
3 Claims. (Cl. 242-55.12)

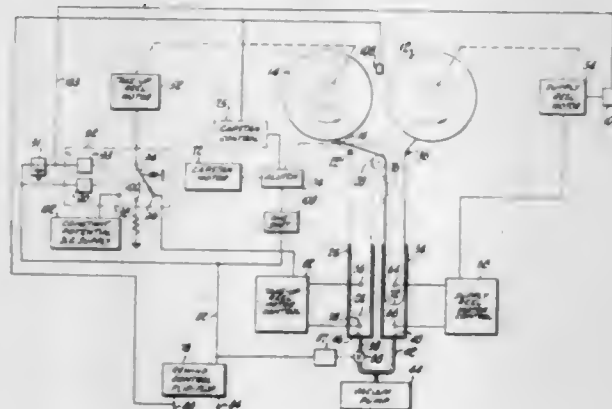


1. In a tape reeling system comprising a turntable for supporting a reel in magnetic sound or video tape recorders, a tape reel, a drive spindle, and means for rotating said drive spindle, said turntable seating on said drive spindle for being rotated being supplied with at least one ring made of material of good frictional properties concentrically arranged around said drive spindle, said ring protruding from said turntable for supporting said tape reel being supplied with depressions forming suction cups arranged within the surface contacting said tape reel.

3,343,758

REWIND METHOD AND APPARATUS

Hakan O. Hemdal, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Mar. 11, 1966, Ser. No. 533,662
7 Claims. (Cl. 242-55.12)



1. A method for rewinding an information storage tape which extends from a first reel, forms a loop in a first buffer, passes a capstan, forms a loop in a second buffer, and extends to a second reel, comprising the steps:

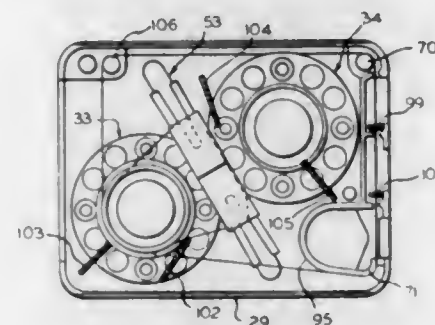
removing the tape from one of said buffers,

maintaining the tape in the other of said buffers, and rotating said first reel in a direction to withdraw tape from said other buffer.

3,343,759

TAPE CARTRIDGE AND WINDING MECHANISM

Adam G. Kallay, 3330 N. Lakeshore Drive, Chicago, Ill. 60657
Filed June 21, 1965, Ser. No. 465,368
17 Claims. (Cl. 242-55.19)

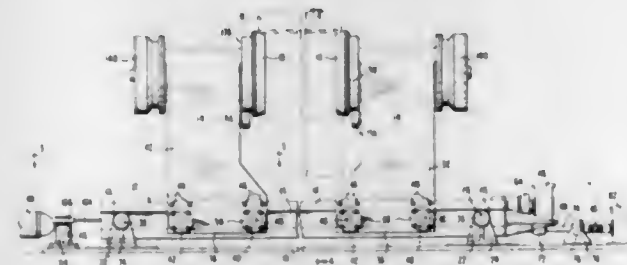


1. A tape cartridge for an endless tape having programmed material thereon, said cartridge comprising a casing, a material read-out station in the casing, a first spool rotatably mounted in the casing having upper and lower superposed tape contact surfaces, the upper tape contact surface tapering slightly toward the upper edge thereof and the lower tape contact surface tapering slightly toward the lower edge thereof, a second spool rotatably mounted within said casing and having a tape contact surface substantially coplanar with said lower tape contact surface of said first spool, means for tensioning the tape by acting on the tape runs extending between said spools, and means for guiding the tape about said spools and through said material read-out station.

3,343,760

UNWIND STAND

Lawrence H. Haskin, Jr., and George W. Kesler, Richmond, Va., assignors to The Inta-Roto Machine Company, Inc., Richmond, Va., a corporation of Virginia
Filed Aug. 25, 1965, Ser. No. 482,393
20 Claims. (Cl. 242-58.6)

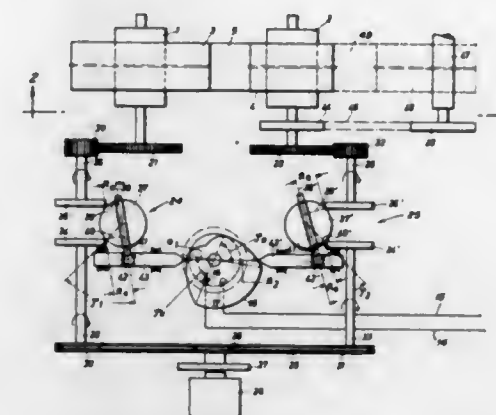


1. In an unwind stand for a web roll, including a horizontal stationary base, a horizontally disposed support member, a pair of upstanding opposed chuck standards, means movably mounting said support member on said base and said standards on said support member for movement relative to each other, and means for moving said standards relative to each other on said support member and for moving said support member on said base, the improvement in said mounting means comprising support means on each side of said base, support means on each side of said standards, and a single guideway means on each side of said support member and respectively cooperative with and supported by said base support means for relative rectilinear movement and also respectively supporting said standard support means for rectilinear movement thereof relative to each other.

3,343,761

REWINDING ROLLER FOR WINDING TO AND FROM A WEB OF MATERIAL

Erhard F. Rotter, Dusseldorf, Germany, assignor to Gebr. Poensgen GmbH, Dusseldorf, Germany
Filed Jan. 24, 1966, Ser. No. 522,637
5 Claims. (Cl. 242-75.5)



1. In an apparatus wherein a web of material is wound from a roll of constantly changing radius on a first stock roller to a roll of constantly changing radius on a second stock roller with a portion of web therebetween and using a power means, the improvement comprising:

a first infinitely variable speed transmission having an input shaft, an output shaft and a control member to vary the speed ratio of the output shaft to the input shaft;

a second infinitely variable speed transmission having an input shaft, an output shaft and a control member to vary the speed ratio of the output shaft to the input shaft;

first means connecting the output shaft of the first variable speed transmission to the first stock roller to drive the latter;

second means connecting the output shaft of the second variable speed transmission to the second stock roller to drive the latter;

third means connecting said power means to the two input shafts to drive both transmissions simultaneously therefrom; and

fourth means connected to the two control members and having sensing means to detect the comparative peripheral speed of the roll on the first roller as related to that of the roll on the second roller, and to adjust the output speed n_1 of the output shaft of the first transmission, and the output speed n_2 of the output shaft of the second transmission at all times according to the following relationship:

$$\frac{1}{(n_1)^2} + \frac{1}{(n_2)^2} = \text{constant}$$

3,343,762

UNCOILER DEVICE

Karl F. G. Ungerer, Pforzheim-Brotzingen, Germany, assignor to Irma Ungerer, widow and heiress of Karl F. G. Ungerer, deceased

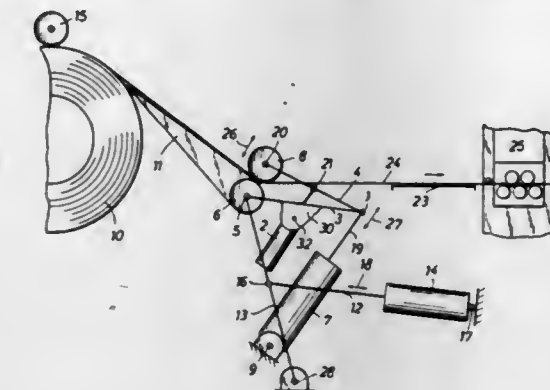
Filed June 8, 1965, Ser. No. 462,181

Claims priority, application Germany, June 13, 1964, U 10,813

5 Claims. (Cl. 242-78.6)

1. A device for facilitating the unwinding of coiled sheet material such as sheet metal, comprising a first shaft, a first roller mounted on said first shaft for rotation therewith, first means for rotatably supporting said first shaft comprising a post member pivotally mounted at its one end, a wedge member secured to said shaft and projecting beyond the surface of said first roller, a second shaft, a second roller secured to said second shaft for

rotation therewith, said second roller adapted to be positioned to overlie said first roller and to bear downwardly against the sheet material as it is unwound from a coil, second means rotatably supporting said second shaft including a lever member, means linking said second means for rotatably supporting said second shaft to said first means for rotatably supporting said first shaft, and means connected to said first and second rotatable



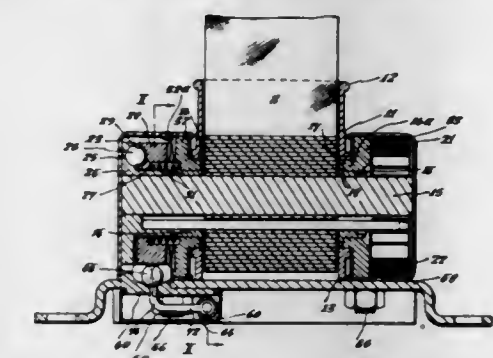
support means for said first and second shafts for shifting said first and second shafts relatively toward and away from each other for directing a coil of sheet material directed beneath said second roller downwardly into engagement with said first roller and to shift said first and second rollers toward and away from a coil of strip material and for shifting said wedge member to engage below the sheet material and guide it off the coil thereof.

3,343,763

SAFETY HARNESS

Eric Herbert Spouge, Harold Hill, Essex, England, assignor to Pacific Scientific Company, a company of California

Filed Dec. 21, 1964, Ser. No. 420,076
6 Claims. (Cl. 242-107.4)



1. An inertia responsive safety harness reel assembly having a housing; reel means mounted for rotation in said housing; safety harness strap means wound on said reel means; an inertia member adjacent said reel means and mounted both for rotation with said reel means and for relative movement with respect to said reel means; locking means for locking said reel means against rotation in the direction for paying out said strap means, said locking means responding to the occurrence of said relative movement; restraining means operatively engageable with said inertia member, said restraining means including a spherical member and recess-forming means adjacent said inertia member, said spherical member being in an inoperative position in said recess to avoid engagement with said inertia member, said recess being so formed that said spherical member may be displaced by gravity or inertia forces from said inoperative position to an operative position in contact with said inertia member to restrain the movement of said inertia member with respect to said reel means, whereby said reel means is immediately locked when rotated in the direction for paying out said strap means.

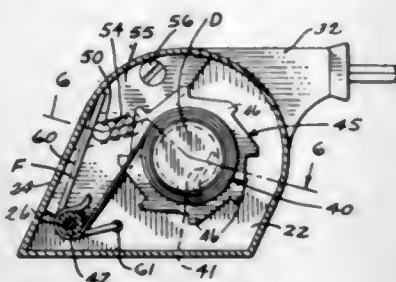
3,343,764

RETRACTABLE SEAT BELT CONSTRUCTION

James L. Webb, Jr., Beverly Hills, Calif., assignor to Irving Air Chute Company, Inc., Lexington, Ky., a corporation of New York

Filed Feb. 19, 1965, Ser. No. 433,902

2 Claims. (Cl. 242-107.4)



1. In a retractable seat belt construction the combination of a frame, a rotatable reel mounted on said frame, a belt for coiling on said reel, means on the frame attached to said reel to normally coil the belt in retracted relation on said reel, a locking member movably mounted on said frame, means attached to the reel with which the locking member is engageable to lock the reel against movement in a belt extending relation, spring means normally urging the locking member into locking relation with the reel, and means guiding the position of the locking member in its movements into and out of locking relation with respect to said reel comprising a synthetic resin flexible member having a slot therein within which the locking member is slidable and which is flexible and sufficiently rigid to enable the locking member under action of its spring means to move with a delayed action along the slot to a locked position.

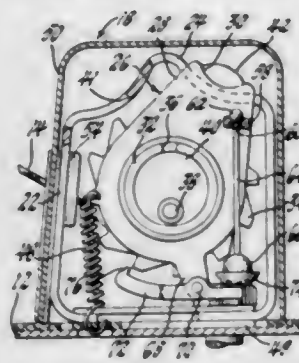
3,343,765

SEAT BELT RETRACTOR

Arthur R. Baker, Oxford, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 19, 1965, Ser. No. 508,773

3 Claims. (Cl. 242-107.4)



1. In combination with a vehicle body having a seat belt strap, a retractor for said strap comprising, a support member mounted on said body and including stop means, a yoke member pivotally mounted on said support member, means retarding pivotal movement of said yoke member in a direction toward the stop means, a reel rotatably mounted on said yoke member and secured to one end of said strap, locking means mounted on the reel for rotation therewith, resilient means urging said reel to rotate in one direction to wind said strap thereon, a locking member mounted on said yoke and engageable with said locking means to lock said reel to said yoke against movement in the other direction to unwind said strap, and an inertia responsive member mounted on said yoke and operative to move said locking member into engagement with said locking means to lock said reel to said yoke so that tension on said strap effects pivotal movement of said yoke toward said stop to engage said stop means.

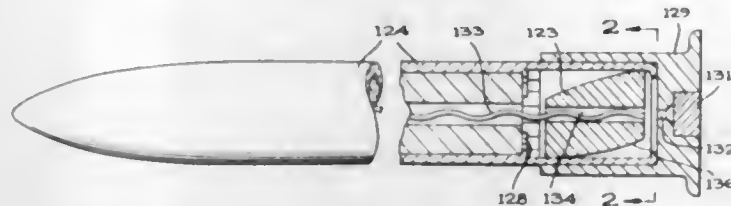
3,343,766

NOZZLE INSERT

Arthur T. Biehl and Robert Mainhardt, Diablo, Calif., assignors to MB Associates, a corporation of California

Original application Apr. 2, 1965, Ser. No. 445,277, now Patent No. 3,313,207, dated Apr. 11, 1967. Divided and this application Oct. 22, 1965, Ser. No. 514,425

6 Claims. (Cl. 244-3.23)



1. A rocket nozzle and an insert in said nozzle, said insert consisting of a rod-like body, said rod-like body having polygonal end surfaces and contoured side surfaces, said contoured side surfaces having a configuration such that the intersecting line between any two adjacent side surfaces follows a helical path.

3,343,767

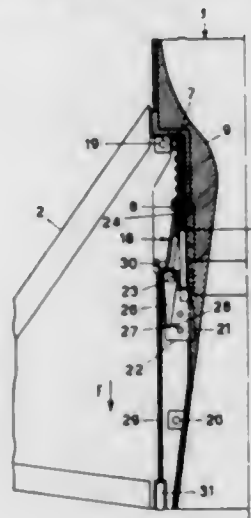
DEVICE FOR ADJUSTING THE RANGE OF A MISSILE

Alessandro Cafissi, Brescia, Italy, assignor to Breda Meccanica Bresclana S.p.A., Brescia, Italy, a company of Italy

Filed Feb. 10, 1966, Ser. No. 526,559

Claims priority, application Italy, Feb. 18, 1965, 3,413/65, Patent 745,416

14 Claims. (Cl. 244-3.27)



1. A rocket having a body and aerodynamic braking means for adjusting the range of the rocket comprising a plurality of first panels, each hingedly connected at one end to said body to swing out from said body to a greater or lesser extent, thereby to control the amount of braking action on and the range of the rocket, means constantly urging said first panels to swing outwardly of said body, and means adjustable prior to launching of the rocket to predetermine the amount of outward swing of said first panels.

3,343,768

AIRCRAFT

Rudolf E. Gartzke, 2326 Superior St., Madison, Wis. 53704, assignor of thirty percent to Walter R. Gartzke, Madison, Wis.

Filed Mar. 14, 1966, Ser. No. 534,168

4 Claims. (Cl. 244-130)

1. An aircraft comprising in combination propulsion means, control surfaces moveable by pilot manipulation,

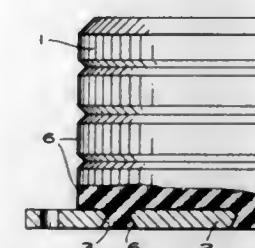
3,343,770

BONDING OF AN ELASTIC SHOCK ABSORBER WITH A RIGID BASE PLATE

Reinhold E. Szonn, Lemforde, Germany, assignor to Celasto Incorporated, Ann Arbor, Mich., a corporation of Michigan

Filed July 26, 1965, Ser. No. 474,724

2 Claims. (Cl. 248-22)



1. A resilient shock absorber comprising:
(a) a base plate of rigid supporting material having an exposed face to be fastened to a support, said plate having a plurality of openings distributed in an area to be covered by a shock absorbing material, each said openings widening in a major portion of its axial dimension from the surface of the plate to be covered to the surface of the exposed face, and
(b) an integral body of shock absorbing material having a thickness several times that of the base, bonded to a surface of the base opposite the exposed face having integral portions projecting through said openings to fill said openings up to the plane of said exposed face of said plate.

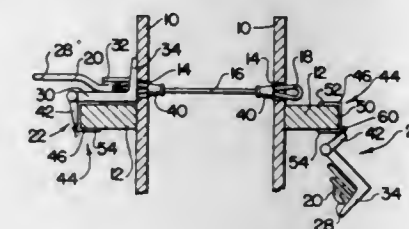
3,343,771

HINGED TIE-END LATCH ASSEMBLY FOR GANG FORMS

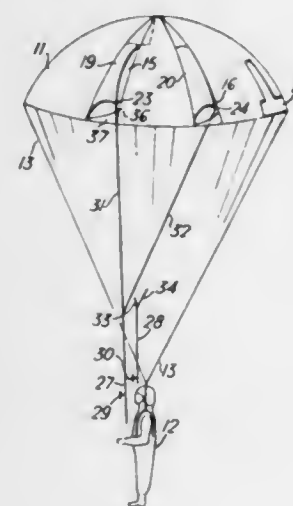
Harris Gordon Gates, Englewood, Colo., assignor to Gates & Sons, Inc., Denver, Colo., a corporation of Colorado

Filed Apr. 5, 1965, Ser. No. 445,471

4 Claims. (Cl. 248-205)



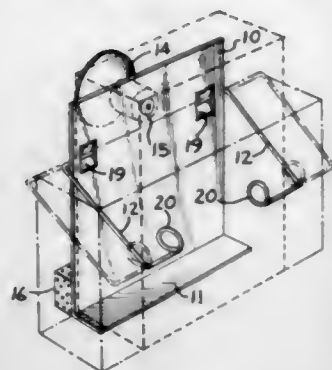
1. In combination: bracket means for holding a timber tight against an outer exposed surface of a concrete pouring form wall in reinforcing relation thereto, said bracket means including a form-wall engaging portion having a slot therein opening on one edge adapted to receive the shank of a concrete form tie at the point where a projecting end thereof emerges from an opening in the form wall, a horizontal portion depending from the form-wall engaging portion adapted to rest against a corresponding horizontal surface of the reinforcing timber, and an abutment-forming portion depending from the horizontal portion in spaced substantially parallel relation to the form-wall engaging portion, said abutment-forming portion being positioned to rest against the edge of the reinforcing timber opposite that which lies against the form wall and hold same snugly thereagainst; latch means carried by the bracket means for movement between a released position and a locked position fastened to the projecting form tie end when the latter lies within the slot in the form-wall engaging portion; and, bracket-mounting means connected to the bracket means for fastening the latter to the timber for movement relative thereto in the direction of the open end of the slot so as to disengage same from a tie-end projecting therethrough.



1. A parachute comprising a canopy and rigging lines connecting the canopy to a parachutist, the canopy being provided with openings to allow the air to be spilled from the canopy and flaps which are larger than the openings and adjacent to them, one flap being provided for each opening, and means operable by said parachutist to move said flaps from positions outside the canopy to positions inside the canopy whilst the parachute is in flight.

3,343,772 ATTACHMENT DEVICE FOR SMALL APPLIANCES

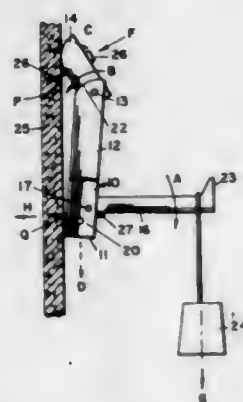
Thomas G. Howell, 603 Bob-O-Link, Mount Prospect, Ill. 60056, and A. Byron Collie, Chicago, Ill.; said Collie assignor to said Howell
Filed Oct. 24, 1965, Ser. No. 504,835
4 Claims. (Cl. 248-206)



1. An adjustable mounting bracket for small appliances comprising, in combination, a back plate, means on said back plate for attachment to a fixed object, a ledge carried by said back plate extending in a forward direction away from said object, journal means on said back plate for rotatably and slidably carrying a spring wire arm laterally of each side of said back plate, a torsionally resilient spring wire arm carried by said journal means laterally of each side of said back plate, an extension at one end of each of said arms extending in a forward direction from said back plate and terminating in an inwardly-turned tip adapted to embrace an appliance positioned therein, and an offset dog at the other end of each of said arms adapted to engage said back plate and hold said other end against rotation relative to said back plate when said extension and arm are resiliently extended to accept and accommodate an appliance.

3,343,773 FITTING FOR SUSPENDING A LOAD FROM A WALL

Ernest Theodore Lorenz, 23 Bounty St., Metuchen, N.J. 08840
Filed Oct. 22, 1965, Ser. No. 501,514
10 Claims. (Cl. 248-218)

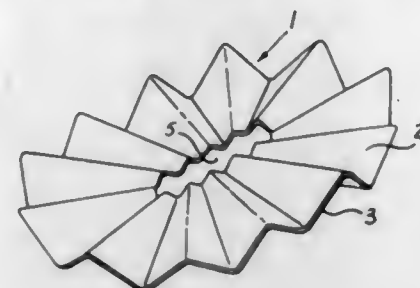


1. A fitting engageable with a penetrable wall for the suspension of a load thereon, comprising a substantially vertical base with a bottom portion positionable against a wall; at least one tip articulated to the top of said base for swinging movement about a generally horizontal axis, said tip being provided with a rearwardly and downwardly inclined point adapted to penetrate into said wall; an arm pivotally secured to said base near its bottom portion for swinging movement in a substantially vertical plane, said arm having an extremity engagement by a load to be carried; and link means connecting said arm with said tip for urging the latter rearwardly with reference to said base

in response to a weighting of said extremity in a forwardly projecting position of said arm, thereby tending to increase the downward inclination of said point and anchoring same more firmly to the wall.

3,343,774 SELF-DRAINING SOAP REST OR TRAY

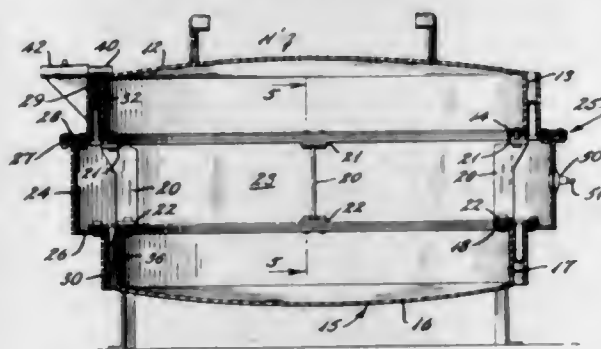
James J. Pryor, Rte. 4, Fitzgerald, Ga. 31750
Filed Mar. 25, 1966, Ser. No. 537,433
5 Claims. (Cl. 248-346.1)



1. A reversible, self-draining soap rest or tray comprising a one-piece body having similar top and bottom corrugated surfaces, said corrugations forming a series of ridges and valleys, are generally V-shaped in cross-section and radiate from a central portion to a peripheral edge.

3,343,775 FLUID CUSHION

William H. Stephenson, Roanoke Rapids, N.C.
(1302 Fairfax Ave., Wilson, N.C. 27893)
Filed May 6, 1966, Ser. No. 548,212
8 Claims. (Cl. 248-400)



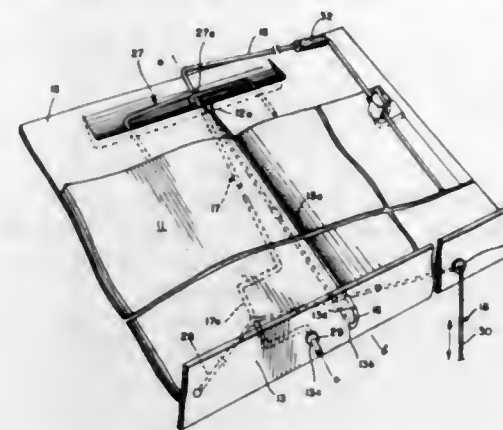
1. A fluid cushion comprising spaced first and second piston members, means connecting said piston members so that the distance therebetween is substantially constant, said piston members mounted for reciprocation along an axis which is substantially transverse to the piston members, the first piston member having an area transverse to said axis which is larger than the corresponding area of said second piston member, an enclosed fluid chamber housing, said fluid chamber housing having spaced portions, fluid-tight flexible means connecting said first piston member to one portion of said fluid chamber housing and other fluid-tight flexible means connecting said second piston member of the other portion of said fluid chamber housing, whereby said piston members and said housing form a fluid enclosure.

3,343,776 PAGE TURNING DEVICE

James M. Wieszeck, P.O. Box 175,
Salem, N.H. 03079
Filed Sept. 27, 1965, Ser. No. 490,391
10 Claims. (Cl. 248-441)

1. A page turning device comprising a stand providing an inclined platform having a book confining lip along its lower edge, an open book supported on said platform, an elongated member journaled under said platform and having its length disposed at a minor acute angle to the

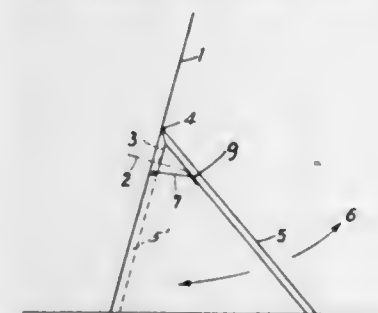
binding of said book, said member being equipped with a loop-bearing element releasably clipped to said platform, said platform having an aperture adjacent its upper end with said member passing through said aperture, said member adjacent to the platform lower end having a crank portion, a pedal-equipped linkage coupled to said crank portion for rotating said member, a spring interconnected between said platform on the underside thereof and said crank portion, said member adjacent the upper



end of said platform being equipped with an L-shaped arm, said arm being coupled to said member at one arm end, and the other arm end being equipped with a magnet slidably positioned thereon and adapted to overlie a portion of a page of said open book, iron and aluminum clip means secured to said page portion whereby rotation of said member moves said magnet through an arc different from the arc of said clip means to release said clip when said page is substantially turned.

3,343,777 DISPLAY STAND

Rolf Becker, Niederhohnerstrasse 6-8,
344 Eschwege, Germany
Filed Apr. 14, 1965, Ser. No. 448,042
4 Claims. (Cl. 248-455)



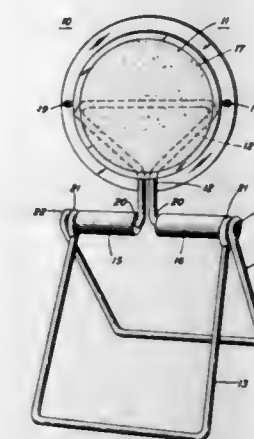
1. A display stand comprising a generally plate-shaped display member, a leg member of generally U-shaped configuration, pivot means rotatably and hingedly connecting said leg member to the plate member at the base portion of the U-shaped leg member, each of the branches of the leg member having an inwardly directed toothed edge portion, and a spreader arm hingedly linked at one end to said plate-shaped member and engageable at the other end with said roughened edge portion for retaining the leg member in a selected angular position in reference to the plate member.

3,343,778 EMERGENCY WARNING REFLECTORS

Irving A. Levine, 37 W. 12th St.,
New York, N.Y. 10011
Filed Oct. 1, 1963, Ser. No. 313,013
1 Claim. (Cl. 248-472)

An emergency warning reflector of the collapsible type comprising a reflector body formed of two halves joined together at a central rim, a wire support member held between said two halves and emerging as two parallel wires

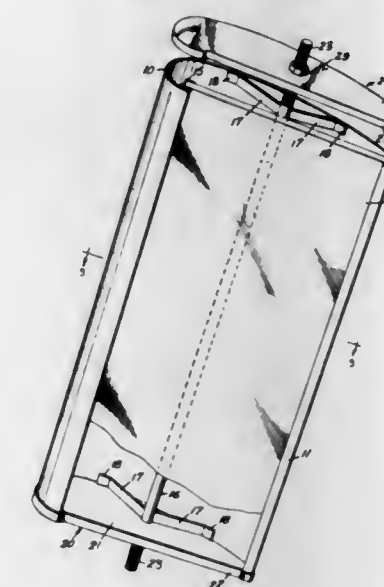
which are bent at right angles to form two oppositely extending portions terminating in ends, a pair of U-shaped wire legs terminating in hooks which grip said ends, and



a pair of spacers each positioned between one hook of each of the legs and the right angle bend in one of said parallel wires.

3,343,779 REAR VIEW MIRROR

Theodore L. Beach, Jr., P.O. Box 366,
Donnelsville, Ohio 45319
Filed Aug. 19, 1963, Ser. No. 303,087
7 Claims. (Cl. 248-488)



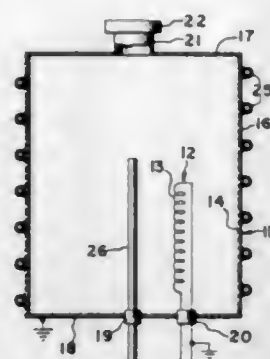
1. In a device of the character described, a body of flexible sheet material having an integrally formed U-shaped channel in each side edge thereof, said channels facing each other in coplanar relation, a flat glass mirror mounted in said channels, end pieces encompassing each end portion of said body and mirror, a shaft interconnecting said end pieces, and a pair of divergent arms affixed to said shaft inwardly of each end piece, and a foot member formed integrally with each arm and bearing against the inner wall of said body.

3,343,780 VACUUM PUMP APPARATUS

Wesley H. Hayward, Mountain View, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Mar. 5, 1965, Ser. No. 437,536
4 Claims. (Cl. 230-69)

1. A vacuum pump apparatus comprising:
(a) an evacuable envelope adapted to contain gas molecules;

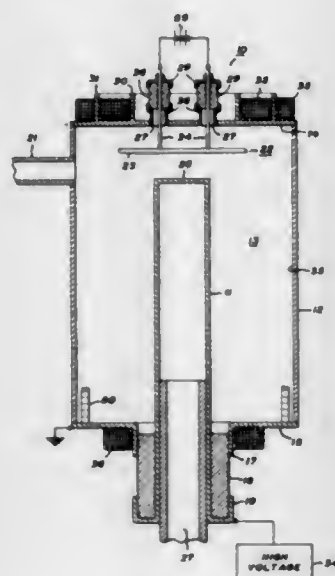
- (b) electron emissive sublimation means disposed within said envelope and including a source of getter material, said means adapted to be heated so as to cause electron emission and sublimation of getter material therefrom;
- (c) a surface disposed within said envelope for receiving getter material and collecting positive ions; and



- (d) means for elongating the path of said electrons between emission and collection so as to increase the probability of ionizing collisions between said electrons and said gas molecules, said means comprising an elongated, straight cylindrical electrode disposed within said envelope, spaced from said sublimation means and adapted to be maintained at a potential positive with respect to said surface.

3,343,781 IONIC PUMP

Robert M. Phillips, Redwood City, and Gerard C. Van Hoven, Palo Alto, Calif., assignors to General Electric Company, a corporation of New York
Filed Apr. 28, 1965, Ser. No. 451,384
16 Claims. (Cl. 230-69)



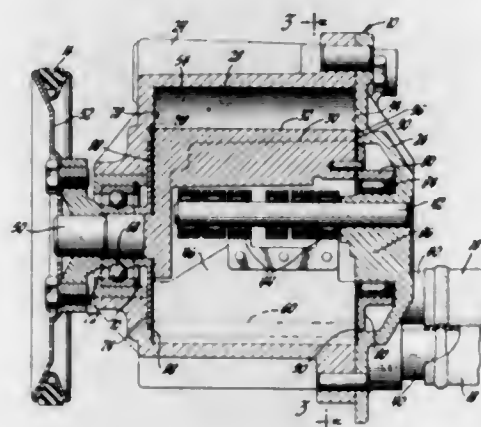
1. A spinning beam ion pump comprising in combination,
- (a) an envelope structure adapted to be evacuated,
- (b) said envelope having a gas getter metal on its inner surface,
- (c) said envelope adapted to be connected to a source of power at one potential,
- (d) a cylindrical electrode in said envelope and defining an annular interaction space therewith,
- (e) said electrode adapted to be connected to a source of power at a different potential,
- (f) electron emitting means in said envelope,

- (g) means to control electrons in said interaction space to prevent substantial electron striking of said cylindrical electrode and to provide a circularly spinning electron beam concentric with said cylindrical electrode and progressing slowly axially therealong,
- (h) said spinning beam causing electron-gas molecule collisions to provide positive gas ions which are accelerated into said gas gettering metal for entrapment and to reduce the pressure in said envelope, and
- (i) an ion transparent electrode positioned transversely between said envelope and said cylindrical electrode.

3,343,782

BEARING AND SEALING MEANS

Lee M. Brewer and Robert P. Rohde, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 17, 1965, Ser. No. 488,229
5 Claims. (Cl. 230-157)



1. A rotary mechanism including a hollow outer body having an internal peripheral wall, an internal body positioned within said outer body and having an external peripheral wall radially spaced from at least portions of said internal peripheral wall to form a working chamber, said inner and outer bodies each having a pair of axially spaced end walls respectively connected by said external and internal peripheral walls and enclosing the ends of said working chamber, at least one end of said working chamber having associated inner and outer body end walls wherein said outer body end wall at least partially overlies said inner body end wall, said inner and outer bodies being relatively rotatable and including means to vary the pressure in said working chamber upon relative rotation, and a sealing element for at least said one end of said working chamber comprising a flexible wafer axially positioned between said inner and outer body end walls, said wafer being secured to one of said inner and outer body end walls and having a free annular edge portion biased against the other of said inner and outer body end walls by the pressure in said working chamber.

3,343,783

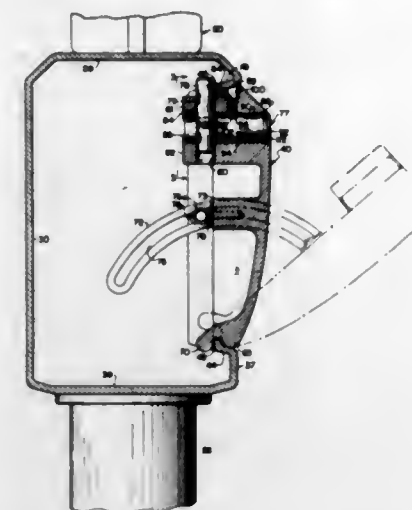
COIN COMPARTMENTS, COIN VAULTS OR COIN STORAGE ASSEMBLIES

Clarence D. Fayling, Pittsburgh, Pa., and Jack A. Prickett, Russellville, Ark., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 17, 1965, Ser. No. 480,426
6 Claims. (Cl. 232-15)

1. A coin storage assembly for a coin operated device comprising, a coin compartment having a front wall, means forming an inwardly tapering recess in said front wall, said recess terminating at its inner end at a first ledge peripherally bounding an opening in said front wall, a door adapted to selectively close said opening,

said door having a second ledge adapted to abut said first ledge when the door is closed, and said door having tapered peripheral surfaces closely fitting said recess, a lock carried by said door at one end thereof for selective locking engagement with said front wall of said compartment adjacent either end of said door opening, a lip rigid with the opposite end of said door for rocking en-

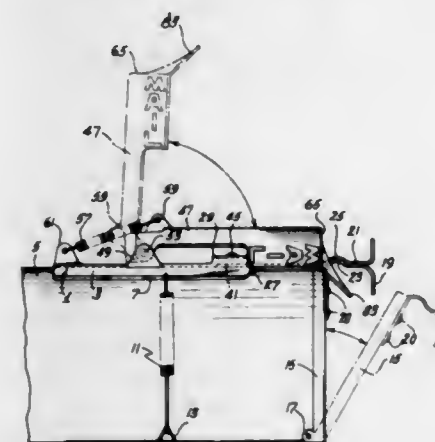


agement with either end of said door opening, said lip and each end of said door opening being formed to provide a hinge connection about which said door may be swung between open and closed positions, and arcuate arms carried by said door and detachably engageable with the side walls of said door opening to guide said door in its swinging movements.

3,343,784

MAIL INDICATOR

Frank M. Waldhaus and Norma J. Waldhaus, R.R. 2, Quincy, Ill. 62301
Filed Apr. 21, 1966, Ser. No. 544,238
6 Claims. (Cl. 232-35)



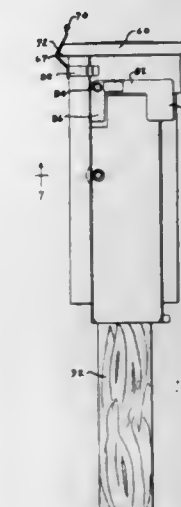
1. A signal for a mail box having a door, comprising: a base; a signal arm; means mounting said signal arm adjacent one end thereof on said base for pivotal movement between a signalling and a non-signalling position; resilient means biasing said signal arm to said signalling position; and magnetic means for releasably holding said signal arm in the non-signalling position against the force of said biasing means, said magnetic holding means being located adjacent the other end of said signal arm and comprising a permanent magnet carried by one of said signal arm and said base and a cooperating magnetic portion carried by the other of said signal arm and said base, said signal arm including adjacent said other end thereof, a finger portion; said base to be attached to the mail box with said finger portion disposed adjacent to and in the path of movement of the mail box door whereby said finger is engaged by the mail box door as it opens

moving said other end of said arm away from said base and releasing said magnetic holding means thereby permitting said resilient means to pivot the signal arm to the signalling position.

3,343,785 MAIL BOX

Seymour E. Gegax, 4411 Kime Ave., and Daniel P. Gegax, 2345 Cassopolis St., both of Elkhart, Ind. 46514

Filed May 13, 1966, Ser. No. 549,884
3 Claims. (Cl. 232-35)



1. A vertically positioned mail box comprising a frame having two spaced upright side members, and an open front and back, a container with an upper open end suspended between said side members and being elongated vertically, pivot means on each side of said container supported by said side members, said pivot means on each side of said container being spaced forwardly of a vertical center line and upwardly from a horizontal center line of said container, a cover pivoted at its rear edge to the frame for closing said container and having a front edge seating downwardly over the front of the container, said container being tiltable between vertical position with said open end closed by said cover to a position between said vertical position and a horizontal position with said open end exposed, said container projecting forwardly and rearwardly from said side members when it is in tilted position, a handle for tilting said container forwardly from said vertical position and having a portion overlapping the upper edge of said cover for holding the cover in closed position when the container is in vertical position, a flag pivoted on one of said side members, and a spring clip attached to the said container for holding said flag in an elevated position when the container is in its vertical position.

3,343,786

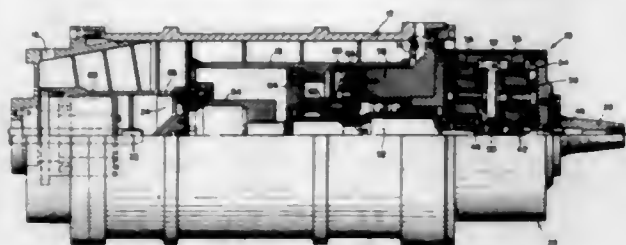
CENTRIFUGE HAVING PLURAL CONVEYING MEANS FOR SOLIDS

Thomas D. Sharples, Lansdale, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 21, 1964, Ser. No. 346,555
5 Claims. (Cl. 233-7)

1. A solids discharge centrifuge comprising a bowl having a feed mixture inlet, a solids discharge port and a liquid discharge port adjacent opposite ends of the bowl respectively, solids conveying means within the bowl, the solids conveying means including at least a pair of helical conveyors having different pitch disposed substantially on the axis of the bowl and both adapted to move solids generally in the same longitudinal direction of the bowl toward the solids discharge port, the second helical conveyor being disposed intermediate the first helical conveyor and

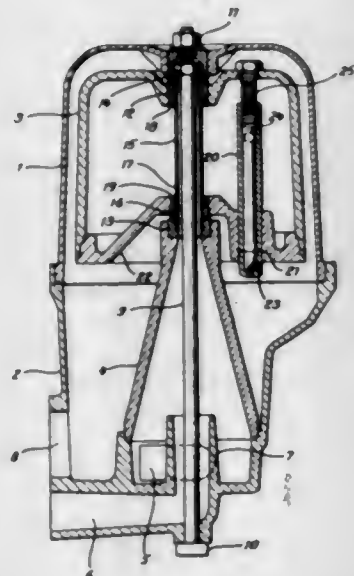
the solids discharge port, said second helical conveyor having a lower pitch than said first helical conveyor, and means for driving the first helical conveyor and the second



helical conveyor at different speeds of rotation with respect to the bowl, with said second helical conveyor being driven at an appreciably higher speed than said first helical conveyor.

3,343,787 CENTRIFUGE ROTOR

Paul Kompert, Stockholm, Sweden, assignor to Alfa-Laval AB, Stockholm, Sweden, a corporation of Sweden
Filed Oct. 12, 1965, Ser. No. 495,273
Claims priority, application Sweden, Oct. 14, 1964, 12,350/64
3 Claims. (Cl. 233-23)



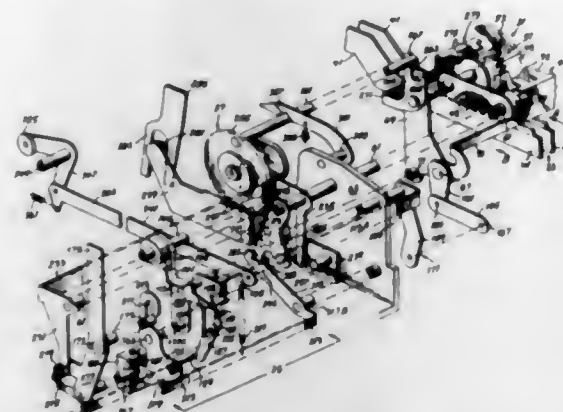
1. The combination of two parts engageable with each other to define a centrifuge rotor having a central rotation axis and also having an inlet leading into the interior of the rotor, said rotor parts being movable relative to each other in the direction of said axis and forming, respectively, opposite ends of the rotor, a tube secured to one end of the rotor and extending into the rotor in the direction of said axis, said tube forming an outlet from the rotor interior, and means securing said tube to the other end of the rotor to clamp said parts together.

3,343,788 MECHANICAL MEMORY UNIT WITH AUTOMATIC CONTROL

Ralph V. Bennett, Norwalk, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,946
7 Claims. (Cl. 235-60)

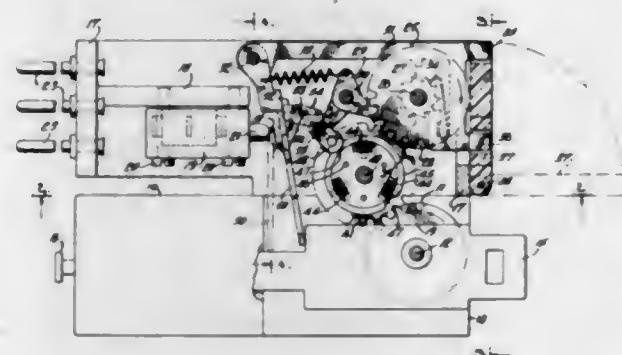
6. In a cyclicly operable business machine a value storage and recall mechanism comprising:
(a) a differentially settable memory unit;
(b) a differential transfer mechanism;
(c) means for moving said transfer mechanism to a set position corresponding to a key entered value during the first half of a cycle of operation of said machine;

(d) erasing means for actuating said memory unit to its zero condition during the first half of said cycle of operation;
(e) means for shifting said memory unit into engagement with said transfer mechanism at the end of said first half cycle whereby said value is transferred to said memory unit during the second half of said cycle;
(f) means for temporarily disabling said erasing means thus to retain the value set in said memory unit for use during subsequent cycle of machine operation;



(g) control means selectively operable to latch said memory unit and transfer mechanism releasably in engagement with each other while said erasing means is disabled thus to retain the value last entered into said memory unit for recall when desired;
(h) means for initiating cycles of operation of said machine; and
(i) means responsive to a cycle of operation initiated by said cycle initiating means to effect recall without erasure of said retained value.

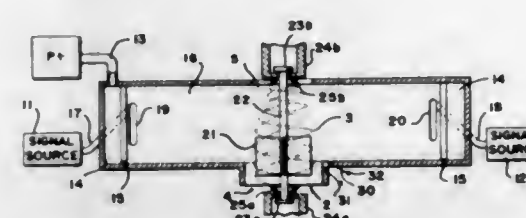
3,343,789
PREDETERMINING COUNTER SWITCH
Nathaniel B. Wales, Jr., New York, N.Y. (48 Park Ave., Fair Haven, N.J. 07702), and Charles B. Grady, Jr., 1 Ridgeway Ave., West Orange, N.J. 07052
Filed Nov. 16, 1966, Ser. No. 594,743
3 Claims. (Cl. 235-132)



1. A predetermining switching device for electromagnetic counters having coaxial adjacent geared counting wheels and a moveable reset member, comprising:
a plurality of coaxial adjacent numbered geared setting wheels corresponding to said counting wheels, and having their axis parallel thereto;
a plurality of differential carrier members corresponding to said counter wheels and journaled on an axis parallel to said counter wheels;
gearing means for each of said carrier members, said gearing means engaging both said geared counter wheels and said geared setting wheels to move each said carrier member in differential relation to the angulations of its said counter wheel and of its said setting wheel, whereby any said carrier member in moved angularly by an amount equally proportional

in magnitude and direction to the angular displacement of either its said geared counting wheel or of its said geared setting wheel;
a spring biased two position electric switch; and
means responsive to a predetermined alignment in angular phase of all said carrier members to actuate said switch.

3,343,790
VORTEX INTEGRATOR
Romald E. Bowles, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Aug. 16, 1965, Ser. No. 479,909
22 Claims. (Cl. 235-200)



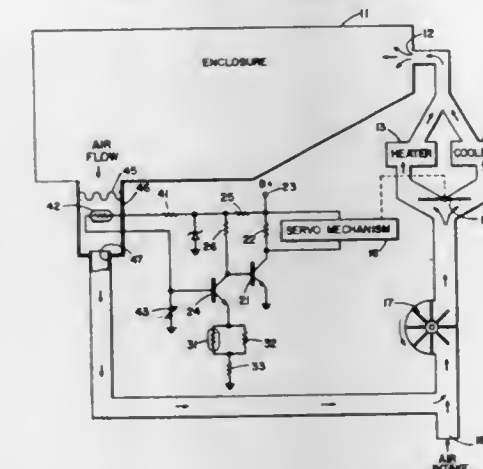
1. A vortex device for performing an integration function, comprising a vortex chamber having a central axis, means positioned generally adjacent the periphery of said chamber and adapted to issue a sheet of fluid into said chamber with substantially no tangential velocity relative to said chamber, control means associated with said chamber for imparting a tangential velocity to said sheet of fluid in accordance with an input signal, an outlet aperture formed in said chamber along said central axis for egress of said fluid with fluid characteristics including presence of a core of forced vortical flow and high viscous coupling generally defined by the area of said aperture, said core of forced vortical flow having both a rotational component of flow and axial components relative to said central axis in the presence of said input signal, fluid driven rotor means responsive only to said rotational component of flow of said core of forced vortical flow, the outer periphery of said rotor means being wholly within said core of forced vortical flow and high viscous coupling and being located primarily in said chamber whereby said rotor means is substantially rigidly coupled to said rotational component of fluid flow and detecting means for sensing the rotation of said rotor means.

14. A vortex amplifier, comprising a vortex chamber having an axis, an outlet aperture for said vortex chamber located on said axis, means inducing vortical flow of fluid in said chamber thereby forming a core of forced flow of solid body rotation of said fluid internally of said vortex chamber, wherein angular velocity of said core is constant with respect to radius of said core and tangential velocity of fluid in said core is a direct function of radius of said core, said chamber being dimensioned such that a core of relatively uniform diameter is formed and means for producing an output in response solely to the angular velocity of said core said last-mentioned means including rotation sensing means having an axial location primarily in said chamber and a radial location wholly within the core.

3,343,791
REGULATING SYSTEM
William H. White, Jr., Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 24, 1965, Ser. No. 457,941
2 Claims. (Cl. 236-1)

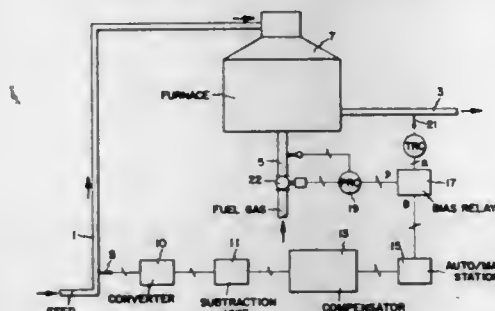
1. A control system for temperature regulating apparatus comprising a heater and cooler used to maintain a preselected temperature in an enclosure according to the

magnitude of the control voltage applied by said control system to the apparatus, said control system including in combination, an amplifier comprising semiconductor means having a main current path and a control current path, said semiconductor means being responsive to variation of current in said control current path to vary the current in said main current path, said amplifier being responsive to the magnitude of current in said main current path to supply a control voltage which varies therewith to the temperature regulating apparatus, first temperature sensitive resistor means and variable resistor means series connected across the source of potential, means connecting the junction of said first resistor means and said variable resistor means to said control current path, a second temperature sensitive resistor series



connected with said main current path across a source of potential, said second resistor being disposed exteriorly of the enclosure for varying the current in said main current path in accordance with the temperature exteriorly of the enclosure, and an air duct connected to the intake side of the regulating apparatus, said air duct having its opposite end disposed in the interior of the enclosure and drawing interior air therein, means supporting said first resistor means proximate said opposite end of said duct so that the intake of air into the apparatus causes a flow of interior air in said air duct and about said resistor means, said resistor means being responsive to the temperature of the interior air to the vary the current in said control current path of said semiconductor means thereby reducing the response time of the regulating system to control the interior temperature of the enclosure.

3,343,792
PROCESS FURNACE CONTROL SYSTEM
George J. Farkas, South Orange, and Eugene C. MacMullan, Wharton, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed June 22, 1965, Ser. No. 466,043
5 Claims. (Cl. 236-23)



1. A method of controlling the outlet temperature of a process furnace comprising obtaining signals representing the magnitude of a disturbance in the feed rate and feed temperature of a fluid flowing to said furnace,

delaying each of said signals for a period of time equal to the respective dead time of the furnace for the disturbance detected, modifying the delayed signals to represent the magnitude of the change in fuel rate required to reduce the magnitude of the change in outlet temperature, and changing said fuel rate in response to said delayed modified signal.

3,343,793

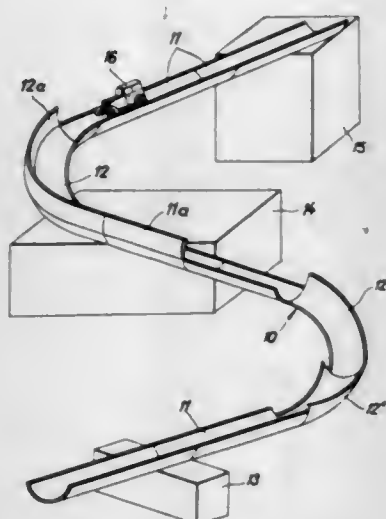
TRACK STRUCTURE FOR TOY VEHICLES

Rudolf Waser, Im Dreispitz 28, Regensburg,
Zurich, Switzerland

Filed Nov. 16, 1964, Ser. No. 411,451

Claims priority, application Switzerland, Sept. 29, 1960,
10,941/60

6 Claims. (Cl. 238—10)



1. A track structure for toy vehicles, comprising a multiplicity of shell segments disposed in endwise abutting relationship whereby a continuous roadway is formed, each of said segments being transversely curved along upwardly open arcs with a radius of curvature which is substantially constant throughout the segment and identical for all segments, coupling means releasably interconnecting adjoining segments with freedom of relative angular adjustment about a common longitudinal axis coinciding with the centers of said arcs, and support means maintaining said roadway in an inclined position.

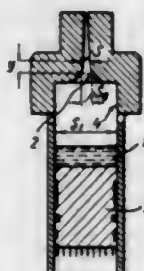
3,343,794

JET NOZZLE FOR OBTAINING HIGH PULSE DYNAMIC PRESSURE HEADS

Bogdan Vyacheslavovich Voitsekhevsky, Ulitsa
Zolotodolinskaya 34, Novosibirsk, U.S.S.R.

Filed July 12, 1965, Ser. No. 471,135

1 Claim. (Cl. 239—101)



A jet nozzle for obtaining high pulse dynamic pressure heads in installations employing an impact of a freely accelerated piston against liquid at the entry thereof to said jet nozzle, said jet nozzle having an internal cavity which is free from liquid at the instant of and the shape of said internal cavity being expressed by the equation,

$$S = k_1 S_0 e^{\frac{-y}{k \cdot k_2}}$$

to provide pressure of up to 3000 kg./sq.cm. in front of said jet nozzle; wherein:

S is the variable of the inside sectional area of the jet nozzle cavity;

S_0 is a value of the jet nozzle inlet sectional area;

y is the variable coordinate along the axis of said jet nozzle;

e is a base of natural logarithm;

k is the construction parameter expressed by the following relation:

$$k = \frac{S_0 \cdot M}{\rho S_1^2}$$

wherein:

ρ is the density of liquid;

M is the mass of the piston;

and

S_1 is the value of said piston cross-sectional area.

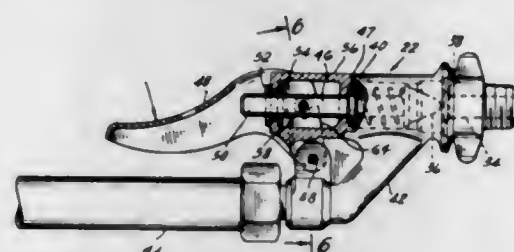
3,343,795

THRUSTLESS SPRAY CONTROL VALVE

August H. Pinke, Hastings, Minn., assignor to H. D.
Hudson Manufacturing Company, Chicago, Ill., a corporation of Minnesota

Filed Jan. 11, 1965, Ser. No. 424,528

5 Claims. (Cl. 239—152)



1. A sprayer of the type having a container of liquid under pressure to be sprayed, a flexible conduit leading from the container and communicating with the interior thereof for passage therethrough of the liquid under pressure, and a tube extension extending from the conduit and having a nozzle controlling the spray pattern of the liquid at the discharge end thereof, a leak-proof thrustless spray controlled valve assembly interposed between the conduit and the tube extension, said valve assembly comprising a valve body having a forward end and a rear end and a sealing member at the rear end and having a passage therein for the liquid to be sprayed and a valve seat, means at the forward end of the valve body for coupling with the tube extension and means intermediate the forward and rear ends of the valve body for coupling with the conduit, a valve means shiftable in said body between a valve closed and open position at which the valve means is, respectively, in engagement with the valve seat to close said passage and spaced therefrom to open said passage, a valve stem extending rearwardly from the valve means through the sealing member and having a rear outer end disposed exteriorly of the valve body, said body having an extension at its rear end, said extension having an opening therein disposed in substantial coaxial relation with respect to the valve stem, the rear end of the valve stem being supported in said opening whereby the sealing member provides a substantially leak-proof seal between the valve stem and the rear end of the valve body during repeated operation of the valve, a spring in said valve body and disposed concentrically about the valve stem in urging the valve means forwardly into engagement with the valve seat, a lever coupled with the rear end of the valve stem, pivotal means pivotally mounting said lever whereby pivotal movement of the lever results in retraction of the valve stem and unseating of the valve means and release of said lever results in said spring

returning the valve means into engagement with the valve seat, said body extension extending integrally from the body, the means for coupling the body with the conduit including an integral leg extending from said body at an acute angle relative thereto and containing part of said passage having an axis at an acute angle with respect to the axis of the valve stem, said leg having a rear portion, and a handle being coupled with said rear portion and extending substantially parallel with the axis of the valve stem and having a bore therein in communication with said passage.

3,343,796

ADJUSTABLE RISER FOR SPRINKLER SYSTEMS

William J. Trickey, East Lansing, Mich., assignor to
Mahogany Corporation, Williamston, Mich., a corporation of Michigan

Filed Oct. 22, 1965, Ser. No. 500,655

13 Claims. (Cl. 239—201)



1. A vertical riser for use in an underground sprinkler system comprising a lower tubular section, an upward tubular section telescoped in said lower section for vertical and rotatable movement relative thereto, a seal assembly carried by said upper tubular section and having a radially expansible packing ring and a vertical passageway therethrough providing communication between the upper and lower tubular sections for passage of liquid, said passageway also defining a keyway extending vertically through the seal assembly, means for effecting radial expansion of said ring into engagement with said lower section when said upper section is rotated relative to said seal assembly, and an elongated key fastened to said lower section so as to be non-rotatable relative to said lower section, said key extending vertically through said keyway so as to restrain rotation of said seal assembly relative to said lower section.

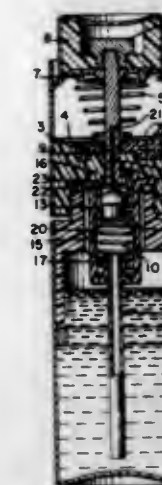
3,343,797
SPRAYER

Jose Cervelló Bach, Barcelona, Spain, assignor to Industrias Cervello, S.A., Barcelona, Spain, a Spanish Anonyme Society

Filed June 14, 1965, Ser. No. 463,622

15 Claims. (Cl. 239—355)

1. A sprayer comprising successive first, second, third and fourth chambers, a shaft partially housed by and reciprocally mounted relative to said first, second and third chambers, a first piston in said first chamber carried by said shaft, conduit means in said shaft, a valve in said third chamber, said conduit means opening into said first chamber and above said valve in a first position of said shaft, an absorbent element in said second chamber, a spray nozzle in fluid communication with said second



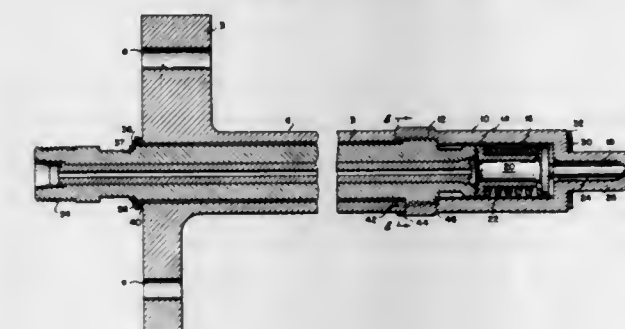
and said valve being movable by said shaft between a first position closing fluid communication between said second and fourth chambers to a second position opening fluid communication between said second and fourth chambers when said shaft is in the second position thereof.

3,343,798

INJECTOR CLAMP AND INDEX DEVICE
Karl Senft, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 20, 1965, Ser. No. 473,469

3 Claims. (Cl. 239—533)



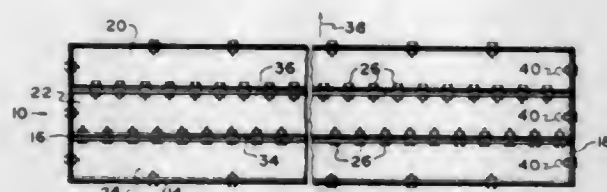
1. A diesel engine fuel nozzle assembly comprising a mounting clamp, a sleeve connected to said clamp, an adapter positioned in said sleeve, a nozzle body member having a spray tip thereon, said spray tip having an orifice therein, spring biased valving with said nozzle body member to regulate fuel flow through said orifice, said nozzle body member being threadedly secured to said adapter member, an indexing recess in said nozzle body member, and an indexing projection on said sleeve whereby said projection is received by said recess to specifically position said spray orifice with respect to the longitudinal axis of said nozzle, said mounting clamp further orienting the assembly with respect to an engine when said assembly is secured thereto.

3,343,799

MOISTENING DEVICE
Robert Charles Geitz, 7 Hoplea Road,
Simsbury, Conn. 06070
Filed Jan. 8, 1965, Ser. No. 424,430
6 Claims. (Cl. 239—568)

1. A distributor for the application of a condensable medium to web material for moistening the same comprising in combination an elongated chamber adapting to extend generally horizontally across said web material,

the bottom of said chamber being comprised of a plurality of elongated sections positioned in side-by-side relation with adjacent sections having complementary upstanding flanges, means maintaining said flanges in spaced relation so as to provide longitudinally extending passageways, means securing said flanges in said spaced relation, drain passageways formed in the lower region of



said chamber and communicating therewith on each side of said flanges, and means for introducing a condensable medium into said chamber comprising an elongated conduit extending the length of said chamber and through the ends thereof whereby said chamber may be supported from said conduit, and openings in said conduit distributed along the length thereof and communicating with the interior of said chamber.

3,343,800

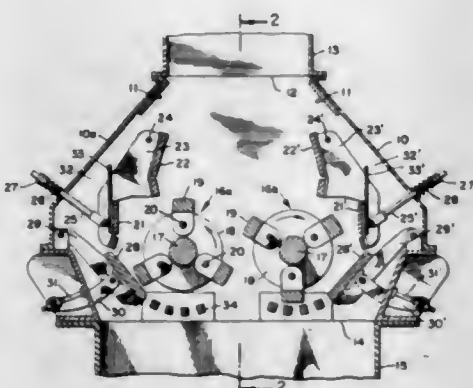
CRUSHING AND DRYING APPARATUS

Frits Rasmussen, Copenhagen-Valby, Denmark, assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 445,014

Claims priority, application Great Britain, Apr. 29, 1964, 17,813/64

10 Claims. (Cl. 241-47)



1. An apparatus for simultaneously crushing and drying moist material, comprising a casing having openings at its top and bottom, means for introducing hot gas into the casing through the bottom opening, means for introducing material to be crushed into the casing and for conducting gas and entrained crushed material from the casing through the top opening, and crushing means inside the casing in the path of gas flowing upwardly through the casing, the crushing means including impactors for crushing material against impact members and the impact members adjacent to but spaced from the casing side walls and co-operating therewith to define at least one by-pass open at its bottom to receive part of the hot gas introduced through the bottom opening of the apparatus with the gas flowing upwardly through the by-pass in heat exchange relationship with the impact members to dry material in contact therewith and the top of the by-pass opening adjacent the top opening of the apparatus so that gas from the by-pass combines with the gas and entrained material to dry the entrained material.

ERRATUM

For Class 242-248 see:
Patent Nos. 3,343,751-3,343,779

3,343,801

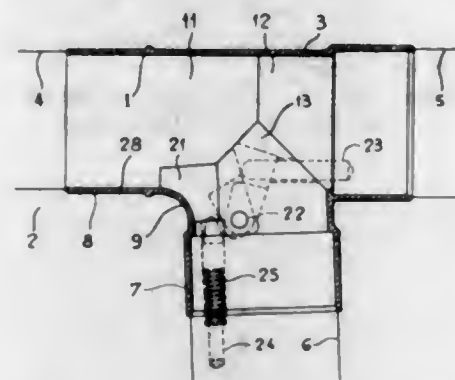
DEVICE FOR MOLDING SYNTHETIC FITTINGS

Anton Münzer and Theodor Rüeger, Schaffhausen, Switzerland, assignors to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland

Filed Oct. 20, 1964, Ser. No. 405,048

Claims priority, application Switzerland, Oct. 21, 1963, 12,883/63

2 Claims. (Cl. 249-145)



1. An apparatus for making hollow fittings such as T-fittings with two sections arranged at an angle with regard to each other and communicating with each other while merging with each other at one side of one of said sections along a concave portion when looking from the outside of the fitting, which includes: at least two mold sections adapted to be composed to a mold having a cavity therein defining the external shape of said fitting and having openings at the surface of the mold to receive cores, said cores abutting when inserted in said openings and defining the internal shape of said fitting, and a plurality of cores insertable into said openings in said mold, one of said cores being provided with a recess on its inner end, said one core having a member pivoted thereto in said recess and having a curved region thereon corresponding to said concave portion on the inside of said fitting, said member being pivotal on said one core member from a retracted position on said one core member wherein it is disposed within the lateral limits of said one core member to an outward position thereon in which said member extends laterally from said one core member and defines the inner surface of said fitting inside the said concave portion therein, and actuating means for moving said member on said one core between the two said positions, said actuating means including spring means acting between said one core and said member and continuously urging said member toward its retracted position on said one core, and also including means on a second core operable upon insertion of said second core into its respective said opening following the insertion of said one core and move it to its extended position on said one core.

3,343,802

PRESSURE SEALED ROTARY CYLINDRICAL SHUT-OFF VALVE

Steven Schuilwerwe, 7 Albert Verweystraat, Breda, Netherlands

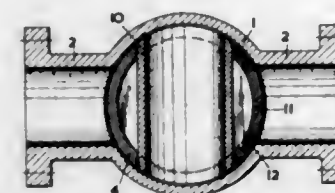
Filed Jan. 21, 1965, Ser. No. 426,773

Claims priority, application Belgium, Jan. 27, 1964, 43,336

4 Claims. (Cl. 251-175)

1. A valve comprising a housing having an inlet and an outlet arranged along a common longitudinal axis, a movable cylindrical element, said movable cylindrical ele-

ment arranged at right angles to the axis through the inlet and outlet and adapted to be rotated about an axis perpendicular to the axis through the inlet and outlet, said movable cylindrical element enclosing a second cylindrical element of approximately the same cross section as the inlet and outlet and being arranged at right angles to the axis of rotation of the movable cylindrical element whereby in the open valve position flow occurs through the inlet and outlet and housing via said second cylindrical element, means to rotate said movable cylindrical element, means adapted to admit a pressure medium into the movable cylindrical element, and means in the pe-



ripheral wall of the movable cylindrical element adapted to be forced radially outwardly by the pressure medium to stop flow through the housing when the movable cylindrical element is rotated to a position where the enclosed second cylindrical element is out of communication with the inlet and outlet and said sealing means is in communication with the inlet and outlet, characterized in that the means fitted in the peripheral wall of the movable cylindrical element consists of a part of said wall which has been cut out and subsequently re-inserted with the interposition of a ring of resilient material which is connected with the peripheral wall as well as its cut out portion.

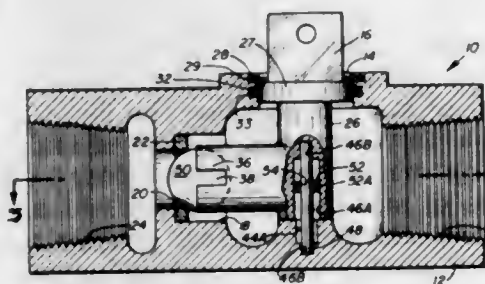
3,343,803

BALL VALVE WITH IMPROVED RESILIENT CLOSING MEANS

Donald J. Burke, Tulsa, Okla., assignor to Continental Industries, Inc., Tulsa, Okla., a corporation of Oklahoma

Filed June 6, 1966, Ser. No. 555,344

5 Claims. (Cl. 251-176)



1. A valve comprising:
a body having a flow passageway therethrough, a shaft opening in one side thereof, and a pivot pin recess in said passageway coaxial with and opposite said shaft opening, a portion of the flow passageway being defined by a valve seat;
a ball in said passageway adaptable, when moved against said valve seat, to close the valve;
an actuating arm within said body passageway having an integral shaft portion sealably extending through said shaft opening, said shaft portion pivotally supporting said actuating arm whereby said arm may be pivoted by externally applied torque, the actuating arm having means to engage said ball to move said ball away from said valve seat when said arm is pivoted to the valve opening position and to move said ball towards said valve seat when said arm is pivoted to the valve closed position, the actuating arm being defined further by a cam portion adaptable to force said ball into sealed contact with said seat when said actuating arm is pivoted to the valve

closed position, said actuating arm having an enlarged diameter pivot pin recess therein coaxial with and opposite said shaft portion, said enlarged diameter pivot pin recess terminating interiorly within a coaxial reduced diameter pin recess;

- a deflectable pivot pin having one end received in said body pivot pin recess and the other end received in said interior reduced diameter pivot pin recess, said pivot pin pivotally supporting said actuating arm coaxially and in cooperation with said shaft portion; and
- a pivot pin deflector collar positioned in said actuating arm enlarged diameter pivot pin recess, said pivot pin deflector collar having an opening therein receiving said pivot pin.

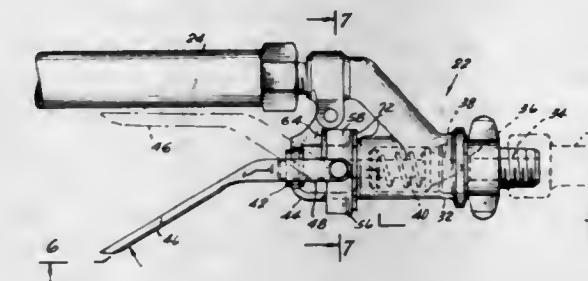
3,343,804

DUAL ACTUATED SPRAY CONTROL VALVE

August H. Pinke, Hastings, Minn., assignor to H. D. Hudson Manufacturing Company, Chicago, Ill., a corporation of Minnesota

Filed Jan. 11, 1965, Ser. No. 424,529

3 Claims. (Cl. 251-241)



1. A dual actuated fluid flow control valve for sprayers or the like comprising: a valve body adapted to form part of a fluid flow unit graspable by the hand of an operator having a passage therein for the fluid; means at one end of the body for coupling the valve to a spray nozzle; means at the other end of the body for coupling with a source of the liquid to be sprayed; a valve means shiftable between a closed and open position for closing said passage to stop the fluid flow and for opening said passage to stop the fluid flow and for opening said passage to permit the fluid flow, respectively; a valve stem extending from said valve means to the exterior of the valve body for permitting the actuation of valve means between the open and closed position; a lever for facilitating the actuation of the valve stem and consequently said valve means; coupling means coupling the lever to the valve stem and being engageable with surfaces of the valve body to permit the lever to be shifted in one direction by the thumb of the hand of the operator to actuate the valve stem and to be shifted in a second direction to actuate the valve stem by the heel of the thumb or palm of the hand of the operator; pivotal means provided for pivotally mounting the lever on the outer end of the valve stem; said coupling means including a member also pivotal on the outer end of the valve stem by said pivotal means; said member having a first projecting surface engageable with the lever upon pivoting of the lever in a substantially forward direction to actuate the valve stem and said member including a second projection engageable with the lever upon pivoting the latter in a reverse direction about the pivotal means to actuate the valve stem; and said member including a first surface engageable with the valve body to serve as a fulcrum to actuate the valve stem in a rearward direction upon pivotal movement of the lever in a forward direction about the pivotal means by the thumb of the operator; and said member having a second surface engageable with said body to serve as a fulcrum to actuate the valve stem in a rearward direction upon pivoting of the lever in a reverse direction about the pivotal means.

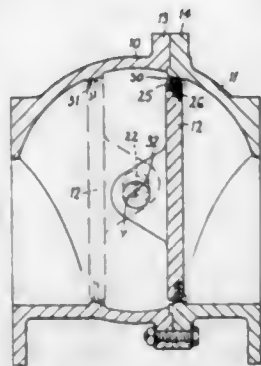
3,343,805

DISC OR BUTTERFLY VALVES

George Aubrey Felton, Berkhamsted, England, assignor to The Loewy Engineering Company, Limited, Bourne-mouth, England, a company of Great Britain
Filed Sept. 29, 1964, Ser. No. 399,935

Claims priority, application Great Britain, Sept. 30, 1963, 38,451/63

3 Claims. (Cl. 251—306)



1. A butterfly valve having a housing with cylindrical inlet and outlet portions and a valve chamber between said cylindrical portions, the axial extensions of said portions, defining a cylindrical flow passage through said chamber, a circular flap member, in the shape of a flat disc rotatably mounted in said chamber for controlling the flow through said passage, said flap member being offset from its axis of rotation, a first valve seat with which said flap member makes contact, the axis of rotation of said flap member being offset with regard to the axis of flow in said passage, said chamber having a spherically-shaped enlargement extending from the inlet to the outlet portions, the center of said spherically-shaped enlargement coinciding with the axis of rotation of said flap member, and the surface of said spherically-shaped enlargement being free from any internal projections into the rotary path of said flap member, thereby permitting rotation of said flap member about its axis in opposite directions by 360°, said flap member when in its fully open position being entirely within said spherically-shaped enlargement and entirely outside said cylindrical flow passage.

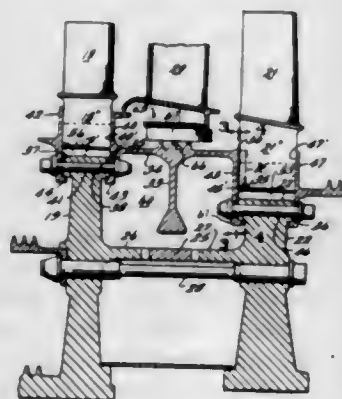
3,343,806

ROTOR ASSEMBLY FOR GAS TURBINE ENGINES

Melvin Bobo, Topsfield, and Jack R. Martin, Bedford, Mass., assignors to General Electric Company, a corporation of New York

Filed May 27, 1965, Ser. No. 459,207

12 Claims. (Cl. 253—39.1)



1. In an axial flow gas turbine, a rotor assembly comprising:
first and second blade carrying disks in axially spaced relationship,
a third disk intermediate said first and second disks,

an annular ring member integrally formed with said third disk at the outer periphery thereof,
said annular ring member including a cylindrical shield extending axially between said first and second blade-carrying disks, a first radially disposed plate adjacent said first disk, and a second radially disposed plate adjacent said second disk,
the surface at which at least one of said plates is secured to the associated disk being radially spaced a substantial distance from the cylindrical shield,
and fastening means flexibly securing said first and second plates to said first and second disks, respectively, to provide both sealing against radial leakage therebetween and substantially free axial movement between said annular ring member and said first and second disks, with said third disk restraining said cylindrical shield against outward bowing during turbine operation.

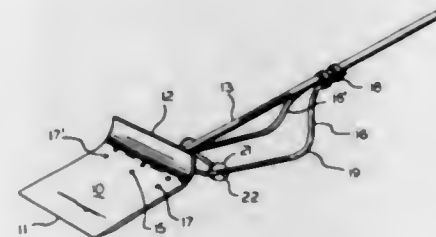
3,343,807

SHOVEL

Andrew L. Moraski, 1901 S. 6th St., Milwaukee, Wis. 53204

Filed May 7, 1965, Ser. No. 454,094

3 Claims. (Cl. 254—131.5)



1. A shovel for removing snow and the like comprising:
a shovel blade including a forward edge, said forward edge moving in contact with a surface and causing snow to be loaded on said blade;
a handle having a forward end and a gripping end, said forward end being attached to said shovel blade; and
a pair of rod members each having a front portion extending downwardly and outwardly from opposite sides of said handle above said forward end and a rear portion having one end thereof connected to the free ends of said front portion and inclining upward therefrom, the other ends of each of said rear portions being attached to said shovel blade on the opposite sides of said forward end of said handle, the junction of said front and rear portions acting as a pivot point when contacting said surface and a downward force is applied to the gripping end of said handle to lift said shovel blade away from said surface.

3,343,808

CONCRETE PRESTRESSING APPARATUS

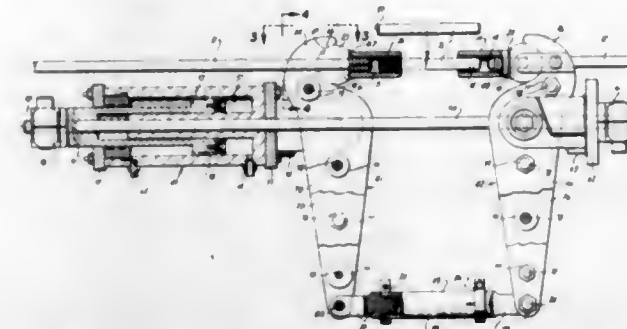
James W. Howlett, Richmond Annex, Calif., assignor to Howlett Machine Works, a corporation of California

Filed Aug. 16, 1963, Ser. No. 302,628

5 Claims. (Cl. 254—133)

1. A take up coupling apparatus adapted for engagement by a jacking means for joining, drawing together and rejoining two generally aligned end opposed axially stressed tendons comprising:
jack engaging means adapted for connection to said tendons and being formed with shoulders adapted for engaging said jacking means; and
coupling means operatively joining said tendon ends and including a pair of sleeve-like wedge members permitting limited movement of said tendons in an axial direction toward said coupling means and preventing movement in a direction away from said coupling means.

pling means, one of said wedge members and a portion of said coupling means being formed with interfitting right-handed spiral threads and the other of said wedge members and another portion of said



coupling means being formed with left handed spiral threads to permit taking up slack between said tendons by rotating said stress relieved coupling means when said jack means is actuated and engages said jack engaging means.

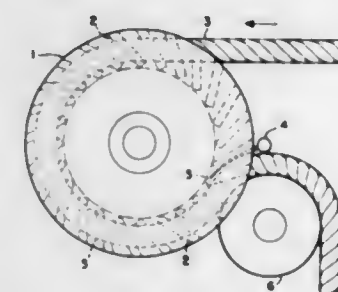
3,343,809

ROPE PULLING DEVICE

Strohm Newell, 2256 Albatross, San Diego, Calif. 92101

Filed Mar. 27, 1967, Ser. No. 629,351

4 Claims. (Cl. 254—134.3)



1. In a rope pulling device the combination of:
(a) a disk member, and,
(b) an annular groove with a V-shaped cross section provided on the periphery of the disk member, and,
(c) a plurality of ribs and troughs transversally disposed at regular intervals on the inner lateral face of said groove, and,
(d) a lineal pull rope operatively mounted in said groove whereby its strands mesh with lateral surfaces of the ribs, and,
(e) a power source which is operatively connected to the disk member, and,
(f) a support upon which the disk member is rotatably mounted.

3,343,810

DYNAMIC LOAD COMPENSATION SYSTEM

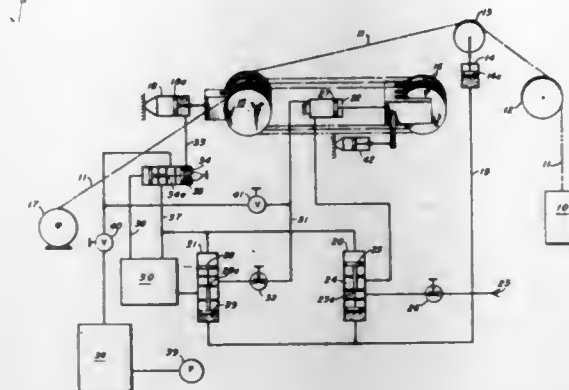
Paul E. Parnell, 3215 Boundary St., San Diego, Calif. 92104

Filed May 25, 1966, Ser. No. 552,856

6 Claims. (Cl. 254—172)

1. A system for automatically compensating for dynamic change in the load cable comprising:
a first and second plurality of sheaves spaced from each other and having said cable disposed in an arrangement of multiple working cables therebetween;
means supporting said first plurality of sheaves in substantially stationary relationship in respect to said plurality of sheaves;
a sensing means positioned relative to said load and said plurality of sheaves for producing a load signal as a function of the instantaneous load on said cable; and,

compensation means responsive to said load signal for changing the disposition of said second plurality of sheaves in a first direction to compensate for an increase in the sensed cable load and in a second direction to compensate for a decrease in the sensed cable load,



said means being adapted to produce a changing force as a function of a sensed load signal and the number of working cables disposed between said first and second plurality of sheaves.

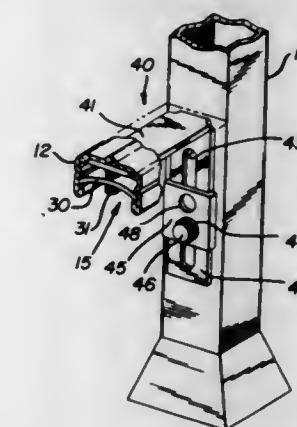
3,343,811

HEAVY DUTY ADJUSTABLE RAILING

Edward J. Kusel, 2343 Ridgewood Road, and Robert S. Mankin, 1954 Stockbridge, both of Akron, Ohio 44313

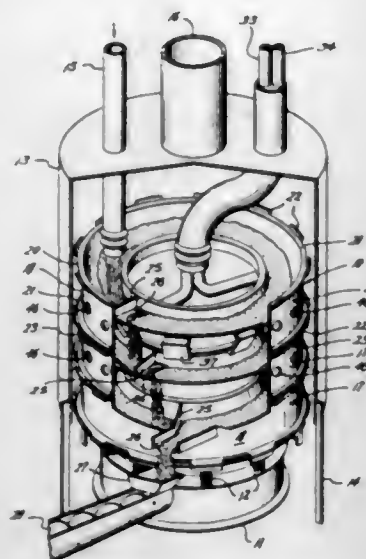
Filed Oct. 11, 1965, Ser. No. 500,466

5 Claims. (Cl. 256—22)



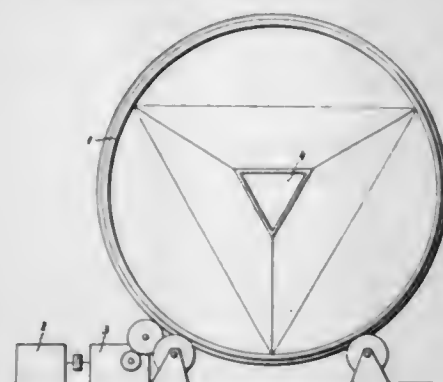
1. A railing assembly adapted to be secured with respect to a fixed surface, comprising;
(1) an elongate railing section of generally U-shaped cross section and having a base portion and opposed leg portions;
(2) connecting means including a clamping plate of arched cross sectional configuration that is adapted to be inserted between said leg portions at one end of said railing section;
(3) opposed support means carried by the internal surfaces of said leg portions and adapted to suspend said clamping plate in predetermined spaced relationship to the interior wall surface of said base portion of said railing section;
(4) expanding means reacting between said railing section and said clamping plate and flattening said clamping plate to transversely expand the same, with the opposed edge portions thereof being moved apart and into frictional contact with the internal surfaces of said opposed leg portions;
(5) and fastening means integrally projecting from said clamping plate and having a mounting surface that is disposed at right angles to the plane of said clamping plate.

3,343,812
PROCESS AND APPARATUS FOR
CONDITIONING MATERIALS
 Arthur K. Moulton, 7616-D Glen Prairie,
 Houston, Tex. 77017
 Filed Oct. 17, 1966, Ser. No. 594,642
 15 Claims. (Cl. 259—2)



1. A process for continuously conditioning solids, comprising continuously feeding solids to a conditioning zone, conditioning said solids in said conditioning zone, imparting controlled vibrations to said solids to move said solids in sequence downward through a series of vertically spaced, horizontal, arcuate paths of travel in said conditioning zone and to fluidize said solids for exposure of all of said solids to said conditioning, discharging the conditioned solids from said conditioning zone, and positioning the inlet and outlet of said arcuate paths to preselect the length of travel of solids in each of said arcuate paths to thereby preselect the time of exposure of said solids to said conditioning.

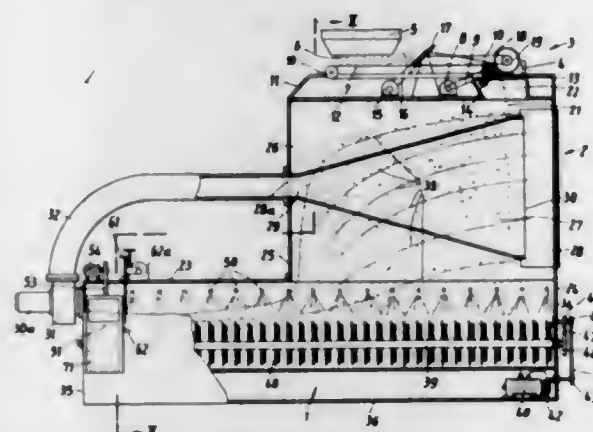
3,343,813
MACHINE FOR MIXING AND DIVIDING TEST
SPECIMENS OF MATERIAL
 László Török, Tivadar Markotai, and István Bogár, Pecs,
 Hungary, assignors to Nikex Nehezipari Kulkereske-
 delmi Vallalat, Budapest V., Hungary
 Filed Dec. 22, 1964, Ser. No. 420,366
 6 Claims. (Cl. 259—3)



6. In a machine for mixing and dividing a flowable material from which relatively small test specimen is to be taken, a rotary drum having a substantially horizontal axis of rotation and having a hollow interior part of which at any given instant is located at an elevation higher than said axis, and distributing means situated in the interior of the drum, extending longitudinally thereof substantially parallel to said axis for receiving material from that part of the interior of the drum which at any given instant is

at an elevation higher than said axis and for distributing the received material respectively along a pair of diverging paths to lower interior regions of the drum which are situated at an elevation lower than said axis, so that the material is divided by said distributing means during rotation of the drum, and access means carried by said drum and providing access to the interior thereof, said access means providing communication with at least one of the interior regions of the drum to which material is directed by said distributing means, so that through said access means it is possible to receive from the drum a test specimen which is but a small fraction of the initial amount of material introduced into the drum.

3,343,814
DEVICE FOR COATING CHIPS WITH GLUE
 Heinrich Mund, Springe, Germany, assignor to Firma
 Bahre Metallwerk K.G., Springe, Hannover, Germany,
 a corporation of Germany
 Filed June 1, 1965, Ser. No. 460,078
 20 Claims. (Cl. 259—6)

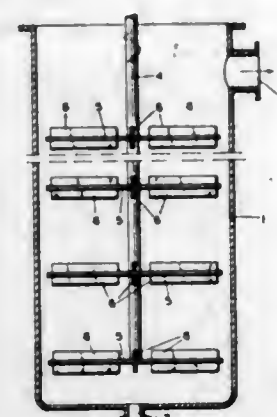


1. Apparatus for coating particles such as chips, fibres and the like with bonding agent, which apparatus comprises:
 a drum;
 means for introducing bonding agent into said drum;
 agitating means for mixing particles contained in said drum;
 at least one aperture for discharging particles from said drum;
 a sorting chamber positioned above said drum and having a length less than the length of said drum;
 charging means to supply particles to the upper portion of said sorting chamber;
 an air reflector positioned at one end of said sorting chamber; and
 an air nozzle passing through said chamber and having a mouth adjacent said air reflector;
 whereby air from said air pipe is reflected by said reflector, thereby affecting the paths of particles passing downwardly through said sorting chamber to said drum.

3,343,815
CYLINDRICAL VESSEL FOR TREATING A LIQUID
OR A LIQUID MASS WITH ANOTHER MATERIAL IN CONTINUOUS OPERATION
 Wouter G. Kingma, Huizen, Netherlands, assignor to
 Continental Engineering, Ingenieursbureau voor de
 Procesindustrie N.V., Amsterdam, Netherlands, a com-
 pany of the Netherlands
 Filed Nov. 4, 1965, Ser. No. 506,377
 3 Claims. (Cl. 259—7)

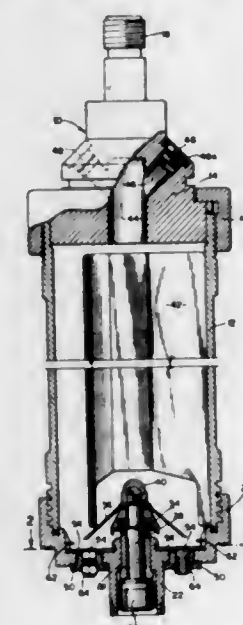
1. A cylindrical vessel for treating a liquid or a liquid mass with another material in continuous operation or for cooling or heating a liquid or a liquid mass, said vessel having a smooth inner surface and being provided with discs secured on a rotating shaft, characterized, in that the

discs having a closed or nearly closed surface on both sides are provided with relatively low ribs extending more or less radially with respect to their shaft and leaving a distance of several times the height of the ribs from the ribs of the directly adjacent disc.



or less radially with respect to their shaft and leaving a distance of several times the height of the ribs from the ribs of the directly adjacent disc.

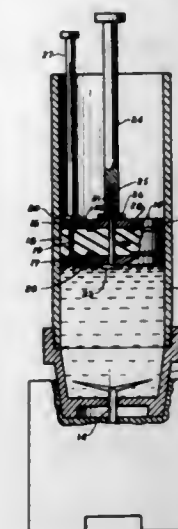
3,343,816
MIXING PROCESS AND APPARATUS
 Karl G. Reed, Wayne, Pa., assignor to Pennsalt Chemicals
 Corporation, Philadelphia, Pa., a corporation of Penn-
 sylvania
 Filed July 15, 1965, Ser. No. 472,118
 4 Claims. (Cl. 259—33)



1. A process for mixing a liquid and other components comprising placing the liquid and components in a container, and while holding the container in fixed position mixing the liquid and components with a rotating impeller, then spinning the container and mixed liquid at a speed sufficient to drive entrapped gas to the surface of the mixture and thereby remove therefrom gases entrapped in the mixing.

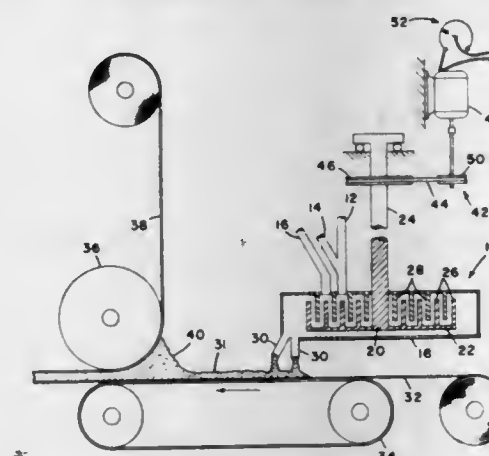
3,343,817
APPARATUS FOR MIXING MATERIALS IN THE
SUBSTANTIAL ABSENCE OF AIR
 Salvatore Carangelo, Staten Island, N.Y., and Jerome
 Fine, Passaic, N.J., assignors to Interchemical Corpora-
 tion, New York, N.Y., a corporation of Ohio
 Filed June 29, 1966, Ser. No. 561,468
 5 Claims. (Cl. 259—122)

1. Apparatus for mixing materials having a continuous liquid phase which comprises a substantially cylindrical housing with a closed lower end, agitating means mounted at said lower end, an elastomeric piston riding vertically within said cylinder, said piston having a small aperture passing through it, means for laterally expanding said



frictionally seal the portion of the cylinder below the piston and means for sealing said aperture.

3,343,818
PROCESS FOR MAKING GYPSUM BOARD
 Henry F. Plemons and Marvin D. S. Fields, Medicine
 Lodge, Kans., assignors to National Gypsum Company,
 Buffalo, N.Y., a corporation of Delaware
 Filed June 14, 1966, Ser. No. 557,524
 2 Claims. (Cl. 259—147)

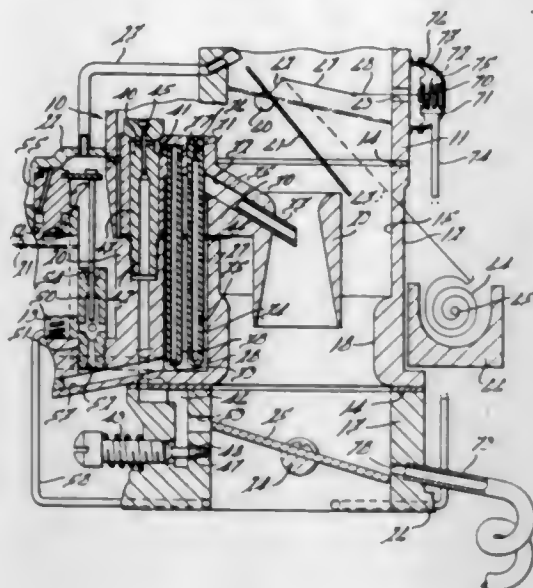


1. The method of making paper-covered gypsum-core wallboard comprising the steps of feeding a substantially constant supply of calcined gypsum, fine tenacious foam, water, and other additives to a mechanical mixer having readily controllable variable speed mechanical mixing means, adjusting the speed of said mechanical mixing means to about 1% to 25% greater than the speed at which said ingredients are thoroughly mixed with an optimum retention of the entrained air of said foam, and adjusting the rate of addition of said foam to provide an amount of excess entrained air to equal the amount that will be knocked out by said speed being greater than the speed of optimum foam retention, whereby the volume of mixed materials may be varied by an inverse adjustment of said variable speed mechanical mixing means.

3,343,819
HOT START VENT AND FLAME ARRESTER
FOR CARBURETOR
 Jorma O. Sarto, Orchard Lake, Mich., assignor to
 Chrysler Corporation, Highland Park, Mich., a
 corporation of Delaware
 Filed Aug. 10, 1966, Ser. No. 571,505
 4 Claims. (Cl. 261—1)

1. In a fuel charging device for an internal combustion engine, a fuel-air induction conduit for supplying a combustible fuel and air mixture to said engine, a throttle

valve in said conduit, means for supplying fuel to said conduit at a location upstream of said throttle valve, means for venting fuel vapors from said conduit tending to accumulate therein upstream of said throttle valve when the latter is closed and said engine is not operating compris-

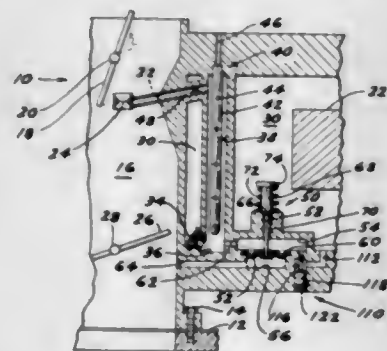


ing a vent duct communicating with said conduit at a location adjacent and upstream of said throttle and opening to the atmosphere, said vent duct terminating in a flame arrester located exteriorly of said conduit for extinguishing flame in said vent duct in the event of a backfire in said conduit.

3,343,820 CARBURETOR

Walter B. Elliott, Royal Oak, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan

Filed Dec. 1, 1965, Ser. No. 510,789
9 Claims. (Cl. 261-23)

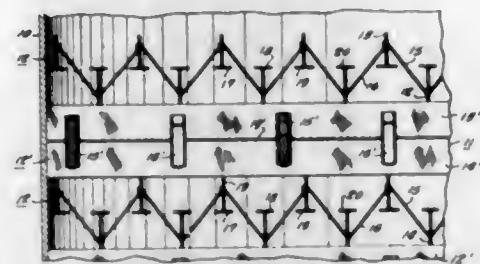


1. An internal combustion engine carburetor, comprising an induction passage, a throttle valve in said induction passage, a fuel reservoir and a plurality of co-operating fuel systems for supplying fuel from said reservoir to said induction passage during part and wide open throttle operation of said carburetor, said systems including a main fuel system, an auxiliary fuel system and a power fuel system, each of said systems having its own means communicating with said reservoir through which fuel is supplied thereto, said means for said main and auxiliary systems comprising separate fixed constantly-open metering restrictions and said means for said power fuel system comprising an orifice controlled by a valve for closing said orifice except when power fuel is required, a common fixed metering restriction connecting said auxiliary and power fuel systems to said main system and of sufficient capacity to flow fuel simultaneously from both of said auxiliary and power fuel systems.

3,343,821 GRIDS FOR VAPOR-LIQUID CONTACT APPARATUS

Francis W. Winn and Hans C. Glitsch, Dallas, Tex., assignors to Fritz W. Glitsch & Sons, Inc., Dallas, Tex., a corporation of Delaware

Filed Feb. 5, 1964, Ser. No. 342,694
10 Claims. (Cl. 261-112)

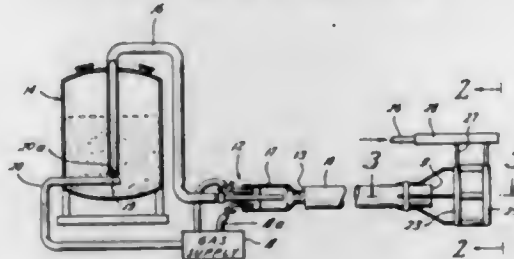


1. A grid for vapor-liquid contact apparatus including a plurality of transverse layers positioned one above another, each of the layers having a plurality of elongate grid members of relatively narrow upright width, a plurality of elements of narrow width extending transversely between and connecting the grid members of each layer in spaced relationship, said grid members having at least longitudinal marginal portions thereof extending toward and in angular free relation to adjacent grid members of each layer so as to provide restricted upright vapor passages of relatively large areas between adjacent grid members and create vapor turbulence for causing thorough mixing of ascending vapor and descending liquid without excessive lateral displacement of the vapor and liquid and without excessive pressure drop, the longitudinal marginal portions of said grid members having overall dimensions longitudinally of said members of such greater length than the combined width of the connecting elements that said longitudinal marginal portions are substantially coextensive with said members, one side of each longitudinal marginal portion having an upwardly facing surface adapted to be exposed to the descending liquid so as to permit the forming of a liquid film thereon for contact by the ascending vapor and thereby provide a primary vapor-liquid contact area and the other side of each longitudinal marginal portion having a downwardly facing surface adapted to be exposed to the ascending vapor for disengaging the ascending vapor from its entrained liquid by collecting the entrained liquid on the latter surface and thereby provide a primary liquid disengagement area.

3,343,822 SPRAY-TYPE DUST REDUCER

James D. McCune, La Porte, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed June 11, 1964, Ser. No. 374,449
2 Claims. (Cl. 261-118)



1. In an apparatus for cleaning a pipe including means for injecting a cleaning material into a first end of the pipe and means for propelling the cleaning material out of a second end of the pipe, the combination of means for settling out dust discharged from the second end of the pipe during the cleaning operation comprising,

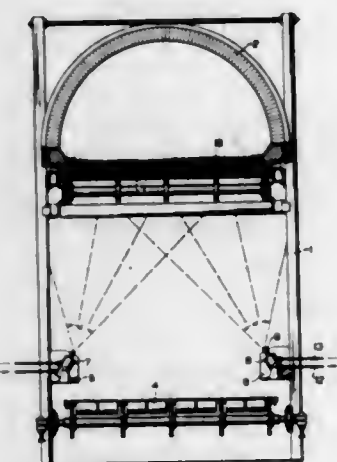
means for spraying liquid into the dust discharged from the second end of the pipe to wet and settle out the dust, and means permitting observation of dry dust discharged from the pipe before the dust is wetted by the means for spraying liquid including support means attaching the means for spraying liquid to the second end of the pipe and spacing the means for spraying liquid radially and longitudinally from the second end of the pipe along an extension of the longitudinal axis of the pipe.

3,343,823

PROCESS AND APPARATUS FOR CONTROLLING THE TEMPERATURE PREVAILING IN A SINTERING GRATE OF THE TYPE USED FOR DRYING AND CALCINING SHAPES

Kurt Schmeiser, Cologne, and Kurt Lehmann, Hans-Werner Ziegler, and Werner Kowalski, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed June 22, 1965, Ser. No. 465,909
Claims priority, application Germany, June 27, 1964, K 53,337
8 Claims. (Cl. 263-28)



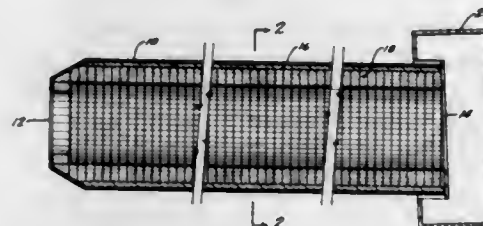
4. A process of controlling the temperature of a traveling sintering grate upon which material to be sintered is positioned comprising the steps of providing infrared measuring means directly below and adjacent to the sintering grate, and measuring the infrared radiation emitted by the underside of the grate across the entire width of the grate.

3,343,824

ROTARY KILN

Richard R. Schneider, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 28, 1965, Ser. No. 451,598
3 Claims. (Cl. 263-33)



1. A rotary kiln consisting of a cylindrical metallic shell containing means for rotating it about its longitudinal axis which is inclined from the horizontal, an annular,

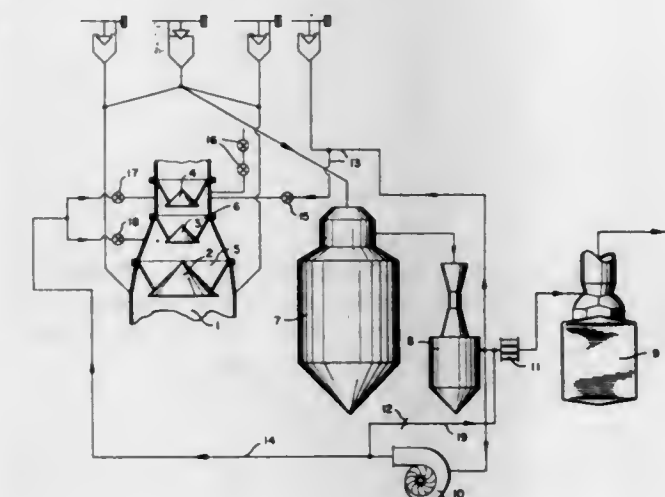
continuous pressed sheet of asbestos fibers having a uniform thickness of between about 1/8" and 1/4", and a coefficient of thermal conductivity between about 0.8 and 1.5 B.t.u./hour/square foot/° F.-inch thickness secured to the shell and an annulus of refractory brick overlaying and supported by said asbestos sheet.

3,343,825

PRESSURE EQUALIZER AND DISCHARGER OF A BLAST FURNACE

Teruo Tsutsumi, Yokohama-shi, and Keiichi Kumagai, Kawaguchi-shi, Japan, assignors to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a company of Japan

Filed Oct. 1, 1964, Ser. No. 400,685
Claims priority, application Japan, Jan. 25, 1964, 39/3,426
10 Claims. (Cl. 266-27)



6. In a blast furnace system comprising: a blast furnace to be charged with charging material; a bell hopper charging apparatus attached to the top of said blast furnace and having downwardly arranged consecutive first and second hoppers each with an independently controlled bell whereby said second hopper is connected via a discharge valve with the outer atmosphere; a dry dust catcher the input of which is connected to said blast furnace; a primary dust catcher the input of which is connected to the output of said dry dust catcher and the output of which is connected via a primary equalizer valve with said second hopper; and a pressure equalizer and discharger comprising a turbo-blower the output of which is connected via a secondary equalizer valve with said second hopper and the input of which is connected with the output of said primary dust catcher, pressure control means installed in a bypass pipe connecting the outlet of the turbo-blower with the primary dust catcher, charging operation control means which controls the entire operation schedule of said primary equalizer, discharge and secondary equalizer valves.

3,343,826

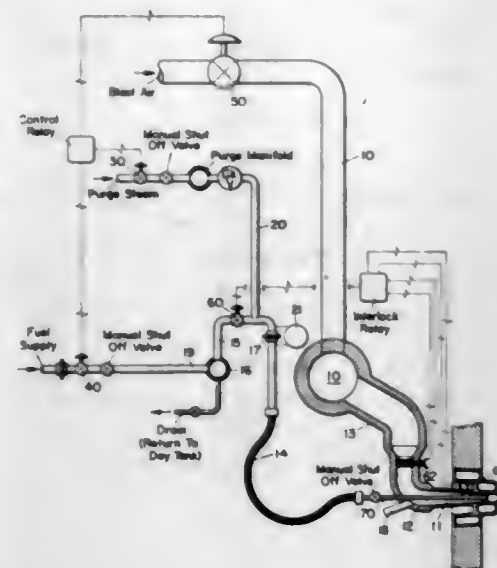
FLUID FUEL CONTROL SYSTEM AND APPARATUS FOR FURNACES

Erwin H. Manny, Cranford, and Walter F. Rollman, Millburn, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Original application June 27, 1960, Ser. No. 38,852, now Patent No. 3,228,764, dated Jan. 11, 1966. Divided and this application June 3, 1965, Ser. No. 460,983
6 Claims. (Cl. 266-29)

3. An apparatus for the control of the fuel-blast air into a furnace comprising means for injecting heated blast air into a blast furnace, means for injecting fluid hydrocarbon fuel into admixture with said blast air, means for

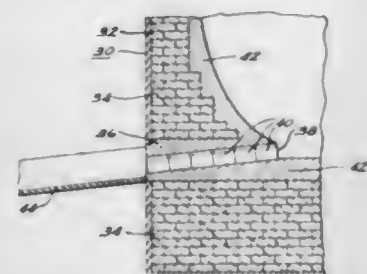
measuring the rate at which said blast air is flowing into said blast furnace, and means for increasing and decreasing



ing the rate of fuel injection as the blast air flow rate increases and decreases respectively.

3,343,827

TAPHOLE FOR A METALLURGICAL VESSEL
Kenneth W. Hansen, Bethel Park, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1965, Ser. No. 451,803
6 Claims. (Cl. 266—33)



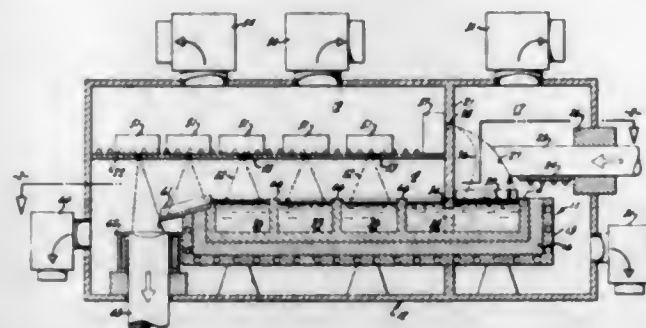
1. The combination with a metallurgical vessel having a molten metal containing chamber and a tap hole, said tap hole being lined with a composite, longitudinally joined refractory conduit nested in a surrounding layer of monolithic refractory material, composed of a plurality of pre-fabricated, ceramically bonded, inverted U-shaped conduit segments having opposite ends provided with interlocking means for mating with an adjacent segment in molten metal sealed relation, said conduit segments being complementarily mated to provide a continuous molten metal passage.

3,343,828

HIGH VACUUM FURNACE
Charles d'A. Hunt, Orinda, Calif., assignor, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
Filed Mar. 30, 1962, Ser. No. 183,841
11 Claims. (Cl. 266—34)

1. A high vacuum furnace for the production of highly purified metal comprising an enclosure, an elongated horizontally disposed hearth within said enclosure for receiving molten metal and for forming a molten pool thereof, said enclosure having a transverse wall therein intermediate the ends of said hearth which forms with the walls of said enclosure, said hearth, and the molten pool of metal in said hearth a pressure barrier thereby dividing said enclosure into a first pressure chamber and a second pressure chamber, said transverse wall in the region within said hearth terminating at a point spaced above

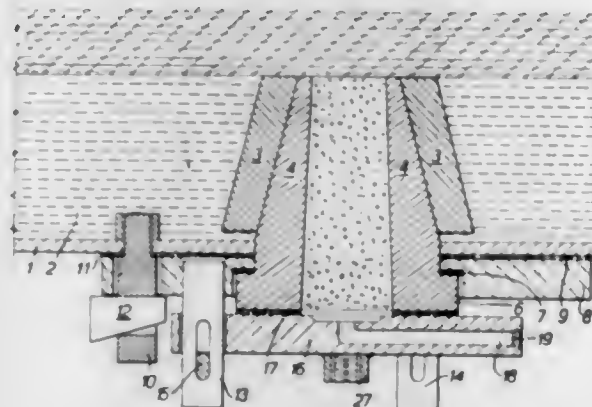
the bottom of said hearth and adjacent the surface of the molten pool thereby defining an opening for passage of molten metal from said first chamber into said second chamber, first electron beam generating means for heating raw materials above their melting point in said first chamber and for maintaining a molten pool of metal in



said hearth in said first chamber, second electron beam generating means for heating the molten pool of metal in said hearth in said second chamber, means for evacuating said first chamber and said second chamber to remove volatilized impurities, and means adapted to receive the purified metal from said hearth for withdrawal from the furnace.

3,343,829

POROUS PLUG ASSEMBLY FOR METALLURGICAL RECEPTACLE
Roderick B. Coates, Blackwell, Bromsgrove, England, assignor to The British Cast Iron Research Association, Birmingham, England, a British company
Filed Mar. 15, 1965, Ser. No. 439,786
Claims priority, application Great Britain, Mar. 14, 1964, 10,892/64
7 Claims. (Cl. 266—39)



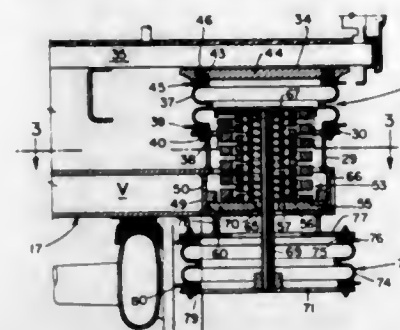
7. A tapered frusto-conical gas-permeable plug for insertion in a frusto-conical hole in a wall of a refractory lined container for the admission of gas into molten metal in the container, said plug comprising an outer non-permeable shell of refractory material having a smooth tapered frusto-conical external surface for removable engagement in said frusto-conical hole in said container wall and an inner gas-permeable core of refractory material removably received in said shell.

3,343,830

SPRING APPARATUS FOR RAILWAY CARS
Albert G. Dean, Narberth, and George W. Else, Warminster, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1966, Ser. No. 521,296
6 Claims. (Cl. 267—34)

1. Pneumatic apparatus for a car body, and truck assembly including a bolster, the combination comprising: air spring means mounted on the bolster of said truck assembly and coacting with said car body to support the same at predetermined proper levels above the bolster in response to variations in pressure within said air spring

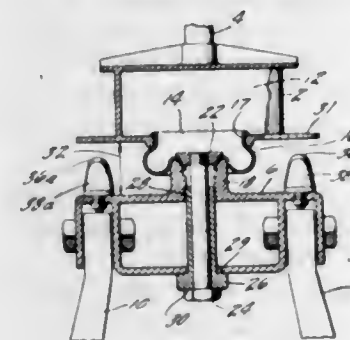
means, supplemental spring means mounted on said bolster and adapted to coact with said car body, said last named spring means being capable of independently supporting said car body at said predetermined proper levels above the bolster upon loss of pressure in said air spring means, movable means connected to said supplemental spring means and responsive to changes in pressure within said air spring means, said movable means in one posi-



tion thereof and in response to a given state of pressure being operative to precompress said supplemental spring means out of contact with said car body so that said air spring means solely supports the vertical loads of said car body, and in another position thereof corresponding to a different state of pressure within said primary air spring being operative to enable said supplemental spring means to coact with said car body to support the vertical loads of the car body in lieu of said air spring means.

3,343,831

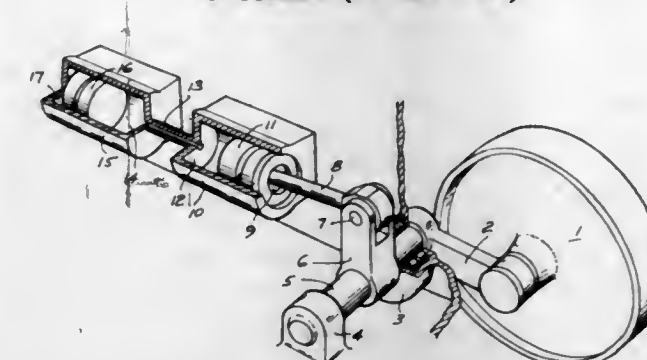
PNEUMATIC SPRING ASSEMBLY
Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,879
4 Claims. (Cl. 267—35)



1. A pneumatic spring assembly for a vehicle comprising:
a supporting frame,
a pneumatic spring mounted on the supporting frame, the spring including a rigid member fixedly connected thereto, the rigid member being reciprocal with respect to the frame and extending transverse to the direction of reciprocation,
secondary resilient structure positioned between the frame and the rigid member to limit the closure therebetween including a plurality of erect resilient supports of progressively decreasing height, the tallest of the supports having a height substantially corresponding to the minimum closure clearance between the frame and the rigid member in the normal operation of the spring, the shorter supports being sized to progressively engage as the closure clearance is diminished due to a spring malfunction whereby progressively increasing support is provided to the rigid member as an inverse function of the closure clearance,
and means connecting the free end of the spring to the vehicle structure.

3,343,832

SPRING SUSPENSION DEVICE
Axel Gerhard Värne Gustafsson, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden
Filed Sept. 30, 1965, Ser. No. 491,655
Claims priority, application Sweden, Nov. 4, 1964, 13,252/64
8 Claims. (Cl. 267—64)



1. A spring suspension device comprising, in combination, a first hydraulic cylinder open at one end and closed at the other end, a piston slidable in said cylinder and including in its side facing the open cylinder end an open, generally spherical cavity, a piston rod, a ball on one end of said piston rod, said ball being rotatably fitted in said cavity to form a pivot joint, and shock-transmitting means linked to the other end of said rod, the other side of said piston including a duct leading from said other side into the space defined in said cavity between a piston wall portion bounding said cavity and an adjacent surface portion of the ball in the cavity, said cylinder including a closed space bounded by said other side of the piston and the closed cylinder end, said closed cylinder space being filled with a hydraulic fluid, a second hydraulic cylinder closed at both ends, a piston freely floating in said second cylinder, said second cylinder being filled on one side of said free piston with a hydraulic fluid, and a conduit connecting the portion of the second cylinder on the filled side of the piston therein with said closed space of the first cylinder.

3,343,833

HYDRAULIC SHOCK ABSORBER
John H. Fader, St. Truiden, Belgium, assignor to Monroe Belgium N.V., St. Truiden, Belgium
Filed Oct. 20, 1965, Ser. No. 498,277
5 Claims. (Cl. 267—64)



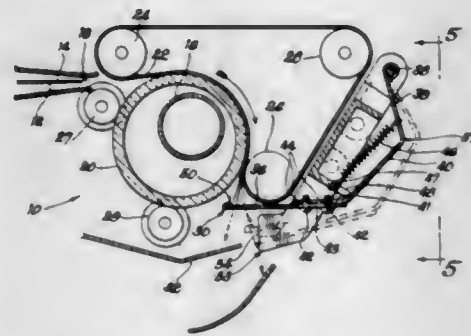
1. A hydraulic direct acting shock absorber including a plastic cylinder having one end thereof closed, a plastic piston disposed in said cylinder, means providing an orifice

communicating said cylinder on one side of said piston with said cylinder on the other side of said piston through which hydraulic fluid can restrictively pass, a hollow piston rod connected with said piston and extending beyond the opposite end of said cylinder, guide and sealing means closing the opposite end of said cylinder and slidably receiving said piston rod, said hollow piston rod communicating through said piston with said cylinder on the opposite side of said piston from said piston rod, said cylinder being substantially filled with hydraulic fluid and said hollow piston rod being filled with gas whereby when said piston moves toward said one cylinder end the hydraulic fluid displaced by said piston rod will flow through said orifice means and into said hollow piston rod thereby compressing the gas therein and when said piston moves toward said opposite cylinder end the hydraulic fluid will flow out of said piston rod and into said cylinder so as to keep the latter filled with hydraulic fluid at all times.

3,343,834

SHEET SEPARATOR DEVICE

Anthony J. Mazzio, Chicago, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed Aug. 1, 1966, Ser. No. 569,402
24 Claims. (Cl. 271-64)



3. In a sheet handling mechanism, the combination comprising means for propelling first and second sheets with the leading edge of said first sheet slightly in advance of said second sheet, a stationary deflector disposed on one side of the path of said sheets, a separating finger extending into the path of said sheets at a point therealong between said propelling means and said deflector, means supporting said finger for movement past said deflector and out of said path, said finger being movable by said first sheet, means biasing said finger into the path of said first sheet, and means on the tip portion of said finger for temporarily retaining said first sheet thereon to curl said first sheet away from said second sheet and past said deflector whereby said sheets pass on opposite sides of said deflector, said first sheet being movable past said finger after being curled past said deflector.

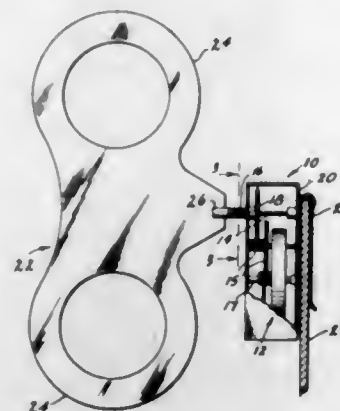
3,343,835

AMUSEMENT KEY

Sidney Kaplan, New York, N.Y., assignor to Ruth Kaplan, Laurelton, N.Y.
Filed Apr. 20, 1965, Ser. No. 449,518
4 Claims. (Cl. 272-8)

1. An amusement device comprising, in combination, a toy motor, a housing for said motor, a rotary shaft within said housing associated with said motor for rotation thereby, an opening in one wall of said housing normal to said shaft, and a key element of exaggerated size relative to said housing mounted on said shaft for rotation

therewith, means extending through said opening and connecting said shaft to said key element, said key element having wings defining a plane, the axis of said shaft being



in said plane, and means on the wall of said housing opposite to said one wall whereby said housing may be supported on a garment worn on the body of a person.

3,343,836

WEIGHTED EXERCISING SHOE

Forrest H. James, Jr., Opelika, Ala., assignor to Diversified Products Corporation, Opelika, Ala., a corporation of Alabama
Filed Nov. 18, 1964, Ser. No. 411,984
11 Claims. (Cl. 272-57)



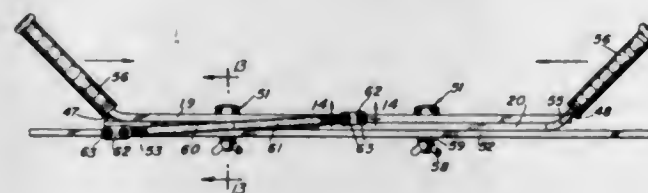
1. An exercising shoe comprising:

- (a) a unitary exterior plastic casing having a hollow interior, said casing being generally shaped in external configuration to conform to the sole of a foot and defining a hollow tube transversely extending through said casing; and
- (b) an integral solidified dense material throughout said hollow interior of said casing, said dense material engaging the inner walls of said casing and conforming generally to the shape of said casing.

3,343,837

SPRING-BIASED EXERCISING DEVICE

Walter Grzybowski, 7249 W. Olive, Chicago, Ill. 60631
Filed Dec. 14, 1964, Ser. No. 418,080
6 Claims. (Cl. 272-83)



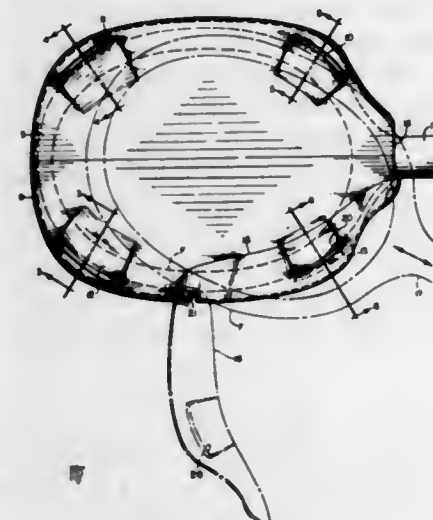
1. A physiotherapeutic exerciser comprising a support member, a pair of flat bars shiftably mounted on said support member for relative reciprocable movement longitudinally of each other, a transversely disposed hand grip fixed adjacent the opposite ends of the respective bars, a pair of extension springs, one end of each of the pair of springs attached to the supporting member and the other end of each attached to one of the respective bars.

2. A physiotherapeutic exerciser comprising, a pair of telescopically mounted outer and inner tubes, an extension spring enclosed within the tubes and having its opposite ends fastened to the respective tubes to bias the tubes into a contracted relationship, a hand grip fixed adjacent the exposed end of the inner tube, an arcuate-shaped tubular part shiftably mounted adjacent the outer end of the outer tube and having a clamp for fixing the position of the part on the tube, a cushion secured to the concave face of the tubular part, an accessory part slidably mounted on the outer tube inwardly of the arcuate-shaped tubular part and adapted for fixed positioning thereon by a forwardly angled disposition of the accessory, with respect to the tube, to space the accessory from the cushion on the arcuate-shaped tubular part to set the exerciser over a patient's shoulder and permit exercising the one adjacent arm.

3,343,838

COVER AND PRESS FOR TENNIS RACKETS

Lucille F. Baukney, 1520 NE. 40th Court, Fort Lauderdale, Fla. 33308
Filed May 17, 1965, Ser. No. 456,146
5 Claims. (Cl. 273-74)



1. A molded plastic combined cover and press for tennis rackets that comprises a cover that is shaped to conform to the curvature of the head portion of a tennis racket, the cover embodying a pair of spaced apart walls of substantially oval shape that are connected together by an integral marginal wall, the spacing of the walls defining a chamber for the reception of the head of the tennis racket, the cover terminating at one end in a reduced throat opening adapted to embrace the handle of the tennis racket, the cover being provided with an elongated opening at one marginal edge whereby the head of the racket may be inserted into the cover, the elongated opening also extending through the throat opening and a pivoted closure for the elongated opening, each of the side walls being indented to yieldably engage the frame of the tennis racket to maintain the frame against warping.

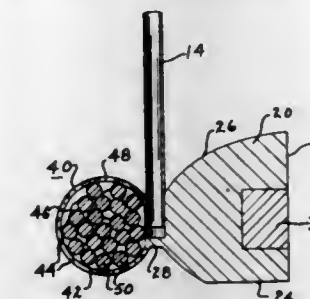
3,343,839

GOLF PUTTER WITH A SHAFT CONNECTED INTERMEDIATE A SPHERICAL ELEMENT AND A HEAD

John E. Borah, 815 Mishawaka Ave., Mishawaka, Ind. 46544
Filed July 15, 1964, Ser. No. 382,735
5 Claims. (Cl. 273-80.2)

4. A golf putter club comprising a head having a body with a substantially flat vertical face, a neck spaced rear-

wardly from said face, a spherical element of substantially the same size as a standard golf ball secured to said

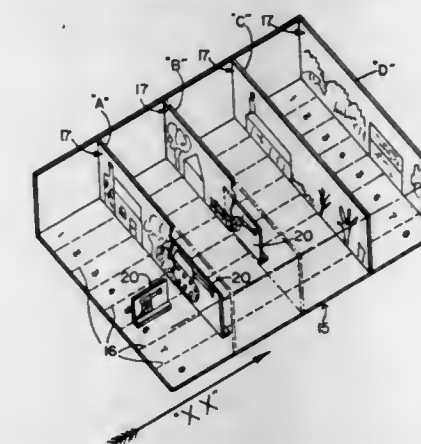


neck on the side opposite said body, and a shaft secured to said neck and extending upwardly therefrom.

3,343,840

TABLE TOP HIDE AND SEEK GAME

Charles E. Winters, 19340 Bel Aire Drive, Miami, Fla. 33157
Filed June 25, 1964, Ser. No. 377,890
7 Claims. (Cl. 273-130)

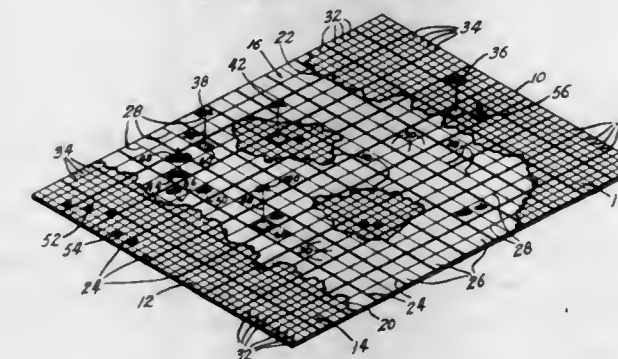


7. A game apparatus comprising a playing board, first and second sets of movable playing pieces, one for each opponent, a plurality of removable partially transparent and partially opaque screens adapted to camouflage said first set of playing pieces from the opposing player, a plurality of play paths defined on said board extending transversely in relation to said removable screens and intersecting each of said screens when it is in playing position, said second set of movable playing pieces being disposable in said play paths in attempted alignment with said first set of camouflaged playing pieces.

3,343,841

GAME BOARD HAVING SUPERIMPOSED GRIDS OF DIFFERENT SIZES

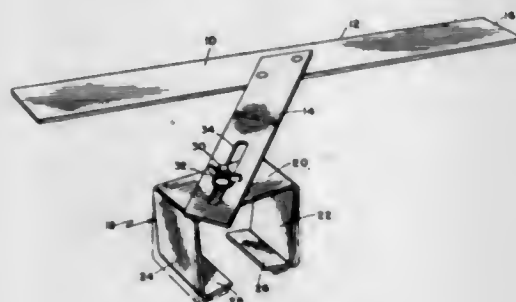
Donald P. Arend, 3877 Kirkwood St., Jackson, Mich. 49203
Filed May 19, 1964, Ser. No. 368,502
3 Claims. (Cl. 273-131)



1. A board game of a type wherein board pieces are used comprising a board member, a playing surface defined on said board member, land and sea geographical fea-

tures defined on said playing surface, a first grid work subdividing said sea geographical features in a first manner, a second grid work subdividing said land geographical features in a second manner, the playing surface area defined by an area unit of said first grid being larger than the playing surface area defined by an area unit of said second grid, board pieces simulating water craft of a size approximating the size of the individual units of said first grid, board pieces simulating land vehicles of a size approximating the size of the individual units of said second grid, the dimensional relationship between area units of said first and second grid works being related to the distance of movement of water craft and land vehicles, respectively, in a given time interval.

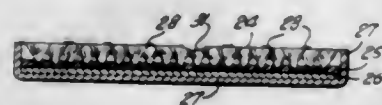
3,343,842
GOLF PUTTING TRAINING DEVICE
Alfred C. Woerner, 3716 Eagle St.,
San Diego, Calif. 92103
Filed May 4, 1964, Ser. No. 364,521
3 Claims. (Cl. 273-186)



1. A putting guide for golfers comprising: a bracket having the shape of an inverted U and dimensioned to fit over a golfer's shoe, the legs of said inverted U having, at their free ends, inwardly extending flanges adapted to contact the ground and be engaged by the sole of a golfer's shoe, a golf club guide rail spaced horizontally from said bracket and of a length several times as great as the distance between said legs, a support arm extending horizontally to said bracket and secured to said guide rail at a point intermediate the ends thereof, and means for adjustably connecting said support arm to said bracket with said rail disposed in a plane at a greater height than the plane containing said flanges.

3,343,843
SIMULATED GOLFING TURF IN WHICH
DIVOT DEPRESSIONS MAY BE PRODUCED
AND STUDIED

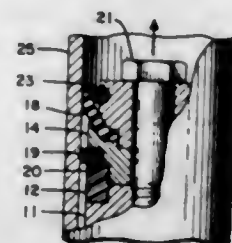
John A. Stanko, 250 Garth Road,
Scarsdale, N.Y. 10583
Filed Oct. 26, 1964, Ser. No. 406,241
6 Claims. (Cl. 273-186)



1. A golf training device comprising a base member, a surface of closely-spaced elements projecting upwardly therefrom, the quantity and structural characteristics of said elements being such that said elements may be bent over in response to the movement of a golf club head therethrough, and will retain their bent over condition so that depressions simulating the various forms of divot depressions that are produced in real turf by swung golf

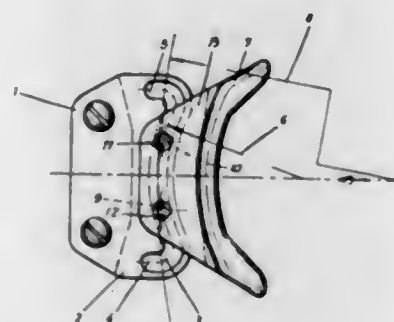
clubs may be produced and studied, and index means on the said device for determining swing characteristics of a golfer by noting relative thereto the location and orientation of depressions produced in said layer by said golfer.

3,343,844
CUP BACKING ASSEMBLY
John Leschisin, Minneapolis, Minn., assignor, by mesne assignments, to Hypro, Inc., Minneapolis, Minn., a corporation of Ohio
Filed Feb. 28, 1964, Ser. No. 348,232
3 Claims. (Cl. 277-165)



1. In an expanded reciprocatory piston cup assembly having assembly retaining means, a resilient piston cup disposed at the outer free end of said assembly and having an outer peripheral surface area and means in combination with said surface area for providing firm engagement between said surface area and the inner walls of a pumping cylinder during both stroke cycles of the reciprocating pumping action; a resilient backing seal for said piston cup disposed in closely spaced relationship thereto, said resilient backing seal comprising a relatively thin ring member arranged to make sealing contact with said inner walls and means for constantly urging said ring member outwardly into engagement with said wall, said ring member being fabricated from molded polytetrafluoroethylene.

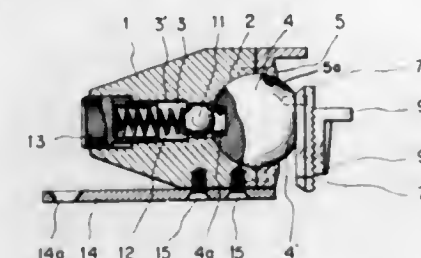
3,343,845
TOE IRON FOR SAFETY SKI BINDINGS
Hannes Marker, Hauptstrasse 51-53, Garmisch-Partenkirchen, Germany
Filed June 1, 1966, Ser. No. 554,548
Claims priority, application Germany, June 4, 1965, M 65,492
1 Claim. (Cl. 280-11.35)



A toe iron for safety ski bindings comprising a base means attached to a ski, said base means being formed with a guide surface extending transversely to the longitudinal direction of the ski on an arcuate path, the center of curvature of which is located on the longitudinal center-line of the ski behind the toe iron but in front of the center of rotation of a boot engaging the toe iron, the length of the guide surface corresponding approximately to the range of foot-twist occurring during harmless lateral jolts, and said guide surface terminating in guide faces which are inclined sharply forwardly to said transverse guide surface, a sole-retaining member, and a pair

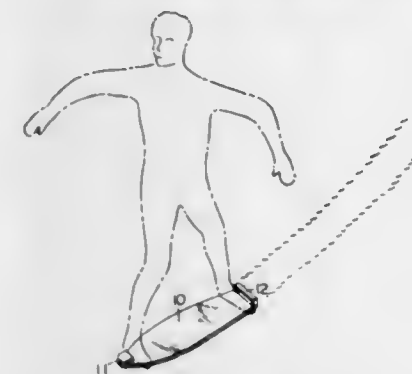
of support elements engaging said transverse guide surface and disposed symmetrically of the longitudinal center-line of the ski, said support elements being carried by said sole-retaining member and guiding the transverse movement thereof.

3,343,846
SKI BINDING
Ryoji Toki, 3897 Kamitsuruma, Sagamihara,
Kanagawa Prefecture, Japan
Filed June 9, 1966, Ser. No. 556,424
1 Claim. (Cl. 280-11.35)



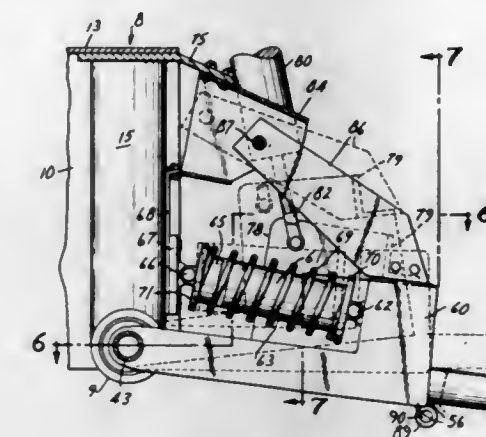
A ski-shoe toe binding comprising a main unit having a spherical recess at one end and a central recess at its opposite end, a ball slideably positioned in said semi-spherical recess and having a locking recess therein, a small ball slideably positioned in said central recess, a spring tending to move said small ball into said ball locking recess, and adjusting screw in said central recess tending to compress said spring, a supporting plate attached to said main unit and having an opening with a portion of said first ball extending therethrough and retaining said first ball in said semi-spherical recess, a fitting plate fixedly attached to said first ball extended portion, a toe piece positioned on said fitting plate and means adjustably connecting said fitting plate to said toe piece.

3,343,847
SNOW SURFACE RIDER
Craig T. Christy, 5905 NE. Everett,
Portland, Oreg. 97213
Filed Mar. 14, 1966, Ser. No. 533,884
4 Claims. (Cl. 280-12)



1. A snow surface rider comprising a rigid deck board extending in a single plane, said deck board being of varying width from front end to rear end and attaining its greatest width somewhere between the front and rear ends, a single runner extending centrally longitudinally along beneath said deck board, said runner being of much less width than said deck board and of constant width throughout its extent, said runner being longitudinally and downwardly bowed, the ends of said runner secured to the ends of said deck board respectively, a spacer member interposed between said deck board and said runner for maintaining said runner firmly in its bowed position at all times, and a pair of foot rest blocks mounted at the front and rear ends respectively of said deck board.

3,343,848
SUSPENSION MEANS FOR AGRICULTURAL IMPLEMENTS
Irvin E. Dorschner, Owatonna, Minn., assignor to Owatonna Manufacturing Company, Inc., Owatonna, Minn.
Filed Mar. 30, 1966, Ser. No. 538,790
10 Claims. (Cl. 280-43.18)



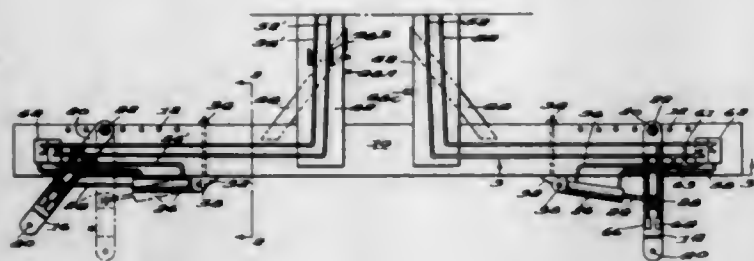
1. In an agricultural implement including a frame structure and suspension means for said frame structure, said suspension means comprising:

- (a) a pair of axially aligned axle shafts journaled in said frame structure on a common generally horizontal axis extending transversely of the path of travel of the frame structure,
- (b) a plurality of radial members secured to said axle shafts and including a pair of trailing arms each disposed at an opposite side of said frame structure and each having one end rigidly secured to and extending generally rearwardly of a different one of said axle shafts for swinging movements about said common axis,
- (c) supporting wheels journaled on said trailing arms rearwardly of said axle shafts and on axes parallel to said common axis,
- (d) yielding means operatively connected to said frame structure and radial members and urging each of said trailing arms in a generally downward direction of said swinging movement independently of the other of said trailing arms,
- (e) a movable member mounted on said frame structure and movable in one direction to engage one each of said radial members associated with a different one of said axle shafts to impart movement to said trailing arms simultaneously in a downward direction of swinging movement thereof relative to said frame structure and independently of said yielding means, whereby to raise said frame structure relative to said wheels, and movable in the opposite direction to be disengaged from said radial members, whereby the weight of said frame structure is exerted on said yielding means,
- (f) and means for imparting movements to said movable member in both directions of said movement thereof.

3,343,849
ANGULARLY SWINGABLE AND LATERALLY ADJUSTABLE TRACTOR HITCHES
Francis M. Priddy, % Joe Priddy and Sons, Rte. 2,
Box 250, Rolling Fork, Miss. 39159
Filed Jan. 19, 1966, Ser. No. 521,570
1 Claim. (Cl. 280-412)

A tractor hitch of the type for attaching an agricultural implement to a tractor comprising: A rigid bar adapted to be secured to said tractor, said rigid bar having a first

plurality of spaced apertures extending therethrough along the top forward edge at least at the ends thereof and a second plurality of spaced apertures extending therethrough from front to back spaced inwardly of the ends of said rigid bar, a swinging draw bar at each end of said rigid bar comprising a lower bar extending beneath said rigid bar and an upper bar extending above said rigid bar, one end of each of said upper and lower bars forming a respective draw bar being secured to a



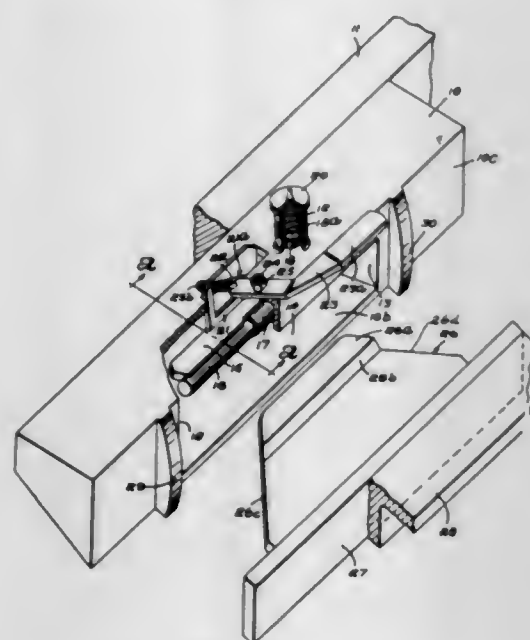
bolt removably arranged in one of said first plurality of apertures, a hydraulic piston-cylinder assembly for each said draw bar pivotally attached at one end to said draw bar and at the other end to a support member, each said support member being removably secured in a respective one of said second series of apertures, and a hydraulic system connected to each said piston-cylinder unit for selectively moving said piston inwardly and outwardly whereby the draw bar attached to the piston-cylinder unit is moved inwardly and outwardly of said rigid bar.

3,343,850

SNOW PLOW HITCH

Martin G. Stauss, Burlington, and John J. Survelas, Arlington, Mass., assignors to Anderson Engineering Co. Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 21, 1966, Ser. No. 535,769
6 Claims. (Cl. 280—504)



1. A snow plow connector comprising separable socket and tongue members, said socket having a cavity in which said tongue member is received, a latch plate swingably mounted on said socket in said cavity, spring means urging said latch plate into engagement with said tongue member, a cam plate connected to said latch plate and having an oblique cam surface sloping toward said latch plate, and a lever rotatably mounted on said socket

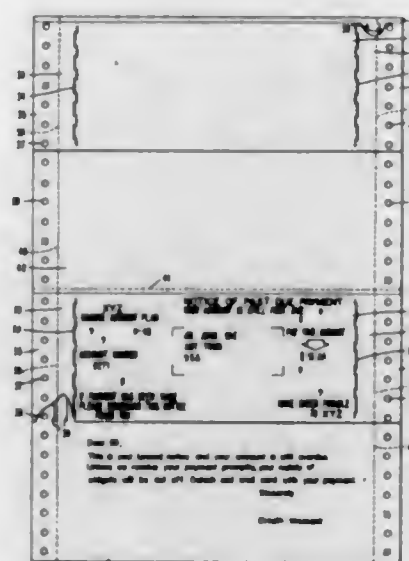
member, said lever having a portion which is engaged with said cam surface and is adapted when said lever is turned to swing said latch plate out of engagement with said tongue member.

3,343,851

CARD DOCUMENTS

Richard A. Bensler, Sr., Vestal, and Robert W. Mitchell, Binghamton, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 22, 1965, Ser. No. 515,633
1 Claim. (Cl. 281—5)



A document assembly comprising, a continuous paper web having detachable marginal carrier strips provided with pin feed perforations to facilitate machine processing of the web, said carrier strips being connected to the web by lines of weakness,

a series of transverse lines of weakness spaced apart on said web for dividing the web into individual severable identical form letters each form letter comprising a corresponding blank portion and adjacent pre-printed data portion,

a series of spaced apart machine processible record cards mounted on said web, there being one record card superimposed over the blank portion on each form letter, said record cards having pre-printed fixed information which relates to the information on the adjacent pre-printed data portion of said form letters and recorded variable information relating to customers,

detachable stub portions connected to the side edges of each record card by line of weakness and provided with pin feed perforations, the pin feed perforations and lines of weakness of said stub portions coinciding respectively with the pin feed perforations and lines of weakness of said marginal carrier strips of the web,

means for fastening said detachable stub portions to said detachable marginal carrier strips of the web whereby said stub portions and carrier strips may be separated concurrently from the web, and

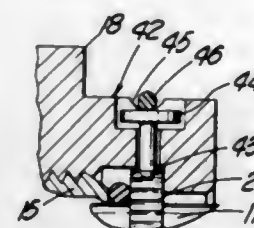
means for detachably fastening each record card to the blank portion of its respective form letter whereby removal of said stub portions and carrier strips and separation of the web along said transverse line of weakness will produce individual mailable pre-printed form letters each having one of said record cards detachably fastened thereto adjacent to the pre-printed data.

3,343,852

LOCKING NUTS AND ELECTRICAL CONNECTORS INCORPORATING LOCKING NUTS

Dennis Jack Blight, Woodford Green, Ernest Yetton, London, and John Michael Shafe, Gravesend, England, assignors to Cannon Electric (Great Britain) Limited, London, England, a British company

Filed June 8, 1964, Ser. No. 373,227
2 Claims. (Cl. 285—82)



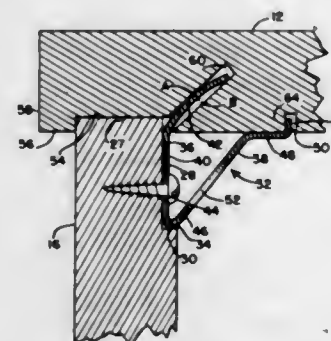
1. An assembly comprising two parts adapted to be releasably connected together, a nut member for releasably connecting said parts, having a plurality of radially extending through passageways angularly spaced from one another around the circumference of the nut member, a detent carried solely by said nut member and working in a radial direction only in each of said passageways and having a substantially rounded radially inner surface, one of said parts being provided with a plurality of grooves facing in a radially outward direction only for receiving the said rounded surfaces of said detents, resilient means carried by said nut member only and working in said passageways for ever urging said rounded surfaces of the detents into said grooves so that the nut member will be restrained against unintentional rotation but can be wilfully rotated in either direction by simply rotating the nut member so that the rounded surfaces of the detents will slide over the walls of the grooves during said wilful rotation of the nut member, said passageways opening through the outer surface of the nut member to afford easy access to the passageways, the detents and the resilient means, said nut member including means for limiting the radial inward movement of the detents, and means for drawing the two parts together to a locked position relative to each other comprising an intumed flange on said nut member and a flange on one of said parts, for engagement by the flange on the nut member, the flange on said one part having said grooves formed therein, said resilient means comprising a spring ring engaging all of the detents to exert force on each of the detents.

3,343,853

KNOCK DOWN CABINET ASSEMBLY CLIP

Carlton F. Stute, Riverdale, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,847
5 Claims. (Cl. 287—20.92)



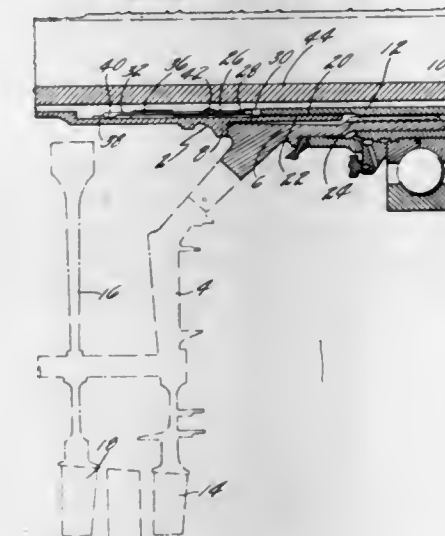
1. In a prefabricated enclosure the combination of: a first planar side; a second planar side interlocking said first planar side and having a pair of parallel grooves therein; a resilient assembly means securely affixed to said first planar side; said resilient assembly means including

3,343,854

SHAFT LOCK FOR COMPRESSOR OR TURBINE LOCK

William T. Dennison, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 7, 1965, Ser. No. 446,206
4 Claims. (Cl. 287—53)



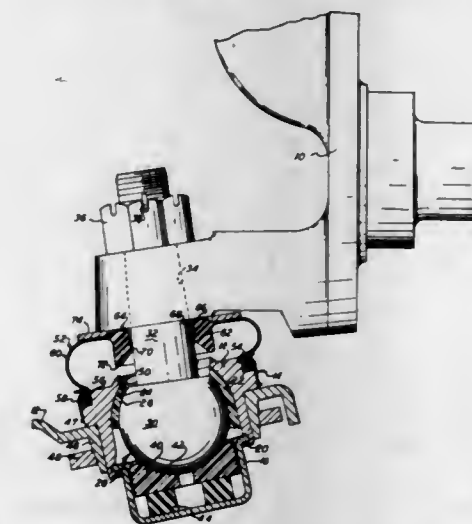
1. The combination, with a shaft having a shoulder, a hub splined to the shaft and engaging said shoulder and a clamping ring threaded on said shaft and clamping the hub against the shoulder, of locking means to hold the ring against turning on the shaft including a sleeve axially slidable relative to said ring and having splines at one end, said ring having cooperating splines thereon for engagement by the splines on the sleeve, said sleeve having resilient projections thereon and said shaft having axial grooves to receive the projections to prevent relative rotation, and detents on the ends of the projections engaging alternately in spaced notches in the shaft thereby to hold the sleeve releasably in either of two axially spaced positions.

3,343,855

SEAL CONSTRUCTION FOR ARTICULATED JOINTS

Robert A. Husen, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,226
4 Claims. (Cl. 287—90)

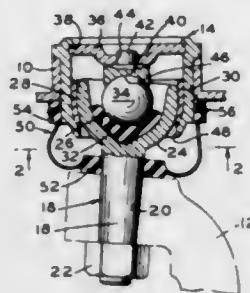


1. A suspension arm, a wheel spindle, a ball joint assembly connecting said arm and said spindle and having a socket part secured to said arm and a stud part secured

to said spindle, said spindle having a flat surface generally perpendicular to the axis of said stud and facing said ball joint assembly, an annular flexible boot seal having a large open end secured to said socket part and a small open end secured to said stud part and positioned against said surface, said seal having a thin flexible wall portion connecting said ends, said small open end being defined by an enlarged body portion having a resilient depending annular lip extending toward said socket part and spaced from said stud part, said lip having its axial length so proportioned relative to the overall axial length of the boot that portions of said lip overlap the adjacent terminal edge portions of said socket part upon deflection of said stud part relative to said socket part and prevent pinching of said thin flexible wall between the stud and socket.

3,343,856

BALL JOINT CONSTRUCTION FOR MOTOR VEHICLE SUSPENSION AND STEERING SYSTEMS
Stanley J. Cislo, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 17, 1964, Ser. No. 419,174
1 Claim. (Cl. 287—90)



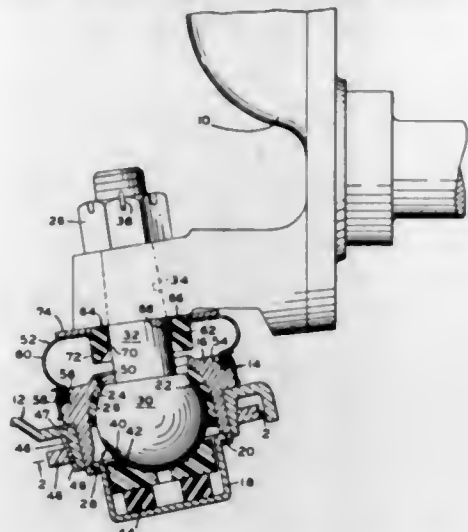
An articulated joint for a vehicle suspension system comprising an annular socket part, a stud part having an enlarged bell shaped end fitted within said socket part, said bell shaped end having a convex exterior bearing surface, said socket part having a concave low friction plastic liner secured to the internal surface of said socket part and engaging said convex bearing surface, said bell shaped end having a concave interior portion, a cup shaped rubber element seated in said interior portion, a spherical bearing element seated in said cup shaped rubber element and concentric with said convex bearing surfaces, a closure member sealing one end of said annular socket part, a low friction plastic bearing plug having a diameter equal to approximately that of said spherical bearing element and having a stem secured in a hole in said closure member, said bearing piece having a spherical bearing surface slidably engaging said spherical bearing element, said rubber element being loaded in compression whereby a force is exerted urging said convex bearing surface into engagement with said liner, said rubber element having a greater coefficient of friction than said bearing piece whereby relative angular displacement between said parts will cause sliding movement between said spherical bearing element and said piece rather than between said spherical bearing element and said rubber element.

3,343,857

BALL JOINT CONSTRUCTION
Stanley J. Cislo, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,484
5 Claims. (Cl. 287—90)

2. A suspension arm, a wheel spindle, a ball joint assembly interconnecting said arm and said spindle, said assembly having a socket part secured to said arm and a

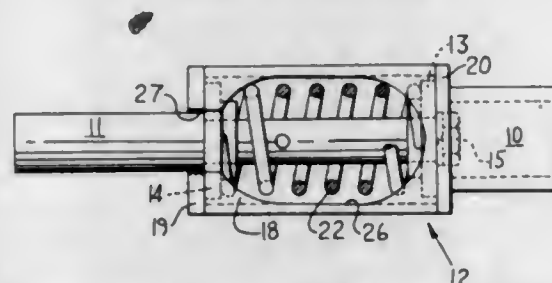
stud part secured to said spindle, said arm having an opening defined by a wall having a cylindrical internal surface, said socket having an exterior cylindrical surface adapted to be fitted within said opening, said exterior surface having a slightly greater diameter than the diameter of said internal surface whereby said socket must be



forcibly inserted into said opening, said wall having a slightly tapered exterior surface, a jam ring positioned in engagement with said tapered wall so as to force said wall inwardly toward said socket, said tapered exterior surface having an angle of taper sufficiently slight so that said jam ring is frictionally held securely in place on said wall.

3,343,858

RESILIENT LINK CONSTRUCTION
Roger A. Rice, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 21, 1966, Ser. No. 588,425
3 Claims. (Cl. 287—119)



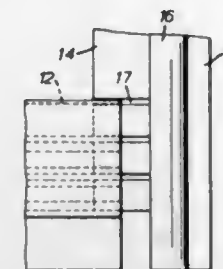
1. A resilient link comprising a link part having a generally cylindrical housing secured to one end, a second link part with a portion adapted to be received co-axially within said housing, a spring seat slidable on the end of said portion, a second spring seat slidable on said portion, a spring compressible between said seats, and said housing having an opening through its side wall contiguous with an opening in its end wall adapted to admit both spring seats and the spring, the side wall opening having an enlarged intermediate portion at least as wide as the spring seats terminating short of the ends of the interior of said housing whereby the seats are retained adjacent the ends against lateral displacement.

3,343,859

CONSTRUCTIONAL ASSEMBLIES COMPRISING TWO OR MORE BARS
Jack Fox-Williams, 3 Belgrave Place, London SW. 1, England
Filed May 7, 1965, Ser. No. 454,029
Claims priority, application Great Britain, May 8, 1964, 19,299/64
4 Claims. (Cl. 287—189.36)

1. A constructional assembly comprising at least two bars lying at an angle to one another and in which each bar comprises at least two longitudinally extending main

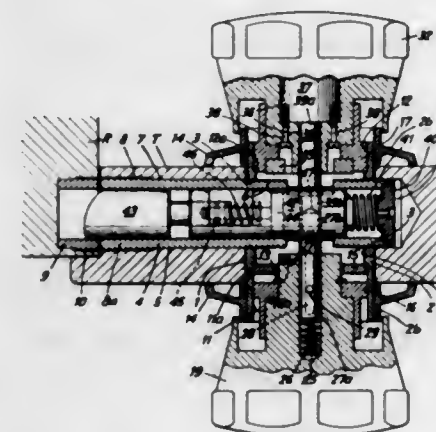
flanges lying at an angle to one another when seen in cross section one main flange of the first bar being formed with at least one slot extending from its edge to the plane of the adjacent face of the other main flange of the first bar so as to accommodate one of the main flanges of the second bar and permit the end of the second bar to abut against a surface of the other main flange of the first bar,



wherein the second bar is provided on the inner face of at least one of its main flanges with one or more longitudinally extending subsidiary flanges or ribs, such subsidiary flanges or each of such subsidiary flanges forming, with part of a main flange of the second bar, a longitudinally extending groove in which lies a part of the slotted flange of the first bar adjacent to one side of said slot therein or adjacent to the end edge thereof.

3,343,860

INSERTED DOOR LOCK
Karl Köhler, Tannenblickweg 7, Zollikofen, Bern, Switzerland
Filed Dec. 7, 1964, Ser. No. 416,277
Claims priority, application Switzerland, Dec. 9, 1963, 15,018/63
3 Claims. (Cl. 292—169)

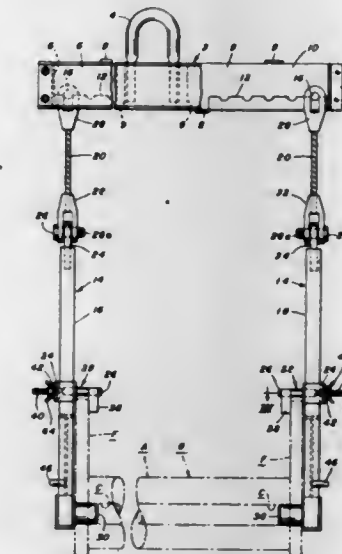


1. An inserted door lock comprising, in combination, a lengthwise housing, a latch mechanism displaceably and non-rotatably guided in said lengthwise housing, at least one spindle cooperating with said latch mechanism, a transverse housing, said spindle extending centrally through said transverse housing, a handgrip rotatably mounted at said transverse housing for actuating said spindle, said transverse housing being provided with transverse openings, said lengthwise housing extending through said transverse openings of said transverse housing, said transverse openings being constructed as threaded bores, said threaded bores possessing a common axis which is disposed at a distance from the common axis of said spindle and said transverse housing, said lengthwise housing being provided with external threading for threadably engaging said threaded bores of said transverse housing, said lengthwise housing further being provided with at least one lateral opening through which extends said spindle in order to come into operable engagement with said latch mechanism, a portion of said lengthwise housing disposed adjacent said transverse housing possessing

a smooth-walled cylindrical surface, said lengthwise housing incorporating an outer end portion provided with external threading, the root diameter of said external threading being at least approximately the same size as the diameter of said smooth-walled cylindrical surface and the pitch of said external threading being the same as the pitch of the external threading of said lengthwise housing and said threaded bores of said transverse housing.

3,343,861

LIFTING GRAPPLE FOR REELS AND THE LIKE
Leon Sinicki, Bremen Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 10, 1965, Ser. No. 513,030
2 Claims. (Cl. 294—67)



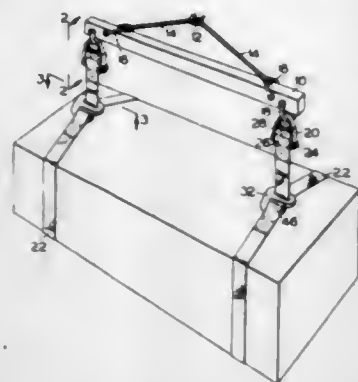
1. A lifting grapple for a reel having an arbor with a longitudinal center opening therethrough and a circumferential flange at each end which comprises a horizontally extending beam adapted to be raised and lowered, a pair of vertically disposed spaced load hanger bars carried by and depending from said beam, said hanger bars being adjustable longitudinally along said beam, the lower ends of said hanger bars being provided with opposed laterally-extending work-engaging pins adapted to be inserted into the ends of the longitudinal center opening of the arbor of said reel, latches projecting laterally from opposed sides of said pair of hanger bars spaced from said pins adapted to detachably engage and clamp the flanges of said reel, and means mounting said latches for adjustable movement longitudinally along said hanger bars, said latches each including a hook portion and a shank portion, said shank portions extending substantially normal to said hanger bars and said hook portions being normal to said shank portions and extending in a plane substantially parallel with said bars, said shank portions being connected with said mounting means for longitudinal adjustable movement in a horizontal plane substantially normal to said bars whereby said hook portions are adjustable laterally toward and away from said bars.

3,343,862

SLING ASSEMBLY
Ralph A. Holmes, 1212 NE. 63rd, Portland, Ore. 97213
Filed June 14, 1965, Ser. No. 463,635
6 Claims. (Cl. 294—74)

1. A sling assembly comprising a belt having a pair of ends, one end of said belt having a loop therein, a choker member having a body portion with opposite end edges, said choker member having an eye in said body portion slidably receiving said belt and having a hook in said body portion for hooking engagement by said

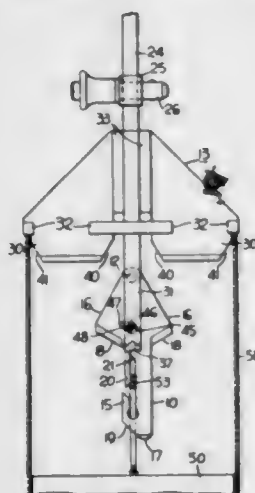
loop whereby to form a sling arranged to be cinched around a load upon upward movement of the other end of said belt, a shackle arranged to be connected to a hoisting apparatus, a lever rotatably mounted on said shackle, said lever having a pair of opposite ends over which the said other end of said belt slidably extends in



a non-lifting condition of the sling assembly and an abutment bar on said shackle adjacent one end of said lever, said one end of said lever being arranged to force said belt against said abutment bar upon rotation of said lever by engagement of the other end of said lever by said belt in a lifting condition of the sling assembly whereby to hold said belt against longitudinal movement in said shackle.

3,343,863
GRAPPLE APPARATUS FOR REACTOR
CORE COMPONENTS
Einar Medal, Washington, D.C., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

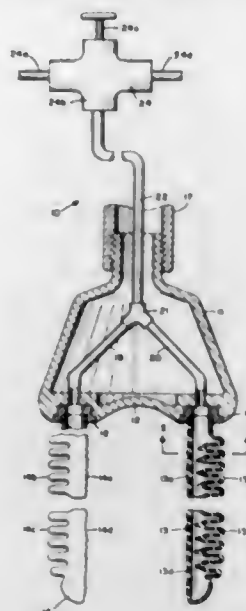
Filed Nov. 4, 1965, Ser. No. 506,382
8 Claims. (Cl. 294-83)



1. A grapple apparatus for loading fuel assemblies and control rods into and out of openings within a reactor core shroud, comprising in combination a grapple pivot pivotally suspended from the end of an elongated vertically disposed slide bar, said grapple pivot having means thereon for pivotally engaging and disengaging the ends of said fuel assemblies and control rods, a sliding weight structure slidably mounted onto said slide bar for vertical sliding movement relative thereto, said sliding weight structure in its most downward position relative thereto resting against said grapple pivot to hold said grapple pivot in an operative position to prevent any pivotal action, and support means on said sliding weight structure to engage said shroud when the lower end of the grapple is lowered into said shroud openings so that the grapple pivot and slide bar will slide downward relative thereto releasing said sliding weight from engagement against the grapple pivot so that said grapple pivot can pivotally engage and disengage the fuel assemblies and control rods.

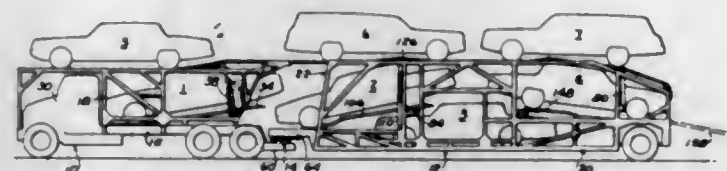
3,343,864
MATERIAL HANDLING APPARATUS
AND THE LIKE

James I. Baer, 1033 Success Ave., Lakeland, Fla. 33803
Filed Oct. 7, 1965, Ser. No. 493,758
9 Claims. (Cl. 294-99)



1. An apparatus for gripping objects and the like comprising a base member, a pair of tubular members each supported at one end to said base member and normally extending relatively straight, each of said tubular members being closed at its extended end and each comprising a yieldable extendable side wall connected along the edges thereof with a relatively non-extendable side of said member, and means to direct fluid into said tubular members under pressure for causing extension of said extendable walls thereof thereby curving said non-extendable sides, said tubular members being disposed with the non-extendable sides facing toward the other whereby said members curve in response to fluid pressure therein toward one another.

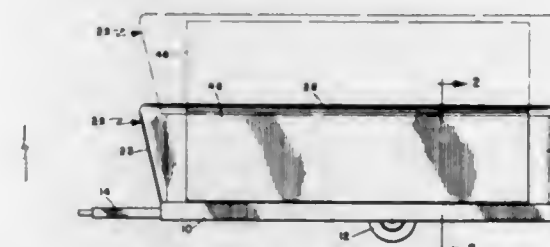
3,343,865
VEHICLE TRANSPORT
Gerald W. Stuart, Drayton Plains, Mich., assignor to Traffic Transport Engineering, Inc., Dearborn, Mich., a corporation of Michigan
Filed Oct. 15, 1965, Ser. No. 496,417
10 Claims. (Cl. 296-1)



1. A seven-car vehicle carrier comprising a tractor and a trailer, the tractor having a main frame with a cab at the front end thereof, a lower vehicle track on said frame behind said cab, said track being pivotally supported adjacent its front end such that the rear end thereof can be elevated to a position above the level of the frame, the tractor frame having a depending support at the rear end thereof, a fifth wheel assembly on said depending support, said trailer having a main frame the front end of which is connected with said fifth wheel assembly such that the front end portion of the trailer frame is disposed at a level below the rear end of the lower track on the tractor when the latter is in lowered position, said trailer having a front lower track the front end of which is supported on said front portion of the trailer frame at a level below the rear end of the lower track on the tractor, the front lower

track on the trailer being supported adjacent its front end for pivotal movement from a downwardly and rearwardly inclined position to an upwardly and rearwardly inclined position whereby when a vehicle is positioned on the lower track of the tractor front end foremost with its rear end overhanging the rear end of the tractor frame and the rear end thereof is elevated by pivoting the rear end of the lower track on the tractor upwardly, a second vehicle may be positioned on the lower forward track of the trailer front end foremost with its front end disposed vertically intermediate the rear overhanging end of the first vehicle and the fifth wheel assembly, said trailer also having a low, generally horizontal track at the central portion thereof and a rear track pivotally supported adjacent its rear end near the rear end of the trailer for movement in a vertical plane such that a third vehicle can be positioned on the low central track and a fourth vehicle on the rear track with the opposed inner ends of the forward and rear tracks on the trailer elevated to clear the front and rear ends of the third vehicle, said tractor also having an upper track for supporting a fifth car in a position overlying the cab and a portion of said first vehicle, and the trailer also having an upper track for supporting sixth and seventh vehicles in positions overlying the second and fourth vehicles.

3,343,866
COLLAPSIBLE TRAILER
Herbert A. Massey, Rte. 1, Mountain Home, Ark. 72653
Filed Oct. 20, 1965, Ser. No. 498,255
4 Claims. (Cl. 296-27)

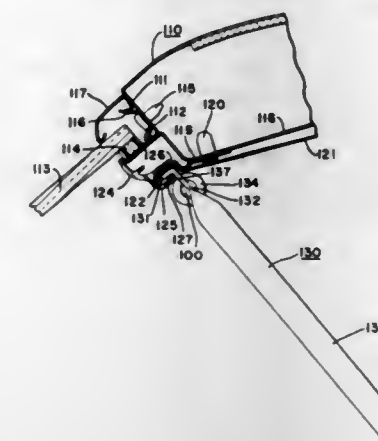


1. A collapsible trailer, comprising:
a frame;
a floor fixed on said frame, said floor having fixed upright end sections thereon;
an upper body unit having a roof with end bay portions depending from opposite ends of said roof, said end bay portions being vertically slidable on said end sections;
a pair of wing units mounted on opposite sides of said floor and extending between said end sections, each of said wing units including a floor extension longitudinally hinged to said floor, and a foldable wall element rigidly secured to the edge of the floor extension remote from the hinge;
roof extensions longitudinally hinged on opposite sides of said roof;
upper end portions of said wall elements being slidably connected to said roof extensions, whereby said roof extensions, along with said roof, can be raised and lowered vertically outside the folded wing units.

3,343,867
VISOR MEANS
Harry J. Couch, Vandalia, and Glenn L. Kinkead, Farmersville, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 17, 1965, Ser. No. 464,792
3 Claims. (Cl. 296-97)

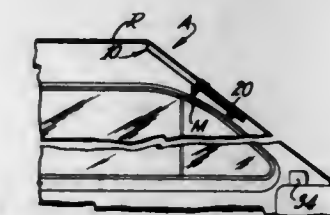
1. A visor means, comprising a body portion of plastic foam, a hinge portion of reduced thickness of plastic integrally secured to said body portion, a mounting flap

portion integral with said hinge portion, a friction means including a shaft extension and a pair of projections forced into said plastic foam body portion, and an annular means in engagement with said shaft extension of



said friction means, said annular means having a flap therewith joined together with said visor flap portion to a vehicle support bracket subject to pivotal movement as to said integral hinge portion and frictional engagement of said shaft extension coaxial with said hinge portion.

3,343,868
AUTOMATIC VISORS FOR AUTOMOTIVE
VEHICLES OR THE LIKE
Arman K. Manookian, Jr., 2875 Terrell Ave., Oceanside, N.Y. 11572
Filed Feb. 11, 1966, Ser. No. 526,819
11 Claims. (Cl. 296-97)

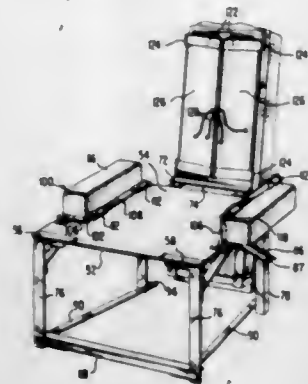


1. An internal visor for use in a motor vehicle having an internal rear view mirror mounted at the forward end of the roof and an electrical power source, said visor comprising:

- an adapter plate having front and rear surfaces, said plate being adapted for mounting to an inside surface of the body of the vehicle adjacent to the juncture of the vehicle roof and the vehicle windshield, said adapter plate in the assembled condition extending across substantially the full width of the vehicle and having a recess therein arranged to clear the mounting means for the rear view mirror of the vehicle;
- two pairs of elongated channel members secured to the front surface of said adapter plate, each pair of channel members having opposing guide means, said channel members in each of said pair being parallel to and spaced from each other; said pairs of channel members being spaced from each other by said recess;
- light-shielding means slidably disposed with respect to said guide means of each pair of said channel members;
- motor means adapted to be energized by the electrical power source of the motor vehicle;
- circuit control means connected in series between said motor means and the electrical power source of the motor vehicle; and

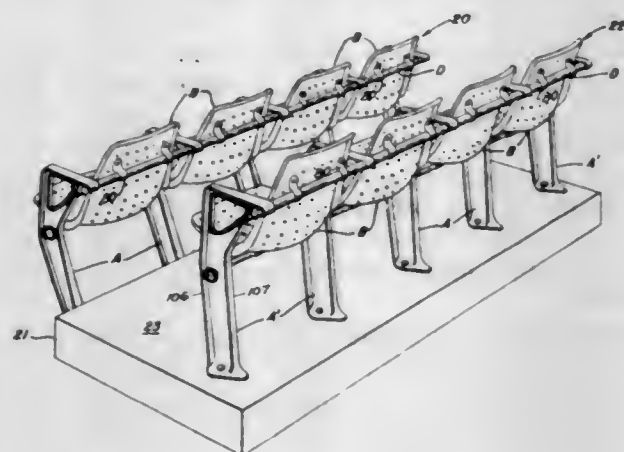
(f) a gear train arranged to be driven by said motor and to displace said shielding means along said channel members when the electrical circuit is completed by said circuit closing means.

3,343,869
GOLF CLUB RECEPTACLE WITH COLLAPSIBLE CHAIR
Reuben Scheinwald, 1117 N. 13th Court, Hollywood, Fla. 33020
Filed May 17, 1965, Ser. No. 456,287
11 Claims. (Cl. 297—217)



8. A collapsible chair for use on a golf club receptacle; the chair comprising in combination, a seat, foldable support legs pivotally connected to said seat for movement between extended positions for supporting the chair in use and retracted positions for collapsing the chair after use, a pair of arm rest supports, and means pivotally connecting said arm rest supports to opposite sides of the seat respectively for movement between extended positions projecting upwardly from the seat and folded positions closely overlying the opposite sides of the seat.

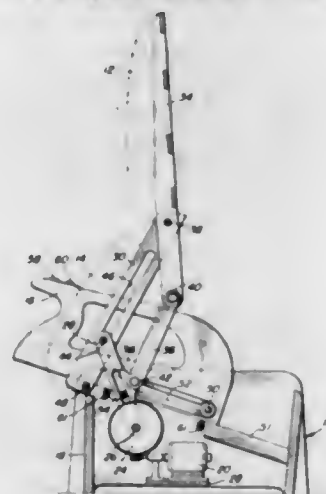
3,343,870
STADIUM SEATING
Donald L. Thatcher, 2564 Ivy Drive, Apt. 4 94606, and Terence R. Stauber, 3867 Maybelle Ave., Apt. D 94619, both of Oakland, Calif.
Filed Sept. 28, 1965, Ser. No. 490,888
10 Claims. (Cl. 297—232)



1. A seating row for installation on a tier of a stadium and the like, including in combination:
a series of identical standards adapted to be secured at evenly spaced-apart intervals to the stadium tier structure, each standard having a base portion for affixation to a said stadium tier and having an arm rest portion and first and second through openings, the first at an upper rear location and the second at a lower forward location below seat level,

a series of identical seat units, one and only one unit midway between each succeeding pair of said standards spaced therefrom and free therefrom, each unit having a seat portion and a back portion, and two supporting members, one extending through all said first openings and rigidly secured to said standards at said first openings and secured rigidly to the rear of said back portion of said units, the other extending through all said second openings and rigidly secured to said standards at said second openings and secured rigidly to the bottom of said seat portion of said units, said seat units being supported solely by said supporting members, whereby said standards may be spaced at any desired regular interval, the regular interval being varied at will before installation, and said standards support said supporting members which, in turn, support said seat units.

3,343,871
AUTOMATICALLY OPERATED INVALID CHAIR
George H. Yates, 37 Hillside Road, Ellicott City, Md. 21043, and William V. Tittsworth, Waterloo Road, Elkridge, Md. 21227
Filed Mar. 3, 1966, Ser. No. 531,415
4 Claims. (Cl. 297—323)

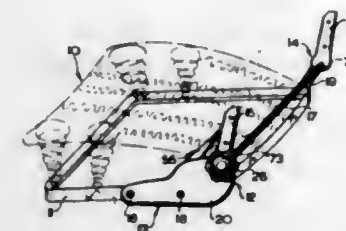


1. An automatically operated invalid chair, comprising, a chair having a seat and a back for supporting a user in a seated position and arm rests for supporting the arms of said user in said seated position, means for tilting said seat forward to assist said user to rise to a standing position, means for simultaneously raising, moving and tilting said back forward during the forward tilting of said seat to support the back of said user while rising to a standing position, rail means extending forwardly and upwardly and means for moving said arm rests along said rail means in response to the forward tilting of said seat and back to enable said user to support himself while rising to said standing position.

3,343,872
SEATS
Paul Werner, Remscheid-Hasten, and Gustav Adolf Reinmüller, Remscheid, Germany, assignors to Fritz Keiper, Remscheid-Hasten, Germany, a firm
Filed Nov. 17, 1965, Ser. No. 508,316
Claims priority, application Germany, Nov. 17, 1964, K 54,552
4 Claims. (Cl. 297—362)

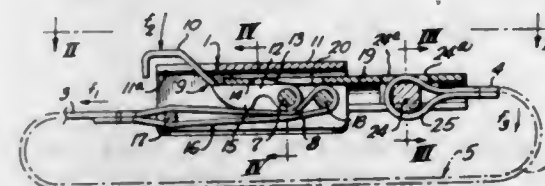
1. A seat, particularly a motor vehicle seat, comprising a seat portion having a substantially horizontal frame including a pair of spaced apart side portions; a back rest adjustable relative to said seat portion and comprising two spaced apart substantially upright struts and a cross strut extending between and being fixed at opposite ends to said upright struts; a first hinge member fixed to one of said side portions of said horizontal frame; a second

hinge member connected to the other side portion of said horizontal frame; means for adjusting the position of said back rest relative to said seat portion and for locking said back rest in any adjusted position, said means being exclusively carried by and located at least in part in said second hinge member and including first pivoting



means; means for releasably coupling said first pivoting means with said one end of said cross-strut against movement in axial direction; and second pivoting means mounted in said first hinge member and axially aligned with the other end of said cross-strut and adapted to engage the same.

3,343,873
CLOSING DEVICES FOR BELTS
Patrice Marie Bayon, Le Prieure, Angers, Maine-et-Loire, France
Filed May 10, 1965, Ser. No. 454,327
Claims priority, application France, Apr. 9, 1965, 12,733
10 Claims. (Cl. 297—385)



1. A closing device for belts including a free belt end-portion, a fixed belt end-portion, a buckle attached to said fixed belt end-portion and means in said buckle for releasably locking said free belt end-portion in said buckle, said device comprising in combination:

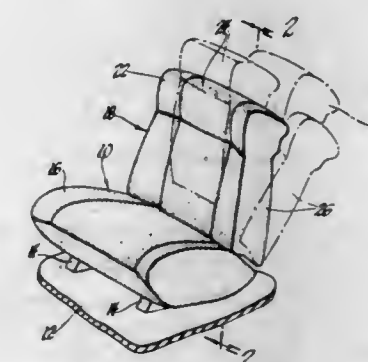
- a rigid casing having an inverted U-shaped cross section and consisting of a center-plate, said casing having two open ends and of two flanged parallel sides extending from said center plate;
- at least two transverse anchoring means maintained by said parallel sides and around which the fixed belt end-portion is looped;
- a coupling plate in which the free belt end-portion is adjustably engaged and which is adapted to engage said casing inside the latter through one of its open ends;
- a manually operated lever pivotally mounted around a transverse pivot supported by said sides of said casing and comprising an actuating part, locking means protruding upwardly from the upper face of the intermediate portion of said lever and a transverse boss formed downwardly at the end of said lever opposite said actuating part, between said locking means and said pivot, said lever acting on said looped fixed belt end-portion through said boss against deforming reactions of said end-portion;
- a cut-out window in said coupling plate for engaging and disengaging said locking means;
- a cut-out opening formed in said center-plate at the end thereof away from said pivot, and through which said lever is engaged inside said case and from which said actuating part protrudes.

3,343,874
SAFETY DEVICE
Friedrich Hildebrandt, Wuppertal-Elberfeld, Germany, assignor to Glanzstoff AG, Wuppertal-Elberfeld, Germany
Filed May 2, 1966, Ser. No. 562,409
Claims priority, application Germany, Nov. 16, 1962, V 23,288
2 Claims. (Cl. 297—386)



1. A safety device for occupants of vehicles and for parachute jumpers which comprises in combination: strap means for holding the person to be protected; braking means operatively attached to said strap means, said braking means serving to cushion the movement of said person, said braking means including a movement energy-absorbing brake cylinder, having an inner and an outer chamber, a piston rod and piston movably mounted within the inner chamber of said cylinder, said piston rod being operatively attached to said strap means, liquid brake medium filling said cylinder, means for progressively increasing the hydraulic braking force acting against the movement of said piston as said piston moves away from its position of rest, said means for progressively increasing the hydraulic braking force including successive outlet openings for said liquid brake medium in the wall separating the two chambers of said cylinder, and means for passing said liquid forced through said outlet openings by the upward movement of said piston into the area vacated by said piston, and means for slowly returning said piston to its original position of rest when the energy causing the upward thrust of said piston has been dissipated; and securing means for fastening said braking means to the body of said vehicle and parachute.

3,343,875
ADJUSTABLE SEAT BACK HEADREST
Rudolph A. Ferrara, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 6, 1965, Ser. No. 493,443
4 Claims. (Cl. 297—410)



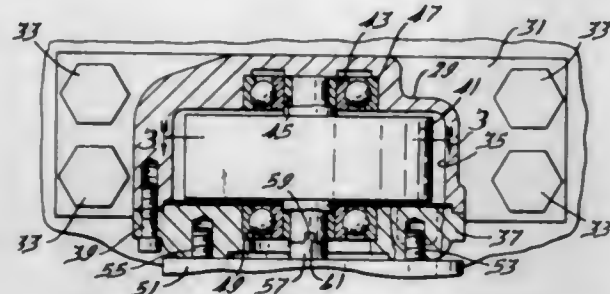
1. In combination in a vehicle body having a seating assembly mounted therein, said seating assembly having a seat unit and a seat back unit connected to said seat unit, said seat back unit including a frame, a plurality of cushion segments secured on said frame and each extending from top to bottom of said seat back, one of

said cushion segments having a seat back forming position and an extended headrest forming position and being movable therebetween, linkage means pivotally connecting said movable cushion segment to said frame, locking means for securing said movable cushion segment in said headrest position and stop means for limiting movement of said movable cushion.

3,343,876

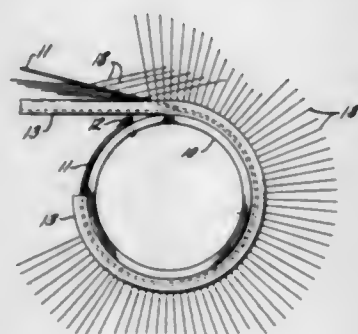
VEHICLE BOX UNLOADER

Lee J. Rapp, La Mollie, Ill., assignor to Tek-O-Motive, Incorporated, Princeton, Ill., a corporation of Illinois
Filed Aug. 27, 1965, Ser. No. 483,155
4 Claims. (Cl. 298—1)



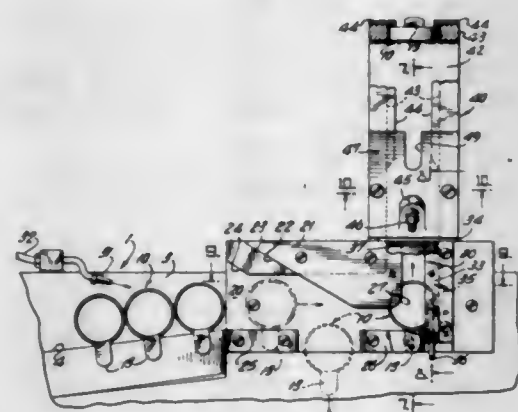
cutter unit comprising a cylindrical drum adapted for mounting on said drive means for rotation about its longitudinal axis; more than one helical guide means for cut mineral equiangularly spaced around the longitudinal axis of the drum, each said guide means extending from one end of the drum to the other end of the drum and spiraling over the drum surface for less than a complete turn of the drum surface in such sense as to direct cut mineral by scroll action away from the mineral face being mined; and a series of mineral cutter tool holders so positioned with respect to the guide means as to define two interlaced tool cutting helices each of the reverse hand to the hand of the guide means.

3,343,884
METHOD OF MAKING SPIRAL WOUND BRUSHES
 George B. Hunt, 648 N. 79th St.,
 Wauwatosa, Wis. 53213
 Filed Mar. 31, 1965, Ser. No. 444,356
 6 Claims. (Cl. 300—21)



4. A method of making a spirally wound brush wherein the position and pitch of the spiral is not fixed by a prepositioned groove but is determined during the act of winding by the position of a holding cord and a separate, flexible, and unattached channel at the instant of contact between said channel and an elongated core, including the steps of winding a flexible channel about a core simultaneously with the winding of a holding cord about the core and in overlying relation to the channel and brush filaments carried by the channel while utilizing the cord to force and hold the channel against said core at a predetermined pitch and position.

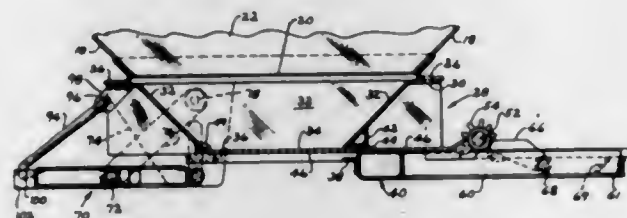
3,343,885
METHOD AND APPARATUS FOR ORIENTING AND FEEDING ARTICLES
 Arthur R. Lundberg, East Hartford, Conn., assignor to American Flange & Manufacturing Co., Inc., New York, N.Y., a Delaware company
 Filed Oct. 21, 1965, Ser. No. 499,574
 5 Claims. (Cl. 302—2)



1. The method of orienting and feeding radially unsymmetrical articles comprising imparting lateral vibratory motion to a mass of randomly oriented unsymmetrical

articles, conveying said articles along a substantially helical path, limiting the passage of articles along said path to articles having the same respective orientation about a first axis, imparting to said articles the same respective orientation about a second axis perpendicular to said first axis, terminating the movement of said articles along said helical path, accelerating said oriented articles upwardly from said path and releasing said oriented articles from said vibratory motion in a direction substantially perpendicular to said motion.

3,343,886
HOPPER STRUCTURE
 Willard E. Kemp, Bridgeton, Carl E. Becker, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
 Filed Mar. 1, 1965, Ser. No. 435,971
 14 Claims. (Cl. 302—52)

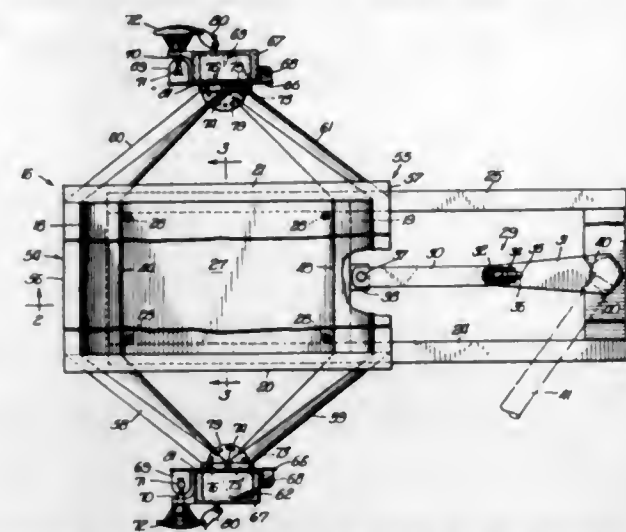


1. A bottom outlet structure for selectively discharging finely-divided material either by gravity or pneumatically and adapted to be secured beneath the bottom outlet of a hopper structure comprising, a gate slidable in opposite directions between open and closed positions relative to the bottom outlet, a housing including a supporting frame beneath the gate on which the gate is supported for sliding movement, a bottom cover beneath the gate forming with the frame and gate an enclosed space in closed position of the gate into which material flows upon opening of the gate, a pneumatic discharge conduit communicating with the enclosed space beneath the gate for removing pneumatically the finely-divided material from the area between the gate and cover, said bottom cover carrying an upper gas permeable member spaced from the cover to form a plenum chamber therebetween whereby air may flow from the plenum chamber through the gas permeable member to aerate the finely-divided material adjacent the upper surface of the gas permeable member, and means forming a connection between said housing and said cover for wholly supporting said cover from said housing, said means being releasable to permit movement of said bottom cover from beneath the gravity gate for allowing a gravity discharge of material upon opening of the gate.

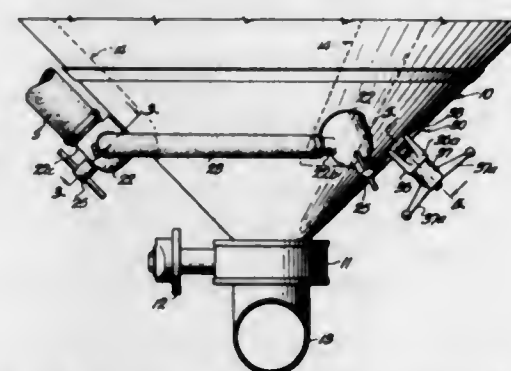
3,343,887
COMBINATION GRAVITY AND PNEUMATIC HOPPER OUTLET CONSTRUCTION FOR RAILWAY CARS AND THE LIKE
 Robert R. McNamara, Western Springs, Ill., assignor to Fabko Engineering Co., Inc., Hinsdale, Ill., a corporation of Illinois
 Filed Mar. 2, 1966, Ser. No. 531,116
 13 Claims. (Cl. 302—52)

1. For combination with a railway car or the like having a hopper for discharging lading downwardly, pneumatic hopper discharge means comprising:
 means providing a pair of horizontally aligned spaced apart lading receiving openings the lower side of each of which is defined by upwardly facing wall means and to each of which lading from a common pile is adapted to flow,
 a suction conduit individual to each opening and having imperforate side walls, and

means commonly interconnecting said suction conduits and adapted to be connected to a negative source of

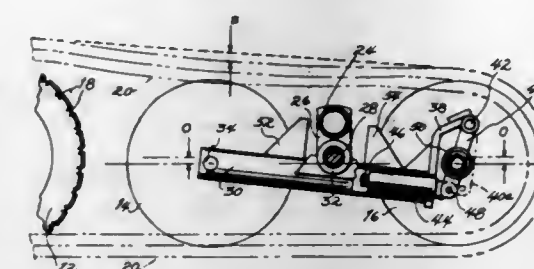


3,343,888
HOPPER ARRANGEMENT FOR PNEUMATICALLY UNLOADABLE CONTAINERS
 Arthur I. Anderson, St. Paul, and Keith F. Solimar, Minneapolis, Minn., assignors to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
 Filed June 9, 1966, Ser. No. 556,356
 5 Claims. (Cl. 302—52)



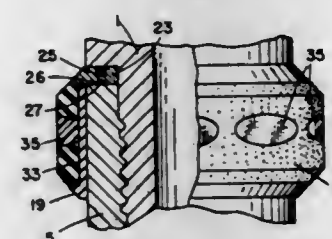
1. In a hopper construction for pneumatically unloadable containers, the combination of:
 a hopper wall terminating in a bottom outlet, at least one air diffuser element located within said hopper adjacent said wall, said diffuser element having an air inlet pipe projecting externally of the hopper through a first opening in the hopper wall, a housing removably fitted over the projecting portion of said pipe, means for supplying air to the interior of said housing, said pipe having an aperture therein communicating with the interior of said housing whereby air can flow from said housing through said aperture into said pipe and thence into said diffuser element, resilient sealing means positioned around said pipe adjacent said opening in the hopper wall whereby to seal against leakage of air through said opening around said pipe, detachable thrust means interconnecting said housing and pipe, including means operable from the exterior of the housing for effecting disconnection of said thrust means, a second opening in said hopper of a size sufficient to permit removal therethrough of said diffuser element when disconnected, a removable closure for said second opening, and means exteriorly of the hopper connected with said closure for detachably retaining the closure in closing position with respect to said second opening.

3,343,889
CRAWLER TRACTOR SUSPENSION
 Eugen Bexten, Hamilton, Ontario, Canada, assignor to International Harvester Company, a corporation of Delaware
 Filed Aug. 4, 1964, Ser. No. 387,300
 12 Claims. (Cl. 305—10)



12. In a crawler vehicle including an endless track chain at a side thereof, suspension means for that side of the vehicle including:
 tandem road wheels comprising small wheels at the front and center, respectively of the vehicle; and a large rear drive wheel rotatably mounted to the vehicle on a first axis;
 a longitudinally extending beam having inner and outer ends, and having two wheel spindles carried one at each of the ends and each rotatably connected to one of the small wheels at that end; and
 a transversely extending shaft on said vehicle freely journaled to the midportion of the beam, for supporting the beam to oscillate unbiased about a second axis, said axes and wheels having proportions and locations effectively providing:
 an upward offset of the second axis relative to the plane common to the spindles of the small wheels which is approximately 3% of the small wheel diameter;
 a large wheel diameter which is approximately 120% of the small wheel diameter; and
 a wheelbase which is approximately 200% of the large wheel diameter.

3,343,890
APPARATUS FOR REDUCING CASING WEAR DURING DRILLING OPERATIONS
 Joseph F. Homer, Stamford, Conn., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
 Filed Jan. 18, 1965, Ser. No. 426,056
 2 Claims. (Cl. 308—4)



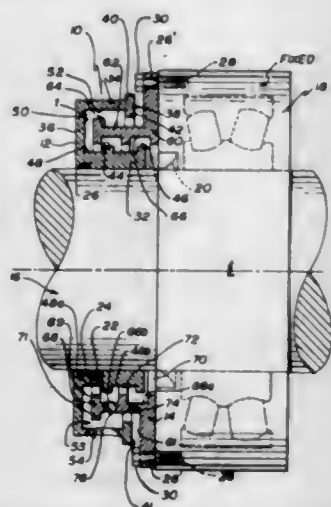
1. In combination:
 first and second drill pipe sections connected together by a box and pin coupling and having opposed annular faces therebetween at the ends thereof, said opposed faces being spaced apart when said sections are connected together;
 an annular ridge projecting from each said faces;
 an annular wear material support member fitted around at least one of said sections at said coupling;
 an annular flange projecting inwardly from said support member into the space between said annular faces and having annular grooves therein matingly engaging said annular ridges; and

an annular band of wear material affixed to said support member, said annular band of wear material comprising an annular aluminum band affixed to said support member, an annular rubber band affixed to said aluminum band, and a plurality of plastic inserts extending through said rubber band and affixed to said aluminum band.

3,343,891 SEAL DEVICE

George E. Shipman, Ontario, Calif., assignor to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada

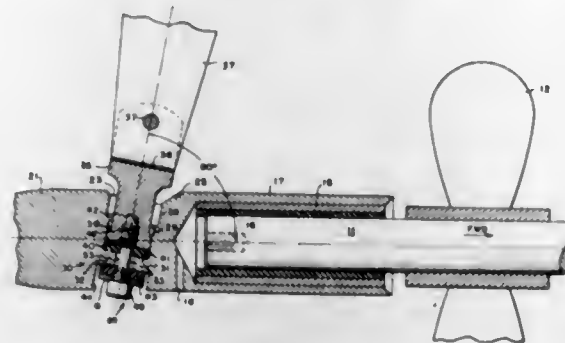
Filed July 6, 1964, Ser. No. 380,434
3 Claims. (Cl. 308—36.1)



1. In an apparatus including bearing means and a shaft rotatably mounted in the bearing means and with a space being provided between said bearing means and shaft, a device for sealing said space comprising first and second annular members, said first member including a pair of opposing and spaced wall portions interconnected by a further wall portion, said second member including intersecting wall portions, one of the wall portions of one of said first and second members being affixed to said bearing means and one of the wall portions of the other of said first and second members being affixed to the shaft so as not to interfere with the normal relative movement between said first and second members, the surfaces of said opposing and spaced wall portions of said first member defining a recess, the surfaces of said intersecting wall portions of said second member being disposed in directly opposing relation to the surfaces of the first member and in relation to the recess whereby a tortuous path to the bearing means is formed in said recess, said tortuous path being further defined by the directly opposing surfaces of said first and second members each of which is provided with a series of flanges and ribs, the flanges and ribs of the first member being offset with respect to the flanges and ribs of the second member, one of said flanges of the first member being disposed on the free end of one of the spaced wall portions thereof and one of said flanges of the second member being disposed on the free end of an intersecting wall portion thereof; said first and second members each having separate apertures, wherein the aperture of said first member is located adjacent said one of said flanges on the free end of said other one of the spaced wall portions thereof and wherein the aperture of said second member is located adjacent said one of said flanges on the free end of the aforementioned wall portion thereof, both apertures facilitating flow from the recess of foreign material which contacts said flanges of said first and second members and the tortuous path formed in said recess being adapted to minimize the entry of foreign material by the effect of gravity and centrifugal force during relative movement of said first and second members.

3,343,892 PROPELLER SHAFT BEARING MOUNT

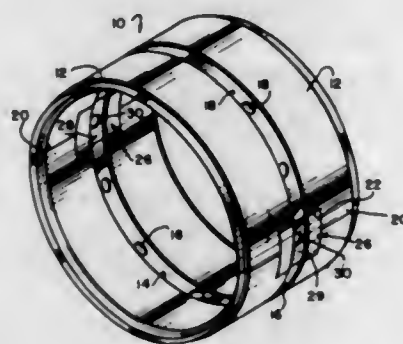
John Plum, Montgomery County, Md.
(5402 Tuscarawas Road, Washington, D.C. 20016)
Filed Nov. 30, 1964, Ser. No. 414,928
4 Claims. (Cl. 308—29)



1. In combination, a propeller shaft strut and bearing housing arrangement for supporting the end of a propeller shaft located aft of the propeller comprising:
a bearing housing having a coaxial bore in the forward end, said housing being adapted to be coaxial with a propeller shaft;
a bearing within said bore for radially supporting a propeller shaft;
a body portion of said bearing housing aft of said bore having a radially counterbored hole therethrough;
an apertured web in said radially counterbored hole in said body portion;
a connecting pin rigidly attached to the propeller shaft strut;
a spherical surface portion formed on the lower end of said connecting pin fitting within said radially counterbored hole so that the geometric center of said spherical portion is approximately at the intersection of an extension of the axis of the propeller shaft and a line of alignment of the strut and said radially counterbored hole;
resilient means located on both sides of said apertured web; and
fastening means through said resilient means and apertured web and removably attaching said bearing housing to said connecting pin.

3,343,893 FLOATING BEARING OF SPLIT-SHELL CONSTRUCTION

Harry Hall, Painted Post, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 27, 1965, Ser. No. 428,442
11 Claims. (Cl. 308—121)

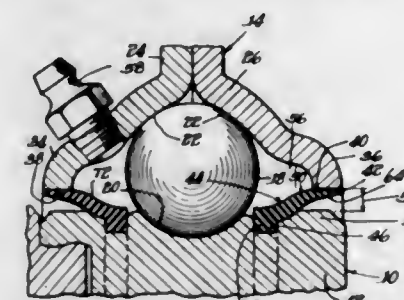


1. A full-floating bearing of split-shell construction, comprising:
a plurality of separate arcuate shell members having inner and outer bearing surfaces and longitudinally disposed in end-to-end alignment in the configura-

tion of a cylindrical bearing shell and having abutting longitudinal end portions;
groove means in said shell members cooperating for conveying lubricating fluid around the bearing shell formed by said shell members;
means for connecting said shell members in said configuration of a cylindrical bearing shell; and
said connecting means comprising a slot in a longitudinal end portion of one of said shell members, and tongue means operatively associated with the abutting longitudinal end portion of the adjacent shell member and fitting snugly in said slot.

3,343,894 SEALED BEARING

Eugene Fred Fisher, Jr., Northbrook, Ill., assignor to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Oct. 19, 1965, Ser. No. 497,627
5 Claims. (Cl. 308—187.2)



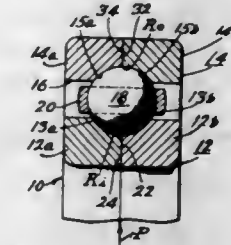
1. A sealed bearing comprising first and second bearing members journaled together for rotation in relation to each other about a common axis, said first bearing member defining thereon a cylindrical sealing surface of substantial width concentric with said axis, a flexible annular seal formed of a yieldable polymeric material and disposed in concentric relation to said axis, said flexible annular seal being supported on said second bearing member at an annular seal support position on the latter located axially inward of said sealing surface, said flexible annular seal cantilevering from said seal support position on said second bearing member and having a marginal edge cantilevering in an axially outward direction and slidably overlapping said sealing surface on said first bearing member, said flexible annular seal having a residual stress therein continuously urging said marginal edge of the seal against said sealing surface with substantial firmness to form a slidable seal with said sealing surface, and said cantilevering marginal edge of said flexible annular seal being shaped to have a thickness which decreases progressively from the inner edge toward the outer edge of said sealing surface that is slidably overlapped by the seal so that by virtue of the progressive decrease in an outward direction in the thickness of said marginal seal edge the pressure force exerted by the seal on the sealing surface progressively decreases from the inner edge toward the outer edge of the sealing surface to effect as an incident to rotation of said bearing members relative to each other outward expulsion from between said sealing surface and said marginal seal edge any solid particles intervening therebetween.

3,343,895 ROLLING BEARING ASSEMBLIES

Thomas W. Morrison, Rydal, Pa., assignor to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,462
3 Claims. (Cl. 308—196)

1. A ball bearing assembly comprising inner and outer rings spaced apart to define an annular space therebetween, confronting surfaces of said rings having arcuate

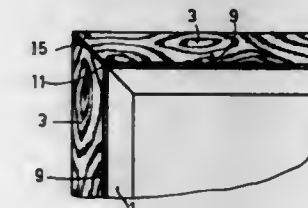
raceways, a plurality of balls in the annular space between said rings engaging the raceways, at least one of said rings comprising a pair of annular ring segments, each ring segment comprising a portion of the finished ring taken through a plane transverse to the rotational axis of the ring including a portion of the arcuate race-



way in said one ring, said ring segments being friction welded at their confronting axial end faces so that the raceway portions of each segment form the raceway of the said one ring whereby the juncture of said ring segments forms a part of the arcuate raceway in said one ring engageable by said balls.

3,343,896 RADIO OR TELEVISION CABINET

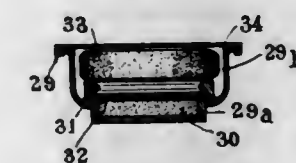
Johann Mangels, Krefeld-Willich, and Heinz Joeres, Krefeld, Germany, assignors to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,286
Claims priority, application Germany, July 2, 1964, P 34,614
1 Claim. (Cl. 312—7)



A cabinet comprising: a metal frame member, a plurality of fastening projections integral with said frame member, and extending therefrom, a porous material substantially overlying said frame member, an adhesive impregnating said porous material, and a plurality of adjacent veneer sheets substantially covering said frame, wherein said sheets are in overlying relation with said fastening projections and said adhesive impregnated porous material, whereby said fastening projections penetrate one surface of said veneer sheets and said adhesive fills said cavities between said adjacent sheets.

3,343,897 DEHYDRATING DEVICE

Pierre Walther Keller, Tangier, Morocco, assignor to Participations et Procédés Industriels S.A.H., Luxembourg, Luxembourg
Filed Mar. 23, 1965, Ser. No. 441,985
Claims priority, application France, Mar. 26, 1964, 968,817, Patent 1,398,105; addition, May 27, 1964, 976,006
1 Claim. (Cl. 312—31)



A package of medicinal products comprising a dehydrating device in combination with the medicinal products, said dehydrating device consisting of a layer of impervious material, comprising in its central portion a

cavity, a dehydrating product disposed in said central cavity, a layer of material pervious to water vapor, which covers the free face of said dehydrating product and is sealed along its edges to those of the layer of impervious material, and a rib overlying said cavity, said rib being so arranged that said layer of pervious material may penetrate beneath said rib and be automatically locked in position thereby, said package further comprising an extension of said cavity, a medicinal product for example in the form of a tablet, disposed in said extension above said layer of pervious material, and another layer of impervious material for closing the assembly.

3,343,898
HYGIENIC PAD AND DISPENSER UNIT
 George B. Larson, 2049 Westridge Road,
 Los Angeles, Calif. 90049
 Filed May 19, 1965, Ser. No. 456,942
 4 Claims. (Cl. 312-60)

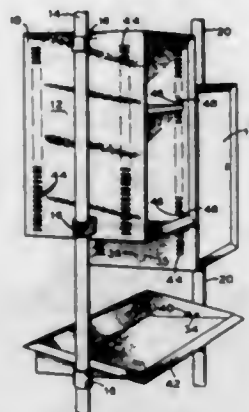


1. In combination, a hygienic pad and dispensing means; said pad comprising a plurality of flat, rectangular sheets of absorbent material, said sheets being joined together along three peripheral edges thereof whereby the unjoined periphery is adapted to form a pocket in said pad when the edges adjacent said unjoined periphery are depressed inwardly; a tab secured to a point along one of the joined edges; said dispensing means comprising a housing having a vertical slot, said slot positioned to permit said tabs to project therethrough when said pads are in said housing, and a spring-loaded door mounted on the bottom of said housing.

3,343,899
ADJUSTABLE STORAGE UNIT ARRANGEMENT
 Morison S. Cousins, Whitestone, and Lorenzo A. Pomier, Brooklyn, N.Y., assignors to Lincoln Metal Products Corp., Brooklyn, N.Y., a corporation of New York
 Filed Dec. 21, 1964, Ser. No. 419,958
 4 Claims. (Cl. 312-111)

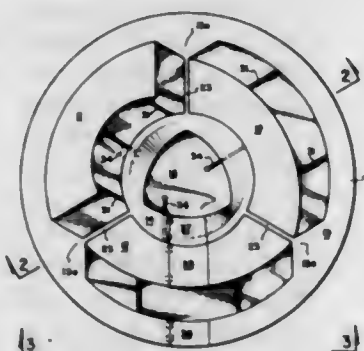
2. A flexible storage unit arrangement, said arrangement comprising a first and second pole, a pair of spring clips to hold units for attachment to said poles, each of said clips comprising an approximately rectangular strip of resilient material bent to form at its first extremity a generally U-shaped inner end portion, said strip extending outwardly from said inner end portion to form a pole-grasping member, a base portion extending from said pole-grasping member parallel to and spaced from said inner end portion, said strip having at its second extremity an outer end portion connected to and extending at approximately right angles to said base portion, means to apply

pressure to said U-shaped inner end portion thereby to tighten the said pole-grasping member and secure the clip to the pole, a first unit attached at its outer side by one of said spring clips to said first pole, and a second unit at-



tached at its outer side by the other of said spring clips to said second pole, each of said inner sides of said units having corresponding means for fastening together said units whereby a pair of units may be attached side by side between a single pair of poles.

3,343,900
ARTICLE DISPLAY AND TRANSFER COUNTER UNIT
 Gary C. Thompson, 978 South 19th East,
 Salt Lake City, Utah 84105
 Filed Apr. 22, 1965, Ser. No. 450,101
 6 Claims. (Cl. 312-140.1)



4. An article display and transfer counter unit comprising a ring shaped outer customer counter; an inner control counter having a circular outer periphery and control area formed centrally thereof; a plurality of movable transfer counters positioned between said customer and control counters; and means, including operating means in said control space for moving said transfer counters between extreme positions abutting said customer and control counters.

5. An article display and transfer counter unit according to claim 4, wherein the means for moving the transfer counters includes a handle fixed to each of the transfer counters and extending through the control counter to said control area, and rollers mounted on the bottom of each of the transfer counters.

3,343,901
DRESSMAKER'S DEVICE
 Susan A. Marcus, Brackenville Road,
 Hockessin, Del. 19707
 Filed Oct. 21, 1965, Ser. No. 499,704
 10 Claims. (Cl. 312-235)

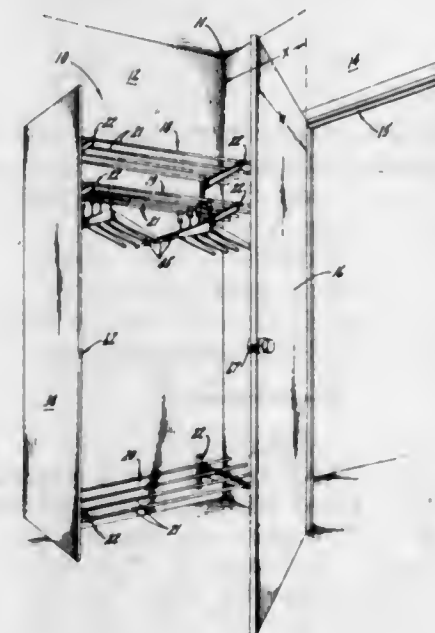
1. A support comprising a top stationary platform; a bottom stationary platform extending substantially beyond the outer edge of said top platform and thereby

affording a step to the said top platform; and a revolvable member located between the said top and bottom plat-



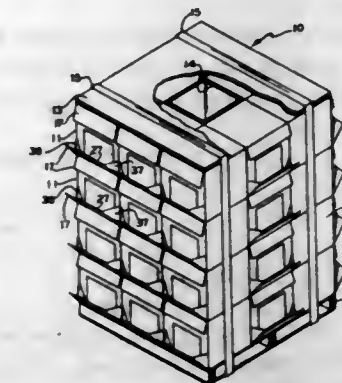
forms and containing a platform which is revolvable with said member.

3,343,902
WARDROBE
 Raymond A. Magnuson, Hinsdale, Ill., assignor to Vogel-Peterson Co., Elmhurst, Ill., a corporation of Illinois
 Filed Aug. 15, 1966, Ser. No. 572,454
 5 Claims. (Cl. 312-238)



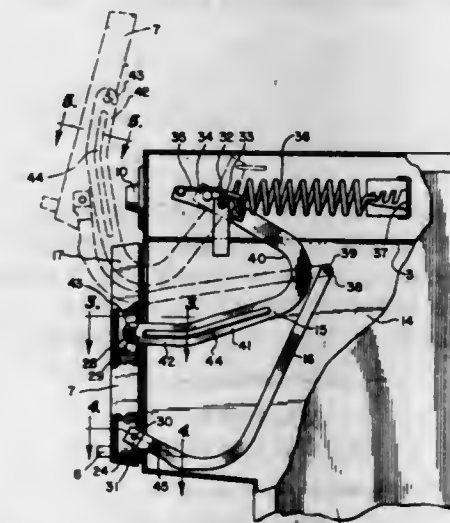
5. A wardrobe for installation behind a door and in a corner of a room defined by first and second room walls comprising, in combination, shelf brackets for mounting on one of the walls at vertically and horizontally spaced locations thereon, shelf rods extending generally parallel to that wall and secured to said brackets to afford shelf surfaces and spaced hanger support for garments, a cover panel, secured in substantially normal relation to the ends of the shelf rods remote from the other room wall, means for securing said shelf rods to said shelf brackets to space said cover panel from said brackets and at a position adjacent the free edge of the door when the latter is fully open, and retaining means on said cover panel and the door to hold the latter in its fully open position adjacent the cover panel to conceal said shelf rods and brackets.

3,343,903
MULTIPLE BIN SHIPPING AND STORAGE ASSEMBLY
 Robert E. Roy, 301 Kinney St., Syracuse, N.Y. 13206
 Filed June 9, 1966, Ser. No. 556,353
 6 Claims. (Cl. 312-285)



1. A multiple bin shipping and storage assembly comprising a rigid base having a plurality of box-like containers stacked thereon in a plurality of tiers and a top of sheet material secured together in a unitary assembly for shipping, the containers of each tier being arranged in rows around the perimeter of the assembly, each container being manually openable at a front side facing outward of the assembly, each container comprising a box member and a sleeve member, each member being formed from a single blank of corrugated board materials, each unopened container having front and back sides of at least two layers of corrugated material and the other two opposed sides of each container having at least four layers of corrugated material for supporting the containers of the tiers above it, whereby the assembly becomes a compartmented storage bin with access to the contents of each container when the containers are opened.

3,343,904
PANTOGRAPH-TYPE DOOR MOUNTING ARRANGEMENT
 Ernst P. Laug, Park Ridge, Ill., assignor to General Electric Company, a corporation of New York
 Filed Feb. 11, 1966, Ser. No. 526,790
 6 Claims. (Cl. 312-319)



1. In combination:
 (a) a casing forming a compartment having a front opening;
 (b) a door for opening and closing said opening, said door having at least one vertically extending recess formed extending from the door surface which faces said compartment toward the door surface remote from said compartment;

- (c) a lower hinge arm pivotally connected at its one end to said door in said recess and pivotally connected at its other end to said casing;
- (d) an upper hinge arm pivotally connected at its one end to said door in said recess above said lower hinge arm and pivotally connected at its other end to said casing;
- (e) said hinge arms supporting said door for movement between a closed position wherein said door is vertical and an open position wherein said door is moved

- up through an arc with no substantial tilting of said door from the vertical;
- (f) each said arm being formed of sheet material extending in a plane perpendicular to the plane of said door in closed position;
- (g) at least one of said arms being embossed so as to be wedged into rubbing engagement with a side of said recess thereby to diminish substantially horizontal looseness of said door in its open position and to increase the rigidity of said arm.

CHEMICAL

3,343,905

NYLON DYES

James F. Feeman, Wyomissing, Pa., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
No Drawing. Filed Oct. 20, 1966, Ser. No. 587,987
13 Claims. (Cl. 8—26)

1. A composition comprising at least one non-metallized and non-metallizable acid dye that is capable of dyeing nylon fibers from a substantially neutral to weakly acid solution and at least a molecular equivalent of a premetallized azo dye-chromium complex containing one sulfonic group wherein the dye and chromium are present in a molecular ratio of about 1:1; said premetallized dye is substantially free of dye-metal complexes in which the dye metal ratio is 2:1; and the metallized portion is substantially free of unchromed dye, and is soluble in neutral and weakly alkaline aqueous solutions, and wherein the azo component of the premetallized dye includes groups positioned ortho, ortho' to the azo linkage, one of these vicinal groups being —OH and the other being —OH, —NH₂ or —COOH.

3,343,906

CELLULOSE BLEACHING PROCESS USING PEROXIDE SOLUTION CONTAINING AN ALKALI METAL CARBONATE AND BICARBONATE

Harry G. Smolens, Penn Valley, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application Dec. 19, 1962, Ser. No. 245,669, now Patent No. 3,280,039, dated Oct. 18, 1966. Divided and this application June 23, 1964, Ser. No. 382,985

7 Claims. (Cl. 8—111)

1. The process of bleaching textile material containing naphthol dyed yarn by wetting the materials with an aqueous bleaching solution comprising:
water
2.0 to 50 grams per liter of 100% hydrogen peroxide,
2.0 to 50 grams per liter of alkali metal bicarbonate, and a sufficient quantity of alkali metal carbonate to cause the solution to have a pH between 9.5 and 9.9 and an alkalinity from 0.05 to 1.0 normal.

3,343,907

WITHDRAWN

3,343,908

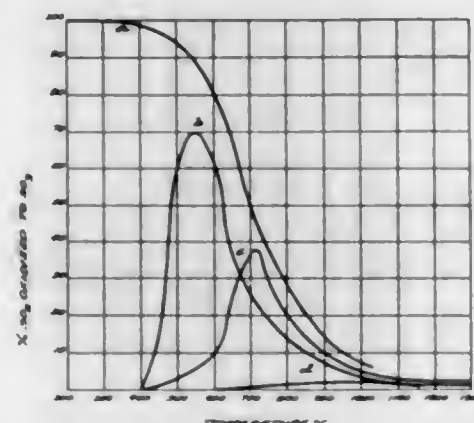
METHOD OF REMOVING SULFUR TRIOXIDE FROM COMBUSTION GASES TO REDUCE THE CORROSIVE EFFECTS THEREOF

Kurt Ferdinand Wickert, Berlin-Stiemensstadt, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
Filed Feb. 6, 1964, Ser. No. 342,953
Claims priority, application Germany, Feb. 13, 1963, D 40,866

4 Claims. (Cl. 23—2)

1. A process for reducing dewpoint acid corrosion and fouling of surfaces contacted at temperatures be-

tween below about 400° C. and the ambient atmospheric temperature with combustion gases containing sulfur trioxide and water vapor comprising incorporating in a fine state of distribution a mixture of (1) finely divided basic material selected from the group consisting of calcium oxide, magnesium oxide, magnesium carbonate, basic magnesium carbonate and mixtures thereof and



(2) finely divided acidic oxide material selected from the group consisting of silicon dioxide, aluminum oxide and mixtures thereof, said finely divided basic and acidic oxide materials having a surface area of at least 30 m.²/g., into such combustion gases when they have cooled to a temperature of about 400° C., the molar proportion of said acidic material being at least 0.5 mol per mol of basic material calculated as oxide.

3,343,909

RECOVERY OF VANADIUM AND PHOSPHORUS VALUES FROM FERROPHOSPHORUS

Keun Young Kim, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed June 19, 1963, Ser. No. 288,875
16 Claims. (Cl. 23—22)

1. A method for separating phosphorus values from a salt-roast ferrophosphorus comprising contacting said ferrophosphorus with an aqueous inorganic alkaline solution having a pH greater than about 11 at a temperature of from about 25° C. to the boiling temperature of said alkaline solution and for a time sufficient to solubilize said phosphorus values therein and separating the alkaline solution containing said phosphorus values and the ferrophosphorus residue.

10. A method for separating phosphorus values from a salt-roast ferrophosphorus containing vanadium values comprising contacting said ferrophosphorus with water having a pH between about 6 and 7.5 whereby said vanadium values are solubilized therein, separating the water and the ferrophosphorus residue, contacting said ferrophosphorus residue with an aqueous inorganic alkaline solution having a pH greater than 7.5 at a temperature of from about 25° C. and the boiling temperature of said solution, whereby said phosphorus values are solubilized

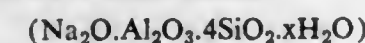
therein and separating the aqueous alkaline solution containing said phosphorus values and the ferrophosphorus residue.

3,343,910

WATER-SOLUBLE LITHIUM COMPOUNDS

Maurice Archambault, Quebec, Quebec, and Charles A. Olivier, Ste. Foy, Quebec, Canada, assignors to Ministère des Richesses Naturelles, Quebec, Quebec, Canada
No Drawing. Filed July 25, 1963, Ser. No. 301,230
Claims priority, application Great Britain, July 30, 1962, 29,223/62; Canada, Nov. 24, 1962, 863,073
12 Claims. (Cl. 23—32)

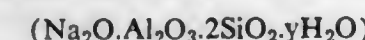
1. A process for producing water soluble lithium compounds from a calcined lithium-bearing silicate, which comprises: (a) reacting said silicate with an aqueous sodium carbonate in an amount and under hydrothermal conditions effective to form an aqueous slurry containing a mixture of water-insoluble lithium carbonate and at least one sodium aluminosilicate selected from the group consisting of isometric sodium zeolite



and a compound jadeite-like in chemical composition



and unspent sodium carbonate and to prevent the production of anisometric sodium zeolite

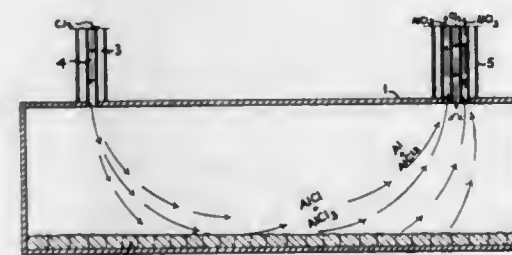


sodic cancrinite or complex lithium aluminosilicates: (b) separating the unspent sodium carbonate from said hot aqueous mixture of solids; (c) selectively dissolving the lithium values from said separated mixture of solids with water and at least one dissolving agent selected from the group consisting of alkaline earth metal compounds in aqueous medium, and aqueous solutions of acids other than carbonic acid whose dissociation constants at 25° C. range from about 1×10^{-3} to 5×10^{-7} at a temperature from ambient to about 60° C. to form a lithium-bearing solution and a sodium aluminosilicate-bearing solid residue; and (d) recovering from said solution a crystalline lithium compound.

3,343,911

PRODUCTION OF ALUMINUM TRICHLORIDE

Douglas H. Eisenlohr, Barberton, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1964, Ser. No. 346,174
9 Claims. (Cl. 23—93)



1. In a process of preparing aluminum trichloride substantially free of metallic aluminum from a chlorinating agent and metallic aluminum in a reaction zone, the improvement which comprises contacting metallic aluminum of at least 99.9 percent purity with a chlorinating agent in a reaction zone maintained at temperatures above 400° F.; removing a gaseous mixture of aluminum trichloride and aluminum monochloride from the principal zone of reaction, said gaseous mixture being at a temperature above 1000° F.; cooling said gaseous mixture until metallic aluminum forms therein; contacting said cooled mixture con-

taining said metallic aluminum with additional chlorinating agent at a temperature above the sublimation temperature of aluminum trichloride but below 1000° F. whereby to provide a gaseous mixture substantially free of metallic aluminum; and removing substantially pure aluminum trichloride from said reaction zone.

3,343,912

RECOVERY OF ALUMINUM NITRATE FROM AQUEOUS SOLUTIONS

Wallace W. Schulz, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 4, 1966, Ser. No. 518,735
8 Claims. (Cl. 23—102)

1. A method of recovering aluminum nitrate from an aqueous solution comprising extracting aluminum from said aqueous solution with an organic solution of an alkali metal salt of di(2-ethyl-hexyl) phosphoric acid in a solvent which is substantially immiscible with water, the volume of said organic solution substantially exceeding the volume of said aqueous solution.

3,343,913

PROCESS FOR PRODUCING SYNTHETIC FAUJASITE HAVING A HIGH SILICA TO ALUMINA RATIO

Harry Edwin Robson, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 31, 1963, Ser. No. 334,911
8 Claims. (Cl. 23—113)

1. An improved process for preparing crystalline synthetic faujasite having the following molar ratios of constituents:



wherein n has a value above 3, which comprises:

- (1) combining (a) aqueous colloidal silica sol containing about 30 to 50 wt. percent silica, and (b) aqueous sodium aluminate liquor, the ratios and compositions of said sodium aluminate liquor and said silica sol being adjusted to produce a reaction mixture having the following molar ratios of constituents:



- (2) maintaining the temperature of said reaction mixture during step (1) below about 38° C.;
- (3) heating said reaction mixture to a temperature within the range of about 80° to 120° C.;
- (4) aging said reaction mixture at a temperature within the range of about 80° to 120° C. for a period of about 16 to 36 hours to thereby crystallize said faujasite; and
- (5) recovering the crystallized product.

3,343,914

RECOVERING STRONTIUM FROM REACTOR FUEL REPROCESSING SOLUTIONS AS STRONTIUM SULFATE

Lane A. Bray, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Mar. 20, 1964, Ser. No. 353,641
3 Claims. (Cl. 23—122)

1. A method of recovering millimolar strontium values from a nuclear reactor fuel reprocessing waste solution having molarities of about 0.6 in Na⁺, about 0.5 in Fe(III), about 0.1 in Al(III), about 0.01 in Ni(II), Cr(III) and R.E. (III), about 0.002 in Sr(II), about 4.0 in H⁺ and about 1.0 in SO₄⁻², comprising: diluting the

parallel with the longitudinal axis of said cylindrical pellet, said pellet exhibiting a high resistance to the flow of an electric current in a direction normal to said axis;

- (b) a pair of electrodes mounted adjacent the sides of said pellet, said electrodes being aligned normal to said axis to make contact with said pellet on opposite sides thereof so that a current flowing between said electrodes flows normal to said axis; and

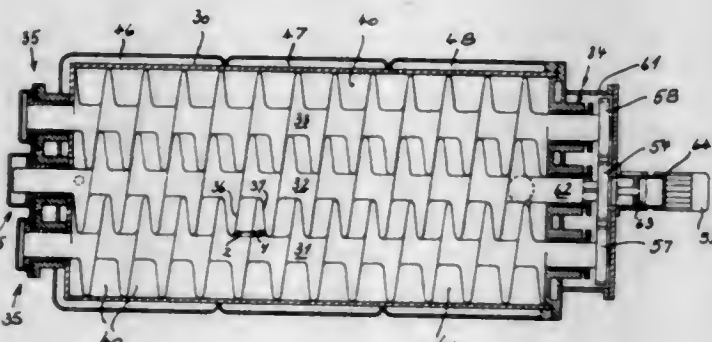


- (c) circuit means including a low voltage source of power, a switch, and a current limiting device connected in series across said electrodes to provide a small flow of current through said pellet when said switch is closed to react said silver carbonate and carbon to form carbon dioxide gas and free silver, said free silver making the residue of said pellet highly conductive.

3,343,922

CHEMICAL REACTOR

Hans Joachim Zimmer, Kronberg, Taunus, and Walter Dietrich, Offenbach (Main), Germany, assignors, by mesne assignments, to Vickers-Zimmer Aktiengesellschaft, Planung und Bau Von Industrieanlagen, Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 23, 1963, Ser. No. 310,705
14 Claims. (Cl. 23—285)



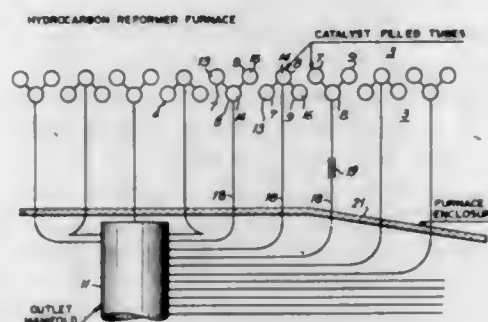
1. Polymerization apparatus for the manufacture of linear polymers comprising a container for reacting liquid, means for supplying reacting liquid to said container to a predetermined level, at least two elongated worms rotatably mounted in said container, the axes of the worms being parallel, the worms being single threaded, having the same pitch throughout their length and having the same hand and the same direction of rotation, said container including a wall fitting closely to the lower edges of the lands of the worms and up to the height of said predetermined level of liquid and said wall being spaced from the upper edges of the lands of the worms to define a reaction space above the worms substantially coextensive with the worms, the top of the lands of the worms being above said predetermined liquid level and said worms cooperating with one another and with said wall of said container so as to define spaced, separate chambers between adjacent flanks for holding reacting liquid and for advancing reacting liquid through the container upon rotation of said worms, a liquid film being

formed on the worms during rotation thereof, the flanks of the lands of the worms being arcuately formed in cross-section to a curvature having a radius corresponding to the distance between the axes of the worms and defining land edges at the joinder of the flanks with the outer surfaces of the worms, the worms interengaging one another in edge to flank relationship along at least parts of their length so as to exert a sliding and mutual cleaning action upon at least parts of each other during their rotation for cleaning liquid from the worms, means for creating a vacuum in the container above the liquid, means for removing reaction product from the container, and means for heating the contents of the container.

3,343,923

MULTITUBULAR STEAM-HYDROCARBON REFORMER FURNACE

Robert T. Regan, 34 Park Terrace, Caldwell, N.J. 07006, and Peter von Wiesenhal, 17 E. 89th St., New York, N.Y. 10028
Filed Oct. 21, 1965, Ser. No. 499,351
1 Claim. (Cl. 23—288)



A multitubular steam-hydrocarbon reformer furnace including a setting which has a bottom and defines an enclosure,

means for flowing hot combustion gases upward through the enclosure,

a plurality of catalyst-filled furnace tubes arranged vertically in staggered double rows to pass through the enclosure,

means for coursing steam and hydrocarbon downward through the tubes in parallel flow relationship one with the other for non-contact counterflow heating by the upflowing combustion gases,

the tubes including a first, second and third tube each substantially the same size and material and each having an outlet end which penetrates the bottom so that it projects below the enclosure,

a catalyst support in each of the tubes and spaced from the end of that tube to define first, second and third outlet chambers in the tubes,

conduit means communicating the first and third outlet chambers in flow series with the second outlet chamber to deliver fluids thereto,

a pigtail pipe connected in flow series between the second tube and the outlet manifold for collection of the fluids therein,

the pigtail pipe designed to have substantially less rigidity than the second tube so that the pigtail pipe may yield to accommodate elongation of the tubes, a unitary shroud enclosing the pigtail pipe and the outlet manifold,

each of the tube ends defining a catalyst opening for access into that tube,

the catalyst supports arranged to be removable via its associated catalyst opening,

each of the catalyst openings having a removable gasket connected thereto for sealing,

a beam positioned between the ends of the staggered double row of tubes and below the floor, at least one member depending from the beam and connected to the wall of each of the tubes for supporting that tube in the enclosure.

3,343,924

SELECTIVE DECLADDING OF NUCLEAR FUEL ELEMENTS

Louis J. Anastasia, Midlothian, Ill., Peter G. Alfredson, Sydney, New South Wales, Australia, and Martin J. Steindler, Park Forest, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 30, 1966, Ser. No. 584,057

2 Claims. (Cl. 23—324)

1. A process for decladding an assembly of uranium dioxide or mixtures of uranium and plutonium oxides clad in stainless steel or an alloy consisting essentially of zirconium and containing minor amounts of nickel, or chromium, or tin, or iron, or combinations thereof comprising reacting the assembly with a gas containing oxygen and hydrogen fluoride in the ratio of at least two parts hydrogen fluoride to one part oxygen by volume in a fluidized bed of particles inert to the assembly and the reacting gas at a temperature between about 400° C. and about 650° C. and separating the unreacted uranium dioxide or mixture of uranium and plutonium oxides from the reaction products.

3,343,925

METHOD OF SEPARATION OF URANIUM FROM PLUTONIUM

André Bathellier, Sceaux, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Nov. 17, 1964, Ser. No. 411,912

Claims priority, application France, Nov. 26, 1963, 954,945

7 Claims. (Cl. 23—341)

1. A method of separating uranium from plutonium which comprises the following steps: contacting (a) an organic phase comprised of a solution of (1) tetravalent uranium in the form of uranyl nitrate and tetravalent plutonium in the form of plutonium nitrate and (2) tributyl-phosphate diluted with a solvent with (b) a sulpho-nitric aqueous phase wherein the concentration of the sulfo ions is within the range of from 0.1 N to 2.5 N and the concentration of the nitric ions is within the range of 0.5 N to 3.5 N to thereby obtain an intimate mixture of the two phases; allowing the two phases to settle out from each other and separating the two phases.

3,343,926

OXIDATION-REDUCTION PROCEDURE FOR PARTICLE-SIZE REDUCTION OF UO_2

Irving E. Knudsen, Downers Grove, and Norman M. Levitz, Bellwood, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 8, 1966, Ser. No. 526,334

6 Claims. (Cl. 23—355)

1. A method for reducing the particle size of uranium dioxide and mixtures of uranium dioxide containing a minor amount of plutonium dioxide comprising oxidizing said dioxide and dioxide mixtures with less than half of the stoichiometric amount of oxidizing agent necessary to oxidize the uranium dioxide to U_3O_8 and thereafter reducing to the dioxide.

3,343,927

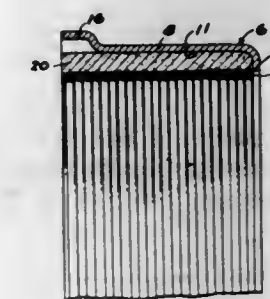
SINTERED METAL BRAKE DRUM

Robert J. Derleth and Alexander Brede III, Lansing, Mich., assignors, by mesne assignments, to Motor Wheel Corporation, Akron, Ohio, a corporation of Ohio

Filed Dec. 18, 1963, Ser. No. 331,533

10 Claims. (Cl. 29—182.1)

1. A brake drum comprising support means constructed and adapted to assemble said drum on other wheel parts for rotation therewith and brake track material secured to said support means and comprising sintered ferrous metal infiltrated with an infiltrant material having a



thermal conductivity substantially higher than that of said ferrous metal and a melting temperature in the sintering temperature range of said ferrous metal.

3,343,928

FERROUS SUBSTRATE HAVING AN IRON-CHROMIUM-ALUMINUM ALLOY COATING THEREON

Harold E. Bellis, North Tonawanda, N.Y., and Giles F. Carter, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 15, 1965, Ser. No. 496,708

4 Claims. (Cl. 29—183.5)

1. An article of manufacture comprising a ferrous metal substrate having a ferritic alloy coating, wherein the top 0.3 mil of said coating is an alloy consisting of from 12 to 50% by weight of chromium, from about 0.08% to 4% by weight of aluminum, and the balance consisting essentially of iron.

3,343,929

OXIDATION-RESISTANT BERYLLIUM ARTICLES AND PROCESS OF MAKING

Ray J. Van Thynne, Oak Lawn, and John J. Rausch, Evanston, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 22, 1964, Ser. No. 377,141

8 Claims. (Cl. 29—194)

1. A process of protecting beryllium metal against oxidation, comprising mixing beryllium and silicon; arc-melting the mixture obtained; cooling the arc-melted product; crushing the product; suspending the product in a lacquer solution to form a slurry; coating a beryllium base to be protected with the slurry to obtain a coating of a maximum thickness of $\frac{1}{32}$ inch; heating the coated base at a temperature of between 950 and 1000° C. under reduced pressure; introducing an inert atmosphere of super-atmospheric pressure and heating the coated base to about the liquidus of the coating for about two minutes in said inert atmosphere; and cooling the coated base.

7. As a new article of manufacture, a beryllium base coated with a fired beryllium-silicon alloy containing from 35 to 50 atomic percent of silicon.

3,343,930

FERROUS METAL ARTICLE COATED WITH AN ALUMINUM ZINC ALLOY

Angelo R. Borzillo, Allentown, and James B. Horton, Bethlehem, Pa., assignors to Bethlehem Steel Company, a corporation of Pennsylvania
Filed July 14, 1964, Ser. No. 382,595
9 Claims. (Cl. 29—196.2)



1. A ferrous base having a ductile, adherent, corrosion-resistant coating metallurgically bonded thereto, said coating consisting essentially of 25% to 70% aluminum, balance zinc.

3,343,931

GELLED FUEL COMPOSITIONS

Carroll F. Doyle, Ellicott City, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed June 24, 1963, Ser. No. 290,255
11 Claims. (Cl. 44—7)

6. A gelled fuel composition comprising a normally liquid fuel selected from the group consisting of hydrocarbons, substituted hydrocarbons, hydrazine, and substituted hydrazine, and from about 1% to 10% by weight of a finely divided fibrous polyoxymethylene polymer derived from the solid state polymerization of trioxane, the fibers of said finely divided polymer possessing a major dimension of less than 50 microns and a length to diameter ratio of at least 10:1.

3,343,932

METHOD FOR MAKING A DIAMOND-CARRYING TOOL

Henri Juillerat, 9 Rue du Chanet, Bole, Switzerland

Filed Oct. 5, 1964, Ser. No. 401,553
Claims priority, application Switzerland, Oct. 3, 1963, 12,175/63
1 Claim. (Cl. 51—293)

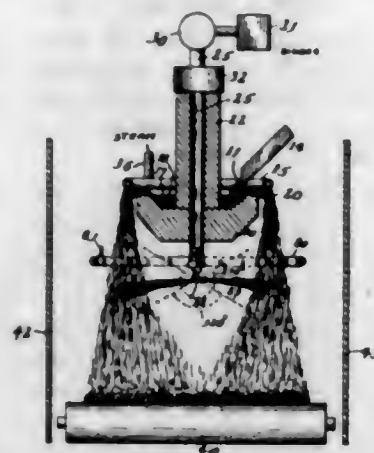


A method for producing a tool having diamond chips carried on a part thereof comprising the steps of providing a first support, placing a coating of glue thereon and positioning diamond chips having cutting edges on said coating with said cutting edges projecting outwardly from said coating, depositing a synthetic thermosetting resin on a second support, embedding said projecting cutting edges of said chips into said coating on said second support, heating said synthetic thermosetting resin to set the same, removing said first support and said glue after said resin has set, applying a liquid metal coating to said chips while said cutting edges are still embedded in said resin, removing said resin coating and said first support from said liquid metal coating after said liquid metal coating has hardened to form a third support, and attaching said third support to said part of said tool.

3,343,933

BINDER DISTRIBUTION METHOD FOR PRODUCING MINERAL WOOL BOARD

John J. Mullan, Rolling Meadows, and William H. Prentice, Des Plaines, Ill., assignors, by mesne assignments, to The Celotex Corporation, Chicago, Ill., a corporation of Delaware
Filed May 8, 1964, Ser. No. 365,986
6 Claims. (Cl. 65—3)

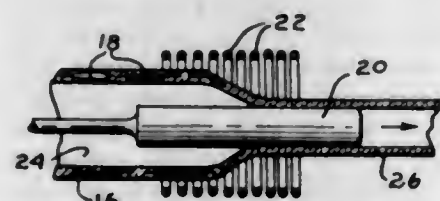


1. The method of coating mineral fibers with binder comprising the steps of:
forming individual mineral fibers from molten slag;
atomizing a binder to form fine droplets such that more than 90% of said droplets are smaller than 0.11 inch in diameter and not less than 0.01 inch in diameter, and coating said fibers with said atomized binder.

3,343,934

METHOD OF REMOVING AIRLINES IN A CATHODE RAY TUBE

Harry E. Rexford, Bel Air, Md., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Continuation of abandoned application Ser. No. 89,386, Feb. 15, 1961. This application May 10, 1965, Ser. No. 454,354
3 Claims. (Cl. 65—55)



1. A method of manufacturing a television picture tube envelope having in combination a face plate, a funnel, and a separately formed neck comprising the steps of drawing glass tubing having a size larger than that of said neck, reheating and redrawing said tubing to collapse and remove all airlines therefrom, and thereafter fusing the airline free tubing to said funnel to form the neck of said picture tube.

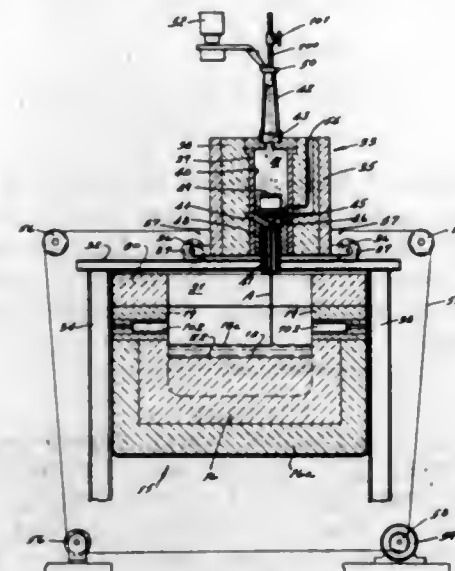
3,343,935

MOLTEN ADDITIONS OF COLORANTS IN A GLASS FURNACE FOREHEARTH

George E. Keefer and Yu Kun Pei, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 6, 1962, Ser. No. 242,682
3 Claims. (Cl. 65—121)

1. In a method of making a colored glass, comprising the steps of flowing a stream of molten carrier glass horizontally through a forehearth, melting a colorant enriched additive at a location above the forehearth stream, gravitationally flowing the molten additive vertically at a selected flow rate onto the surface of the forehearth stream,

and moving the gravitationally flowing, molten additive across the width of the forehearth first in one direction transversely of the forehearth and then in the opposite

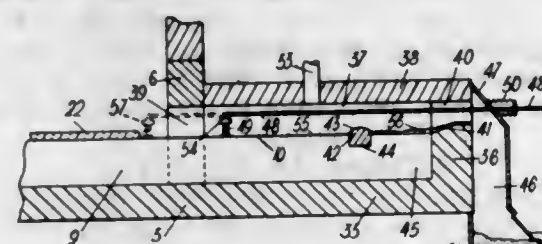


transverse direction above the forehearth stream to thereby distribute the molten additive onto the surface of the forehearth stream and then homogenizing the carrier stream and the additive.

3,343,936

APPARATUS FOR SKIMMING DROSS FROM A MOLTEN METAL BATH

Frederick William Silverwood, Appley Bridge, and Richard Heyes, St. Helens, England, assignors to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed May 18, 1964, Ser. No. 368,260
Claims priority, application Great Britain, May 20, 1963, 20,049/63
9 Claims. (Cl. 65—168)



1. Apparatus for use in the manufacture of flat glass in ribbon form comprising a tank containing a bath of molten metal, means for delivering glass to the bath and advancing the glass along the bath in ribbon form, means defining a zone of the bath of molten metal adjacent to the path of travel of the glass along the bath in which zone dross is collected and a region to which collected dross may be directed, and non-dipping means for directing dross along said zone to said region.

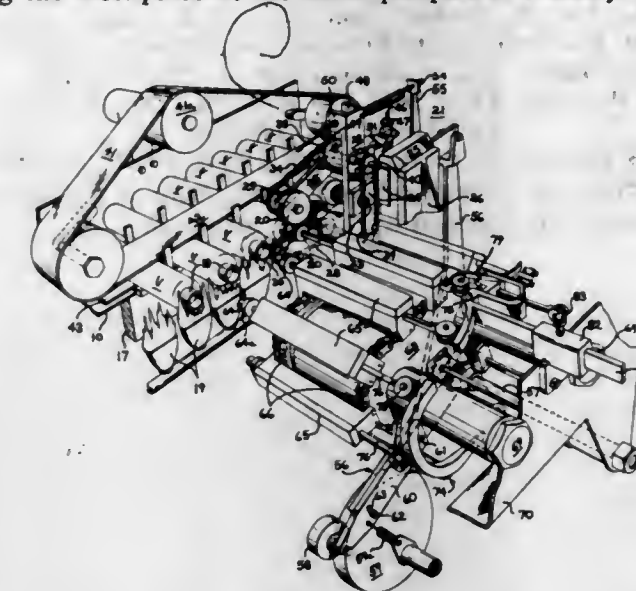
3,343,937

APPARATUS FOR FORMING THE OPEN END PORTION OF SMALL GLASS CONTAINERS

Albert D. Lewis, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Apr. 13, 1964, Ser. No. 360,478
14 Claims. (Cl. 65—274)

12. Apparatus for forming an external screw-thread finish on an open end portion of a tubular glass workpiece comprising means for heat-softening the open end portion of said workpiece to a deformable plastic state, a pair of disc-like thread-forming dies, means mounting said dies on parallel axes in vertical array with their adjacent peripheral surfaces at a predetermined spaced-apart distance corresponding substantially to the root

diameter of the thread to be formed on the workpiece, means to rotate said dies at the same peripheral velocity, means for continuously advancing the tubular workpiece with its axis parallel to the axes of said dies to thereby move its heat-softened end portion into contact with said rotating dies, the axes of said workpiece and said dies being transverse to the movement of said advancing means, means for positively rotating the workpiece at the same peripheral velocity as said



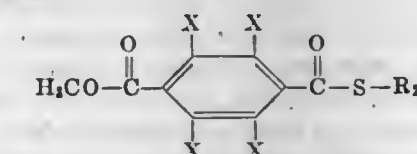
dies during the interval of its continuous advancement in contact with the dies to form a screw-thread on said open end portion, means providing internal support for said open end portion during the interval of thread formation, means for reciprocally advancing and retracting said dies in a direction parallel to the movement of said workpiece advancing means during the threading and return cycles comprising a horizontal slide supporting said dies, and means operating in timed relation to advance the workpiece and reciprocate the slide.

3,343,938

HERBICIDAL COMPOSITION AND METHOD

Sidney B. Richter, Chicago, and Alfred A. Levin, Skokie, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Original application Oct. 13, 1964, Ser. No. 403,630, now Patent No. 3,309,391, dated Mar. 14, 1967. Divided and this application Aug. 31, 1966, Ser. No. 576,224
10 Claims. (Cl. 71—100)

1. A herbicidal composition which comprises an inert carrier and a herbicidally toxic amount of a compound of the formula



wherein R₂ is selected from the group consisting of allyl and propargyl; and X is halogen.

3,343,939

METHOD COMPRISING THE APPLICATION OF A PHOSPHORUS SULFIDE-AMMONIA SOLUTION TO THE SOIL

Maurice A. Larson, Ames, Iowa, and Ki Choong Hong, Fullerton, Calif., assignors to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
No Drawing. Filed Sept. 20, 1966, Ser. No. 580,618
6 Claims. (Cl. 71—32)

1. In the method of supplying nitrogen to soil for use by growing plants wherein liquid anhydrous ammonia is stored under super-atmospheric pressure and applied to

3,343,950

NICKEL-CHROMIUM ALLOYS USEFUL IN THE PRODUCTION OF WROUGHT ARTICLES FOR HIGH TEMPERATURE APPLICATION

Edward Gordon Richards, West Hagley, and Peter Lindsay Twigg, Halesowen, England, assignors to International Nickel Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,102
Claims priority, application Great Britain, Dec. 23, 1963, 50,804/63

8 Claims. (Cl. 75—171)

1. An age-hardenable alloy having an advantageous combination of mechanical characteristics at temperatures above about 600° C. and which is further characterized by notch insensitivity and by resistance to high temperature embrittlement, said alloy consisting essentially of about 0.02% to about 0.1% carbon, about 10% to about 17% chromium, about 11% to about 16% cobalt, about 5% to about 9% molybdenum, about 2.53% to about 5.2% aluminum, up to about 1.73% titanium, the total content of aluminum and titanium being about 3.8% to about 5.2% and the ratio of aluminum to titanium being at least 2:1, about 1% to about 2.5% columbium, up to about 2% vanadium, the total content of columbium and vanadium being about 2% to about 4% and the ratio of vanadium to columbium not exceeding 1.5:1 about 0.001% to 0.01% boron, about 0.01% to about 0.1% zirconium, and the balance essentially nickel, the total content of aluminum, titanium, columbium and vanadium being about 6.3% to about 8.5%.

3,343,951

TITANIUM BASE ALLOY

Roger E. Peebles, Steubenville, Ohio, assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,268

4 Claims. (Cl. 75—175.5)

1. A titanium base alloy consisting of from 5.5% to 6.5% aluminum, from 1.7% to 2.3% tin, from 0.7% to 5.0% zirconium, from 0.7% to 3.0% molybdenum, and up to 0.2% oxygen, balance titanium except for impurities within commercial tolerances, characterized by a density between 0.16 and 0.17 lb. per cubic inch, an ultimate tensile strength measured at room temperature of at least 120,000 p.s.i., and stability with creep deformation less than 0.60% after exposure to 30,000 p.s.i. for 150 hours at 1000° F.

3,343,952

METHOD OF FORMING A REFRACTORY METAL BODY CONTAINING DISPERSED REFRACTORY METAL CARBIDES

Eugene J. Delgrosso, Wallingford, and Leonard A. Friedrich, West Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Apr. 21, 1966, Ser. No. 545,794

6 Claims. (Cl. 75—203)

1. The method of preparing carbide dispersion strengthened alloy articles comprising the steps of: forming fine powders of a matrix metal selected from the group consisting of columbium, tantalum, molybdenum, tungsten, titanium and alloys thereof, agitating the powders in a fluidized bed at 1200–2000° F. in an inert gas stream, introducing a carbonaceous gas into the inert gas stream, the carbonaceous gas thermally dissociating at the bed temperature and chemically reacting with the matrix metal and forming a thin carbide film on the individual powder particles, adjusting the flow rate of the carbonaceous gas to effect the desired carbide formation while preventing the accumulation of substantial amounts of unalloyed carbon in the film,

and working the reacted powders to produce a wrought article in which the carbide is uniformly dispersed.

3,343,953

SELF-LUBRICATING STRUCTURE

Hermann Schladitz, Ruffinistrasse 12–14, Munich 19, Germany

No Drawing. Filed Aug. 11, 1964, Ser. No. 388,927
Claims priority, application Germany, Aug. 24, 1963, Sch 33,753

5 Claims. (Cl. 75—206)

1. A method of manufacturing self-lubricating materials for bearings and sliding parts comprising the steps of providing solid, finely divided, dry lubricant particles selected from the group consisting of metal sulfide, metal oxide and graphite with a capsule of metal having a thickness of a few microns to about 1 micron by thermally decomposing a metal carbonyl compound out of the gaseous phase and thereafter connecting the coated particles with each other to form a compact material by a joining step.

3,343,954

ARTICLE AND PROCESS OF FORMING THE ARTICLE FROM POWDERED METAL

Joseph L. Brab, Cincinnati, Ohio, assignor to Porter Precision Products, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 13, 1963, Ser. No. 330,486

3 Claims. (Cl. 75—208)

1. The process of producing a die element from powdered metal comprising the following steps: providing a stationary holder having a die cavity configured to delineate the external configuration of the die element; providing at least one shiftable core element which is configured to slidably interfit said die cavity; placing in said die cavity a measured quantity of mixed powdered metal sufficient to form the die element and consisting essentially of 90 to 95 percent by weight powdered iron, 4 to 7 percent powdered copper, and 1 to 3 percent powdered carbon; forcing said core elements into the die cavity until a pressure of at least 50 tons p.s.i. is developed, thereby to compact the powdered metal to the form of a briquette having less than 100 percent density, leaving 10 to 15 percent voids in the mass of the compacted die element; removing said compacted die element from said die cavity; placing in said die cavity a measured quantity of powdered copper which is equal to from 20 to 25 percent of the quantity of powdered metal which forms the compacted die element; forcing the die element progressively into the die cavity until a pressure of at least 50 tons p.s.i. is developed, thereby to compact the powdered copper to the form of a substantially solid copper slug having an external configuration corresponding to the external configuration of the compacted die element and having a thickness equal to 20 to 25 percent of the thickness of the compacted die element; sintering the compacted die element in a sintering furnace at a temperature between 2000° F. and 2200° F. in a hydrogen atmosphere; maintaining the compacted die element at said temperature for a period of 1 to 2 hours to fuse the compacted mixture of powdered metal and to dissipate the carbon, thereby to form additional voids in the mass of the sintered die element; cooling the sintered die element gradually for a period of 1 to 2 hours; placing said copper slug upon the top surface of the sintered and cooled die element;

heating the sintered die element with the copper slug thereon to a temperature between 1950° F. and 2000° F. in a hydrogen atmosphere; and maintaining the die element at said temperature for a period of 1 to 2 hours, whereby the copper slug is melted and caused to infiltrate uniformly throughout the mass the voids previously formed in the sintered die element.

3,343,955

ART OF ATTACHING A BACK TO A BRAKE DRUM BY BRAZING DURING A SINTERING OPERATION

Charles Robert Talmage, New Canaan, Conn., assignor, by mesne assignments, to Motor Wheel Corporation, Akron, Ohio, a corporation of Ohio

Filed Feb. 3, 1964, Ser. No. 342,088

5 Claims. (Cl. 75—208)

1. The method of attaching a brake drum back to a generally cylindrical brake drum at one end thereof wherein a partly finished brake drum includes a green compact comprising primarily ferrous metal powders that are to be sintered to form a wear material brake track in a finished brake drum, said back being made of a ferrous alloy and being adapted to assemble said drum on other wheel parts, comprising the steps of positioning said back in juxtaposition with said partly finished brake drum at said one end thereof to define a proposed juncture therebetween, and supplying to said juncture brazing material having a melting temperature within the sintering temperature range of said ferrous powders compact while heating said partly finished brake drum, said back and said brazing material to a temperature sufficient to sinter said ferrous powders compact and to secure said back to said drum at said one end thereof with a brazed joint.

3,343,956

ELECTROSTATIC PRINTING PROCESS WHEREIN DEVELOPMENT IS ACHIEVED BY SEQUENTIAL APPLICATION OF CARRIER LIQUID AND DEVELOPER PARTICLES

Paul E. Wright, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Sept. 29, 1961, Ser. No. 141,711

2 Claims. (Cl. 96—1.2)

1. In a method of printing including the step of producing an electrostatic charge image on an insulating surface, the improvement comprising developing said charge image into a visible image by first applying a thin film of insulating carrier liquid to said surface and thereafter contacting thereacross absorbent material having dispersed therein a quantity of dry electroscopic developer particles.

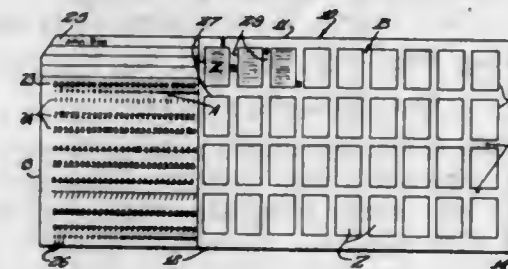
3,343,957

RECORD CARD AND MEANS FOR ADDING IMAGES BY DIFFUSION TRANSFER TECHNIQUE

Malcolm G. Townsley, Park Ridge, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 6, 1964, Ser. No. 335,919

2 Claims. (Cl. 96—29)



1. A coded record medium of the type used in information storage and retrieval systems comprising a sheet form base, said base being divided into an area arranged to receive punch information and another area having a plurality of image receiving areas thereon, said image receiving areas being arranged in spaced relation in rows and columns and each including an inert printing surface having a fogging agent for silver halide incorporated therein, said base also having coding positions between said rows and said columns for effecting separate intelligence coding of each of said image receiving areas.

3,343,958

MONOBATH CONTAINING CYSTEINE-NITROGENOUS BASE COMBINATION

Merroe M. Morse, Boston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,069

19 Claims. (Cl. 96—29)

11. A photographic process for developing and fixing an exposed silver halide emulsion to form a negative image thereon, which comprises contacting said exposed emulsion with an aqueous processing composition containing a silver halide developing agent and a mixture of cysteine and a nitrogenous base, reducing exposed silver halide to image silver and forming a transparent, silver complex from unexposed silver halide with said mixture.

15. A photographic process as defined in claim 11 including the steps of transferring an imagewise distribution of said silver complex, at least in part, to a superposed image-receiving stratum to form a silver transfer image.

3,343,959

PHOTOPOLYMERIZABLE COATED LAYERS USING ORGANIC SALTS OF MANGANIC IONS AND METHOD OF PRODUCTION

Edward Cerwonka, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 30, 1963, Ser. No. 334,571

18 Claims. (Cl. 96—33)

1. A light-sensitive photographic element comprising a base coated with a light-sensitive material containing an alkali metal manganic pyrophosphate capable of releasing a manganic ion, an alkali metal salt of an organic acid selected from the class consisting of oxalic acid, glycolic acid, lactic acid and tartaric acid, an ethylenically unsaturated monomer containing a $\text{CH}_2=\text{C}<$ group and a nitrogen-containing polymer free from hydroxyl and carbinol groups.

3,343,960

COUPLING COMPONENTS FOR LIGHT-SENSITIVE DIAZO COATINGS

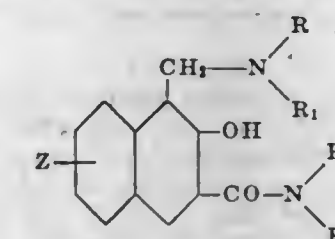
Oskar Süs, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Keuff & Esser Company, Hoboken, N.J.

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,900

Claims priority, application Germany, Sept. 14, 1963, K 50,827

16 Claims. (Cl. 96—91)

1. A water-soluble coupling component for dry-developing diazotype materials, said coupling component comprising a 1-aminomethyl-2-hydroxy-naphthalene-3-carboxylic acid amide having the general formula:



where R and R₁ are members selected from one of the groups consisting of:

group A wherein R and R₁ are selected individually from the group consisting of alkyl and cycloalkyl radicals; and
 group B wherein R and R₁ are members of the same 5 or 6 membered heterocyclic ring;
 where R₂ and R₃ are members selected from one of the groups consisting of:
 group C wherein R₂ and R₃ are members selected individually from the group consisting of hydrogen, alkyl, aralkyl, and aryl radicals; and
 group D wherein R₂ and R₃ are members of the same 5 or 6 membered heterocyclic ring;
 and where Z is a member selected from the group consisting of hydrogen, halogen, and alkoxy radicals of from one to four carbon atoms.

3,343,961

METHOD FOR TREATING SOYBEANS AND THE LIKE USING INFRA-RED HEAT

Harry Truax, Morgan County, Ind., assignor to Harry Truax & Sons Company, Inc., Mooresville, Ind., a corporation of Indiana

Filed Oct. 19, 1966, Ser. No. 587,811
 7 Claims. (Cl. 99—2)

1. A method for treating soybeans utilizing an infra-red energy source and a storage means having sufficiently low thermal conductivity to permit thermal equilibration in said soybeans by their residually generated heat, said method comprising the steps of rapidly and intermittently cascading said soybeans into close proximity to said energy source until the teguments of said soybeans are ruptured by vapor pressure generated internally to said teguments, then immediately placing said soybeans into said storage means without permitting any substantial decrease in temperature of said soybeans, and storing said soybeans in said storage means until substantially all of the deleterious materials contained therein are destroyed.

3,343,962

PROCESS FOR PRODUCING A CULTURED WHEY PRODUCT

Herbert R. Peer, Le Mars, Iowa, assignor to Hansen Bros. Livestock Co., Buena Vista, Iowa, a corporation of Iowa

No Drawing. Filed July 1, 1964, Ser. No. 379,715
 2 Claims. (Cl. 99—9)

1. The process of making a cultured whey product, comprising,
 establishing and maintaining live lactobacillus acidophilus organisms in milk carrying a concentration of approximately 100 p.p.m. of cobalt carbonate, inoculating whole sweet whey fortified with at least 500 p.p.m. of cobalt carbonate with said live lactobacillus acidophilus organisms,
 heating the resulting solution to a temperature of between 90° to 110° F.,
 adding to said solution at intervals over a period of time dibasic ammonium phosphate and ammonium hydroxide,
 maintaining the pH of said solution between 3.9 and 4.4, and allowing said solution to ferment until an organism density of between 500 to 750 million organisms per milliliter is established.

3,343,963

IMPREGNATING EDIBLE PROTEIN FIBERS WITH THREE COMPONENT BINDER AND PRODUCT

Niles A. Kjelson, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 12, 1965, Ser. No. 439,460
 16 Claims. (Cl. 99—14)

1. A process for preparing a fibrous food product comprising: impregnating spun edible protein fibers with a

composition containing a binder consisting essentially of albumen, gluten and particulate defatted oilseed material, said binder being used in an amount sufficient to bind the fibers together after application of heat and said gluten and particulate defatted oilseed material being present in the binder in amounts sufficient to provide a heat-set food product having excellent texture and appearance even after dehydration and rehydration; and allowing the impregnated fibers to set-up by applying heat thereto.

3,343,964

CEREAL PRODUCTS HAVING INCORPORATED THEREIN ALKALI SALTS OF MONOALKYL FUMARATES AND MALEATES

Paul D. Thomas, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 21, 1964, Ser. No. 391,080

13 Claims. (Cl. 99—80)

1. The method of reducing stickiness of moisture-containing cereal grain which comprises incorporating therein from about 0.1 to 4% by weight based on said grain of a substance selected from the group consisting of the sodium, potassium, calcium and magnesium salts of monoalkyl fumarates wherein the alkyl group contains from 16 to 18 carbon atoms.

3,343,965

METHOD OF BAKING CAKE WITH TOPPING

Russell L. Gass, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 30, 1965, Ser. No. 452,364

6 Claims. (Cl. 99—92)

1. The method of preparing a baked cake and a topping thereon which comprises:
 (A) admixing in the absence of moisture topping ingredients comprising shortening, from about 70% to about 95% by weight sugars, and a rapid-acting water-binding agent selected from the group consisting of pregelatinized starch, carboxymethyl cellulose and sodium alginate to form a substantially water-free topping composition;
 (B) placing the topping composition on top of an unbaked cake batter; and
 (C) baking the cake batter and topping composition; the rapid-acting water-binding agent in step (A) being present in an unhydrated state and in an amount sufficient to absorb substantially all moisture which aggregates on top of the cake batter during baking.

3,343,966

STABILIZER COMPOSITION AND METHOD OF INCORPORATING A STABILIZER GUM INTO A FOOD MIX

Morrison Loewenstein, Ashton, Ill., assignor to Crest Foods Co., Inc., Ashton, Ill., a corporation of Illinois

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,132

14 Claims. (Cl. 99—136)

1. A method of incorporating a hydrophilic organophobic stabilizer gum into a food mix comprising the steps of providing a liquid carrier comprising 12% to 25% water and 88% to 75% edible oil, mixing the stabilizer gum in dry particle form into the liquid carrier to form a slurry, permitting the gum to absorb the water of the liquid carrier, and introducing the slurry of partially hydrated stabilizer gum thus produced into the food mix.

6. A food stabilizer composition comprising a liquid edible oil carrier and discrete partially hydrated particles of solid stabilizer gum suspended therein, the amount of water contained in said stabilizer gum particles being such that they are appreciably hydrated but still substantially discrete whereby to form a pumpable slurry.

3,343,967

STABILIZER COMPOSITIONS

Irving H. Rubenstein, Staten Island, N.Y., assignor to Harwood Specialties Corporation

No Drawing. Filed Apr. 28, 1964, Ser. No. 363,277

11 Claims. (Cl. 99—136)

1. A fat-free stabilizer composition comprising soya albumin, propylene glycol alginate, guar gum and sugar.

3,343,968

CONTROL OF MOLD GROWTH IN EGGS

Charles Norman Huhtanen, New Hope, Pa., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,363

5 Claims. (Cl. 99—161)

1. A method for controlling mold growth in eggs comprising treating the shell surface of eggs with a fungicidal-effective amount of a polyene antibiotic to prevent mold growth in eggs.

3,343,969

PROCESS FOR WRAPPING FOOD PRODUCTS

John W. Padgett, Bernardsville, and Sherman T. Van Esselstyn, Morris Plains, N.J., and Frederick Gaab, Bethpage, N.Y., assignors to Moore & Munger, New York, N.Y., a partnership

Continuation of application Ser. No. 26,638, May 3, 1960. This application July 6, 1965, Ser. No. 469,829

4 Claims. (Cl. 99—172)

1. In a process of wrapping food wherein a waxed paper wrapper band is sealed by means of the wax thereon in overlapping relationship to a sheet of cellophane which envelops the food, the improvement of using as the wax for coating said paper a composition comprising in the range of from about one quarter to about three quarters percent of a polar wax, in the range of from about one half percent to about four percent of a partially crystalline, hard, non-tacky polymethylenic material having substantial crystallinity and an average molecular weight in the range of from about 1500 to about 30,000 and a density greater than about 0.92 gram per milliliter, in the range of from about one percent to about three and one half percent of a low molecular weight, amorphous, tacky, wax-compatible polymeric elastomer, and the remainder a blend of hydrocarbon waxes comprising in the range of from about twenty-five to about forty-five percent of a first hydrocarbon wax characterized by having a congealing point in the range of from about 140 to about 170° F., a consistometer hardness at 77° F. in the range of about 18 to about 30 units, a needle penetration at 77° F. in the range of from about 2.2 to about 5 millimeters and having not more than ten percent distillable at 600° F. and 10 millimeters of mercury, and in the range of from about seventy-five to about fifty-five percent of a second hydrocarbon wax comprising predominantly a mixture of saturated normal paraffins and branched chain isoparaffins and characterized by having a melting point in the range

3,343,970

PROCESS FOR PREPARING DEHYDRATED MASHED POTATO PRODUCT CONTAINING VITAMIN B₁

Morton Pader, West Englewood, and Arthur S. Hall, Tenafly, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 7, 1963, Ser. No. 263,408

2 Claims. (Cl. 99—207)

1. A method of preparing dehydrated cooked mashed potatoes which comprises: (a) peeling and slicing raw potatoes, (b) precooking the potatoes at about 160° F. and cooling them to room temperature, (c) finally cooking the potatoes in steam and mashing them, (d) mixing into the potato mash an aqueous solution of Na₂SO₃ and NaHSO₃, (e) mixing into the potato mash dry milk solids, an emulsifier and an antioxidant, (f) incorporating into the potato mash an aqueous solution containing at least one water-soluble vitamin, including vitamin B₁ and (g) drum-drying the potato mash.

3,343,971

RUST PREVENTIVE COMPOSITION

Walter K. Range, Jr., Elizabeth, N.J., and Eugene E. Tompkins, Winchester, Mass., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 8, 1963, Ser. No. 257,111

2 Claims. (Cl. 106—14)

1. A method of protecting ferrous metal surfaces, covered with an undesirable film of water, from rusting which comprises dipping said surfaces into a rust preventive composition comprising a major amount of a volatile hydrocarbon solvent boiling within the range of 200° to 500° F.; 2 to 15% of barium salt of an alkyl aromatic sulfonic acid having an average molecular weight of about 300 to 800; 5 to 15 wt. percent of an oxidized acid hydrocarbon material having an Acid No. of 30 to 90, a Saponification Value of 80 to 180 mgs. KOH/gm., and an average molecular weight of about 500 to 700; and 1 to 6 wt. percent of a hydroxy material of the formula: HO—alkylene—O—R, wherein R is selected from the group consisting of hydrogen and alkyl radicals, and said alkylene is a C₁ to C₂ alkylene group.

3,343,972

Ge-Te-As GLASSES AND METHOD OF PREPARATION

Albert Ray Hilton, Jr., Charlie Earl Jones, Jr., and Maurice J. Brau, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 348,642

6 Claims. (Cl. 106—47)

1. Glass compositions comprising germanium, tellurium and arsenic, having compositions within the range of from greater than zero and up to but not including 20 atomic percent germanium, 25 to 85 atomic percent tellurium and 5 to 70 atomic percent arsenic and lying within the regions circumscribed by lines A and B in the ternary diagram of FIGURE 1.

4. The method of making a glass composition for transmitting the 1 to 25 micron wave length portion of the electromagnetic spectrum comprising the steps of placing germanium, tellurium and arsenic having a composition within the boundaries circumscribed by lines A and B of

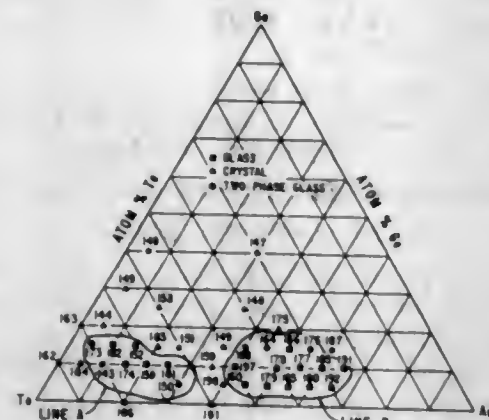


FIGURE 1 into a reaction vessel, evacuating and sealing said vessel, agitating while heating said vessel to a temperature and for a period of time sufficient to form a melt of said composition and to completely react said germanium, tellurium and arsenic, and air quench-cooling said melt while still sealed in said vessel.

3,343,973

FRACTURED CLAY

Robert F. Billue, Tennille, Ga., assignor to Thiele Kaolin Company, Sandersville, Ga., a corporation of Georgia

No Drawing. Filed June 30, 1966, Ser. No. 561,727

13 Claims. (Cl. 106—288)

1. Kaolinitic clay of fracture-induced brightness consisting essentially of classified mill-fractured remnants of naturally occurring larger clay particles from kaolinitic clay having not more than 35% by weight particles below 2 microns (equivalent spherical diameter), and having at least about 40% by weight clay particles finer than 2 microns (equivalent spherical diameter), higher gloss and at least about 0.5 increased brightness on the brightness scale, and whiter color, as compared to unfractured particles of kaolinitic clay of substantially the same particle size and from the same source.

3,343,974

COMPOSITIONS FOR INCREASING THE DISPERSION STABILITY OF TITANIUM DIOXIDE PIGMENT

Raymond Noel Faulkner, Hanworth, Middlesex, and Edwin Enfield Berry, Twickenham, Middlesex, England, assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 13, 1964, Ser. No. 367,261

5 Claims. (Cl. 106—300)

1. A dispersant composition comprising 0.4 percent by weight of phosphorylated (P-acid) methyl oleate in an organic solvent selected from the group consisting of acetone and ethylene glycol monoethyl ether.

4. A process for increasing the dispersion stability of titanium dioxide pigment comprising mixing the pigment for about 5 minutes in a composition of claim 1, recovering the pigment, washing the pigment in fresh composition, and drying the pigment.

3,343,975
PROCESS OF PRODUCING DECORATIVE SURFACE COVERING

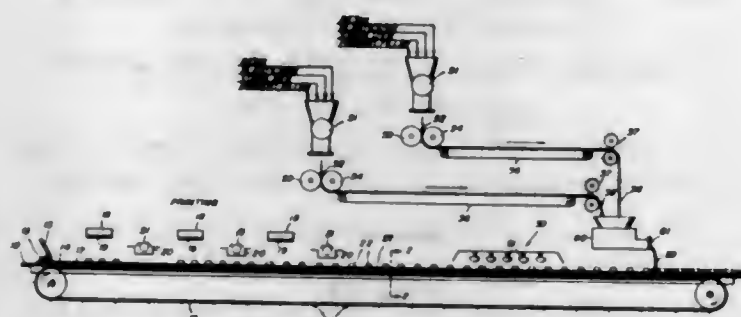
Victor J. Daneski, Livingston, Paul C. Wetterau, Mountain Lakes, and William H. Powell, Livingston, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Original application Sept. 27, 1961, Ser. No. 141,207.

Divided and this application Aug. 22, 1963, Ser.

No. 303,829

21 Claims. (Cl. 117—13)



1. In the process for producing a decorative surface covering having a backing sheet, a design on one surface of said backing and a solid wear layer of resinous composition over said design by printing said design on said backing, distributing granules of resinous composition over said design and then consolidating said granules together into a uniform wear layer by the application of heat and pressure, the improvement which comprises producing said surface covering having said design as an integral part of said wear layer and extending into said wear layer for at least one-third its thickness by applying said design as deposits of a liquid resinous composition containing a solid, non-bleeding pigment, a resin and a plasticizer therefor on portions of one surface of said backing, said liquid resinous composition deposits having a height of at least 0.005 inch, distributing said granules uniformly over said liquid deposits and carrying out said consolidation of granules to integrally bond said deposits and granules into a uniform wear layer thereby causing said deposits to extend upward into said wear layer.

3,343,976

SURFACE PREPARATION FOR FLUORINATED PLASTICS

Virgil R. Matlock, Los Angeles, Calif., assignor to North American Aviation, Inc.

No Drawing. Filed May 7, 1964, Ser. No. 365,813

2 Claims. (Cl. 117—47)

2. A process for bonding fluorinated plastic surfaces with other materials comprising the steps of abrading a fluorinated plastic surface; cleaning the abraded surface with a solvent; coating said cleaned surface with a thin, wet, consistent film of a polyvinyl cinnamic acid polymer; drying the coated surface; exposing the dried, coated surface to ultraviolet light for a suitable length of time; and applying an adhesive to the exposed surface.

3,343,977

METHOD AND APPARATUS FOR IMPREGNATING CORRUGATED BOARD

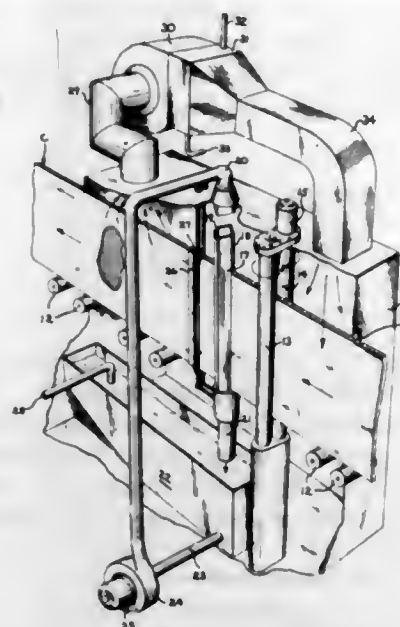
Olav Gjesdal, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

Filed June 15, 1964, Ser. No. 374,900

14 Claims. (Cl. 117—68)

1. The method of impregnating paper board with a

liquid impregnant comprising the steps of, establishing contacting said substrate in a fluidized bed reactor with a gaseous reaction mixture consisting of tungsten hexafluoride, rhenium hexafluoride, and stoichiometric excess of hydrogen at a temperature between 400–550° C. to thereby effect a uniform coating of said metal alloy.



a confined continuous gravity flow of impregnant and moving said board edgewise through said flow.

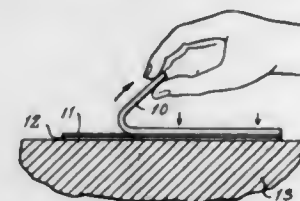
3,343,978

ADHESIVE TRANSFERS

Thomas J. Engelbach, Middletown, N.J., assignor to Avery Products Corporation, San Marino, Calif., a corporation of California

Filed Jan. 9, 1964, Ser. No. 339,062

7 Claims. (Cl. 117—76)



1. An adhesive structure comprising a flexible substrate layer, a non-tacky layer, a pressure-sensitive adhesive having a first side in adhering contact with said substrate layer and a second side opposite said first side in adhering contact with said non-tacky layer, said non-tacky layer being convertible to a layer having a tacky adhesive surface on its side opposite said pressure-sensitive adhesive, the adhesion at one of said surfaces of said pressure-sensitive adhesive between said pressure-sensitive adhesive and the adjacent one of said layers being less than the adhesion at the other of said surfaces of said pressure-sensitive adhesive between said pressure-sensitive adhesive and the other one of said layers, said pressure-sensitive adhesive separating along said one surface thereof from the adjacent layer and remaining with said other adjacent layer when said layers are pulled apart.

5. An adhesive structure as set forth in claim 1 wherein the adherence between the surface of said pressure sensitive adhesive and said substrate is less than the adherence between the surface of said pressure sensitive adhesive and said non-tacky layer.

3,343,979

METHOD FOR DEPOSITING A TUNGSTEN-RHENIUM METAL ALLOY ON A SUBSTRATE

Charles E. Hamrin, Jr., Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,690

4 Claims. (Cl. 117—100)

1. A method for depositing a tungsten-rhenium metal alloy of controlled composition on a substrate comprising

3,343,980
POLYAMIDE FIBERS TREATED WITH AN AMPHOTERIC ACTIVATOR

Julian J. Hirshfeld, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,002

2 Claims. (Cl. 117—100)

1. A composition of matter composed of synthetic linear polyhexamethylene adipamide fibers and an activator consisting of a sodium salt of N,N-diethoxylamino-1-ocadecane-3-sulfonic acid, the amount of said sodium salt being up to 2 percent by weight of the fiber.

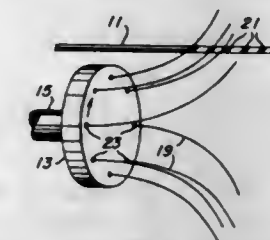
3,343,981

COLOUR CODING APPARATUS

Andrew Lenkei, Montreal, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Nov. 29, 1963, Ser. No. 326,852

8 Claims. (Cl. 117—43)



1. In a method of applying a liquid coloring at spaced intervals along a wire moving at relatively high speed which comprises applying said coloring to said wire from a plurality of outlet ports located on at least one wheel rotating on an axis substantially parallel to the direction of movement of said wire the improvement which comprises projecting said liquid coloring from a plurality of ports located on that side of the wheel transverse to and facing the direction of movement of said wire such that said ejected liquid coloring has a velocity component both transverse of and parallel to said direction whereby to strike said wire downstream of its point of ejection.

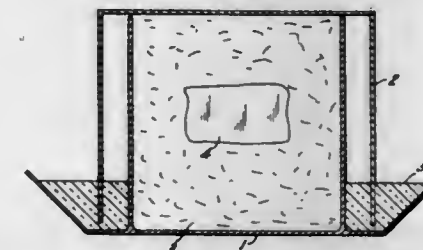
3,343,982

COATING OF COBALT ALLOYS

Douglas H. Maxwell, North Palm Beach, and Frank Suyama, West Palm Beach, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 21, 1964, Ser. No. 405,532

11 Claims. (Cl. 117—107.2)



1. The method of forming a protective coating on a cobalt alloy containing at least about 35% of cobalt, which renders the alloy resistant to oxidation at elevated temperatures, comprising embedding the alloy to be coated in a granular mixture of from 0.5% to 2% by weight of chromium metal, from 1.5% to 3% by weight of an aluminum-magnesium alloy containing from 10%

to 20% magnesium, from 0.005% to 0.008% by weight of chromic chloride and from 0.001% to 0.005% by weight of a substance selected from the group consisting of elemental iodine and ammonium iodide, and from 95% to 98% by weight of an inert carrier material, and heating the embedded alloy, in a protective atmosphere, at a temperature, at least about 1800° F., and a time sufficient to obtain the desired coating thickness.

3,343,983

PROCESS OF IMPARTING SHRINK RESISTANCE TO WOOL AND THE RESULTING PRODUCT

Walter R. Wszolek, Ellicott City, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,331
10 Claims. (Cl. 117-141)

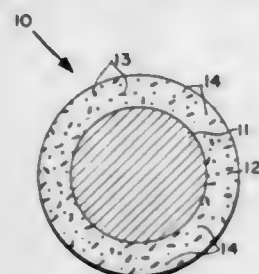
1. An impregnated textile article capable of being cured to provide a shrink-resistant textile of substantially unimpaired hand consisting essentially of wool impregnated with 1-25% by weight based on the total weight of the impregnated wool of a cross-linkable α -olefin polymeric material containing 0.1 to 4.0 milliequivalents carbonyl/g. crosslinkable material in combination with 0.05 to 50.0 milliequivalents of a polyfunctional compound containing at least 2 alkaline reacting primary amino groups/milliequivalent carbonyl in the crosslinkable α -olefin polymeric material.

3,343,984

ELECTRICAL APPARATUS, INSULATING COMPOSITION THEREFOR AND METHOD OF MAKING THE SAME

Harry Leach Saums, North Muskegon, and Wesley W. Pendleton, Muskegon, Mich., assignors, by mesne assignments, to Anaconda Wire and Cable Company, a corporation of Delaware

Filed July 6, 1962, Ser. No. 207,882
9 Claims. (Cl. 117-218)



1. An insulated conductor comprising:
(A) an electrically conducting wire,
(B) inorganic insulation surrounding said wire,
(C) a combustible baked organic enamel covering said wire in contact with said insulation,
(D) inorganic oxygen-bearing particles dispersed in said enamel,
(a) said particles having the property of releasing oxygen at temperatures above the baking temperature of said enamel and below the fusion temperature of said inorganic insulation, thereby accomplishing the complete combustion of said enamel upon said wire being sufficiently heated.

3,343,985

CERMET ELECTRICAL RESISTANCE MATERIAL AND METHOD OF USING THE SAME

Ronald C. Vickery, Saxonburg, Pa., assignor to Beckman Instruments, Inc., a corporation of California

Filed Feb. 12, 1963, Ser. No. 257,957
5 Claims. (Cl. 117-227)

1. A method for varying the metal content of a given cermet element including at least one metal and a glass having a predetermined viscosity without varying the temperature coefficient of resistivity of the resistance ele-

ments constructed therefrom, said method comprising the steps of:

- selecting a glass having a viscosity characteristic inverse to the desired change in metal content, and
forming particles of cermet material including said selected glass having substantially the same metal



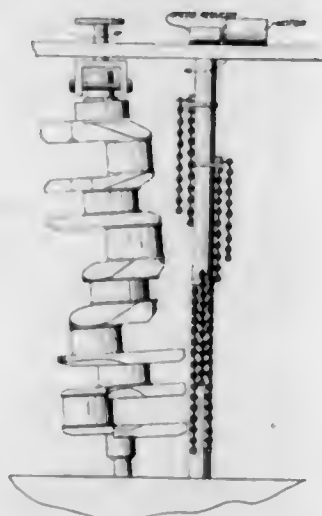
composition as the original cermet material but with the changed proportion of metal to glass,
a glass having increased viscosity being selected to provide a more positive temperature coefficient of resistivity and a glass having decreased viscosity being selected to provide a more negative coefficient of resistivity.

3,343,986

CASTING CLEANING

Nelson C. Howery, Allen Park, William J. Thelsen, Jr., Southfield, and Royal A. Van Patten, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 20, 1963, Ser. No. 303,370
2 Claims. (Cl. 134-6)



1. A process for removing flash from a casting having a central axis which comprises the steps of: mounting said casting such that the central axis thereof is coplanar with but at a slight angle with respect to the central axis of a rotatable member, said rotatable member having a plurality of flailing elements thereon, rotating said member to extend said flailing elements to a position normal to said central axis of said member so that said flailing elements strike the flash on said casting at said slight angle relative to the normal to said central axis of said casting, and rotating said casting about said central axis thereof so that the entire surface area of said casting supporting flash is repositioned, such that said flailing elements engage the flash at said slight angle thereby to create on said engaged flash a breaking force which has a direction other than normal to said central axis of said casting so that said flash is removed from said casting.

3,343,987

ALKALINE STORAGE BATTERY

Masayoshi Matsui, 410 Zenpukujicho, Suginami-ku, Tokyo, Japan

Filed Oct. 1, 1963, Ser. No. 313,121
Claims priority, application Japan, Oct. 2, 1962, 37/42,643; Aug. 21, 1963, 38/43,670
3 Claims. (Cl. 136-24)

1. A nickel-cadmium alkaline storage battery of the type including at least a positive plate and at least a

negative plate impregnated with an electrolyte and laminated alternately with separators impregnated with an electrolyte and interposed between the adjacent plates, said positive and negative plates each including a non-sintered base plate of alkali-resistant metal and a uniform electrodeposit of active material on the surface thereof, the total thickness of the deposit layers of active material on said positive plate being from 0.04 to 0.4 mm. while the total thickness of the deposit layers of active material on said negative plate is from 0.03 to 0.4 mm., the ratio of the discharge capacity of said negative plate to that of said positive plate being in the range of from 1.0 to 4.0, the storage battery having a discharge capacity per unit volume or weight of all of said positive plates, negative plates and electrolyte-impregnated separators assembled of not less than 0.030 amp.-hr./cc. or 0.010 amp.-hr./g.

3,343,988

SALTWATER BATTERY

Lloyd Lowndes Friend, Jr., Saratoga Springs, N.Y., assignor to Espey Mfg. & Electronics Corp., Saratoga Springs, N.Y., a corporation of New York

No Drawing. Filed July 8, 1964, Ser. No. 381,222
1 Claim. (Cl. 136-83)

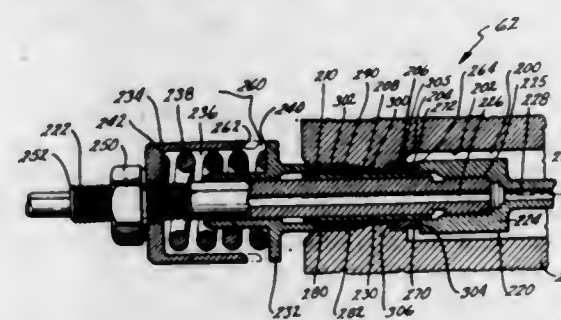
A water-activated battery cell system, comprising an anode plate of material selected from the group consisting of primary magnesium, an aluminum alloy thereof containing up to about 10 parts by weight of aluminum and a lithium alloy thereof containing about 10 to about 35 parts by weight of lithium, and the cathode plate consists of a homogeneous solid mixture of silver chloride and cuprous chloride, the amount of silver chloride being at least ten parts by weight, said cathode covered over its entire outer surface with a metallic coating selected from the group consisting of copper and silver.

3,343,989

ELECTRIC INSULATING AND SEALING MECHANISM FOR TUBE PASSING THROUGH THE WALL OF A CONTAINER FOR CORROSIVE MATERIAL

Augustus Hasbrouck, Middletown, and Stanley L. Leavitt, Canton, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 10, 1963, Ser. No. 272,144
1 Claim. (Cl. 136-86)



A container for corrosive salts having a passage through the wall thereof, which passage is defined by passage walls of circular cross section and concentric about an axis and includes a substantially radially extending shoulder, a tube of circular cross section and concentric about an axis extending through said passage to form an annular chamber with said passage walls and including a radial shoulder cooperating with said passage wall radial shoulder to define an annular space therebetween at one end of said annular chamber, a first solid electric insulator ring snugly fitting in said annular space and snugly engaging said tube and extending between said shoulders, a second solid dielectric insulator ring positioned at the opposite end of said annular chamber from said first ring and snugly engaging said tube and said passage wall and coop-

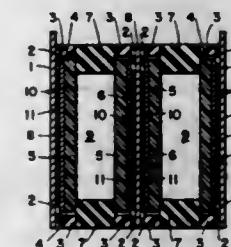
erating with said tube, passage walls and first ring to define an annular cavity, a solid plastic seal ring extending between said insulator rings and completely filling said annular cavity, means to urge said shoulders toward one another so that said first insulator ring is in tight engagement therewith and wherein said second electric insulator ring is closer to the exterior of the container than said first electric insulator ring and wherein said passage wall shoulder is closer to the exterior of the container than said tube shoulder, and wherein said shoulder urging means includes a thrust bushing enveloping said tube and bearing against said second insulator ring and a spring cover mechanism cooperating with said thrust bushing to define a spring chamber and engaging said tube, and a spring positioned in said spring chamber to urge said spring cover mechanism and said thrust bushing apart, thereby urging said shoulders together and urging said second insulator ring towards said first insulator ring.

3,343,990

FUEL CELLS WITH WEFTLESS FABRIC COLLECTORS

Charles S. Giddy, Heswall, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 31, 1963, Ser. No. 334,736
Claims priority, application Great Britain, Jan. 3, 1963, 311/63
6 Claims. (Cl. 136-86)



1. In a fuel cell having a pair of electrodes in contact with a common electrolyte, spaces adjacent to a conductive face of each electrode for supplying reactant fluids thereto, at least one of said spaces containing a foraminous conductive weftless fabric in face-to-face contact with the conductive surface of the adjacent electrode, said fabric having criss-crossing filaments forming a multiplicity of unimpeded channels along which the reactant fluid contacts said electrode, said filaments being in direct electrical contact with said conductive face of the electrode and with a conductor through which generated electricity is withdrawn therefrom.

3,343,991

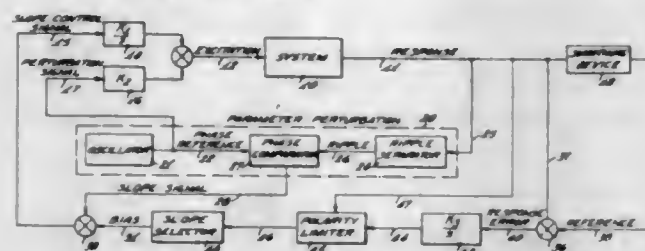
CONTROL FOR A SYSTEM WITH A PARABOLIC RELATIONSHIP BETWEEN A PARAMETER AND AN OUTPUT

Eldo C. Koenig, Madison, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Continuation of application Ser. No. 208,875, July 10, 1962. This application Feb. 16, 1966, Ser. No. 534,620
4 Claims. (Cl. 136-86)

1. In combination,
(a) a system having an output signal whose value is related to the value of a variable quantity in said system in such a way that any change in the value of said quantity effects a change in the value of said output signal,
(b) a control device operable to change the value of said quantity, and
(c) a control for operating said control device and comprising,

- (i) perturbation means comprising an oscillator for producing a perturbation signal which operates said control device to provide a ripple signal in the output signal,
 said perturbation means further comprising a phase comparator means for comparing the phase of said perturbation signal and said ripple signal,
 said perturbation means providing a slope signal which indicates whether a change in value of said quantity is an increase or decrease,
 (ii) means responsive to said output signal to provide a response signal,



- (iii) means responsive to said output signal to provide an error signal when said output signal differs from a perturbation value,
 (iv) means responsive to said response signal and to said error signal to provide a bias signal, and
 (v) means responsive to said slope signal and said bias signal to produce a slope control signal which operates said control device to change the value of said quantity to effect an increase in the value of said output signal.

3,343,992

SILVER CHLORIDE-MAGNESIUM SEA WATER BATTERY

Frederic M. Bowers, Silver Spring, Md., and Daniel Denegall, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 2, 1962, Ser. No. 235,163

1 Claim. (Cl. 136—90)

A sea water battery comprising

- (A) at least two flat thin disc magnesium anodes circular in shape and having a truncated top portion,
 (B) at least one thin silver foil conductor of the same shape as said anodes positioned between and in physical and electrical contact with one surface of said magnesium anodes,
 (C) at least two flat thin disc silver chloride cathodes of the same shape as said anodes and having one surface facing the other surface of said anodes,
 (D) tiny glass bead means embedded in the one surface of each of said cathodes and in contact with the other surface of said anodes for maintaining electrical separation and circulating sea water electrolyte between said anodes and said cathodes and being of a sufficiently small size to prevent formation of gas pockets between said anodes and said cathodes,
 (E) a pair of thin silver foil conductors having the same shape as said anodes and each being in physical and electrical contact with the other surface of one of said cathodes,
 (F) insulation means for completely enclosing and insulating from the surrounding external sea water electrolyte all of the prior named elements (A, B, C, D, E) having an interior surface conforming in shape to said anodes,
 (G) a first small aperture means positioned in the top truncated portion of said insulation means and centered over said anodes having divergingly tapered

sidewalls the small diameter being on the exterior surface of said insulation means for passing therethrough spent sea water electrolyte and waste products from the chemical reaction within the sea water battery,

- (H) a second aperture means smaller than and positioned in the bottom of said insulation means opposite said first aperture means and centered over said anodes having divergingly tapered sidewalls the smaller diameter being on the exterior surface of said insulation means for passing therethrough only a sufficient quantity of sea water to maintain the chemical reaction within the battery,
 (I) and means connected to said silver foil conductor and to said pair of thin silver foil conductor to conduct the generated electrical power to an external load,
 (J) whereby upon submergence of the sea water battery within a body of salt water the salt water enters and initiates the chemical reaction between said anodes and said cathodes to produce electrical energy and said first and said second apertures maintain the chemical reaction by carrying away the spent electrolyte and sea water and by supplying fresh sea water respectively and the shape of the interior of said insulation means provides a suitable path for maintaining fresh sea water electrolyte in contact with said anodes and said cathodes and said tiny glass beads maintain separation between said anodes and said cathodes as well as preventing formation of gas pockets.

3,343,993

DEFERRED ACTION BATTERY COMPRISING INDEPENDENTLY COMPLETELY CLOSED CONTAINERS

Karl Axel Andersson, Bofors, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a Swedish corporation
 Filed May 20, 1964, Ser. No. 368,953

Claims priority, application Sweden, May 24, 1963, 5,799/63

11 Claims. (Cl. 136—90)

8. An electric battery comprising, in combination: a first and a second container, said containers being separate from each other, independently completely closed and sealed, the first container having substantially stiff walls and being partly evacuated and the second container having at least partially flexible walls so as to be compressible by an ambient atmospheric pressure, a set of electrodes inside said first container and an electrolyte in said second container, said first and second containers being disposed in a fixed side-by-side relationship and having facing walls in immediate proximity to each other at least over a portion of their surfaces, a rod-shaped penetration member having a sharp end and an opposite end and grooves extending between said opposite end and said sharp end, said penetration member being disposed inside said first container with its longitudinal direction substantially perpendicular to said facing wall portions of said first and second containers and with said sharp end of the member adjacent to said facing wall portions and said opposite end of the member close to a wall of said first container opposite said facing wall portions, said opposite wall of said first container having a permanently deformable portion juxtaposed said opposite end of said penetration member, a rigid body attached to said opposite wall of said first container outside of said deformable wall portion so as to protect said deformable wall portion against external impacts and shocks, said rigid body having a cavity only open toward said deformable wall portion, and an explosive charge housed in said cavity.

3,343,994

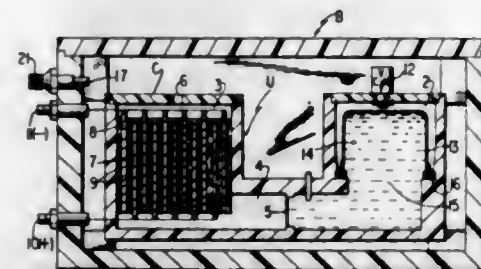
DEFERRED ACTION ELECTRIC DEVICE AND MODE OF ACTIVATION

Douchan Stanimirovitch, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
 Filed June 4, 1965, Ser. No. 461,320

Claims priority, application France, June 24, 1964,

979,506

17 Claims. (Cl. 136—90)



1. A deferred action electric device comprising a casing, a cell unit therein including a pair of intercommunicating compartments, activatable electric cell components in a first compartment, said first compartment being in free communication with the interior of said casing, electrolyte in the second compartment, frangible seal means normally preventing flow of said electrolyte from said second compartment into the first compartment and one-way check valve means opening into said second compartment from the interior of said casing, said casing being adapted to have gas under pressure introduced therein which introduces similar pressure into both compartments and which may subsequently be eliminated from the interior of the casing and from said first compartment while being retained in said second compartment by said one-way check valve means thereby providing a residual overpressure in said second compartment that ruptures said frangible seal means and effects flow of said electrolyte from said second compartment into said first compartment to activate the cell components therein.

14. A method of activating a deferred action electric device within a casing wherein activatable cell components and electrolyte are maintained apart in separate compartments by a frangible seal comprising the steps of introducing gas under pressure into the casing and all compartments and thereafter eliminating the gas under pressure from the casing and the cell-element-containing compartment only while maintaining the gas under pressure within the electrolyte-containing compartment thereby establishing a pressure differential between the compartments to rupture the seal and effect flow of electrolyte into the cell-element-containing compartment to activate the cell components therein.

3,343,995

MAGNESIUM BASE ELECTRODE COATED WITH CONDUCTIVE CARBON-CONTAINING EPOXY RESIN

Raymond W. Reid, Sanford, and Percy F. George, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 No Drawing. Filed June 1, 1966, Ser. No. 554,349

3 Claims. (Cl. 136—121)

1. In a highly electrically conductive, liquid impervious, coated metal electrode the improvement comprising in combination a magnesium base electrode having a tightly adherent electrically conductive coating of a cured epoxy resin-finely divided carbon composition, said electrode containing at least 70 percent by weight magnesium, said coating composition containing from about 50 to about 70 weight percent carbon and from about 50 to about 30 weight percent of said epoxy resin, said epoxy resin being a member selected from the group consisting

of one-package self curing with heat and two-package amine catalyzed epoxy resins, said epoxy resins being further characterized as being free from oil, as not liberating vapor in setting and which in the cured state are solid, electrically resistant, chemically inert, have low shrinkage, are substantially free from chlorides and sulfates and are substantially unreactive with the magnesium metal of said electrode.

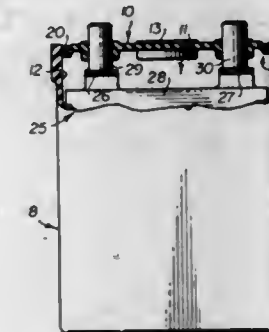
3,343,996

STORAGE BATTERY COVER

Joseph E. Micksch, Nicholas J. Jammal, and Joseph N. Jammal, Ashtabula, Ohio, assignors to Ashtabula Rubber Co., Ashtabula, Ohio

Filed Apr. 12, 1965, Ser. No. 447,338

5 Claims. (Cl. 136—170)



1. A storage battery comprising:
 (a) a battery container defining a cell;
 (b) a cell assembly disposed within the cell and including an upstanding positive post and an upstanding negative post;
 (c) a cell cover above the cell assembly and closing the cell, said cell cover including post-receiving apertures through which said positive and negative posts project;
 (d) said cover being an integrally molded one-piece member and having a central portion including a top surface and an endless rim portion circumscribing said central portion;
 (e) each such rim portion including a depending flange portion extending downwardly from the perimeter of the central portion, a base portion disposed below the top surface, and an endless peripheral upstanding outer lip portion;
 (f) said lip portion being oblique with respect to said base portion, said lip portion being tapered, flexible, and resilient and having an upper outer edge above said base portion when the cover is near at the top of the battery, said lip portion including a section near said upper outer edge in inwardly deformed abutment with said container and effecting a seal fluid tight to hot sealing compound; and,
 (g) a quantity of sealing compound covering said rim and forming a fluid tight seal between said cover and said container.

3,343,997

METHOD OF MAKING LEAD BATTERY ELEMENTS

Ernest G. Tiegel, Redwood City, Calif., assignor to Tiegel Manufacturing Co., Belmont, Calif., a corporation of California

No Drawing. Filed May 24, 1965, Ser. No. 458,444

5 Claims. (Cl. 136—176)

1. In a method of making an integral lead unit comprising the steps of casting a plurality of lead battery plates having lugs on one side thereof on a casting machine, allowing the cast battery plates to harden by storage for a period of time, applying lead oxide to the surfaces of the plates except for the lug areas by adding a lead oxide paste to the plate areas on a pasting machine,

allowing the paste to dry, and then welding the plate lugs to a post battery strap in the desired orientation, in combination, the step of applying a liquid flux composition to the lugs of the battery plates immediately after the plates are cast, said liquid flux composition having the property of providing a protective coating to the plate lugs and also being activated on heating during the welding operation to provide a good weld joint.

3,343,998

HIGH STRENGTH WROUGHT WELDABLE TITANIUM ALLOY MILL PRODUCT MANUFACTURE

Stanley Abkowitz, Lexington, Mass., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed Jan. 6, 1964, Ser. No. 335,799

10 Claims. (Cl. 148—12.7)

1. In a method of producing a high strength wrought heat treated weldable titanium base alloy mill product having a cross-sectional configuration unrestricted as to maximum dimension and having substantially uniform strength throughout from a weldable shallow-hardening titanium base alloy containing at least one beta promoting element and which may be strengthened by solution treating and aging, the steps of heating quenched uniformly hard particles of said alloy to a temperature within the aging temperature range for said alloy, then hot plastically deforming and reducing the heated particles to consolidate the particles and form a ductile mill product of desired cross-sectional configuration, controlling the temperature of the alloy particles during consolidation to fall within said aging temperature range, and then completing the aging procedure by heating the consolidated ductile mill product at a temperature within said aging temperature range for an extended period of time.

3,343,999

METHOD FOR THE MANUFACTURE OF VACUUM CONTAINERS

Lucien Petermann, Onex, Switzerland, assignor to Commissariat à l'Energie Atomique, Paris, France

No Drawing. Filed May 10, 1965, Ser. No. 459,978

Claims priority, application France, May 12, 1964, 974,212

4 Claims. (Cl. 148—16.5)

1. Method for the manufacture of vacuum containers in which the container walls are machined, cleaned, polished and then rinsed, the steps of surface coating said walls with a stable surface layer of substantially uniform thickness selected from the group consisting of oxides, nitrides, carbides and hydrides by chemical action of a substance which reacts with the metal of the walls and then assembling said walls.

3,344,000

METHOD OF TREATING STEEL AND A NOVEL STEEL PRODUCT

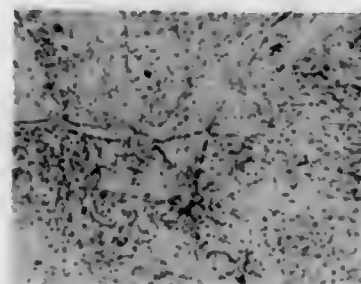
Maurice F. Baldy, Penn Hills Township, Allegheny County, and Daniel T. Boughner, West Mifflin Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,321

5 Claims. (Cl. 148—12.3)

1. A method of improving the high-temperature properties of a steel having in percent by weight up to 0.3% carbon, 0.25 to 0.75% manganese, 0.5 to 1.5% chromium, 0.2 to 1.25% molybdenum, 0.07 to 0.4% vanadium, up to 0.4% silicon, up to 0.045% phosphorus and up to 0.045% sulfur comprising normalizing by heating said steel to a temperature of about 1800 to 2100° F. for a time sufficient to dissolve substantially all carbides and

then air cooling, cold working to a reduction of from about 5 to about 25% and tempering in the range of



from about 1225 to about 1400° F. to agglomerate complex carbides precipitated at the grain boundaries.

3,344,001

HYDRAZINE BORATE FLUXES

Raymond Thompson, Esher, England, assignor to United States Borax & Chemical Corporation, Los Angeles, Calif.

No Drawing. Filed May 12, 1965, Ser. No. 455,331
Claims priority, application Great Britain, June 24, 1964, 26,189/64

6 Claims. (Cl. 148—23)

1. In the method of joining together metallic surfaces by soldering, the improvement which comprises heating said metallic surfaces in the presence of a hydrazine borate flux.

3,344,002

METHOD OF PRODUCING EPITAXIAL LAYERS ON SEMICONDUCTOR MONOCRYSTALS

Erhard Sirtl, Munich, and Hansjürgen Dersin, Ottobrunn, near Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Nov. 21, 1962, Ser. No. 239,200

Claims priority, application Germany, Nov. 24, 1961, S 76,815

19 Claims. (Cl. 148—17.5)

1. Method of producing semiconductor monocrystals by precipitation from the gaseous phase which comprises introducing starting materials into a sealed heatable reaction vessel in which different temperature distributions are adjustable, forming a highly heated reaction gas mixture within the reaction vessel, rapidly and intensely cooling a portion of the reaction vessel and the gas contained therein so that dendritic growth of semiconductor monocrystals ensues, after termination of the dendritic growth maintaining the temperature (T_{II}) in the vessel portion containing the starting material at a value slightly below the temperature (T_{III}) of the vessel portion in which the dendritic growth took place, and simultaneously maintaining the temperature (T_{III}) at the value required for dendrite production so that the starting materials transported via the gaseous phase grow predominantly epitaxially upon the surfaces of the dendrite monocrystals without appreciably changing their length and crystalline constitution.

3,344,003

SOLID PROPELLANT FUEL COMPOSITION CONTAINING EPOXY RESINS BASED ON DIPHENOLIC ACID DERIVATIVES

Thomas J. Miranda, Granger, and Herbert R. Herman, South Bend, Ind., assignors to The O'Brien Corporation, South Bend, Ind., a corporation of Indiana

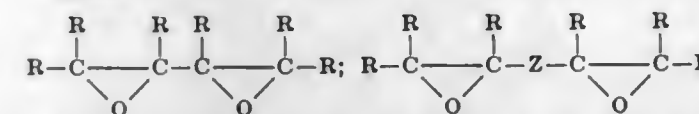
No Drawing. Original application Nov. 8, 1961, Ser. No. 150,869, now Patent No. 3,296,160, dated Jan. 3, 1967. Divided and this application Aug. 17, 1966, Ser. No. 572,926

10 Claims. (Cl. 149—19)

1. A solid propellant fuel composition consisting essentially of 10–90 percent by weight of an oxidant selected from the class consisting of solid inorganic oxidizers and

perchloryl aromatic hydrocarbons, and the remainder being essentially the ester reaction product of an ethylenically unsaturated fatty acid having about 10–25 carbon atoms in said acid, with the condensation product of

- (1) a compound selected from the class consisting of the alkyl esters of 4,4-bis-(p-phenylol)-pentanoic acid and the chloro and bromo nuclear-substituted derivatives thereof having no more than 2 of said bromo and chloro atoms substituted per aromatic nucleus therein, said alkyl group having no more than 30 carbon atoms therein, and
- (2) an oxirane compound selected from the class consisting of oxirane compounds having one of the formulas:



and polymers thereof having no more than about 20 repeating units therein and having at least 2 of said oxirane groups intact therein, in which formulas R is a radical selected from the class consisting of hydrogen and alkyl radicals, the total number of carbon atoms in said R groups in any one of said formulas is no more than 20 carbon atoms, and Z represents a divalent radical having no more than 30 carbon atoms therein selected from the class consisting of divalent hydrocarbon radicals and derivatives thereof having only derivative groups selected from the class consisting of ether and hydroxy derivative groups, said hydroxy and ether derivative groups being at least one carbon atom away from each of the valence bonds by which said Z group is attached to the oxirane radicals of said formulas, said condensation product being formed by the reaction of the hydroxy groups of said 4,4-bis-(p-phenylol)-pentanoic acid compound with said oxirane groups.

3,344,004

EXPLOSIVE GEL COMPOSITION CROSS-LINKED WITH A HYDROXY COMPOUND

Armand J. Desmarais, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Feb. 11, 1966, Ser. No. 526,698

3 Claims. (Cl. 149—20)

1. An explosive gel composition comprising
 - (a) an inorganic oxidizer salt
 - (b) an explosive sensitizer
 - (c) water
 - (d) a cross-linked gelling agent comprising a water soluble anionic polymer which contains carboxylate groups selected from the group consisting of
 - (1) cellulose ethers
 - (2) polymers of acrylic acid, substituted acrylic acid, and their alkali metal salts
 - (3) copolymers of acrylamide and the materials listed in (2) above and
 - (4) mixtures containing polymers from at least two of (1), (2) and (3) above,

said gelling agent having been cross-linked with a hydroxy compound having the general formula



wherein

M is selected from the group consisting of aluminum, iron, and chromium

X is selected from the group consisting of

- hydroxyl groups
- an anion of a fatty acid
- an anion of a substituted fatty acid
- an anion of a compound selected from the group consisting of alkali metal carbonates and ammonium carbonate,

said explosive gel composition having a pH of about 3–7.

3,344,005

PENTAERYTHRITOL TETRANITRATE-TRIMETHYLOLETHANE TRINITRATE EXPLOSIVES

Jesse B. Bronstein, Allentown, and George L. Griffith, Coopersburg, Pa., assignors to Trojan Powder Company, Allentown, Pa., a corporation of New York

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,212

8 Claims. (Cl. 149—38)

1. An explosive sensitizer composition consisting essentially of an amount within the range from about 95% to about 45% of pentaerythritol tetranitrate, and an amount within the range from about 5% to about 55% of trimethylolethane trinitrate, sufficient to lessen the impact sensitivity of the pentaerythritol tetranitrate without significantly reducing the detonator sensitivity.

3. An explosive composition in accordance with claim 1, comprising in addition an inorganic oxidizer salt.

4. An explosive composition in accordance with claim 1, comprising in addition a fuel.

6. An explosive composition in accordance with claim 4, wherein the fuel is a metal fuel in the amount within the range from about 0.5 to about 25%.

3,344,006

METHOD FOR MANUFACTURING THE REINFORCEMENTS OF THE TREAD RINGS IN REMOVABLE TREAD TIRES

Carlo Barassi and Giulio Cappa, Milan, Italy, assignors to Pirelli S.p.A., Milan, Italy

Filed Feb. 26, 1964, Ser. No. 347,591

Claims priority, application Italy, Mar. 1, 1963, 4,363/63

2 Claims. (Cl. 156—117)



1. A method for constructing a reinforcing structure for tread rings, consisting in helically winding a cord with the coils disposed parallel in a longitudinal direction, said parallel coils constituting an even number of superposed layers, and characterized in that, by starting from a point remote from the tread edges, a first layer of parallel coils, disposed side-by-side, is laid so as to reach one of the edges, then another layer is laid from the first recited edge to a second edge, and finally a further layer is laid from the second edge to the starting point.

3,344,007

HOLLOW ARTICLES, DIE ELEMENTS AND METHODS OF FORMING THE SAME

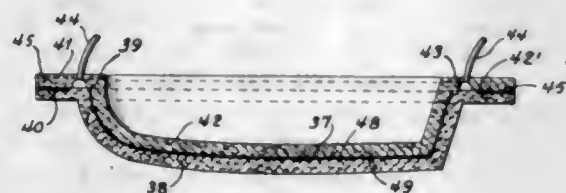
Bruno Bengt Skoggard, Cold Spring Harbor, N.Y., assignor, by mesne assignments, to American Cyanamid Company, Wayne, N.J., a corporation of Maine

Continuation of application Ser. No. 108,038, May 5, 1961. This application Feb. 24, 1966, Ser. No. 536,520

15 Claims. (Cl. 156—212)

4. Those steps in the method of forming a master shell for use in making mold elements which comprises, forming a sandwich by sealing two sheets of elastomeric film like stretchable material together against each other around their borders with a sheet of stretchable fabric reinforcing material having elastic properties and a settable plastic between said sheets in the space within said borders, holding the borders of said sandwich against lateral deflection

causing lateral deflection of a portion of said sandwich within said borders, evacuating the air from the space directly on the mat for winding said mat onto said mandrel, and means in advance of the rotary mandrel to compress



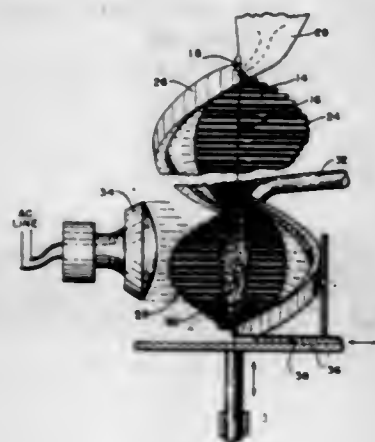
within said borders containing said plastic and reinforcing material, and setting said plastic to cause said portion of the sandwich to maintain said laterally deflected position.

3,344,008

METHOD OF FORMING NAIL CLIP

Robert B. Dickson, Evanston, Ill., assignor to Dickson Weatherproof Nail Company, Evanston, Ill., a corporation of Delaware

Original application Nov. 5, 1963, Ser. No. 321,450, now Patent No. 3,212,633, dated Oct. 19, 1965. Divided and this application May 28, 1965, Ser. No. 459,558
7 Claims. (Cl. 156—296)



1. The method of forming a nail clip comprising fanning out a series of nails in coaxial helices in which the head ends define one helix and the nail points define the other helix with the nail shanks crossing in contact with each other at the axis of the helices, applying adhesive to the nail shanks along said axis, drying the adhesive to hold said nails in cohesive form and cutting said form into clip segments of a predetermined number of nails per clip.

3,344,009

APPARATUS FOR FORMING HOLLOW CYLINDERS OF RESIN-IMPREGNATED MINERAL FIBER MATS

Marcel Levecque, Saint-Gratien, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France, a corporation of France

Filed Feb. 11, 1964, Ser. No. 344,109
Claims priority, application France, Feb. 6, 1961, 851,805; Feb. 26, 1963, 926,112
12 Claims. (Cl. 156—446)

1. An apparatus for producing hollow cylinders of resin-impregnated mineral fibers comprising a winding station, means for mounting a rotary cylindrical mandrel at said station, a conveyor for feeding a mat of mineral fibers impregnated with a jellified resin to said station and the mandrel thereat, pneumatic means acting di-

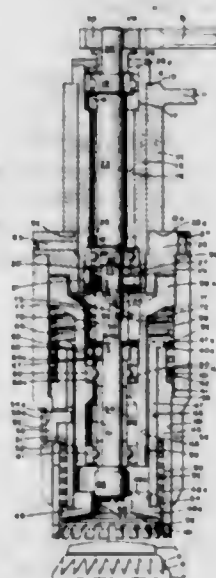
rectly on the mat for winding said mat onto said mandrel, and means in advance of the rotary mandrel to compress the mat and thereby to control the specific density of the finished cylindrical shell after its final hardening.

3,344,010

SPINWELDING DEVICE

Norman J. Franz, Colerain Township, Hamilton County, Ohio, assignor to The Procter and Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 7, 1964, Ser. No. 416,239
5 Claims. (Cl. 156—582)



1. Spinwelding apparatus adapted to secure a thermoplastic closure to the finish surrounding the open mouth of a thermoplastic container, said apparatus comprising:

- (A) a platform on which said container is supported during the spinwelding operation, said platform being movable vertically to place the container and closure sequentially in a spin elevation, a freeze elevation which is below the spin elevation and a loading and unloading position below the freeze elevation;
- (B) a continuously rotatable mandrel mounted vertically above and in substantial alignment with said platform, said mandrel being adapted to engage and impart high speed rotational movement to said closure when the container and closure are raised by said platform into the spin elevation;

- (C) means for continuously rotating said mandrel;
- (D) a downwardly biased, vertically reciprocative, non-rotatable bushing surrounding and concentric with said mandrel, said mandrel being rotatably mounted in said bushing, said bushing having at the lower end thereof a pressure applying surface adapted to contact and apply a constant and continuous pressure to the top of the said closure, said contact being made and maintained when the container and closure are in the spin elevation and the freeze elevation whereby to press the closure against the container finish while the closure is rotated by the mandrel and to abruptly terminate said rotation when the container and closure are lowered to said freeze elevation, and
- (E) a downwardly biased, vertically reciprocative, non-rotatable nest surrounding said bushing, said bushing being vertically reciprocative relative to and independent of said nest, said nest being adapted to engage and hold said container stationary on said platform with the mouth thereof in substantial axial alignment with said mandrel and sleeve when the container and closure are in the spin and freeze elevation.

3,344,011

TERRAZZO TILE

Murray Goozner, 642 Diane Place, Valley Stream, N.Y. 11581

Filed Nov. 2, 1964, Ser. No. 408,259
8 Claims. (Cl. 161—44)



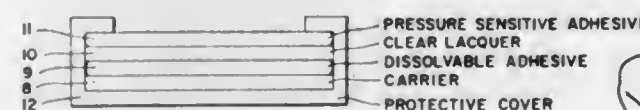
1. An ornamental tile comprising a shallow open topped shell member including a bottom wall and an upwardly directed peripheral wall, a matrix of a solid synthetic organic polymer disposed in and substantially filling said shell and adhering to the walls thereof and having an upper face, and an aggregate material distributed throughout said matrix and exposed at said matrix upper face, said peripheral wall having a width at least several times greater than the height thereof and being made of a material contrasting with said matrix and said aggregate to provide a composite tile having an ornamental upper surface constituting a central body bordered by a wide, contrasting frame.

3,344,012

INTERMEDIATE CARRIER TO BE USED IN TRANSFER OF PRINTED PICTURES

Oscar Richard Fredrik Af Ström, Icao Un Tam, PMB 12608, Lagos, Nigeria

Filed Aug. 1, 1963, Ser. No. 299,380
Claims priority, application Sweden, Aug. 8, 1962, 8,644/62
8 Claims. (Cl. 161—99)



1. An intermediate carrier for use in transferring a picture to a stationary support surface comprising the following laminations, a bottom carrier layer, a non-water-

soluble, wear resistant, stable clear lacquer layer, a soluble adhesive layer soluble in a selected solvent between and connecting together said carrier layer and said clear lacquer layer, and a transparent non-soluble adhesive layer non-soluble in said selected solvent on the side of said clear lacquer layer opposite from said adhesive layer.

3. An intermediate carrier according to claim 1, including a moisture tight cover, covering at least the lower side and the edges of the laminations forming the intermediate carriers.

5. An intermediate carrier according to claim 3, in which the moisture tight covering is bent over, so that it will also cover a small edge on the top side of the laminations forming the intermediate carrier, where said covering is joined together at the corners by plastic welding.

3,344,013

SEPARATOR MATERIAL FOR ACCUMULATOR BATTERIES AND PROCESS OF MAKING THE SAME

Erich Fahrbach, Weinheim an der Bergstrasse, Germany, assignor to Carl Freudenberg Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany, a corporation of Germany

No Drawing. Filed Aug. 20, 1964, Ser. No. 391,031
Claims priority, application Germany, Sept. 21, 1961, F 34,962; Feb. 5, 1962, F 35,935
8 Claims. (Cl. 161—150)

1. Process for providing a highly porous and highly elastic structurally modified non-woven fleece material which comprises impregnating a fleece material randomly containing endless spin bonded polyamide fibers with a low percentage aqueous salt solution to effect superficial preliminary dissolution of the surface portions of said non-woven fibers, squeezing under comparatively slight pressure the impregnated fleece material to remove only excess salt solution therefrom and reduce the liquid content to at least about 200% of the fleece dry weight without substantially compacting the fibers and without reducing the porosity of the fleece, and to strengthen initially the fleece material by fusing to one another at their points of contact the superficially dissolved surface portions of the individual non-woven fibers, drying and finally strengthening the fleece material by heating said fleece material, subsequently washing said fleece material to free said fleece material from residual salt remaining therein, and thereafter finally drying said fleece material, said fleece material having been prepared prior to impregnation by issuing a multitude of fused polymer masses in the form of endless filaments from a corresponding multitude of spinneret holes, directing a gas stream into impinging and entraining relation with the issuing filaments to distend them and orient polymer molecules thereof in the direction of the axes of the filaments, the filaments being distended to reduce the diameter from the diameter of the spinneret holes in the ratio of at least 30:1, cooling the filaments to set condition wherein molecular orientation is retained and maintaining the filaments in distended condition having said molecular orientation at least partially by a gas stream directed against the filaments to urge them to the distended condition, and collecting the set filaments as a fleece in which such endless filaments are disposed in random crossing relation.

3,344,014

SAFETY GLASS

Richard Watkin Rees, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 28, 1963, Ser. No. 261,844
11 Claims. (Cl. 161—203)

1. A laminated product having a plurality of opposing glass surfaces bonded together with an ionic copolymer

comprised of at least 50 mole percent of a bound alpha-olefin having the formula $RCH=CH_2$, wherein R is a radical selected from the group consisting of hydrogen and alkyl radicals having 1 to 8 carbon atoms, and 0.2 to 25 mole percent of a bound alpha,beta-ethylenically unsaturated carboxylic acid, wherein said ionic copolymer at least 10 percent of the carboxylic acid groups are neutralized by a member selected from the group consisting of metal ions having a valence of 1 to 3 inclusive and selected from the group consisting of the metals of Groups I, II, III, IV-A and VIII of the Periodic Chart of the Elements, and organic polyamines having at least two carbon atoms and a dissociation constant of at least 1×10^{-8} .

3,344,015

METHOD OF PRODUCING ASBESTOS-CEMENT SHEETS CONTAINING CELLULOSIC FIBER
James E. Neal, North Plainfield, and Charles L. Irvin, Neshanic, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Aug. 3, 1964, Ser. No. 386,944
4 Claims. (Cl. 162-122)

1. A method of manufacturing asbestos-cement sheets containing cellulosic fibers, comprising the steps of
 - (a) forming an aqueous slurry comprising cement, asbestos fibers, and cellulosic fibers, the cellulosic fibers comprising, by weight, between about 5% and about 30% of the total solids in the slurry,
 - (b) depositing a layer of material from the aqueous slurry on a moving porous felt,
 - (c) draining a substantial amount of water from the layer of material,
 - (d) transferring the layer of material to a rotating accumulator roll, the material being exposed to pressure exerted by the accumulator roll at the time of transference, and
 - (e) wetting the exposed surface of the layer of material with water, at the rate of about 0.0014 to about 0.0163 gallon per square foot, just prior to transferring the layer to the accumulator roll and wrapping it in laminations thereon, thereby effectively combatting the tendency for poor interlaminar adhesion and poor interlaminar strength in the final product resulting from the presence of the cellulosic fibers.

3,344,016

METHOD OF MAKING BEATER-SATURATED WATER-LAID PRODUCT CONTAINING PAPER-MAKING AND TEXTILE STAPLE FIBERS
William A. Moggio and John M. Lesniak, Millersville, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,481
9 Claims. (Cl. 162-146)

1. The method of forming a beater saturated, non-woven textile substitute which comprises forming in water a slurry of papermaking fibers, adding alum to said slurry, adjusting the pH of the alum-treated slurry to a range of 6-8 by adding alkali thereto, adding a synthetic rubber latex in an amount of 200%-650% by weight dry rubber solids based on the dry weight of the papermaking fibers to the neutralized slurry whereby the solids content of the binder precipitates, adding to the resulting slurry in indifferent order long, staple fibers in an amount of 50%-900% by weight based on the dry weight of the papermaking fibers and a water-soluble salt of a metal selected from the group consisting of metals in Groups I, II, IV, VII, and VIII of the Periodic Table, adding sufficient alkali to the salt-treated slurry containing said staple fibers to achieve a pH in the range of 8.5-11.5 to form an insoluble hydroxide with the metal ion from the salt, and forming a sheet from the resulting slurry.

3,344,017

METHOD OF CONTROLLING DRAINAGE TIME OF BEATER SATURATED SLURRIES
John M. Lesniak, Millersville, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,482
7 Claims. (Cl. 162-155)

1. In the method of making beater saturated products by forming a slurry of fibers in water, precipitating a rubber binder on said fibers to form coated fibers, and forming a product from the coated fibers, the improved method of controlling the drainage time of the slurry of coated fibers which comprises adding to said slurry of coated fibers a water-soluble salt selected from the group consisting of metals in Groups I, II, IV, VII, and VIII of the Periodic Table, adding sufficient alkali to the salt-treated slurry to achieve a pH in the range of 8.5-11.5 to form an insoluble hydroxide with the metal ion from the salt, and forming a product from the resulting slurry.

3,344,018

BIOCIDAL QUATERNARY AMMONIUM SULFAMATES
William J. Shibe, Jr., Riverton, N.J., and Marcus Sittenfeld, Philadelphia, Pa., assignors to Hollichem Corporation, Camden, N.J., a corporation of New Jersey
No Drawing. Original application Oct. 27, 1961, Ser. No. 148,029, now Patent No. 3,223,704, dated Dec. 14, 1965. Divided and this application Aug. 18, 1965, Ser. No. 480,784
3 Claims. (Cl. 167-22)

1. A method of inhibiting the growth of micro-organisms which comprises treating said micro-organisms with an effective amount of a quaternary ammonium organic mono sulfamate.

3,344,019

METHOD OF CONTROLLING INSECTS AND MICRO-ORGANISMS
Frank J. Sowa, 9 Besler Ave., Cranford, N.J. 07016
No Drawing. Original application May 26, 1960, Ser. No. 31,828, now Patent No. 3,222,158, dated Dec. 7, 1965. Divided and this application Sept. 8, 1965, Ser. No. 521,464
6 Claims. (Cl. 107-22)

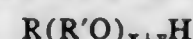
4. The method of controlling fungi which comprises contacting said fungi with an effective amount of a composition consisting essentially of one part by weight of an organotin compound selected from the group consisting of:



and



wherein n is an integer from 1 to 3, Y is selected from the group consisting of alkyl from 1-18 carbon atoms, lower alkenyl, cyclohexyl, arylalkyl where the aryl is phenyl and the alkyl is lower alkyl, phenyl, naphthyl, anthracenyl, pyridyl, furyl and thiophenyl; X is a radical attached to the tin by other than a (C=Sn) bond selected from the group consisting of the halide, sulphide, acyloxy of up to 18 carbon atoms, phenoxide, naphthoxide, alkyltinoy, and mercaptobenzothiazolate; and a has a value of at least 2, said compound being dissolved in from 0.25 to 9 parts by weight, of a surfactant having a critical balance of hydrophobic and hydrophilic groups therein whereby said tin compound remains dissolved in said surfactant on standing and does not separate out and the resulting single phase stable solution is soluble in water to give a stable solution, said surfactant having the formula:



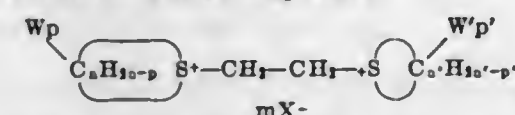
wherein R is a hydrophobic radical selected from the group consisting of alkoxy containing from 8-18 carbon atoms, phenoxy, alkylphenoxy, fatty acid amido contain-

ing from 8-18 carbon atoms, abietyl, alkylamino wherein the alkyl contains from 8-18 carbon atoms and fatty acid containing from 12-18 carbon atoms (R'O) is oxyalkylene containing from 2 to 4 carbon atoms; x is an integer equal to the total number of hydrophilic oxyalkylene groups required to give a threshold water solubility corresponding to about 1% by weight to the hydrophobic radical at room temperature while y is an integer from 1 to 15 except that, in the case where R is one of the indicated amido and amino radicals and includes oxyalkylene (R'O)_{x+y}, the sum of the x's equals the number of hydrophilic oxyalkylene groups required to give said threshold water solubility and the sum of the y's is between 3 and 25.

3,344,020

ETHYLENEBIS SULFONIUM SALTS FOR THE CONTROL OF SOIL-BORNE PATHOGENS AND AS SEED PROTECTANTS
Sheldon B. Greenbaum, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed July 14, 1965, Ser. No. 472,049
15 Claims. (Cl. 167-33)

1. A method for controlling organisms pathogenic to plants which comprises applying to the locus of said organisms an amount of the composition:

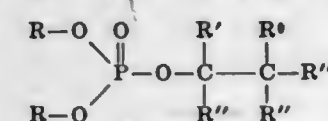


wherein n and n' are four to five; W and W' are selected from the group consisting of chloro, bromo, alkyl, alkoxy, and carboalkoxy ring substituents; p and p' are from zero to five; X⁻ is an anion; and m, the coefficient of X⁻, is up to two, said composition being applied in an amount sufficient to control the growth of said organisms.

3,344,021

CONTROL OF ENDOPARASITES OF ANIMALS
Jacob J. Menn, Kirkwood, Mo., and Frank B. Folckemer, Union, and Alexander Miller, Jr., Short Hills, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 28, 1964, Ser. No. 371,082
5 Claims. (Cl. 167-53)

1. A method for controlling internal parasitic worms in mammals, which comprises orally administering to an infested mammal a parasitocidally effective dosage of a composition comprising a compound of the formula



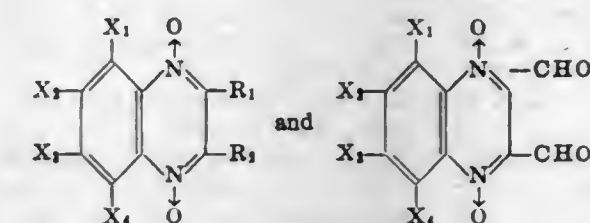
wherein R is alkyl of 1 to 7 carbon atoms, R' is a member of the group consisting of hydrogen and R, R⁰ is a member of the group consisting of hydrogen, chlorine and bromine, nad R'' is a member of the group consisting of chlorine and bromine, in intimate admixture with a resin of the group consisting of polyvinyl chloride and polyvinylidene chloride, a part of the said compound being on the surface of the composition.

3,344,022

METHOD OF TREATING CHRONIC RESPIRATORY DISEASE IN POULTRY
James David Johnston, Old Saybrook, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed June 29, 1965, Ser. No. 468,153
10 Claims. (Cl. 167-53.1)

1. A method for the treatment of chronic respiratory disease infected poultry which comprises administering

to said infected poultry an effective amount of a compound selected from the group consisting of those having the formulae



wherein R₁ is selected from the group consisting of hydrogen, alkyl of up to 10 carbon atoms, α-hydroxy lower alkyl, α-lower alkanoyloxy lower alkyl, and α-lower alkoxy lower alkyl;

R₂ is selected from the group consisting of alkyl of up to 10 carbon atoms, lower alkanoyl, α-hydroxy lower alkyl, α-lower alkanoyloxy lower alkyl, and α-lower alkoxy lower alkyl; and

X₁, X₂, X₃, and X₄ are each selected from the group consisting of hydrogen and lower alkyl.

3,344,023

TREATMENT OF HYPERTENSION WITH L-ALPHA-METHYL-3,4-DIHYDROXYPHENYLALANINE

Donald F. Reinhold and Meyer Slettinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 1, 1963, Ser. No. 255,641
1 Claim. (Cl. 167-65)

A method of treating hypertension which comprises the oral administration to a hypertensive patient of 0.1 to 5.0 g. of L-α-methyl-3,4-dihydroxyphenylalanine substantially free of its D form.

3,344,024

ANTIBIOTIC AM-684 AND METHOD OF PRODUCTION

Howard Arnold Whaley, Spring Valley, Ernest Leonard Patterson and Anthony Joseph Shay, Pearl River, and Homer David Tresner, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Apr. 17, 1963, Ser. No. 273,764
9 Claims. (Cl. 167-65)

1. A substance selected from the group consisting of antibiotic AM-684, a basic compound effective in inhibiting the growth of gram-positive bacteria, said substance being soluble in lower alkanols, acetone, ethyl acetate, methyl isobutyl ketone, chloroform and methylene chloride, being less soluble in ether and water and being insoluble in hydrocarbons, said substance having the following average elemental analysis: C, 59.50, H, 8.71, N, 1.79, O, 29.35, said substance having a melting point of 172-174.5° C., optical rotation $[\alpha]_D^{25} = -48.7^\circ$ at a concentration of 0.906% in methanol, having a pK_a value of 6.95 (66% dimethylformamide), having the following percent of methyl groups attached to oxygen 3.38, to carbon 10.27, to nitrogen 2.60, and the percent acetyl group is 2.51, said substance being characterized by absorption maxima in the ultraviolet at 282 mμ

(E_{1%^{1cm}} = 245)

in methanol, said substance exhibiting characteristic absorption in the infrared region of the spectrum as shown in FIGURE 1 and a proton magnetic resonance spectrum as shown in FIGURE 2 and the acid salts of said basic substance.

3,344,025

ANTIBIOTIC AP-191- γ AND A PROCESS FOR PRODUCING SAME BY CULTURING *STREPTOMYCES CANDIDUS*

Howard Arnold Whaley, Monsey, and Ernest Leonard Patterson and Samuel Owen Thomas, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Apr. 13, 1964, Ser. No. 359,061

2 Claims. (Cl. 167-65)

1. A substance selected from the group consisting of antibiotic AP-191- γ effective in inhibiting the growth of gram-positive and gram-negative bacteria, the free base of which is characterized by the following properties:

- readily soluble in chloroform, partly soluble in acetone and ethyl acetate, slightly soluble in alcohols and water and insoluble in alkanes, relatively stable to acidic conditions and labile to alkaline conditions,
- having an optical rotation $[\alpha]_D^{25} = -116^\circ$ (C.=0.516, chloroform),
- containing the elements carbon, hydrogen, nitrogen and oxygen in substantially the following average percentages by weight:

Carbon	61.54
Hydrogen	7.27
Nitrogen	7.22
Oxygen (by difference)	23.97

- characteristic absorption in the ultraviolet region of the spectrum in 2.5×10^{-4} N HCl: λ_{\max} 271 m μ

($E_{1\%}^{1\text{cm}} = 212$)

with λ_{340} m μ

($E_{1\%}^{1\text{cm}} = 17$)

shoulder,

- characteristic absorption in the infrared region of the spectrum as shown in FIGURE 1, and
- a proton resonance spectrum as shown in FIGURE 2 and the salts thereof.

2. A process for the production of antibiotic AP-191- γ which comprises cultivating *Streptomyces candidus* NRRL 3110 in an aqueous nutrient medium containing assimilable sources of carbohydrate, nitrogen and inorganic salts under submerged aerobic conditions for a period of from 24 to 240 hours and at a temperature of 20 to 35° C., and recovering the antibiotics so-produced.

3,344,026

DOSAGE UNIT COMPOSITION OF 1-(p-CHLOROPHENYL)-1,2-CYCLOPROPANEDICARBOXIMIDE FOR RELIEF OF DEPRESSION

Eugene N. Greenblatt, Spring Valley, N.Y., and Sidney R. Safir, River Edge, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 16, 1966, Ser. No. 550,175

2 Claims. (Cl. 167-65)

1. A method of inducing relief of depression in warm-blooded animals which comprises administering to warm-blooded animals suffering from depression a composition having as the essential active ingredient 1-(p-chlorophenyl)-1,2-cyclopropanedicarboximide, said composition being in an amount to produce relief of depression.

3,344,027

STABLE SUSPENSION OF IRON SALTS

William J. Hughes, Bridgeton, Mo., assignor to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

No Drawing. Filed June 16, 1965, Ser. No. 464,556

5 Claims. (Cl. 167-68)

1. A stable pharmaceutical composition comprising a relatively insoluble ferrous compound selected from the group consisting of non-hydrated ferrous fumarate and ferrous tartrate, a vegetable gum and colloidal syn-

thetic silica in an aqueous vehicle, the amount of vegetable gum being between approximately 17.5% and 37.5% by weight based upon the weight of the ferrous compound and the amount of colloidal synthetic silica being between approximately 7.5% and 25.0% by weight based upon the weight of the ferrous compound.

3,344,028

GELATIN STABILIZED DRY TABLET STREPTOKINASE-STREPTODORNASE COMPOSITION

Gordon Rowland Personius, Old Tappan, N.J., and Samuel Richard Hawkins, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn.

No Drawing. Filed Feb. 11, 1964, Ser. No. 343,959

3 Claims. (Cl. 167-73)

1. The method of increasing the stability of streptokinase-streptodornase tablets which comprises adding a liquid gelatin solution to a liquid solution containing the enzymes streptokinase and streptodornase equivalent to about 5% based on the weight of the total solids in the enzyme solution, and thereafter heating the resulting solution to dryness.

3,344,029

SUSTAINED RELEASE COMPOSITION

Howard H. Berger, Great Neck, N.Y., assignor to U.S. Ethicals, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed June 3, 1963, Ser. No. 284,827

6 Claims. (Cl. 167-82)

1. A sustained action therapeutic preparation comprising a dosage unit containing a plurality of resilient cores each consisting essentially of a cohesive intimate admixture of a finely divided therapeutically active material in powder form and an ingestible material resistant to disintegration in the gastro-intestinal tract, the proportion of ingestible material to therapeutically active material in each core varying from 0.1 to 2.0:1 and there being some variation in proportion among the cores to provide varying release rates in the gastro-intestinal tract, at least a minor proportion of the cores being coated, the coated cores having alternating coatings of therapeutically active material and ingestible material, and the proportion of therapeutically active material and ingestible material in the cores and the amount of therapeutically active material in the sum of the coatings being so correlated that the percent of therapeutically active material in the coatings plus the percent of therapeutically active material in the cores released during the first hour in the gastro-intestinal tract in the event of accidental crushing during oral administration is less than 50% of the total therapeutically active content of the dosage unit.

3,344,030

REINFORCED DIRECTLY COMPRESSED NON-GRANULATED PHARMACEUTICAL CRYSTALLINE LACTOSE TABLETS

Robert T. Stevens, Drexel Hill, and Marvin Hersh, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,297

7 Claims. (Cl. 167-82)

1. A method for the preparing of medicament containing tablets in finished dosage form which are capable of rapid release of active ingredients which comprises directly compressing to a tablet hardness of up to about 30 kg. a non-granulated pharmaceutical composition screened to 30 to 80 mesh consisting of a mixture of up to about 70% by weight of active ingredient, a small but effective amount, up to about 3% by weight, of a tablet lubricant, from about 18% to about 86% by weight of U.S.P. crystalline lactose and from about 2% to about

30% by weight of a fibrous reinforcing agent selected from the group consisting of alpha cellulose, ethers of cellulose and orange flour.

3,344,031

N,N-DISUBSTITUTED ISOPICRAMIC ACID SALTS FOR DYEING HUMAN HAIR

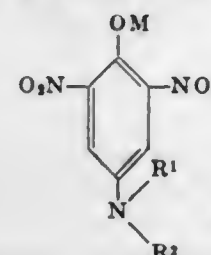
Jerzy Josef Bartoszewicz, Heston, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,868

Claims priority, application Great Britain, Dec. 21, 1962, 48,481/62

16 Claims. (Cl. 167-88)

1. A process of dyeing human hair which comprises applying to the hair an aqueous solution having a pH of from 2 to 9 of at least one direct dye of the formula:



where:

M is selected from the class consisting of hydrogen, alkali and alkaline earth metals and ammonium and alkylammonium, hydroxyalkylammonium and aminoalkylammonium;

R¹ is selected from the class consisting of alkyl having up to 6 carbon atoms and hydroxyalkyl having up to 4 carbon atoms; and

R² is hydroxyalkyl having up to 4 carbon atoms.

3,344,032

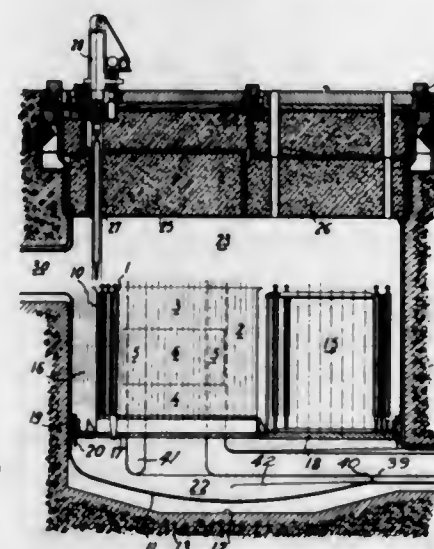
FAST NEUTRON REACTOR

Georges Vendryes, Paris, and Casimir Zaleski, Aix-en-Provence, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Aug. 24, 1965, Ser. No. 482,149

Claims priority, application France, Aug. 27, 1964, 986,391

6 Claims. (Cl. 176-18)



1. A fast-neutron reactor designed to operate with a substantially uniform distribution of specific power, comprising:

- a liquid-tight tank;
- a core disposed in said tank;
- said core being divided into a center region containing fissionable material and a surrounding region containing fissionable material of the same enrichment, but having a higher volumetric proportion of fissionable material than the center region;

a blanket region surrounding said core, containing fertile material;

an outlet duct connected to said tank for withdrawing coolant therefrom;

means for supplying coolant to the reactor with the coolant being supplied to the surrounding region of the core at a higher pressure than the coolant supplied to the center region of the core; and

a heat exchanger and pump means for connecting said outlet duct to said coolant supply means.

3,344,033

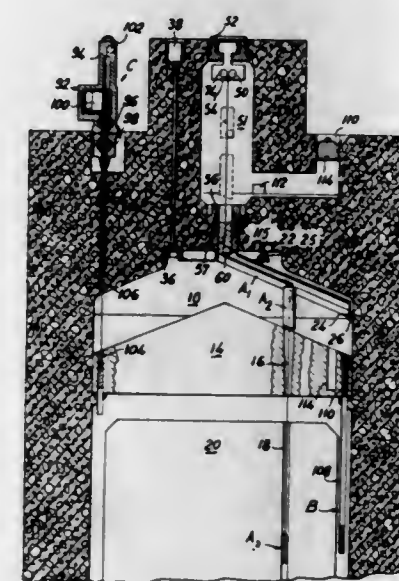
HANDLING APPARATUS FOR NUCLEAR REACTOR REFUELING FACILITY

Didier Costes, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, Seine, France

Filed Apr. 2, 1965, Ser. No. 445,144

Claims priority, application France, Apr. 9, 1964, 970,407

9 Claims. (Cl. 176-30)



1. In a nuclear reactor having a pressure vessel and biological shield, fuel elements located in vertical channels of the core, a servicing chamber located within the reactor pressure vessel and biological shield and disposed vertically above the core, a passageway extending vertically upwardly from the servicing chamber and located above the central portion of the core, and means for circulating a coolant gas in said channels; a refueling apparatus, comprising: an arm permanently mounted in said servicing chamber for rotation about a vertical axis which is substantially coextensive with the axis of said passageway; drive means extending into said servicing chamber and connected with said arm for rotating it about said axis; a guide track rigid with said arm and extending outwardly and inclined downwardly from said axis toward the side wall of the servicing chamber; a handling machine adapted to be moved vertically at said axis between an operative position supported in said servicing chamber by said track and an inoperative position raised out of said servicing chamber through said passageway; said handling machine, when in said operative position being supported by said track for rotation therewith for movement therealong between said axis and the outer end of the track; driving means located outside of said servicing chamber and connected with said handling machine for moving it between said operative and said inoperative positions and for moving it upwardly and inwardly along said inclined track relative to said axis and for controlling outward and downward movement of said handling machine relative to said axis due to gravitational force acting thereon and for holding said handling

machine in fixed position at any desired point along said track, said handling machine including a grab movable vertically, when said handling machine is disposed in said servicing chamber between a raised position where it is wholly disposed in said servicing chamber and lowered positions for placing and removing the reactor fuel elements; and control means connected with said grab for lifting it from a lowered to a raised position and for controlling the lowering of the grab from a raised to a lowered position and for holding it in selected position.

3,344,034

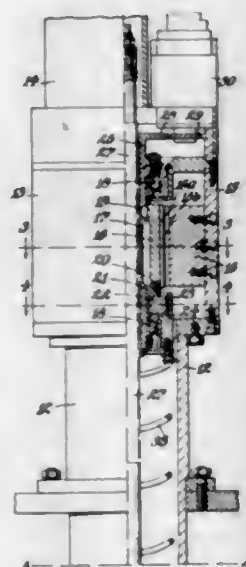
CONTROL DEVICE FOR NUCLEAR REACTORS

Robert Arthur Smith, Letchworth, England, granted to U.S. Atomic Energy Commission under the provisions of 42 U.S.C. 2182

Filed June 15, 1962, Ser. No. 202,759

Claims priority, application Great Britain, June 29, 1961, 23,630/61

3 Claims. (Cl. 176—36)



1. A reactivity control for a nuclear reactor comprising a rod-like member at least portions thereof are formed of neutron absorbing material, a leadscrew, a recirculating ball unit threadably engaging the said leadscrew and located against movement axially of the leadscrew, a vernier motor connected to the recirculating ball unit to impart stepwise angular movement thereto, electromagnet means comprising a solenoid carried at one end of the leadscrew, a rod-like armature mounted at one end of the rod-like member adjacent the said one end of the leadscrew, and indicating means indicating the engagement of the said rod-like armature within the said solenoid when the latter is energized, so that the rod-like member is coupled for movement with the leadscrew, the said rod-like armature being released on de-energization of the solenoid so that the rod-like member is freed for rapid insertion into the reactor.

3,344,035

NUCLEAR REACTOR WITH SPHERICAL ACTIVE ZONE

Gergely Büki, Budapest, Hungary, assignor to Magyar Tudományos Akadémia Kozponti Fizikai Kutató Intézete, Budapest, Hungary

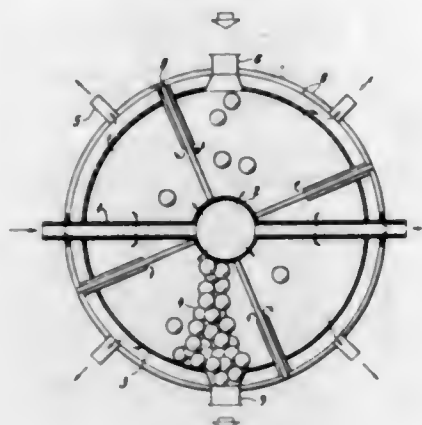
Filed May 21, 1965, Ser. No. 457,734

Claims priority, application Hungary, May 28, 1964, Bu 337

5 Claims. (Cl. 176—61)

1. A heterogeneous atomic reactor operating on the principle of nuclear fission, comprising, a pressure vessel, an outer perforated spherical member, and an inner perforated spherical member disposed within said pressure

vessel, an active zone containing fuel bounded by said external and internal spherical members, a spherical active zone containing no fuel bounded by said inner perforated spherical member, at least one inlet pipe for the passage



of coolant therethrough connected at one end to said spherical active zone containing no fuel, and at least one outlet pipe connected to said pressure vessel for the discharge of coolant therethrough from said outer perforated spherical member.

3,344,036

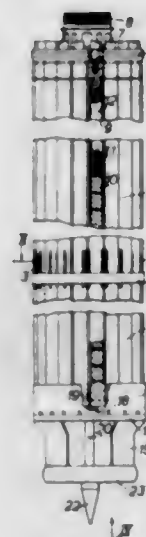
NUCLEAR REACTOR FUEL ELEMENT ASSEMBLIES

Robert James Haslam, Urmston, Manchester, and Bernard Leaver, Atherton, Manchester, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Sept. 28, 1965, Ser. No. 490,816

Claims priority, application Great Britain, Sept. 29, 1964, 39,524/64

3 Claims. (Cl. 176—78)



1. A nuclear reactor fuel element assembly comprising: a cluster of spaced elongate parallel sheathed fuel rods; an end support for said rods in said cluster; at least one transverse bracing grid disposed intermediate the ends of said fuel rods for spacing said fuel rods; and a group of spaced solid projections forming wear pads on the outer surface of each of the fuel rods, said projections being of elongate form arranged with their longitudinal axes parallel with the longitudinal axes of the fuel elements, said group of projections coinciding with said transverse bracing grid and adapted slidably to engage with and to space the fuel rods from said grid.

3,344,037

OXIDATION OF ALCOHOLS AND ALDEHYDES BY INDUCED ENZYMES PRODUCED FROM HYDROCARBON - UTILIZING MICRO-ORGANISMS WHEREBY ALDEHYDES AND ACIDS ARE PRODUCED

Richard I. Leavitt, Pennington, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 7, 1965, Ser. No. 461,976

9 Claims. (Cl. 195—49)

1. Method of enzymically oxidizing a carbon compound selected from the class consisting of alcohols and aldehydes to an oxidized product having the same number of carbons, said oxidizing reaction requiring the presence of oxidized cofactor DPN⁺, which comprises growing cells of a hydrocarbon-oxidizing microorganism on a nutrient medium using as the sole source of carbon a hydrocarbon having substantially the same number of carbons as said carbon compound, harvesting the cells and rupturing the same, extracting from the ruptured cells enzymes whose production by the cells was induced by growing the latter on said hydrocarbon, isolating from said enzyme extract an enzyme having specificity for said carbon compound and mixing the same with said carbon compound, adding to the resulting mixture a crude DPN⁺-containing, DPNH oxidase-containing enzyme extract obtained from non-induced cells grown on a non-hydrocarbon carbon-containing substrate as the sole source of carbon, incubating said mixture to enzymically oxidize the carbon compound to said product and coincidentally therewith to reduce said DPN⁺ cofactor to reduced cofactor DPNH, and said DPNH oxidase acting to regenerate DPN⁺ from DPNH and thereby to help maintain stoichiometrical amounts of DPN⁺ in said mixture.

3,344,038

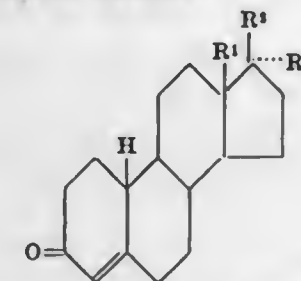
RESOLUTION OF RACEMIC STEROIDS

George Greenspan, Narberth, Leland L. Smith, Paoli, Theodore J. Foell, King of Prussia, and Richard Rees, Newtown Square, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1963, Ser. No. 318,155

4 Claims. (Cl. 195—51)

1. The method of aromatizing the A-ring and resolving racemic steroids which comprises fermenting a racemic steroid having the formula



wherein R¹ is lower alkyl; R² is hydrogen and R³ is hydroxy with *Corynebacterium hoagii* and recovering the A-ring-aromatized resolved products of both *d*-configuration and *l*-configuration.

ERRATUM

For Class 195—49 see:
Patent No. 3,344,037

3,344,039

COKE OVEN BATTERY REVERSING APPARATUS
Gilbert C. Nestler, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Jan. 8, 1964, Ser. No. 336,435

6 Claims. (Cl. 202—144)

1. Apparatus for controlling the flow of fuel gas and decarbonizing air to the high and low burners of a group

of flame flues in a regeneratively operated horizontal coke oven battery comprising,

a control device connected to valve means associated with said group of flame flues, said valve means operable to regulate the flow of fuel gas and decarbonizing air to both the high and low burners of said group of flame flues,

said control device operable by reciprocal movement to actuate said valve means to alternately supply fuel gas and decarbonizing air to the high and low burners of said group of flame flues and to supply decarbonizing air to both the high and low level burners of said group of flame flues,

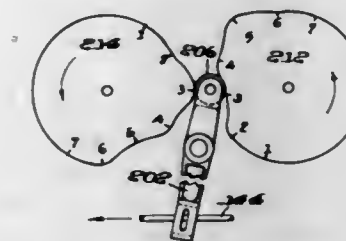
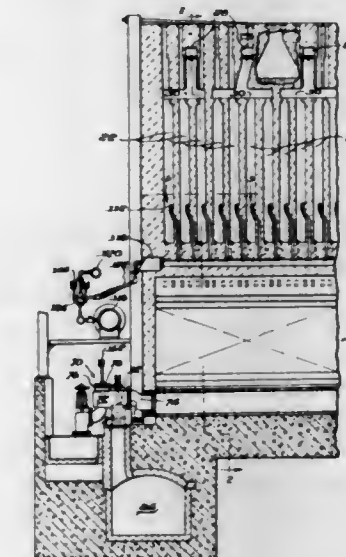
a lever connected to said control device and arranged upon pivotal movement to reciprocate said control device,

an intermediate portion of said lever pivotally connected to a support means,

a pair of cam devices rotatably secured to said support means and having an end portion of said lever therebetween,

means to rotate said cam devices in the same direction at the same angular velocity,

the peripheral edge portion of each of said cam devices having a protuberance and a recessed portion



angularly spaced from each other a preselected circumferential distance,

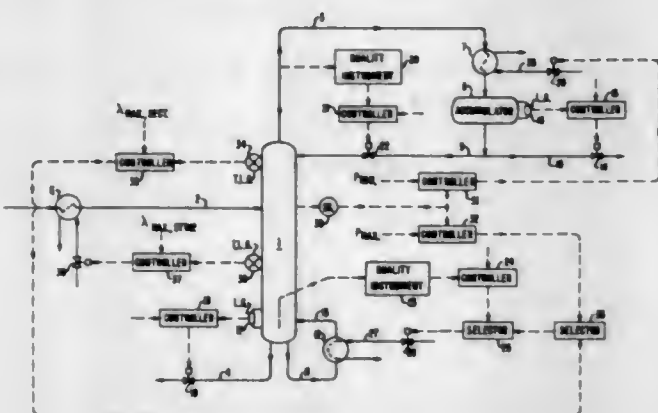
and said cam devices positioned on said support means so that said protuberance of one of said cam devices opposes said recessed portion on said other cam device and upon rotation of said cam devices said recessed portion of said first named cam device opposes said protuberance on said other cam device,

said cam devices operable to maintain said lever in a neutral position and supply decarbonizing air to said high and low burners and upon rotation to move said lever end portion positioned therebetween in a lateral direction and pivot said lever in one direction when said protuberance on one of said cam devices opposes said recessed portion and supply fuel gas to said high burners and decarbonizing air to said low burners, said cam devices operable upon further ro-

tation to move said lever end portion in the opposite lateral direction and pivot said lever in the opposite direction when said recessed portion of said first named cam device opposes said protuberance on said other cam device and supply fuel gas to said low burners and decarbonizing air to said high burners.

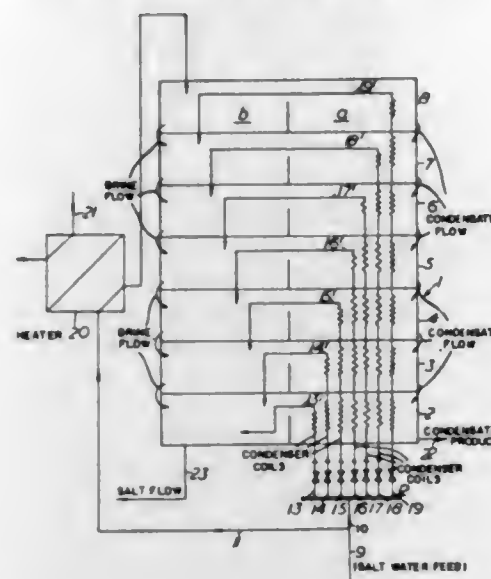
3,344,040
CONTINUOUSLY OPERATING SUPERATMOSPHERIC DISTILLATION PROCESS CONTROL AND APPARATUS THEREFOR
Johannes E. Rijnse, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Feb. 10, 1964, Ser. No. 343,545
Claims priority, application Netherlands, Mar. 12, 1963, 290,099
14 Claims. (Cl. 203—1)



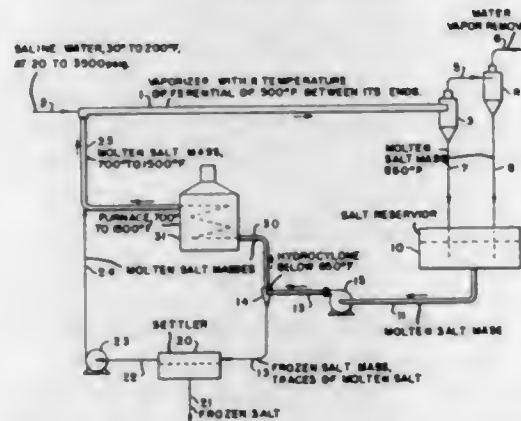
1. In a process for the continuous distillation of a stream of an intake mixture which is carried out at superatmospheric pressure in a multistage distillation column having a feed preheat zone and both a rectifying section and a stripping section, wherein the overhead vapors are condensed in a condenser and collected in an accumulator and both reflux in the upper portion and re-evaporation in the bottom portion of the column are used, and wherein the amount of reflux, the degree of re-evaporation, the top product flow and the bottom product flow are controlled such that the top product accumulator level and the bottom product level in the column are adjusted to predetermined respective levels and the desired quality of the separation as measured by a quality meter is attained, the improvement comprising: allowing the pressure in the column to freely adjust itself between the maximum and minimum permissible operating pressures for the column; supplying the maximum possible quantity of cooling medium to the condenser by maintaining the valve governing the supply of cooling medium to the condenser open as wide as possible without reducing the column pressure below the minimum permissible operating range; preheating said stream of intake mixture to the distillation column with the minimum possible quantity of heat by maintaining the valve governing the heating medium to the feed preheat zone as nearly closed as possible without causing overloading of the trays of the stripping section of the column; and decreasing the degree of re-evaporation by reducing the supply of heating medium to the re-evaporation section whenever the maximum permissible load on the column trays of the rectifying section of the distillation column is exceeded; whereby the costs of operating the distillation process are minimized when the distillation takes place in a pressure range where the tray load increases with increasing pressure and where the cost of the heating medium used for preheating the feed is relatively expensive in comparison with the heating medium used for re-evaporation.

3,344,041
MULTISTAGE FLASH DISTILLATION OF SALINE WATER
Dov Wulfson, 30 Kef-Gimel St., Kiriath Haim, Israel
Filed Dec. 18, 1964, Ser. No. 419,507
Claims priority, application Israel, Dec. 20, 1963, 20,487/63
3 Claims. (Cl. 203—11)



1. A method of effecting the distillation of a solution comprising the steps of directing a portion of the incoming solution through a heat exchanger where it is heated by an external heat source to a predetermined elevated temperature and is passed to the first stage of an evaporator having n stages, the pressure in the evaporator decreasing from stage to stage, separating the remainder of the incoming solution into $(n-1)$ streams to be discharged respectively into the $(n-1)$ remaining stages, at least a portion of the solution discharged in each stage being subjected to flash evaporation therein, the vapors thereby produced being condensed to form a condensate, each of the $(n-1)$ streams, prior to discharging into a stage being subjected to heat exchange with the condensate from the preceding stage.

3,344,042
DESALINATION OF SALT WATER USING A MOLTEN SALT MASS AS HEATING MEDIUM
Donald E. Hardesty, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 534,111
2 Claims. (Cl. 203—11)



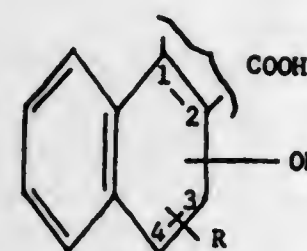
1. A process for the desalination of saline water comprising the steps of
(a) contacting a saline water feed stream containing at least about 10,000 parts per million sea salts with a molten salt mass consisting essentially of the halides or hydroxides of the alkali metals, or the halides of the alkaline earth metals, or mixtures thereof, to-

gether with a minor proportion of sea salts as recovered hereinafter, at a temperature in excess or 650° F. and in such relative proportions as to vaporize substantially all of the water from said saline water feed stream, to produce a liquid phase consisting essentially of said molten salt mass containing said sea salts dispersed therein;

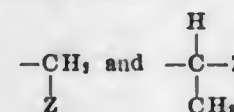
(b) recovering precipitated sea salts in excess of that of the eutectic mixture by reducing the temperature of said sea salt-containing molten mass to below the freezing points of said sea salts but above the freezing point of said molten mass, and freezing out and separating said sea salts from said molten mass; and
(c) condensing the vaporized water as potable water.

3,344,043
ELECTROLYTIC RECORDING MEDIUM CONTAINING A HYDROXYNAPHTHOIC ACID
Irving Lieblich, Elmhurst, N.Y., and Marcel A. Gradsten, Demarest, N.J., assignors to Hogan Faximile Corporation, New York, N.Y.
No Drawing. Filed July 3, 1964, Ser. No. 380,127
13 Claims. (Cl. 204—2)

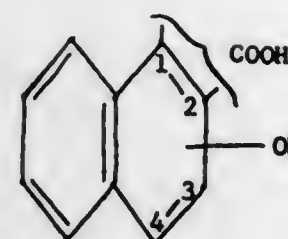
1. An electrolytic recording medium comprising an impregnated sheet containing in an electrolytically conducting solution as a marking agent at least one ortho hydroxy naphthoic acid represented by the following general formula:



where the carboxyl group is in the 1 or 2 position, the hydroxyl is ortho to the carboxyl, and the group R is meta to the carboxyl; R is selected from the group consisting essentially of H, lower alkyls,



where Z is

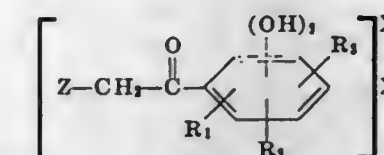


where the carboxyl group is in the 1 or 2 position, and the hydroxyl is ortho to the carboxyl.

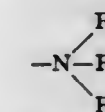
3,344,044
ELECTROLYTIC RECORDING MEDIUM CONTAINING A QUATERNARY AMMONIUM COMPOUND
Marcel A. Gradsten, Demarest, N.J., and Irving Lieblich, Elmhurst, N.Y., assignors to Hogan Faximile Corporation, New York, N.Y.
No Drawing. Filed July 3, 1964, Ser. No. 380,134
8 Claims. (Cl. 204—2)

1. An electrolytic recording medium comprising an impregnated sheet containing in an electrolytically conducting solution at least one metal salt chosen from the manganous and nickelous salts and at least one quaternary polyhydric phenacyl ammonium compound in which

at least two of the phenolic hydroxyl groups are ortho to each other as represented by the following general formula:



where R_1 , R_2 , and R_3 is selected from the groups consisting of H, OH, lower alkyls, and lower alkoxy groups; where Z is selected from the group consisting of a heterocyclic ring structure wherein the phenacyl group is linked to a nitrogen in the ring and an amine group represented by the formula



wherein R_4 , R_5 , and R_6 is selected from the group consisting of H, lower saturated or unsaturated alkyls, and aryl groups; and X is an inorganic anion.

3,344,045
ELECTROLYTIC PREPARATION OF CARBOXYLIC ACIDS
William C. Nelkam, Linwood, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Oct. 23, 1964, Ser. No. 406,160
7 Claims. (Cl. 204—59)

1. In a process in which a hydrocarbon selected from the group consisting of hydrocarbons containing conjugated unsaturation and polycyclic hydrocarbons containing an aryl ring condensed with another ring is cathodically reduced in the presence of an electrolyte, a mutual solvent for said hydrocarbon and said electrolyte, and in the presence of a source of



radicals to form a dicarboxylic acid anion which is subsequently reacted in situ with hydrogen ion to form a dicarboxylic acid, the improvement which comprises carrying out said cathodic reduction in the presence of an alkali metal bicarbonate as said source, whereby monocarboxylic acid is formed.

3,344,046
ELECTROLYTIC PREPARATION OF ORGANIC CARBONATES
William C. Nelkam, Linwood, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Oct. 23, 1964, Ser. No. 406,180
5 Claims. (Cl. 204—59)

1. Method which comprises electrolyzing a substituted aromatic hydrocarbon characterized in that it contains exactly one aryl nucleus, the nuclear carbon atoms of said nucleus having attached thereto only other nuclear carbon atoms, hydrogen, saturated aliphatic radicals, and monoolefinic aliphatic radicals, there being present at least one monoolefinic aliphatic radical in which the double bond is conjugated with unsaturation in an aryl ring of said nucleus, said electrolyzing being (1) in an electrolytic cell containing an anode and cathode, (2) at a potential more negative than the half-wave potential of said hydrocarbon, (3) in the presence of an electrolyte, (4) in the presence of a mutual solvent for said electrolyte and said hydrocarbon, and (5) in the presence of CO_2 , said hydrocarbon being present at the surface of said cathode during said electrolysis, whereby there is formed a 1-aryl-1,2-alkylene carbonate, and separating said carbonate from said electrolyte and solvent.

3,344,047

ELECTROLYTIC PREPARATION OF SULFONIC ACIDS

William C. Nelkam, Linwood, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Oct. 23, 1964, Ser. No. 406,189
7 Claims. (Cl. 204—59)

1. Method of preparing sulfonic acid in an electrolytic cell containing an anode and a cathode which comprises electrolyzing a compound selected from the group consisting of non-aromatic hydrocarbons containing conjugated unsaturation, substituted aromatic hydrocarbons wherein the substituent contains conjugated unsaturation, and polycyclic hydrocarbons having a condensed aromatic ring, said electrolyzing being (1) in the presence of an electrolyte, (2) in the presence of a mutual solvent for said electrolyte and said compound, (3) in the presence of sulfur dioxide and oxygen, and (4) at a potential more negative than the half-wave potential of said compound, said compound being present at the surface of said cathode during said electrolyzing, whereby a sulfonic acid anion is produced, and reacting said sulfonic acid anion in situ with hydrogen ion to form sulfonic acid.

3,344,048

ELECTROLYTIC PREPARATION OF VINYLEAD COMPOUNDS

Paul Kobetz and Wilford H. Thomas, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,559
11 Claims. (Cl. 204—59)

2. A process for the production of alkylvinylead compounds which comprises electrolyzing in an electrolytic cell having a lead anode a liquid composition comprising a complex of a di-1-alkenyl magnesium compound with a compound of the formula R_3Me wherein R is a radical selected from the group consisting of lower alkyl, lower alkoxide or mixtures thereof and Me is an element selected from the group consisting of aluminum and boron.

3,344,049

METHOD OF PRODUCING LITHIUM

Erich Thiele, Bad Homburg vor der Höhe, Germany, assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,263
Claims priority, application Germany, Mar. 6, 1964, M 60,174

3 Claims. (Cl. 204—68)

1. In a process for producing lithium by electrolysis of a molten salt mixture containing $LiCl$ in an electrolytic cell wherein the space above the molten salt is separated into chlorine- and lithium-collecting spaces, the improvement comprising introducing an oxygen containing lithium compound selected from the group consisting of Li_2CO_3 and $LiOH$ onto the surface of the melt in the chlorine collecting space whereby the oxygen containing lithium compound is converted by the chlorine to $LiCl$ which in turn replenishes the bath, and withdrawing lithium from the lithium collecting space.

3,344,050

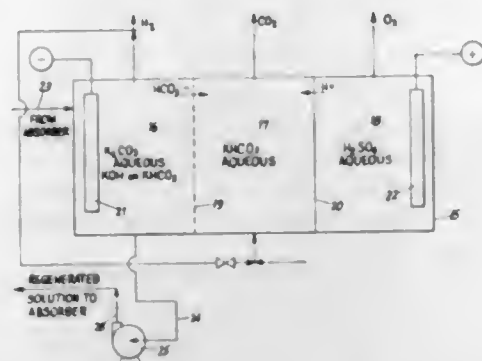
REMOVAL OF CARBON DIOXIDE FROM GASEOUS ATMOSPHERES

Bertrand J. Mayland, Jefferstown, and Robert John Steinberger, Middletown, Ky., assignors to Girdler Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 3, 1964, Ser. No. 342,072
8 Claims. (Cl. 204—98)

1. A process for the removal of carbon dioxide from a gaseous atmosphere to render said atmosphere suitable

for re-breathing which comprises subjecting the said atmosphere to a solution of an alkali metal carbonate and an alkali metal hydroxide so as to absorb carbon dioxide from the said atmosphere with the formation of acid carbonate from the carbonate and carbonate from the hydroxide, the solution thereby becoming spent, and then regenerating the spent solution for reuse by subjecting it to electrolysis to the extent of converting the acid carbonate to the normal carbonate salt and to the extent of regenerating the hydroxide, the said electrolysis being



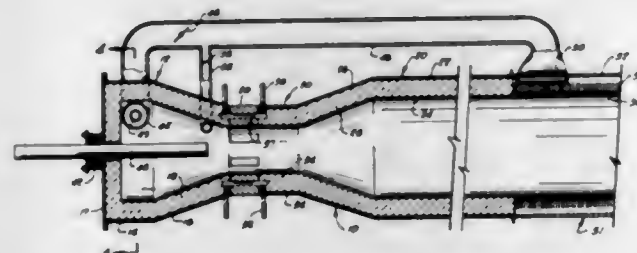
carried on in a cell having at least two compartments separated by an anion exchange membrane, the first of said compartments containing a cathode and being the compartment into which the spent solution is introduced and from which the regenerated solution is withdrawn, the polarity conditions in the second of said compartments being anodic with respect to the conditions in the first compartment, said second compartment containing a separate electrolyte, whereby hydrogen is evolved in the first compartment and carbon dioxide is evolved in the second compartment.

3,344,051

METHOD FOR THE PRODUCTION OF CARBON BLACK IN A HIGH INTENSITY ARC

Burton F. Latham, Jr., Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,212
11 Claims. (Cl. 204—173)



1. In a process for producing carbon black by passing a hydrocarbon through a plasma flame produced by a high intensity ionizing electrical discharge, the improvement which comprises

producing said plasma flame in a Venturi throat by passing high intensity electric arcs consecutively and in rapid succession from a plurality of spaced cathodes mounted circumferentially about said throat to an anode axially disposed therein whereby the interior of the throat is effectively filled continuously with a plasma flame; and

moving the hydrocarbon through said throat with an inert carrier gas at a velocity below that at which fluid stabilization of said electric arcs occurs.

3,344,052

METHOD OF PRODUCING AMMONIA INCLUDING CONTACTING AN ELECTROSTATICALLY CHARGED CATALYST WITH NITROGEN AND HYDROGEN

George C. Yeh, Willistown Township, Chester County, Pa. (Sonedley Drive, R.D. 1, Newtown Square, Pa. 19073)

No Drawing. Filed Nov. 23, 1964, Ser. No. 413,312
6 Claims. (Cl. 204—177)

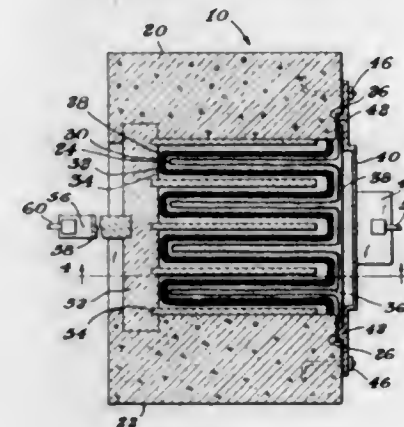
1. In a method of synthesizing ammonia from a gaseous stream predominantly of nitrogen and hydrogen including heating a mixture of said gases and bringing said stream into intimate contact with a bed of catalyst for effecting interaction between said nitrogen and hydrogen to produce ammonia, the improvement wherein said catalyst is biased with a negative electric potential sufficient to provide an electrostatic charge but insufficient to cause an electrical discharge.

3,344,053

CHLORINE CELL

Marshall P. Neipert and James J. Leddy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,565
4 Claims. (Cl. 204—266)



1. In an improved diaphragm-type chlorine cell for the electrolytic decomposition of a chloride brine in the production of chlorine gas, said cell containing a cathode, anode and non-conducting diaphragm which divides the cell into an anolyte compartment and a catholyte compartment, the improvement comprising a substantially rigid screen composed of meshed filaments positioned parallel to and adjacent to said diaphragm on the cathode side thereof between the diaphragm and the cathode, the filaments of said screen being coated with a non-conducting, resinous, protective coating which is inert to the reactants of the cell.

3,344,054

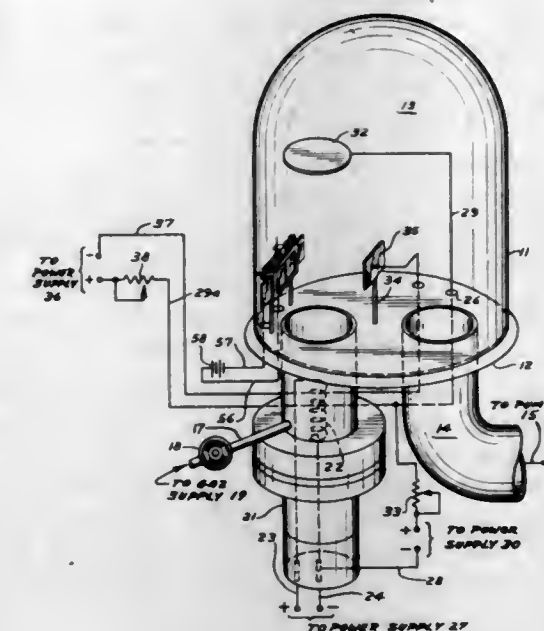
ART OF CONTROLLING SPUTTERING AND METAL EVAPORATION BY MEANS OF A PLANE ACCEPTOR

Nils Laegreid, Minneapolis, Minn., and Roger M. Moseson, Rochester, N.Y., assignors to G. T. Schjeldahl Company, a corporation of Minnesota

Filed Mar. 2, 1964, Ser. No. 352,417
2 Claims. (Cl. 204—298)

1. In a cathode sputtering apparatus including a cathode target comprising a source of material to be deposited, an anode means for providing an electrical bias potential between said anode and said cathode target, means for receiving a substrate having a deposition area for receiving said material disposed in spaced relationship from said source, and energy means for the sputtering removal of said material from said source and enabling the sputtered removed material to migrate to said substrate, said

means for receiving said substrate positioning said substrate in the line of sight of said target, means for providing the arrangement of a seed crystal on the surface of the said substrate at a first incremental area thereof, mask means disposed immediately adjacent said substrate and having a slot formed therein for periodically exposing a portion of said substrate surface including said first incremental area to said remote source, means for moving said masking means across the said deposition area, heating



means coupled to said mask means for heating an incremental area of said substrate to a temperature significantly greater than that of the remainder of said substrate, said heating means being normally disposed along that certain area of said substrate exposed by said masking slot and being adapted to heat said certain area, and means for moving said heating means across said deposition area in synchronism with the slot formed in said masking means.

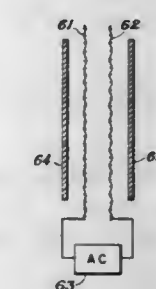
3,344,055

APPARATUS FOR POLYMERIZING AND FORMING THIN CONTINUOUS FILMS USING A GLOW DISCHARGE

Bernard G. Carbajal III, and Buford G. Slay, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Original application Apr. 29, 1964, Ser. No. 363,523, now Patent No. 3,318,790, dated May 9, 1967. Divided and this application Feb. 27, 1967, Ser. No. 618,793

3 Claims. (Cl. 204—312)



1. Apparatus for applying a continuous thin film to a body, comprising:

- a structure forming an evacuable reaction zone;
- two perforate, confronting electrodes positioned in said zone substantially in parallel spaced apart relationship;
- means for supporting a body in said zone adjacent and substantially parallel to one of said perforate electrodes on the side opposite the other electrode;
- a storage tank,

- (e) means for introducing an appropriate volatile mixture from said storage tank into said zone, and
(f) an A.C. voltage source for establishing glow discharge between said electrodes.

3,344,056

METHODS FOR IMPROVEMENT OF ASPHALTS

Fritz S. Rostler, Berkeley, Calif., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 366,574, May 11, 1964, which is a division of application Ser. No. 274,193, Apr. 19, 1963, now Patent No. 3,162,101. This application Dec. 9, 1965, Ser. No. 512,698

11 Claims. (Cl. 208—44)

1. A method of treating unweathered asphalt containing asphaltene and components chosen from the group consisting of nitrogen bases, first acidaffins, second acidaffins and paraffins, said asphalt having a ratio

$$\frac{N+A_1}{P+A_2}$$

equal to R_a , where N , A_1 , A_2 and P are respectively the weight percent of the nitrogen bases, first acidaffins, second acidaffins and paraffins present in said asphalt to be treated, which comprises blending said unweathered asphalt with an oil substantially free of asphaltene and containing components chosen from the group consisting of nitrogen bases, first acidaffins and second acidaffins and paraffins, and having ratio R_o equal to about from 0.01 to less than about 19, where R_o is equal to

$$\frac{N'+A'_1}{P'+A'_2}$$

where N' , A'_1 , A'_2 and P' are respectively the weight percent of the nitrogen bases, first acidaffins, second acidaffins and paraffins present in said petroleum oil, said asphalt and said oil being employed in the ratio (Z) of the weight of oil to the weight of asphalt to form a treated asphalt of ratio R equal to

$$\frac{N''+A''_1}{P''+A''_2}$$

where N'' , A''_1 , A''_2 and P'' are each respectively the weight percent of the nitrogen bases, first acidaffins, second acidaffins and paraffins in said treated asphalt where P'' is less than about 40%, said asphalt of ratio R_a and said oil being employed in the ratio Z , where

$$Z = \frac{(P+A_2)(R_a-R)}{(P'+A'_2)(R-R_o)}$$

where R is a value in the range from about 0.4 to about 10; and where R_a is less than 0.4, R is larger than R_a ; and where R_a is more than about 10, R is less than about 10 and less than R_a .

3,344,057

COKING PROCESS

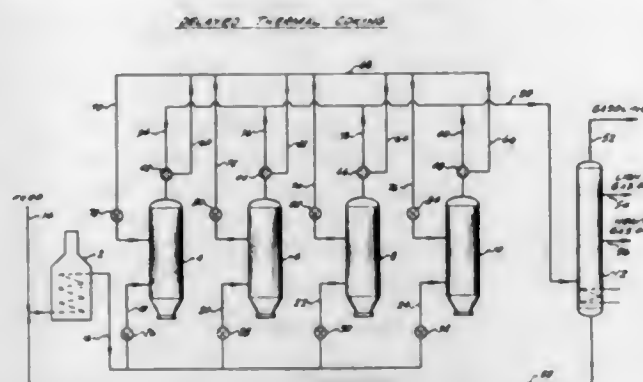
John T. Patrick, Napa, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Nov. 2, 1965, Ser. No. 506,080

8 Claims. (Cl. 208—50)

1. In a delayed thermal coking process wherein preheated feed comprising crude oil residuum is passed alternately to a series of soaking drums in sequence such that at least two drums are always on-stream but in staggered phases of the coke-filling cycle, the conditions within said drums being such that cracked product vapors are continuously evolved with accompanying foaming and frothing while coke deposits build up to successively higher levels therein and wherein product vapors are continuously withdrawn overhead, the improved method for

avoiding carryover to product fractionation equipment of entrained coke and froth in said product vapors such as normally occurs when the coke level in said drums approaches the overhead vapor outlet thereof, which comprises diverting the product vapors from each drum entering the terminal phase of a fill cycle to the vapor space in the upper portion of another drum which is in the initial



phase of a coke-filling cycle, and withdrawing combined dephlegmated product vapors from the latter drum while allowing the former drum to fill with coke to a level substantially beyond that at which carry-over of liquid begins, whereby the coke capacity of each drum is materially increased, the L/D ratio in each of said drums being less than about 5/1.

3,344,058

CATALYTIC HYDROCRACKING PROCESS WITH A CRYSTALLINE ALUMINOSILICATE CATALYST

Joseph N. Miale, Trenton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Feb. 8, 1965, Ser. No. 431,180

14 Claims. (Cl. 208—111)

1. A process for selectively hydrocracking a hydrocarbon charge stock consisting of components of different molecular size, by contacting the charge in the presence of hydrogen at a temperature between about 400° F. and 790° F. under hydrocracking conditions, with a crystalline aluminosilicate zeolite having rigid three-dimensional networks combined with a dehydrogenation component, a major portion of which is deposited within the interior of said crystalline aluminosilicate zeolite by contact of said zeolite with a solution containing ions of a metal corresponding to the metal cation of the crystalline aluminosilicate zeolite undergoing treatment, and ions of the dehydrogenation component, the ion ratio of said dehydrogenation component to metal corresponding to the metal cation of the crystalline aluminosilicate zeolite being in the range of 1:1 to 1:200, which zeolite has uniform interstitial dimensions sufficiently large to admit a portion of said components, but sufficiently small to exclude a remaining portion of said components, whereby the portion of said components admitted to contact with the active dehydrogenation surfaces preferentially undergo hydrocracking to the substantial exclusion of the remaining portion of said hydrocarbon charge.

3,344,059

CONVERSION OF HYDROCARBONS TO GASOLINE WITH A ZUNYITE-CONTAINING CATALYST COMPOSITE

Gordon R. Engebretson, Park Forest, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 21, 1965, Ser. No. 427,109

6 Claims. (Cl. 208—120)

1. A solid contact material consisting essentially of zunyite with which is associated about 20–99% by weight of the contact material of a solid synthetic gel selected

from the group consisting of 5–80% alumina, the balance essentially silica, and 10–80% magnesia, the balance essentially silica.

4. A method for the conversion of a hydrocarbon feedstock boiling above the gasoline range which comprises contacting said feedstock under cracking conditions with the contact material of claim 1 and recovering gasoline from said contacting.

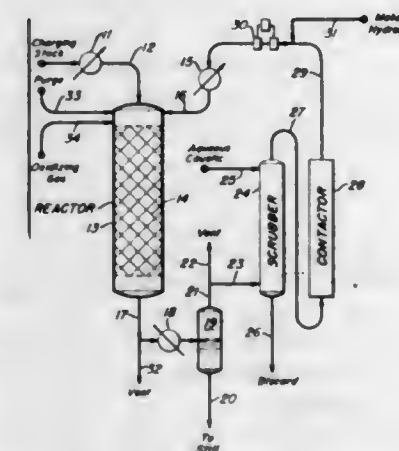
3,344,060

OXIDATIVE REACTIVATION OF PLATINUM HYDROFORMING CATALYSTS

Bernard L. Everling, Chicago, Ill., and John R. Coley, Gary, and William A. Wilson, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed July 30, 1956, Ser. No. 601,073

11 Claims. (Cl. 208—140)



1. The method of restoring the activity level of a supported platinum catalyst which has become gradually deactivated over a plurality of cycles of hydroforming and reactivation wherein the reactivation in each cycle is effected after the carbon content of the catalyst has reached 0.1 percent by weight but before it exceeds 1 percent by weight by treatment with a gas mixture containing more than about 0.5 and less than about 10 percent of oxygen at a temperature above 750° F. but below 900° F., and wherein the residual carbon content of the catalyst after each reactivation is greater than the carbon content after the preceding reactivation, so that the carbon content of the reactivated catalyst accumulates from cycle to cycle to a level of about 0.05 to 0.1 percent by weight, which method comprises subjecting said catalyst after said plurality of cycles to a first oxidative treatment with a gas mixture containing more than about 0.5 and less than about 10 percent of oxygen at a temperature above about 750° F. but below 900° F. for a period of time sufficient to reduce the carbon level to not more than about 0.1 percent by weight, then subjecting the catalyst to a second oxidative treatment with a gas mixture containing a greater concentration of oxygen at a higher temperature below about 925° F. to substantially eliminate accumulated carbon therefrom, and contacting the treated catalyst with a hydrogen-containing gas at a temperature within the hydroforming range.

3,344,061

ELECTROCHEMICAL METHOD AND APPARATUS FOR PRODUCING ACTIVATED GASES FOR THE TREATMENT OF SEWAGE

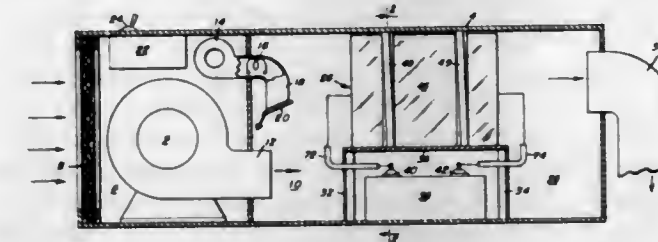
James J. Kellum, Jacksonville, Fla., assignor to Griffin Pollution Control Corporation, Jacksonville, Fla., a corporation of Florida

Filed Aug. 12, 1965, Ser. No. 484,160

1. A method for the treatment of sewage which comprises passing atmospheric air through an electrical discharge grid pack whereby said air forms activated gases,

destroying substantially any ozone present in said gases, and then introducing said activated gases into the sewer system.

5. A method for the reduction in B.O.D. (biochemical oxygen demand), decrease in humidity, oxidation of solids and elimination of odors in raw sewage compris-



ing; passing atmospheric air through a filter, impelling said filtered air through an electrical discharge grid pack comprising electrodes of expanded aluminum whereby said air is activated to form a mixture of nitrogen oxides, and discharging the activated nitrogen oxides mixture into the sewer system.

3,344,062

METHOD AND APPARATUS FOR CLEANING LIQUID

Peter Kosar, Garden City, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.

Filed May 14, 1964, Ser. No. 367,437

8 Claims. (Cl. 210—23)



1. A process of separating a liquid from a mixture of liquids having substantially differing dielectric properties comprising continuously passing a belt having a dielectric constant of substantially the same order as the liquid to be separated through a path partially submerged in said mixture, thereby coating said belt with said liquid to be separated, and continuously removing said liquid from said belt.

3,344,063

DRILLING FLUIDS AND ADDITIVES THEREFOR

Charles A. Stratton, Copan, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,837

15 Claims. (Cl. 252—8.5)

1. An aqueous well drilling fluid comprising a mixture containing water, sufficient suspended finely divided solids to form a filter cake on the wall of the well, and an amount of a metal complex of a sulfoalkylated tannin sufficient to reduce at least one of (a) the water loss due to filtration through said filter cake, (b) the yield point, and (c) the 10-minute gel of said drilling fluid, but insufficient to increase the viscosity of said drilling fluid to such an extent that it cannot be circulated, said metal com-

plex having been prepared by the inter-reaction between a tannin compound selected from the group consisting of the gallotannins and the flavotannins, in an alkaline aqueous reaction medium at a temperature within the range of from 70 to 300° F. and in amounts based on 100 parts by weight of said tannin compound, from 1 to 60 parts by weight of a carbonyl compound selected from the group consisting of the lower molecular weight aldehydes and ketones, from 4 to 115 parts by weight of a sulfur compound selected from the group consisting of sulfurous acid and water-soluble salts thereof, and from 0.3 to 64 parts by weight of a metal selected from the group consisting of iron, copper, chromium, nickel, cobalt, manganese, zinc, aluminum, titanium, vanadium, and mixtures thereof, said metal being present in a compound selected from the group consisting of the hydroxides and the water-soluble salts of said metals.

3,344,064

FLUOROCARBON-MODIFIED POLYURETHANE ELASTOMERIC COMPOSITIONS

James D. Brady and Joseph G. Di Pinto, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 19, 1963, Ser. No. 296,363
6 Claims. (Cl. 252-12)

1. A composition consisting essentially of a curable liquid polyurethane prepolymer having dispersed therein from about 1% to about 90% by weight, based on the weight of the composition, of small particles of a solid fluorocarbon compound containing at least 90% by weight of a chain of units having the structure $-\text{CF}_2\text{CF}_2-$, said solid fluorocarbon compound having a molecular weight from about 500 to about 50,000 and a melting point of from 90° C. to 327° C.

3,344,065

EXTREME PRESSURE LUBRICANTS

Josef Gänshelmer, Munich-Obermenzing, and Oswald Schanzer, Munich, Germany, assignors to Molykote Produktions G.m.b.H., Munich, Germany
No Drawing. Filed Jan. 25, 1965, Ser. No. 427,950
4 Claims. (Cl. 252-18)

1. A lubricant composition consisting essentially of lubricating oils or soap-thickened greases and containing in synergistic proportions

- (a) a solid lubricant selected from the group consisting of molybdenum disulfide, tungsten disulfide, and calcium hydroxide and
- (b) an essentially water insoluble metal salt of a phosphorylated oxygen acid and a metal selected from the group consisting of aluminum, iron, and calcium.

3,344,066

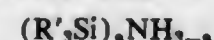
SILICONE GREASES OF HIGH MECHANICAL AND THERMAL STABILITY

Harry M. Schiefer, John W. Vandyke, and John S. Delphenich, Midland, Mich., assignors to Dow Corning Corporation, Midland Mich., a corporation of Michigan
No Drawing. Filed Apr. 14, 1966, Ser. No. 542,459
9 Claims. (Cl. 252-28)

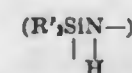
1. A grease consisting essentially of

- (a) 100 parts by weight of an organopolysiloxane fluid of the average unit formula $\text{R}_n\text{SiO}_{4-n/2}$ where R is selected from the group consisting of monovalent hydrocarbon and haloaryl radicals of no more than 7 carbon atoms and free of aliphatic unsaturation, n has an average value of 1.9 to 2.1, the viscosity of (a) being from 20 to 30,000 cs. at 25° C.;
- (b) from 5 to 25 parts of a powdered silica filler having a surface area of at least 100 square meters per gram, which filler is rendered hydrophobic by treatment with

(c) from 2 to 150 weight percent, based on the weight of (b), of a compound selected from the group consisting of cyclic polysiloxanes of the formula $(\text{R}'_2\text{SiO})_3$, at least 50 mol percent of said R' groups being methyl; silazanes of the formula



where a has a value of 1 to 2; polysilazanes of the unit formula



which have a viscosity of no more than 200 cs. and silanes of the formula $\text{R}'_3\text{SiX}_{3-b}$, where X is chlorine, bromine, lower alkoxy, lower acyloxy, or hydroxyl, b has a value of 2 to 3, and R' is in all cases as defined below; and

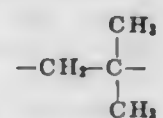
(d) from 5 to 100 weight percent, based on the weight of (b), of a hydroxylated organopolysiloxane fluid containing an average of 1.8 to 2.1 R' groups per silicon atom, where R' is selected from the group consisting of hydrocarbon and haloalkyl radicals of no more than 7 carbon atoms, having a silicon-bonded hydroxyl content of at least 1 weight percent.

3,344,067

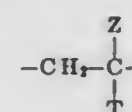
DERIVATIVES OF COPOLYMERS OF ISOBUTENE AND CONJUGATED DIENES

Cecil G. Brannen, Highland, and James A. Wuellner, Gary, Ind., and Walter C. Edmisten, Olympia Fields, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,679
12 Claims. (Cl. 252-32.7)

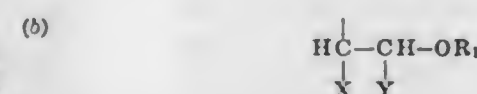
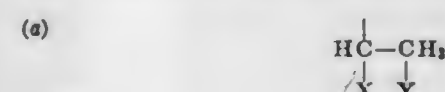
1. The copolymer consisting essentially of units (A) having the formula



and (B) having the formula



wherein Z is hydrogen or methyl; when Z is hydrogen: T is a radical of the group consisting of

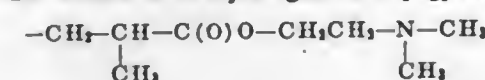


where R_1 is C_{1-20} alkyl and

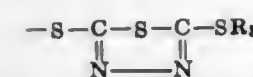


when Z is methyl: T is radical (a) above; wherein X of radical T is hydrogen or $-\text{SR}$ where R is C_{1-20} alkyl;

Y of radical T is a member of the group consisting of $-\text{OH}$, $-\text{SR}$ where R is hydrogen or C_{1-20} alkyl,



and



where R_2 is hydrogen or C_{1-20} alkyl; and the molar ratio of A:B is 1-100:1.

11. A mineral lubricating oil containing about 2 weight percent of an oil-soluble copolymer of claim 1 wherein the molar ratio of A:B is about 5-50:1, said copolymer having a molecular weight from about 50,000 to about 90,000.

12. The composition of claim 11 further including about 6 weight percent barium-containing P_2S_5 -polybutene reaction product, about 1 weight percent zinc dialkyldithiophosphate, and about 1 weight percent calcium petroleum sulfonate.

3,344,068

ESTER BASE LUBRICANTS

Francis H. Waight, Mold, and Alexander C. B. MacPhail, Wirral, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 19, 1965, Ser. No. 457,222
Claims priority, application Great Britain, Mar. 11, 1964, 10,263/64

7 Claims. (Cl. 252-47.5)

1. A lubricating composition comprising a major amount of an ester base lubricating oil and minor amounts sufficient to increase the oxidation stability of the oil of

- (1) 10-benzyl-3,7-dioctylphenothiazine, and
- (2) a secondary aromatic amine having two aromatic groups attached to the nitrogen atom.

3,344,069

LUBRICANT ADDITIVE AND LUBRICANT CONTAINING SAME

Carl Stuebe, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed July 1, 1965, Ser. No. 468,957
13 Claims. (Cl. 252-49.6)

2. A composition prepared by the process comprising heating at a temperature of at least about 100° C. (A) a boron-containing product obtained by the reaction of one equivalent of a polyisobutene-substituted succinic anhydride in which the polyisobutene substituent has a molecular weight of from about 750 to 5,000, from about 1 to 3 equivalents of tetraethylene pentamine, and from about 1 to 3 equivalents of boric acid and (B) from about 0.1 to 2 moles, per mole of boron in said boron-containing product of (A), of mannitol.

4. A lubricating composition comprising a major proportion of a lubricating oil and a minor proportion of the composition of claim 2.

3,344,070

HIGH TEMPERATURE LUBRICANTS

Harry M. Schiefer and Donald R. Weyenberg, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,543
23 Claims. (Cl. 252-49.6)

1. A composition of matter consisting essentially of a mixture of

- (1) a high temperature organic lubricating fluid and
- (2) from 0.1 to 5% by weight based on the weight of (1) of a compound of the formula



wherein each R is an alkyl radical of from 1 to 10 inclusive carbon atoms, R' is a radical selected from the group consisting of alkyl radicals of from 1 to 10 inclusive carbon atoms, phenyl, vinyl, hydrogen atoms and $-\text{OR}''$ radicals where R'' is an alkyl radical containing from 1 to 4 carbon atoms, R'' is a radical selected from the group consisting of phenyl and $-\text{OR}''$ radicals where R'' is defined above and n is an integer of from 1 to 3 inclusive.

3,344,071

HIGH RESISTIVITY CHROMIUM DOPED GALLIUM ARSENIDE AND PROCESS OF MAKING SAME

George R. Cronin, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 25, 1963, Ser. No. 311,430

6 Claims. (Cl. 252-62.3)

1. A gallium arsenide crystalline material having a dominant electrically active impurity consisting of chromium being present in at least about .2 part per million.

3,344,072

TANTALUM DOPED NICKEL-ZINC FERRITE
Tsuneo Akashi and Hideo Takamizawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Minatoku, Tokyo, Japan

Filed Feb. 25, 1964, Ser. No. 347,176

Claims priority, application Japan, Feb. 28, 1963, 38/10,780

4 Claims. (Cl. 252-62.6)

1. A nickel-zinc ferrite comprising a sintered mixture of from 46 to 54 mol percent ferric oxide, from 19 to 35 mol percent nickel oxide, from 11 to 35 mol percent zinc oxide, and from 0.01 to 4.6 mol percent tantalum pentoxide.

3,344,073

PROCESS FOR OPTIMIZING ELECTRICAL AND PHYSICAL CHARACTERISTICS OF FERROELECTRIC MATERIALS

William R. Bratschun, Minnetonka, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 18, 1964, Ser. No. 412,149

7 Claims. (Cl. 252-62.9)

1. A method of producing improved ceramic bodies comprising solid solutions of lead titanate and lead zirconate in which the atomic ratio of Zr to Ti is from 90:10 to 40:60 which includes preparing a mixture of PbO , ZrO_2 and TiO_2 in requisite proportions to produce the said solutions of lead titanate and lead zirconate, forming said mixture into a body of desired shape, firing said mixture under atmospheric pressure conditions at a first elevated temperature to densify said mixture, and refiring said mixture at a second elevated temperature higher than said first temperature while maintaining an isostatic air pressure environment greater than the atmospheric pressure around said mixture.

3,344,074

RUBBER TREATMENT

Lee A. Bowers, 4620 Park Road, Charlotte, N.C. 28209

No Drawing. Filed May 27, 1964, Ser. No. 370,728
5 Claims. (Cl. 252-72)

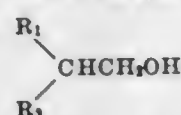
1. A method of stopping leaks in a closed hydraulic fluid containing system having a rubber seal therein by causing said rubber seal to expand, said method comprising adding trichloroethylene to said fluid in said system in an amount of about 0.5 to 20% by weight, based on the weight of said fluid, whereby said rubber seal is contacted by said trichloroethylene.

3,344,075

FOAM INHIBITION

William P. Scott, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed June 22, 1962, Ser. No. 204,607
18 Claims. (Cl. 252-75)

10. A method of inhibiting foaming of a composition consisting essentially of ethylene glycol which method comprises adding to said glycol about 0.01 to 0.05% by weight based on the glycol of a branched-chain, saturated, aliphatic, primary alcohol of the general formula



wherein R_1 and R_2 are alkyl radicals which contain a total of 14 to 18 carbon atoms and wherein each of said alkyl radicals contains at least 6 carbon atoms.

3,344,076

PROCESS FOR PREPARING DETERGENT TABLETS

Edward D. Wilcox, Jr., New York, N.Y., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Mar. 28, 1962, Ser. No. 183,021
6 Claims. (Cl. 252-135)

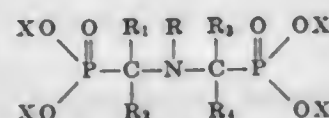
1. In the process of preparing strong, abrasion resistant, fast dissolving, low sudsing, compressed detergent tablets and briquettes comprising blending together a mixture consisting essentially of (1) from about 4% to about 13% by weight of synthetic organic nonionic detergent and (2) from about 20% to about 95% by weight of a mixture of 5% to 90% by weight of Form I pentasodium tripolyphosphate plus 95% to 10% by weight respectively of Form II pentasodium tripolyphosphate, the weight ratio of phosphate to nonionic detergent being from about 2:1 to 20:1; and compressing the resulting granular mixture into tablets; the improvement which comprises chilling the compressed tablets to accelerate the strengthening thereof by exposing the compressed tablets to air having a temperature from about 10° F. to about 45° F. for from about 5 minutes to about 20 minutes.

3,344,077

ORGANIC PHOSPHORUS COMPOUNDS

Riyad R. Irani, St. Louis, and Kurt Moedritzer, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 27, 1965, Ser. No. 483,339
13 Claims. (Cl. 252-137)

1. A detergent composition consisting essentially of at least about 5% by weight of said composition of a material selected from the group consisting of water soluble inorganic alkaline builders, water soluble organic sequestering builders, and mixtures thereof and at least about 10% by weight of said composition of an organo-amino-di-alkylene phosphorus compound having the formula



wherein R is selected from a class consisting of aliphatic hydrocarbyl groups containing from 4 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10 carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; R_1 , R_2 , R_3 and R_4 are selected from the class consisting of hydrogen, aliphatic hydrocarbyl groups containing from 1 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10

carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; and X is selected from the group consisting of hydrogen, alkali metal, alkaline earth metal, ammonium and lower molecular weight alkyl, alkylene and alkanol amines.

3,344,078

DRAIN CLEANING COMPOSITIONS

Russell A. Graham, Syracuse, and William V. Dwyer, Geddes, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 28, 1965, Ser. No. 428,831
2 Claims. (Cl. 252-157)

1. A process for preparing compositions adapted for use as a drain cleaner comprising compacted particles composed of about 45% to about 70% alkali metal hydroxide, about 20% to about 40% by weight alkali metal nitrate, aluminum, and 0 to about 20% by weight sodium chloride comprising the following steps:

- mixing the alkali metal hydroxide, the alkali metal nitrate, the aluminum, and the sodium chloride in the absence of external heating said materials being in substantially dry particulate form, until a substantially homogeneous mixture is formed;
- compacting the homogeneous mixture under pressure to form a sheet; and
- granulating the sheet to form compacted particles.

3,344,079

AMINE ALANE TYPE COMPOSITION AND METHOD OF PREPARATION

Eugene C. Ashby, Atlanta, Ga., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 31, 1963, Ser. No. 334,900
6 Claims. (Cl. 252-188)

1. A composition of matter comprising a solution of the complex of tetramethylethylene diamine, aluminum and hydrogen having the empirical formula



wherein

n =from 1 to 3.5 and
 c =about 0.5 to 1.2

in an organic medium which is a solvent for said complex, said organic medium being selected from the group consisting of tetramethylethylene diamine, tetrahydrofuran, benzene, toluene, and heptane.

3,344,080

REFRACTORY OXIDES DOPED WITH SILICON CARBIDE AND SILICON NITRIDE

David Thomas Livey and John Sidney O'Neill, Abingdon, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed June 21, 1965, Ser. No. 465,728
Claims priority, application Great Britain, Sept. 16, 1964, 37,914/64

10 Claims. (Cl. 252-301.1)

1. A method of restricting grain growth in sintered bodies comprising the steps of:

- mixing a fine powder of a refractory oxide selected from the group consisting of beryllia, alumina, magnesia, zirconia, uranium dioxide and thorium with less than 10% by weight of a sub-micron size grain growth restricting material selected from the group consisting of silicon carbide and silicon nitride;
- shaping such mixture to form a shaped body; and
- heating said shaped body to produce a sintered body having a maximum grain size of about 10 microns.

3,344,081

SINTERED URANIUM DIOXIDE CONTAINING YTTRIUM OXIDE

Charles Anthony Elyard, Wolston, Coventry, and Terence Jefferson Potter, Rugby, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed Jan. 24, 1966, Ser. No. 522,412
Claims priority, application Great Britain, Jan. 22, 1965, 2,935/65

3 Claims. (Cl. 252-301.1)

1. A polycrystalline uranium dioxide ceramic containing from 0.5 to 5% by weight of yttrium oxide to reduce columnar grain growth of the ceramic when subjected to steep temperature gradients at temperatures of from 1600° C. to 2000° C.

3,344,082

ASPHALT EMULSIONS AND METHOD FOR MAKING SAME

Dean P. Montgomery and Armin C. Pitchford, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 14, 1964, Ser. No. 418,323
11 Claims. (Cl. 252-311.5)

1. A method for making an asphalt emulsion comprising contacting asphalt, an aqueous dispersing liquid and an effective emulsifying amount of an emulsifying agent comprising partially hydrogenated alkali metal salts of complex polynuclear, aromatic, polycarboxylic acids prepared by reacting an aromatic hydrocarbon extract produced from cracking fractions of crude mineral oils with a solvent selective for aromatic compounds, with at least one alkali metal to produce alkali metal adducts and carboxylating said adducts, mixing said contacted materials to form an emulsion, and recovering said emulsion.

7. An asphalt emulsion consisting essentially of asphalt, an aqueous dispersing liquid, and an effective emulsifying amount of an emulsifying agent comprising a partially hydrogenated alkali metal salt of complex polynuclear, aromatic, polycarboxylic acids prepared by reacting an aromatic hydrocarbon extract produced in the solvent refining of heavy cycle oils produced from cracking fractions of crude mineral oils with a solvent selective for aromatic compounds, with at least one alkali metal to produce alkali metal adducts and carboxylating said adducts.

3,344,083

PROCESS OF BREAKING EMULSIONS

Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation, a corporation of Delaware
No Drawing. Division of application Ser. No. 47,387, Aug. 4, 1960. Continuation of application Ser. No. 115,877, June 9, 1961. This application Mar. 4, 1966, Ser. No. 531,793

6 Claims. (Cl. 252-344)

1. A process of breaking, preventing, and suppressing emulsions which is characterized by subjecting the emulsion to the action of an agent selected from the group consisting of

- (1) an olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 70° C. to about 100° C., said polymer with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones;
- (2) a Schiff base reaction product of a linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by re-

- acting said polymer with a compound selected from the group consisting of aldehydes and ketones;
- (3) a Schiff base reaction product of an acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2-20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer with a compound selected from the group consisting of aldehydes and ketones;
- (4) a Schiff base reaction product of an alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2-20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1-30 carbon atoms, and then reacting said alkylated polymer with a compound selected from the group consisting of aldehydes and ketones;
- (5) an oxyalkylated Schiff base reaction product of a linear polymer of a 1,2-alkyleneimine, said linear polymer having a molecular weight of at least 800, each alkylene unit therein having 2-20 carbon atoms formed by reacting said linear polymer with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms;
- (6) an acylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2-20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and
- (7) an alkylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2-20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having from 1-30 carbon atoms, and then reacting said alkylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,344,084

REGENERATION OF ACRYLONITRILE SYNTHESIS CATALYSTS

Roger S. Leland, La Marque, Tex., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Sept. 23, 1963, Ser. No. 310,869
4 Claims. (Cl. 252-415)

1. A process for regenerating an aqueous catalyst solution spent in the synthesis of acrylonitrile from acetylene and HCN containing cuprous chloride together with liquid

tarry matter which comprises thoroughly admixing with said spent catalyst solution an amount of hydrochloric acid from about one to about five moles per mole of cyanide contained in said catalyst solution, heating said acidified solution to form a layered mass of molten salt mixture and solid carbonaceous material, withdrawing said molten salt mixture and adding it to water to form a slurry of said salts.

3,344,085

PROCESS FOR THE PREPARATION OF SINTERED METALLIC OXIDE CATALYST PELLETS

Albert J. Isacks, Odessa, Tex., and Robert R. Lugg, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 23, 1966, Ser. No. 551,958
7 Claims. (Cl. 252-447)

1. In a process for the preparation of sintered metal oxide catalyst pellets wherein said metal is selected from the group consisting of the hydrogenating metals of Groups VIII, I-B and II-B in the periodic table, combinations of more than one of said metals, and admixtures of at least one of said metals with a difficultly reducible oxide of a metal of Group VI, in combination the steps comprising:

- combining intimately in a substantially dry densification procedure, said metal oxide or oxides having an average particle size of less than 100 microns with from 1 to 5 percent by weight, based upon the said acylated polymer with a compound selected weight of the oxide, or oxides of graphite of such particle size that at least about 90 percent of said graphite passes through a 325 mesh screen;
- pelletting the intimately combined metal oxide or oxides and graphite; and
- sintering the resulting pellets at a temperature between 500° C. and 1100° C.

3,344,086

METHOD FOR REMOVING AMMONIA FROM AN AMMONIUM ZEOLITE

Robert H. Cramer, Belmont, Mass., and Abbott F. Houser, Cherry Hill Township, Middlesex County, and Kenneth I. Jagel, Jr., Mantua Township, Gloucester County, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Feb. 21, 1963, Ser. No. 260,333
6 Claims. (Cl. 252-452)

1. In a process for manufacturing an inorganic oxide gel composite characterized by high attrition resistance and diffusivity by dispersing in an inorganic oxide sol a finely divided solid insoluble therein, effecting gelation of said sol containing finely divided solid, replacing exchangeable metal in the resulting composite with ammonium ions and drying the resulting hydrogel at a temperature sufficient to release gaseous ammonia therefrom but below the fusion point of said solid, the improvement which comprises immediately removing released ammonia from contact with said composite before the concentration thereof in the surrounding atmosphere exceeds an amount having an adverse effect on the gel structure of said composite.

3,344,087

POLYMERIC PHOSPHORUS-NITROGEN COMPOUNDS AND THE PRODUCTION THEREOF

Margot Becke, Heidelberg, and Dieter Neubauer, Ludwigshafen (Rhine), Germany, assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Mar. 31, 1961, Ser. No. 99,676
Claims priority, application Germany, Apr. 1, 1960, B 57,311
7 Claims. (Cl. 260-2)

1. Process for preparing polymeric, thermoplastic phosphorus-nitrogen compounds by mixing a phosphonitrile

halide with a first carrier medium selected from the group consisting of tetrahydrofuran, dioxane, ether and benzene; separately placing an aliphatic nitrogen compound having the formula $R_1HN_2RN_2HR_2$ where R is a divalent saturated hydrocarbon of 5 to 13 carbon atoms and R_1 and R_2 are hydrogen in a second carrier medium selected from the group consisting of water and said first carrier media; said aliphatic nitrogen compound being employed in the range of 0.25 to 3.0 gram moles per gram atom of phosphorus in said phosphonitrile halide; mixing together said phosphonitrile halide-containing first carrier medium and said aliphatic nitrogen compound-containing second carrier medium; agitating said mixed media to produce said polymeric, thermoplastic phosphorus-nitrogen compound and separating said polymeric, thermoplastic phosphorus-nitrogen compound from said media.

5. The polymeric, thermoplastic phosphorus-nitrogen compound prepared by the process of claim 1 in which said phosphonitrile halide is the tetramer of the formula $(PNCl_2)_4$, and said aliphatic nitrogen compound is hexamethylene diamine.

3,344,088

CATALYTIC PROCESS FOR POLYMERIZING CYCLIC ETHERS

Donald B. Miller, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed May 21, 1964, Ser. No. 369,297
29 Claims. (Cl. 260-2)

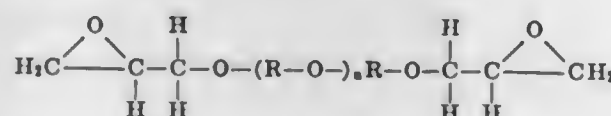
6. A process for producing a linear polymer from a cyclic ether which process comprises: contacting as a feed a saturated cyclic ether having at least 3 carbon atoms in the ether ring; with a silicon fluoride catalyst; in the presence of a promoter, said promoter being a different saturated cyclic ether having not more than 3 carbon atoms in the ether ring than said feed ether; and at a temperature of not more than about 50° C. and for a time such that a polymeric product is produced.

3,344,089

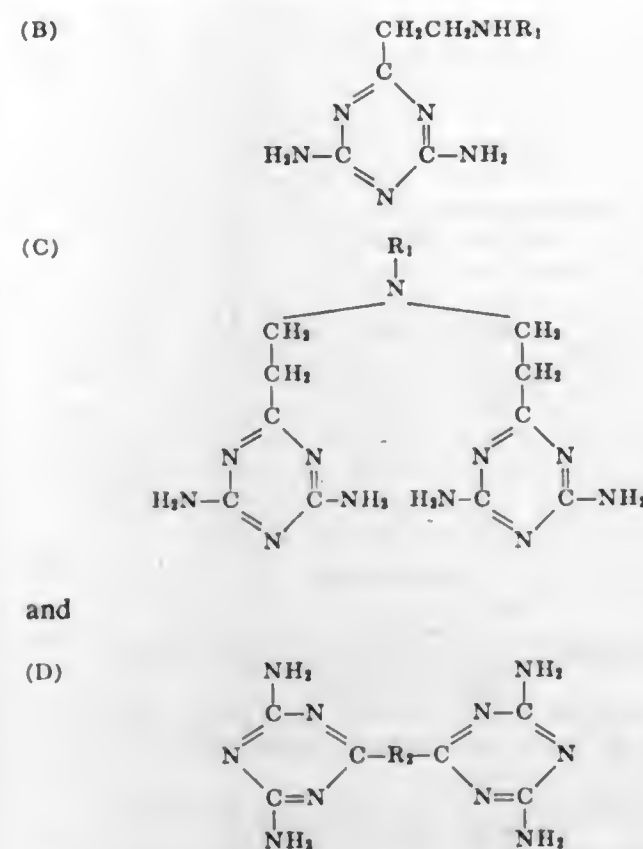
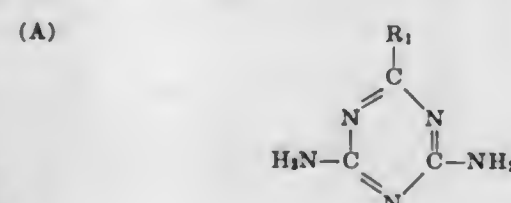
ADHESIVES FROM FATTY GUANAMINES AND DIGLYCIDYL ETHERS OF POLYALKYLENE GLYCOLS AND PROCESS OF MAKING SAME

Heinz B. Arnold, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Continuation of abandoned application Ser. No. 169,133, Jan. 26, 1962. This application Apr. 2, 1965, Ser. No. 445,226
20 Claims. (Cl. 260-2.2)

1. A curable composition of matter consisting essentially of (1) a diglycidyl ether of a polyalkylene glycol having the formula



where R is an alkylene radical having from 2-5 carbon atoms and n is an integer of from about 1 to about 50 and (2) a fatty guanamine selected from the group consisting of



where R_1 is an aliphatic hydrocarbon group containing from 4 to 21 carbon atoms and R_2 is the hydrocarbon group of dimerized unsaturated fatty acids of from 5 to 22 carbon atoms, the guanamine being present in an amount sufficient to cure the diglycidyl ether to an infusible, insoluble polymer.

3,344,090

VINYL ANTHRAQUINONE REDOX-RESINS AND A PROCESS FOR THEIR PRODUCTION

Georg Manecke, Berlin-Dahlem, and Winfried Storck, Berlin-Steglitz, Germany, assignors to Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V., Göttingen, Germany, a corporation of Germany
No Drawing. Filed July 30, 1963, Ser. No. 298,550
Claims priority, application Germany, Aug. 22, 1962, M 53,981
18 Claims. (Cl. 260-2.2)

1. A process for the production of cross-linked resins from vinyl anthraquinones comprising polymerizing (a) a 2-vinyl anthraquinone or a 1-vinyl anthraquinone component with (b) a copolymerizable aromatic monovinyl compound in the presence of (c) a cross-linking aromatic polyvinyl monomer, the polymerization step being effected in dimethyl-sulfoxide at a temperature of about 100° C. to about 200° C., and recovering the resulting cross-linked insoluble resin from the polymerization medium.

3,344,091

PROCESS FOR CONVERTING SCRAP POLYESTER INTO ACTIVE PREPOLYMER PARTICLES FOLLOWED BY POWDER BUILD-UP TO HIGH MOLECULAR WEIGHTS

Nicholas C. Russin and Charles J. Kibler, Kingsport, Tenn., and Kenneth T. Barkey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 19, 1965, Ser. No. 457,216
10 Claims. (Cl. 260-2.3)

1. A process for preparing a built-up linear condensation polyester of a glycol having from 2 to 8 carbon atoms

and an aromatic dicarboxylic acid, said built-up polyester having a molecular weight of at least 14,000 comprising (I) mixing the following constituents under an inert atmosphere at an elevated temperature

- one mole proportion of scrap linear condensation polyester of said glycol and said aromatic dicarboxylic acid having a molecular weight in the range of from about 2,500 to about 150,000 said moles being calculated on the basis of the molecular weight of each repeating unit in said scrap polyester, said scrap polyester being substantially free of surface coatings and when a solid, being in the form of small pieces having at least one dimension less than about 0.2 inch,
- from zero to about 10 mole proportions of a dialkyl ester of said aromatic dicarboxylic acid, said alkyl radicals containing from about 1 to 6 carbon atoms,
- an amount between about 0.05 and about 25 mole proportions of said glycol, said amount being at least as great as the amount of said dialkyl ester,

said elevated temperature being in the range of from 25° C. less than, up to 50° C. more than the boiling point of said glycol, whereby all of said scrap polyester is dissolved and substantially all of the alkanol from said dialkyl ester is removed, thereby resulting in a composition composed of bis(glycol) esters of said aromatic dicarboxylic acid and low polymers thereof having a degree of polymerization of less than about 10 on the average,

(II) heating said resulting composition and substantially completely removing that portion of said glycol vaporized by said heating, thereby forming a prepolymer having a molecular weight of from about 2,500 to about 12,000, said heating being performed under an inert atmosphere with at least the latter part of said heating being performed under a substantial vacuum,

(III) forming said prepolymer into solid particles of a size substantially passing through a 20-mesh screen, and

(IV) heating said particles of prepolymer with agitation in an inert atmosphere, whereby said particles remain substantially free-flowing, at a temperature of from about 10° C. below, to about 90° C. below, the crystalline melting point of said prepolymer, until said built-up polyester is obtained.

3,344,092

FOAMABLE STYRENE POLYMER COMPOSITIONS CONTAINING A MIXTURE OF A CARBONATE AND A BICARBONATE AS BLOWING AGENTS

Frank Eugene Pavuk, Aliquippa, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Apr. 22, 1965, Ser. No. 450,164
8 Claims. (Cl. 260-2.5)

1. A method of producing a foam structure having small, uniform cells comprising:

- homogeneously admixing a styrene polymer with a solid organic acid having at least about 3.0 milliequivalents of acidic hydrogen per gram and a synergistic carbon dioxide liberating agent combination, said combination comprising a bicarbonate selected from the group consisting of alkali and alkaline earth bicarbonates and a carbonate selected from the group consisting of alkali and alkaline earth carbonates in which the ratio of weight percent carbonate to bicarbonate ranges from about 1:2 to 3:2 and thereafter
- simultaneously foaming and extruding said mixture to produce a foam structure.

3,344,093

RESINOUS COMPOSITION AND METHODS OF MAKING AND FOAMING THE SAME

Samuel W. Strickman, Bayside, N.Y., assignor to Rosen and Strickman, Newark, N.J., a copartnership composed of Jacobi J. Rosen and Samuel W. Strickman
Original application Oct. 29, 1963, Ser. No. 319,911, now Patent No. 3,261,895, dated July 19, 1966. Divided and this application Dec. 2, 1965, Ser. No. 511,206
6 Claims. (Cl. 260—2.5)

1. A heat foamable plastisol mix consisting essentially of
- (a) a finely divided particulate resin selected from the group consisting of vinyl chloride homopolymers and copolymers;
 - (b) a plasticizing amount of a plasticizer for (a);
 - (c) an effective amount of an alkali metal perborate capable of releasing sufficient oxygen at temperatures above about 200° F. to foam said plastisol and expand the same to at least about 3 times its original volume;
 - (d) an effective amount of an acidic component having an acidity as to (c) sufficient to facilitate the decomposition thereof; and
 - (e) an effective amount of a finely divided solid particulate component which first adsorbs oxygen and controllably releases the adsorbed oxygen at the foaming temperature of the plastisol at a rate which produces a stable cellular foam.

3,344,094

DRY MIX FRICTION MATERIAL COMPRISING BUTADIENE ACRYLONITRILE RUBBER, PHENOL FORMALDEHYDE RESIN AND FILLER

Charles Louis Ernest de Gaugue, Califon, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,174
6 Claims. (Cl. 260—5)

1. A dry mix prepared friction material of improved wear life consisting essentially of, in approximate percentages by weight:

	Percent
Phenol-formaldehyde thermosetting resin	7 to 12
Butadiene acrylonitrile rubber	3 to 8
Sulfur	0 to 3
Zinc oxide	1 to 6
Carbon black	1 to 3.5
Graphite	1 to 3.5
Copper based alloy	2 to 8
Barytes	5 to 10
Tire peelings, ground	5 to 10
Hard rubber friction particles	15 to 35
Asbestos fiber	20 to 40

3,344,095

RESIN BONDED MAGNESIUM OXYCHLORIDE CEMENT COMPOSITION

Burl E. Bryant, Denton, and Warren E. Bodiford, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 18, 1965, Ser. No. 433,814
21 Claims. (Cl. 260—9)

1. The method of imparting flexibility and crack- and impact-resistant strength properties to a magnesium oxychloride article which comprises: (1) admixing, with MgO and MgCl₂ in aqueous solution in the proportion of between about 2 and about 7.5 parts of MgO per 100 parts of MgCl₂ by weight, between about 1% about 20% of dextrin, based on the weight of MgO present; (2) reacting the mixture so made at a temperature at least as high as room temperature, accompanied by stirring, until a slurry of elongated magnesium oxychloride fibrils con-

taining the dextrin forms, and thereafter discontinuing stirring to permit a precipitate of the fibrils to settle; (3) separating the elongated fibrils of magnesium oxychloride containing the dextrin, so made; (4) admixing with the fibrils between about 5% and about 75%, by weight thereof, of a resin selected from the class consisting of monomeric styrene together with a polymerization catalyst therefor, polystyrene dissolved in an organic solvent, and a liquid epoxy resin having a hardening agent admixed therewith which converts an epoxy resin to an infusible solid upon standing; (5) subjecting the resulting composition to a temperature of between about room temperature and about 200° C. for a time sufficient to convert the resin present to an infusible solid thereby providing a high strength crack-resistant article composed of interlocking matrices, one of the magnesium oxychloride fibrils and the other of the cross-linked resin.

3,344,096

FAST CURING FLUIDIZED BED COATING COMPOSITION

Joseph P. Manasia, Union, and Roy A. Allen, Iselin, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 23, 1963, Ser. No. 332,943
7 Claims. (Cl. 260—18)

1. A fluidizable, heat-curable polyepoxide coating composition possessing fast-cure properties consisting essentially of a blended powder having an average particle size between 5 and 600 microns, said blended powder comprising from 50 to 80 parts by weight of a solid pulverizable epoxy resin having from 5 to 20 parts by weight of a vic-epoxy equivalency greater than 1.0, from 0.1 to 5 parts by weight per one hundred parts of the epoxy resin of a benzophenone tetracarboxylic dianhydride and a stannous salt of a monocarboxylic acid.

6. A fluidizable, heat-curable polyepoxide coating composition possessing fast-cure properties consisting essentially of a blended powder having an average particle size between 50 and 300 microns, said blended powder comprising from 65 to 75 parts by weight of a glycidyl polyether of 2,2-bis(4-hydroxyphenyl)propane having a molecular weight of from 900 to 1500 and an epoxide value of from 0.10 to 0.20 eq./100 g., from 8 to 15 parts by weight of 3,3',4,4'-benzophenone tetracarboxylic dianhydride and from 0.5 to 2.0 parts by weight of stannous octoate.

3,344,097

COATING COMPOSITIONS COMPRISING ALKYL-OLATED ACRYLAMIDE-OTHER VINYL MONOMER-DRYING OIL INTERPOLYMERS

Harold H. Flegenheimer, Newark, N.J., assignor, by mesne assignments, to Celanese Coatings Company, a corporation of Delaware
No Drawing. Filed Feb. 3, 1964, Ser. No. 342,250
12 Claims. (Cl. 260—21)

1. An interpolymers of:
- (1) an N-alkoxymethyl acrylamide wherein the alkoxy portion of the N-alkoxymethyl moiety has less than 10 carbon atoms,
 - (2) from 5 to 60% by weight, based on the weight of said interpolymers, of a material selected from the group consisting of natural drying oils, natural semi-drying oils, dehydrated castor oil-pentaerythritol reaction product, linseed fatty acid ester of pentaerythritol, cyclopentadiene modified linseed oil, and styrenated natural drying oil, said material containing polymerizable ethylenic unsaturation and said material being interpolymerized through said polymerizable ethylenic unsaturation, and
 - (3) at least one other vinyl monomer copolymerizable with said (1) and (2).

3,344,098

METHOD OF MAKING A CHROMOGEN BONDED POLYMER AND PRODUCTS THEREOF

Shojiro Horiguchi, Tokyo, and Michiel Nakamura, Urawa-shi, Japan, assignors to Dainichiseika Color & Chemicals Mfg. Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation of applications Ser. No. 232,614, Oct. 23, 1962, and Ser. No. 303,413, Aug. 20, 1963. This application Jan. 19, 1965, Ser. No. 427,215

Claims priority, application Japan, Oct. 31, 1961, 36/38,872; May 6, 1963, 38/22,546
33 Claims. (Cl. 260—22)

21. A method of making a chromogen-bonded-polymer comprising mixing diazotized tetra-(4-amino) copper phthalocyanine green with methylmethacrylate, ethylacrylate and glycidyl methacrylate, copolymerizing said methylmethacrylate, ethylacrylate and glycidyl methacrylate said diazotized copper phthalocyanine green being used as the polymerization initiator to form said chromogen-bonded-polymer and reacting said polymer with glycerine, linseed oil and phthalic acid to produce an alkyl resin type solution of said polymer.

3,344,099

GASKET-FORMING NON-SETTLING SOLVENT-BASED RUBBER COMPOSITIONS CONTAINING LECITHIN

Gerald F. Cahill, Belmont, and Irving J. Arons, West Peabody, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
No Drawing. Filed Dec. 21, 1964, Ser. No. 420,125
10 Claims. (Cl. 260—23.7)

1. A gasket-forming composition consisting essentially of 100 parts by weight of a peptized elastomeric polymer of 2-chloro-1,3-butadiene dissolved in a volatile organic solvent, a curing agent for said polymer, between 80 and 300 parts by weight of an inorganic filler, and between about 1.5 and 2.0 parts by weight of lecithin per 100 parts by weight of filler, the total solids concentration of said composition ranging between about 50 and 65% by weight.

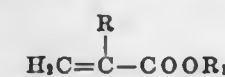
3,344,100

EMULSION POLYMERIZATION USING WATER INSOLUBLE METAL SALTS OF FATTY ACIDS

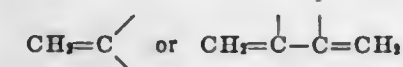
Frank J. Donat, Cleveland, and Edwin H. Baker, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Filed July 28, 1965, Ser. No. 475,584
The portion of the term of the patent subsequent to Jan. 26, 1982, has been disclaimed and dedicated to the Public

15 Claims. (Cl. 260—23.7)

1. The method for preparing polyacrylic ester resins in latex form which comprises polymerizing monomers containing at least 60% by weight of at least one acrylic ester having the structure



wherein R is a member selected from the group consisting of hydrogen, methyl and halogen and R₁ is an alkyl group having from 1 to 18 carbon atoms and up to 40% by weight of one or more other vinyl monomer copolymerizable with said acrylic ester and containing a grouping of



at a temperature below 100° C., with low shear stirring to form resin composed of a family of spherical, uniform size particles having a diameter within the range of 0.01 to 10 microns, in a sufficient amount of water to provide emulsifying conditions for said monomer and resulting

resin, the amount of water being at least about 75 percent by weight of the total weight of water and monomers combined in the presence of a free-radical catalyst, and from 0.01 to 5 parts per 100 parts of monomers of an insoluble metallic soap as the sole emulsifying agent which is the salt of a fatty acid having from 8 to 22 carbon atoms and a polyvalent metal.

3,344,101

ASPHALT-COPOLYMER PAPER LAMINATING COMPOSITION

Joseph C. Roediger, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 11, 1963, Ser. No. 294,235
3 Claims. (Cl. 260—28.5)

1. A laminating composition for paper consisting essentially of a major proportion of an asphalt having a softening point of 150 to 210° F., and which tends to be brittle and to delaminate upon cracking of treated paper, and 5 to 20 wt. percent of a wax-copolymer masterbatch comprising from 40 to 80 wt. percent of a petroleum wax selected from the group consisting of paraffin wax of 120 to 160° F. melting point and blends of 80 to 99 wt. percent of said paraffin wax and 1 to 20 wt. percent of microcrystalline wax, said blends melting in the range of 150 to 180° F., and from 20 to 60 wt. percent of a copolymer capable of inhibiting said delamination upon cracking of said paper having in the range of from 50 to 99 wt. percent ethylene and from 1 to 50 wt. percent of a vinyl ester of a fatty acid having from 2 to 5 carbon atoms.

3,344,102

AQUEOUS ZINC CHLORIDE SOLUTIONS OF VINYLENE GLYCOL POLYMERS

William A. H. Huffman, deceased, late of Durham, N.C., by Ernestine H. Huffman, executrix, Nashville, Tenn., and John B. Clements, Chapel Hill, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 1, 1965, Ser. No. 510,988
3 Claims. (Cl. 260—29.6)

1. Essentially linear, water insoluble polymers of vinylene glycol which contain recurring —CHOH—CHOH— linkages dissolved in an aqueous solution of zinc chloride.

3,344,103

SELF CURING SYNTHETIC LATICES

Gorman E. Eilbeck, Elyria, and Robert Y. Garrett, Avon Lake, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,096
1 Claim. (Cl. 260—29.7)

An aqueous synthetic latex inherently stable against coagulation at normal temperature and being especially adapted for saturation and impregnation of paper and textiles without addition thereto of curing agents, having about 40 to 60 percent total solids content, and prepared by interpolymerizing in aqueous emulsion a monomer mixture consisting of the following ingredients, totaling 100 percent of said mixture:

- (1) 50 to 99.8 percent by weight of butadiene-1,3,
- (2) 0 to 49.8 percent by weight of a monomer copolymerizable with butadiene-1,3 and selected from the group consisting of styrene and acrylonitrile,
- (3) 0.1 to about 10 percent by weight of a carboxylic monomer selected from the group consisting of acrylic acid and methacrylic acid, and
- (4) 0.1 to about 3 percent by weight of an unsaturated amide selected from the group consisting of N-methylol acrylamide and N-methylol methacrylamide.

3,344,104

ALDEHYDE AND KETONE HEAT-SENSITIVE CURABLE ORGANOSILICON COMPOSITIONS

James Franklin Hyde, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,769
39 Claims. (Cl. 260—32.8)

2. A composition of matter consisting essentially of (1) a hydroxyl endblocked essentially diorganopolysiloxane having a viscosity of at least 25 cs. at 25° C. wherein the organic radicals attached thereto are selected from the group consisting of hydrogen atoms, monovalent hydrocarbon radicals, monovalent halohydrocarbon radicals and cyanoalkyl radicals, (2) a silicate selected from the group consisting of (a) silanes of the formula



wherein R' is selected from the group consisting of hydrogen atoms, monovalent hydrocarbon radicals, monovalent halohydrocarbon radicals and cyanoalkyl radicals, R is selected from the group consisting of monovalent hydrocarbon radicals, monovalent halohydrocarbon radicals and $-CH_2CH_2OR''$ radicals wherein R'' is an alkyl radical of from 1 to 6 inclusive carbon atoms, and n has a value of from 0 to 2 inclusive, and (b) liquid partial hydrolyzates of the above said silanes, and (3) an organic carbonyl compound selected from the group consisting of aldehydes and ketones.

3,344,105

EPDM RUBBER COMPATIBLE IN CURE WITH DIENE RUBBERS

Everett T. McDonel, Brecksville, and Parviz Hamed, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,417
3 Claims. (Cl. 260—33.6)

1. An adhesive composition for bonding EPDM rubbers to unsaturated diene rubbers comprising a blend of 50 to 100 parts unsaturated diene rubber selected from the group consisting of natural rubber, styrene-butadiene rubber, cis-polybutadiene and cis-polyisoprene and 0 to 50 parts EPDM polymer, 50 to 80 phr. carbon black, 5 to 10 phr. zinc oxide, 1 to 5 phr. organic peroxide selected from the class comprising those organic peroxides that decompose above 100° F., and 2 to 12 phr. acrylic monomer selected from the class consisting of acrylic acid, methacrylic acid, alkyl acrylates and methacrylates containing alkyl groups having 1 to 12 carbon atoms, and metal salts of acrylic acid and methacrylic acid, said metal salts being selected from the group consisting of zinc, cadmium, calcium, magnesium, sodium, and aluminum.

3,344,106

FILLED ORGANOPOLYSILOXANE COMPOSITIONS OF REDUCED STRUCTURE

Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,172
3 Claims. (Cl. 260—37)

1. A composition of matter characterized by reduced structure and low knit time which comprises (1) an organopolysiloxane convertible to the cured, solid, elastic state and containing an average of from 1.95 to 2.05 organic groups per silicon atom, (1) from about 10 to 200%, by weight, based on the weight of said organopolysiloxane, of a structure inducing reinforcing silica filler, and (3) from about 0.10 to 10%, by weight, based on the weight of said organopolysiloxane, of sym-tetra-phenyldisilanediol.

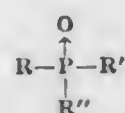
3,344,107

REINFORCED POLYAMIDES CONTAINING PHOSPHORUS COUPLING AGENTS AND PROCESSES THEREFOR

Robert E. Miller, St. Louis County, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,630
12 Claims. (Cl. 260—37)

1. A reinforced polymeric composition comprising a synthetically produced polyamide and from about 5 to about 95% by weight reinforcing agent, said reinforcing agent having been treated with a phosphorus-containing compound of the formula



where R is selected from the group consisting of halogen, hydroxyl, hydrocarbyloxy, and hydrocarbyl carboxylate radicals; where R' is a polymer-reactive radical selected from the group consisting of hydrogen, alkenyl, amino, amido, ureido, epoxy, isocyanato, hydrocarbyloxycarbonyl, acyl and acyloxy radicals; and where R'' is a radical selected from the group consisting of R, R', and hydrocarbyl radicals, at least 50% of said reinforcing agent being an inorganic material having an alkaline surface or a capability to acquire an alkaline surface upon treatment with a base.

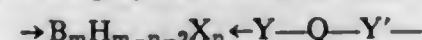
3,344,108

POLYMERIC POLYHEDRAL BORANE COMPLEXES

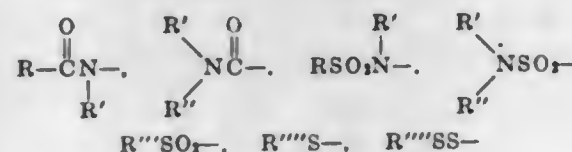
William C. Drinkard, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 23, 1963, Ser. No. 318,447
22 Claims. (Cl. 260—47)

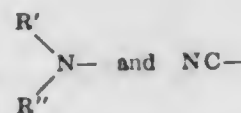
2. A polyboron polymer having the recurring structure



wherein X is a group selected from the class consisting of halogen and aliphatically saturated hydrocarbyl; m is a cardinal number selected from the class consisting of 10 and 12; n is a cardinal number of from 0 to m-2, inclusive; Y and Y' each are selected from the class consisting of



and when m is 10,



wherein R and R' each are selected from the class consisting of hydrogen and aliphatically saturated hydrocarbyl, and taken together is an alkylene radical, R'' is of the class consisting of hydrogen and aliphatically saturated hydrocarbyl bonded through aliphatic carbon, R''' is aliphatically saturated hydrocarbyl, and R'''' is of the

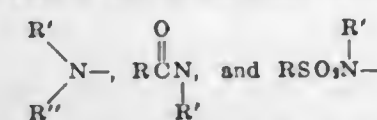
class consisting of aliphatically saturated hydrocarbyl and substituted aliphatically saturated hydrocarbyl; and Q is selected from the class consisting of

- (a) when Y and Y' are R''''S, a divalent hydrocarbyl group free of acetylenic and allenic unsaturation, (b) when Y and Y' are any of the nine groups defining Y and Y' other than R''''S, a divalent hydrocarbyl group free of aliphatic unsaturation which can be interrupted by an oxygen atom, (c) when m is 10 and Y and Y' are R''''S, a divalent hydrocarbyl group free of acetylenic and allenic unsaturation which can be interrupted by up to four groups of the class consisting of



wherein R' is of the class consisting of hydrogen and lower alkyl, and

- (d) when Y and Y' are of the class consisting of



a divalent alkylene group in which R' of Y and R' of Y' may be joined to form a divalent alkylene group, and the R'' of Y and the R'' of Y' may be joined to form a divalent alkylene group.

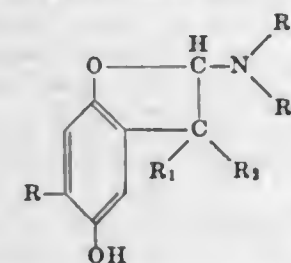
3,344,109

AGE RESISTERS AND STABILIZED RUBBER COMPOSITIONS CONTAINING SAME

Kurt Ley, Helmut Walz, and Wolfgang Redetzky, Leverkusen, and Helmut Freytag, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 18, 1966, Ser. No. 550,899
Claims priority, application Germany, Mar. 28, 1962, F 36,401
8 Claims. (Cl. 260—45.8)

1. As a new composition of matter, natural rubber or a synthetic diene rubber which is stabilized against discoloration from exposure to light by the incorporation therein of about 0.5-5% by weight, based on the rubber, of a compound of the formula



wherein R is hydrogen, lower alkyl, phenyl, alkyl-phenyl, or alkoxy-phenyl; R₁ and R₂ are hydrogen or lower alkyl, or are connected together to form a carbocyclic ring; and wherein R₄ and R₅ may be connected to each other through polymethylene groups or through a heterocyclic ring containing an O atom or another N atom.

3,344,110

POLYVINYL CHLORIDE STABILIZED BY SILAZANES

Nathaniel Willis, Chicago, Ill., assignor, by mesne assignments, to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,757
3 Claims. (Cl. 260—45.9)

1. A composition comprising polyvinylchloride resin, a plasticizer for said resin and per 100 parts by weight of said resin from about 2 to about 4 parts by weight of the silazane reaction product of ammonia and a mixture of from about 20 to about 80 molar percent of a halosilane

having the formula R_2SiHal_2 , and the balance of said mixture being a halosilane having the formula $RSiHal_2$ in which formulae Hal is a member of the halogen group and R is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and aryl wherein the ammonia becomes an amino substituent replacing one or more of the halogen substituents on the silicon atom said reaction conducted at temperatures near 0° C. in an inert solvent.

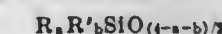
3,344,111

PREPARATION OF STABLE COPOLYMERIZABLE ORGANOSILICON COMPOSITIONS CONTAINING A PLATINUM CATALYST AND AN ACRYLONITRILE TYPE COMPOUND

Alan J. Chalk, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,525
18 Claims. (Cl. 260—46.5)

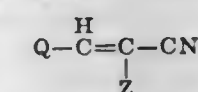
1. The process for reducing the activity of a platinum catalyst effective to cause copolymerization of a mixture of copolymerizable ingredients comprising (a) an olefinic polysiloxane having the formula



and, (b) a hydrogen polysiloxane having units of the formula

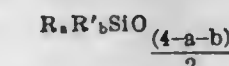


which process comprises incorporating in the platinum-containing mixture of ingredients a nitrile compound corresponding to the formula

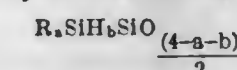


where R is a member selected from the class of radicals consisting of alkyl, aryl, aralkyl, alkaryl, halogenated aryl, cyanoalkyl radicals, and mixtures of such radicals, R' is an organic radical selected from the class consisting of vinyl, allyl, methallyl, butenyl, and ethynyl radicals, Q is a member selected from the class consisting of hydrogen and monovalent hydrocarbon radicals, and Z is a member selected from the class consisting of halogens, hydrogen, and monovalent hydrocarbon radicals, and a has a value from 0 to 3, inclusive, b has a value from 0.005 to 2.0, inclusive, and the sum of a+b is equal to from 0.8 to 3, inclusive.

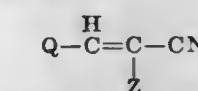
11. A composition stabilized against premature gelation comprising (a) an olefinic polysiloxane having units of the formula



(b) a hydrogen polysiloxane having units of the formula



(c) a platinum catalyst effective to cause copolymerization of (a) and (b) and (d) a nitrile compound corresponding to the formula



where R is a member selected from the class of radicals consisting of alkyl, aryl, aralkyl, alkaryl, halogenated aryl, cyanoalkyl radicals and mixtures of such radicals, R' is an organic radical selected from the class consisting of vinyl, allyl, methallyl, butenyl, and ethynyl radicals, and alkaryloxy radicals, Q is a member selected from the class consisting of hydrogen and monovalent hydrocarbon radicals, and Z is a member selected from the class consisting of halogens, hydrogen, and monovalent hydrocarbon radicals, a has a value from 0 to 3, inclusive, b has a value from 0.005 to 2.0, inclusive, and the sum of a+b is equal to from 0.8 to 3, inclusive.

3,344,112

POLYMERIC COMPOSITIONS CONTAINING BIS(2-BROMOETHYL)-2-CHLOROETHYL PHOSPHATE

Gail H. Blum, Kirkwood, Mo., James L. Schwendeman, Dayton, Ohio, and Richard M. Anderson, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,681
8 Claims. (Cl. 260-45.7)

1. An organic material comprising a polymer selected from the group consisting of natural and synthetic, linear and cross-linked polymers in contact with up to an equal amount based on the weight of the total composition of bis(2-bromoethyl) 2-chloroethyl phosphate.

3,344,113

STABILIZED POLYOLEFIN COMPOSITION CONTAINING A MIXTURE OF DILAURYL, DISTEARYL, AND LAURYL STEARYL THIODIPROPIONATES

Robert Jacob Alheim, Middlesex, and Christos Savides, Piscataway Township, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,567
4 Claims. (Cl. 260-45.85)

1. A composition capable of stabilizing a polymer of a mono-alpha-olefin of 2-4 carbons, comprising a mixture of dilauryl, distearyl and lauryl stearyl thiodipropionates wherein the lauryl moiety constitutes from 10-90 mole percent of the total ester moieties, the mixture being characterized by a weight percent of lauryl stearyl thiodipropionate substantially the same as the weight percent of the latter in any esterification product resulting from the reaction of thiodipropionic acid with a stoichiometric amount of a mixture of lauryl and stearyl alcohols having between about 10 and 90 percent lauryl alcohol.

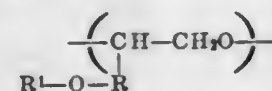
3,344,114

POLYMERS OF ARYL EPOXY ETHERS

Thomas B. Gibb, Jr., Murray Hill, and Robert A. Clendinning, New Providence, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 16, 1963, Ser. No. 316,533
18 Claims. (Cl. 260-47)

1. A thermoplastic polymer, characterized by a melting point in excess of about 215° C. and a reduced viscosity of at least about 0.5, consisting essentially of repeating units of the formula:



where R is a divalent saturated aliphatic hydrocarbon radical and R¹ is an aryl hydrocarbon radical having at least two aromatic hydrocarbon rings and having 10 to 24 carbon atoms inclusive.

3,344,115

OPTICAL BRIGHTENING OF A POLYESTER BY INCORPORATING 2,5-DIMETHOXY TEREPHTHALIC ACID THEREIN

Walter Rein, Obernburg am Main, Germany, assignor to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany

No Drawing. Filed Nov. 13, 1963, Ser. No. 323,207
Claims priority, application Germany, Nov. 20, 1962, V 23,304

10 Claims. (Cl. 260-47)

1. An optically brightened linear fiber-forming polyester of the components consisting essentially of

(A) a monomeric reactant selected from the group consisting of terephthalic acid, isophthalic acid,

naphthalene-1,4-dicarboxylic acid, naphthalene-1,6-dicarboxylic acid and their lower alkyl esters,
(B) a glycol, and
(C) as an optical brightener, from about 0.01 up to 5% by weight, with reference to the polyester, of a monomeric reactant selected from the group consisting of 2,5-dimethoxy-terephthalic acid and its lower alkyl esters.

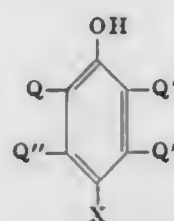
3,344,116

PROCESS FOR THE FORMATION OF POLYPHENYLENE OXIDES

Willem F. H. Borman, Dalton, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,663
4 Claims. (Cl. 260-47)

1. A process for forming self condensation products of phenols having the structural formula:



wherein Q is a monovalent substituent selected from the group consisting of hydrogen, hydrocarbon radicals, halo-hydrocarbon radicals having at least two carbon atoms between the halogen atom and phenol nucleus, hydrocarbonoxy radicals and halo-hydrocarbonoxy radicals having at least two carbon atoms between the halogen atom and phenol nucleus, Q' and Q'' are the same as Q and in addition, halogen, and X is a member selected from the group consisting of hydrogen and a halogen which comprises reacting the phenol with a halogen in the presence of a catalyst comprising a solution of a primary, secondary or tertiary amine, basic cupric salt complex in which the said phenol is soluble.

3,344,117

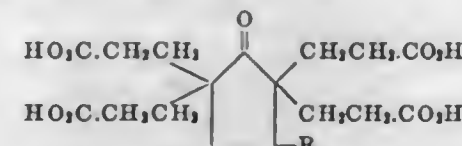
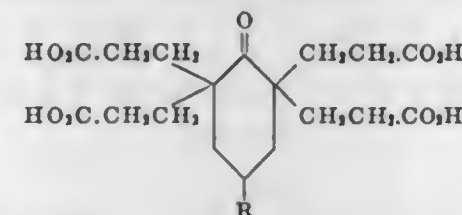
CURING PROCESS FOR EPOXY RESINS

William Randall Bamford, West Kilbride, and Hector MacDonald McCaa, Saltcoats, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 14, 1965, Ser. No. 455,986
Claims priority, application Great Britain, May 27, 1964, 21,960/64

7 Claims. (Cl. 260-47)

1. A process for curing an epoxy resin having 1,2 epoxide groups wherein the curing agent comprises a compound of the general formula



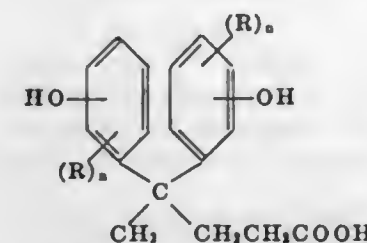
or an anhydride or an alkyl ester or partial ester thereof wherein R is hydrogen or a hydrocarbon radical.

3,344,118

POLYAMIDE-FORMALDEHYDE CONDENSATE
Robert V. Smith, Racine, Wis., assignor, by mesne assignments, to Emery Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 13, 1964, Ser. No. 411,112
5 Claims. (Cl. 260-51)

1. The resinous polymeric condensation products of formaldehyde and a 4,4-bis(hydroxyaryl) pentanoic acid terminated amide-ester, said amide-ester being the reaction product of dibasic acid, an alkanolamine and substantially completely terminated with 4,4-bis(hydroxyaryl) pentanoic acid, said pentanoic acid having the structure:



wherein R is a member of the group consisting of lower alkyl, and n is a number selected from the group consisting of 0, 1, and 2, with the hydroxyl groups being attached to the 4 position of the ring structure when n is 0.

3,344,119

PRODUCTION OF POLYOXYMETHYLENES

Otto Schweitzer, Königstein, Taunus, and Wilhelm Querfurth, Oberursel, Taunus, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,768
Claims priority, application Germany, July 23, 1960, D 33,842

4 Claims. (Cl. 260-67)

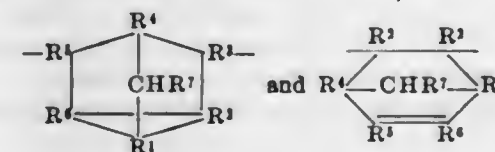
1. In a process for the polymerization of monomeric water free formaldehyde in an inert organic solvent in the presence of a redox system catalyst composed of di-tertiary butyl peroxide as oxidizing component and tri-n-butyl amine as reducing component to produce polyoxymethylenes, the step which comprises carrying out said polymerization in the presence of a salt of an organic acid containing at least 5 carbon atoms selected from the group consisting of fatty acids, naphthenic acids and abietic acid with a metal selected from the group consisting of magnesium, calcium and strontium dissolved in such inert organic solvent, the quantity of said salt being 0.01 to 10 millimol per liter of inert solvent used as the reaction medium and the quantity of redox catalyst system employed being 0.01 to 10% based on the solvent employed, the ratio of oxidizing component in said system being 0.5 to 2.5 mol per mol of reducing component.

3,344,120

TRIOXANE-NORBORNADIENE COPOLYMERS
Irving Rosen, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

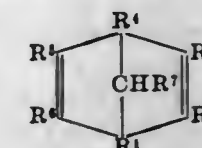
No Drawing. Filed Apr. 19, 1965, Ser. No. 449,271
13 Claims. (Cl. 260-73)

1. A normally solid thermoplastic copolymer having a high degree of thermal stability comprising essentially from about 90 up to 99.9 percent of recurring oxymethylene units and from about 0.1 up to 10 percent of recurring units derived from a norbornadiene monomer, said units having at least one structure selected from the group consisting of



wherein R¹ to R⁴ are each selected from the group consisting of hydrogen and lower alkyl radicals having up to 4 carbon atoms, with no more than one R being an alkyl radical.

6. A process for preparing a copolymer composition having a high degree of thermal stability which comprises reacting in an inert atmosphere under substantially anhydrous conditions at a temperature in the range of about 30° to 100° C. for a time period of from 30 minutes to 20 hours and in the presence of from 0.05 to about 10 millimols per mol of trioxane of a polymerization catalyst selected from the group consisting of halides of aluminum, boron, tin, titanium, zirconium, strontium, and niobium and coordinate complexes of such metal halides with organic compounds where oxygen, nitrogen, or sulfur is the donor atom, a mixture comprising, as the major constituent, trioxane and as the minor constituent, a norbornadiene monomer having the structure



wherein R¹ to R² are each selected from the group consisting of hydrogen and lower alkyl radicals having up to 4 carbon atoms with no more than one R being an alkyl radical; and recovering a solid copolymer containing from about 90 up to 99.9 percent of recurring oxymethylene units and from about 0.1 up to 10 mol percent of recurring units derived from the said norbornadiene monomer.

3,344,121

ELASTIC THERMOPLASTIC POLYESTERURETHANES PREPARED FROM (A) A POLYESTER, (B) AN ALIPHATIC DIISOCYANATE, (C) A DIOL, AND OPTIONALLY (D) A TRIOL IN A CHLORINATED AROMATIC SOLVENT

Jean Auguste Phelisse, Michel Marie Roland Salmon, and Jean Fleury Marius Varagnat, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed May 6, 1964, Ser. No. 365,523
Claims priority, application France, May 7, 1963, 933,942, Patent 1,368,153

8 Claims. (Cl. 260-75)

1. Thermoplastic elastomeric polyester urethanes which are stable in the molten state, capable of being melt spun, and resistant to discoloration under the action of light, and which are obtained by condensation in a chlorinated aromatic solvent of (a) one molecular proportion of at least one polyester with terminal hydroxyl groups and a molecular weight of 1200 to 5000, obtained by condensation of at least one aliphatic dibasic acid having 4 to 12 carbon atoms with at least one diol having 2 to 10 carbon atoms, and (b) 2 to 4 molecular proportions of at least one diol in which the hydroxyl groups are primary and which has more than 3 carbon atoms, with (c) an aliphatic diisocyanate in amount such that the number of isocyanato groups is equivalent to the number of hydroxyl groups present in the mixture of (a)+(b), and separating the polyester urethane formed from the solvent.

3,344,122

MODIFIED AROMATIC POLYAMIDE RESIN
Mahon J. Perrine, Seattle, and Douglas C. Babcock, Bellevue, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

No Drawing. Filed Mar. 15, 1963, Ser. No. 265,357
3 Claims. (Cl. 260-78.5)

1. The method of making a cationic, water soluble, thermosetting resin comprising:
forming a pre-polymer by reacting about 1 mole of isophthalic acid with about 2 moles of primary amine

groups present as a mixture of diethylene triamine and triethylene tetramine, said reaction being conducted within a temperature range between about 160° C. and 220° C. while simultaneously distilling water from the pre-polymer, continuing the reaction within said temperature range until the intrinsic viscosity of the pre-polymer is between about 0.090 and 0.150, terminating the reaction by cooling the pre-polymer to below about 160° C., partially reacting said cooled pre-polymer with a cross-linking agent to form a thermosetting resin, said cross-linking agent comprising the water soluble aqueous reaction product of from 2 to 3 moles of epichlorohydrin with 1 mole of ammonia, said reaction being conducted within a temperature range of about 55° C. to 80° C., and terminating the cross-linking reaction while the resin is in a water soluble state by cooling the resin below about 40° C.

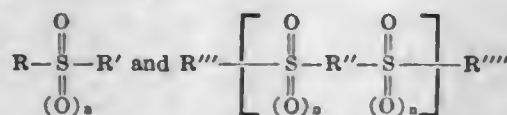
3,344,123

CROSSLINKING POLYMERS WITH A HALOGENATED SULFUR COMPOUND

George E. Serniuk, Roselle, and John Rehner, Jr., and Peter E. Wel, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,900
17 Claims. (Cl. 260—79.3)

1. A method of crosslinking a hydrocarbon polymer containing a substantial number of alpha olefin units which comprises mixing said polymer with a halogenated sulfur compound having the general formula selected from the group consisting of:



wherein "n" is 0 or 1, and R, R', R'', R''' and R'''' are selected from the group consisting of perhalogenated hydrocarbon and perhalogenated oxyhydrocarbon groups having from 1 to 20 carbon atoms and heating the mixture until crosslinks are formed in the polymer.

3,344,124

MORPHOLINIUM QUATERNARY MODIFIER FOR USE ON PREFORMED POLYMERIC STRUCTURES

Jack J. Press, 12-18 E. Laurelton Parkway, Teaneck, N.J. 07666

No Drawing. Filed July 20, 1964, Ser. No. 384,003
6 Claims. (Cl. 260—79.3)

1. An organic complex formed between an alkyl and alkosulfate fatty morpholinium quaternary compound and an addition polymer selected from the group consisting of polyacrylic acid homopolymer, and acrylic acid and acrylic ester copolymer, said organic complex having an ionic molar ratio of amine to acid groups between a ratio of 1:10 to 1:1.

3,344,125

PROCESS FOR CROSSLINKING A SATURATED SYNTHETIC RUBBER USING A SULFUR LIBERATING MATERIAL AND AN ORGANIC PEROXIDE

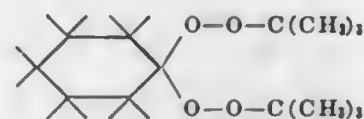
Hans G. Gerritsen, Deventer, Netherlands, assignor to Koninklijke Industriële Maatschappij Noury & Van der Lande N.V., Deventer, Netherlands, a corporation of the Netherlands

No Drawing. Filed Apr. 12, 1965, Ser. No. 447,559
Claims priority, application Netherlands, Apr. 21, 1964, 64-4,319

8 Claims. (Cl. 260—79.5)

1. A cross-linkable composition consisting essentially of a virtually saturated synthetic rubber, sulphur or a sulphur

liberating compound and an organic peroxide of the formula



in which some or all of the hydrogen atoms of the cyclohexyl nucleus in the peroxide are substituted by any one or more similar or dissimilar alkyl, cycloalkyl or alkyl-cycloalkyl radicals having 1-9 carbon atoms, the said peroxide being present in a quantity sufficient for cross-linking.

3,344,126

RESIN CROSS-LINKING IN THE PRESENCE OF AN ORGANIC MONOPEROXYCARBONATE

Eugene D. Witman, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 3, 1963, Ser. No. 284,846
12 Claims. (Cl. 260—79.5)

1. In the cross-linking of organic polymer, the improvement which comprises mixing the polymer with an organic monoperoxycarbonate in the presence of a sulfur-contributing material until cross-linking occurs to the activation temperature of the peroxycarbonate until cross-linking occurs.

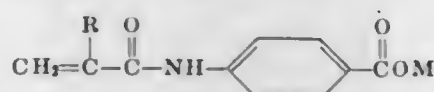
3,344,127

DYEABLE POLYMERS OF ACRYLONITRILE WITH p-ACRYLAMIDOBENZOIC ACIDS OR SALTS THEREOF

James C. Masson, Chapel Hill, N.C., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed July 30, 1964, Ser. No. 386,438
9 Claims. (Cl. 260—80.73)

1. A basic dyeable fiber-forming acrylonitrile polymer comprising at least about 80 percent by weight of acrylonitrile and from about 0.25 to about 10 percent by weight of a comonomer having the formula



wherein R is a member of the group consisting of H and methyl and M is a member of the group consisting of H and alkali metal.

3,344,128

THIOUREA DIOXIDE AS REDUCTANT IN EMULSION POLYMERIZATION

Carl A. Ura-neck, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 12, 1965, Ser. No. 447,563
6 Claims. (Cl. 260—84.1)

1. In the aqueous emulsion polymerization of a monomeric material selected from the group consisting of butadiene and an admixture of butadiene and styrene, the improvement which consists in carrying out the polymerization in the presence of 0.01 to 0.5 part of thiourea dioxide as a reducing agent, 1 to 10 parts of at least one emulsifying agent selected from the group consisting of rosin acid and fatty acid soap, 0.001 to 0.3 part p-menthane hydroperoxide as oxidant, 0.001 to 0.5 part of at least one iron salt selected from the group consisting of iron sulfate and iron nitrate, 0.005 to 1 part of a potassium compound selected from the group consisting of potassium chloride and potassium hydroxide as electrolyte and 0.001 to 1 part of the sodium salt of ethylenediamine-tetraacetic acid, all the foregoing parts being expressed as parts by weight per 100 parts by weight of monomeric material.

3,344,129

PROCESS OF HYDROLYZING VINYL ESTER-ETHYLENE COPOLYMERS

Herbert Bestian, Frankfurt am Main, and Helmut Korbanka, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 26, 1964, Ser. No. 370,346
Claims priority, application Germany, May 29, 1963, F 39,867

5 Claims. (Cl. 260—87.3)

1. A process for preparing at least partially hydrolyzed copolymers of vinyl acetate and ethylene which comprises heating a copolymer of vinyl acetate and ethylene having a molecular proportion of vinyl acetate to ethylene of lower than 1:5, in the presence of 0.01–10 percent by weight, calculated on the copolymer, of a member selected from the group consisting of a compound having an acid reaction and a compound having an alkaline reaction in aqueous solution with a primary alcohol having 4–10 carbon atoms and simultaneously distilling off the formed ester of the primary alcohol from the reaction mixture.

3,344,130

BACTERIAL FERREDOXIN

Leonard E. Mortenson, Lafayette, Ind., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 14, 1963, Ser. No. 287,775
4 Claims. (Cl. 260—115)

1. A process for preparing ferredoxin, a proteinaceous catalytic material, which comprises contacting an aqueous autolysate of anaerobic bacterial cells with an organic amine-containing anion-exchange resin, washing the adsorbent with a buffer solution having a concentration less than 0.1 molar of aqueous salt and a pH of 6 to 8, subsequently washing said adsorbent with an aqueous salt solution having an ionic strength at least equivalent to that of 0.1 molar potassium phosphate to dissolve the anionic component adsorbed thereon, and dialyzing the resulting solution, whereupon salts are removed and the desired proteinaceous catalytic material is obtained.

3,344,131

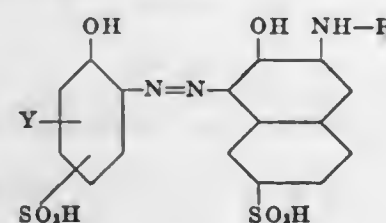
COBALT-CONTAINING REACTIVE MONOAZO DYES

Hanspeter Uehlinger, Basel, Switzerland, assignor to Sandoz Ltd., also known as Sandoz A.G., Basel, Switzerland

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,799
Claims priority, application Switzerland, Oct. 14, 1960, 11,562/60

6 Claims. (Cl. 260—146)

1. The 1:2-cobalt complex compound of a monoazo dye of the formula



wherein

R is a member selected from the group consisting of lower mono- and dihaloalkanoyl, lower alkenoyl, lower halo-alkenoyl, 4,6-dihalo-1,3,5-triazinyl-2-, 4-halo-6-amino-1,3,5-triazinyl-2-, 4-halo-6-lower alkylamino-1,3,5-triazinyl-2-, 4-halo-6-di-(lower alkyl)-amino-1,3,5-triazinyl-2-, 4-halo-6-lower hydroxyalkyl-amino-1,3,5-triazinyl-2-,

4-halo-6-di-(lower hydroxyalkyl)-amino-1,3,5-triazinyl-2-, 4-halo-6-lower alkoxyalkylamino-1,3,5-triazinyl-2-, 4-halo-6-lower carboxyalkylamino-1,3,5-triazinyl-2-, 4-halo-6-N-lower alkyl-N-lower carboxyalkylamino-1,3,5-triazinyl-2-, 4-halo-6-lower sulfo-alkylamino-1,3,5-triazinyl-2-, 4-halo-6-N-lower alkyl-N-lower sulfo-alkylamino-1,3,5-triazinyl-2-, 4-halo-6-N-lower alkyl-N-phenylamino-1,3,5-triazinyl-2-, 4-halo-6-carboxyphenylamino-1,3,5-triazinyl-2-, 4-halo-6-sulfo-phenylamino-1,3,5-triazinyl-2-, 2,4-dihalo-6-methylpyrimidyl-5-methylene, 2,4-dihalo-6-methylpyrimidyl-5-methylene, dihalopyrimidyl, trihalopyrimidyl, 5-lower alkyl-dihalopyrimidyl, 5-lower alkoxy-carbonyl-dihalopyrimidyl, 5-carboxy-dihalopyrimidyl, 5-halo-methyl-dihalopyrimidyl, and 5-carboxymethyl-dihalopyrimidyl,

halo being a member selected from the group consisting of chlorine and bromine,

Y is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, chlorine, bromine, nitro and lower alkanoylamino.

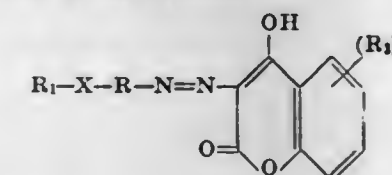
3,344,132

WATER-INSOLUBLE 4-HYDROXY COUMARIN MONOAZO DYE STUFFS

Hans-Samuel Blen and Klaus Wunderlich, Leverkusen, and Fritz Baumann, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 11, 1964, Ser. No. 343,931
Claims priority, application Germany, Feb. 22, 1963, F 39,087; Dec. 27, 1963, F 41,642
9 Claims. (Cl. 260—152)

1. A dyestuff of the formula:



wherein:

X stands for a member selected from the class consisting of —OC— and —O₂S—;
R stands for phenylene, or phenylene substituted with lower alkyl, lower alkoxy, fluorine, chlorine, bromine, trifluoromethyl, or nitro;
when X is —O₂S—, R₁ means a member taken from the class consisting of lower alkyl, amino, lower alkyl substituted amino, hydroxy lower alkyl substituted amino, lower alkoxyalkyl substituted amino, phenyl, benzyl, and phenyl substituted with lower alkyl, lower alkoxy, halogen, nitro, cyano, sulfone or methyl mercapto; and
when X is —OC—, R₁ means a member taken from the class consisting of lower alkyl, amino, lower alkyl substituted amino, hydroxy lower alkyl substituted amino, lower alkoxyalkyl, substituted amino, phenyl, benzyl, lower alkoxy, cyano substituted lower alkoxy, lower alkoxy substituted lower alkoxy, hydroxy lower alkoxy, lower alkoxy, phenyl substituted with lower alkyl, lower alkoxy, halogen, nitro, cyano, sulfone or methyl mercapto,
R₂ stands for a member taken from the class consisting of hydrogen, lower alkyl, fluorine, chlorine, bromine, lower alkoxy and phenyl, and
n stands for an integer ranging from 1 to 2; the dyestuff being free of sulfonic acid and carboxylic acid groups.

3,344,133

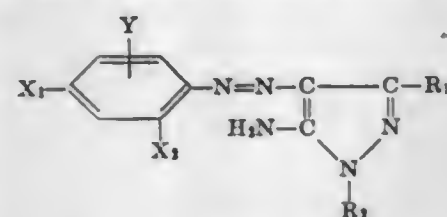
WATER-DISPERSIBLE MONOAZO DYESTUFFS
Werner Bossard, Riehen, and Francois Favre, Basel, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation of application Ser. No. 136,163, Sept. 6, 1961. This application Sept. 20, 1963, Ser. No. 310,456

Claims priority, application Switzerland, Sept. 11, 1959, 78,083/59; Feb. 28, 1961, 2,399/61

7 Claims. (Cl. 260-163)

1. A monoazo dyestuff of the formula



wherein:

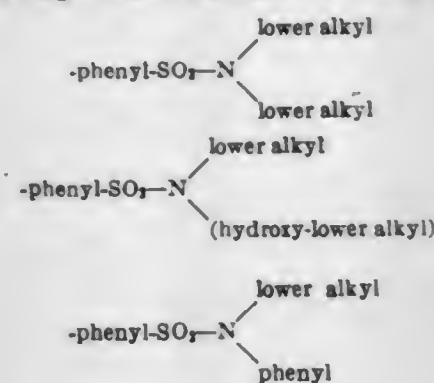
of X_1 and X_2 , one X stands for the nitro group and the other for an electrophilic substituent selected from the group consisting of

nitro, cyano, chloro, bromo, benzoyl, carboethoxy, lower alkyl-sulfonyl with lower alkyl of 1 to 4 carbon atoms, phenylsulfonyl, toluylsulfonyl, chlorophenylsulfonyl, mono- and di-lower alkyl-sulfamido, cyclohexylsulfamido, N-phenyl-N-methyl-sulfamido, N-phenyl-N-ethyl-sulfamido, N-hydroxyethyl-sulfamido, N-methyl-N-hydroxyethyl-sulfamido;

Y is a member selected from the group consisting of hydrogen, chlorine, bromine and methyl;

R_1 is a member selected from the group consisting of lower alkyl with 1 to 3 carbon atoms and phenyl, and

R_2 is a member selected from the group consisting of hydrogen, lower alkyl, hydroxy-lower alkyl, cyano-lower alkyl, cycloalkyl with 6 to 7 carbon atoms, phenyl-lower alkyl, phenyl-lower hydroalkyl, phenyl, methylphenyl, lower alkoxyphenyl, chlorophenyl, phenoxyphenyl, anilino, lower alkyl-sulfonyl-phenyl, -phenyl-SO₂-NH₂, -phenyl-SO₂-NH-lower alkyl, -phenyl-SO₂-NH-(hydroxy-lower alkyl),



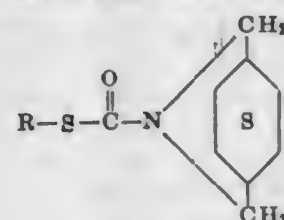
and

3,344,134

AZABICYCLONONANECARBOTHIOLATES
John J. D'Amico, Charleston, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,631
18 Claims. (Cl. 260-239)

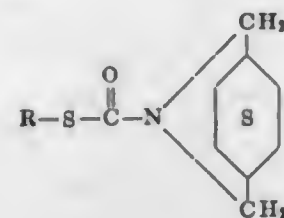
1. Azabicyclononanecarbothiolates of the formula



where R is selected from a group consisting of alkyl of 1 to 12 carbon atoms, inclusive, lower alkoxyalkyl, lower

alkylthioalkyl, lower alkenyl, lower haloalkenyl, lower alkynyl, cyclohexenyl, benzyl, chlorobenzyl containing 1 to 3 chlorine atoms, inclusive, monomethylbenzyl, and dimethylbenzyl.

18. Azabicyclononanecarbothiolates of the formula



where R is selected from a group consisting of ammonium, alkali metal, alkaline earth metal, zinc, cadmium, copper, lead, iron, and amine addition salt-forming radicals, the amine being selected from a group consisting of 3-azabicyclo[3.2.2]nonane, triethylamine, tributylamine, and pyridine.

3,344,135

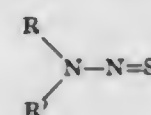
SELECTED N-THIONITROSOAMINES AND THEIR PREPARATION FROM N-AMINO AMINES

William J. Middleton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,989

11 Claims. (Cl. 260-239)

1. A compound of the formula



wherein R and R' are selected from the group consisting of alkyl of up to 12 carbons and alkylene of 2-12 carbons.

5. The process which comprises reacting, at a temperature of 0-50° C. and in an inert reaction medium, elemental sulfur with a hydrazine of the formula



wherein R and R' are selected from the group consisting of alkyl of up to 12 carbons and alkylene of 2-12 carbons.

7. The process which comprises reacting, at a temperature of 0-50° C. and in an inert reaction medium, elemental sulfur with N-aminopiperidine.

3,344,136

PROCESS FOR PRODUCING 3-ACETAMIDO-1,3-DI-HYDRO-5-PHENYL-2H-1,4-BENZODIAZEPIN-2-ONES

Stanley C. Bell and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 30, 1964, Ser. No. 414,583

10 Claims. (Cl. 260-239.3)

1. The process for preparing 3-acetamido-1,3-dihydro-5-phenyl-2H-1,4-benzodiazepin-2-one comprising: heating a composition of matter in which the benzophenone nucleus has attached thereto the 2-(N-acetoxyacetamido) acetamido radical in the 2-position with ammonia in a non-reactive polar solvent to produce 3-acetamido-1,3-dihydro-5-phenyl-2H-1,4-benzodiazepin-2-one.

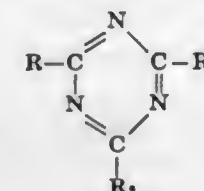
3,344,137

METHOD OF PREPARING TRISUBSTITUTED TRIAZINES

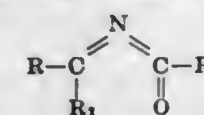
Henry Bader, North Plainfield, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,348
8 Claims. (Cl. 260-240)

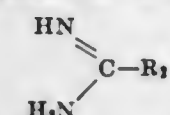
1. A process of preparing substituted 1,3,5-triazines of the formula:



wherein R and R_1 are selected from the group consisting of lower alkyl, amino, mononuclear aryl and lower alkoxy and R_2 is selected from the group consisting of lower alkyl, lower alkoxy, lower alkenyl mononuclear aryl, lower alkylthio and mononuclear aryl which comprises contacting an acylimide of the formula:



wherein R and R_1 are as defined above and R_2 is selected from the group consisting of lower alkoxy and lower alkylthio with a compound of the formula:



wherein R_2 is as defined above, at a temperature within the range of about 20° C. to about 75° C. for a period of from 1 to about 24 hours in the presence of an inert solvent.

3. A method of preparing 2-ethyl-4-methoxy-6-styryl-1,3,5-triazine which comprises contacting isopropyl N-cinnamoylpropionimide with ortho-methylisourea hydrochloride at a temperature within the range of about 20° C. to about 75° C. for a period of from 1 to about 24 hours in the presence of an inert solvent.

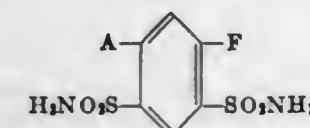
3,344,138

PROCESS FOR PREPARING BENZOTHIADIAZINE-1,1-DIOXIDES

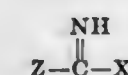
James M. McManus, Uncasville, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,690
8 Claims. (Cl. 260-243)

1. A process for preparing a 1,2,4-benzothiadiazine-1,1-dioxide ring compound, which comprises the step of contacting a 6-fluoro-1,3-disulfamylbenzene compound of the formula:



wherein A is a member selected from the group consisting of hydrogen, chlorine, bromine, nitro, trifluoromethyl, lower alkyl and lower alkoxy, with a compound of the following formula:



wherein X is a member selected from the group consisting of lower alkoxy and amino, and Z is a member selected from the group consisting of hydrogen, alkyl having up to six carbon atoms, lower fluoroalkyl and lower chloroalkyl, cycloalkyl containing up to five carbon atoms, bicyclo[2.2.1]hept-5-en-2-yl, bicyclo[2.2.1]hept-2-yl,

phenyl and lower phenylalkyl, cycloalkylalkyl having up to nine carbon atoms and $-(CH_2)_nSR$ wherein n is an integer in the range of 1-3, inclusive, and R is a member chosen from the group consisting of lower alkyl and lower alkenyl, lower fluoroalkyl and lower chloroalkyl, cycloalkyl having up to six carbon atoms, naphthyl, benzyl, chlorobenzyl, (lower alkoxy)benzyl, β -phenylethyl and m-xylol, said contacting being conducted in a reaction-inert polar organic solvent medium at a temperature that is in the range of from about 20° C. up to about 150° C. for a period of from about four to about 36 hours.

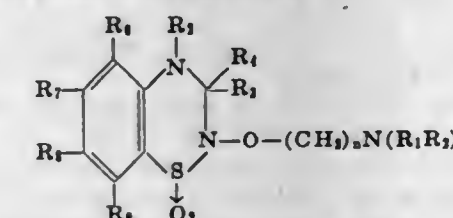
3,344,139

2-(DIALKYLAMINOALKOXY)-1,2,4-BENZOTHIADIAZINE 1,1-DIOXIDES AND DERIVATIVES

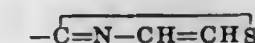
Peter H. L. Wei, Upper Darby, and Stanley C. Bell, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,100
7 Claims. (Cl. 260-243)

1. A compound of the formula:



and the pharmaceutically-acceptable acid-addition salts thereof; wherein R_1 and R_2 are each selected from the group of lower alkyl and



and when joined $>(CH_2)_5$; R_3 and R_4 are each selected from the group consisting of hydrogen, lower alkyl and phenyl; R_5 , R_6 , R_7 , R_8 and R_9 are each selected from the group consisting of H, lower alkyl and chloro, and n is an integer from 2 to 3.

3,344,140

DERIVATIVES OF 1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDES

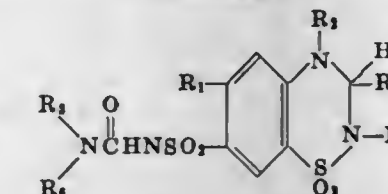
Bernard Loev, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Feb. 27, 1963, Ser. No. 261,481. Divided and this application June 21, 1966, Ser. No. 559,123

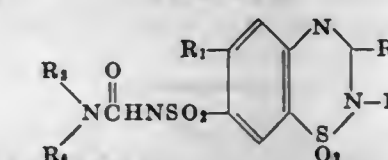
8 Claims. (Cl. 260-243)

1. A compound selected from the group consisting of compounds having the following formulas:

Formula I



Formula II



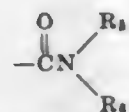
in which:

R_1 is a member selected from the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl, lower alkoxy and amino;

R_2 is a member selected from the group consisting of hydrogen and lower alkyl;

R_3 is a member selected from the group consisting of hydrogen, lower alkyl, halo lower alkyl, phenyl,

benzyl, phenethyl, cycloalkyl, cyclopentylmethyl, cyclohexylmethyl, cyclopentenylmethyl, cyclohexenylmethyl, phenoxyethyl and phenylthiomethyl; R_4 is a member selected from the group consisting of hydrogen and



R_5 is a member selected from the group consisting of lower alkyl, cyclopentyl, cyclohexyl, benzyl and phenethyl; and

R_6 is a member selected from the group consisting of hydrogen and, when taken together with R_5 and the nitrogen atom to which they are attached, N-pyrrolidinyl and N-piperidyl.

3,344,141

POLY(DIFLUORAMINO)-SUBSTITUTED CYANURIC AND ISOCYANURIC ACID DERIVATIVES AND PRODUCTION THEREOF

Olden E. Paris, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 9, 1962, Ser. No. 237,440

6 Claims. (Cl. 260—248)

1. A poly(difluoramino)-substituted compound having the structure of an acid selected from the class consisting of cyanuric acid and isocyanuric acid in which at least two of the hydrogen atoms of the acid are replaced by poly(difluoramino)-substituted, 2-5 carbon, alkyl radicals in which each difluoramino substituent is on a carbon atom adjacent to a carbon atom which also has a difluoramino substituent.

2. Tris-[1,2-bis(difluoramino)ethyl]isocyanurate.

6. A process for the preparation of a compound of claim 1 which comprises reacting tetrafluorohydrazine with a compound having the structure of an acid selected from the group consisting of cyanuric acid and isocyanuric acid in which at least two of the hydrogen atoms of the acid are replaced by a 2 to 5 carbon radical selected from the class consisting of alkenyl and alkadienyl at a temperature of about from 50 to 200° C. in an inert solvent.

3,344,142

DICHLORINATION OF 3-AMINOPYRAZINOIC ACID ESTERS

Burwell F. Powell, Somerville, and Edward W. Tristram, Cranford, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 3, 1965, Ser. No. 506,268

4 Claims. (Cl. 260—250)

1. A process wherein chlorine is caused to react with an ester of 3-aminopyrazinoic acid in the presence of a polar non-protic solvent selected from the group consisting of acetonitrile, dimethylformamide, dimethylacetamide, dioxane, tetrahydrofuran, ethylene dichloride, a mixture of carbon tetrachloride and a small amount of dimethylformamide, and a mixture of carbon tetrachloride and a small amount of acetonitrile and at a temperature ranging between room temperature and a reflux temperature to form an ester of 3-amino-5,6-dichloropyrazinoic acid.

3,344,143

PROCESS FOR PRODUCING ALKENYL PYRIDINES

Roy William Sudhoff, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 31, 1964, Ser. No. 422,516

7 Claims. (Cl. 260—290)

1. A process for dehydrogenating an alkyl pyridine, which comprises: feeding a reactant mixture of steam and said alkyl pyridine into a pre-heating section; pre-

heating said reactant mixture to a temperature of 10° C. to 100° C. lower than a reaction temperature of said reactant mixture; and thereafter passing said pre-heated reactant mixture through a dehydrogenation catalyst bed while adding heat energy to said reactant mixture to continuously raise the temperature of said reactant mixture throughout the time said reactant mixture passes through said catalyst bed, whereby at an exit of said reactor the temperature of said reactant mixture is in excess of said reaction temperature.

3,344,144

INHIBITION OF POLYMERIZATION OF MONOMERIC COMPOUNDS CONTAINING VINYL GROUPS

Tadahiro Kobayashi, Fuji-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Original application June 13, 1963, Ser. No. 287,516, now Patent No. 3,274,231, dated Sept. 20, 1966. Divided and this application July 21, 1965, Ser. No. 482,657

2 Claims. (Cl. 260—290)

1. A method comprising stabilizing a vinyl compound selected from the group consisting of vinyl acetate, vinyl propionate, vinyl chloride, vinylidene chloride, vinyl sulfonic acid, methallyl sulfonic acid, p-styrene sulfonic acid, 2-methyl-5-vinyl pyridine, 4-vinyl pyridine and N,N-dimethylaminoethyl methacrylate, by adding to said compound 0.5 to 2,000 p.p.m. respectively of at least one stabilizer selected from the group consisting of acetone-thiosemicarbazone, acetophenonethiosemicarbazone, acetoaldehydethiosemicarbazone, acetylthiosemicarbazide, phenylthiosemicarbazide, formylthiosemicarbazide, carbamylthiosemicarbazide, thiosemicarbazide, iononethiosemicarbazone, acetonesemicarbazone, acetoaldehydethiosemicarbazone, acetophenonethiosemicarbazone, acetylthiosemicarbazide, phenylthiosemicarbazide, iononethiosemicarbazone, and semicarbazide.

3,344,145

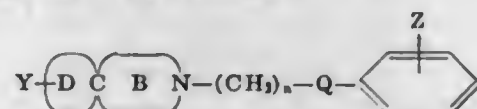
N-SUBSTITUTED PHENOXYALKYL OR PHENYLTHIOALKYL-MONO AZASPIROALKANES

Charles H. Grogan, Falls Church, Va., and Leonard M. Rice, Minneapolis, Minn., assignors to Geschickter Fund For Medical Research, Inc., Washington, D.C., a corporation of the District of Columbia

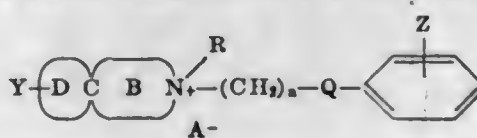
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,829

10 Claims. (Cl. 260—294.7)

1. A compound selected from the group consisting of (1) a compound of the formula:



wherein B is a ring containing five to six ring atoms, one of which is nitrogen, and the rest of which are carbon; n is a number from 1 to 6; Q is selected from the group consisting of sulfur and oxygen; Z is selected from the group consisting of lower alkyl, lower alkenyl, lower alkoxy, hydrogen, trihaloalkyl and halogen; and ring D is selected from the group consisting of monocarbocyclic rings having five to fifteen ring atoms including the carbon atom to which they are attached, hexahydroindrindenyl and decahydronaphthyl; and Y is selected from the group consisting of lower alkyl, hydrogen, lower alkoxy, lower alkenyl and cycloalkyl of up to six carbon atoms; (2) a non-toxic therapeutically useful acid addition salt of compound (1); and (3) a non-toxic therapeutically useful quaternary salt of compound (1) of the formula:



wherein ring D, ring B, n , Q, Z and Y have the values set forth above; A^- is a pharmaceutically acceptable anion; and R is selected from the group consisting of lower alkyl, allyl, benzyl and phenethyl.

9. 3 - azaspiro[5.5]undecane - 3 - [3 - (p - fluoro-phenoxy)-propyl].

3,344,146

α -SUBSTITUTED 1-NAPHTHYL-ACETAMIDES AND NON-TOXIC ACID ADDITION SALTS THEREOF

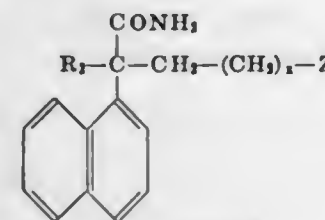
Silvano Casadio, Milan, Italy, assignor to Istituto de Angeli S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed May 4, 1964, Ser. No. 364,792

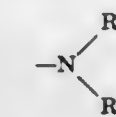
Claims priority, application Great Britain, May 14, 1963, 19,159/63

2. A compound selected from the group consisting of α -isopropyl- α -(2-dimethylaminoethyl)-1 - naphthylacetamide and the metamizole acid addition salt thereof.

6. A compound selected from the group consisting of a compound of the formula



and a non-toxic acid addition salt thereof, wherein Z is a member selected from the group consisting of piperidino, morpholino and



wherein R_4 and R_5 are selected from the group consisting of methyl and ethyl, x represents 1 or 2 and R_3 is selected from the group consisting of alkyl of from 1 to 4 carbon atoms and $-\text{CH}_2-(\text{CH}_2)_x-\text{Z}$, wherein Z and x have the same meaning as above defined.

3,344,147

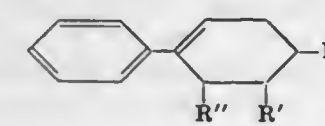
2-(LOWER ALKYL)-3-(LOWER ALKYL)-4-PHENYL-3- OR -4-CYCLOHEXENECARBOXYLIC ACIDS AND DERIVATIVES THEREOF

Alexander Mebane, New York, N.Y., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey

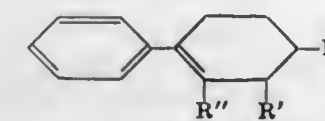
No Drawing. Filed Mar. 8, 1966, Ser. No. 532,581

9 Claims. (Cl. 260—326.5)

1. A compound selected from the group consisting of:



and



wherein R is selected from the group consisting of formyl, carboxy, lower carbalkoxy, methanol, carboxamide and carboxylic alkali metal salts, R' is selected from the group consisting of methyl, dimethyl and ethyl, and R'' is selected from the group consisting of methyl and ethyl.

6. A compound according to claim 1 selected from the group consisting of 2-methyl-3-ethyl-4-phenyl-4-cyclohexenecarboxypyrrolidide and 2-methyl-3-ethyl-4-phenyl-3-cyclohexenecarboxypyrrolidide.

3,344,148

4,4-SUBSTITUTED-1,3-DIOXOLANES AND PREPARING THEM

Heinz J. Dietrich, Bethany, and Joseph V. Karabinos, Orange, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed Oct. 29, 1965, Ser. No. 505,751

1 Claim. (Cl. 260—340.9)

A compound selected from the group consisting of 4-phenyl-4-benzoyl - 1,3 - dioxolane and 4-phenyl-4- α -hydroxybenzyl-1,3-dioxolane.

3,344,149

SYNTHESIS OF STEROIDS

Patrick A. Diassi, Westfield, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Feb. 3, 1964, Ser. No. 342,263, now Patent No. 3,278,556, dated Oct. 11, 1966. Divided and this application Mar. 9, 1966, Ser. No. 532,850

1 Claim. (Cl. 260—343.2)

A process for preparing 11 β -hydroxy- Δ^1 -dehydrotestolactone which comprises reacting 11-keto- Δ^1 -dehydrotestolactone with lithium tri-*t*-butoxy aluminum hydride.

3,344,150

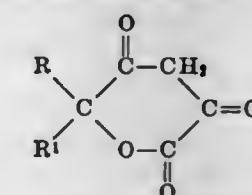
6-SUBSTITUTED 2,3,5-TRIOXO-TETRAHYDROPYRANS AND THEIR 3-ENOL ESTERS AND ETHERS

Michael Cais, Abuza, Haifa, and William Taub, Rehovoth, Israel, assignors to Technion Research and Development Foundation Ltd., Haifa, Israel, a corporation of Israel

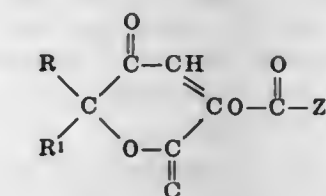
No Drawing. Filed Apr. 23, 1963, Ser. No. 274,928

8 Claims. (Cl. 260—343.5)

1. A compound selected from the class consisting of 6-substituted-2,3,5-trioxotetrahydropyrans and their 3-enol esters and ethers of the formulae



and



wherein

R represents a member selected from the class consisting of hydrogen and lower alkyl;

R^1 represents a member selected from the class consisting of cycloalkyl having up to about 6 carbon atoms and, when the compound is in the enol ester form, lower alkyl;

R and R^1 together represents a 6 carbon atom spiro-cycloalkyl; and

Z represents lower alkyl.

3,344,151

PROCESS FOR SEPARATING TOCOPHEROL EPIMERS

Donald R. Nelan, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 2, 1965, Ser. No. 469,316

13 Claims. (Cl. 260—345.6)

1. A process for obtaining from epimeric material selected from the group consisting of (1) mixtures of 2d- α -tocopherol and 2l- α -tocopherol, (2) epimeric mixtures of a crystallizable ester of 2d- α -tocopherol and an

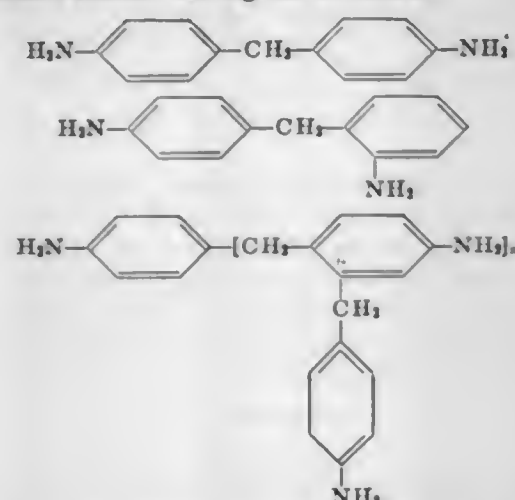
from 1 to 20 carbon atoms; X is selected from the group consisting of fluorine, chlorine, bromine, iodine, alkoxyl, thioalkyl, dialkylamino and cyano; and n has a value of 1 to 100, which comprises mixing and heating $RR'SiX_2$ together with a cyclic silthian trimer $[RR'Si]_3$.

3,344,162 PREPARATION OF AROMATIC POLY- ISOCYANATES

Richard L. Rowton, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,409
4 Claims. (Cl. 260—453)

1. In a method for the preparation of a polyisocyanate reaction product from a mixture of aromatic amines, the improvement which comprises the steps of adding a chlorinated aromatic hydrocarbon solvent solution of said aromatic amine mixture to a chlorinated aromatic hydrocarbon solvent solution of phosgene at a temperature within the range of from about 25° to about 50° C. in an amount sufficient to provide from about 4 to 5 mol equivalents of phosgene in the mixture, based on said aromatic amine, and a total amount of solvent sufficient to provide about a 6 to 9 wt. percent solution of said aromatic amine; thereafter heating the resultant slurry in liquid phase at a temperature within the range of from about 75° to about 150° C. while adding an additional 1 to 3 mol equivalents of phosgene, based on the said aromatic amine and thereafter heating said mixture within said temperature range for a period of time sufficient to provide a clear solution and thereafter terminating the reaction and removing the solvent from the reaction mixture to thereby provide said polyisocyanate composition, said aromatic amines having the formulae:



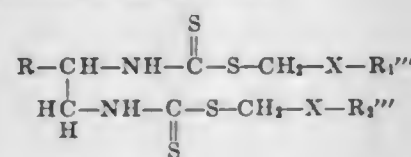
wherein n is an integer having a value of 1 to 3, said mixture of amines containing from about 50 to about 90 wt. percent of the dimers; from about 10 to 95 wt. percent of the dimers being the 2,4'-isomer.

3,344,163 BIS-DITHIOCARBAMIC ACID ESTER DERIVATIVES

Adolf Frank, Leverkusen, Ferdinand Grewe, Burscheid, and Helmut Kaspers, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,258
Claims priority, application Germany, Nov. 24, 1962, F 38,388

13 Claims. (Cl. 260—455)

1. A compound of the formula



wherein R is hydrogen or lower alkyl; R_1 and R_2 are alkyl chloroalkyl, bromoalkyl, alkenyl of 1-20 carbon atoms, phenyl or naphthyl; and X is oxygen or sulfur.

3,344,164 ISOMERIZATION PROCESS FOR CERTAIN CYCLOHEXANE STEREOISOMERS

William H. Seaton, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

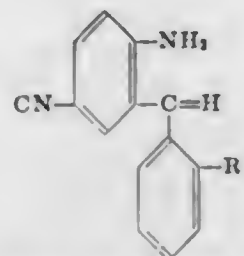
Filed Dec. 7, 1964, Ser. No. 416,424
11 Claims. (Cl. 260—464)

1. A liquid phase method for converting a cis or trans isomer of a disubstituted cyclohexane derivative selected from the group consisting of 1,4-cyclohexanedicarbonitrile, 1,4-cyclohexanebis-(methylamine) and 4-(amino-methyl) cyclohexanemethanol, to the other of said isomers, which comprises heating a single isomer or an admixture of said isomers to a temperature within the range of 100-300° C. in the presence of 0.1%-5%, based on the weight of the isomeric material, of a basic catalyst soluble in the reaction medium and selected from the group consisting of lithium, potassium, sodium, and the oxides, cyanides, amides, hydroxides, hydrides, and borohydrides of lithium, potassium, and sodium, whereby a mixture of the cis and trans isomers is formed and withdrawing the desired isomer from the mixture of isomers.

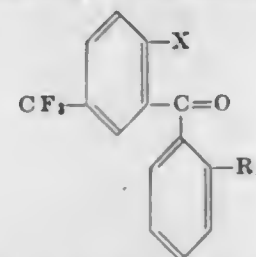
3,344,165 PROCESS FOR THE PREPARATION OF 2-AMINO- 5-CYANOBENZOPHENONES

Benjamin Pecherer, Montclair, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,580
5 Claims. (Cl. 260—465)

1. A process for the preparation of a compound of the formula



wherein R_1 is selected from the group consisting of hydrogen and trifluoromethyl which comprises reacting a compound of the formula



wherein X is halogen and R_1 is as above

with ammonia at a temperature from about 155° C. to about 185° C. in the presence of an aqueous medium.

3,344,166 PREPARATION OF MALONIC ACID DINITRILE

Christoph Zinsstag, Visp, Switzerland, assignor to Lonza Ltd., Basel, Switzerland
Filed Dec. 16, 1964, Ser. No. 418,681
Claims priority, application Switzerland, Dec. 19, 1963, 15,639/63

4 Claims. (Cl. 260—465.2)

1. A process for the preparation of malonic acid dinitrile which comprises passing gaseous cyanoacetamide

at a pressure of 0.5 to 100 mm. Hg at a temperature in the range of 250 to 450° C. over a catalyst which consists essentially of polyphosphoric acid produced by thermal decomposition of orthophosphoric acid and an acidic to neutral carrier selected from the group consisting of activated carbon, silica materials, and boric oxide.

3,344,167 DIFLUORAMINOALKYL NITRATES

William E. Tyler III, New Providence, and John R. Lovett, Edison, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 19, 1962, Ser. No. 181,839
6 Claims. (Cl. 260—467)

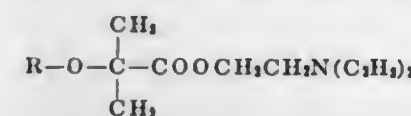
1. 1,2-bis-(difluoramino) ethyl nitrate having the composition $C_2H_3(NF_2)_2ONO_2$.

3,344,168 N,N-DIETHYL-2-AMINOETHYL 2-SUBSTITUTED OXYISOBUTYRATE

Paolo Gallimberti, Pavia, Vittorina Gerosa and Max Marcello Melandri, Milan, and Annibale Buttini, Pavia, Italy, assignors to Società Italiana Prodotti Schering, Milan, Italy
No Drawing. Filed June 28, 1963, Ser. No. 291,297
Claims priority, application Great Britain, July 11, 1962, 26,683/62

9 Claims. (Cl. 260—468)

1. A compound selected from the group consisting of a diethylamino-ethyl ester of the formula:



in which R is a member of the class consisting of lower alkyl, phenethyl, 1-phenyl propyl, cyclohexyl, and phenyl substituted by one or two members independently selected from the group consisting of phenyl, methyl, isopropyl, allyl and methoxy, and mineral acid salts thereof.

3,344,169 NOVEL 1-ACYLOXY-6-HYDROXY-9-METHYL-Δ⁴⁽¹⁰⁾- OCTALINS AND -TRANS-DECALINS

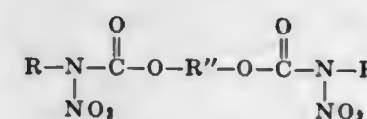
Marinus Los, Trenton, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Nov. 8, 1963, Ser. No. 322,522
6 Claims. (Cl. 260—473)

1. 1-acyloxy-6-hydroxy-9-methyl-Δ⁴⁽¹⁰⁾-octalins, wherein said acyloxy radical is selected from the group consisting of lower alkylcarbonyloxy, phenylcarbonyloxy, methylphenylcarbonyloxy and halophenylcarbonyloxy radicals.

3,344,170 HYDROCARBONYLENE BIS(ALKYLNITRO- CARBAMATES)

Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 10, 1963, Ser. No. 307,787
5 Claims. (Cl. 260—482)

1. Compound of the formula



wherein R represents alkyl being of from 1 to 4, inclusive, carbon atoms; and R' represents a hydrocarbonylene

moiety selected from the group consisting of alkylene being of from 2 to 10, inclusive, carbon atoms, 2-butenylene, cyclohexylene, and cyclohexylenedimethylene.

3,344,171 ISOMERIZATION OF TERPENES WITH A NOBLE METAL CATALYST IN THE PRESENCE OF HYDROGEN CHLORIDE

Seymour Lemberg, Elizabeth, N.J., assignor to International Flavors & Fragrances, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,747
7 Claims. (Cl. 260—489)

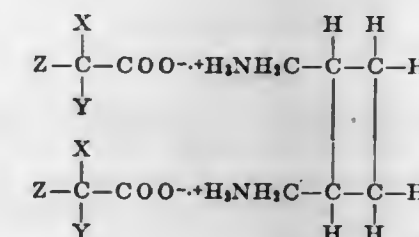
1. A process for the preparation of a terpene compound selected from the group consisting of ocimene, ocimenol, ocimenyl alkanates, allo-dihydromyrcene, allo-dihydromyrcenol, and allo-dihydromyrcenyl alkanates, wherein the alkanoyl group contains up to 4 carbon atoms, which comprises contacting a reactant selected from the group consisting of myrcene, myrcenol, myrcenyl alkanates, dihydromyrcene, dihydromyrcenol, and dihydromyrcenyl alkanates, wherein the alkanoyl group contains up to 4 carbon atoms, at a temperature of from about 60° to about 165° C. with a catalytic amount of a catalyst selected from the group consisting of rhodium, iridium, and the trichlorides thereof in the presence of hydrogen chloride.

3,344,172 HALOACETIC ACID SALTS OF CYCLOBUTANE- 1,2-BIS(METHYLENE AMINE)

Norman W. Standish, Shaker Heights, and Janice L. Greene, Warrensville Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,759
4 Claims. (Cl. 260—501)

1. The compound having the following formula:



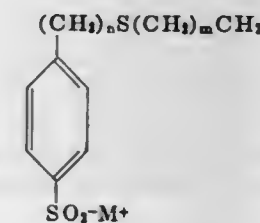
where X and Y are selected from the group consisting of hydrogen and chlorine, and Z is a halogen.

3,344,173 P-(THIA-n-DODECYL) BENZENESULFONATES

Dietrich Lang, Sherborn, and Louis Long, Jr., Concord, Mass., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,703
7 Claims. (Cl. 260—505)

1. A compound of the formula:



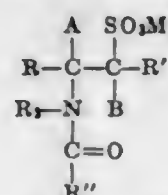
wherein M is a cation selected from the group consisting of alkali metals, alkaline earth metals, ammonium, and alkanolamines; n is an integer from 1 to 10, m is an integer from 0 to 9, with the sum of n and m being 10.

3,344,174

VICINAL ACYLAMIDO SULFONATE COMPOUNDS

George L. Broussalian, Olivette, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Nov. 6, 1963, Ser. No. 321,694
13 Claims. (Cl. 260—507)

1. A compound of the formula:



wherein R and R' contain a combined total of from 8 to 22 carbon atoms and in each instance are selected from the group consisting of hydrogen, alkyl radicals, mono-olefinic aliphatic hydrocarbon radicals, and substituted alkyl and mono-olefinic aliphatic hydrocarbon radicals having substituents selected from the group consisting of fluoride, chloride, bromide, and iodide substituents; R'' is selected from the group consisting of hydrogen, lower alkyl radicals, and substituted lower alkyl radicals having substituents selected from the group consisting of fluoride, chloride, bromide, and iodide substituents; A and B are selected from the group consisting of hydrogen and lower alkyl radicals; M is selected from the group consisting of hydrogen, alkali metal, ammonium and alkaline earth metal; and R₂ is selected from the group consisting of hydrogen, phenyl, and alkyl radicals containing at most about 8 carbon atoms, the combined total number of carbon atoms in R'' plus R₂ being at most about 10.

3,344,175

4,4'-METHYLENEBISCYCLOHEXYLAMINE-CO₂ REACTION PRODUCT

James H. Canfield, Anaheim, Calif., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 22, 1963, Ser. No. 282,222

2 Claims. (Cl. 260—514)

1. A composition obtained by reacting carbon dioxide with 4,4'-methylenebiscyclohexylamine.

3,344,176

METHOD OF PRODUCING BENZENE CARBOXYLIC ACIDS

Anton Benning, Essen-Heisingen, and Kurt Handrick, Essen-Steele, Germany, assignors to Bergwerksverband G.m.b.H., Essen, Germany

No Drawing. Filed Feb. 12, 1964, Ser. No. 344,203

Claims priority, application Germany, Feb. 14, 1963, B 70,727, B 70,728

6 Claims. (Cl. 260—523)

1. A method of producing benzene carboxylic acids by oxidation of methoxymethyl-alkyl-benzene ethers produced by reacting a mononuclear aromatic compound having linked to its nucleus at least one lower alkyl group and at least one chloromethyl group with methanol in the presence of a substance selected from the group consisting of the hydroxides of alkali and alkaline earth metals

and the oxides of alkaline earth metals, comprising the step of reacting said ether at a gauge pressure of 5–30 atmospheres and at a temperature between about 140–220° C. with nitric acid in an amount and of a concentration such as to oxidize said ether to the corresponding polycarboxylic acid.

3,344,177

PURIFICATION OF WATER-INSOLUBLE AROMATIC DICARBOXYLIC ACIDS OBTAINED BY CATALYTIC LIQUID PHASE OXIDATION WITH MOLECULAR OXYGEN

Albert L. Hensley, Jr., Munster, Ind., and Philip H. Towle, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Feb. 21, 1964, Ser. No. 346,394

3 Claims. (Cl. 260—525)

1. A method of purifying crude terephthalic acid, having 2.5 percent to 250 p.p.m. 4-carboxybenzaldehyde to a product having 20 to 40 p.p.m. 4-carboxybenzaldehyde which consists of dissolving in water the crude terephthalic acid as its diammonium, disodium or dipotassium salt, adjusting the pH of the resulting solution to a pH in the range of 6.2 to 6.8, percolating at 20° to 30° C. said pH adjusted solution through from 0.7 to 108 weight parts of activated charcoal per weight part of terephthalic acid in solution, acidifying the resulting activated carbon treated solution to a pH below 4.9 to precipitate regenerated solid terephthalic acid, recovering said regenerated solid terephthalic acid from the acidified aqueous solution, washing the recovered solid terephthalic acid and drying the washed terephthalic acid.

3,344,178

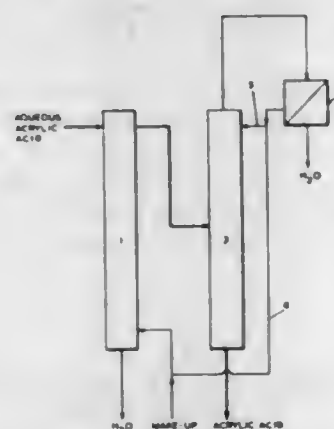
ACRYLIC ACID CONCENTRATION BY EXTRACTION AND DISTILLATION WITH A SOLVENT-ENTRAINER

Christopher John Brown, Walton-on-the-Hill, and Frank Christopher Newman, Great Bookham, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed May 11, 1964, Ser. No. 366,280

Claims priority, application Great Britain, May 16, 1963, 19,421/63

9 Claims. (Cl. 260—526)



1. A process for the concentration of aqueous acrylic acid solutions which comprises extracting the aqueous acrylic acid with a substance selected from the group consisting of ethyl acrylate and ethyl acetate whereby the acrylic acid is extracted into the ester phase, fractionally distilling the ester phase under reduced pressure to separate the ester as an overhead azeotropic fraction with substantially all of the water, recovering dry concentrated acrylic acid from the base of the column, and maintaining sufficient ester in the column to ensure that substantially all of the water is removed in the overhead fraction.

3,344,179

METHOD FOR SYNTHESIZING DL-GLUTAMIC ACID AND ITS ALKYL DERIVATIVES

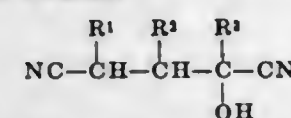
Yasunobu Takahashi, Tokyo, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Dec. 16, 1964, Ser. No. 418,904

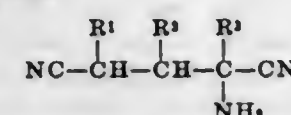
Claims priority, application Japan, Dec. 17, 1963, 38/67,564

11 Claims. (Cl. 260—534)

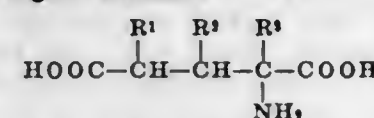
1. A method for producing DL-glutamic acid or alkyl derivatives thereof, said method comprising aminating a compound of the formula:



wherein R¹, R² and R³ are independently selected from the group consisting of hydrogen and alkyl groups of 1 to 5 carbon atoms, with aqua ammonia having a concentration of about 28% by weight at a temperature of 40° to 250° C. under super-atmospheric pressure, the molar ratio of aqua ammonia to said compound being at least 3.5:1 to obtain a product including an intermediate compound of the formula



wherein R¹, R² and R³ are as defined above, cooling said product to a temperature below 30° C. immediately after the said amination, hydrolyzing the product with 2 to 3 molar equivalents of alkali, said alkali having a concentration of 0.1 to 10 molar at a temperature of 60° to 200° C. to obtain a hydrolysate comprising the dialkali salt of an acid having the formula



wherein R¹, R² and R³ are as defined above and freeing the acid by neutralizing said dialkali salt.

3,344,180

NOVEL THIOCARBOXAMIDE

Martin A. Davis, Montreal, Quebec, and David J. Campbell, Pinpoint, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,939

1 Claim. (Cl. 260—551)

10,11-dihydro-5H-dibenzo[a,d]cycloheptene-5-thiocarboxamide.

3,344,181

SUBSTITUTED UREAS

Wilhelm Frick, Pflödingen, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Greenburg, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,537

Claims priority, application Switzerland, Mar. 26, 1964, 3,977/64

3 Claims. (Cl. 260—553)

3. N-(2-chloro-5-trifluoromethylphenyl)-N'-(lower) alkyl urea.

3,344,182

PROCESS FOR PRODUCING ORGANIC SULFONYL SEMICARBAZIDES

Roger W. Amidon, Oxford, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 7, 1964, Ser. No. 416,626

5 Claims. (Cl. 260—554)

1. A process for producing organic sulfonyl semicarbazides which comprises reacting the corresponding or-

ganic sulfonylhydrazide with urea at a molar ratio of from 1:1 to 1:12 and at a pH in the range of 0.5 to 6.75 in the presence of a maximum of 1 liter of water per mole equivalent of sulfonylhydrazide groups.

3,344,183

2-N-SUBSTITUTED AMINO BENZOPHENONES

Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original applications Nov. 2, 1961, Ser. No. 149,527, now Patent No. 3,136,815, dated June 9, 1964, Nov. 20, 1961, Ser. No. 154,921, Nov. 20, 1961, Ser. No. 154,926, now Patent No. 3,270,053, dated Aug. 30, 1966, Nov. 20, 1961, Ser. No. 154,927, now Patent No. 3,239,564, dated Mar. 8, 1966. Divided and this application Oct. 22, 1965, Ser. No. 502,510

Claims priority, application Switzerland, Dec. 2, 1960, 13,490/60, 13,492/60, 13,493/60, 13,494/60, 13,495/60

8 Claims. (Cl. 260—556)

7. 2-(N-lower alkyl-p-tolylsulfonamido)-5,2'-dihalobenzophenone.

3,344,184

NOVEL 2,2,6,6-TETRACHLORO-1-HYDROXY-CYCLOHEXANECARBAMIDE

Robert Robinson, Great Missenden, Bucks, and Gordon I. Fray, Sandhurst, Camberley, Surrey, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Jan. 16, 1963, Ser. No. 251,731, now Patent No. 3,236,874, dated Feb. 22, 1966. Divided and this application Oct. 22, 1965, Ser. No. 502,673

Claims priority, application Great Britain, Jan. 18, 1962, 1,895/62

1 Claim. (Cl. 260—557)

2,2,6,6-tetrachloro-1-hydroxycyclohexanecarbamide.

3,344,185

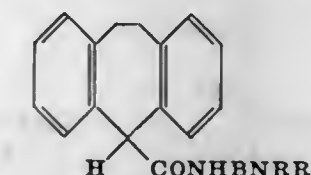
CERTAIN AMIDES OF 5H-DIBENZO [A,D] CYCLOHEPTENE- AND 10,11-DIHYDRO-5H-DIBENZO [A,D] CYCLOHEPTENE-5-CARBOXYLIC ACID

Frederick Leonard, 14103 Gaines Ave., Rockville, Md. 20853

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,004

2 Claims. (Cl. 260—558)

1. A compound of the formula



wherein

B represents lower alkylene

R and R₁ are hydrogen or lower alkyl or, when taken together with the adjacent nitrogen, piperidino, pyrrolidino, piperazino, N-(lower)alkylpiperazino, morpholino or thiomorpholino, the pharmaceutically acceptable acid addition salts thereof or the pharmaceutically acceptable quaternary ammonium salts thereof.

2. N-2-(diethylaminoethyl)-10,11-dihydro-5H-dibenzo[a,d]cycloheptene-5-carboxamide.

3,344,186

2-GUANIDINO-1,2,3,4-TETRAHYDRONAPHTHALENE AND SALTS THEREOF

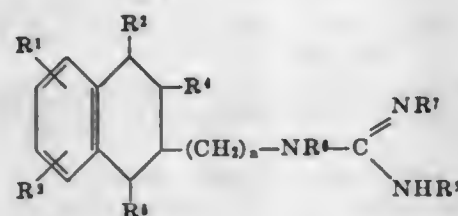
Joachim Augstein and Alastair M. Munro, Canterbury, Geoffrey W. H. Potter, Ramsgate, and Thomas Ian Wrigley, Canterbury, England, assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,915

Claims priority, application Great Britain, Mar. 3, 1964, 8,843/64; Oct. 27, 1964, 43,662/64

7 Claims. (Cl. 260—564)

1. A compound selected from the class consisting of 2-guanidino-1,2,3,4-tetrahydronaphthalenes of the formula:



and the pharmaceutically acceptable acid addition salts thereof, wherein each of R^1 and R^2 is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy; n is an integer of from zero to four, and each of R^3 , R^4 , R^5 , R^6 , R^7 and R^8 is a member selected from the group consisting of hydrogen and lower alkyl.

3,344,187

PROCESS FOR PREPARING CYCLOALKANONOXIMES

Giuseppe Caprara, Marcello Ghirga, and Guidobaldo Ceviddali, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

Filed June 22, 1964, Ser. No. 376,884

Claims priority, application Italy, July 8, 1963, 14,086/63

8 Claims. (Cl. 260—566)

1. A process for the production of cycloalkanonoximes having rings with 5 to 12 carbon atoms, consisting of reacting in gaseous phase a cycloalkane having a ring containing from 5 to 12 carbon atoms and a nitrogen oxide at a temperature between substantially 150° and 650° C. in the presence of a thermally activatable reaction promoter selected from the group consisting of chlorine, bromine, nitrosyl chloride and nitrosyl bromide for a period ranging between substantially 0.1 and 10 seconds and with said reaction promoter present in sufficient proportion to effect oximation of said cycloalkane by said nitrogen oxide.

3,344,188

d(-)-N-TERT.BUTYL- AND -N-ISOPROPYL-1-PHENYL-2-AMINO-ETHANOLS

Hartmund Wollweber, Rudolf Hiltmann, and Hans Kaller, Wuppertal-Elberfeld, and Hans-Günther Kroneberg, Haan, Rhineland, Germany, assignors to Farbfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 8, 1964, Ser. No. 402,612

Claims priority, application Germany, Oct. 9, 1963, F 40,952

2 Claims. (Cl. 260—570.6)

1. The compound d(-)-N-tert.butyl-1-phenyl-2-aminoethanol.

2. The compound d(-)-N-isopropyl-1-phenyl-2-aminoethanol.

3,344,189

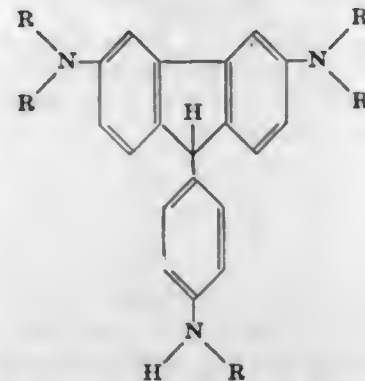
AMINO-FLUORENE-COMPOUNDS AND PROCESS FOR THE PREPARATION THEREOF

Chester Davis, 415 E. 5th St., Newport, Ky. 41071

No Drawing. Filed June 24, 1963, Ser. No. 290,256

6 Claims. (Cl. 260—576)

1. The fluorene dye leucos represented by the following structure:



where R is selected from the group consisting of hydrogen and the lower alkyl groups.

6. The process for transforming triaminotriphenylmethane dyes into triaminophenylfluorene dye leucos which comprises heating over 150° C. on a transient triaminotriphenylmethane sulfonate whereby rearrangement of this triaminotriphenylmethane sulfonate to a triaminophenylfluorene leucosulfonate occurs, followed by replacement of the leucosulfonic acid group by hydrogen to give the corresponding triaminophenylfluorene, this transformation being brought about in sulfuric acid containing not more than about 25% water.

3,344,190

O-(β-HYDROXYETHYL)-HYDROXYLAMINES AND PROCESS FOR THEIR MANUFACTURE

Bruno J. R. Nicolaus, Milan, Italy, and Emilio Testa, Vacallo Tessin, Switzerland, assignors to Lepetit S.p.A., Milan, Italy

No Drawing. Original application Feb. 21, 1962, Ser. No. 174,671, now Patent No. 3,184,500, dated May 18, 1965. Divided and this application Sept. 21, 1964, Ser. No. 398,103

Claims priority, application Great Britain, Feb. 22, 1961, 6,498/61

9 Claims. (Cl. 260—584)

1. An O-(β-hydroxyethyl)-hydroxylamine of the formula:



wherein R' is a member of the group consisting of hydrogen and lower alkyl.

7. A process for preparing O-(β-hydroxyethyl)-hydroxylamine, which comprises hydrogenating O-carbomethoxymethyl-N-carbomethoxy-hydroxylamine with lithium aluminum hydride in an inert anhydrous organic solvent at a temperature below 0° C., and refluxing the obtained O-(β-hydroxyethyl)-N-carbomethoxy-hydroxylamine with an aqueous solution of a strong mineral acid.

3,344,191

PROCESS FOR ISOMERIZING UNSATURATED ALCOHOLS

Sterling F. Chappell, Lake Charles, La., and Claud E. Sibert, Nederland, Tex., assignors, by mesne assignments, to Columbian Carbon Company, a corporation of Delaware

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,826

10 Claims. (Cl. 260—586)

1. A process for isomerizing an unsaturated alcohol which comprises contacting said alcohol at a temperature of about 90° C. to about 250° C. with an iron carbonyl selected from the group consisting of $\text{Fe}(\text{CO})_5$, $\text{Fe}_2(\text{CO})_9$, and $\text{Fe}_3(\text{CO})_{12}$ at a pressure below the decomposition pressure of said iron carbonyl, said unsatu-

rated alcohol consisting of hydrogen, oxygen and from 3 to about 22 carbon atoms, said oxygen being present only in hydroxyl groups, and said alcohol having a hydrogen bearing carbinol group separated from a hydrogen bearing carbon atom, that is attached to an ethylenic double bond, by a linear alkylene hydrocarbon chain of from 0 to about 10 carbon atoms.

3,344,192

PROCESS FOR THE PREPARATION OF β-IONONE

Klaas Kes, Bussum, Willem Berends, Naarden, and Harmannus Boelens, Bussum, Netherlands, assignors to N.V. Chemische Fabriek Naarden, Naarden, Netherlands

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,044

Claims priority, application Netherlands, Oct. 8, 1963, 298,958

8 Claims. (Cl. 260—587)

1. In a process for the preparation of β-ionone by cyclization of pseudo-ionone with the aid of concentrated sulphuric acid; the improvement comprising conducting the cyclization in the presence of an unsubstituted aliphatic alcohol containing at most 3 carbon atoms and at most 2 hydroxy groups and at a temperature between -20° C. and $+20^\circ$ C.

3,344,193

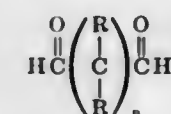
FLUORINATED DIALDEHYDES

Russell L. K. Carr, Grand Island, and Charles F. Baranuckas, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Mar. 8, 1962, Ser. No. 178,259

9 Claims. (Cl. 260—601)

1. A composition having the following general formula:



wherein n is a number from two to three inclusive and R is selected from the group consisting of hydrogen, fluorine, perfluoroalkyl, perfluorocycloalkyl, perfluoroaryl, alkyl, cycloalkyl, and aryl, and wherein at least one of the R 's contains fluorine.

3,344,194

PROCESS FOR PREPARATION OF PEROXIDE PRODUCTS

Scott I. Morrow, Morris Plains, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,376

13 Claims. (Cl. 260—610)

1. A process for preparing perfluorodimethyl peroxide product comprising contacting an oxalate of a metal selected from Group I and II of the Periodic Table, with fluorine until the reaction gases including product are evolved and separating the product contained therein.

3,344,195

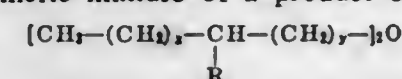
ETHERS FOR USE IN LUBRICANTS AND HYDRAULIC FLUIDS

Lloyd I. Ospow, New York, Frederick J. Brashear, Brooklyn, and William Rosenblatt, Spring Valley, N.Y., assignors to Fats and Protein Research Foundation, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 13, 1963, Ser. No. 280,095

6 Claims. (Cl. 260—611)

1. An isomeric mixture of a product of the formula



3,344,196

HYDROGENATION OF ALKANOIC DICARBOXYLIC ACIDS USING SINTERED COBALT CATALYST

Hubert Corr, Erich Haarer, and Paul Hornberger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Bundesrepublik Deutschland

No Drawing. Filed June 2, 1964, Ser. No. 372,111

Claims priority, application Germany, May 18, 1960, B 57,889

6 Claims. (Cl. 260—635)

1. A process for the hydrogenation of an alkanedioic acid containing 3 to 12 carbon atoms to the corresponding alcohol which comprises contacting said alkanedioic acid dispersed in water at a temperature between 150° and 300° C. and a pressure between 5 and 500 atmospheres with elementary hydrogen in contact with a catalyst selected from the group consisting of cobalt and a mixture of cobalt and copper with a copper content of up to 20% which has been obtained by sintering at a temperature above 600° C.

3,344,197

PRODUCTION OF 1,1,2-TRICHLOROETHANE FROM 1,2-DICHLOROETHANE AND CHLORINE

Charles Ronald Reiche, Corpus Christi, Tex., and Jefferson M. Jackson, Jr., Lake Charles, La., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 10, 1963, Ser. No. 294,088

5 Claims. (Cl. 260—658)

1. In the method of producing 1,1,2-trichloroethane from chlorine and 1,2-dichloroethane wherein both chlorine and 1,2-dichloroethane are fed to a liquid reaction medium and therein reacted to form 1,1,2-trichloroethane, the improvement which comprises feeding ethylene to the medium in amounts of from 0.1 to 0.3 mole per mole of chlorine, such that the product equivalent of the ethylene is small by comparison with the amount of trichloroethane produced from chlorine and 1,2-dichloroethane.

3,344,198

SEPARATING AND RECOVERING CYCLOPENTADIENE

Hans Martin Weitz, Frankenthal, Pfalz, Hugo Kroeper, Heidelberg, Ulrich Wagner, Limburgerhof, Pfalz, and Josef Ritz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

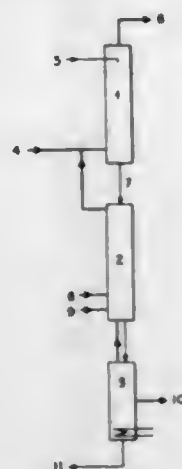
Filed Mar. 4, 1965, Ser. No. 437,044

Claims priority, application Germany, Mar. 6, 1964, B 75,762

7 Claims. (Cl. 260—666)

1. A process for separating and isolating cyclopentadiene from hydrocarbon mixtures containing diolefins and consisting mainly of hydrocarbons having five carbon atoms which process comprises removing the cyclopentadiene by a preliminary washing with a small amount of a selective heterocyclic solvent selected from the group consisting of lactams having 4 to 6 ring members, lactones having 4 to 6 ring members, N-alkyllactams with 4 to 6 ring members and 1 to 4 carbon atoms in the N-

alkyl, β -hydroxyalkylactams with 4 to 6 ring members and 2 to 4 carbon atoms in the N-hydroxyalkyl, and N-acyl saturated cyclic amines with 5 to 6 ring members and 1 to 3 carbon atoms in the N-acyl by the counter-current principle prior to absorption of the diolefin with said selective solvent, the ratio of the hydrocarbon mixture to the said small amount of heterocyclic solvent being such that under the temperature and pressure conditions chosen it is substantially only cyclopentadiene that is absorbed, removing said small amount of heterocyclic solvent after it has been loaded with cyclopentadiene and supplying it to a countercurrent column where

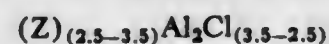


it is brought into contact with an inert non-solid compound, the amount of said inert non-solid compound being such that only the dissolved diolefins (but not the cyclopentadiene) are removed from the heterocyclic solvent, withdrawing the added inert compound containing the diolefins dissolved therein but not the cyclopentadiene at the upper portion of the countercurrent column, supplying the heterocyclic solvent containing cyclopentadiene to a stripping zone in which the cyclopentadiene is expelled and withdrawing it at a suitable point from the stripping zone.

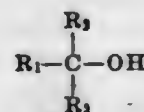
3,344,199 PROCESS FOR FORMING CYCLODODECATRIENE

Joseph Eli Brenner, Vesenz, Switzerland, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 21, 1966, Ser. No. 580,886
5 Claims. (Cl. 260-666)

1. A process for the preparation of cyclododecatriene-(1,5,9) which comprises contacting a catalyst formed by reacting an organoaluminum compound having the formula



wherein Z is selected from the class consisting of alkyl radicals having from 2 to 4 carbon atoms and the phenyl radicals with from 0.3 to 2.0 moles of an alcohol having the formula



wherein R_1 , R_2 and R_3 are alkyl groups of 1 to 10 carbon atoms, and aryl and substituted aryl groups having 6 to 12 carbon atoms, and when R_1 , R_2 and R_3 are alkyl groups at least one of the R groups contains at least one hydrogen atom on the carbon atom attached to the carbon atom attached to the hydroxyl group, and with a titanium compound of the formula TiA_4 wherein A is selected from the class consisting of chlorine, bromine, and OR, wherein R is a hydrocarbon radical having from 1 to 20 carbon atoms in an amount such that the molar ratio of the aluminum compound to titanium compound is maintained at from 3/1 to 30/1 with butadiene and conducting the re-

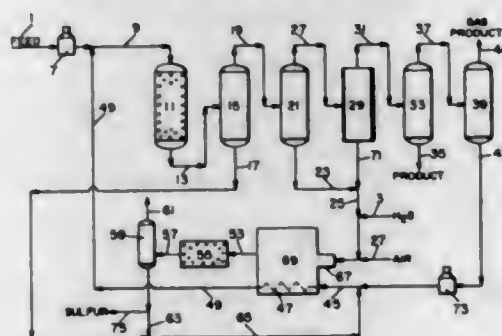
action at from 20 to 120° C. and recovering cyclododecatriene-(1,5,9).

3,344,200 PROCESS FOR SELECTIVE PARTIAL HYDROGENATION OF POLYAROMATIC COMPOUNDS

Milton M. Wald, Walnut Creek, and William E. Ross, El Cerrito, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 30, 1964, Ser. No. 414,890
12 Claims. (Cl. 260-667)

1. A process for selectively reducing an aromatic compound having from 2 to 4 nuclei and 0 to 2 alkyl substituents of 1 to 4 carbon atoms and mixtures thereof which comprises contacting the aromatic compound with a catalytically effective amount of aluminum halide and HI under hydrogenation conditions and recovering a partially hydrogenated product having one aromatic ring per molecule.

3,344,201 PRODUCTION OF STYRENE Seymour C. Schuman, Rocky Hill, N.J. (360 Jefferson Road, Princeton, N.J. 08540) Filed June 7, 1965, Ser. No. 461,764 20 Claims. (Cl. 260-669)



1. The process of contacting ethyl benzene with elemental sulfur adiabatically over a solid catalyst comprising a metallic sulfide at a temperature between about 600° F. and 1100° F. and recovering styrene from the effluent from said reaction zone.

3,344,202 OLEFIN PURIFICATION PROCESS William C. Ziegenhain, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware Filed May 21, 1965, Ser. No. 457,554 10 Claims. (Cl. 260-677)

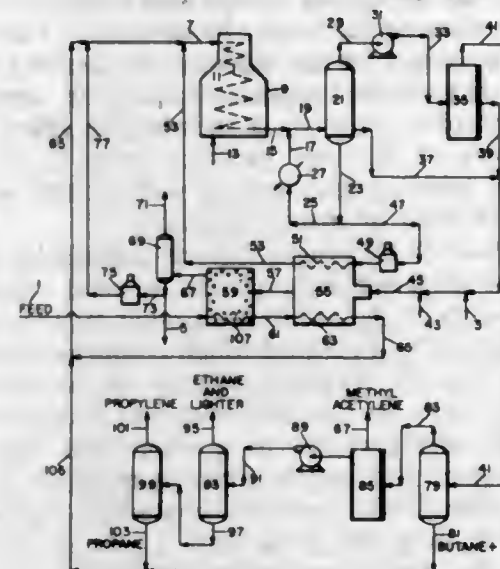
4. A process for removing aluminum alkyls from a feed stream of olefins containing the same which comprises:

- contacting said feed stream with a first complex of the formula $A \cdot [Al(R)_3]_m$, said A comprising a complexing agent capable of also forming complexes of the formula $A \cdot [Al(R)_3]_n$ where n is greater than m and each R is an alkyl group, said first complex being present in amount sufficient to react with substantially all of only the lowest molecular weight aluminum alkyl in said feed streams,
- withdrawing from the contacting of step (a) an olefin stream of substantially reduced content of said lowest molecular weight aluminum alkyl as compared to said feed stream, and a stream of complexing agent of the formula $A \cdot [Al(R)_3]_n$, where A, n , and R are as before defined,
- passing the withdrawn olefin stream of step (b) into contact with a second complex of the formula $A \cdot [Al(R)_3]_m$ in amount sufficient to react with substantially all of the remaining aluminum alkyl therein, and
- withdrawing from the contacting of step (c) an olefin product stream and a stream of complexing

agent of the formula $A \cdot [Al(R)_3]_m \cdot [Al(R')_3]_p$, where R' is an alkyl group of greater average carbon chain length than said R, and p is at most equal to n minus m .

3,344,203 PRODUCTION OF METHYL ACETYLENE AND PROPYLENE

Seymour C. Schuman, Rocky Hill, N.J.
(360 Jefferson Road, Princeton, N.J. 08540)
Filed June 7, 1965, Ser. No. 461,683
20 Claims. (Cl. 260-678)



1. The process which comprises contacting a light hydrocarbon stream with elemental sulfur in proportions corresponding to from 0.25 to 2.5 moles of S_2 per mole of C_3 and heavier hydrocarbons in the total feed, at a temperature from 1000° F. to 1450° F., a pressure from 5 to 300 p.s.i.a. and with a contact time from 0.5 to 100 seconds, and recovering methyl acetylene and propylene as major products.

3,344,204 COPOLYMER OF BUTADIENE AND NORMAL ALPHA-OLEFINS

Thomas J. Clough, Glenwood, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Original application Nov. 15, 1962, Ser. No. 238,039, now Patent No. 3,252,772, dated May 24, 1966. Divided and this application Oct. 7, 1965, Ser. No. 515,771

2 Claims. (Cl. 260-680)

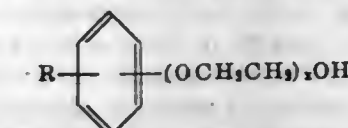
1. A normally liquid, mineral oil-compatible polymer of about 1 to 20% by weight butadiene and 99 to 80% of a mixture of normal alpha olefins containing at least about 25% C_{18} normal, alpha olefin, at least about 20% C_{18} normal, alpha olefin and up to about 50% of normal alpha olefins in the C_{10} to C_{24} range other than C_{18} to C_{18} , said polymer having a Staudinger molecular weight of about 1000 to 20,000.

3,344,205 LOW VISCOSITY RUBBER-STYRENE INTERPOLYMERIZABLE COMPOSITIONS AND THEIR PREPARATION

Alan E. Grey, San Pedro, and Louis B. Banasky, Los Alamitos, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 10, 1964, Ser. No. 343,504
8 Claims. (Cl. 260-880)

1. In a method of interpolymersing 99 to 70 parts by weight of a vinyl arene and 1 to 30 parts by weight of a diene-based elastomer, the steps of dispersing said elas-

tomers vinyl arene together with 0.005-1% based on said monomer of an alkylphenoxy polyethoxy ethanol and thereafter interpolymersing the vinyl arene and elastomer, said polyethoxy ethanol having the general formula



wherein x is an integer from 3 to 30 and R is an alkyl group having 4-18 carbon atoms.

3,344,206 POLYBUTADIENE BLENDS OF IMPROVED COLD FLOW

James N. Short, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 187,918, Apr. 16, 1962. This application Apr. 13, 1966, Ser. No. 542,425

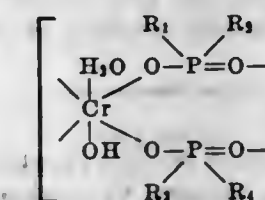
3 Claims. (Cl. 260-894)

1. A composition consisting essentially of (1) a major amount of a homopolymer of butadiene having an inherent viscosity in the range of 0.75 to 3, from 35 to 48 percent of said polybutadiene being formed by cis-1,4-addition of 1,3-butadiene, and (2) a minor amount of a homopolymer of butadiene having an inherent viscosity in the range of 6 to 20, the amount of component (2) being in the range of 2 to 40 weight percent of the total amounts of components (1) and (2), the inherent viscosity being determined from the viscosity of a solution of 0.1 gram of polymer per 100 milliliters of toluene at 77° F.

3,344,207 STABILIZED VINYL CHLORIDE POLYMER COMPOSITIONS

Peter Francis Radice, King of Prussia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 3, 1965, Ser. No. 511,313
6 Claims. (Cl. 260-897)

1. A stabilized polymer composition comprising a mixture of a vinyl chloride polymer and a stabilizing amount of a chromium phosphinate polymer composed of the repeating unit



where R_1 , R_2 , R_3 and R_4 are independently selected from the group consisting of alkyl groups having up to 10 carbon atoms, hydrocarbon aryl groups having up to 10 carbon atoms, alkoxy groups having up to 10 carbon atoms, and phenyloxy, said phosphinate polymer characterized by having an intrinsic viscosity, as measured in chloroform solution at 31° C., within the range of about 0.05 to about 5.0.

3,344,208 METHOD OF FABRICATING MIXED CERAMIC COMPACTS

William Munro, Newbury, England, assignor to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed June 12, 1964, Ser. No. 374,833
Claims priority, application Great Britain, June 17, 1963, 24,023/63

9 Claims. (Cl. 264-5)

1. A method of dispersing a first ceramic material in a matrix of a second ceramic material comprising the steps of mixing a powder of the second ceramic material

with a small quantity of wax to give a substantially dry waxed powder of the second ceramic material substantially free of solvent and in which the wax coats and adheres to the second powder, mixing particles of the first ceramic material with said substantially dry waxed powder to form a coating of the second ceramic material on the particles of the first ceramic material, pressing the coated particles to form a compact, distilling off the wax by heating the compact under reduced pressure and heating the de-waxed compact to a sintering temperature.

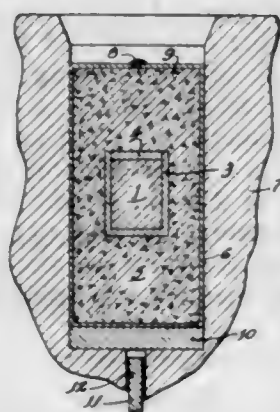
3,344,209

FABRICATION OF MATERIALS BY HIGH ENERGY-RATE IMPACTION

James R. Hague, Golden, Colo., and Daniel W. Brite, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 5, 1966, Ser. No. 599,681

6 Claims. (Cl. 264—5)



1. In a process in which a powdered material is formed into a solid mass by enclosing it in a first container, confining said container in a die so as to prevent expansion, and subjecting said container to a violent impact, and wherein said solid mass is brittle; the improvement comprising: enclosing said powdered material in a second container within and spaced on all sides from said first container, the space between said containers being filled with granular material and said second container being made of graphite, whereby cracking of said solid mass is avoided.

3,344,210

METHOD OF MAKING SOLID THERMITE PELLETS

Denis A. Silvia, King George, Va., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,799

1. A method of producing solid thermite pellets, without the use of additives, for warhead applications comprising forming a mixture consisting essentially of a quantity of thermite powder with a sensitizing agent in the presence of a small amount of water which forms coordination bonds between the oxide coatings on the aluminum particles of the thermite thereby resulting in a matrix of improved mechanical strength; introducing the mixture into a die; cold pressing the mixture so as to form solid thermite pellets which, upon impact with a target, are initiated, thereby emitting a shower of molten iron particles and a chemical energy release on the target; and curing the formed solid thermite pellets under an amount of water for a period of several days to thereby further strengthen the pellets.

3,344,211 METHODS OF FORMING NUCLEAR FUEL BODIES

Geoffrey Brian Redding, Weymouth, and David Norman Lamb, Poole, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed Oct. 20, 1965, Ser. No. 499,040
Claims priority, application Great Britain, Oct. 30, 1964, 44,460/64

8 Claims. (Cl. 264—5)

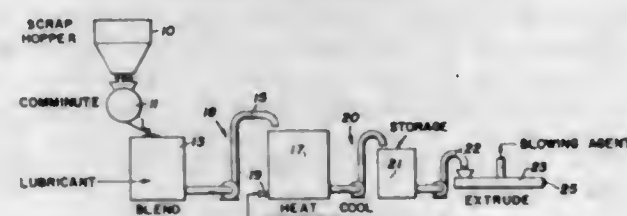
1. A method of applying to nuclear fuel particles an outer coating which resides in tumbling the fuel particles in a drum into which powder grains of a matrix material which have been previously treated with a binder are introduced, and softening the binder by contacting the powder grains with a solvent for the binder as the grains enter the drum such that the fuel particles acquire an outer coating of the powder grains by a snowballing effect, which coating allows of the fuel particles being formed into compacts by pressing and heating without the need for adding further filler or matrix material.

5. A method of forming compacts containing nuclear fuel particles dispersed in a matrix material comprising applying to each of the particles an outer layer of matrix forming material by a method which comprises providing a supply of matrix forming material in powder form whose grains have been treated with and carry a binder, tumbling the fuel particles in a drum into which the powder grains of the matrix forming material is introduced as a free flowing powder, contacting the powder grains as they enter the drum with a mist of a volatile solvent for the binder, such that the particles acquire an outer coating of the powder grains by a snowballing effect, terminating the tumbling after the required amount of matrix forming material has been introduced and then forming a selected mass of the particles so coated into compacts by pressing and heating to set the binder.

3,344,212

RECOVERY OF THERMOPLASTIC FOAM SCRAP MATERIAL

Daniel V. Francis, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,841
6 Claims. (Cl. 264—37)



1. A process for preparing waste styrene polymer foam material for reuse comprising comminuting said material into particles, coating said particles with a lubricant, subjecting said particles to a stream of hot inert gas while agitating said particles to prevent agglomeration, the heating being carried out for a sufficient period of time such that the bulk density of said particles increases to a final bulk density between about 15-30 pounds per cubic foot and cooling said particles.

3,344,213

POWDER COMPACTING METHOD

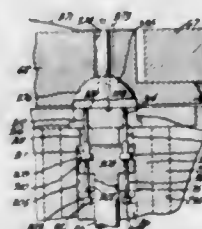
Paul Vinson, Costa Mesa, Calif., assignor to Pentronix, Inc., a corporation of Michigan
Filed Feb. 24, 1966, Ser. No. 529,734

6 Claims. (Cl. 264—39)

1. A method for making simultaneously a plurality of articles of predetermined dimensions and density compacted from powder by means of a die having a plurality

of cavities and a plurality of reciprocable punches, each of said punches being disposed at the bottom of each of said cavities, said method comprising:

disposing a hopper over said die, said hopper having a lower edge engaging the surface of said die; filling said hopper with the powder to a predetermined level so as to completely fill said cavities; reciprocating the punches simultaneously to a first predetermined position causing an overflow of the excess powder from each of said cavities back into said hopper and a predetermined amount of powder to remain in each of said cavities; removing said hopper from over said die and simultaneously removing the excess of powder not contained in each of said cavities as a result of the wiping action of the edge of said hopper on the surface of said die;



placing an anvil surface over said die for closing said cavities; reciprocating the punches simultaneously to a second predetermined position toward said anvil surface for causing a predetermined compaction of said predetermined amount of powder in each of said cavities so as to form a plurality of said compacted articles; removing said anvil surface from over said die; and reciprocating said punches simultaneously to a third predetermined position for ejecting said compacted articles from said cavities; whereby said punches are snugly fitted within said die cavities and are held longitudinally rigid for reciprocation within each cavity by a circularly arranged holder permitting each of said punches to be radially displaceable relative to said holder enabling accurate guiding of said punches within said cavities during reciprocating movement of said punches.

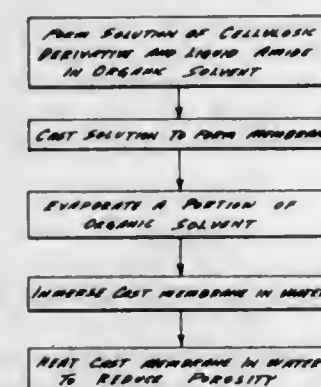
3,344,214

METHOD OF PREPARING A SEMIPERMEABLE MEMBRANE

Serop Manjikian and Sidney Loeb, Los Angeles, and Joseph W. McCutchan, Encino, Calif., assignors to The Regents of the University of California, Berkeley, Calif., a corporation

Filed Mar. 25, 1964, Ser. No. 354,775

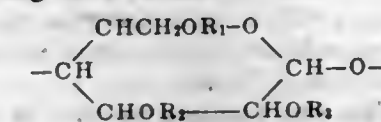
13 Claims. (Cl. 264—41)



1. A method of preparing a semipermeable membrane adapted to permit substantially selective diffusion there-through of a component of a solution comprising:

(a) dissolving

(I) a cellulosic derivative from the class consisting of the ester and ether cellulosic derivatives having the formula



wherein R_1 , R_2 and R_3 are members of a group consisting of R_4 and CR_5O , wherein R_4 is an alkyl group containing 1 to 8 carbon atoms and R_5 is an alkyl group containing 1 to 7 carbon atoms and

(II) a substantially water-soluble liquid amide having the formula $R_6\text{CONR}_7R_8$ wherein R_6 is from the class consisting of hydrogen, methyl and ethyl groups and R_7 and R_8 are from the class consisting of hydrogen, methyl, ethyl and propyl groups,

in an organic solvent

(b) casting said solution to form a membrane; (c) evaporating a portion of said organic solvent for a period of time sufficient to transform the cast solution into a membrane having a specific physical structure; (d) immersing the cast membrane in water; and (e) heating the cast membrane to reduce its porosity.

3,344,215

PRODUCTION OF EXPANDED THERMOPLASTIC PRODUCT

Gerald C. De Witz, Blackwood, N.J., and Jan Dekker, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1963, Ser. No. 317,099

Claims priority, application Netherlands, Aug. 22, 1963, 296,971

12 Claims. (Cl. 264—53)



1. A process for producing expanded polystyrene, comprising

(1) introducing polystyrene and foam nucleating agent into the first zone of a screw extruder which has a length-to-diameter ratio in the range from 20 to 36 and contains a single screw in a single cylinder, at least the last four diameter lengths of said first zone being the sole metering section of said extruder; (2) conveying said polystyrene forward in said first zone toward a second zone of said extruder by rotation of said screw, while heating and compressing the polystyrene to a temperature in the range from 150 to 300° C. and a pressure of at least about 1500 p.s.i.; (3) passing the resulting plastic mass into said second zone of said extruder, said second zone comprising in sequence a mixing zone and a cooling zone and terminating in an extrusion die; (4) injecting near the inlet of said second zone a continuously flowing stream of volatile liquid foaming agent into said flowing plastic mass; (5) the pressure of the plastic mass throughout said second zone being no higher than the highest pressure in said extruder upstream from the point at which said foaming agent is injected; (6) intimately mixing said foaming agent and said plastic mass in said second zone at a temperature in the range from 150 to 300° C., said mixing compris-

ing repeating at least four times the steps of dividing the forward-flowing plastic mass and admixed foaming agent into a multiplicity of segregated forward-flowing portions and recombining said segregated portions, whereby a mixture of substantially uniform composition is formed;

- (7) cooling the resulting mixture in said cooling zone to a temperature in the range from 100 to 160° C., and
- (8) extruding the cooled mixture through said die into a space at substantially lower pressure, whereby the extruded mass is expanded by virtue of the expansion of said foaming agent.

3,344,216

PROCESS OF CASTING AMYLOSE FILMS

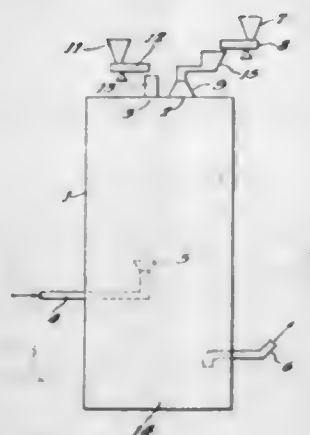
Thomas F. Protzman, Decatur, John A. Wagoner, Mount Zion, and Austin H. Young, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed Jan. 6, 1964, Ser. No. 336,059
21 Claims. (Cl. 264-93)

1. The process of preparing dense, continuous amylose films which comprises dissolving amylose in water at a temperature of at least 130° C. without an organic amylose-complexing agent, casting a film of said amylose solution on a support having a temperature at least 10° C. less than the gelation temperature of the amylose solution to form a dimensionally stable gel, and drying said amylose gel under restraint at a temperature above the gelation temperature of the amylose solution to form a dense film.

3,344,217

MANUFACTURE OF A LIGHTWEIGHT INSULATING PRODUCT

Donald W. Mogg, Elizabethton, and Frederick L. Shea, Jr., Johnson City, Tenn., assignors to Grefco, Inc., Philadelphia, Pa., a corporation of Delaware
Filed May 26, 1966, Ser. No. 557,857
18 Claims. (Cl. 264-121)



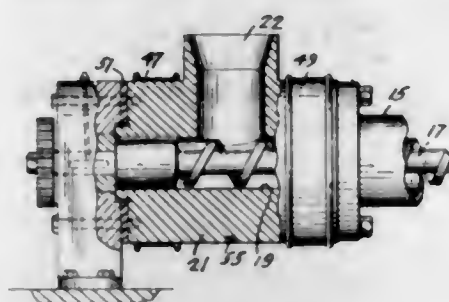
1. A process of producing an insulating product containing fibers and a lightweight inorganic aggregate comprising suspending an inorganic lightweight aggregate component into a gaseous medium, suspending a fibrous component consisting essentially of individual discrete fibers into a gaseous medium, blending the fibers and aggregate together in the gaseous medium with controlled turbulence until they are substantially uniformly blended and to substantially prevent fiber agglomeration while maintaining sufficient void space to aid in uniformly blending the components and to maintain the fibers in substantially discrete form, introducing an aqueous system into the components dispersed in the gaseous medium, separating the blended components from the

gaseous medium, and removing substantially all of the water from the blend.

3,344,218

RETREATMENT OF SYNTHETIC FIBRES

Schinder Nath Chopra and Glen Hugh Guld, Drummondville, Quebec, Canada, assignors to Chemcell Limited, a corporation of Canada
Filed Apr. 26, 1965, Ser. No. 450,761
12 Claims. (Cl. 264-176)



1. A process for making feed stock for preparing shaped bodies from synthetic thermoplastic resin fibrous waste material, in which the said waste material is passed in the form of a continuous bundle of fibres through an extruder equipped with an elongated extrusion barrel having a feed end and a forming end, the feed end being provided with a casing having a bore concentric with said barrel and a feed hopper leading to said bore, the forming end of the barrel being connected to an extruding head, the barrel being provided with heating means along its length, the process comprising heating the casing to the softening temperature of the feed material whereby the material adheres to the parts in said casing and to the extrusion screw whereby it is swallowed thereby.

3,344,219

PROCESS FOR MANUFACTURING SHAPED ARTICLES OF OPTICALLY ACTIVE POLY- γ -METHYL GLUTAMATE

Ryoichi Wakasa, Hidehiko Kobayashi, Koretaka Yamaguchi, Hakaru Uchio, Masaki Ishigami, and Hiroaki Hachino, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed July 14, 1964, Ser. No. 382,579
Claims priority, application Japan, July 18, 1963, 38/36,752; June 3, 1964, 39/31,157; June 13, 1964, 39/33,217, 39/33,218; June 24, 1964, 39/35,577, 39/35,578; June 29, 1964, 39/36,368
13 Claims. (Cl. 264-183)

1. A process for manufacturing shaped articles of optically active poly- γ -methyl glutamate, said method comprising polymerizing optically active γ -methyl glutamate N-carboxy anhydride by using as a polymerization solution a mixture of acetonitrile and at least one halogenated hydrocarbon wherein the acetonitrile comprises at most 70% by volume to form a polymer in the solution and subjecting said polymer solution to a shaping step.

3,344,220

PROCESS OF MAKING A HEARING AID HAVING A FOAMED SUPPORTIVE STRUCTURE FORMED IN SITU

Galen B. Cook, Columbia, Mo. 65201
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,733
1 Claim. (Cl. 264-222)

A method of making a fitted hearing aid for an individual person comprising introducing into the mouth of the ear canal a dam and thereafter into the concha and mouth of the air canal of said person a nontoxic, fluent mix-

ture of a setting agent, a liquid elastomeric material which sets in the presence of said setting agent at a physiologically tolerable temperature to a surface conforming, coherent, unplastic, pliant solid and an intumescent causing said elastomeric material to intumesce; setting said intumescent material in situ while maintaining said material in intimate contact with the concha and mouth of the ear canal, and seating a speaker in said material.

3,344,221

METHOD FOR INFLATING OR DEFLATING CLOSED CELL FOAMS

Frank Baldwin Moody, West Chester, Pa., and Robert Guy Parrish, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 16, 1963, Ser. No. 302,495
28 Claims. (Cl. 264-321)

YIELDABLE POLYMERIC CELLULAR STRUCTURE HAVING CLOSED CELLS DEFINED BY GAS PERMEABLE WALLS AND DENSITY 1 TO 75% OF SOLID POLYMER

IMMERSION IN FLUID PERMEATING AGENT (PPA) AT PRESSURE NOT LESS THAN ATMOSPHERIC

SAID CELLULAR STRUCTURE HAVING PARTIAL PRESSURE OF PPA IN CELLS

EXPOSURE TO GAS HAVING DIFFERENT PERMEABILITY RATE THROUGH CELL WALLS FROM PPA TO PROVIDE OSMOTIC DRIVING FORCE

SAID CELLULAR STRUCTURE HAVING DIFFERENT DENSITY FROM ORIGINAL

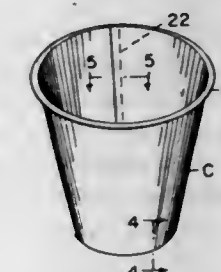
1. Method for osmotically effecting a net change in the density of a synthetic, high molecular weight, polymeric cellular structure having a density of 1% to 75% of the density of the polymer in solid non-expanded form, said cellular structure having a major proportion of closed cells defined by gas permeable walls and being characterized in that in expanded condition it is reversibly yieldable such that substantial deformation occurs under internal-external pressure differentials, which method comprises the steps of (a) immersing said cellular structure at a pressure no less than about atmospheric in a fluid permeating agent capable of permeating the said cell walls, thereby effecting diffusion of the said agent

into the cells to establish an internal partial pressure of said agent, and subsequently (b) subjecting the thusly treated structure to a gaseous atmosphere also capable of permeating the said cell walls but which has a different permeability rate through the cell walls than does said agent, further provided that if said gaseous atmosphere is more permeant to the walls than is said agent then the external partial pressure of the atmosphere is greater than the internal partial pressure thereof whereas if said gaseous atmosphere is less permeant to the walls than is said agent then the external partial pressure of said agent is lower than the internal partial pressure thereof thereby effecting a net change in the quantity of fluid within said closed cells.

3,344,222

METHOD OF MAKING CONTAINERS FROM EXPANDABLE PLASTIC SHEETS

Arnold Shapiro, Chestnut Hill, William Hammer, Lexington, and Leo J. Kerivan, Wellesley, Mass., assignors to Sweetheart Cup Corporation, Cambridge, Mass., a corporation of Maryland
Filed Oct. 7, 1963, Ser. No. 314,362
6 Claims. (Cl. 264-321)



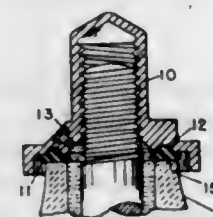
1. A method of making foam plastic containers comprising the steps of providing an expansible foam plastic sheet material, cutting a blank from the sheet to form the container side wall, providing a bottom wall blank for the container, joining each of the blanks together to form them into the container with an overlapped wall seam, and thereafter changing the density of the side wall without appreciably changing its thickness by the use of heat in a confining mold to increase the density at the surface zones and to simultaneously decrease the density in the interior zone of the side wall.

ELECTRICAL

3,344,223

SEAL FOR A POTHEAD HOODNUT

Robert A. Philibert, Rockville Centre, Frank L. Browne, Wantagh, and Robert F. Pollimine, Brooklyn, N.Y., assignors to O.Z. Electrical Manufacturing Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Jan. 7, 1966, Ser. No. 519,330
1 Claim. (Cl. 174-19)



In a pothead structure, an insulator body being hollow for allowing the sealed entrance of a cable at its lower end and having a flat circular surface at its upper end,

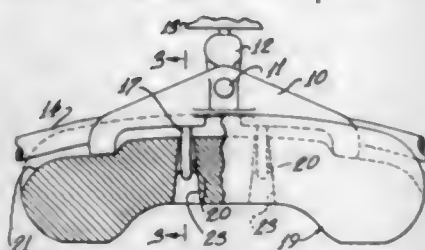
a metal stem extending out of said insulator at its upper end and connected to said cable at its lower end, said upper end of said stem being threaded and said lower end of said stem contacting said body of said insulator to prevent rotation of said stem relative thereto but providing the free passage of air and any fluid dielectric material inserted into said insulator body, a flat gasket of resilient rubber material located on said flat circular surface at the upper end of said insulator body, and a capnut threaded onto said stem against said flat gasket, said capnut having a closable vent, and also having a generally flat and now-confining circular surface matching the flat circular surface of said insulator body but having therein an annular groove centrally located radially in said flat surface relative to the flat surface of said insulator body, said annular groove having a cross-sectional area for receiving substantially all of the resilient rubber material of the gasket displaced from its normal position by the tightening of the capnut onto said stem.

3,344,224

HOLD-DOWN WEIGHT FOR CONDUCTOR SUPPORTING CLAMPS

Malcolm Bethea, Jr., and Karl E. Smith, Birmingham, Ala., said Smith assignor to Bethea Company, Inc., a corporation of Alabama

Filed Sept. 6, 1966, Ser. No. 577,306
4 Claims. (Cl. 174-40)



1. The combination with a conductor supporting clamp having a clamp body and keeper:

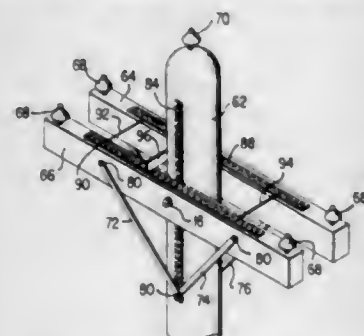
- a hold-down weight body member having a cavity in its upper surface contoured to nest under and around and adjacent the lower portion of the supporting clamp to provide a composite unit that is compact,
- said weight body member having rounded and smoothly contoured exterior surfaces providing an electrical shield adjacent said supporting clamp, and
- clamping means connecting said weight body member to said keeper with said clamp body therebetween and thereby securing said clamp body to said weight body member and to a conductor positioned between said keeper and said clamp body.

3,344,225

POLE BONDING

John C. Jurett, Miami, Fla., and Albert Clifford Middleton, Keswick, Ontario, Canada, assignors to Automated Building Components, Inc., Miami, Fla., a corporation of Florida

Filed June 29, 1966, Ser. No. 561,512
15 Claims. (Cl. 174-45)



1. Bonding apparatus comprising a support structure for electrical transmission lines including a wood pole and cross arm, and at least one electrically conductive bonding plate driven into said structure adjacent the juncture of said pole and cross arm, said plate having a plurality of elongated, slender, nail-like teeth punched therefrom and extending perpendicular from one side of said plate, said teeth being embedded in said structure to form a plurality of integral current collector points for leakage current passing through said structure.

3,344,226

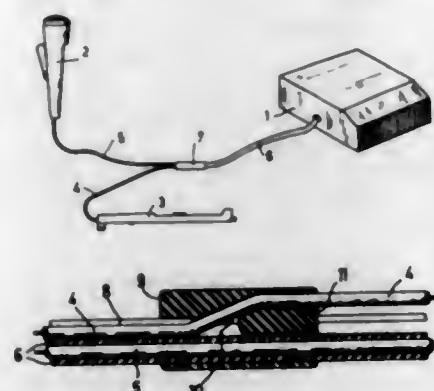
SLIDE FASTENER TYPE SHEATH FOR CONDUCTORS

Per-Olov Harse, Arboga, Sweden, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 8, 1965, Ser. No. 470,551
1 Claim. (Cl. 174-70)

A sheath assembly for conductors in combination with a recorder/reproducer having a microphone and a switch

housing comprising a plurality of conductors, one of said conductors being connected to said microphone and another of said conductors being connected to said switch housing; a resilient envelope surrounding said conductors and having a slit therethrough extending substantially the entire length of said envelope and being aligned with said conductors; and a slider surrounding said envelope, said slider comprising a sleeve having an aperture therethrough, said aperture being aligned with said slit and having at least one of said conductors passing



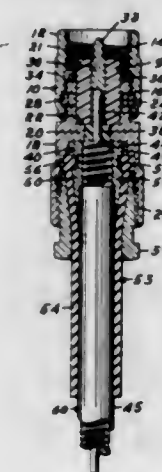
therethrough, and a pair of axially aligned wedge portions connected to the internal surface of said sleeve, each of said wedge portions extending through said slit into the interior of said envelope, wherein axial movement of said slider in one direction separates the walls of said envelope defining said slit and withdraws said conductor passing through said slit from said envelope and movement of said slider in the other direction, separates said walls of said slits and inserts said conductor passing through said aperture into said envelope.

3,344,227

CONNECTOR WITH ONE-PIECE GASKET AND BOOT

Norman D. Gilmartin, West Peabody, and Roy L. Kormack, Stoneham, Mass., assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,143
4 Claims. (Cl. 174-88)



1. The assembly of a coaxial cable and an electrical connector, said connector including a housing assembly, a tubular, externally tapered collet clamp and a one-piece, flexible, tubular gasket boot, said collet clamp having a head portion and a shank portion extending from said head portion, said shank portion being necked adjacent said head portion to provide a neck portion and the shank portion having an internal thread formed therein engaged around the coaxial cable, said gasket boot having a gasket portion and a boot portion extending from said gasket

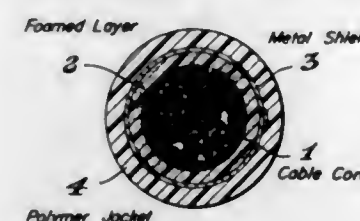
portion which forms a shoulder with the boot portion, said collet clamp and said gasket boot engaged within said housing assembly and said boot portion extending over a portion of said shank portion and beyond said housing assembly.

3,344,228

THERMAL BARRIERS FOR ELECTRIC CABLES

Paul C. Woodland, Gerald E. Clock, and Raymond C. Mildner, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 412,445
18 Claims. (Cl. 174-107)



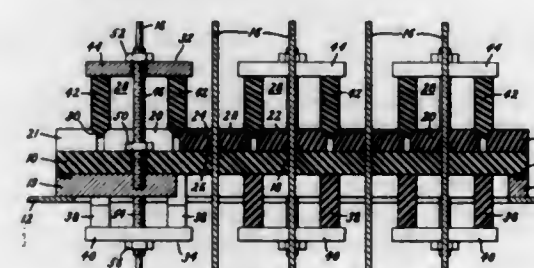
1. An electrical cable having a core of at least one insulated metallic conductor, a foamed polymer composition surrounding the core the inner surface of said foamed polymer composition having an essentially annular cross-section, a continuous, annular supporting sheathing member surrounding and adhered to the layer of foamed insulating material, and an outer polymer jacket surrounding the inner supporting member.

13. A laminate for use as a thermal barrier and sheathing member in electric cables which comprises a cable sheathing member having a first and second side, said member having adhered to at least the first side a layer of a foamable coating composition.

3,344,229

CASING SEAL FOR BUS BARS

Stanley H. Wilk, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 10, 1966, Ser. No. 593,508
5 Claims. (Cl. 174-151)



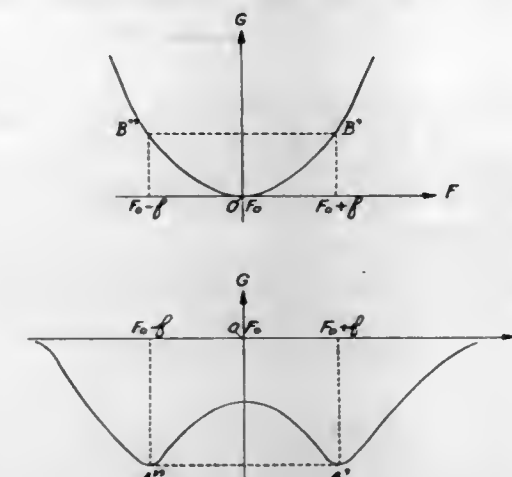
1. In an electrical apparatus having a housing wall provided with an aperture, a slotted panel of insulating material closing said aperture, a plurality of flat bus bars extending through said slotted panel in closely spaced side-by-side parallel spaced relation, a separate elongated gland member surrounding each said bar adjacent one surface of said panel, each said gland member having at its lower surface adjacent said panel a beveled gasket seat surrounding the associated bus bar, and adjacent pairs of said gland members being tapered at their upper surfaces along juxtaposed parallel edges to form between said edges V-shaped notches, a circumferential compressible sealing ring in each said gasket seat, a wedging member positioned in each said V-shaped notch, and clamping means pressing said wedging members toward said panel to compress said sealing rings between said bus bars and said panel.

3,344,230

RECEIVERS FOR RECEIVING A COLOUR TELEVISION SIGNAL INCLUDING A FREQUENCY-MODULATED SUBCARRIER

Jean Besse, Levallois, France, assignor to CFT-Compagnie Francaise de Television, a corporation of France
Filed July 12, 1965, Ser. No. 471,142
Claims priority, application France, July 15, 1964, 981,693

4 Claims. (Cl. 178-5.4)



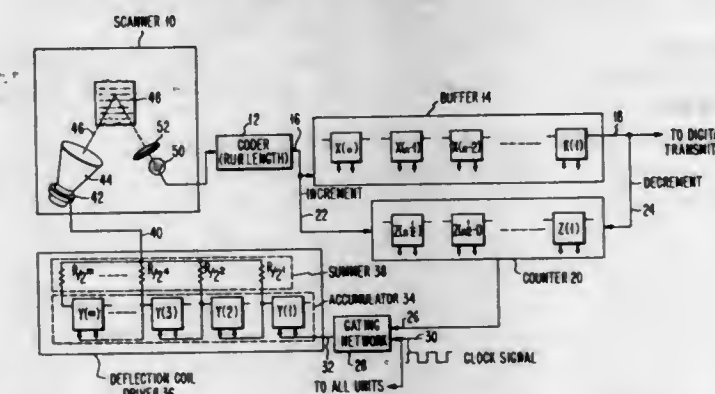
1. A receiver capable of receiving a colour television composite video signal including a luminance signal and a subcarrier which is frequency-modulated by a colour information and is superimposed on said luminance signal in a portion of the bandwidth thereof, said frequency-modulated subcarrier having been, at the transmitting end, before its addition to the luminance signal, passed through a filter, referred to as a coding filter, whose amplitude-frequency characteristic, in the frequency bandwidth of the subcarrier channel, increases on both sides of a predetermined frequency F_0 ; said receiver comprising a luminance channel comprising a trap whose amplitude-frequency characteristic shows a relative maximum for frequency F_0 , and two minima for two frequencies F' and F'' respectively located on both sides of frequency F_0 ; said trap attenuating each of the two frequencies F' and F'' relatively to frequency F_0 substantially in the same ratio as it was enhanced by said coding filter relatively to frequency F_0 .

3,344,231

DIGITAL FACSIMILE SYSTEM EMPLOYING RUN-LENGTH ENCODING AND VARIABLE SCAN RATE TO PROVIDE REDUCED BANDWIDTH

Paul David Dodd and George Fred Grometer, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 10, 1964, Ser. No. 417,293
10 Claims. (Cl. 178-7.1)



8. In a facsimile system including a digital transmitter, the combination comprising:
a scanner capable of emitting binary data corresponding to scanlines of a document;

3,344,240

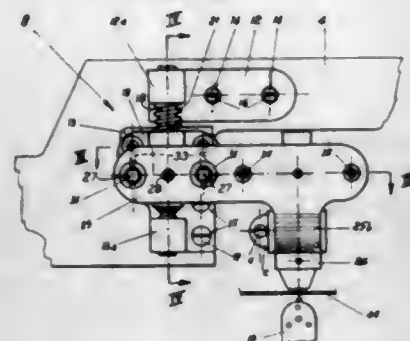
ADJUSTABLE PICKUP DEVICE FOR OPTICAL SOUND TRACK

Angelo Bottani, Milan, Italy, assignor to Societa Internazionale Fonovisione S.p.A., Milan, Italy, a corporation of Italy

Filed July 18, 1966, Ser. No. 568,699

Claims priority, application Italy, June 14, 1962, 721,379/62; Oct. 16, 1965, 23,138/65, Patent 669,953

13 Claims. (Cl. 179—100.3)



1. A pickup device for an apparatus of the class consisting of audio and audio-visual production apparatus, comprising a bracket means adapted to be mounted on said apparatus adjacent a film strip carrying a sound record, said bracket means having spaced projecting portions provided with aligned openings therein, a block having a bore therethrough disposed between said projections, said bore being disposed in alignment with said openings, a pivot pin extending through said bore and aligned openings for connecting said block to said bracket whereby said pin defines an axis permitting relative linear movement between said bracket means and block, spring means disposed between said block and a projecting portion of said bracket for yieldingly resisting linear movement therebetween, means operatively associated between said bracket and block for permitting limited angular movement of said block about said axis, a support means carried by said block, means for adjusting the relative perpendicular distance between said block and said support means, a pickup lens and a cooperating lamp carried by said support means, and means for adjusting said lamp relative to said pickup lens.

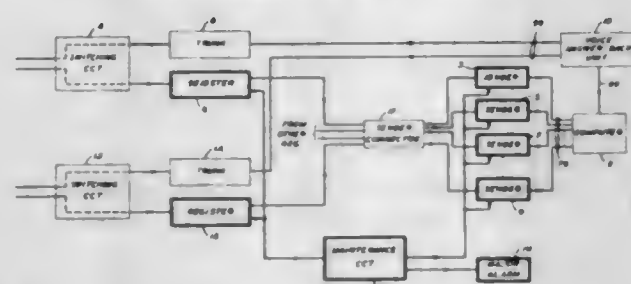
3,344,241

TROUBLE INDICATING SYSTEM

Joseph Harmon, Yonkers, John M. Repholz, New York, and August J. Sarka, Baldwin, N.Y., assignors to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York

Filed Apr. 20, 1964, Ser. No. 361,082

10 Claims. (Cl. 179—175.2)



1. In an automatic switching system, a plurality of operating circuits, means for successively removing certain of said operating circuits from service in response to a plurality of trouble indications from each of said certain circuits, and means for inhibiting removal from service of additional operating circuits upon the removal of a predetermined number of said certain circuits.

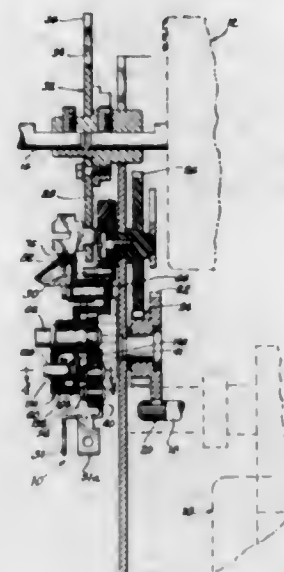
3,344,242

CARRY-OVER AND STOPPING SWITCHES WITH IMPROVED ARCUATE SHAPED CONTACT STRUCTURE

William J. Schaad, Winnetka, and William N. Schink, Crystal Lake, Ill., assignors to Indak Manufacturing Corp., Northbrook, Ill., a corporation of Illinois

Filed Oct. 4, 1965, Ser. No. 492,743

15 Claims. (Cl. 200—11)



2. In an electrical switch, the combination comprising a plurality of contact points, a supporting member for supporting said contact points, a movable carriage, means mounting said carriage for swinging movement adjacent said supporting member, a disc-shaped contactor mounted on said carriage for movement therewith into bridging relation to said contact points, biasing means for biasing said contactor toward said contact points, and an annular ridge of curved cross section formed on said contactor and slidably engageable with said contact points.

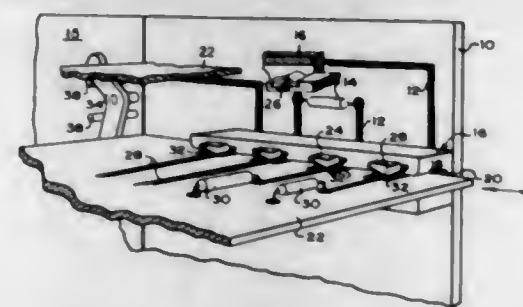
3,344,243

PRINTED CIRCUIT SLIDE-SWITCH CONNECTOR WITH RESILIENT ELECTRICAL CONTACTS

Robert L. De Vries, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed July 26, 1965, Ser. No. 474,789

6 Claims. (Cl. 200—16)



1. A connector for electrically connecting a contact terminal of a circuit board to an electrical circuit, said connector comprising: a dielectric member having a slot therein for receiving the circuit board, said slot having a pair of oppositely facing walls and having at least one open end for receiving the circuit board; and a resilient contact element fixedly mounted on one of said oppositely facing walls and protruding into

said slot for engaging the circuit board when it is inserted into said slot from said one end thereof, said resilient contact element being compressed by the circuit board for permitting sliding displacement of the circuit board along the length of said slot to bring said resilient contact element into contact with the contact terminal of the circuit board.

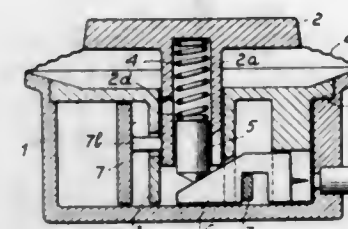
3,344,244

DELAYED-ACTION TRIPPING DEVICE

Carlo Mettler, Zurich, Switzerland, assignor to Redon Trust, Chiasso, Switzerland

Filed July 21, 1965, Ser. No. 473,612

3 Claims. (Cl. 200—34)



1. A delayed-action tripping device, inoperative by sudden instantaneous stresses, which comprises, in combination a rigid casing enclosure and a pressure plate, with a flexible portion of said plate hermetically sealing said enclosure, a rigid diaphragm provided with a hole, said diaphragm dividing said enclosure into two non-air-tight chambers; a slidable element, sliding into a hole in said diaphragm and actuated by the pressure plate against the bias of a spring; a tripping member; a locking means for locking said tripping member in its non-tripping position; and a delayed time means, said time means and said diaphragm being subjected to the prevailing pressure in either of the two chambers resulting from the pressure applied to the pressure plate, said delay means acting on said locking means allowing the locking means to be released from the tripping member only when persisting pressure is applied to the pressure plate.

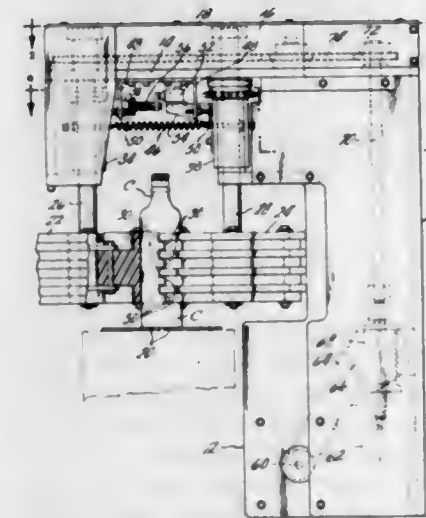
3,344,245

BODY GAGING APPARATUS FOR GLASS CONTAINERS

Constantine W. Kullg, Windsor, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Sept. 24, 1965, Ser. No. 489,891

10 Claims. (Cl. 200—61.41)



1. An apparatus for gauging the body width dimension of glass containers or the like and comprising a pair of approximately tangential gauging wheels which are pro-

vided with mating peripheral pockets which are generally complementary to the body shape of the containers so as to at least partially embrace them, a drive for rotating the wheels at equal speed and in opposite directions, at least one of said wheels being mounted for movement away from the other as a result of an oversized container being embraced by their mating pockets, means biasing said one wheel toward the other, means operable upon movement of the one wheel away from the other wheel to indicate the presence of an oversized container between the wheels, and means for feeding containers in sequence for gauging by the wheels.

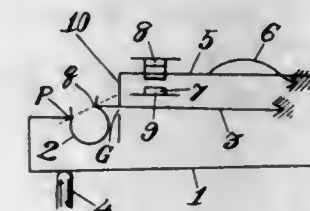
3,344,246

SNAP-ACTION OPERATING SYSTEM IN AN ELECTRIC SWITCH

Shigeo Mamiya, Tokyo, Japan, assignor to Kabushiki Kaisha Saginomiya Seisakusho, Tokyo, Japan

Filed Mar. 18, 1966, Ser. No. 535,499

3 Claims. (Cl. 200—67)



1. A snap action electric switch comprising, in combination, at least one quickly reversible contact member in the form of a relatively elongated first plate of resilient material fixedly mounted at one fixed end and having an opposite free end, said free end having a flange bent substantially at right angles to the general plane of said plate and formed with a substantially rectangular first aperture therethrough having first and second substantially parallel edges substantially parallel to the general plane of said plate; at least one movable contact carried by said contact member adjacent its free end; said contact member having a second aperture intermediate its ends, having an edge remote from said fixed end extending transversely of said first plate; a quick-reverse spring having a fixed end engaging an abutment adjacent said fixed end of said first plate and a free end engaged with said edge of said second aperture, whereby said quick-reverse spring is compressed between said abutment and said last-named edge and operable to snap the free end of said contact member in opposed respective directions after a predetermined initial movement of said contact member in a respective direction; a pair of spaced fixed contacts aligned with each movable contact and facing respective opposite sides of the latter; an operating member in the form of a relatively elongated second plate of resilient material fixedly mounted at one fixed end adjacent the fixed end of said contact member and having an opposite free end, said operating member including a portion extending through said first aperture of said contact member and being formed with a third aperture which is substantially rectangular and has opposite end edges extending substantially parallel to said flange; a first tongue extending from one end edge of said third aperture and a second tongue extending from the other end edge of said third aperture toward said first tongue, the adjacent ends of said first and second tongues being spaced longitudinally from each other; said first tongue constituting said operating member portion extending through said first aperture of said contact member, and the adjacent ends of both tongues being outwardly of said flange; a U-shaped leaf spring having the end portion of each leg engaged with the end of a respective tongue, said U-shaped leaf spring being com-

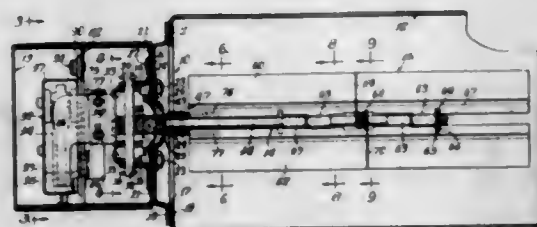
pressed between the adjacent ends of said tongue; an operating button engaged with said operating member adjacent its free end beyond said third aperture; the distance between said first and second substantially parallel edges of said first aperture being substantially less than the range of movement of said first tongue extending through first aperture; said U-shape leaf spring being rockable about the adjacent free ends of said first and second tongues and rocking about said adjacent free ends responsive to movement of said second tongue in either direction to effect a snap displacement of said first tongue into engagement with a respective one of said first and second substantially parallel edges of said first aperture to snap said contact member in a respective direction to disengage said movable contact from one of said fixed contacts and snap said movable contact into engagement with the other of said fixed contacts.

3,344,247

FLUID RESPONSIVE FLOW SWITCH

Leopold J. Kmiecik, Lincolnwood, Ill., assignor to McDonnell & Miller, Inc., Chicago, Ill., a corporation of Delaware

Filed May 13, 1965, Ser. No. 455,498
11 Claims. (Cl. 200—81.9)



1. A flow switch for association with a fluid conducting duct comprising a housing adapted to be mounted on said duct, electrical switch means mounted in said housing, paddle rod means pivotally mounted at one end thereof within said housing and with the other end of said paddle rod means extending into said duct, paddle means carried at said other end of said paddle rod means, said paddle means being movable by fluid flow in said duct to effect movement of said paddle rod means, said paddle means including pivotable paddle components movable around said other end of said paddle rod means and relative to each other from a first position by predetermined flow of air through said duct for decreasing the effective surface area of said paddle components of said paddle means exposed to fluid flow in said duct, spring means in engagement with said pivotable paddle components for normally biasing said paddle components towards said first position, and switch actuator means between said one end of said paddle rod means and said electrical switch means for opening and closing the latter upon predetermined movement of said paddle rod means.

3,344,248

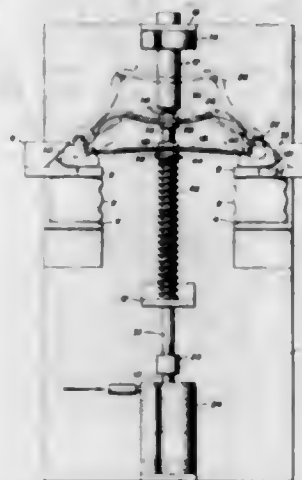
SWITCH FOR HIGH ENERGY CIRCUITS

Richard T. Cusick, Laurel, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 28, 1965, Ser. No. 467,798
18 Claims. (Cl. 200—82)

1. A switch for a high energy circuit, comprising first and second bus bar contacts, the surfaces of which are mutually parallel and having a gap therebetween, and each having an auxiliary contact mounted thereon, a mounting shaft disposed between said first and second bus bar contacts and capable of vertical movement into neutral and activated positions,

spring means encompassing said shaft and adapted to urge said shaft into said neutral position, drive means associated with said shaft and capable of urging said shaft in a vertical plane into said activated position, a laterally extending resilient conducting means attached to said mounting shaft, contact shoes connected to said conducting means and adapted to initially engage said bus bar contacts and



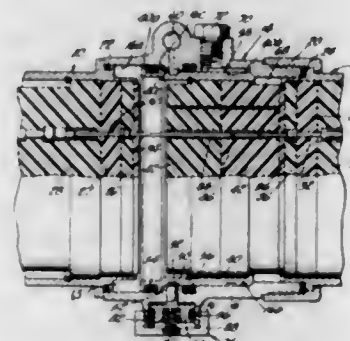
subsequently move into engagement with said auxiliary contacts, and laterally extending resilient members attached to said mounting shaft and said contact shoes, said resilient members being concave to said bus bar contacts while said shaft is in its neutral position and in a plane substantially parallel to the surfaces of said bus bar contacts while said shaft is in its activated position, and thereby adapted to insure continuous contact between said contact means and said bus bar contacts.

3,344,249

PRESSURE ACTUATED CIRCUIT INTERRUPTER RESETTABLE BY FLUID PRESSURE ALSO HAVING PRESSURE ACTUATED DETENT MEANS

William R. Thomas and George J. Panek, Phoenix, Ariz., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed June 9, 1966, Ser. No. 556,395
13 Claims. (Cl. 200—82)



10. In a pressure actuated electrical circuit interrupter, a cylindrical connector shell having a first portion of one diameter and a second portion of smaller diameter; a piston slidably mounted in said shell having a first section which slides snugly within said first shell portion and a second section which slides snugly within said second shell portion; an annular chamber defined by the cylindrical side walls of said shell first portion and said piston second section and by the opposing axial annular surfaces of said shell second portion and said piston first portion; seal means extending between the shell and piston at each end of the annular chamber to seal hermetically said annular chamber;

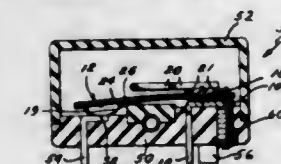
electrical insulator and terminal means positioned in the ends of said shell; electrical insulator and terminal means positioned in said piston; said piston being movable from a first position wherein said electrical terminals are in contact to complete a circuit into a second position wherein said electrical terminal means are not in contact so that the circuit is interrupted; a port formed in said shell opening into said annular chamber for introducing fluid pressure to move said piston from one of said positions to the other position; and pressure operated detent means in communication with said chamber for locking said piston in one of said positions.

3,344,250

MEANS AND METHOD FOR MAKING ELECTRICAL CONNECTIONS INCLUDING WELD PROJECTION MEANS AT THE DISTAL END SURFACE OF THE SHANK

Montague R. Duval, St. Petersburg, Fla., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 291,202, June 27, 1963. This application June 28, 1966, Ser. No. 561,291
5 Claims. (Cl. 200—113)



1. A thermostatic member comprising an electrically conductive welding slug having a head and a shank of selected length extending from a side of said head, said slug having weld projections on said side of said head spaced from said shank, said slug shank having a distal end forming a surface and having weld projection means thereon spaced from the edges of said surface, a calibrated snap-acting bimetallic thermostatic element having an aperture therein located over said slug shank in spaced relation to said shank and having one side of said element welded to said weld projections on said side of said slug head, said thermostatic element being thin relative to said shank length to be spaced from said shank end surface, and an electrically conductive terminal means abutting said shank end surface and having one side welded to said weld projection means on said surface for holding said terminal means in electrically conductive relation to said thermostatic element spaced from said thermostatic element to permit free snap-acting of said element.

3,344,251

FRANGIBLE FUSE CAP

Donald O. Misare, Riverside, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 26, 1964, Ser. No. 392,119
10 Claims. (Cl. 200—127)



1. A fuse construction comprising a fuse tube having a terminal structure at one end; a fuse link capable of interruptions upon abnormal amperage faults and ex-

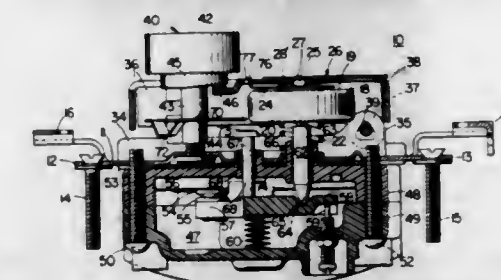
tending through the fuse tube and provided with a disc shaped head at said one end of said tube; and a cap normally threadingly engaging the terminal to retain said head and to close said one end of said fuse tube; said cap including an internally threaded sleeve and an externally threaded thin disc closing said sleeve and threadingly received in said sleeve and rupturable along its threaded edges when a predetermined pressure is developed in said fuse tube upon explosive interruption of said fuse link in response to high amperage faults.

3,344,252

THERMOSTATIC DEVICE WITH COMPENSATION FOR INTERNAL HEAT

Wiley M. Hummel, Prophetstown, and Ralph W. Gustafson, Morrison, Ill., assignors to General Electric Company, a corporation of New York

Filed Feb. 4, 1966, Ser. No. 525,250
7 Claims. (Cl. 200—140)



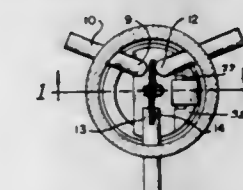
1. A thermostatic device comprising: switch means for opening and closing an electrical circuit and having circuit elements connected thereto, temperature responsive actuator means for actuating said switch means in response to a predetermined temperature, lever means in contact with said temperature responsive actuator means for selectively varying said predetermined temperature, a first manually operated means including cam means for acting upon said lever means, and a second manually operated means operably associated with said lever means for acting upon said lever means to compensate for heating of said actuator means due to current flow in said switching means and circuit elements, said second manually operated means independently settable of said first manually operated means.

3,344,253

RELAY HAVING IMPROVED ARMATURE AND MOBILE CONTACT ASSEMBLY

Clark T. Roessler, San Jose, and Ronald V. Tetz, Los Gatos, Calif., assignors to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed Feb. 15, 1965, Ser. No. 432,507
6 Claims. (Cl. 200—144)



1. A relay comprising an hermetically sealed envelope closed at each opposite end, a plurality of spaced fixed contacts within the envelope integral with spaced terminal leads extending out of the envelope, a mobile contact conductively mounted on one of the fixed contacts and selectively movable into or out of engagement with the other fixed contacts to make or break a circuit through the contact on which the movable contact is mounted and at least one of the other fixed contacts, said mobile con-

tact comprising a resilient metallic strip doubled upon itself to provide a pair of juxtaposed spring arms biased away from each other, the free ends of the spring arms resiliently engaging the fixed contact on which the mobile contact is mounted, an actuator assembly mounted on one of the envelope ends and including an armature mounted within the envelope and normally pivotally biased resiliently in one direction and means outside the envelope selectively operable to pivot the armature in the other direction, and means interposed between the armature and the mobile contact to effect movement of the mobile contact upon movement of the armature.

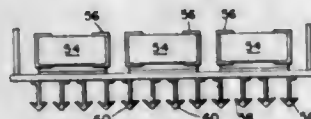
3,344,254

RADIO FREQUENCY HEATING APPARATUS

Joshua George Dowell Manwaring, Needham, Mass., assignor to Radio Frequency Company Inc., Medfield, Mass., a corporation of Massachusetts

Filed Aug. 8, 1966, Ser. No. 570,786

9 Claims. (Cl. 219-10.81)



1. A stray field electrode comprising, in combination: first and second substantially co-planar, spaced apart electrically conductive plate electrodes; and, a plurality of elongated, substantially V-cross-section, pointed end, electrode elements positioned in parallel, spaced-apart relation generally parallel to and spaced apart from said plate electrodes with their pointed ends pointing away from said plate electrodes;
- said electrode elements forming two series of electrode elements alternately arranged with one another, one of said series being electrically connected to said first plate electrode and the other of said series being electrically connected to said second plate electrode.

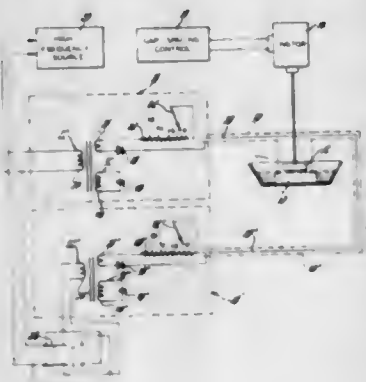
3,344,255

ELECTRICAL DISCHARGE MACHINING APPARATUS

Millard A. Ferguson, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,054

7 Claims. (Cl. 219-69)



1. In electrical stock removal apparatus, the combination of conductive cutting tool and workpiece electrodes spaced apart so as to form an ionizable gap therebetween, plural parallel connected power supplies including a common alternating current source, each power supply having the output thereof applied to the gap so as to effect intermittent electrical stock removal discharges thereacross, means rectifying the outputs so as to be of the same

certain frequency and polarity, and means selectively phase relating the rectified outputs so that for rough machining the outputs are in phase of the certain frequency and for finish machining the outputs are 180° out of phase and the frequency is double the certain frequency.

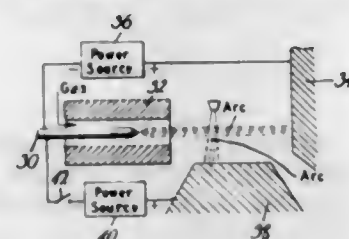
3,344,256

METHOD FOR PRODUCING ARCS

John E. Anderson, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York

Filed Oct. 1, 1963, Ser. No. 312,905

2 Claims. (Cl. 219-121)



1. A method for producing at least one arc which comprises establishing a first arc between a pair of electrodes, passing an arc gas into the established arc to form at least part of the arc plasma between said electrodes, striking at least one second arc between the arc plasma of the first arc as one electrode and a different workpiece electrode, directing at least one gas jet against said second arc to provide said second arc at a particular point on said different workpiece.

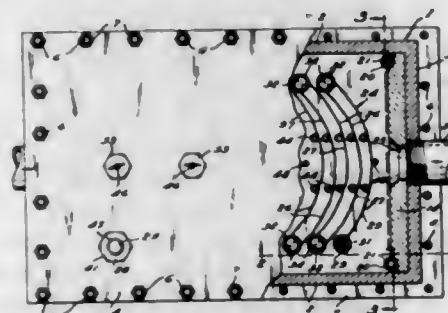
3,344,257

ELECTRICALLY POWERED FLUID HEATER

Calvin E. Moeller, Bonner Springs, Kans., assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware

Filed Dec. 9, 1964, Ser. No. 417,174

9 Claims. (Cl. 219-374)



1. An electrical heater for heating a fluid comprising first wall means defining a space having at least one open end; two second wall means spaced from each other and fixed to said first wall means to form a chamber, at least one of said second wall means acting to close said open end, opposed faces of said second wall means having opposed closed end recesses therein; means for passing fluid through said chamber in a path of flow; heating means in said chamber comprising a plurality of perforated sheet-like heating element portions joined at their edges and arranged in spaced sinuous relation in electrical series across the path of fluid flow, said heating means including posts fixed to said heating element portions at spaced locations thereon and having ends extending beyond said heating element portions into said recesses to support and locate said posts and the heating element portions fixed thereto, whereby said heating means may be inserted into the space defined by said first wall means and secured in place by fixing said second wall means to said first wall means; and means for connecting said heating means to a source of electrical power.

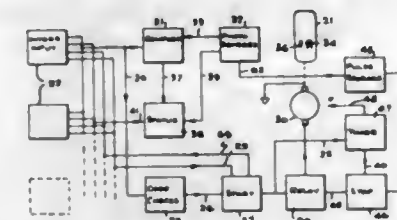
3,344,258

MATCHING IDENTIFICATION SYSTEM

Lawrence S. Michels, Inglewood, Calif., assignor to Credifiler Company, Los Angeles, Calif., a co-partnership

Filed Apr. 11, 1963, Ser. No. 272,258

7 Claims. (Cl. 235-61.7)



1. A system for investigating the status of a selected one of a plurality of identification symbols comprising: storage means having a storage capacity less than the total number of identification symbols; means for introducing identification and status symbols into said storage means as the status becomes relevant to the investigation; scanning means for scanning the identification symbols stored in said storage means and deriving identification symbol and status symbol signals therefrom; comparing means having means for receiving two signals to be compared for generating an output signal upon the matching of the two input signals received; means for applying the identification symbol signals derived from said storage means to one of the signal receiving means of said comparing means; input means for generating an identification symbol signal corresponding to the identification symbol selected to be investigated; means for applying said generated identification symbol signal to the other of the signal receiving means of said comparing means; and readout means connected to said scanning means for receiving the derived status symbol signal, said readout means being enabled by the output signal from said comparing means.

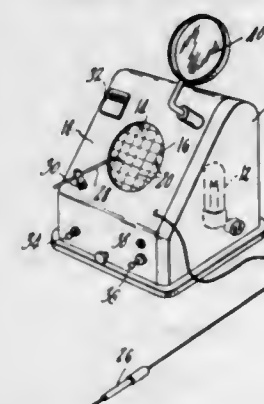
3,344,259

COLONY COUNTER

John Degelman, Littleton, Mass., assignor to Bio-Dynamics, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed Jan. 30, 1964, Ser. No. 341,299

7 Claims. (Cl. 235-92)



1. Counting apparatus for counting bacterial colonies disposed in a dish, comprising, transparent dish support means, a grid scribed on said support means, means to edge light said support means, an electrical resistance medium extending over the entire area of said dish, a first electrical terminal connected to said medium, a second electrical terminal,

an electrically conductive manipulable probe element connected to said second terminal, a counter for registering the number of colonies counted, and circuit means connected between said first and second terminals and said counter, said circuit means including means for applying a stepping signal to said counter in response to the contact of said probe with said electrical resistance medium, and means for preventing application of a stepping signal to said counter until an open circuit between said medium and said probe element has existed for a predetermined period of time.

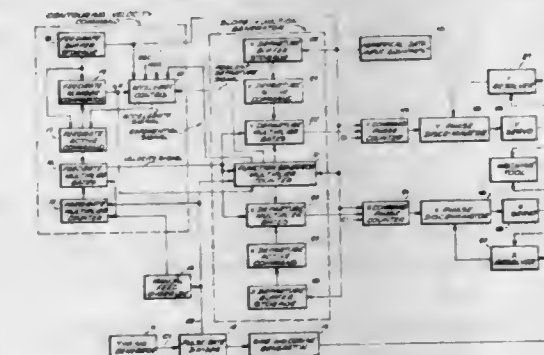
3,344,260

ACCELERATE-DECELERATE CONTROL SYSTEM

George B. Lukens II, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Feb. 20, 1963, Ser. No. 259,912

5 Claims. (Cl. 235-151.11)



1. In a numerical control system having a velocity command that produces pulses having a rate which is variable and which is indicative of a desired velocity of operation, said velocity command comprising buffer storage means for accepting the next pulse rate command and means for storing the active pulse rate command, means for controlling system acceleration comprising a comparator coupled to said buffer storage and active command storage means for comparing the active command pulse rate with the desired stored pulse rate and producing first signals indicative of the greater and smaller of said rates and second signals indicative of the magnitude of difference of said rates, means for producing an accelerate signal in response to a departure signal, said accelerate signal having a selectable up and down characteristic determined by said first signals and having a predetermined pulse rate, means coupling said first signals from said comparator to said accelerate signal producing means for determining said up and down characteristic, departure means coupled to said comparator for producing said departure signal at distances controlled by said second signals, means coupling said departure signal from said departure means to said accelerate signal producing means, and means coupling said accelerate signal to said active command storage means for varying the rate of the pulses produced by said velocity command up and down in response to said up and down characteristic and in response to said predetermined pulse rate.

3,344,261

DIVISION BY PRESELECTED DIVISOR

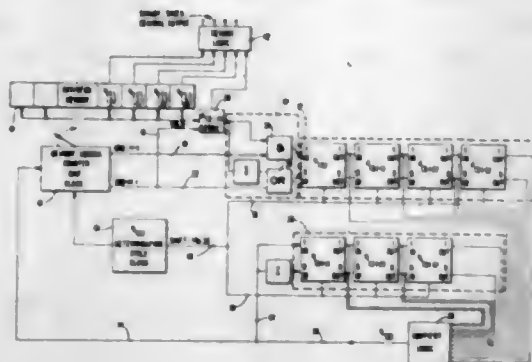
Louis M. Hornung, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 28, 1965, Ser. No. 490,895

15 Claims. (Cl. 235-160)

1. A divider for a dividend represented by the conditions of a machine in an accumulative, carry transfer scheme of notation comprising: means to observe the significance represented by the

conditions of a machine of at least one quotient ordinal higher than a lower, quotient ordinal being generated, means to observe the significance of at least one ordinal of said dividend, and

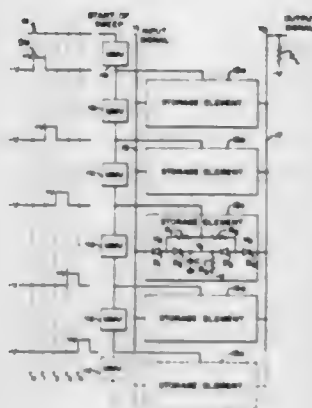


means responsive to both said means to observe to generate a condition representative of the significance of said lower ordinal of said quotient.

3,344,262

POLARITY SAMPLED AVERAGING DEVICE
Cabell N. Pryor, Jr., Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 30, 1963, Ser. No. 312,806
4 Claims. (Cl. 235-183)

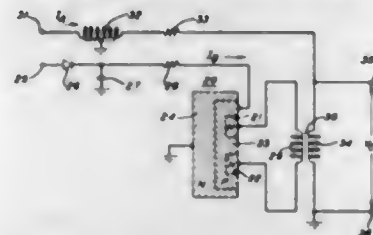


2. An integrator for a delay time compression type correlator comprising, an input signal, a plurality of multivibrators, an output circuit, a plurality of storage elements, each storage element comprising a capacitor, a first gating means for applying said input signal to said storage element, a second gating means for applying a signal stored in said capacitor to said output circuit, and a bleeding resistor connected across said capacitor, said multivibrators serially connected such that the end of a pulse of one multivibrator will trigger the next multivibrator, each of said multivibrators being connected to the first and second gating means of a respective storage element, whereby said input signal may be applied to said capacitor when the voltage across said capacitor is less than the voltage of said input signal and the voltage across said capacitor may be applied to an output circuit.

3,344,263 ANALOG DIVIDING CIRCUIT WITH A DUAL EMITTER TRANSISTOR USED AS A RATIO DETECTOR

Edward A. Gere, New Market, and Gabriel L. Miller, Westfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 24, 1964, Ser. No. 346,937
8 Claims. (Cl. 235-196)

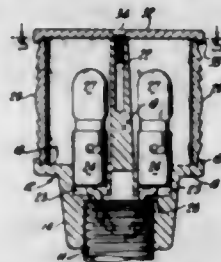


1. A ratio detector comprising a semiconductor body comprising a first zone of one conductivity type separated from a second zone of opposite conductivity type by a junction, third and fourth zones of said one conductivity type separated from said first zone and from each other by said second zone, means for applying a first current between said first and second zones, means for applying a second current between said third and fourth zones, and means for detecting the output voltage between said third and fourth zones, said voltage being proportional to the ratio of said second and first currents.

3,344,264

BOW AND ANCHOR LIGHT
Marvin S. Perkins, Miami, Fla., assignor to Perkins Marine Lamp and Hardware Corporation, Miami, Fla., a corporation of Florida

Filed July 29, 1965, Ser. No. 475,754
7 Claims. (Cl. 240-7.5)



1. A marine signal light comprising a body member substantially symmetrical about a longitudinal axis including a base section, socket means for mounting said base section atop a pole, and an upwardly directed transverse partition, lamp socket members mounted on said base section on each side of said partition along said longitudinal axis, a lamp releasably engaged by each of said socket members, a vertical cylindrical lens mounted on said base section and surrounding said lamps, said partition intercepting a rear horizontal dihedral angle from one of said lamps of approximately 135° and from the other of said lamps of less than 225°, and means for selectively energizing said lamps.

3,344,265

ELECTRICAL CONNECTOR FOR DRAWN CONVEYANCE
Kenneth M. Dillabough, Jr., 3436 Warden Drive, Philadelphia, Pa. 19129

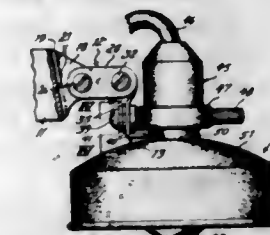
Filed Feb. 17, 1965, Ser. No. 433,379
7 Claims. (Cl. 240-8.3)

1. In combination, a tail light assembly of a prime conveyor, and an electrical connector adapted to be connected to a drawn conveyance; said tail light assembly comprising,

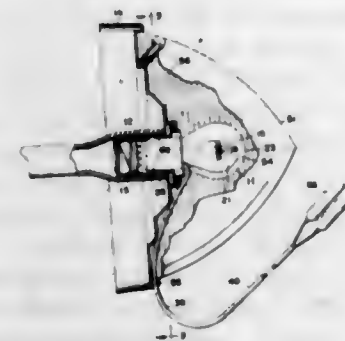
3,344,267 ADJUSTABLE SURGICAL HEAD LAMP

Rudolph Jaeger, 200 Broughton Lane, Villanova, Pa. 19085

Filed Feb. 9, 1966, Ser. No. 526,217
3 Claims. (Cl. 240-59)



a socket having electrical contact members and an optical system having a focal point at a substantially fixed location with respect to said socket, said optical system being adapted to direct a beam of light when said light is located substantially at said focal point; said electrical connector comprising a light member, a base, and a jumper; said light member comprising a light source region and lead wires connected therewith and extending therefrom; said base comprising an interior, a rim region, and a plurality of contact points;



said jumper comprising a plurality of insulated flexible conductors; said light member being mounted on said base in substantial juxtaposition to said rim region; said jumper extending into the interior of said base and intermediate said light member and said rim region; one of said conductors disposed in said interior, together with one of said lead wires, being connected to one of said contact points; and another of said conductors disposed in said interior, together with another of said lead wires, being connected to another of said contact points; said base being disposed in said socket with said contact points in electrical communication with the contact members of said socket; and said light source region being disposed substantially at the focal point of said optical system.

3,344,266

SMOKER'S LIGHTER REFLECTOR MEANS
Clive H. Bramson, 1 Bay St., Oyster Bay, N.Y. 11771

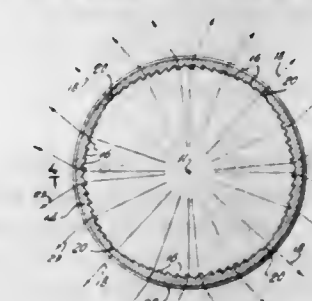
Filed Oct. 5, 1965, Ser. No. 493,055
6 Claims. (Cl. 240-11)



1. In a lighter for cigarettes and the like, the combination comprised of reflector means and a smoker's lighter, said smoker's lighter having a flame-region and spark-producing means for igniting the fuel at said region, said reflector means having a highly reflective surface and being connected to said lighter, said reflector means being positionable whereby at least a portion thereof is spacedly adjacent with respect to the flame to thereby direct and reflect the flame's illumination.

3,344,268
REFRACTOR FOR USE IN UNIFORMLY ILLUMINATING A POLYGONAL AREA
Herbert A. Fouke, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 308,461, Sept. 12, 1963. This application Jan. 25, 1966, Ser. No. 525,818
3 Claims. (Cl. 240-106)



1. A refractor for use with a light source and including means for distributing light emitted from a light source into a polygonal isolux light pattern upon an area below and surrounding said refractor, said distributing means comprising light transmissive wall means for receiving the emitted light, said wall means including a plurality of circumferentially adjacent sections having vertically oriented prisms formed thereon, the number of

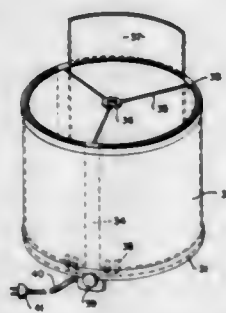
said sections corresponding to the number of corners of the polygonal light pattern, said vertically oriented prisms of each said section having surfaces each of which toward the upper portion thereof comprises means for laterally redirecting the emitted light rays impinging thereon into paths extending generally parallel to the direction of the light passed through the centermost portion of each said section, said surfaces of said vertically oriented prisms of each said section further comprising toward the lower portion thereof means for laterally redirecting light impinging thereon into paths at angles laterally diverging from the parallel path of light emitted from said surfaces at said upper portion thereof.

3,344,269

ELECTROLUMINESCENT PANEL DEVICE

George D. Brown, 7001 W. Bancroft St.,
Toledo, Ohio 43617

Filed Apr. 5, 1965, Ser. No. 445,446
2 Claims. (Cl. 240-108)



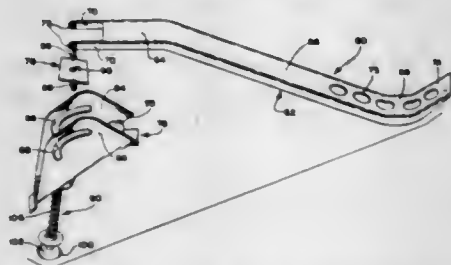
2. A device of the character described comprising means of translucent non-metallic plastic material in the form of a pair of laterally spaced cylindrical shelves, there being a plurality of pockets between said shelves, multiply electroluminescent slide panels in said pockets respectively, said panels being curved to conform to the curvature of said pockets, and electric circuit means cooperating with and in electrical contact with said slide panels and being common to the several panels to establish concomitant illumination thereof and including switch means.

3,344,270

LINEARLY PIVOTING LIGHT DIFFUSER HANGER

Francis E. Ryder, Bartlett, Ill., assignor to Illinois Tool
Works Inc., Chicago, Ill., a corporation of Delaware

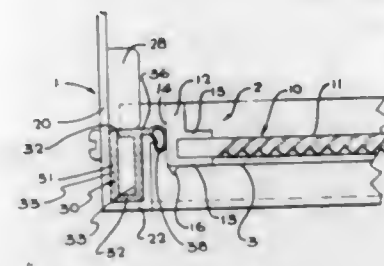
Filed Jan. 3, 1966, Ser. No. 518,347
12 Claims. (Cl. 240-144)



1. A light diffuser hanger for adjustably mounting a diffuser panel relative to a fixture element comprising, at least one elongated supporting arm pivotally mounted at one end to said fixture element and at its other end engaging and supporting said diffuser panel, said supporting arm being disposed at an angle to a vertical plane passing through said fixture element, and means for both vertically displacing said supporting arm and laterally shifting the pivot point thereof sufficient predetermined distances to position the panel engaging end of said supporting arm at various attitudes in a linear path substantially parallel to said vertical plane and thereby permit vertical adjustment of said diffuser panel relative to said fixture element.

3,344,271
LIGHT BAFFLE FOR LAY-IN FIXTURE CLOSURE
Walter J. Trantina, St. Louis County, Mo., assignor to
Emerson Electric Co., St. Louis County, Mo., a corporation of Missouri

Filed Dec. 13, 1965, Ser. No. 513,304
10 Claims. (Cl. 240-147)



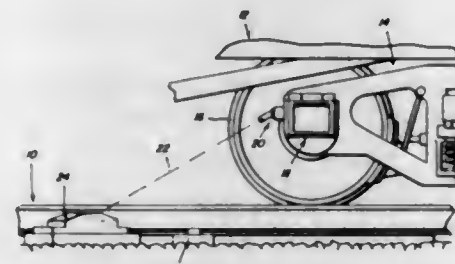
1. In a rectangular fixture for lay-in type closures, wherein a diffuser panel is supported in use by two, oppositely disposed parallel flanges on two edges of a fixed part of the fixture and the diffuser panel is arranged to be swung down for maintenance, the improvement comprising a molding defining a U-shaped channel at an edge of said fixed part of the fixture at right angles to the panel-supporting flanges, and a gasket mounted in said channel and projecting above and inboardly beyond said channel-defining molding, said gasket being made of softly resilient material and comprising a hollow body shaped complementarily to said channel to fit snugly therein, a thin, flexible neck projecting inboardly from an upper inboard edge of said body, and a thin-walled hollow tubular bead on and along the inboard side of said neck.

3,344,272

HEAT CONDUCTING DEVICE FOR DETECTING HOT JOURNAL BOXES

Samuel A. Unsworth, 206 Union St.,
Cumberland, Md. 21502

Filed Oct. 7, 1965, Ser. No. 493,735
4 Claims. (Cl. 246-169)

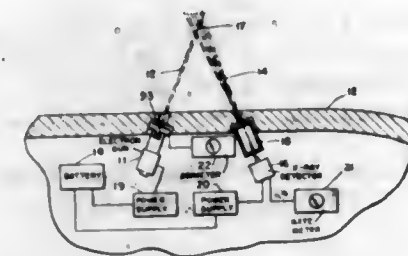


1. In combination, a railroad track, a railroad car on said track having a journal box and a detection device mounted alongside of said track, said journal box including a housing having a vertical surface and a bearing member mounted internally of the housing, means for enhancing the detection of an overheated condition of the journal box by the detection device comprising, an elongated heat-conductive member mounted by the housing and projecting from said vertical surface thereof, said heat-conductive member having an emissive end surface external to the housing of the journal box, heat transfer means in contact with the bearing member and the heat-conductive member for establishing a path of low thermal impedance from the bearing member to the emissive end surface, and radiation directing means enclosing said emissive end surface and having an aperture through which radiation from the end surface emerges for reception by the detection device.

3,344,273
APPARATUS FOR ANALYZING A GASEOUS MEDIUM BY SUBJECTING THE GAS TO ELECTRON BOMBARDMENT AND MEASURING THE CHARACTERISTIC X-RAY EMISSION

Charles Albert Ziegler, Saxonville, Mass., assignor to
Parametrics, Inc., Waltham, Mass., a corporation of Massachusetts

Filed Sept. 24, 1964, Ser. No. 398,874
5 Claims. (Cl. 250-43.5)



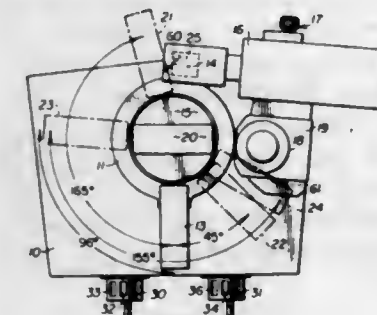
1. A device for measuring the characteristics of a gas in a rarefied gaseous medium including a specified component comprising a source of a well-defined electron beam having a quantum energy in excess of the absorption edge of said specified component, means for directing said electron beam into said rarefied gaseous medium and means for detecting the X-ray radiation produced in a selected volume of gas within said beam and means for providing an output indication of the amount of said X-ray radiation which has an energy characteristic of the K-X-rays emitted from said specified component and means for indicating the total amount of X-rays produced in said selected volume of gas.

3,344,274

X-RAY ANALYSIS APPARATUS HAVING BOTH DIFFRACTION AND SPECTROMETER TUBES MOUNTED ON A COMMON HOUSING

William D. Ashby, Chagrin Falls, George V. Patser, Willoughick, Ohio, and Victor E. Buhrke, Mill Valley, Calif., assignors to Picker X-Ray Corporation, Waite Manufacturing Division, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 6, 1963, Ser. No. 328,539
14 Claims. (Cl. 250-51.5)



1. In a mechanism for non-destructive X-ray analysis including a housing carrying two-theta and omega elements for rotation about a common axis, the combination of:

- (a) a diffraction X-ray tube, mounting means securing said diffraction tube to said housing with the tube aligned to emit a beam of X-rays toward a point on said axis;
- (b) a spectrometer X-ray tube mounted on said housing in spaced relationship with said diffraction tube;
- (c) mounting means to mount a spectrometry specimen in the path of and for excitation by a beam of X-rays emitted by the spectrometer tube, said mounting means being adapted to position and align a specimen for such excitation and emission of its own rays toward said point without interference with the diffraction tube and its mounting;

(d) said two-theta member including means to support a radiation responsive mechanism thereon, means connected to said two-theta member for moving said two-theta member and said radiation responsive mechanism selectively and one at a time through overlapping spectrometry and diffraction two-theta ranges; and,

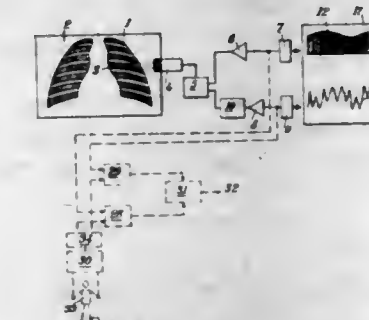
(e) support means mounted on the omega member for carrying a selected one of a crystal or a specimen along said common axis.

3,344,275

X-RAY APPARATUS FOR STUDYING PERIODIC BODILY PROCESSES CHARACTERIZED BY AN OSCILLATION OR PULSATION OF SOME BODY PORTION

Henri Maurice Marchal, Paris, France, and Marie-Thérèse Marchal, born Dupuy, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French Government Administration

Filed Dec. 21, 1964, Ser. No. 419,991
6 Claims. (Cl. 250-71.5)



1. In a radiographic device for performing densigraphic examinations on a subject and comprising a source of a high-frequency modulated X-ray beam to be projected through the portion of the subject to be examined and means detecting the beam after it has traversed the subject for producing an electrical signal which varies in proportion to the variation of the intensity of the X-rays passing through the portion of the subject under examination, the improvement comprising: first electronic signal processing circuitry having an input connected to receive the signal produced by said detecting means and an output upon which appears an amplified version of said signal; second electronic signal processing circuitry having an input connected to receive the signal produced by said detecting means and an output upon which appears a version of said signal from which said high-frequency modulation has been removed and which is substantially more amplified than the output of said first circuit; and recording means connected to simultaneously record the signals appearing on said two outputs.

3,344,276

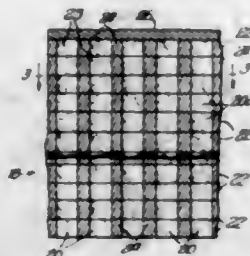
RADIOGRAPHIC SCREEN HAVING CHANNELS FILLED WITH A MATERIAL WHICH EMITS PHOTONS WHEN ENERGIZED BY GAMMA OR X-RAYS

George H. Balding, Fremont, Calif., assignor to Kaiser Aerospace & Electronics Corp., Palo Alto, Calif., a corporation of Nevada

Filed Mar. 30, 1964, Ser. No. 355,664
13 Claims. (Cl. 250-80)

1. A radiographic screen comprising a plurality of superposed contiguously related opaque metal layers each having a multiplicity of closely arrayed uniformly arranged openings chemically etched through the thickness thereof, which openings are of a uniform width greater than the thickness of the individual layers and less than

.030 inch, the openings through said layers being aligned with openings in other of said layers to constitute long and narrow channels extending axially of the screen from front to rear and filled with material which emits photons when energized by gamma and X-rays of high energy level, the length of said channels being sufficiently longer than the width of said opening so as to retard those high energy level gamma and X-rays passing axially into said channels and causing said material therein to emit photons, the walls of said channels being reflective to



said emitted photons and the entrant side of said screen including said filled channels being covered by a continuous layer of material which transmits the said gamma and X-rays and is reflective to said emitted photons whereby the emitted photons are directed to the exit ends of the channels, the portions of the sheet between the openings constituting said channels being narrower than the width of the openings so that an image of high resolution and definition is produced at the exit side of the screen.

3,344,277

RADIATION MONITOR WITH BACKGROUND COMPENSATION

Kent F. Smith and Jack B. Thompson, Idaho Falls, Idaho, assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 23, 1965, Ser. No. 434,724
5 Claims. (Cl. 250-83.6)



2. Apparatus for detecting radiation contamination of a sample in the presence of background radiation comprising:

- (1) a radiation counter tube for generating an electrical pulse responsive to each radiation incidence upon said tube, whereby the repetition rate of the resulting pulse train corresponds to the radiation level at said tube;
- (2) clipping means connected to the output of said counter tube for limiting the amplitude of said pulses to a constant value;
- (3) a linear count rate circuit connected to the output of said clipping means for producing a DC signal directly proportional to the pulse repetition rate, said linear count rate circuit having a cut off frequency of sufficient magnitude as to be responsive to abrupt changes in the pulse repetition rate caused by a contaminated sample passing before said counter tube, whereby a fluctuating error signal is also produced at the output of said linear count rate circuit proportional to the square root of the pulse repetition rate;
- (4) a high pass filter connected to the output of said linear count rate circuit;
- (5) a nonlinear count rate circuit also connected to the output of said clipping means for producing a DC signal proportional to the square root of the pulse

repetition rate, said nonlinear count rate circuit having a cut off frequency substantially lower than the cut off frequency of said linear count rate circuit; and

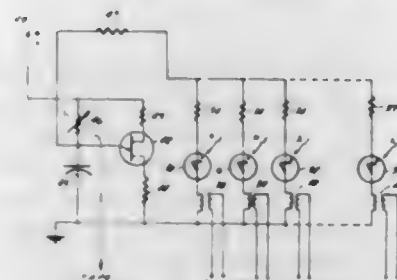
- (6) circuit means for differentially combining the output of said filter and the output of said nonlinear count rate circuit, whereby a signal is obtained responsive only to abrupt changes in the pulse repetition rate.

3,344,278

DATA READOUT SYSTEM UTILIZING LIGHT SENSITIVE JUNCTION SWITCH MEMBERS

Yigal Yanai, Hollywood, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed June 14, 1963, Ser. No. 287,890
3 Claims. (Cl. 250-211)



1. A data readout system comprising means operable in a predetermined sequence, a plurality of PNP light activated switch members aligned in a predetermined manner to be repetitively illuminated or non-illuminated in accordance with said predetermined sequence, an energizing circuit for each of said PNP light activated switch members, and a respective output circuit connected in series with each of said light activated switch members; said energizing circuit including a source of oscillatory voltage having a peak voltage sufficient to render any of said switches conductive only when illuminated and a minimum voltage sufficiently low to render a conductive switch non-conductive; said oscillatory voltage having a frequency synchronized with said means operable in a predetermined sequence; said energizing circuits being respectively connected in series with each of said switches and their said respective output circuits; said plurality of PNP switches being immediately adjacent one another and lying along a row; said switches having a common P base region with a common terminal secured thereto; said common P base region having separate sequentially arranged N, P and N layers thereon to define each of said switches; the uppermost of said N layers having a respective electrode thereon to define the other terminal of each of said switches.

3,344,279

ELECTROLUMINESCENT DISPLAY MATRIX WITH LONG PERSISTENCE

Richard A. Martel, Sylmar, Calif., assignor to General Precision, Inc., a corporation of Delaware
Continuation of application Ser. No. 343,043, Feb. 6, 1964. This application Aug. 4, 1966, Ser. No. 575,213
7 Claims. (Cl. 250-211)

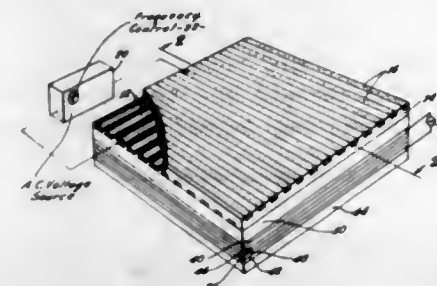
1. An electroluminescent display and storage system comprising:

- (a) excitation means for selectively producing discrete images of electromagnetic radiation, said excitation means comprising an electroluminescent material, a first plurality of parallel transparent conductors disposed on one surface of said material, a second plurality of parallel transparent electrical conductors disposed on the other surface of said material in transverse relationship with said first plurality, and

means for applying an electrical potential across selected conductors in said first and second plurality to produce luminescence in said material at the cross-over points of said selected conductors,

- (b) radiation-responsive phosphorescent material positioned to receive the radiation from said excitation means, said radiation-responsive phosphorescent material having latent photoconductivity storage characteristics for producing impedance changes corresponding to the images of radiation from said excitation means,

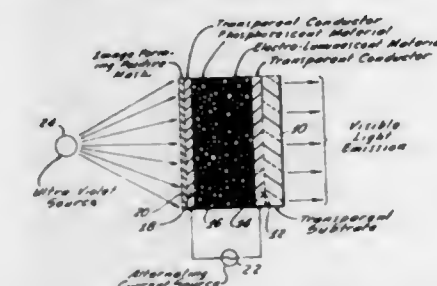
- (c) sensing means coupled to said radiation-responsive phosphorescent material for selectively detecting, continuously or intermittently, the impedance changes in said radiation-responsive phosphorescent material during the period of persistence.



3,344,280

ELECTROLUMINESCENT-PHOTOCONDUCTIVE DISPLAY WITH LONG PERSISTENCE

Richard A. Martel, Sylmar, Calif., assignor to General Precision, Inc., a corporation of Delaware
Continuation of application Ser. No. 330,164, Dec. 12, 1963. This application Aug. 4, 1966, Ser. No. 573,756
8 Claims. (Cl. 250-213)



1. A persistent radiation-responsive memory unit for storage and reproduction of images formed by incident radiation comprising:

- radiation-responsive phosphorescent material having latent photoconductivity storage characteristics for producing, within said material, an impedance image corresponding to the intensity of incident radiation; and
- sensing material coupled to said radiation-responsive phosphorescent material and responsive to impedance changes in said material for displaying said impedance image both continuously and intermittently during the existence of said impedance image.

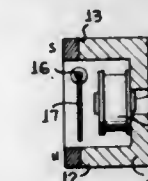
3,344,281

LIGHT CHOPPER

William P. Astin, Aldie, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,597
5 Claims. (Cl. 250-232)

2. In combination, a magnetically permeable vane having a longitudinal axis of symmetry; means for establishing a substantially invariant symmetrical magnetic field longitudinally through said vane to suspend said vane in the longitudinal plane of symmetry of said field; lineal piv-

means for said vane extending transversely of the lines of said magnetic field; said pivot means including a magnetically permeable shaft to which said vane is secured, and bearings for said shaft to permit rotation thereof in substantially frictionless fashion; a coil, having a longitudinal axis of symmetry normal to said plane and substantially centrally located relative to said vane; and variable frequency means for energizing said coil to establish a substantially symmetrical time varying magnetic

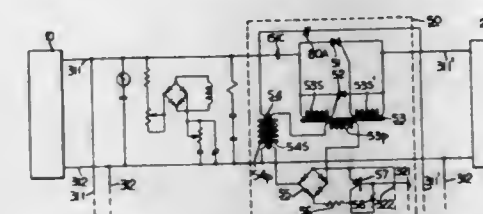


field relative to a plane normal to the first named plane and bisecting said longitudinal axis of said vane; whereby the time varying magnetic flux lines threading said vane respectively aid and oppose the invariant magnetic flux lines in substantially equal and opposite portions of said vane, relative to the plane of symmetry at said time varying field, to pivotally deflect said vane with a predetermined angular limit relative to either side of said first-named plane.

3,344,282

VOLTAGE LEVEL SENSING MEANS FOR STANDBY POWER SUPPLY SYSTEMS

John Baude, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 6, 1964, Ser. No. 357,688
11 Claims. (Cl. 307-66)



1. In a standby power supply system for producing AC power for a load upon failure of a primary AC power source, means for sensing the level of said AC power source to effect disconnection of the primary AC source from the load and energization of the load from a standby power supply, said means comprising:

- means for producing an alternating reference signal of preselected amplitude and wave shape having a preselected relationship to the amplitude and wave shape of the AC power source,
- means connected to the primary AC source and connected to receive the reference signal for producing a comparison output indicating the instantaneous relative amplitudes of the primary AC source and the reference signal, and
- means responsive to the comparison output for energizing the load from the standby power source when the comparison output deviates from a preselected level.

3,344,283

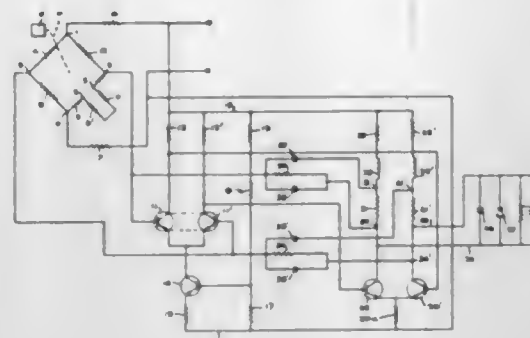
AMPLIFYING SYSTEM WITH ROLL OFF FREQUENCY AND ROLL OFF RATE OF AMPLIFIED SIGNAL PREDETERMINED

Reagh A. Stubbs, Long Beach, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California

Filed Aug. 3, 1964, Ser. No. 386,900
6 Claims. (Cl. 307-88.5)

1. A transducer including a resistance bridge which is unbalanced at the output of the terminals of said bridge

by a periodically applied condition to said transducer, tending to produce a periodic open loop signal responsive to the voltage unbalance of said bridge when said bridge is energized at the input terminals of said bridge, which signal is in magnitude, a frequency-dependent function of the frequency of the applied periodic condition at frequencies higher than the roll off frequency of the open loop signal, means to apply said signal to the input of an amplifier, a negative feedback connection from the output of the amplifier at a first potential level to the output terminals of said bridge, a non-reactive

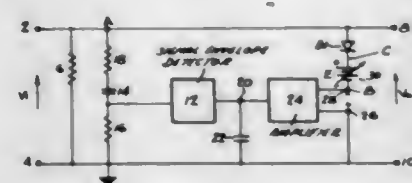


resistance in said feedback path, said resistance being substantially greater than the resistance of said bridge, and a second feedback path from the output of said amplifier at a second potential level to the output terminals of said bridge, an LC filter in said second feedback path, said amplifier producing an amplified output responsive to the open loop signal produced at the output of said bridge by said periodic unbalance up to a roll off frequency of said amplified signal, the roll off frequency of said amplified signal being substantially less than the roll off frequency of said open loop signal.

3,344,284

FLOATING REFERENCE CLIPPING CIRCUIT
Gordon B. Thompson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Aug. 24, 1964, Ser. No. 391,519
10 Claims. (Cl. 307—88.5)



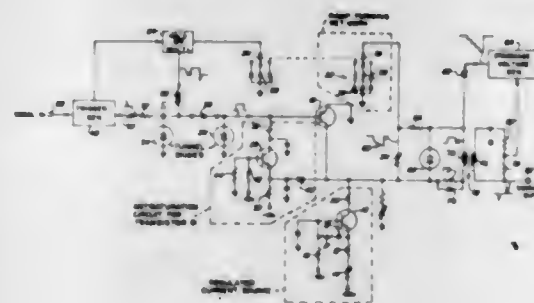
1. A clipping circuit for removing portions of an electrical signal that exceed a selected value with respect to a varying reference voltage inherent in said signal while retaining all other portions of said signal, said circuit comprising:

- (a) input means for said signal,
- (b) output means coupled to said input means by a signal transmission path,
- (c) diode means coupled to said input means for disabling said signal transmission path between said input means and said output means under one bias condition and for enabling said signal transmission path under another bias condition,
- (d) means for generating a first voltage of said selected value independent of said signal, including means applying said first voltage to said diode means to bias

the same to said other bias condition thus normally to enable said signal transmission path,
(e) means for generating a second voltage equals to said varying reference voltage,
(f) and means connecting together said means (d) and said means (e) for generating a third voltage equal to the algebraic sum of said first and second voltages,
(g) said means applying said first voltage to said diode means including means coupling said means (f) to said diode means to bias said diode means with said third voltage to disable said signal transmission path only when said third voltage assumes a polarity opposite to that of said first voltage whereby momentarily to disable said signal transmission path.

3,344,285

RAMP GENERATOR AND COMPARATOR CIRCUIT EMPLOYING NON-SATURATING GATE
George J. Frye, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Jan. 19, 1965, Ser. No. 426,584
12 Claims. (Cl. 307—88.5)

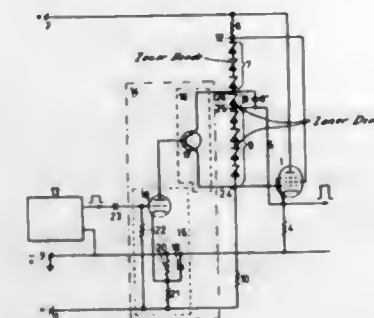


1. A pulse generator circuit for producing a delayed output pulse a predetermined time after the application of an input trigger pulse, comprising:

- a gating device quiescently biased conducting and having a plurality of electrodes including a control electrode for switching said gating device between conduction and nonconduction;
- a regulated source of current connected to said gating device to transmit said current through said gating device when it is conducting;
- a ramp forming network connected to said current source for producing a ramp voltage when said gating device is rendered nonconducting;
- a first switching circuit having at least one stable state, connected to the control electrode of said gating device so that the output signal of said first oscillator renders said gating device nonconducting when said first switching circuit is triggered;
- a comparator device quiescently biased nonconducting and having at least two electrodes with one electrode connected to said network and another electrode connected to a reference voltage so that said comparator device is rendered conducting when said ramp voltage exceeds said reference voltage;
- a second switching circuit having at least one stable state connected to said network and connected between the constant current source and said comparator device so that the bias current of said second switching circuit is provided by said constant current source, said second switching circuit being conditioned to be triggered by the rendering of the gating device nonconducting and being triggered to produce an output pulse when said comparator device is rendered conducting; and
- means for preventing the gating device from saturating when it is in a conducting state.

3,344,286

PULSE GENERATING CIRCUIT COMPRISING PENTODE, ZENER DIODE VOLTAGE DIVIDER BIAS MEANS AND TRANSISTOR FOR CONTROLLING PENTODE OUTPUT
Willem Mulder, Hengelo, Overijssel, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijssel, Netherlands, a firm
Filed Mar. 17, 1965, Ser. No. 440,399
Claims priority, application Netherlands, Mar. 18, 1964, 64—2,853
4 Claims. (Cl. 307—88.5)



1. A pulse generating circuit arrangement comprising an output tube having a cathode, an anode and a control grid, an output circuit including said cathode and anode, an output impedance in said output circuit, a voltage divider network comprising a reactance free impedance, means connecting the cathode and control electrode of said output tube at tapings of said network providing a biasing potential to said tube normally maintaining the same non-conductive, a transistor having emitter and collector electrodes forming a current path shunting said reactance free impedance and having a base electrode, an electron discharge device having an output electrode connected to said base electrode and forming therewith a current path and having an input electrode, means for applying a biasing potential to the said input electrode of said electron discharge device to maintain said electron discharge device normally nonconductive and to interrupt the said current path to the base of said transistor, and means for applying to the input electrode of said electron discharge device a pulse signal having a polarity rendering said electron discharge device and said transistor conductive for the interval of said pulse signal, the conduction of said transistor during the pulse interval bridging said reactance free impedance and rendering said output tube conductive for the interval of said pulse signal.

3,344,287

TEMPERATURE COMPENSATED VOLTAGE COMPARISON MEANS
Elof Erik Eriksson, Bandhagen, and Harald Norbert Christian Stang, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

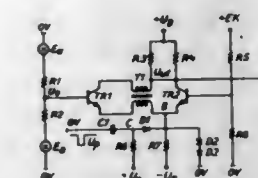
Filed May 14, 1965, Ser. No. 455,812
Claims priority, application Sweden, June 4, 1964, 6,782/64

3 Claims. (Cl. 307—88.5)

1. A circuit system for comparing a varying voltage with a reference voltage to produce a signal when the difference between the varying voltage and the reference voltage is of a given polarity, said circuit system comprising:

- a regenerative amplifier including a first transistor having base, collector and emitter electrodes, and a transformer having a primary and a secondary winding, means for connecting one end of said primary winding to said collector electrode, means for connecting one end of said secondary winding to said

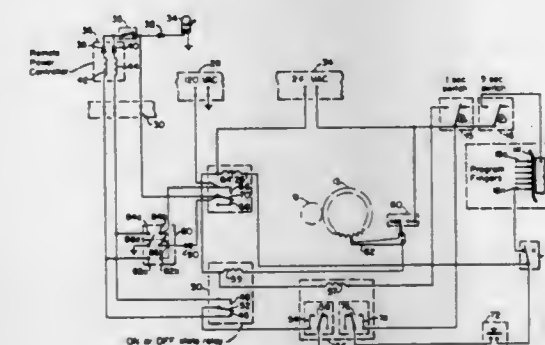
emitter electrode, means for applying an operating voltage to the other end of said primary winding, and means for applying said varying voltage and said reference voltage superpositioned to said base electrode;
a temperature compensating circuit including a second transistor having base, emitter and collector electrodes, means for applying an operating voltage to the collector electrode of the second transistor, and means for applying a bias voltage to the base electrode of the second transistor;
junction means for connecting the emitter electrode of



said second transistor to the other end of said secondary winding;
control means for normally applying a voltage to said junction means for preventing conduction of both of said transistors, said control means being adapted to receive pulse signals for changing the voltage applied to said junction means for the duration of each received pulse signal to permit conduction of both of said transistors; and
signal output means connected to the collector terminal of said first transistor for transmitting output signals.

3,344,288

ELECTRICAL CONTROL SYSTEM
Leo N. Jarvis, Brookfield, Mass., assignor to The Standard Electric Time Company, Springfield, Mass., a corporation of Connecticut
Filed June 29, 1964, Ser. No. 378,632
6 Claims. (Cl. 307—141)

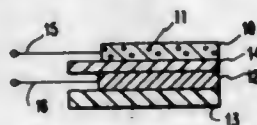


1. In a master program clock system, apparatus for controlling electrical equipment comprising a first relay for turning said equipment on, a second relay for turning said equipment off, a voltage source, a third relay having first and second contacts and a switch connected in series, said switch including contacts and means for closing said contacts during predetermined fractions of predetermined periods to energize said third relay from said voltage source, means for making available a first circuit including first contacts of said third relay and said first relay during certain of said predetermined periods and for making available a second circuit including second contacts of said third relay and said second relay during others of said predetermined periods, means for closing said first circuit to turn said equipment on and means for closing said second circuit to turn said equipment off.

3,344,289

NUCLEAR BATTERY

Robert D. Knight, Berkeley, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
 Filed Nov. 19, 1965, Ser. No. 508,783
 5 Claims. (Cl. 310—3)



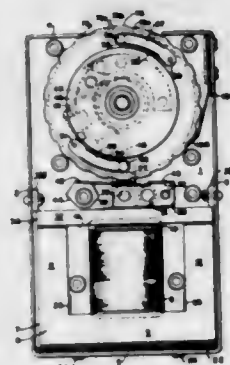
1. A nuclear battery having an emitter electrode in the form of a thin film of conductive metal, a collector electrode in the form of a thin film and separated from the emitter electrode by a first dielectric film, a gaseous radioactive beta particle emitting material in electrical contact with and physically incorporated in said emitter electrode, said emitter electrode, dielectric film, and collector electrode being coiled into a cylinder, a second dielectric film separating the sides of the emitter electrode and the collector electrode opposite the sides separated by said first dielectric film, said radioactive material being disposed with said emitter electrode such that beta particles are emitted from both sides of the emitter, thereby essentially doubling the collection efficiency of the beta particles.

3,344,290

ELECTROMAGNETIC INDICATING DEVICE

Lester Miller, Jr., Danbury, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Mar. 5, 1965, Ser. No. 437,492
 15 Claims. (Cl. 310—21)



1. In a stepping motor, the combination of a ratchet wheel; means mounting said ratchet wheel for rotation about a first axis; a lever; means mounting said lever for pivotal movement about a second axis; pawl means carried by said lever and operatively arranged to engage and drive said ratchet wheel when said lever is pivoted toward said ratchet wheel; an electromagnet having a longitudinal axis and presenting a pole face extending across said longitudinal axis; a magnetic armature structure disposed adjacent said pole face and pivotally connected to said lever, the axis of rotation of said ratchet wheel, the axis of pivotal movement of said lever, and the axis of the pivotal connection between said armature structure and said lever are all parallel to each other and at right angles to the longitudinal axis of said electromagnet.

the axis of pivotal movement of said lever being spaced laterally from the longitudinal axis of said electromagnet, energization of said electromagnet causing said armature structure to be actuated toward said pole face, and such actuation of said armature structure causing said lever to pivot in one direction; and means yieldably biasing said lever in the opposite direction, said armature structure includes a central portion extending across the longitudinal axis of said electromagnet, the pivotal connection between said armature structure and said lever being located at said central portion.

3,344,291

DOUBLE INSULATED HAND TOOL

Leonard C. Pratt, Greenfield, Mass., assignor to Millers Falls Company, Greenfield, Mass., a corporation of Massachusetts

Filed Nov. 23, 1964, Ser. No. 413,272
 2 Claims. (Cl. 310—50)



1. In an electrically powered hand tool, the combination comprising:
 a housing;
 a shaft rotatably mounted within said housing;
 an armature carried by said shaft such that a portion of said shaft projects from said armature;
 a commutator carried by said shaft and operatively connected to said armature;
 commutator brush means disposed within said housing and operatively associated with said commutator;
 a field structure including a field core and associated field coil disposed within said housing and operatively connected to said armature; and
 means upon said shaft for insulating said shaft;
 said shaft insulating means comprising a coating of aluminum oxide provided on said shaft throughout the length of the portion of said shaft coextensive with said armature; and
 a paper sleeve overlying the aluminum oxide on the portion of said shaft coextensive with the end windings of the armature but external of the connection of the commutator with said shaft.

3,344,292

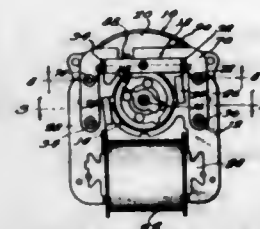
ELECTRIC MOTOR CLUTCH AND BRAKE

Leslie M. Hurst, Princeton, Ind., assignor to Hurst Manufacturing Corporation, Princeton, Ind., a corporation of Indiana

Filed Mar. 30, 1964, Ser. No. 355,704
 3 Claims. (Cl. 310—76)

1. An electric motor comprising, in combination, a coil having a ferromagnetic yoke, two primary ferromagnetic pole pieces extending from opposite ends of the yoke on opposite sides of an axis therebetween, a shaft rotatably mounted on said axis, a rotor mounted on the shaft for rotation between the primary pole pieces, said rotor being adapted to rotate responsive to a magnetic flux between the primary pole pieces, a stop member mounted

on the shaft for rotation therewith and protruding therefrom, a bar of ferromagnetic material having two ends, said bar being pivotally mounted between the ends thereof on an axis parallel to the shaft and spaced from the shaft by a distance greater than the distance the stop member protrudes from the shaft, said bar having a pawl extending therefrom toward the stop member, and said bar having a first rotational position, in the absence of said magnetic flux in which the pawl engages the stop member

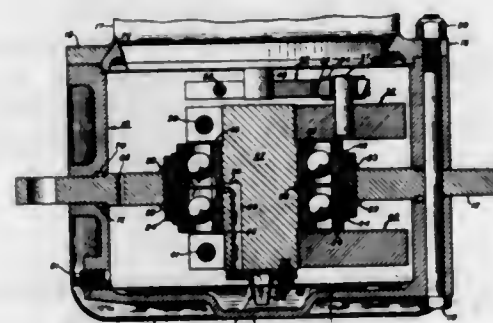


and a second rotational position, in the presence of said magnetic flux, in which the pawl is spaced from all positions of the stop member, two secondary ferromagnetic pole pieces extending from the two primary pole pieces, respectively, said secondary pole pieces being disposed and spaced from opposite ends of the bar, the ferromagnetic bar forming a low reluctance path between the secondary pole pieces and spring means urging the bar into its first rotational position.

3,344,293

ELECTRO-MECHANICAL GYRATOR

Eugene A. Wahl, 294 Forest Ave.,
 Glen Ridge, N.J. 07028
 Filed July 12, 1965, Ser. No. 471,023
 11 Claims. (Cl. 310—81)



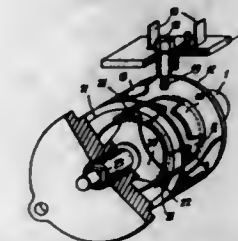
1. A gyration comprising,
 (a) a housing,
 (b) a rigid mounting plate extending through the housing wall and having a central hole formed therein,
 (c) a cylindrical bearing housing extending through said central hole and secured to the mounting plate,
 (d) a bearing shaft extending through said bearing housing and having ends projecting therefrom,
 (e) bearing means carried by said bearing housing and in engagement with said bearing shaft,
 (f) a pair of weights eccentrically secured to said bearing shaft,
 (g) power means carried by said housing and having a drive shaft,
 (h) means removably coupling the said drive shaft to one of said weights,
 (i) a pool of lubricating oil carried by the housing, and
 (j) means effective upon rotation of said bearing shaft to circulate oil through said bearing means.

3,344,294

ADJUSTABLE POLE PITCH DYNAMOELECTRIC MACHINE

Gaëtan de Croy de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, French works

Filed Mar. 11, 1965, Ser. No. 438,902
 Claims priority, application France, Mar. 19, 1964,
 967,998, Patent 1,397,442
 5 Claims. (Cl. 310—191)



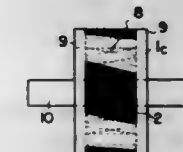
1. In a servo-control device for controlling engine power transmission systems, particularly on motor vehicles, and having a heteropolar alternator whose radial rotating field magnet is of the permanently magnetized type with a single stator armature coil coaxial with the rotor and with stator pole-pieces alternately connected to one or the other of two plates cooperating with an annular casing for closing the magnetic circuit and containing the armature coil, the improvement comprising one of said sets of pole pieces being angularly shiftable with respect to the other pole piece set for varying the alternator voltage in relation to rotation speed.

3,344,295

ROTORS FOR SYNCHRONOUS MOTORS

Shigeru Toyohara, Omiya-shi, and Hiroshi Yamada, Kogashi, Japan, assignors to San-Oh Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed July 16, 1965, Ser. No. 472,489
 Claims priority, application Japan, Aug. 22, 1964,
 39/66,163, 39/66,164
 2 Claims. (Cl. 310—211)



1. A rotor for synchronous motors comprising a core including a plurality of laminations, each of said laminations having a plurality of salient poles and depressed portions between said salient poles on its periphery and a plurality of openings to receive conductor bars; a plurality of conductor bars extending through said openings, a pair of end rings short circuiting said conductor bars, and metal fillers in spaces defined by said salient poles and depressed portions therebetween, said salient poles and fillers cooperating to form a smooth cylindrical surface, and said conductor bars, fillers, and end rings being formed as a unitary body by die-casting.

3,344,296

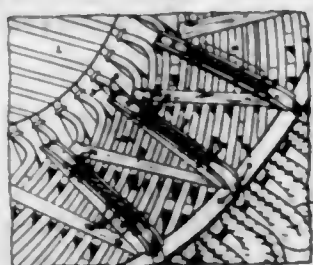
ADJUSTABLE RETAINING STRAP FOR DYNAMOELECTRIC MACHINE WINDING

Almy D. Coggeshall, Schenectady, John B. Waldbillig, Albany, and Joseph I. Whittlesey, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed June 29, 1962, Ser. No. 206,253
 7 Claims. (Cl. 310—260)

1. An adjustable length retaining strap comprising: first and second continuous multi-strand loops each having a pair of end bight portions, one of the end bight

portions of said first loop interwoven with one of the end bight portions of said second loop to provide adjustment in the combined length of said loops, movable members embraced by said first end bights at least the interwoven portion of said loops being impregnated with cured resin, whereby said overlapping interwoven portions lock the first and second



loops together, said first and second loops extending in opposite directions, from said interwoven portions toward first and second anchor means, each of said anchor means holding an unwoven end bight portion of one of said loops, at least one of said anchor means being constructed and arranged to exert an adjustable tensioning force on the unwoven end bight portion of one loop.

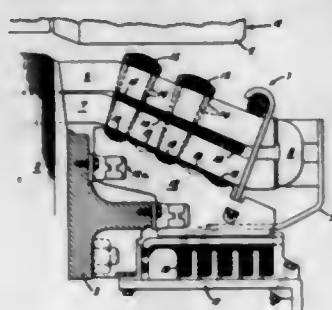
3,344,297

WINDING SUPPORT SYSTEM FOR A DYNAMOELECTRIC MACHINE

James S. Bishop, and Almy D. Coggeshall, both of Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed July 28, 1965, Ser. No. 475,373

9 Claims. (Cl. 310—260)



1. A dynamoelectric machine stator defining a substantially cylindrical opening therethrough and comprising a plurality of circumferentially spaced stator bars longitudinally disposed in said stator and extending beyond the ends of the core of said stator, a plurality of outer axial support members mounted radially outward of said stator bars in circumferential relation on each end of said stator, and a ring consisting of resin-impregnated fabric material circumferentially mounted in abutting relation to at least some of said stator bars, said ring conforming to configurations of said abutting stator bars and resin-cured to a rigid state, said ring being lashed to said support members.

3,344,298

FLASH X-RAY TUBE WITH GAS FOCUSING OF BEAM

John Christopher Martin, Tadley, England, assignor to United Kingdom Atomic Energy Authority, London, England

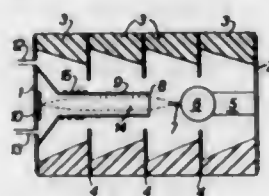
Filed May 24, 1965, Ser. No. 458,327

Claims priority, application Great Britain, May 29, 1964, 22,425/64

6 Claims. (Cl. 313—57)

1. A flash X-ray tube comprising a field-emission cathode, an anode made of thin electrically conducting material capable of transmitting a substantial proportion of

electrons striking the material, and a target located a distance behind the anode which distance is very much greater than the anode to cathode distance, the space between anode and target being adapted to contain gas



at a pressure sufficiently above that in the accelerating gap but below atmospheric pressure to provide magnetic self-focussing of the transmitted electrons traversing the space.

3,344,299

NEUTRON GENERATOR TUBE HAVING A SEALED-IN GAS REPLENISHER

John Ellery Bounden, Baldock, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Jan. 6, 1964, Ser. No. 335,792

Claims priority, application Great Britain, Jan. 14, 1963, 1,561/63

2 Claims. (Cl. 313—61)



1. In a neutron generator tube comprising a sealed envelope divided by an apertured frusto-conical extraction electrode into a first zone adapted to have an ion-containing plasma produced therein and a second zone containing a target adapted to be bombarded by ions extracted from said plasma through said aperture, said electrode projecting into said first zone, the provision on at least a central area of the surface of said extractor electrode facing said first zone of a thin layer of vitreous material to shield said surface from the plasma, said coating extending substantially to the edge of said aperture but being excluded from the internal surface of said aperture and being sufficiently thin to allow said internal surface to make contact with the plasma.

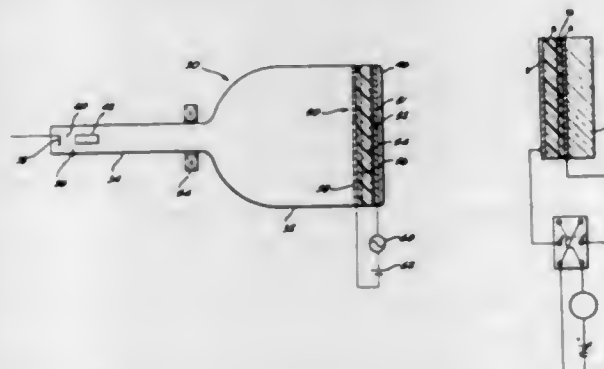
3,344,300

FIELD SUSTAINED CONDUCTIVITY DEVICES WITH CdS BARRIER LAYER

Norman H. Lehrer, Pacific Palisades, and Richard D. Ketchpel, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 23, 1965, Ser. No. 442,049

18 Claims. (Cl. 313—92)



1. An electrical field sustained conductivity device comprising: an electrically insulating substrate member, a first electrode member in the form of an electrically conductive

layer disposed on said substrate member, a layer of cadmium sulfide disposed on said first electrode member, a second electrode member in the form of an electrically conductive layer disposed on said layer of cadmium sulfide, one of said electrode members being a layer of aluminum, and a barrier region in said layer of cadmium sulfide adjacent said one of said electrode members and formed by heating said layer of cadmium sulfide and said one of said electrode members at a temperature of from 200° to 400° C. for at least two hours in a sulfur-containing atmosphere.

12. A direct-viewing electronic storage display device comprising:

- (a) an evacuated container;
- (b) a viewing screen disposed in said container and a phosphor layer capable of having its luminescence modulated in response to an electrical field established thereacross;
- (c) an optically transparent, electrically conductive layer disposed on one side of said phosphor layer;
- (d) a storage target disposed on the other side of said phosphor layer for establishing said electrical field thereacross in cooperation with said optically transparent conductive layer, said storage target including:
 - (1) a layer of cadmium sulfide disposed on said phosphor layer;
 - (2) an aluminum electrode member in the form of a layer disposed on said layer of cadmium sulfide;
 - (3) a barrier region in said layer of cadmium sulfide adjacent said aluminum electrode member and formed by heating said layer of cadmium sulfide and said aluminum electrode member at a temperature of from 200° to 400° C. for at least two hours in a sulfur-containing atmosphere;
- (e) and an electron gun disposed in said container for forming an electron beam of elemental cross-sectional area and adapted to scan said storage target.

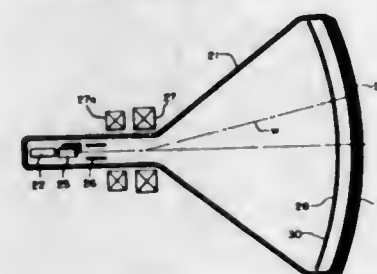
3,344,301

SUBTRACTIVE TYPE COLOR CATHODE RAY TUBE HAVING OVERLAPPING COLOR PHOSPHOR AREAS

Sam H. Kaplan, Chicago, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois

Filed July 25, 1966, Ser. No. 567,465

10 Claims. (Cl. 313—92)



1. In a single-beam subtractive type color cathode-ray tube having a mosaic image screen comprising a multitude of similar clusters of elemental phosphor areas and a color-selection electrode in juxtaposition with said screen and comprising a similar multitude of apertures aligned with said clusters, the improvement which is characterized by the fact that each of said clusters is composed of primary areas of phosphor deposit each having an area small compared to the cross sectional area of said beam and each of which exhibits a different color radiation in response to impingement by said beam and at least one secondary area of phosphor deposit interposed between said primary areas, said secondary areas collectively exhibiting an approximately white radiation in response to impingement by said beam.

3,344,302

RADIATION DETECTOR CHARACTERIZED BY ITS MINIMUM SPURIOUS COUNT RATE

Robert O. Engh and Robert G. Johnson, Hopkins, Minn., assignors to Honeywell Inc., a corporation of Delaware

Filed Oct. 9, 1964, Ser. No. 402,785

6 Claims. (Cl. 313—100)



1. A radiation detector tube characterized by its minimum spurious count rate, comprising:

- a gas tight envelope defining an enclosed volume, said envelope including a radiation permeable end portion;
- a planar cathode and a screen-like planar anode in said enclosed volume, said cathode being capable of releasing photoelectrons in response to impinging radiation to be detected;
- cathode and anode support means positioning said anode and cathode in predetermined closely spaced relationship with respect to each other and in predetermined relatively large spaced relationship with respect to the interior surfaces of said envelope, said cathode support means also positioning said cathode substantially transverse with respect to said radiation permeable end portion of said envelope, said anode support means also positioning said anode substantially parallel to said cathode and between said cathode and said radiation permeable end portion of said envelope;
- an elongated conductive member on said cathode support means extending beyond said anode toward said radiation permeable end portion of said envelope, and a gas filling in said enclosed volume adapted to be ionized upon the production of photoelectrons at said cathode and produce a discharge in the space between said cathode and said anode, said gas filling being further characterized in that it has an electron ionization coefficient which varies substantially as a function of E/P_0 , and has a predetermined relatively high ionization coefficient corresponding substantially to the E/P_0 characteristics of the predetermined spacing between said electrodes and a predetermined relatively low ionization coefficient corresponding substantially to the E/P_0 characteristics of the predetermined spacing between said electrodes and the interior surfaces of said envelope whereby the ionization of said gas filling is promoted in the space between said electrodes and minimized in the space between said electrodes and the interior surfaces of said envelope.

3,344,303

ELECTRIC INCANDESCENT LAMP HAVING TWO INCANDESCENT BODIES WITH A REFLECTOR FOR EACH

Louis Karel Hubert Prenger, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

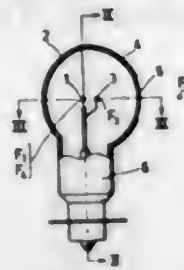
Filed Apr. 16, 1965, Ser. No. 448,599

Claims priority, application Netherlands, May 5, 1964, 64—4,941

3 Claims. (Cl. 313—114)

1. An electric incandescent lamp comprising two incandescent bodies, means mounting said incandescent

bodies in spaced relationship within said lamp, a reflector in said lamp for each of said incandescent bodies and formed by a body of revolution, each of said incandescent bodies being disposed on the axis of revolution of said reflector in a position relative to said reflector such that said light rays reflected by said reflector and emanating



from said incandescent body are concentrated in a beam, the reflected light rays emanating from at least one of the further incandescent bodies converging on said first incandescent body, said lamp being provided with two reflective bulb wall portions facing each other, and one of said bulb wall portions being provided with a central window for the light rays to exit.

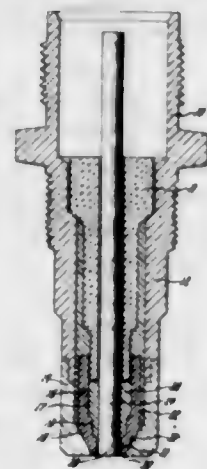
3,344,304

CREEPAGE SPARK TYPE PLUG HAVING LOW VOLTAGE IGNITER SEAL

Gustav F. Rademacher, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 23, 1965, Ser. No. 466,334

9 Claims. (Cl. 313-131)



1. A low voltage igniter plug having a flush gap firing tip assembly comprising an outer annular ground electrode, a tubular semiconductor positioned longitudinally within said ground electrode and being in electrical contact with said electrode, a center electrode positioned longitudinally within said tubular semiconductor, conductive sealing means positioned between said center electrode and said semiconductor and being bonded thereto, said sealing means directing a spark from the lower end of said center electrode when said igniter plug is energized.

3,344,305

TANDEM DRIVE WELDING WIRE FEED ARRANGEMENT FOR SEMI-AUTOMATIC WELDING EQUIPMENT

Ralph P. Ogden and William P. Lawson, Hammond, Ind., assignors to Ogden Engineering Corporation, a corporation of Indiana

Filed Dec. 6, 1965, Ser. No. 511,933

15 Claims. (Cl. 314-69)

1. A device for feeding welding wire from a point of supply to a remote point of use, said device comprising: a pair of wire feed drive assemblies each including means for feeding welding wire lengthwise thereof,

and conduit means for connecting said drive assemblies together to provide a continuous feed path for the wire having an intake end at one of said assemblies and a discharge end at the other of said assemblies, said one assembly being located adjacent the point of supply and including means for applying a constant force pushing action on the wire that is independent of speed,



and said other assembly being located adjacent the point of use and including means for controlling the speed of the wire feed through said feed path and means for selectively varying said feed speed, whereby said one assembly means applies a constant force pushing action on the wire for all feed speeds provided by said other assembly, and said other assembly controls the rate of the wire feed to said point of use.

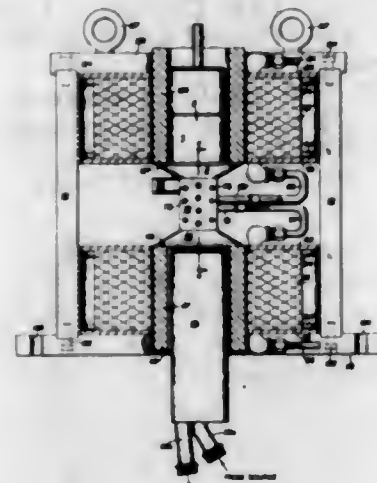
3,344,306

KLYSTRON HAVING TEMPERATURE MODIFYING MEANS FOR THE ELECTRODES THEREIN AND THE FOCUSING MAGNETIC CIRCUIT

Martin E. Levin, Millbrae, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California

Filed Mar. 26, 1962, Ser. No. 182,197

8 Claims. (Cl. 315-5.39)



1. A beam tube comprising a vacuumized envelope including an electron gun section, a radio-frequency interaction section and a collector section axially aligned and hermetically united, said radio-frequency interaction section comprising a plurality of initially separate composite metallic blocks being hermetically united onto the other to serially align said cavities, and a drift tube section extending into each block and defining an electron drift space communicating with the cavity therein, adjacent ends of two such drift tubes defining an interaction gap within each cavity, said metallic blocks of said radio-frequency interaction section defining a plurality of intercommunicating fluid passageways for the passage of fluid

coolant therethrough including a first set of parallel passageways extending transversely across the radio-frequency interaction section to channel fluid coolant about a corresponding number of said drift tube sections, at least a second set of parallel passageways extending transversely through said radio-frequency interaction section parallel to said first set of transversely extending passageways, and a third passageway having a portion extending transversely and a portion extending longitudinally of the radio-frequency interaction section and serially connecting the first and second parallel sets of passageways.

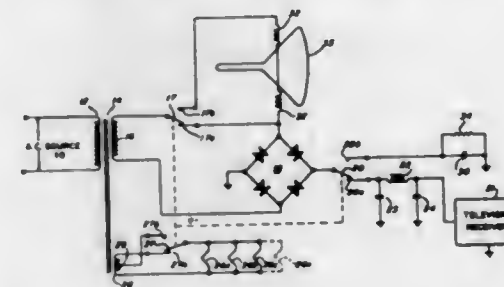
3,344,307

TELEVISION RECEIVER WITH INSTANT-ON AND AUTOMATIC DEGAUSSING

Peter H. Van Anrooy and Dennis G. Abel, Itasca, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 8, 1966, Ser. No. 571,038

14 Claims. (Cl. 315-8)



1. In combination with a color television receiver having signal translation means requiring D.C. operating current and having a picture tube susceptible to external magnetic fields: picture tube demagnetizing means located adjacent said picture tube; an A.C. power source; a capacitor; rectifying means; additional means having two distinct operating modes; said additional means assuming a first of said two operating modes during turn-on of said receiver and establishing a first series circuit comprising said source, said rectifying means and said signal translation means; said additional means assuming a second of said two operating modes on turn-off of said receiver and establishing a second series circuit comprising, in the order named, said source, said demagnetizing means, said rectifying means and said capacitor; said capacitor charging and being maintained in a charged condition while said receiver is turned off, whereby said demagnetizing coils are subjected to an alternating current of decreasing amplitude.

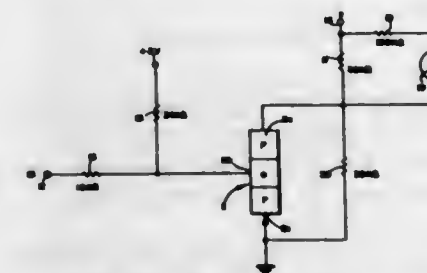
3,344,308

LOW VOLTAGE INDICATOR CIRCUIT

James L. Atkinson, La Mirada, Calif., assignor to North American Aviation, Inc.

Filed Mar. 10, 1965, Ser. No. 438,620

2 Claims. (Cl. 315-135)



1. An indicator circuit comprising in combination: a glow discharge lamp having a firing potential and an extinguishing potential; a source of unidirectional periodic pulsating potential whose peak amplitude is greater than said firing po-

tential, said source having first and second terminals; a first and a second resistor serially connected between said first and said second terminals to form a potential divider with the potential across said first resistor being below said firing potential; a third resistor connected in series with said glow discharge lamp across said first resistor; a transistor having base, emitter and collector electrodes, said collector-emitter electrodes connected across said second resistor; an input terminal responsively connected to said base for receiving input pulses for turning said transistor ON and OFF such that in said ON condition substantially all current flow through said second resistor is bypassed and the potential across said first resistor is periodically above said firing potential and in said OFF condition the potential across said first resistor is never above said firing potential.

3,344,309

VAPOR RECTIFIER WITH DEIONIZATION CONTROL BY AN AUXILIARY VAPOR RECTIFIER

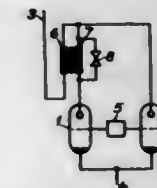
Carl Ingvar Boksjö, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Apr. 12, 1965, Ser. No. 447,314

Claims priority, application Sweden, Apr. 30, 1964,

5,396/64

7 Claims. (Cl. 315-163)



1. A static converter comprising a rectifier bridge, each branch of which comprises a main rectifier and an auxiliary rectifier connected in parallel, transformer means for each branch, means connecting one side of said transformer means in series with said main rectifier, means connecting the other side in series with said auxiliary rectifier, said transformer means being arranged to induce, in response to an increase of current in the first mentioned side of the transformer means, a voltage in said other side of the transformer means directed against the voltage across said auxiliary rectifier.

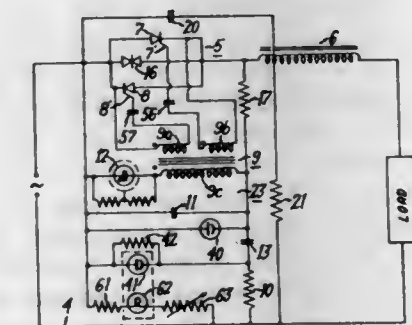
3,344,310

UNIVERSAL LAMP CONTROL CIRCUIT WITH HIGH VOLTAGE PRODUCING MEANS

Joe A. Nuckolls, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York

Filed Jan. 13, 1966, Ser. No. 520,487

22 Claims. (Cl. 315-199)



1. A control circuit comprising, in combination, a source of alternating current, load means energized by

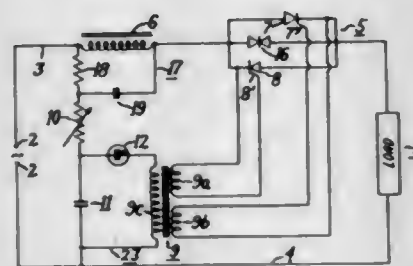
the alternating current source, controlled rectifier means connected between said alternating current source and said load means, said controlled rectifier means being normally non-conductive to block current flow to the load means and having electrode control means to render it conductive, actuating means connected to said alternating current source and to said electrode control means for applying a control signal to said electrode control means at a predetermined time in each alternating current cycle, said actuating means including a capacitance and first resistance connected together in series, voltage sensitive switch means connected across said capacitance, and a second resistance connected between the load side of said controlled rectifier means and the junction of said capacitance and said first resistance, and means connected with said controlled rectifier means and said load means for providing a high voltage starting pulse on said load means.

20. A circuit for controlling energization of a load from an alternating current supply comprising, in combination, controlled rectifier means comprising a triac electrically connected between the load and the alternating current supply, said triac being non-conductive to block current flow to the load and having a single control electrode to render it conductive, and actuating means for applying a control signal to said control electrode to render said triac conductive, said actuating means including a resistance and a capacitance electrically connected together in series and to the alternating current supply, a voltage sensitive switch means connected across said capacitance and in series with said resistance, and connected to said control electrode, so that the resistance-capacitance circuit determines the time in each alternating current cycle at which said voltage sensitive switch becomes conductive and a control signal is applied to said control electrode.

3,344,311

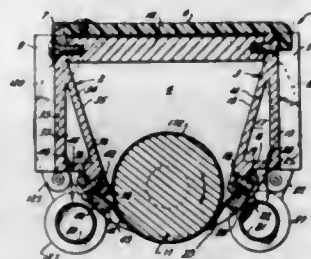
COMPENSATING CONTROL CIRCUIT

Joe A. Nuckolls, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed May 24, 1965, Ser. No. 458,353
17 Claims. (Cl. 315-199)



1. A circuit for controlling the power applied to load means comprising, in combination, a source of alternating current, load means energized by said alternating current source, controlled rectifier means connected between said alternating current source and said load means, said controlled rectifier means being normally non-conductive to block current flow to said load means and having electrode control means to render it conductive, actuating means connected to said alternating current source and to said electrode control means for applying a control signal to said electrode control means at a predetermined time in each alternating current cycle, said actuating means including a resistance and a capacitance connected together in series, and voltage sensitive symmetrical switch means connected across said capacitance, and integrating circuit means connected between said load means and said actuating means for stabilizing the load current and for providing load current symmetry.

3,344,312
ELECTROSTATIC POWDER SPRAYER
Warren G. Buhler, Westfield, N.J., assignor to Oxy-Dry Sprayer Corporation, New York, N.Y., a corporation of New York
Original application Apr. 23, 1964, Ser. No. 362,106, now Patent No. 3,292,045. Divided and this application Aug. 15, 1966, Ser. No. 572,571
3 Claims. (Cl. 317-2)

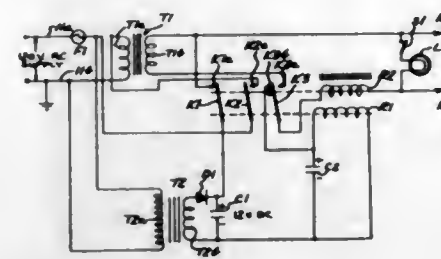


1. In an electrostatic powder sprayer, the combination of
a pair of spaced apart end members;
receptacle means located between said end members forming a receptacle for powder materials to be dispensed;
a metering mechanism including
a dispensing roller journaled between said end members and located in an opening beneath said receptacle, and
at least one wiping blade secured to said receptacle means and disposed to tangentially engage said roller;
means for providing an electrostatic field at the surface of said dispensing roller including a pair of electrostatic tubes parallel to said roller;
positioning means for said pair of electrostatic tubes to position said tubes
below said receptacle means,
closely adjacent said dispensing roller, substantially closer to said roller than the receiving surface for the powder materials being dispensed, and
on opposite sides of said metering mechanism;
high voltage alternating current energizing means connected to said electrostatic tubes to energize the same and create alternating electrostatic fields
to free powder material from said dispensing roller,
to disperse the powder material and
to at least partially control the direction of the dispersed powder leaving said metering mechanism; and
pneumatic means secured to said receptacle means on each side of said metering mechanism and outside said electrostatic tubes for providing downwardly directed air jets to create a pair of air curtains tending to confine the dispensed powder material to a desired area beneath said roller.

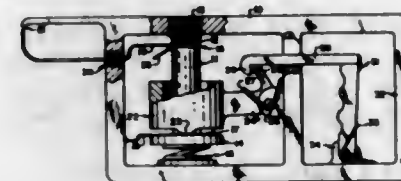
3,344,313
LOAD RESPONSIVE UNGROUNDED ELECTRICAL DISTRIBUTION SYSTEM
Arthur A. Kraus, Sr., Joliet, Ill., assignor, by direct and mesne assignments, to Electronic Safety Controls, Inc., a corporation of Illinois
Filed Apr. 2, 1965, Ser. No. 445,043
10 Claims. (Cl. 317-18)

1. In an electrical distribution system, the combination which comprises a source of energizing power, an isolation transformer, a remote load circuit including a load device and a switch connected in series, the switch being operable to condition the load device for energiza-

tion when closed and to cause the energized load device to be deenergized when opened, means including a first relay for causing the transformer to be associated with the source and for causing energizing current to initially flow through the load device when the first relay is energized, means associated with the source for continuously producing a low voltage signal which is applied to the first relay through the load circuit when the switch is

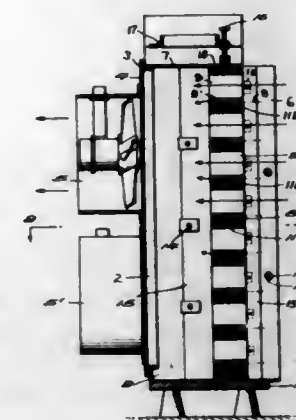


3,344,314
IGNITER EMPLOYING A PIEZOELECTRIC VOLTAGE SOURCE
Lamont B. Koontz, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,134
6 Claims. (Cl. 317-81)



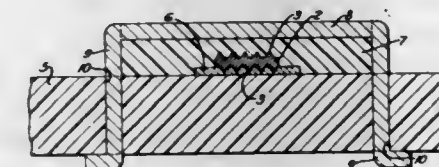
1. A piezoelectric voltage source comprising:
a piezoelectric element having end surfaces defining an axis of compression and including electrical conductor means adapted to connect opposing end surfaces to voltage utilization means,
support means for said crystal including a stationary member engaging one of said end surfaces along said axis of compression and a movable member adjacent the other of said end surfaces,
first spring means biasing said movable member to apply pressure against said element along the axis of compression,
hammer means adapted to impact said movable member to suddenly release at least a portion of the pressure against said element,
second spring means biasing said hammer means toward said movable member,
and actuating means connected to said hammer means to move the same a given distance away from said movable member to store potential energy in said second spring means, whereupon said hammer means is released to strike said movable member to suddenly release at least a major portion of the compression stress of said element.
3. A piezoelectric voltage source in accordance with claim 1 wherein the electrical conductor means are connected to a spark gap.

3,344,315
CABINET FOR SEMICONDUCTORS WITH COOLING BLOCKS
Paul Schneider, Turgi, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Oct. 21, 1966, Ser. No. 588,486
6 Claims. (Cl. 317-100)



1. In a cabinet semiconductor assembly the combination comprising a cabinet structure having bottom, top front and side walls but no rear wall, said front wall being provided with an opening, at least one vertical bank of superposed groups of semiconductor elements rising from said bottom wall of said cabinet structure, each said semiconductor group being comprised of a plurality of semiconductor elements disposed in side-by-side relation, a metallic base forming a heat sink and to which the semiconductor elements of the group are secured and a plurality of spaced cooling plates extending vertically from said base and parallel with said side walls of said cabinet structure, insulator pieces interposed respectively between adjacent semiconductor groups, opposite faces of each said spacer piece engaging respectively the base of one semiconductor group and the edges of the cooling plates of the next semiconductor groups in the bank, and a fan unit mounted on said front wall of said cabinet structure with its intake in communication with the opening in said front wall, said fan unit serving to draw cooling air transversely through said cabinet structure and between said cooling plates of said semiconductor groups.

3,344,316
ELECTRICAL CONNECTION OF COMPONENTS TO PRINTED CIRCUITS
John P. Stelmak, 325 Walnut St., Greensburg, Pa. 15601
Filed Aug. 17, 1965, Ser. No. 480,440
6 Claims. (Cl. 317-101)



1. The combination with an insulating base, a flat metal electrical conductor thereon, and an electronic component adjacent the conductor, of a metal lead projecting from the component above said conductor and having a plurality of minute protrusions on its bottom engaging the conductor, and means holding said lead against the conductor with said protrusions pressed into it.

3,344,317

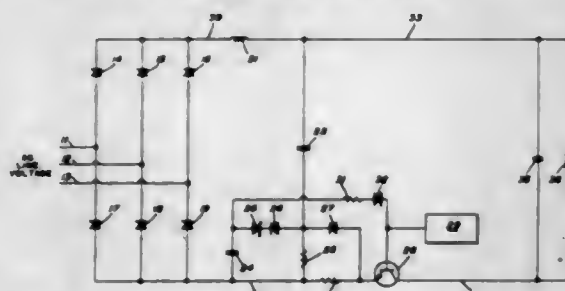
CIRCUIT BREAKER USE LIMITING MEANS
William Harold Edmunds, Bloomfield Hills, Mich., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 8, 1965, Ser. No. 512,405
6 Claims. (Cl. 317-119)



1. A circuit breaker having a casing, a line terminal, and a use limiting means to prevent installation of said circuit breaker in an improper circuit; said means constructed and operatively positioned whereby removal of said means to permit installation of said circuit breaker in an improper circuit also removes said line terminal thereby rendering said circuit breaker incapable of being electrically connected into a circuit.

3,344,318

SEMI-CONDUCTOR POWER SUPPLY REGULATOR AND PROTECTIVE CIRCUITRY THEREFOR
Julius E. Wolff, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1964, Ser. No. 414,935
7 Claims. (Cl. 317-20)



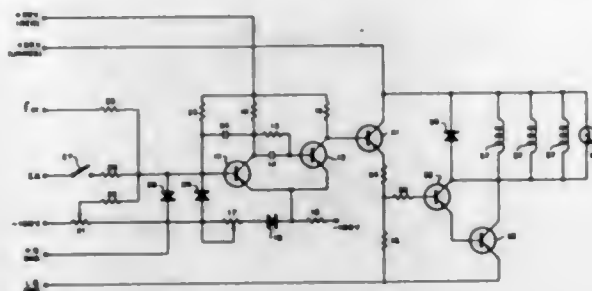
4. A protective circuitry apparatus for semiconductor control means in a power supply regulating circuitry, comprising
filter capacitor means,
first and second resistance means connected in series arrangement between said filter capacitor means and said semiconductor control means,
first diode means operatively connected to effectively parallel said first and second resistance means,
diode-capacitance network means electrically connected to said filter capacitor means,
control circuitry means for providing biasing current to said semiconductor control means, and
impedance means operatively coupled between said diode capacitance network and said control circuitry means,
whereby an excessive transient voltage that appears across the first resistance is rectified by the diode capacitance network and current is fed to the semiconductor control means to effectively reduce the voltage across the control means for the transient period.

3,344,319

ELECTRONIC COMPARATOR
David Schimsky, Willingboro, N.J., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1965, Ser. No. 452,406
8 Claims. (Cl. 317-148.5)

1. An electronic voltage comparator comprising:
a first transistor;

a second transistor having its base linked to the collector of said first transistor;
a pair of load resistances linked to the collectors of said transistors, both of said pair being connected to a voltage source; and
a feedback resistance linked between the emitters of both said transistors and ground, said feedback resistance being variable, said feedback resistance



causing regenerative switching of said second transistor from a conducting to a non-conducting state upon a signal of a first predetermined level at the base of said first transistor and regenerative switching of said second transistor from said non-conducting state to said conducting state upon decrease of said signal to a second predetermined level, the difference between said first and second levels being determined by said variable feedback resistance.

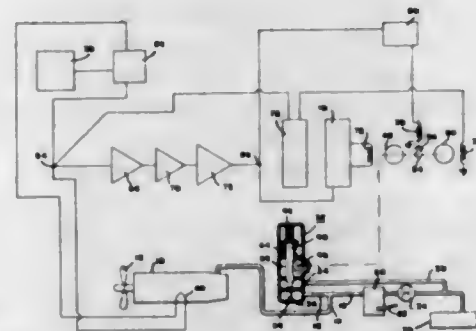
3,344,320

MAGNETIC AMPLIFIER CIRCUITS

Robert E. Nelson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application May 22, 1963, Ser. No. 282,321, which is a division of application Ser. No. 30,979, May 23, 1960, now Patent No. 3,124,932, dated Mar. 17, 1964. Divided and this application Jan. 26, 1966, Ser. No. 553,584

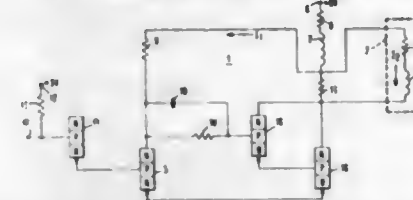
1 Claim. (Cl. 317-148)



An electric circuit for controlling the energization of a relay coil or the like comprising, a source of AC voltage, a magnetic amplifier having a load winding, a positive feedback winding, a negative feedback winding and a control winding, means connecting said control winding with a source of control potential, first, second and third series connected resistors connected with said load winding for developing a direct current output voltage, means connecting said relay coil across two of said resistors, an energizing circuit for said negative feedback winding connected across one of said resistors and including a Zener diode connected in series with said negative feedback winding and reversed poled, and means connecting said positive feedback winding across one of said resistors.

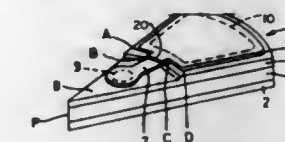
3,344,321

MAGNETOSTRICTIVE DELAY LINE DRIVER
John W. Sumllas, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 9, 1965, Ser. No. 470,792
5 Claims. (Cl. 317-148.5)



1. Apparatus for driving an inductive load at high frequencies, comprising
a constant current means including a low voltage source of energy and having an inductive impedance the value of which is sufficiently greater than that of the load to substantially inhibit rapid changes in current therein at the selected frequency of operation,
a first path for the constant current including said load and a first high speed transistor switch connected in series,
a second path for the constant current including a second high speed transistor switch connected to the constant current means for diverting the current from the first path, and
means adapted for connection with a source of signals to energize the first or second switch alternatively

adjacent thereto constituting a control zone, said control zone having a first portion underlying the emitter zone and a second juxtaposed exposed portion adjacent the emitter zone, an emitter contact on the emitter zone and a control contact on the exposed second portion of the control zone and spaced from the first portion, the peripheral edge of the said first portion facing the control contact having a given length and a given cross-sectional area, the bulk of the portion of the second control zone



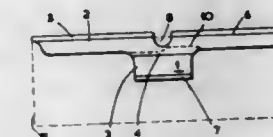
portion connected to the said first portion at its peripheral edge having a length and a cross-sectional area that are both significantly smaller than said given length and given cross-sectional area, respectively, whereby the control current flowing from the control contact through the second portion of the control zone to the first portion of the control zone is concentrated mainly along only a portion of the length of the first portion's peripheral edge, thereby reducing the control current required to turn-on the rectifier.

3,344,324

UNIPOLAR TRANSISTOR WITH NARROW CHANNEL BETWEEN SOURCE AND DRAIN

Julian Robert Anthony Beale, Wraybury, near Staines, England, assignor to North American Philips Company, Inc., New York, N.Y.

Filed Nov. 29, 1957, Ser. No. 699,742
Claims priority, application Great Britain, Dec. 13, 1956, 38,094/56
16 Claims. (Cl. 317-235)



3,344,322
METAL-OXIDE-SEMICONDUCTOR FIELD EFFECT TRANSISTOR
Hans G. Dill, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,299
5 Claims. (Cl. 317-235)



1. A metal oxide semiconductor field effect transistor which comprises:
a mesa region of a semiconductor substrate of a first conductivity type forming a channel area;
areas on opposite sides of the mesa region of second conductivity type forming respective source and drain areas;
an insulating film over the channel area; and
a metal film forming a gate, insulated from the channel, source and drain areas by the insulating film, and overlying the channel area so that the source and drain areas are overlapped thereby substantially only to about the width of the source and drain areas.

1. A field-effect transistor comprising a body of semiconductor material, a surface layer on said body of one conductivity type whose conductivity at the surface is high and whose conductivity inward of the said surface is low, spaced source and drain electrode connections to said surface layer at high-conductive surface body portions, a region of the opposite conductivity type in said body and spaced from the said surface and the source and drain electrodes, and a gate electrode connection to said region of the opposite conductivity type, said surface layer having an interruption between the source and drain electrodes and extending inward from the high-conductive surface into low-conductive body portions.

3,344,323

CONTROLLED RECTIFIERS WITH REDUCED CROSS-SECTIONAL CONTROL ZONE CON-NECTING PORTION

Willem Gerard Einthoven and Willem Baas, Nijmegen, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 24, 1964, Ser. No. 384,999
Claims priority, application Netherlands, Aug. 7, 1963, 296,392

7 Claims. (Cl. 317-235)

1. A controlled rectifier comprising a semiconductive body having four successive zones of alternating conductivity type forming three p-n junctions with one of the outermost zones constituting an emitter zone and the zone

3,344,325

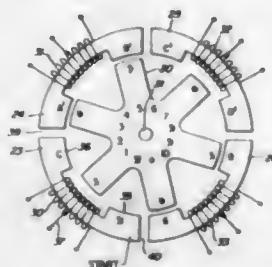
STEP MOTOR INCLUDING PERMANENT MAGNET ROTOR AND SECTIONED STATOR

Morton Sklaroff, Philadelphia County, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 4, 1965, Ser. No. 453,002
4 Claims. (Cl. 318-138)

1. A stepping motor comprising a rotor having an even number of permanent magnet poles determined according to the relation $6X$ where $X \geq 1$ polarized radially of the rotor and which face directly outward from the periphery of the rotor, said magnet poles being evenly arranged and in alternate polarity around said periphery, stator means

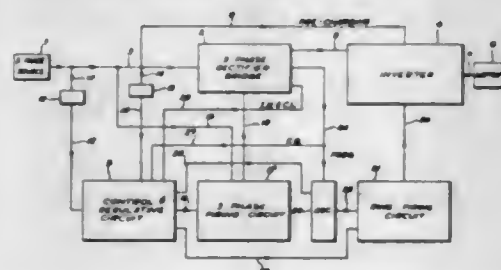
having an even number of stator sectors determined according to the relation $6X-2X$ where $X \geq 1$, said sectors being symmetrically arranged in a circle to enclose said rotor and separated therefrom and from each other by non-magnetic gaps, each of said sectors having a pair



of field pole faces spaced to correspond to the spacing of said magnet poles and a plurality of energizing windings inductively coupled to individual ones of said sector pieces to provide opposite magnetic poles at said pole faces on each of said sectors.

3,344,326
ADJUSTABLE FREQUENCY CONTROL SYSTEM
Robert L. Risberg, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 13, 1964, Ser. No. 381,970
20 Claims. (Cl. 318-230)



1. A control system supplied from an alternating voltage source and providing an alternating output voltage whose magnitude and frequency are proportionally adjustable and comprising:

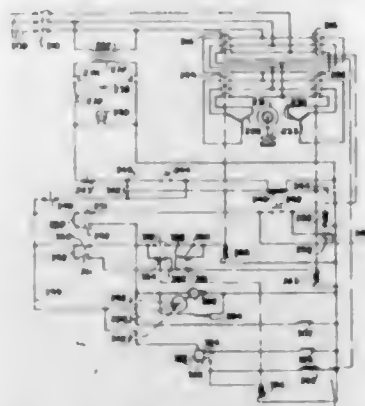
- controllable rectifier means supplied from said source and being operative to provide a direct voltage output having a controllable magnitude;
- control means supplied from said source for applying control signals to said rectifier means and being selectively adjustable to control the magnitude of the direct voltage output of said rectifier means;
- a solid state inverter supplied with the direct voltage output of said rectifier means; and
- control circuit means responsive to the direct voltage output of said rectifier means for controlling said inverter frequency whereby said inverter provides an adjustable alternating voltage output and proportionally adjustable frequency.

3,344,327
TWO-SPEED MOTOR CONTROL CIRCUIT WITH BRAKE
Thomas K. Hutchinson and Oliver C. Kemp Hutchinson, Alton, Ill., assignors to The National Acme Company, a corporation of Ohio

Filed Jan. 7, 1965, Ser. No. 424,008
6 Claims. (Cl. 318-258)

1. In a motor control circuit for driving a load along a path from an initial position toward a second position and is brought to rest in said second position, a two-speed motor that has a high speed winding and a low speed winding and connected to move said load, a brake connected to said motor,

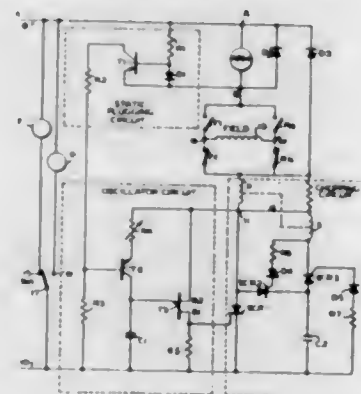
said brake applying braking forces to and halting movement of said motor and load whenever said high speed winding and said low speed winding are deenergized, said brake freeing said motor and load for rotation whenever either said high speed winding or said low speed winding is energized, first limit switch means adjacent said initial position of said load, further limit switch means adjacent said second position of said load,



means connecting said first limit switch means for energizing said low speed winding of said motor as said load starts movement from said initial position and then energizing said high speed winding and deenergizing said low speed winding as said load moves further toward said second position, and means connecting said further limit switch means for de-energizing said high speed winding and energizing said low speed winding of said motor as said load approaches said second position, and then de-energizing said low speed winding to permit said brake to bring said load to rest as said load reaches said second position.

3,344,328
DIRECT CURRENT MOTOR PLUGGING CIRCUIT
Herbert E. Morris, Roanoke, Va., assignor to General Electric Company, a corporation of New York

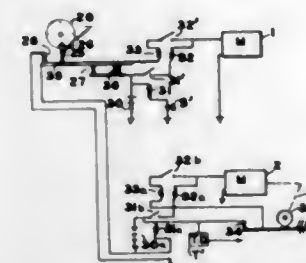
Filed June 11, 1965, Ser. No. 463,156
3 Claims. (Cl. 318-258)



2. A control circuit for selectively varying the power supplied to the armature of a direct current motor through its field winding from a direct current source comprising, a controlled rectifier connected in series with the armature of said direct current motor, a firing circuit for firing said controlled rectifier and energizing said direct current motor at a predetermined frequency, means responsive to the firing of said controlled rectifier for commutating said controlled rectifier at a predetermined time after it conducts, means for driving the armature of said direct current motor as a generator, and means responsive to the driving of the armature of said direct current motor as a generator for blocking said firing circuit for a predetermined period of time.

3,344,329
ZERO SPEED INDICATOR FOR SHAFT ROTATION
Howard A. George, Connecticut View Drive, Mill Neck, N.Y. 11765
Original application Dec. 31, 1962, Ser. No. 248,714. Divided and this application Mar. 21, 1966, Ser. No. 536,103

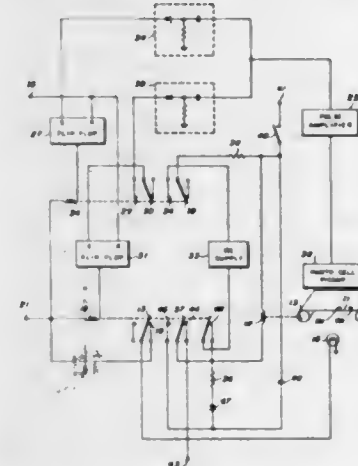
2 Claims. (Cl. 318-265)



1. Zero speed sensing means for a motor driven shaft comprising, a cam on said shaft, electrical contact means riding on said cam whereby said contacts generate pulses proportional in duration to said shaft speed of rotation, time delay means connected to said contacts said time delay means being substantially insensitive to pulses generated by said contacts which are shorter than said time delay, and utilization means connected to said time delay means whereby when said shaft slows to a predetermined speed said contacts will generate a pulse longer in duration than said time delay means, said time delay means being responsive to said longer pulse to send a signal to said utilization means.

3,344,330
CHART INDEXING SYSTEM HAVING DECELERATION AND BRAKING
John A. Belanich and Thomas R. Bignell, San Diego, Calif., assignors, by mesne assignments, to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 10, 1964, Ser. No. 388,590
4 Claims. (Cl. 318-275)



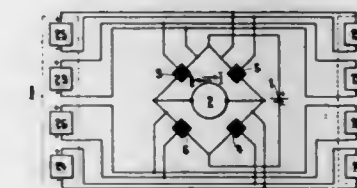
1. A chart advance indexing system comprising: (a) a chart roll having at least one pair of first and second indexing means for indexing at least one predetermined position; (b) an electric motor mechanically coupled to said chart roll for advancing said chart roll; (c) light sensitive means in proximity to said chart roll and adjacent to a first side thereof; (d) illuminating means in proximity to said chart adjacent to a second side thereof and positioned opposite said light sensitive means for passing a predetermined intensity of light through said chart roll onto said light sensitive means;

- (e) said at least one pair of first and second indexing means positioned on said chart roll for passing between said illuminating means and said light sensitive means at predetermined intervals when said motor is advancing said chart roll;
- (f) first switching means coupled to said light sensitive means, said first switching means being actuated by said light sensitive means and said illuminating means when said first indexing means passes between said light sensitive means and said illuminating means;
- (g) a second switching means coupled to said light sensitive means;
- (h) holdoff means coupled to said second switching means for preventing said second switching means from being actuated until said first switching means is actuated, said second switching means being actuated by said light sensitive means when said second indexing means passes between said light sensitive means and said illuminating means;
- (i) means for applying electrical driving current to said motor;
- (j) means connected to said first switching means for applying electrical slowing current to said motor; and
- (k) means connected to said second switching means for disconnecting said driving current and said slow current from said motor and connecting a stopping current to said motor.

3,344,331
ELECTRONIC CURRENT REVERSER
Karl Adler, Ruti Buren, and Georges Ducommun, Grenchen, Switzerland, assignors, by mesne assignments, to Bivator S.A., Geneva, Switzerland, a corporation of Switzerland

Filed May 31, 1963, Ser. No. 284,719
Claims priority, application Switzerland, June 6, 1962, 6,838/62

12 Claims. (Cl. 318-294)



1. A current reverser comprising a direct current source and a consumer, a bridge circuit having controllable circuit elements such as transistors in its branches, said direct current source being connected to the input of said bridge circuit and said consumer being connected to the output of said bridge circuit, a control circuit associated with each of said controllable elements, each of said control circuits being independent of any other control circuit and comprising a pair of variable direct current sources continuously interconnected in differential arrangement for control of each controllable element by the direct voltage difference of the pair of direct current sources associated with it.

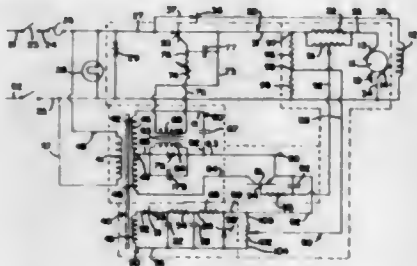
3,344,332
DIRECT CURRENT RUNNING SPEED CONTROL IN WHICH A SPACE DISCHARGE DEVICE IS INCLUDED IN THE ARMATURE CIRCUIT
Louis P. Polries, Minneapolis, Minn., assignor to Seco Electronics Corporation, Hopkins, Minn., a corporation of Minnesota

Filed Jan. 14, 1965, Ser. No. 425,479
6 Claims. (Cl. 318-332)

1. In a speed control for direct current motors having an armature circuit energized by a source of alternating current, a silicon controlled rectifier in said armature cir-

cuit adapted to be fired at various phase angles during each active pulse of said alternating current and a balanced armature feedback circuit producing a voltage derived from the difference between a voltage resulting from the current flowing in the armature circuit and a direct current reference voltage, the combination of:

- (a) a laminated firing transformer having a primary and a secondary,
- (b) said primary being connected in a control circuit energized from an alternating current source, said control circuit including,
- (c) a diode shunting said primary,



- (d) a capacitor shunting said diode and primary,
- (e) a capacitor in series with said primary, diode and first capacitor,
- (f) the secondary of said firing transformer being connected in the gate circuit of said silicon controlled rectifier and
- (g) a phase shift circuit actuated by said balanced armature feedback circuit and connected to said control circuit for varying the phase angle at which the silicon controlled rectifier fires to vary the current in the armature circuit in accordance with the speed requirements of the motor.

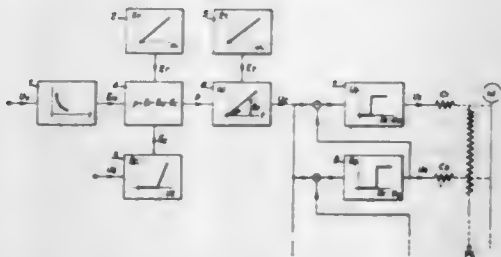
3,344,333

DEVICE FOR CONTROLLING THE CONTACTORS OF AN ELECTRIC MOTOR

Pierre Riodel and Jean-Pierre Garnier, Geneva, Switzerland, assignors to Societe Anonyme des Ateliers de Secheron, Geneva, Switzerland

Filed June 15, 1966, Ser. No. 557,697

4 Claims. (Cl. 318—393)



1. A device for controlling the rheostat contactors controlling the voltage fed to an electric collector motor suitable to power a vehicle, comprising means for producing a variable voltage related at least to the revolution speed of an axis driven by said motor, and a series of electronic switches controlled by said voltage, each of said switches controlling one of the contactors and being adjusted to act under the effect of a different voltage to provide substantially constant acceleration and deceleration of said axis, said means for producing a variable voltage including a first element supplying a voltage dependent upon the position of a vehicle control member, a second element supplying a voltage related to the working current of the motor, and an integrator controlled by the voltages produced by the two aforesaid elements, to maintain its output voltage constant for as long as the work current is greater than a predetermined value and to limit its output voltage to a value proportional to the voltage supplied by the first of these elements.

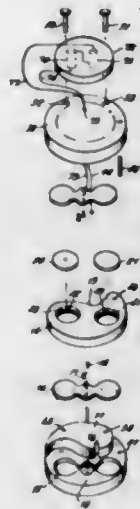
3,344,334

PHOTOVOLTAIC CELL BATTERY CHARGER

Irwin Rubin, Sherman Oaks, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed May 20, 1965, Ser. No. 457,323

3 Claims. (Cl. 320—2)



1. A battery charger comprising an upper housing portion, a lower housing portion spaced from said upper housing portion, a generally flat central platform movable in a plane parallel to the plane of said central platform from a first position between said upper and lower housing portions to a second position removed from between said upper and lower housing portions, a source of charging current and a first and second terminal for said source of charging current; said upper and lower housing portions having opposing surfaces; said opposing surfaces having first and second respective flexible spring conductors connected thereto; said first and second terminals of said source of charging current electrically connected to said first and second flexible spring conductors respectively; said central platform having at least a first opening therethrough for the reception of a rechargeable battery having a disk shape with opposite terminals on the opposite surfaces of said disk shape; the opposite sides of said opening registering with said first and second flexible spring conductors respectively when said platform is moved between said upper and lower housing portions whereby a battery contained within said opening is connected between said flexible spring connectors when said platform is moved between said upper and lower housing portions; said opening being exposed for access when said platform is moved to its said second position; said central platform being pivotally mounted at a single pivot point between said upper and lower housing portions and rotatable about said single pivot point between its said first and second positions; said source comprising a photovoltaic generator means mounted on said upper housing portion.

3,344,335

CIRCUIT TO LIMIT DELAY IN SWITCHING AN INVERTER

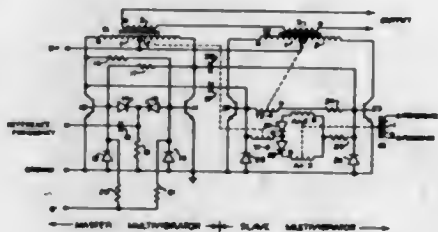
Loren H. Walker, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Dec. 14, 1964, Ser. No. 417,998

4 Claims. (Cl. 321—11)

4. An improved inverter comprising a master multivibrator having an output transformer and first and second current control devices each having main path electrodes and a control electrode; means coupling said current control devices and said output transformer together to produce a square wave that switches between levels at a

predetermined rate; a slave multivibrator having an output transformer and first and second current control devices each having main path electrodes and a control electrode; means coupling said first and second slave current control devices and said slave output transformer together to produce a square wave that switches between predetermined levels when said slave multivibrator is switched; a magnetic coupling circuit coupled to said master output transformer and to said control electrodes of said first and second slave current control devices so



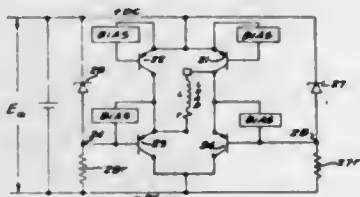
that said slave multivibrator is switched in response to the switching of said master multivibrator square wave and at a time determined by the volt-second characteristic of said magnetic coupling circuit; a first capacitor coupled between one point on said master output transformer and the control electrode of one of said slave current control devices; and a second capacitor coupled between another point on said master output transformer and the control electrode of the other of said slave current control devices.

3,344,336

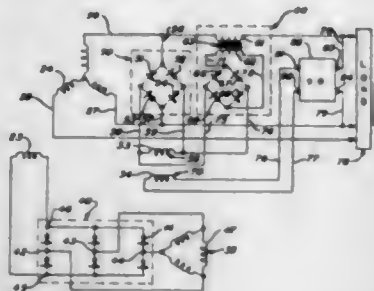
CIRCUIT FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT HAVING A STABLE OUTPUT FREQUENCY AND VOLTAGE

Elmo Emerson Moyer, Saratoga Springs, and Charles Richard Brandow, Albany, N.Y., assignors to Espey Mfg. & Electronics Corp., Saratoga Springs, N.Y., a corporation of New York

Filed Dec. 6, 1963, Ser. No. 328,639
16 Claims. (Cl. 321-18)



producing a magnetic field when excited by a direct current, rotatable means for generating an alternating output current, when rotated in a stationary magnetic field, stationary means for producing a magnetic field when energized by a direct current, rotatable rectifier means, connecting said rotatable generating means and said rotatable field means, for converting said alternating output current, and exciting said rotatable field means, means for simultaneously rotating said rotatable field means, said rotatable generating means, and said rotatable rectifier means, a magnetic circuit including said rotat-

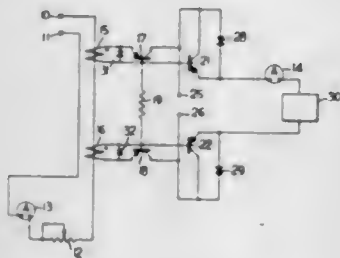


able generating means and said stationary magnetic field means connected across said stationary generating means and arranged upon said stationary field means, means, for modifying the magnetic reluctance of said magnetic circuit, so as to control a characteristic of the current generated by said rotatable generating means, in response to an electrical output characteristic of said stationary generating means, means, comprising a stationary rectifier, connecting said stationary generating means and said stationary field means, for energizing said stationary field means.

3,344,339

MEANS FOR PROVIDING A CONSTANT CURRENT SOURCE

John Baude, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 8, 1964, Ser. No. 366,044
14 Claims. (Cl. 323-4)



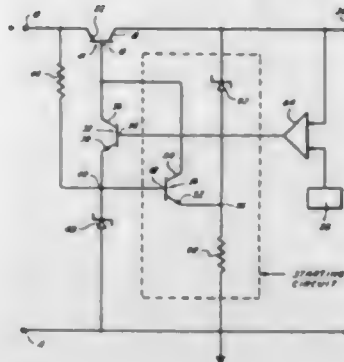
1. A circuit for providing a constant current output through a load with said output derived from a power system comprising:

- first and second current means responsive to the current of the power system for providing a low impedance output having a current varying as a function of the current of the power system;
- a first pair of amplifying stages each having a low impedance input and each connected to receive the output of the first and second current means, respectively, as an input said first pair of amplifying stages each connected to provide a high impedance output having a current varying as a function of the current of the power system;
- an electrical source;
- a second pair of amplifying stages each connected to receive the output of a different one of said first pair of amplifying stages as an input and each having an output circuit with said output circuits connected in series with each other, in series with the source, and in series with the load.

3,344,340

REGULATED POWER SUPPLY

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of John F. Ringelman and Henry B. Airth, Jr.
Filed Nov. 10, 1964, Ser. No. 410,326
6 Claims. (Cl. 323-22)



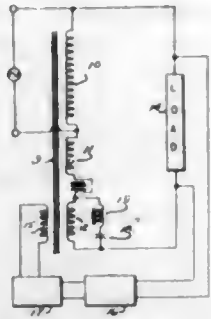
1. A regulating circuit for a source of unidirectional unregulated voltage comprising:

- (a) a first input terminal and a second input terminal between which said unregulated voltage can be applied;
- (b) a first output terminal and a second output terminal for deriving a regulated unidirectional voltage therebetween;
- (c) a series stage PNP-type transistor having a base, an emitter, and a collector;
- (d) means connecting the emitter and collector of said series stage transistor to said first input terminal and said first output terminal, respectively;
- (e) means connecting said second input terminal to said second output terminal;
- (f) means for maintaining a constant voltage at a reference potential junction comprising an input resistor connected between the first input terminal and the reference potential junction and a first zener diode having its cathode connected to said reference potential junction and its anode connected to said second input terminal;
- (g) means providing a path for current flow in the base of said series stage resistor when said unregulated voltage is first impressed across said input terminals comprising an NPN-type switching transistor having a base, emitter, and collector, said switching transistor base and collector being connected to said reference potential junction and said series stage transistor base, respectively;
- (h) means for reverse biasing said switching transistor when the voltage level at said first output terminal reaches a predetermined value comprising a second zener diode having its cathode and anode connected to said first output terminal and said switching transistor emitter, respectively; and
- (j) means for maintaining the voltage level across said output terminals at a predetermined value comprising:
 - (1) an NPN-type control transistor having a base, emitter, and collector, said control transistor collector and emitter being connected to said series stage transistor base and said reference potential junction, respectively, and
 - (2) a difference amplifier having a pair of amplifier input terminals and an amplifier output terminal, one of said amplifier input terminals being connected to said first output terminal and the other of said amplifier input terminals being connected to a reference signal source, and said amplifier output terminal being connected to said control transistor base.

3,344,341

REGULATING TRANSFORMER SYSTEM
Donald P. Bolton, Elk Grove Village, Ill., assignor to
Basic Products Corporation, Milwaukee, Wis., a cor-
poration of Wisconsin

Filed Dec. 31, 1963, Ser. No. 334,754
4 Claims. (Cl. 323-45)



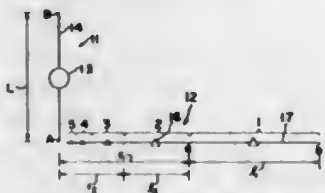
1. In a regulator, the combination including load means, a high leakage reactance transformer core having an air gap, a main winding thereon with an extension winding connected thereto, an auxiliary winding on said core and connected in series with said extension winding in opposed polarity relation, said air gap being located between said extension winding and said auxiliary winding, a series connected capacitor and inductor connected in shunt at least across said auxiliary winding and tuned in the third harmonic so as to inhibit the third harmonics generated in said auxiliary winding, means connecting said load to said main winding and to said auxiliary winding, D.C. control winding means on said core, and means responsive to the load for controlling said D.C. control winding means.

3,344,342

METHOD OF SUB-SURFACE PROSPECTING BY GENERATING CURRENT IMPULSE BETWEEN A PAIR OF POINTS ON A FIRST LINE AND DETECTING VOLTAGES BETWEEN POINTS ALONG A LINE NORMAL TO THE FIRST LINE

George F. Kinghorn, 12493 Brookglen Drive,
Saratoga, Calif. 95070

Filed Jan. 8, 1965, Ser. No. 424,411
5 Claims. (Cl. 324-9)



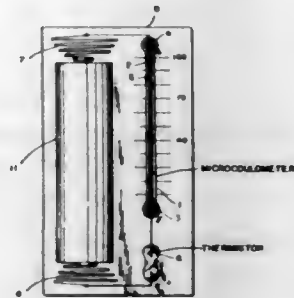
COMPARISON OF STEADY-STATE SIGNAL WITH INITIAL SIGNAL AFTER A STEP CURRENT IN LINE (A-B) FOR A TWO LAYER EARTH WITH VARIOUS CONFIGURATIONS OF RECEIVING WIRE (cm)

1. The method of electrical prospecting comprising the steps of: establishing a step or square-wave current in the earth between a first pair of points along a first line; detecting the variation with time of the voltage established by said current between a plurality of pairs of detection points with the pairs of detection points lying on a second line normal to said first line and passing through one of said transmission points and with difference distances between the first line and the closest point of each pair of detection points; recording the detected voltages established between said pairs of points by said current; and comparing the wave form of the recorded voltages for determining the variation of resistance with depth in the earth.

3,344,343

RETAINED CAPACITY INDICATOR WITH MICROCOULOMETER AND THERMISTOR
Ferdinand J. John, Colts Neck, N.J., assignor to the
United States of America as represented by the Secre-
tary of the Army

Filed Sept. 2, 1966, Ser. No. 582,792
5 Claims. (Cl. 324-29.5)



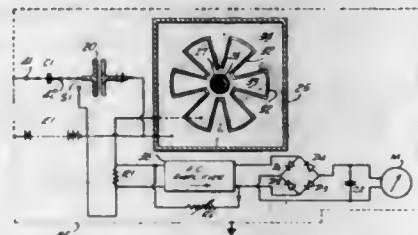
1. A battery retained capacity indicator for indicating the useful remaining capacity of a stored battery comprising terminal means across which said battery is connected, a microcoulometer and a thermistor connected in series with said microcoulometer between said terminal means, said thermistor being at the temperature of the battery, the rate of deterioration of capacity of said battery increasing non-linearly with storage temperature and the resistance of said thermistor decreasing non-linearly with temperature, wherein said thermistor has a resistance at the temperature of said battery equal to the ratio of the rated voltage of said battery and the current flowing at the temperature of said battery.

3,344,344

ELECTRIC CHARGE RESPONSIVE DEVICE

Nathaniel B. Wales, Jr., New York, N.Y.
(48 Park Lane, Fair Haven, N.J. 07701)

Filed Oct. 1, 1964, Ser. No. 400,864
4 Claims. (Cl. 324-32)



1. A charge responsive device comprising: An electrostatic induction electrode; an input electrode spaced and insulated from said induction electrode; a first shield cage substantially surrounding and insulated from both said induction electrode and said input electrode; a shielding vane electrically connected to said first shield cage; mechanical means alternately to insert and to withdraw said vane into shielding relation between said input electrode and said induction electrode; a load impedance connecting said vane and said induction electrode; and amplifying means to measure the current flowing in said load impedance.

3,344,345

RESOLVING METHOD COMPRISING PRINTING CAUSED BY IMPINGEMENT OF A PARAMAGNETIC PARTICULATE

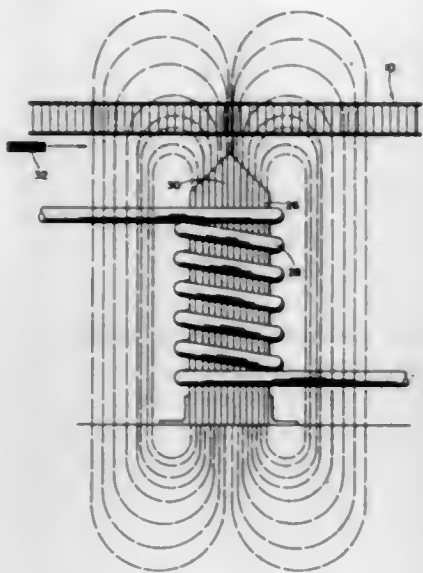
Orlando G. Molina, Westminster, Calif., assignor to
North American Aviation, Inc.

Continuation of application Ser. No. 169,553, Jan. 29,
1962. This application Feb. 3, 1966, Ser. No. 532,505
31 Claims. (Cl. 324-38)

1. In a method of magnetically inspecting an object by exposure of said object to a magnetic field to influence the location of paramagnetic particles on the surface of

said object due to variations in magnetic permeability of said object causing variation in flux concentration of said field and corresponding variation in attraction of said particles;

placing a paramagnetic particulate on said surface, establishing a concentration of lines of magnetic flux in



relationship to said object whereby said lines of flux penetrate said surface in a dominant direction substantially perpendicular to the same, and sufficiently fluctuating the intensity of said magnetic flux to cause impingement of said particulate leaving marks upon said surface after removal of said particulate from said surface.

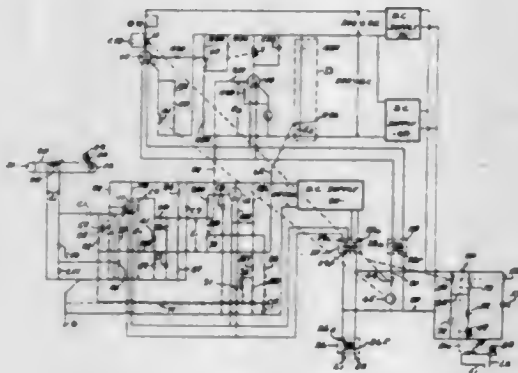
3,344,346

TRAMP METAL DETECTOR

Homer P. Halsey, Silver Bay, Minn., assignor to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota

Continuation of application Ser. No. 322,125, Nov. 7, 1963. This application May 25, 1966, Ser. No. 552,985

4 Claims. (Cl. 324-41)



1. A detector system for determining the presence of tramp metal in a moving magnetic ore burden comprising:

- (a) an oscillator having a sensing coil energized to provide a magnetic field;
- (b) said sensing coil being adapted to be mounted adjacent the moving ore burden so that the ore burden passes through the magnetic field produced by said sensing coil;

(c) said oscillator and said sensing coil operating at a frequency such that said oscillator provides an output signal having a first amplitude with no ore burden in the magnetic field, said output signal having an amplitude greater than said first amplitude with the ore burden in said magnetic field, and said output signal having an amplitude less than said first amplitude with the ore burden and tramp metal in said magnetic field; and

(d) electrical circuit means connected to receive said oscillator output signal, said electrical circuit means responding to said output signal when the amplitude is less than a predetermined amplitude and providing an indication for each response.

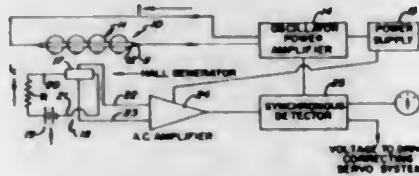
3,344,347

METHOD AND APPARATUS FOR DETERMINING DISPLACEMENT UTILIZING A HALL PLATE POSITIONED TANGENTIAL TO AN ARCuate MAGNETIC FIELD

Raymond H. Stevens, Columbus, Ohio, assignor to F. W. Bell, Inc., Columbus, Ohio, a corporation of Ohio

Filed Aug. 23, 1963, Ser. No. 304,040

4 Claims. (Cl. 324-45)



1. apparatus for determining displacement of a device formed with electric current conducting means relative to a fixed reference point comprising an alternating-current-waveform electric power source connected with the current conducting means of the device for inducing current flow therethrough to produce an alternating-current-waveform magnetic field of a predetermined frequency and having an arcuate magnetic field component spatially fixed relative to the device said device being initially positioned at said fixed reference point, and a Hall-effect device disposed in fixed relationship to said fixed reference point and electromagnetically coupled with the magnetic field and being operated to produce a Hall-voltage output signal of alternating current waveform at the predetermined frequency and which signal is related to the magnetic field, said Hall-effect device being positioned with the magnetic axis thereof perpendicular to said arcuate magnetic field component when the device is at said fixed reference point to provide a zero output signal when the device is at said fixed reference point and a polarized-voltage output signal when the device is displaced from said fixed reference point.

3,344,348

APPARATUS TO MONITOR SPLICE IMPEDANCE AND CONNECTION POLARITIES INCLUDING MEANS TO PROVIDE CONTINUOUS SIGNAL TRANSMISSION DURING CABLE TRANSFER OPERATIONS

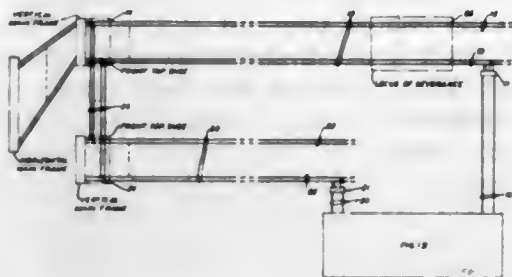
Irving M. McNair, Jr., Scotch Plains, Nicholas A. Strakhov, Chatham, and Charles A. Young, Scotch Plains, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 22, 1964, Ser. No. 420,417

12 Claims. (Cl. 324-66)

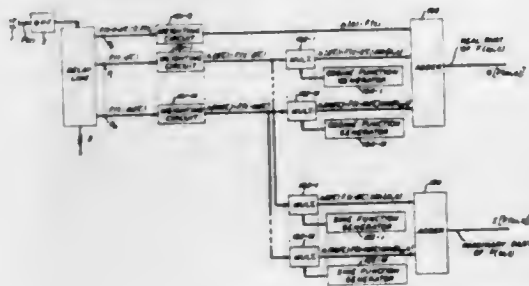
1. Apparatus to facilitate an interchange of multiconductor cables comprising a first multiconductor cable comprising a plurality of conductor pairs having tip and ring leads, a second multiconductor cable comprising a plurality of conductor pairs having tip and ring leads, said first and second cables joining a central office to some field location, means to connect in parallel the individual tip

and ring leads of corresponding conductor pairs of said first and second cable at said central office, first probe means to apply a low frequency signal with a predetermined phase to one of said conductor pairs in said first cable at said field location, second probe means at said field location to detect said signal on the corresponding ones of said conductor pairs in said second cable, means to compare the respective phase of said low frequency signal as transmitted and received, means to indicate the



results of said phase comparison to the apparatus user, means to enable a substitute electrical path comprising an auxiliary conductor pair having a tip and ring lead interconnecting said first and second probe means in response to the phase coincidence of said transmitted and received low frequency signals, and means to detect an impedance level of the splicing of said second cable into said first cable including means to indicate said impedance level to the apparatus user.

3,344,349
APPARATUS FOR ANALYZING THE SPECTRA OF COMPLEX WAVES
Manfred R. Schroeder, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 7, 1963, Ser. No. 314,258
1 Claim. (Cl. 324-77)



Apparatus for analyzing the Fourier transform of a time wave which comprises
a source of an incoming time wave, $f(t)$,
means for delaying said time wave by predetermined amounts of time to obtain a plurality of variously delayed samples of said wave,

$$f(t-k\Delta\tau), k=0, 1 \dots M$$

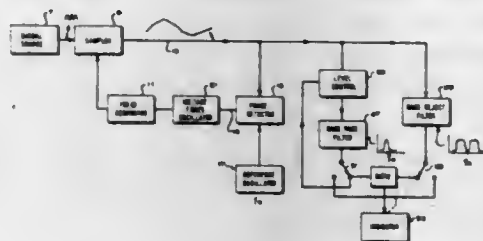
means supplied with said plurality of samples for individually adjusting the amplitude of each sample by a predetermined amount $r(k\Delta\tau)$ to form a corresponding predetermined plurality of $(M+1)$ weighted samples of said wave, $r(k\Delta\tau)f(t-k\Delta\tau)$,
first multiplying means for multiplying the amplitude of each of said weighted samples by a time varying cosine signal, $\cos(\Omega_k t)$, where $\Omega_k = k(\Delta W/M)$, $k=0, 1 \dots M$, in which ΔW denotes a frequency interval extending from a selected low frequency in the

spectrum from said incoming signal, $f(t)$, to a selected high frequency such that Ω_k varies in discrete steps from zero to W and the radian frequencies of said time varying cosine signals accordingly vary as linear functions of the frequency of said incoming signal, to produce a first plurality of M product signals, $r(k\Delta\tau)f(t-k\Delta\tau)\cos(\Omega_k t)$, $k=0, 1 \dots M$,
second multiplying means for multiplying the amplitude of each of said weighted samples $r(\tau_1)f(t-\tau_1)$ through $r(\tau_M)f(t-\tau_M)$ by a time varying signal $\sin(\Omega_k t)$, where $\Omega_k = k(\Delta W/M)$, $k=0, 1 \dots M$, such that Ω_k varies in discrete steps from zero to W and the radian frequencies of said time varying sine signals accordingly vary as linear functions of the frequency of said incoming signal, to produce a plurality of M product signals,

$$r(k\Delta\tau)f(t-k\Delta\tau)\sin(\Omega_k t), k=0, 1 \dots M$$

means for additively combining said weighted sample $r(0) \cdot f(t)$ and said first plurality of product signals to develop a first sum signal representative of the real part of a selected short-time Fourier transform of said complex wave, and
means for additively combining said second plurality of product signals to develop a second sum signal representative of the imaginary part of said short-time Fourier transform of said complex wave.

3,344,350
MEASUREMENT METER
Paul E. Stoff, Menlo Park, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Continuation of application Ser. No. 358,489, Apr. 9, 1964. This application Nov. 9, 1966, Ser. No. 607,095
5 Claims. (Cl. 324-77)



1. A signal-measuring circuit comprising:
a source of trigger pulses;
a sampler connected to receive a signal under examination and the trigger pulses from said source for producing a signal at the output of said sampler having an amplitude related to the amplitude of the signal under examination at each occurrence of a trigger pulse;
a source of reference frequency;
means connected to the source of reference frequency and to the output of the sampler for producing a control signal related to the phase relationship between the reference frequency and the selected frequency component of the signal at the output of said sampler;
means connected to apply said control signal to said source of trigger signals for altering the repetition rate of said trigger pulses;
a band-filter having a transmission characteristic substantially centered about the reference frequency;
indicating means; and
circuit means including said filter connected to the output of said sampler for applying the signal appearing thereon to said indicating means.

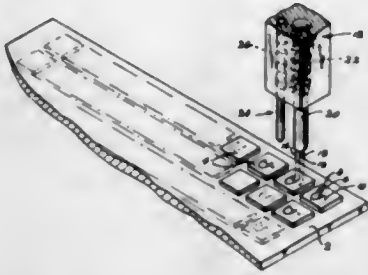
3,344,351

TESTING APPARATUS FOR A SEQUENCE OF TRANSISTORS AND THE LIKE HAVING A CONDITION RESPONSIVE MARKER

Karabet Simonyan, Rego Park, and Hanjoo Kim, Forest Hills, N.Y., assignors to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed June 3, 1963, Ser. No. 284,883

13 Claims. (Cl. 324-158)



1. A transistor testing device comprising a movable support, elements on said support for making electrical connection with the base, emitter and collector respectively of a transistor specimen under test when said support is moved toward said specimen, means for moving said support so as to bring said elements into operative engagement with said specimen, first and second circuitry means connected to said elements for testing first and second operational conditions respectively of said specimen, means for actuating said first circuitry means, time delay means operatively connected to said second circuitry means for actuating the latter a predetermined period of time after said first circuitry means has been actuated, and indicating means operatively connected to said first and second circuitry means and actuated thereby in accordance with the results of the tests carried out, said indicating means comprising a specimen-marking device and means for actuating said device in accordance with the response of a specimen to said tests, said specimen marking device being spaced laterally from said elements so as to engage a given specimen spatially displaced from the test specimen engaged by said elements at a particular moment, said actuating means being effective on said marking device to cause said marking device to mark said given specimen.

3,344,352

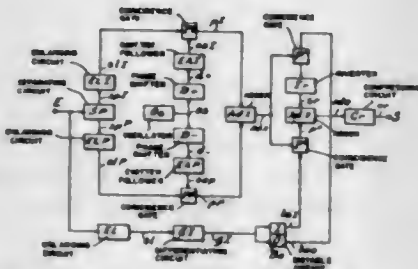
TRANSMISSION SYSTEM FOR CONVERTING A BINARY INFORMATION SIGNAL TO A THREE LEVEL SIGNAL

Jacques Lucien Daguet, Paris, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 3, 1963, Ser. No. 277,770

Claims priority, application France, May 7, 1962, 896,678

10 Claims. (Cl. 325-38)



1. An information transmission system of the type in which information to be transmitted is in the form of a coded series of common amplitude pulses which occur

only at clock instants, said system comprising a source of said coded series of pulses, means for converting said series of pulses to a coded signal having separately occurring first and second levels corresponding to the occurrence of pulses in said series of pulses and a third intermediate level corresponding to the absence of pulses in said series of pulses at said clock instants, said converting means comprising means responsive to each absence of a pulse of said series of pulses at a clock instant immediately following the occurrence of a pulse at a clock instant for shifting the level of said signal at the next occurrence of a pulse of said pulse series at a clock instant to the one of said first and second levels different than the level it had immediately prior to the instant at which no pulse occurred, and means for reshaping said coded signals to produce an output signal, said reshaping means comprising a compression circuit having a parabolic response characteristic whereby only the transient parts of said coded signals are transformed to sinusoidal form of a frequency lower than the repetition frequency of said clock instants.

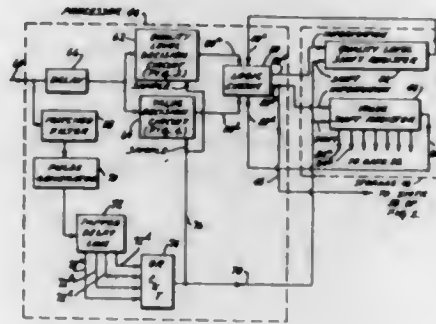
3,344,353

ERROR FREE DATA TRANSMISSION SYSTEM

Jack E. Wilcox, Garrett, Ind., assignor to Philco-Ford Corporation, a corporation of Delaware

Filed Dec. 24, 1963, Ser. No. 333,097

11 Claims. (Cl. 325-41)



1. In an error-free data transmission link of the type wherein a signal comprised of a plurality of bits is repeatedly transmitted to and stored at a remote station, a system in said remote station for decreasing the number of transmissions necessary to store said signal correctly comprising:

- means for determining the value and quality level of the individual bits of each presently-received signal, and
- means for comparing the value and quality level of the individual bits of each received signal with the value and quality level of the corresponding individual bits of a previously-stored signal synthesized in response to the next-preceding received signal.

3,344,354

TUNNEL DIODE AMPLITUDE LIMITER CIRCUIT
Edward Bellem, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Feb. 24, 1964, Ser. No. 346,689

8 Claims. (Cl. 325-348)

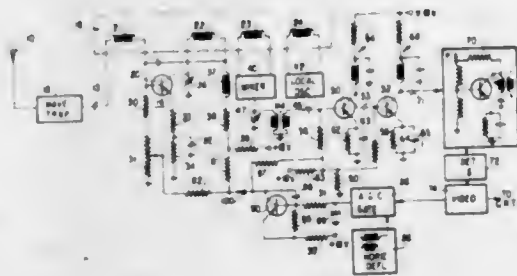
1. An amplitude limiter circuit comprising input and output connections for connecting an alternating current signal thereto and therefrom respectively, an isolating impedance connected between one of said input and output connections, a pair of oppositely poled tunnel diodes

connected effectively in parallel across said output connections, a biasing means connected in series with said diodes so that one of said diodes is conducting in a stable



low voltage state when the other diode is conducting in a stable high voltage state, whereby said diodes alternate states in response to the excursions of the signal voltage when said signal is above a predetermined amplitude.

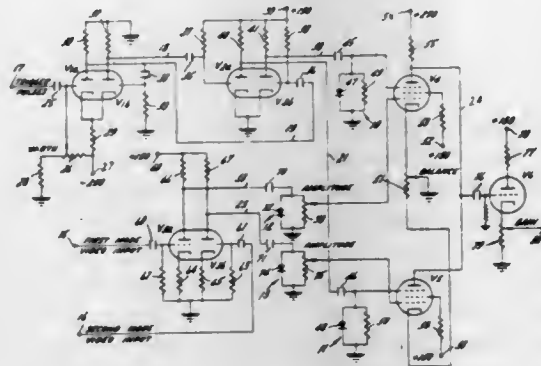
3,344,355
DELAYED AUTOMATIC GAIN CONTROL FOR
TRANSISTORIZED WAVE SIGNAL RECEIVERS
 Albert W. Massman, Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
 Filed Feb. 3, 1964, Ser. No. 341,994
 8 Claims. (Cl. 325-405)



1. In a superheterodyne television receiver for television signals, the combination of a radio frequency amplifier stage having first transistor means, first bias circuit means including first resistor means for applying base current bias to said first transistor means to establish the gain thereof, said first bias circuit means adapted to receive a gain control signal for decreasing the gain of said first transistor means at a first rate with increasing received signal strength, an intermediate frequency amplifier stage having second transistor means, second bias circuit means including second resistor means for applying base current bias to said second transistor means to establish the gain thereof, said second bias circuit means adapted to receive a gain control signal for reducing the gain of said second transistor means at a second rate with increasing received signal strength, detector means coupled with said intermediate frequency amplifier stage for demodulating the received television signal, a gain control feedback loop having an input coupled to said detector means and an output providing a gain control signal representing the level of the received television signal, first circuit means connecting the output of said gain control feedback loop to said second bias circuit means, second circuit means including a unidirectional conductive device coupling the output of said gain control feedback loop to said first bias circuit means, and third circuit means applying reverse bias to said unidirectional conductive device to delay the application of said gain control signal to said first bias circuit means until the received television signal reaches a predetermined level, said first and second resistor means being proportioned to cause the gain of said radio frequency amplifier stage to be reduced at a faster rate than the gain of said intermediate

frequency amplifier stage when the received television signal exceeds the predetermined level.

3,344,356
CIRCUIT MEANS TO ADJUSTABLY GATE AND
TIME SHARE TWO MODES OF INTELLIGENCE
SIGNALS
 Harry T. Aycock III, Baltimore, and Andrew J. Lavoie, Severna Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
 Filed Oct. 3, 1963, Ser. No. 313,710
 4 Claims. (Cl. 328-97)

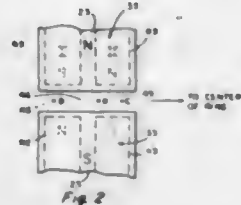


1. A time sharing and gating circuit comprising:
 a gating generator having an input coupled to receive trigger pulses of a constant pulse repetition frequency and first and second outputs on which are generated first and second voltage signals alternately in sequence, said input including an adjustable timing network to adjustably time the generation of said first voltage signal after which said second voltage signal is generated in sequence for the remainder of time in the cycle between trigger pulses;
 an amplifier coupled in each of said first and second outputs of said gating generator;
 first and second pentodes each having a suppressor grid, the suppressor grid of said first pentode being coupled in said first gating generator amplified output and the suppressor grid of said second pentode being coupled to said second gating generator amplified output, each pentode having a control grid, the control grid of said first pentode being coupled to an input of first mode intelligence video signals and the control grid of said second pentode being coupled to an input of second mode intelligence signals, and each pentode having an anode output coupled in common;
 a voltage clamping network coupled to each suppressor grid and control grid of each pentode to clamp said first and second voltage signals and said first and second mode intelligence video signals to zero voltage in the positive direction;
 a cathode follower coupled in the common anode output of said pentodes to provide a low output impedance; and
 an amplifier in each input of said first and second mode intelligence video signals whereby said first mode intelligence video signal is gated through said first pentode for a time interval adjusted by said adjustable timing network and out of said cathode follower followed by said second mode intelligence video signal for the remainder of the time in the cycle between trigger pulses thereby adjustably time sharing said first and second mode intelligence video signals in this sequence for all cycles of trigger pulses.

3,344,357

STORAGE RING

John P. Blewett, Bellport, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 13, 1964, Ser. No. 382,424
5 Claims. (Cl. 328—233)

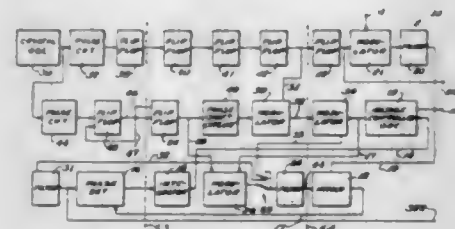


1. Particle handling apparatus for use with a strong focused beam of charged particles traveling in an evacuated chamber, comprising focusing means consisting of a system of quadrupole strong focusing first magnets, separate function bending second magnets for producing a particle bending first field for providing an initial endless particle equilibrium axis, and third magnetic means between said first and second magnets for selectively changing the strength of said first field for selectively displacing said equilibrium axis from its initial position, said third magnetic means consisting of split separate function bending magnets having first portions transverse to said axis for selectively maintaining said equilibrium axis outwardly in an enlarged diameter circle and second portions transverse to said axis for maintaining said equilibrium axis inwardly in a reduced diameter circle.

3,344,358

PHASE-LOCK SYSTEM RESPONSIVE TO VERY LOW FREQUENCY INPUT SIGNALS

William M. Riker, Alamogordo, N. Mex., assignor to Dynallectron Corporation
Filed June 12, 1964, Ser. No. 374,671
15 Claims. (Cl. 329—122)

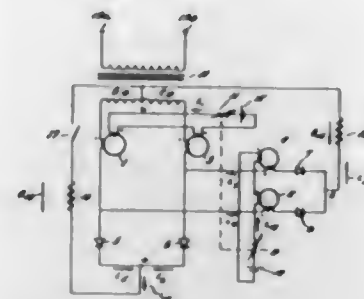


1. In a phase control system for responding to an input signal having a relatively low frequency f_1 , a voltage-controlled oscillator operable at a frequency equal to the difference between a fixed relatively high frequency and a relatively low frequency f_2 , phase detector means coupled to said voltage-controlled oscillator, means responsive to said input signal and a signal from said voltage-controlled oscillator for applying signals to said phase detector means for developing in the output thereof a first component at a frequency of f_2 minus f_1 and a second component at a frequency of f_2 plus f_1 , and means for developing and applying a signal in said output of said phase detector means in phase opposition to said second component to effect substantial cancellation thereof.

3,344,359

BASE LOAD CIRCUIT FOR SEMICONDUCTOR RECTIFIER

Francis R. Bingham, Norristown, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 22, 1964, Ser. No. 339,503
6 Claims. (Cl. 330—8)

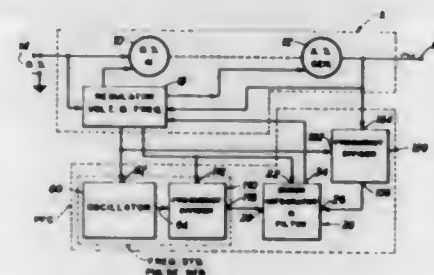


1. In combination: a rectifier circuit, comprising an A-C transformer, D-C output terminals, rectifier means connected between said A-C transformer and said D-C output terminals, and output voltage control circuit means connected in series with said rectifier means and between said A-C transformer and said D-C output terminals; a base load circuit connected in series with said A-C transformer and said output voltage control circuit means and including a base load impedance and an auxiliary voltage control circuit for controlling the voltage applied from said transformer means to said base load impedance; said output voltage control circuit and said auxiliary voltage control circuit having respective operating control means; said operating control means of said output voltage control circuit and said auxiliary voltage control circuit being connected together whereby the output voltage of said auxiliary voltage control circuit is relatively constant when said output voltage control circuit is adjusted through a predetermined range of output voltages of said rectifier circuit.

3,344,360

INVERTER FREQUENCY CONTROL

Thomas W. Moore, Dayton, and Donald S. Fritz, Xenia, Ohio, assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Aug. 23, 1966, Ser. No. 574,456
9 Claims. (Cl. 331—8)

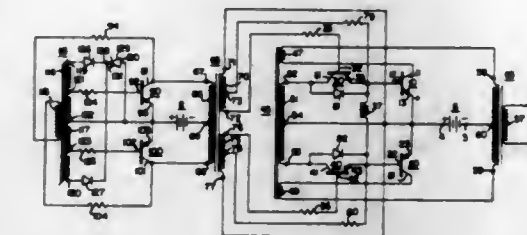


1. In combination with an inverter having a regulator therefor, apparatus for providing error compensating signals to control the frequency of the inverter A.C. output, comprising:
an error integrator and filter means having a first signal input to receive pulses at a rate representing the frequency of the inverter A.C. output, and a second signal input to receive frequency standard pulses; said integrator and filter means having a controlled output adapted for connection to the inverter regu-

3,344,362

MAGNETIC OSCILLATOR APPARATUS

John T. Lingle, Bloomington, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 28, 1965, Ser. No. 451,483
6 Claims. (Cl. 331—50)

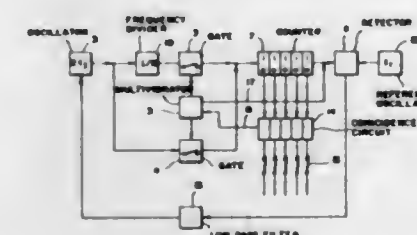


lator, and being responsive to pulses received alternately at its first and second signal inputs for providing positive D.C. integrated frequency error signals at its output;
means connected to the inverter and to the first signal input for sampling the inverter A.C. output and providing pulses to the integrator and filter means at a rate representing the frequency of the sensed A.C. output;
a precision oscillator, and frequency divider means connected to the oscillator together generating frequency standard pulses;
said oscillator including a vibrating member means driven at resonance to establish a frequency signal, a driver-output means providing output pulses at a rate corresponding to the frequency of the established signal, and a feedback loop connecting the driver-output means to the input of the vibrating member means to latch the vibrating member means to the driver-output means;
said driver-output means including accelerator means; and
said frequency divider means being connected to the driver-output means and responsive to pulses therefrom, having capacitance means charged by pulses in response to pulses from the driver-output means, and having a controlled output responsive to the charged capacitance and connected to the second signal input for transmitting a frequency standard pulse to the integrator and filter means each time the capacitance means is charged by a predetermined number of pulses.

3,344,361

PHASE CONTROLLED OSCILLATOR LOOP INCLUDING AN ELECTRONIC COUNTER

Carl-Erik Granqvist, Lidingo, Sweden, assignor to AGA Aktiebolag, Lidingo, Sweden, a corporation of Sweden
Filed Oct. 14, 1965, Ser. No. 495,917
Claims priority, application Sweden, Oct. 28, 1964, 12,966/64
3 Claims. (Cl. 331—18)



3. Apparatus for controlling the frequency of operation of a variable frequency oscillator comprising a variable frequency oscillator for producing a continuous pulse sequence of a first frequency, a frequency transformer for producing a continuous pulse sequence of a second frequency connected to the output of the variable frequency oscillator, an electronic counter having a certain total pulse capacity, control means comprising an adjustable coincidence circuit connected to the counter for allowing a given number of pulses of the first frequency to be counted into the counter, thereupon switching to allow pulses of the second frequency to be counted into the counter until the total pulse capacity of the counter is reached, the arrangement being such that upon reaching its total pulse capacity the counter turns to zero and emits an output pulse, the frequency in the output pulses from the counter being compared with a reference frequency and the difference used to adjust the frequency of the oscillator so as to minimize this difference.

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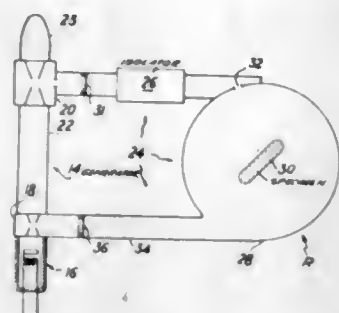
CAVITY, WAVE GUIDE AND KLYSTRON INTERACTION SPACE FORM A RESONANT CIRCUIT

Terenzio Consoli, La Calle-St.-Cloud, René Le Gardeur, Paris, and Georges Mourier, Le Port-Marly, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 24, 1966, Ser. No. 522,488
Claims priority, application France, Feb. 12, 1965, 5,415
1 Claim. (Cl. 331—83)

Hyperfrequency generator for applying a very intense field to a product comprising a klystron, an input interaction space and an output interaction space for said klystron, a feedback loop comprising in series an isolator and a resonating system including a resonant cavity, said isolator being connected to said output interaction space

and a wave guide coupling the output of said cavity and said input interaction space of said klystron, said

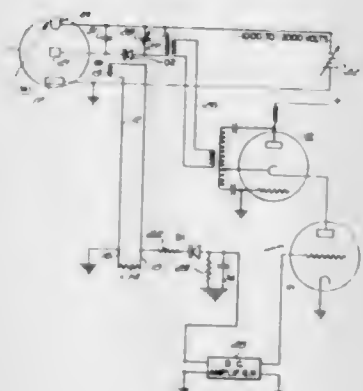


wave guide, said cavity and said input interaction space forming a single tuned resonant circuit.

3,344,364

AMPLITUDE OF H.F. OSCILLATOR STABILIZED BY RECTIFIED OUTPUT OF L.F. OSC.

Andrew Alford, Winchester, Mass.
(299 Altantic Ave., Boston, Mass. 02110)
Filed Dec. 10, 1965, Ser. No. 512,944
3 Claims. (Cl. 331-86)



1. Apparatus for providing a high frequency signal of substantially constant amplitude within a first band of microwave frequencies comprising,

- a first high frequency amplifying device having at least a first control electrode whereby the amplification imparted by said device is related to the biasing signal on said first control electrode, an output terminal,
- first oscillatory circuit means including said first amplifying device for providing said substantially constant amplitude signal on said output terminal,
- means for selectively varying the oscillation frequency of said first oscillatory circuit means,
- a second signal amplifying device having at least a second control electrode whereby the amplification of said second signal amplifying device is related to the biasing signal on said second control electrode,
- second oscillatory circuit means including said second signal amplifying device for providing a substantially fixed frequency signal of frequency outside said microwave band,
- means responsive to the signal on said output terminal for providing a first biasing signal,
- means for applying said first biasing signal to said second control electrode to control the amplitude of oscillations provided by said second oscillatory circuit means,

means responsive to the amplitude of oscillations provided by said second oscillatory circuit means for providing a second biasing signal,

means for applying said second biasing signal to said first control electrode to maintain the signal on said output terminal of substantially constant amplitude independent of the frequency within said microwave band,

said means for providing said second biasing signal comprising,

coupling means coupled to said second oscillatory circuit means,

first rectifying circuit means responsive to the energy received by said coupling means from said second oscillatory circuit means and intercoupling said first control electrode and said coupling means for providing said second biasing signal,

said first high frequency amplifying device comprising a voltage tuned magnetron also having a cathode and an anode,

the combination of at least a portion of said coupling means and said first rectifying circuit means intercoupling said cathode and said first control electrode.

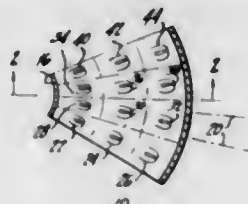
a source of an adjustable frequency controlling potential,

and means for applying said frequency controlling potential between said cathode and said anode.

3,344,365

LASER SYSTEM EMPLOYING MEANS WITH NO MOVING PARTS FOR PRODUCING AN ANGULARLY ROTATABLE BEAM OF COHERENT LIGHT

Henry R. Lewis, Princeton, N.J., assignor to Radlo Corporation of America, a corporation of Delaware
Filed June 3, 1963, Ser. No. 285,070
4 Claims. (Cl. 331-94.5)

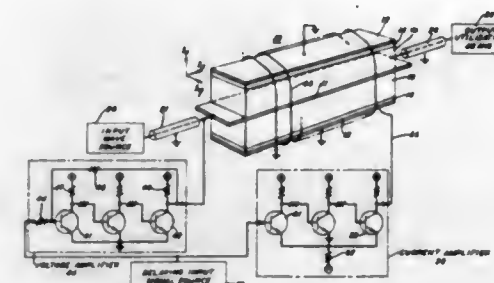


1. A laser for generating a beam which appears to emanate from a particular axis and which beam extends in any of a plurality of different desired angular radial directions with respect to said axis, said laser comprising a solid active lasing material bounded by an outer surface in the form of a given sector of a first circular cylindrical surface with respect to said axis, said first circular cylindrical surface having a first given radius, an inner surface in the form of said given sector of a second circular cylindrical surface which is substantially coaxial with said outer surface, said second circular cylindrical surface having a second given radius smaller than said first given radius, top and bottom substantially parallel surfaces each of which is substantially perpendicular to said outer and inner surfaces and respective side surfaces interconnecting said top and bottom and inner and outer surfaces which side surfaces are substantially perpendicular to said top and bottom surface, means for defining an optical resonant cavity between said inner and outer surfaces, means for applying a given amount of pumping energy to said active lasing material sufficient to normally cause the threshold level of population inversion to be reached for lasing to occur, and selectively operable gain reducing means in cooperative relationship with said active lasing material for permitting lasing to occur in only a selected desired angular radial direction with respect to said axis.

3,344,366

ELECTROMAGNETIC WAVE DELAYING ARRANGEMENT WITH CONSTANT ITERATIVE IMPEDANCE

Dinh-Tuan Ngo, Somerset, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 3, 1964, Ser. No. 372,230
1 Claim. (Cl. 333-31)



In combination, means for propagating electromagnetic wave energy along a defined path in a reference direction, means interposed in said path for coupling to wave energy propagated along said path, said coupling means including an elongated ferromagnetic thin film element and an elongated dielectric member each having a main longitudinal axis disposed parallel to said reference direction, said element and said member being characterized by a composite permeability and a permittivity which respectively vary with applied magnetic and electric fields, said composite permeability characteristic including real and imaginary components, means for biasing said member to a value in a range of electric field values that correspond to a linear segment of the permittivity characteristic of said member, means for biasing said element in the vicinity of ferromagnetic resonance to a value in a range of magnetic field values that correspond to a linear segment of the real permeability characteristic of said element, the imaginary component of said permeability being relatively small in said range of magnetic field values, and means connected to said biasing means for varying in a controlled way the electric and magnetic fields supplied thereby.

3,344,367

LOW-FREQUENCY TUNING-FORK ELECTROMECHANICAL FILTER

Kenji Takahashi, Tokyo-to, Japan, assignor to Kokusai Denki Kabushiki Kaisha (also known as Kokusai Electric Co., Ltd.), Tokyo-to, Japan, a joint-stock company of Japan

Filed Dec. 17, 1965, Ser. No. 514,518
Claims priority, application Japan, Dec. 30, 1964, 39/74,501
3 Claims. (Cl. 333-71)



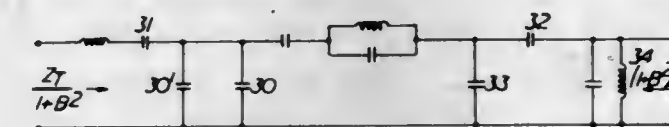
1. A low-frequency electromechanical filter comprising, a plurality of tuning-fork resonators, a plurality of bifurcated mechanical couplers serially, continuously coupling next adjacent ones of said resonators, said couplers each comprising a bifurcated resonator having legs each continuously, mechanically connected to a respective leg of a pair of the next adjacent tuning-fork resonators, said

couplers being disposed for transmitting in operation mechanical vibrations serially through said tuning-fork resonators, means comprising electromechanical transducers coupled to opposite end tuning-fork resonators of said filter for receiving at one end of said filter an electrical input to be filtered and converting into mechanical vibrations and converting said mechanical vibrations for taking out at an opposite end of said filter a filtered electrical output.

3,344,368

BANDPASS FILTER

Alfred Leo Maria Fettweis, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 22, 1962, Ser. No. 232,180
Claims priority, application Netherlands, Oct. 27, 1961, 270,714
1 Claim. (Cl. 333-72)



A bandpass filter operating between resistive termination and using electromechanical resonators such as piezoelectric crystals, said filter comprising at least one ladder type antimetrical composite filter structure, said composite filter structure comprising a π -section with a first terminating half section on one side and a second terminating half section on the other side, said π -section having crystal structure on the series branch and capacitances on the two shunt branches, said π -section having one resonant and one antiresonant frequency and being capacitive both at zero frequency and at infinite frequency, said first terminating half section comprising a first series inductance, coupled to a first series capacitance followed by a first shunt capacitance, said second terminating half section comprising a second series capacitance followed by a second shunt inductance, said half sections having characteristics such that the impedance characteristics of the π -section are matched at all frequencies, the image impedance on the side of said first shunt inductance having a frequency characteristic inverse of that on the side of said first series inductance which impedance is proportional to:

$$1/P\sqrt{(P^2+B^2)(1+P^2B^2)}$$

wherein B^2 is the ratio between the lower and the higher cut-off frequencies and P is an imaginary frequency parameter normalized with respect to the midband frequency equal to the geometric means of said cut-off frequencies.

3,344,369

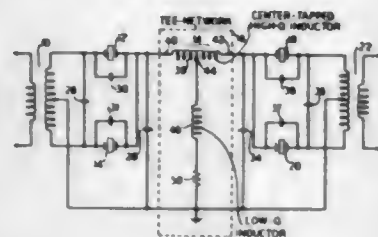
TEE-NETWORK HAVING SINGLE CENTER-TAPPED HIGH-Q INDUCTOR IN ITS SERIES BRANCHES AND A LOW-Q INDUCTOR IN SHUNT

Frank R. Bies, Atkinson, N.H., and Roger A. Sykes, Bethlehem, Pa., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 5, 1964, Ser. No. 373,008
5 Claims. (Cl. 333-72)

1. A tee-network comprising a first inductor having two end terminals and an intermediate terminal and a second inductor having one terminal connected to said intermediate terminal of said first inductor, the portion of said first inductor between one of said end terminals and said intermediate terminal constituting one series branch of said tee-network, the section of said first inductor between the other of said end terminals and said intermediate terminal constituting the other series branch of said

tee-network, and said second inductor constituting at least part of the shunt branch of said tee-network, said second



inductor having a self-inductance equal to the mutual inductance between the portions of said first inductor appearing in series with said shunt branch.

3,344,370

COAXIAL TRANSMISSION LINES

Donald N. Sewell, Acton, Mass., assignor to Dielectric Products Engineering Company, Inc., Littleton, Mass., a corporation of Michigan

Filed June 3, 1965, Ser. No. 460,951

4 Claims. (Cl. 333-96)



1. A coaxial electrical transmission line comprising a tubular outer conductor; a tubular inner conductor coaxially disposed within said outer conductor; said inner conductor having a plurality of pairs of opposed aligned apertures therein; the wall of each of said apertures extending from the wall of said inner conductor inwardly thereof and having a terminal portion inside of said inner conductor; and dielectric support means for maintaining said inner and outer conductors in coaxial relation; said support means including a plurality of pins of deformable dielectric material, each said pin being disposed in and extending through a pair of said aligned apertures of said inner conductor with the ends of the pin in supporting engagement with said outer conductor; and said terminal portion of said aperture wall being embedded in at least one localized area in the dielectric pin disposed in that aperture so that axial movement of said pin relative to said aperture is prevented.

3,344,371

ELECTRICAL TRANSMISSION LINE

Donald N. Sewell, Acton, Mass., assignor to Dielectric Products Engineering Company, Inc., Littleton, Mass., a corporation of Michigan

Filed Feb. 11, 1965, Ser. No. 431,829

4 Claims. (Cl. 333-96)



1. An electrical transmission line structure comprising a first tubular conductor, a second tubular conductor disposed coaxially relative to said first conductor, said second conductor having a continuous wall of substantially uniform thickness,

an annular groove in the wall of said second conductor, and a radially extending dielectric element having a first end portion secured in said groove so that movement of said element along said second conductor in the axial direction is prevented, and a second end portion opposite said first end portion engaging a surface of said first conductor for supporting said first and second conductors in coaxial relation.

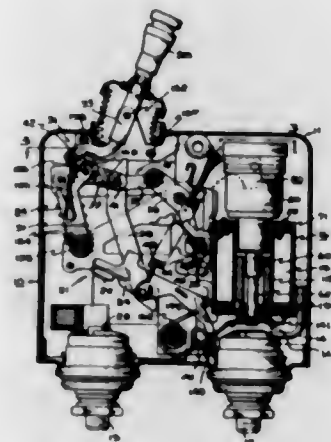
3,344,372

TIME DELAY TUBE RESET DEVICE

Raymond B. Hellman, Trenton, N.J., assignor to Heilmann Electric Company, Trenton, N.J., a corporation of New Jersey

Original application Jan. 18, 1963, Ser. No. 252,404, now Patent No. 3,234,344, dated Feb. 8, 1966. Divided and this application Oct. 21, 1965, Ser. No. 499,766

8 Claims. (Cl. 335-28)



2. In a circuit breaker, the combination of a linkage mechanism and an electromagnetic means comprising a coil and a movable armature movable between first and second positions, a pair of separable contacts one of which is carried by said linkage mechanism, said linkage mechanism including a movable arm carrying one of said contacts to an open contacts position, spring means positioned relative to said movable arm and armature so as to be responsive to the positions of said movable arm and armature for moving said armature to its first position upon movement of said movable arm to the open contacts position.

3,344,373

SWITCHING DEVICE EMPLOYING A GLOBULE OF MAGNETIZABLE ELECTRICALLY CONDUCTIVE FLUID

Robert F. Janninck, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Feb. 7, 1966, Ser. No. 525,535

4 Claims. (Cl. 335-49)



1. A switching device comprising: a sealed chamber of insulating material; first and second electrodes extending into said chamber;

the inner ends of said first and second electrodes facing upward and downward, respectively, in end-to-end relationship, with a gap therebetween; cup-shaped means secured to the inner end of said first electrode and supporting a globule of electrically conductive liquid having magnetic properties within said gap and in electrical contact with said first electrode and spaced from said second electrode and said chamber; and means for producing a magnetic field in said chamber which field causes the magnetic liquid to deform, bridging said gap to make electrical contact with said second electrode, thereby forming an electrically conductive path between said electrodes.

3,344,374

ELECTROMAGNETIC VIBRATOR HAVING AN IMPROVED CONTACT SUPPORT

Samuel D. White, Edison, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed June 13, 1966, Ser. No. 557,096

12 Claims. (Cl. 335-92)



1. In a frequency responsive switching device including first and second contact members arranged to cooperate with each other to open and close an electrical connection, vibrating means for supporting said first contact and for moving said first contact in response to a selected frequency, and an adjusting means for positioning said second contact with respect to said first contact, the improvement comprising an E-shaped support mounted on said adjusting means for holding said second contact in position with respect to said first contact.

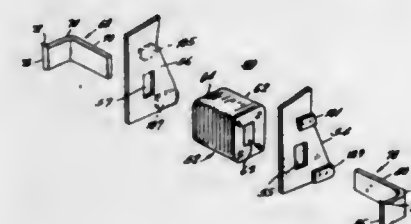
3,344,375

ELECTROMAGNETIC STRUCTURE WITH LOW RELUCTANCE U-SHAPED POLE MEANS

Charles T. Robins, Swarthmore, Pa., and Weston W. Goodnow, Moorestown, N.J., assignors to I.T.E. Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 13, 1965, Ser. No. 486,815

4 Claims. (Cl. 335-174)



1. An electromagnetic structure comprising first and second magnet members each of a generally L-shaped configuration, and including planar first and second sections joined by a right angle bend, said first section hav-

ing a principal planar surface extending in a first direction, and said second section having a principal planar surface extending in a second direction, perpendicular to said first direction, said magnet members nested together with the principal planar surfaces of first sections of said magnet members in juxtaposed, adjacent planar relationship and the principal planar surfaces of said second sections perpendicularly extending therefrom in spaced parallel planar relationship, to define a generally U-shaped configuration, such that said first portions form the body of the U, and said second portions form the arms of the U, an energizing coil in the form of a bobbin, having a longitudinally extending central opening communicating between first and second opposed ends thereof, said magnet members entering opposed ends of said central opening, such that said energizing coil is positioned between said U-arms, with said U-body passing through said central opening, said first sections freely positioned within said central opening in floating arrangement, such that upon energization of said coil their principal planar surfaces are electromagnetically drawn together in intimate contact engagement, said intimate contact engagement absolutely minimizing the spacing between the principal planar surfaces of said magnetic member for minimizing the reluctance of the joint.

3,344,376

TUBE AND POLE PIECE ASSEMBLY FOR CIRCUIT BREAKERS

Alexander R. Norden, New York, N.Y., assignor to Murray Manufacturing Corporation, a corporation of New York

Filed July 23, 1965, Ser. No. 474,392

4 Claims. (Cl. 335-240)



1. A tube and pole piece assembly comprising, a hollow tubular member of non-magnetic material closed at its bottom end, a spherical ball of magnetic material having a diameter conforming substantially to the internal diameter of the tube seated into the bottom end thereof, and inwardly penetrating dimple means on the surface of said tubular member disposed around the periphery of said tubular member near the bottom end thereof, the distance of said dimple means from the bottom of said tubular member being greater than the radius of said spherical ball but less than its diameter, said dimple means penetrating the surface of the tubular member sufficiently to grip said ball and to hold it in place against the bottom of the tubular member.

3,344,377

ELECTROMAGNETIC ACTUATOR HAVING PLURAL PLUNGER MEMBERS

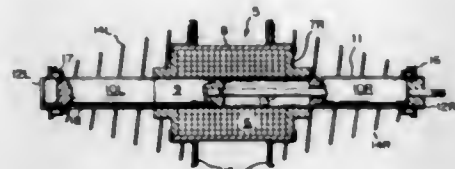
Warner W. Clements, Los Angeles, Calif.
(13435 Java Drive, Beverly Hills, Calif. 90210)

Filed Sept. 9, 1965, Ser. No. 486,065

2 Claims. (Cl. 335-259)

1. An electromagnetic actuator comprising: a solenoid; two plunger extender segments mounted for independent longitudinal motion along the axis of the sole-

noid in and out of the hole through said solenoid from respective ends thereof;
 means for independently limiting respective outward travel of the plunger extender segments to extreme positioning wherein each of said segments has its inner end generally communicating with a respective outer end of the solenoid;
 a central plunger segment mounted between the plunger extender segments for longitudinal motion substantially within the hole through the solenoid;

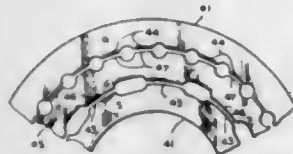


means for selectively controlling the tendency of the plunger extender segments to be attracted inward when the solenoid is energized, said means consisting entirely of biasing means arranged to resiliently urge each segment outward toward the limits of its permitted travel;
 and means for making connection between at least one of the plunger segments and any appropriate external apparatus.

3,344,378

MAGNETIC DETENT

Donald A. Wilhelmson, Palo Alto, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
 Filed July 30, 1965, Ser. No. 476,217
 6 Claims. (Cl. 335-272)



1. A magnetic detent comprising: a shaft which is to exhibit a given number of detent positions; stator means having a first plurality of stator poles equal in number to said detent positions and a second plurality of stator poles which are greater in number than said first plurality of poles; and rotor means having two sets of poles which are equal in number to said first and second plurality of stator poles respectively, said rotor and stator poles being positioned so that said given number of detent positions exist where both said first and second plurality of rotor and stator poles are aligned with a small air gap therebetween.

3,344,379

MAGNETICALLY OPERATED ELECTRICAL SWITCH

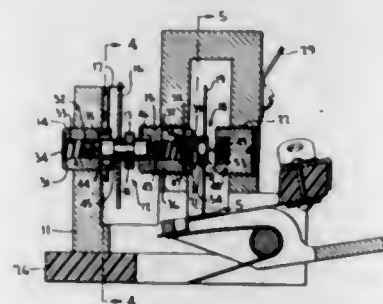
Warren P. Morrow, Wheaton, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 28, 1964, Ser. No. 400,303
 4 Claims. (Cl. 335-206)

1. A magnetically operated electrical switch comprising:

- (a) a switch frame,
- (b) a first pivot assembly,
- (c) a first bearing assembly mounted in said switch frame and supporting said first pivot assembly and permitting free rotation of said first pivot assembly about its axis,

- (d) a master magnet fixedly mounted on said first pivot assembly and having its magnetic axis perpendicular to the pivot axis,
- (e) a hair spring having two ends, the first of which is fixedly attached to said first pivot assembly and the second of which is adjustably attached to said switch frame for providing a mechanical bias to said first pivot assembly in order to compensate for any static unbalance in said first pivot assembly and said master magnet,
- (f) a master magnet electrical contact fixedly attached to said master magnet at a point remote from the pivot axis and near a magnetic pole of said master magnet,
- (g) a second pivot assembly,
- (h) a second bearing assembly mounted in said switch frame and supporting said second pivot assembly in axial alignment with said first pivot assembly and permitting free rotation of said second pivot assembly about its axis,



- (i) a slave electrical contact made of a magnetic material having weak magnetic properties,
- (j) a slave electrical contact support member fixedly mounted on said second pivot assembly perpendicular to the pivot axis and supporting said slave electrical contact in the arcuate path of said master magnet electrical contact, and
- (k) brake means operable to prohibit the rotation of said second pivot assembly, whereby said first and second pivot assemblies are weakly coupled by the magnetic interaction of said slave electrical contact with the magnetic flux produced by said master magnet, the weak magnetic coupling of said first and second pivot assemblies causing said second pivot assembly to rotate with said first pivot assembly to assume an angular orientation in substantial alignment with a prevailing ambient magnetic field, said second pivot assembly thereafter being prohibited from rotating by said brake means thereby permitting an object having a relatively strong magnetic signature to operate the switch by deflecting said master magnet.

3,344,380

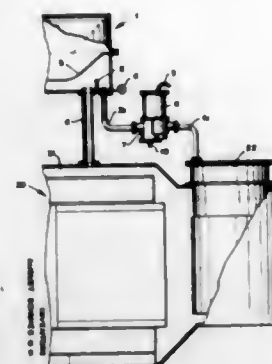
REGULATING TRANSFORMER

August Schmied, Weiz, Styria, and Wilhelm Jan, Graz, Styria, Austria, assignors to Elin-Union Aktiengesellschaft für Elektrische Industrie, Vienna, Austria, a corporation of Austria

Filed Mar. 18, 1964, Ser. No. 352,904
 Claims priority, application Austria, Mar. 29, 1963, 2,540/63
 5 Claims. (Cl. 336-58)

1. In combination, a regulating transformer having its on-load tap changer submerged in the transformer tank, the transfer switch of said tap changer being enclosed in a separate casing sealing off the oil in said transfer switch against the oil in the surrounding transformer tank in a drip-proof manner, an oil pipe leading from said transfer-switch casing to an expansion tank at a level higher than that of said transformer tank, said expansion tank

serving for said transfer-switch oil as well as for said transformer-tank oil in its unitary inner space devoid of dividing means that would separate the said two kinds of oils, means for eliminating both gaseous and solid contaminations from said transfer-switch oil, resulting from switching operations within said transfer-switch casing, said eliminating means being inserted in said oil pipe, and



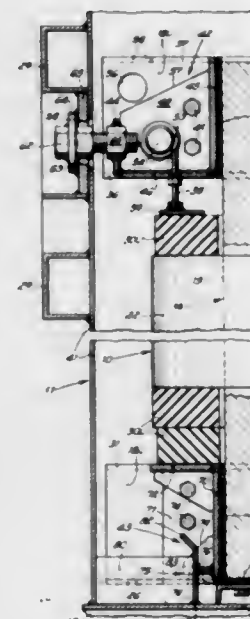
including an exhaust valve and an oil filter, the latter being structurally combined with said exhaust valve and disposed at a level lower than that of said exhaust valve, the latter serving to exhaust gas bubbles resulting from said switching operations while said oil filter serves to eliminate solid contaminations resulting from said switching operations, and means to shield the oil level in said expansion tank against the atmosphere.

3,344,381

ELECTRICAL POWER TRANSFORMER HAVING MEANS TO PREVENT DAMAGE IN SHIPMENT

John F. Koepke, Bethel Park, Pa., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,608
 14 Claims. (Cl. 336-92)



14. An electrical power transformer comprising, in combination, a metallic tank having opposed end walls, a transformer core and coil assembly mounted within said tank and including a magnetic core having a plurality of vertical winding legs connected by upper and lower yokes and surrounded by electrical windings, a frame assembly secured to the upper of said yokes and extending laterally beyond the winding legs and the windings and including upper blocking members positioned immediately adjacent the tank end walls, each tank end wall having an aperture

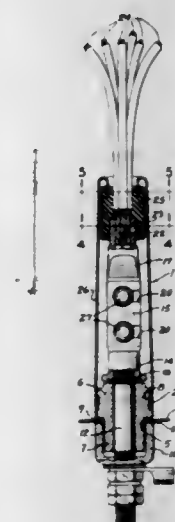
therein, a pair of threaded interengaging male and female means for connecting said upper blocking members to said tank end walls, one of each pair of said means being secured to one of said upper blocking members and the other means extending through one of said apertures and having exteriorly of said tank a tool engaging portion and a radially extending portion larger than the corresponding aperture and closing said aperture, and weld means circumferentially around the entire periphery of the radially extending portion and the adjacent tank end wall to securely attach the other of said means to said tank walls, said other means being removable only by removing of said weld means.

3,344,382

TRANSFORMER WITH SECONDARY TERMINAL AND CLUSTERED SERVICE CONDUCTORS

William W. Olive, Jr., Crestwood, Mo., and Charles J. Carlson, Jr., Pine Bluff, Ark., said Olive assignor to Kearney-National Inc., St. Louis, Mo., a corporation of Delaware, said Carlson assignor to Central Transformer Corporation, Pine Bluff, Ark., a corporation of Arkansas

Filed Mar. 28, 1966, Ser. No. 538,081
 15 Claims. (Cl. 336-107)



6. A cluster of individually insulated conductors each having an end portion barren of insulation, a conductive ferrule, said end of each of said conductors being assembled in co-conductive relationship within said ferrule and mechanically connected thereto so that the insulated portions of said conductors project outwardly from one end of said ferrule, said end of said ferrule being embedded in insulating material set in situ thereabout and about adjacent increments of the insulation on all said conductors, and a water-impervious tubular membrane of dielectric material connected in water-tight relationship to said insulating embedment, said membrane extending from the embedment for a distance substantially greater than the length of said ferrule.

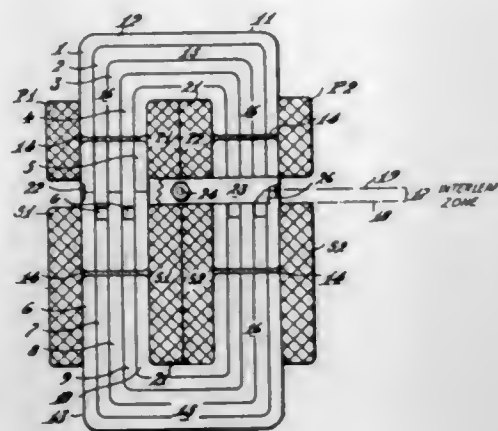
3,344,383

CORE PORTIONS HAVING FUSED BOND JOINT OUTSIDE OF EMBRACE OF COILS THEREON

Philip G. Aberizk, Methuen, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
 Filed Dec. 30, 1965, Ser. No. 517,649
 7 Claims. (Cl. 336-160)

1. An inductor comprising two U-shaped magnetic metal core portions forming legs joined to surround a coil space, a plurality of coils of different axial lengths embracing at least one leg of each core portion, and extending through different parts of said coil space, each said core portion comprising at least three U-shaped strips including an outer strip and inner strips nested within

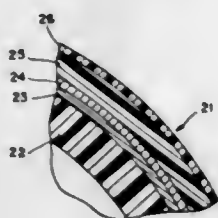
said outer strip, the ends of the strips of one portion being staggered for interleaving and butt-engagement with the ends of the strips of the other portion, the outer strips of the two core portions being in butt-engagement outside the embrace of said coils and joined by a fused bond to secure the portions together, at least one of the



inner strips of one portion being spaced endwise from a strip of the other portion to form an air gap therebetween, and a magnetic shunt body extending between parallel legs of said core portions in a zone coextensive with the interleaving ends of the strips, said air gap being located outside said zone.

3,344,384 TEMPERATURE STABLE TUBULAR ELEMENT FOR INDUCTIVE DEVICES

Richard L. Hatton, Elmhurst, Ill., assignor to Resinite Corporation, Wheeling, Ill.
Filed May 5, 1965, Ser. No. 453,423
4 Claims. (Cl. 336—179)



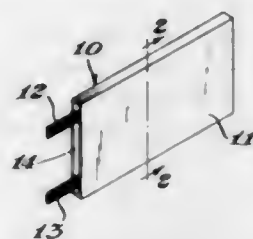
1. A temperature stable tubular element suitable as a component of an inductance comprising inner, intermediate, and outer layers of spirally arranged adhesively united ribbons, each layer including at least one ribbon spirally wound relative to the tubular element axis, said inner and outer layers being constructed of ethylene terephthalate, said intermediate layer being constructed of a metal foil, and a male-threaded part positionably received within said element for varying said inductance.

3,344,385 FLEXIBLE RESISTANCE ELEMENT WITH FLEXIBLE AND STRETCHABLE TERMINAL ELECTRODES

Donald M. Bartos, Midland, and Raymond J. Price, Bay City, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Jan. 4, 1965, Ser. No. 423,228
2 Claims. (Cl. 338—212)

1. A flexible resistance element comprising an elastomeric body of flexible electrically conductive material, and a system of flexible and stretchable low resistance electrodes embedded therein, said embedded elec-

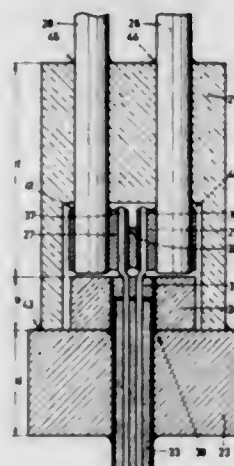
trodes each having a length in said material corresponding substantially to the length of said material



in the direction in which said electrodes are embedded, and said embedded electrodes being each formed as a braided open weave metallic conductor.

3,344,386 CONTACT CONNECTION FOR WIRE-SHAPED HEATING ELEMENTS

Georges Claude Le Gargasson, Paris, and Marcel Joseph Cadlou, Aubervilliers, France, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 26, 1965, Ser. No. 435,533
Claims priority, application France, Feb. 27, 1964, 965,285
5 Claims. (Cl. 338—274)



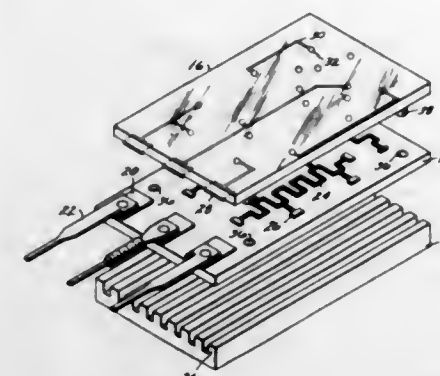
1. A connector for a heating element having at least two conductors surrounded by a common metal envelope, said conductors being insulated from one another and from the envelope, the ends of said conductors being stripped of insulation, a ceramic member having parallel bores through which connecting pins for each of said conductors extend, metallic coupling members surrounding and secured to each of said connecting pins, each of said coupling members having a bore through which the end of the conductor extends and is secured thereto, a metal sleeve surrounding and hermetically sealed at its peripheral edges to a portion of the metal envelope, said ceramic member surrounding a portion of said conductors intermediate each of said coupling members and the metal sleeve and being hermetically secured at its peripheral edges to said metal sleeve and said connecting pins.

3,344,387 VARIABLE THIN FILM ELECTRICAL COMPONENT

Henry F. Kinkel, Rutherford, and Eugene Radetsky, New York, N.Y., assignors to Western Electric Company Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 7, 1964, Ser. No. 402,274
4 Claims. (Cl. 338—314)

1. A thin film power resistor comprising:
a non-conducting base,
a plurality of terminals connected to and projecting from one end of said base,

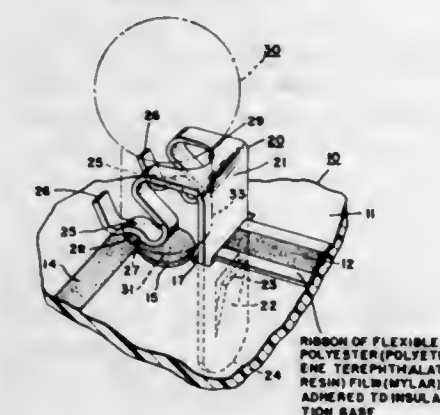
a metallic heat sink mounted to said base,
a plurality of thin film modules mounted directly on one side of said base, each of said thin film modules having a resistance path,
a plurality of first contacts mounted to each of said thin film modules at preselected locations along said resistance path in order that a desired length of the resistance path can be selected by the designation of two of said plurality of contacts, and



a plastic cover having a plurality of printed circuit paths and printed second contacts on the bottom side thereof and being affixed to said base for engaging said terminals and said first contacts with said second contacts to connect said desired resistance path length of said thin film modules to said circuit paths, thereby completing a resistance path from one of said terminals, through said printed circuit paths and said desired resistance path length of the film modules, to another of said terminals.

3,344,388 MULTI-FUNCTION CLIP MEANS

George W. Parker, Clio, and John B. Brennan, Jr., Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,071
9 Claims. (Cl. 339—17)

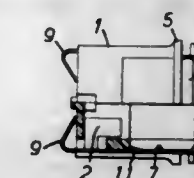


1. For use in combination with a centrally-tipped bayonet-projection lamp bulb means and a printed circuit means including insulating material with a recess-forming portion and at least a pair of conducting portions thereon, a unitary multi-functioning clip means comprising, a metal body portion having a substantially L-shaped configuration, at least one bifurcated ending of said metal body portion having wavy contact means which straddle and engage bayonet projections of lamp bulb means, and tab means integral with said metal body portion in engagement with at least one printed circuit

conducting portion while a further printed circuit conducting portion is directly axially engaged by the centrally-tipped lamp bulb means.

3,344,389 LAMPHOLDER

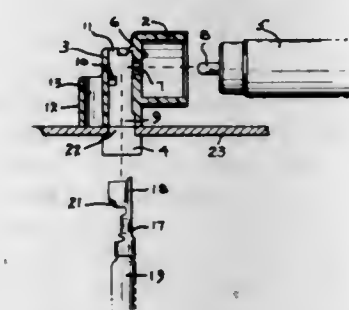
Clarence Williams Heath, Bleasby, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Mar. 30, 1966, Ser. No. 538,788
Claims priority, application Great Britain, Apr. 5, 1965, 14,343/65
7 Claims. (Cl. 339—17)



1. A lampholder for assembly in an aperture in a support comprising a body of insulating material having a lamp base receiving cavity, the body being provided with a lateral flange adjacent the open end of the cavity, contacts being slidably mounted on the body having means for engaging terminals on the base of the lamp when inserted, each contact including a portion at one end extending outwardly and laterally of the open end of the cavity and spaced axially of the body relative to the flange and resilient means being provided for limiting the axial sliding movement of the contacts relative to the cavity, the arrangement being such that when the holder is assembled in the aperture the flange is adapted to abut one face of the support and the projecting portions of the contacts are biased to abut the opposite face.

3,344,390 FLUORESCENT TUBE SOCKET

Harry John Dell, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 5, 1965, Ser. No. 437,360
3 Claims. (Cl. 339—52)



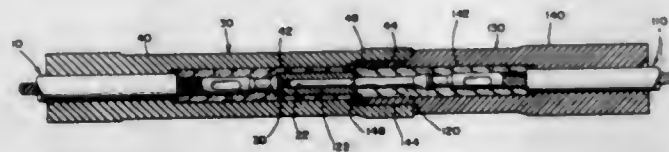
1. Socket means for supporting ends of a fluorescent tube and for mounting in openings of a mounting member, said socket means comprising tube-supporting sections for receiving the ends of the fluorescent tube therein, contact-carrying sections located at the inner ends of said tube-supporting sections and extending substantially normal thereto, said contact-carrying sections defining a wall at the juncture between said sections and holes in communication with said sections, contact members removably mounted in said contact-carrying sections and having openings in communication with said holes so that contact pins of said fluorescent tube pass through said holes and openings for engagement with said contact

members, stiffly-flexible mounting arms extending laterally from said sections and for disposition in said opening and means on said mounting arms for engaging said mounting member with said stiffly-flexible mounting arms resiliently maintaining said means in engagement with said mounting member.

3,344,391

WATERPROOF ELECTRICAL CONNECTIONS
Robert C. Ruete, Long Valley, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Continuation of abandoned application Ser. No. 345,008, Feb. 14, 1964. This application Oct. 25, 1966, Ser. No. 589,464

9 Claims. (Cl. 339—60)



1. A waterproof electrical connector element capable of being assembled in the field at the terminus of a high voltage cable, the cable having an electrical conductor and a covering of insulating material with a portion of the insulating material removed to establish a terminus thereof and expose the conductor, said connector element comprising:

an electrical contact electrically connected and mechanically secured to the exposed conductor; and
a unitary housing of resilient material surrounding at least a portion of the contact, the exposed conductor and the covering, the housing including,
an outer sleeve-like member of resilient insulating elastomeric material having a given length with an axially extending opening therein and including a resiliently dilatable portion adjacent one end thereof, which dilatable portion in an undilated condition has an internal diameter less than the external diameter of a corresponding portion of the covering received within the opening, said dilatable portion being dilated and overlapping with said corresponding portion in watertight relationship therewith, and

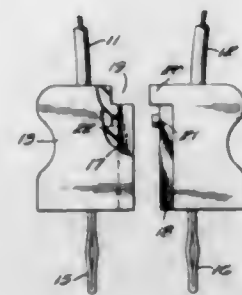
an inner sleeve-like member of resilient electrically conductive elastomeric material disposed between the outer member and the contact and exposed conductor, said inner member having an axial length less than the length of the outer member and being joined with the outer member to surround at least a portion of the contact and the exposed conductor, said inner member terminating at one end displaced axially from said one end of the outer member and including an axially extending opening aligned with the opening in the outer member and having a first portion cooperating with the contact and including an inside diameter complementing a corresponding outside diameter of the contact portion with the inner member electrically connected with the contact such that the voltage gradient between the contact and the inner member is reduced to a minimum, and a second portion extending axially along the opening in the inner member from said one end of the inner member toward the first portion thereof, said second portion being contiguous with the resiliently dilatable portion of the outer member and being resiliently dilatable, said second portion having an internal diameter equal to the internal diameter of the resiliently dilatable portion of the outer member when both said dilatable portions are undilated and being dilated and overlapping with a corresponding portion of the covering received within the opening

in the inner member to extend the inner member along the covering beyond the terminus of the covering.

3,344,392

ELECTRICAL TERMINAL CONNECTOR
Earnest H. Briscoe, Bexley, Ohio, assignor to Briscoe Manufacturing Company, Columbus, Ohio, a corporation of Ohio

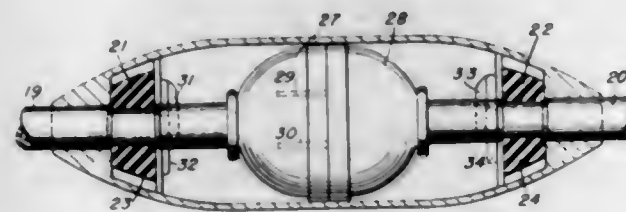
Filed Feb. 8, 1965, Ser. No. 430,931
1 Claim. (Cl. 339—63)



An electrical terminal connector comprising a pair of axially separable, unitary connector sections normally disposed in interfitting, side by side alignment and each composed of a body of electrical insulating material, an electrically conductive contact member embedded at least in part in said body and a remotely extending lead wire electrically connected with said contact member within said body, the bodies of said sections being formed along their adjacent sides with integral longitudinally extending, relatively interfitting, dovetail mortise and tenon portions, one of said bodies being formed adjacent said mortise and tenon portions with a resiliently flexible detent and the other of said bodies being formed with a recess engageable with said detent when said sections are disposed in interfitting, side by side alignment, said detent and recess serving to yieldably hold said sections against relative axial separation; and stop means formed on the body of one of said sections and engageable with the body of the other of said sections when said sections are brought into side by side alignment, said stop means limiting axial separation of said sections to one direction of relative movement.

3,344,393

CONNECTOR HOUSING
Howard R. Hendee, 193 Six Mile Road, Comstock Park, Mich. 49321
Filed Aug. 13, 1965, Ser. No. 479,395
2 Claims. (Cl. 339—75)



1. A connector housing for enclosing electrical connector components, and for transferring tension around said components, said housing comprising:

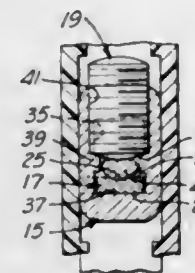
first and second relatively movable enclosure components, said components being closeable together to define a space, and said components also together defining each of a pair of access openings for receiving an electrical wire, at least one of said components having a block of resilient rubber-like material adjacent at least one of said access openings and disposed to apply a clamping action on a wire engaging

said opening on closure of said enclosure components, said block of rubber-like material being supported at the ends thereof, with the central portion unsupported in a direction normal to the plane of separation of said enclosure components; and securing means for holding said enclosure components together.

3,344,394

LIMITED ENGAGEMENT LUG ASSEMBLY
Benjamin S. Kingsbury, Pasadena, and Reginald E. Lockhart, Los Angeles, Calif., assignors to Zinsco Electrical Products, Los Angeles, Calif., a corporation of California

Filed May 16, 1966, Ser. No. 550,323
5 Claims. (Cl. 339—272)



1. In a lug assembly adapted for electrically interconnecting a first conductor with a second conductor, the combination of:

a conductive member having a bearing surface and a clamping surface, said conductive member being connectible to the first conductor;

a lug having a passageway therethrough, said passageway having a bearing surface, said conductive member being received in said passageway with said bearing surface of said conductive member abutting against said bearing surface of said passageway, said clamping surface of said conductive member being exposed in said passageway, the second conductor being receivable on said clamping surface;

clamping means secured to said lug and being movable toward said clamping surface of said conductive member for applying a force to the second conductor to firmly clamp the latter against said clamping surface; and

abutment means in said passageway spaced from said lug bearing surface engageable with said clamping means for limiting the minimum distance between said clamping means and said clamping surface of said conductive member to thereby positively limit the amount the second conductor can deform in response to said force and prevent severing of the second conductor by the clamping means.

3,344,395

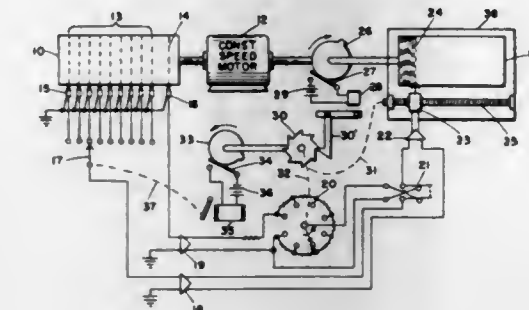
DISPLAYING SUBTRACTIVELY COMBINED SEISMIC DATA

Daniel Silverman and Neil R. Sparks, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Feb. 1, 1965, Ser. No. 429,427
6 Claims. (Cl. 340—15.5)

1. In the display of a seismic data trace wherein desired waves are enhanced relative to undesired waves by subtracting a reproducible subtrahend trace containing said undesired waves from a reproducible minuend trace containing both said desired waves and said undesired waves, to produce a remainder trace wherein said undesired waves are reduced in amplitude relative to said desired waves, the improvement which comprises, for each minuend trace, simultaneously reproducing said minuend and said sub-

trahend traces as corresponding electric waves with a given ratio of reproducing amplifier gains, subtractively combining said corresponding electric waves to produce a remainder electric wave, transmitting said remainder electric wave to a variable-density trace-recording element adjacent a record-receiving medium to produce on said medium a narrow, variable-density trace corresponding to said remainder wave, and repeating said reproducing, subtrac-



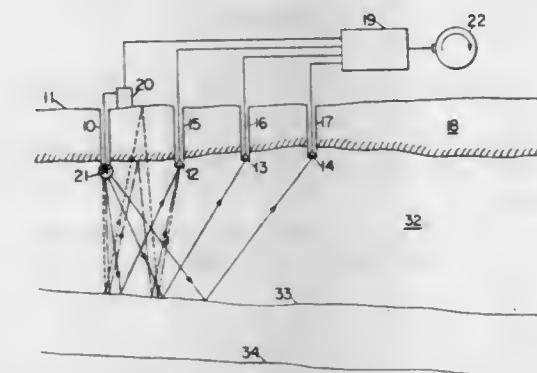
tively combining, and transmitting steps a plurality of times for a corresponding plurality of progressively different values of said ratio of amplifier gains, each successive narrow, variable-density remainder trace being recorded closely adjacent the previously recorded remainder trace on said record-receiving medium, whereby the nature of the various waves displayed may be ascertained from the character of their variation in amplitude across said variable-density trace display.

3,344,396

SEISMIC SURVEYING BY RECORDING THE SIGNAL USED TO CONVOLVE EITHER UP-GOING OR DOWN-GOING SEISMIC SIGNALS TO PRODUCE THE OTHER

Arthur D. Bennett, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Apr. 4, 1966, Ser. No. 540,056
7 Claims. (Cl. 340—15.5)



1. A method of seismic prospecting comprising the steps of

generating seismic waves within the earth, receiving directionally characteristic seismic waves at at least one location, separately producing at such receiving location a reproducible record of down-going seismic waves and a reproducible record of up-going seismic waves, separately reproducing said down-going and said up-going seismic waves, convolving one of said down-going and up-going reproduced seismic waves with an amplitude-time signal comprising a Wiener filter to produce a convolved record substantially matching the other of said down-going and up-going reproduced seismic waves, and making a record of said amplitude-time signal.

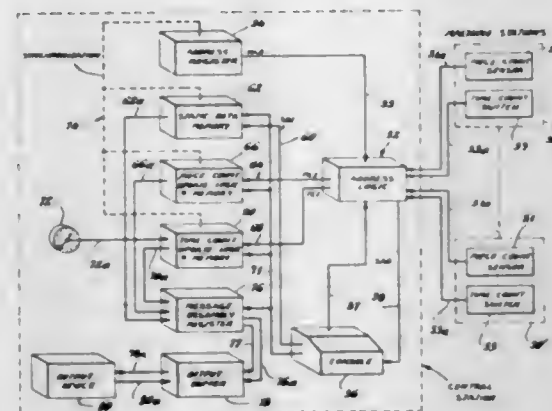
means for transferring said digital data from said analog-to-digital converter to said digital register, and means for transferring said digital data from said digital register to said digital recording system.

3,344,408

AUTOMATIC MONITORING SYSTEMS AND APPARATUS

Edwin Singer and Ambros Geissler, Fairfield, Conn., assignors to Hancock Telecontrol Corporation, Old Greenwich, Conn.

Filed Mar. 8, 1965, Ser. No. 437,781
92 Claims. (Cl. 340-172.5)



1. A system for monitoring a plurality of stations and accumulating data as to events occurring at each of said stations, said system comprising, in combination,
 - (A) cyclical address means for generating an address corresponding to each station;
 - (B) interrogating means operating in response to an address generated by said address means to periodically interrogate the corresponding station to determine if an event has occurred;
 - (C) a cyclical memory operating in synchronism with said address means and storing accumulated data as to past events occurring at each corresponding station; and
 - (D) data processing means connected to said interrogating means and operating in response to the interrogation of each station to augment the accumulated data in said memory corresponding to a station where an event has occurred since last interrogated.

3,344,409

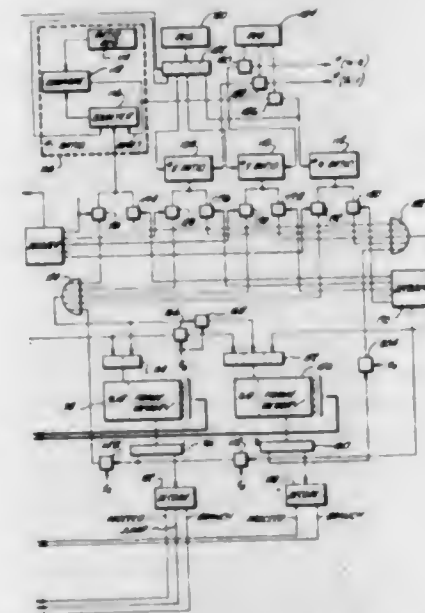
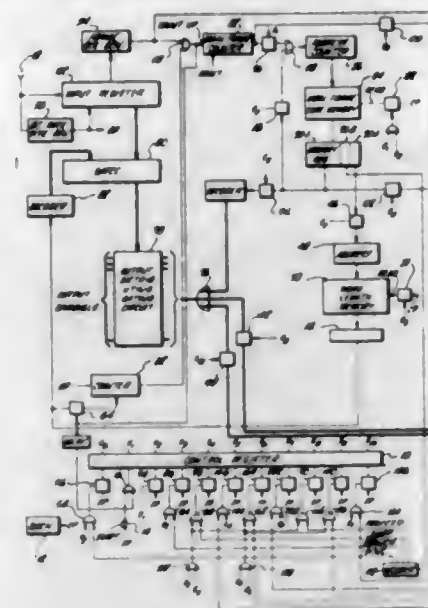
DECOMMUTATOR FOR USE IN PULSE CODE MODULATED TELEMETRY

Michael J. Townsend, Upland, Calif., assignor to Consolidated Systems Corporation, Pomona, Calif., a corporation of California

Filed Mar. 29, 1965, Ser. No. 443,251
8 Claims. (Cl. 340-172.5)

1. Apparatus for distributing digitally coded information words, as received serially at a common input, to any selected one of a plurality of output channels, including first means for identifying and counting each word as it is received at the input, second means responsive to the first identifying and counting means for counting each time a predetermined group of information words are received, first addressable memory means for storing a plurality of control words, means responsive to said first counting means for addressing the first memory means in sequence whereby a control word is read out of the first memory means for each information word received, second addressable memory means for storing a plurality of control words, means responsive to the first and second counting means for addressing the second memory means,

means responsive to a predetermined control word from the first memory means for initiating read out from the second memory means, and switching means responsive



to a particular control word from the second memory means for transferring the data word identified by the first counting means to a selected one of the output channels.

3,344,410

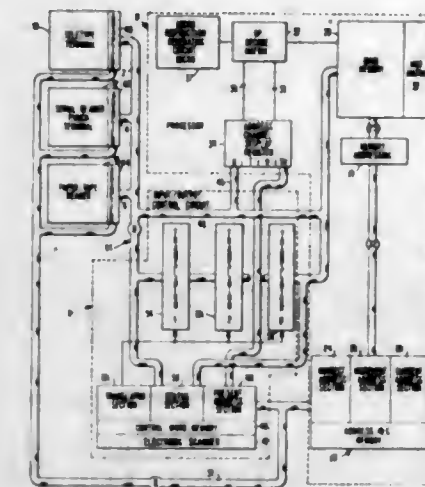
DATA HANDLING SYSTEM

Arthur F. Collins and Jack E. Greene, Vestal, and Holger R. Jensen, Endwell, N.Y., Martin J. Kelly, Los Gatos, Calif., and Elliott R. Marsh, Endicott, and Flavius M. Powell, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 28, 1965, Ser. No. 451,582
24 Claims. (Cl. 340-172.5)

1. A data handling system comprising,
 - a plurality of terminals as a source of data characters,
 - a first memory having a plurality of positions for storing said characters,
 - first means for addressing each of said positions, means for writing one of said characters into each of said positions,
 - means for transferring data characters from said terminals to said writing means,
 - a second memory having a plurality of separately addressable locations,
 - second means for addressing each of said locations, first address indicia being stored in each of said locations,

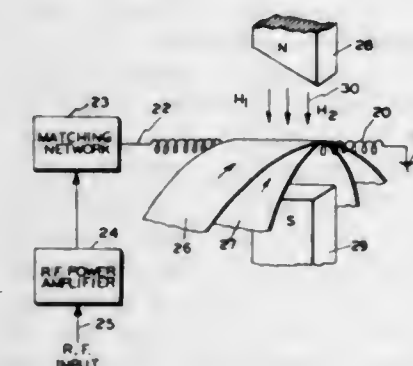
means for transferring said first address indicia from said locations to said first addressing means, means for controlling the transfer of said data characters to said writing means, said control means including a third memory for storing a plurality of control words, said control word including second address indicia,



said second addressing means responsive to said second address indicia for transferring a corresponding first address indicia to said first addressing means, and means responsive to said second address indicia for transferring a single data character to said first writing means whereby, said last mentioned data character is stored in a position of said first memory selected by the contents of a corresponding location in said second memory.

3,344,411

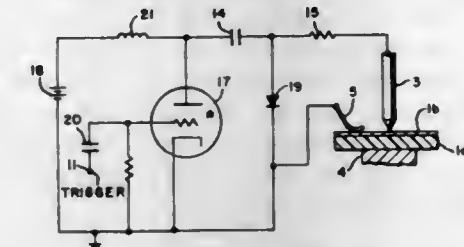
SPIN RESONANT RECORDING PROCESS
Harold C. Anderson, New Brighton, Minn., assignor to Litton Systems, Inc., Silver Spring, Md.
Filed Sept. 17, 1964, Ser. No. 397,201
6 Claims. (Cl. 340-173)



1. A process for recording radio frequency signals comprising: directing the signals to a radio frequency cavity, applying a tuning magnetic field to the cavity to provide a recording zone for receiving both the radio signal and the magnetic tuning field, introducing a pair of moving members into the cavity at the recording zone to interengage therein in heat transferring relationship, one of said moving members containing a spin resonant material that responds to the radio signal and tuning field to absorb energy from the signal and radiate heat, and the second member containing a heat responsive indicator to record the heat being produced in the first member.

3,344,412

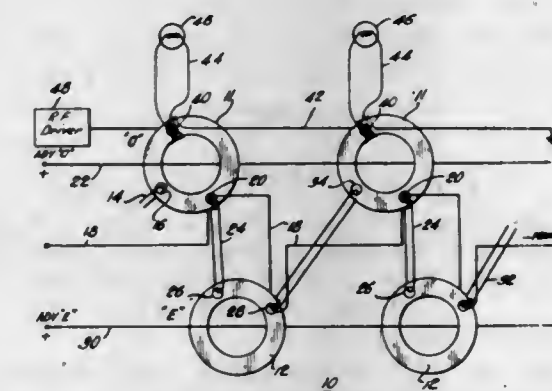
APPARATUS FOR STORING IN OPTICAL FORM INFORMATION IN THE FORM OF A STREAM OF SERIAL ELECTRICAL DATA PULSES
Kenneth S. Goodale, Los Altos, and Louis J. Kabell, Palo Alto, Calif., assignors to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,303
5 Claims. (Cl. 340-173)



4. A system for storing in optical form on a movable record information in the form of a plurality of parallel streams of serial electrical data pulses comprising a relatively low-optical-density substrate and a thin electrically destructible relatively high-optical-density coating, and retrieving the same, comprising:
 - means for moving the record past an information recording station;
 - an input circuit for supplying the electrical data pulses to be stored;
 - a circuit including switch means responsive to said data pulses for deriving therefrom corresponding secondary current pulses of short and substantially constant duration independent of the duration of said data pulses;
 - a conductive probe disposed to be in close proximity to a movable record;
 - a circuit for applying said secondary pulses in sequence to said probe to pass current through localized areas of said coating during motion of the record;
 - each of said current pulses having sufficient energy to destroy an elemental area of said coating to expose a corresponding area of low-optical-density substrate;
 - means for moving the recorded record past an information retrieval station;
 - means for illuminating the record at said retrieval station;
 - and means for detecting the light passing through the exposed substrate areas to obtain the stored information.

3,344,413

MAGNETIC CORE READOUT
John C. Mallinson, Palo Alto, Calif., and Lawrence G. Willey, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 4, 1963, Ser. No. 249,465
5 Claims. (Cl. 340-174)



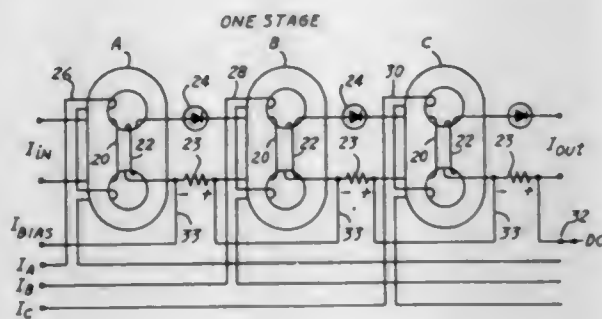
5. An improved magnetic core arrangement with readout provision for the respective binary ones and zeros in the cores, said arrangement comprising a plurality of

multi-aperture magnetic cores, each of which has at least a major aperture and a minor readout aperture, means to shift a binary one and a binary zero into each of said cores, a plurality of loads each of which is coupled to a respective one of said readout apertures, and drive means including a winding threading said readout apertures, said drive means applying a varying electric signal to said readout winding to give a substantially constant magnetomotive switching force around each readout aperture regardless of the information states of said cores, whereby each load will be driven or not on a continuous basis by said drive means depending on whether a binary one or a zero is set into the respective core, the information state of each core can be changed without disconnecting the load or deenergizing said drive means, and the drive to each load will be substantially constant regardless of the number of loads being driven.

3,344,414

MAGNETIC SHIFT REGISTER

George R. Briggs, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 5, 1964, Ser. No. 349,578
8 Claims. (Cl. 340-174)



1. An information storage and transfer system comprising two magnetic cores A and B each having two apertures, an information transfer circuit including an input winding on each core passing through both apertures therein, an output winding on each core passing through both apertures therein, and means coupling the output winding of one core to the input winding of the other core,
- two shift windings, one for the A core and one for the B core, each shift winding passing through both apertures of corresponding cores, the input and shift windings on a core passing through the two apertures in directions so that currents in the two windings produce additive effects on the flux around one aperture and subtractive effects on the flux around the other aperture, and
- shift pulse means coupled to said shift windings sequentially to supply a receive pulse to the A core, to supply an advance pulse to the A core at the same time that a receive pulse is supplied to B core, and to supply an advance pulse to the B core.

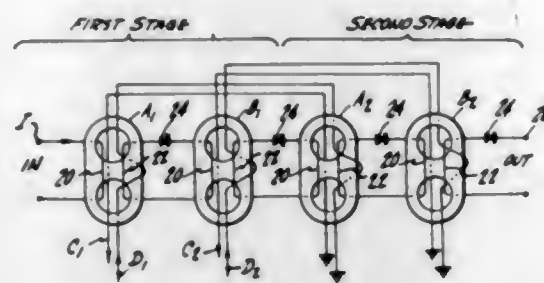
3,344,415

MAGNETIC SHIFT REGISTER

George R. Briggs, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 27, 1965, Ser. No. 459,385
7 Claims. (Cl. 340-174)

1. The combination of at least one set of two magnetic cores A and B, each core having at least two apertures, information transfer means coupling electrical information signals from the aperture of a core to the aperture of a following core,

means to apply an electrical transmit pulse through apertures of B cores, and means to apply an information-inverting pulse through apertures of A cores, whereby information in B cores is inverted and transferred to A cores, and

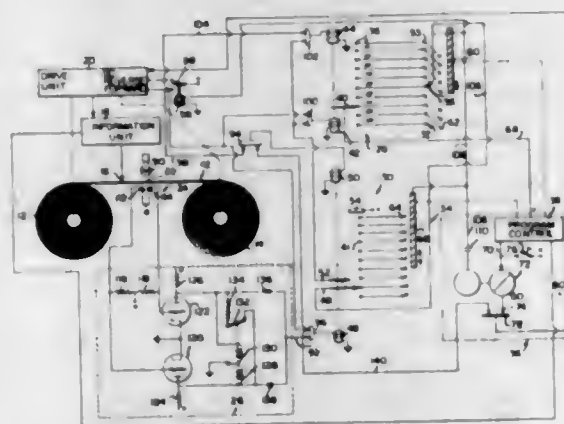


means to apply an electrical transmit pulse through apertures of A cores, and means to apply an information-inverting pulse through apertures of B cores, whereby information in A cores is inverted and transferred to B cores.

3,344,416

RANDOM ACCESS MAGNETIC INFORMATION RETRIEVAL SYSTEM

James W. Harford, 14747 Roscoe Blvd.,
Panorama City, Calif. 91402
Filed Dec. 16, 1963, Ser. No. 330,788
8 Claims. (Cl. 340-174.1)



1. A system for locating a predetermined position of a recording medium, said medium incorporating means to provide position signals indicative of position change, comprising: a drive means energizable to move said recording medium progressively from one position to another; at least one step switch means settable to indicate said predetermined position of the recording medium and including interconnect means to progressively interconnect plural stages thereof in accordance with the state of said step switch means; at least one step counter means connected to receive said position signals to manifest the instant position of said recording medium; and connecting means connecting said step counter means to said step switch means to apply signals to said step switch means, whereby a signal level change in said interconnect means of said step switch means indicates said predetermined position to deenergize said drive means.

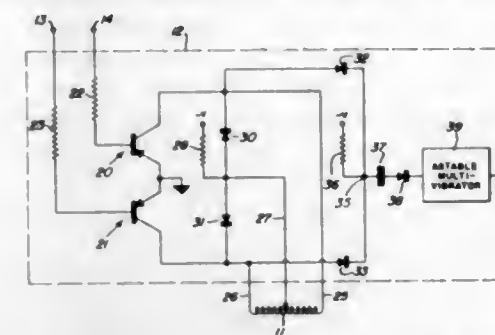
3,344,417

DIGITAL MAGNETIC RECORDING VERIFICATION

Robert Anthony Boyle, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,803
4 Claims. (Cl. 340-174.1)

1. A digital recording checking circuit comprising echo signal means responsive to the collapse of a magnetic record field in either half of a center-tapped magnetic re-

cording head winding and signal gating means connected to said echo signal means to produce an output signal

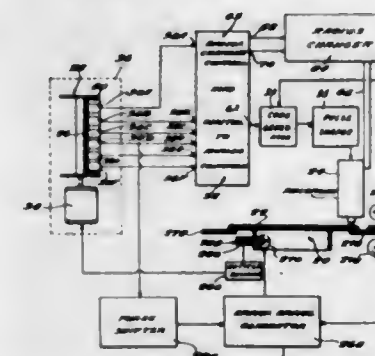


representative of said collapse of a magnetic field in either half of a center-tapped head winding.

3,344,418

DEVICE AND METHOD FOR PRODUCING CODE MEMBERS

Edward M. Jones, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 22, 1964, Ser. No. 369,423
14 Claims. (Cl. 340-347)



1. A device for transforming a physical characteristic of a member comprising, in combination, means for mounting the member for movement, drive means mechanically coupled to the mounting means for moving the member, an energy source mounted on the mounting means for emitting energy toward the member, the physical characteristic of said member being transformed from one state to another by the presence of energy from said source, and said source including actuating means responsive to an electrical signal for initiating and interrupting the energy directed from the source on the member to produce transitions between adjacent sections of the member of different states, means for generating electrical signals representing digital values of the positions of transitions on the movable member relative to a reference point of a function to be recorded on the member, means for synchronizing the drive means for the member with the means for generating digital values, means electrically connected to the means for generating digital values for converting the digital values into an analog electrical signal, and a code generator electrically connected to the digital to analog converter and the actuating means of the energy source, said code generator producing an actuating electrical signal for the energy source for each transition at a distance from the reference point on the movable member determined by the magnitude of the analog signal.

3,344,419

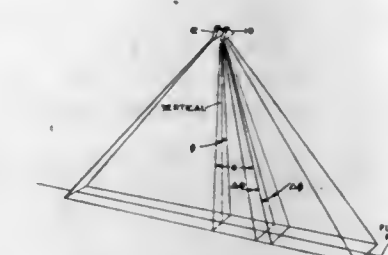
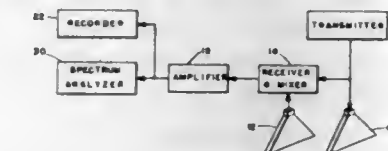
WIDE ANGLE MEASUREMENT OF TERRAIN REFLECTIVITY

Thomas J. Lund, San Diego, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.
Filed Nov. 22, 1965, Ser. No. 508,952
6 Claims. (Cl. 343-5)

1. Reflectivity measuring apparatus for mounting in an airborne vehicle to measure the back-scattering cross

section per unit surface area of the terrain below the vehicle, the apparatus comprising:

a transmitter having a radio frequency output of known frequency;
means to direct an output signal from said transmitter to the terrain in a beam having a wide angle dispersion on the order of 45-120 degrees in the di-

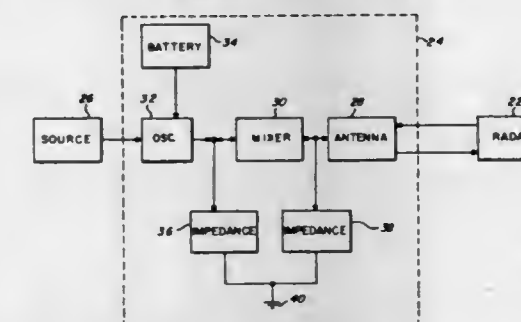


rection of motion of the vehicle and a narrow angle dispersion transverse to the direction of motion; receiving means to receive the reflected signal in a corresponding beam pattern; analyzing means coupled to said receiving means to analyze the Doppler shift spectrum of the return signal over the entire beam pattern, and to analyze simultaneously the power density of the return signal at all portions of the beam.

3,344,420

DATA COLLECTION SYSTEM

Melvin W. Arsove, Wayland, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Feb. 5, 1965, Ser. No. 430,635
14 Claims. (Cl. 343-6.5)

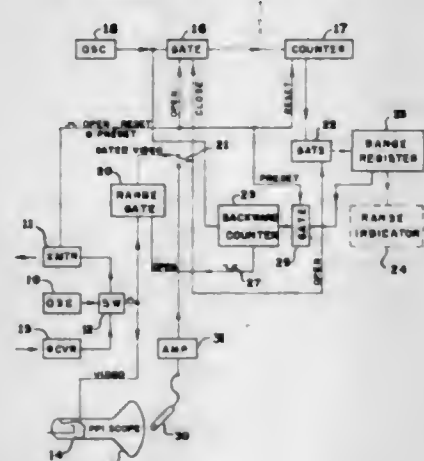


10. An ocean data collection system for sensing information-bearing signals in a multiplicity of buoys in a particular ocean area and transmitting data signals representative of said information and position information, comprising:

a multiplicity of freely floating buoys scattered over the top of said ocean area;
a radar system operative in a search mode for propagating interrogation signals and in a receive mode for receiving said data signals and producing therefrom said information and buoy position information, said radar system including a plurality of differently tuned filters for selectively passing said data signals, a PPI display means for displaying said information and said buoy position information, and a plurality of symbol generators connected between said filters and said PPI display for producing a visual representation of said data;
each of said buoys containing a plurality of sensing means for sensing said information-bearing signals and producing signals being a single-valued function of said information, transponder means including

semiconductor mixing means for producing data signals in response to said interrogation signals and being offset in frequency therefrom by an amount which is a single-valued function of said information, time sharing means connected between said plurality of sensing means and said transponder including a ring counter connected to a plurality of switching means, said ring counter being operative to selectively open one of said switches, and antenna radiating means connected to said transponder for radiating said data signals.

3,344,421
DIGITALLY CONTROLLED AUTOMATIC RANGE GATE
Clell A. Dildy, Jr., Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 25, 1966, Ser. No. 531,651
2 Claims. (Cl. 343-7.3)

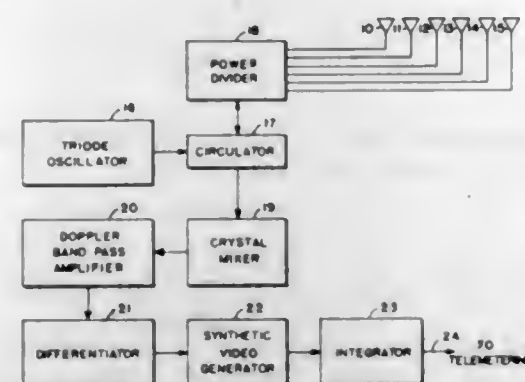


1. A digitally controlled automatic range tracking circuit for a pulse echo ranging system in which video pulses returned from a desired target are selectively gated to stop a range counter comprising
a first gate,
a fixed frequency oscillator connectable through said first gate to said range counter,
a range register,
a second gate when enabled for transferring to said range register the count on said range counter,
a backward counter,
a third gate when enabled for transferring the count on said range register to the backward counter,
means for simultaneously transmitting a pulse toward a target, resetting said range counter, opening said first gate and enabling said third gate,
a range gate for passing video pulses to close said first gate and enable said second gate, and
said backward counter being operative for opening said range gate during the interval of time said backward counter counts through zero from one preselected count to another preselected count whereby only video pulses from targets which differ in range from the range transferred to said backward counter by no more than a predetermined value are gated.

3,344,422
MISS DISTANCE INDICATOR
Paul F. G. Holst, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 582,148
1 Claim. (Cl. 343-12)

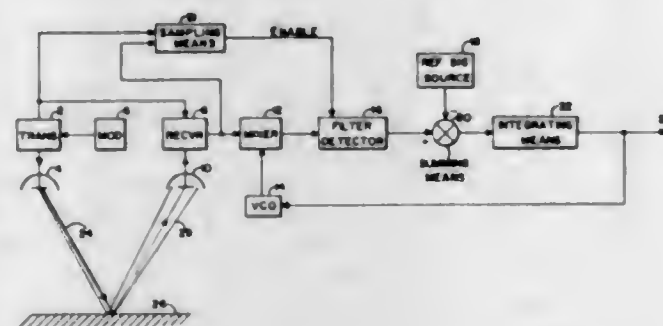
In a system for measuring the miss distance between an interceptor and a target, the combination comprising:
a source of continuous wave energy to be radiated,
a power divider,

a circulator intercoupling said source and said power divider,
a plurality of antennas coupled to said power divider and providing an omnidirectional pattern whereby echo energy is returned to said antennas from a target within said pattern,
said plurality of antennas being employed as a common antenna system to intercept echo energy from the target,
a mixer,



said circulator intercoupling the mixer and the power dividers whereby the mixer derives Doppler frequency shift signals which are a function of the rate of change of range of the interceptor relative to the target,
means for amplifying said Doppler frequency shift signals,
said amplifying means having a pass band within the range defined by the maximum Doppler frequency rate and one-tenth of said rate,
and means for deriving a miss distance indication from the output of said amplifier.

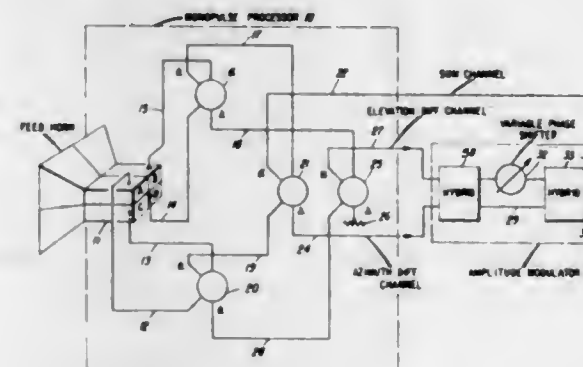
3,344,423
CONTROL APPARATUS
Baard H. Thue, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,580
4 Claims. (Cl. 343-14)



1. A radio altimeter comprising in combination:
a frequency modulated transmitter, normally radiating a signal toward a reflecting surface;
a receiver normally absorbing a component of the signal reflected from the surface, said receiver coupled to said transmitter and receiving a signal directly therefrom, said receiver producing a signal having a frequency corresponding to the difference in frequency of said transmitter signal and the reflected signal;
a steady state reference signal source;
means coupled to said source for algebraically summing said reference signal and an error signal;

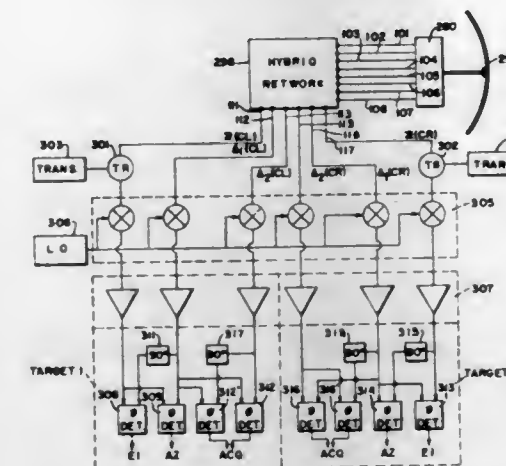
means coupled to said summing means for integrating the algebraic sum;
an oscillator coupled to said integrating means and controlled in frequency by the integrated sum;
means coupled to said receiver and said oscillator for mixing the signal produced by said receiver with the signal generated by said oscillator and producing a difference frequency signal, the mixing means operating to translate the receiver signal in frequency;
a narrow bandpass filter coupled to the mixing means and having a predetermined center frequency, said filter means passing the translated receiver signal whenever the translated signal is within the bandpass of said filter; and
means for detecting the signals passed by said filter and rectifying the passed signals to produce a substantially steady state signal which is coupled to the summing means and represents the error signal, the integrating means, oscillator, mixing means, filter, and detector normally operating to keep the algebraic sum nulled.

3,344,424
CONTROL CIRCUITRY FOR MULTIMODE RADAR
Philip S. Hacker, Silver Spring, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 30, 1965, Ser. No. 517,874
8 Claims. (Cl. 343-16)



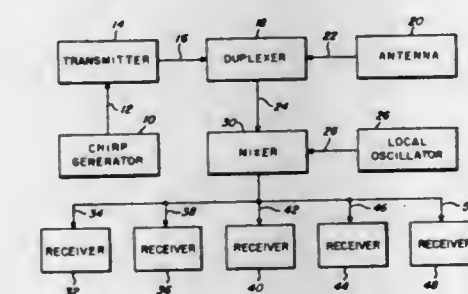
1. A control switching circuitry for microwave systems which permits a multiplicity of functions to be performed by a single radar comprising:
microwave processing means for converting monopulse microwave energy into sum and difference energy signal components;
amplitude modulator means electrically coupled to said processing means for receiving the difference energy signal components and modulating said difference energy signals in quadrature relationship; and
microwave switching circuitry means electrically connected to receive the sum energy signal component from said microwave processing means and the modulated signal from said amplitude modulator means for providing a predetermined phase shift to each of said sum energy signal and modulated energy signal, and said microwave switching circuitry consisting of a
first hybrid coupling means having first and second inputs and first and second outputs, said first input coupled to receive said sum energy signal and said second input coupled to receive said difference energy,
second hybrid coupling means having first and second inputs and first and second outputs, said first and second outputs coupled to a radar system,
variable phase shifting means electrically coupled between the outputs of said first hybrids and the inputs of said second hybrid.

3,344,425
MONOPULSE TRACKING SYSTEM
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of John Paul Shelton, Jr., Bethesda, Md.
Filed June 13, 1966, Ser. No. 557,871
36 Claims. (Cl. 343-16)



1. A monopulse tracking system comprising an antenna array deriving circularly polarized patterns, said array including at least four frequency independent radiators, means exciting said radiators to derive simultaneously sum and first difference mode patterns, said exciting means including separate ports for said sum and first difference modes, the first difference mode port deriving a signal having two orthogonal phase components, means for comparing one of the phase components of the signal deriving from the first difference mode port with the phase of the signal deriving from the sum mode port, and means for comparing the other phase component of the signal deriving from said first difference mode port with the phase of the signal deriving from the sum mode port.

3,344,426
RADAR SYSTEM
Leslie Bruce Long, Lincoln, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Dec. 1, 1965, Ser. No. 510,862
10 Claims. (Cl. 343-17.2)

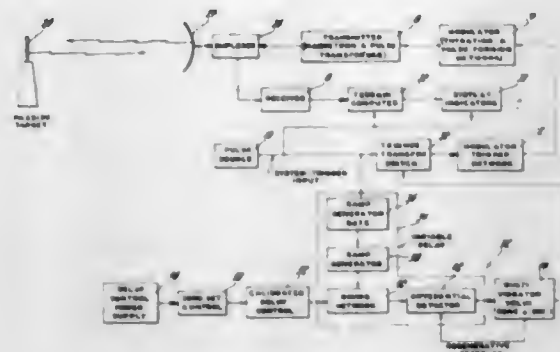


1. A frequency scanned pulse transmitting system for illuminating an area so as to concentrate the energy therefrom at desired angles in varying amounts, comprising:
generator means for providing a pulse including a plurality of sub-pulses, each having a different frequency and at least some having a different width; and
propagation means coupled to said generator means for propagating an illumination beam pattern including a plurality of beams, each beam illuminating a different angle and at least some beams having different lengths.

3,344,427 RADAR SYSTEM WITH BUILT-IN TEST CAPACITY

David L. Fayram, Greendale, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 29, 1965, Ser. No. 517,308
7 Claims. (Cl. 343—17.7)



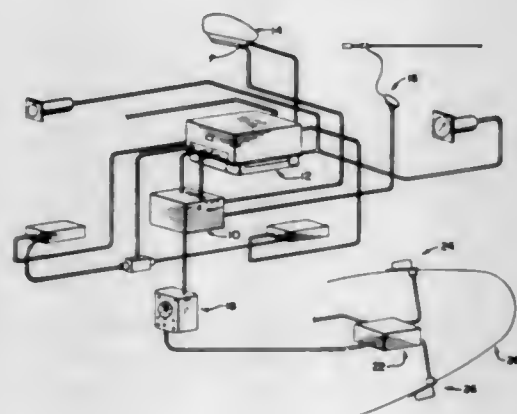
1. A radar system comprising a source of reference pulses, transmitter means responsive to said reference pulses for transmitting high energy pulses to a target, receiver means for receiving echo pulses from said target, computer means responsive to said reference pulses and said echo pulses for computing the distance of said target, adjustable time delay means, switching means having a first position connecting said source to said transmitter means and a second position connecting said time delay means between said source and said transmitting means.

3,344,428 GUIDANCE SYSTEM FOR COUNTER INSURGENCY OPERATIONS

Gordon C. Dewey, New York, N.Y., and Louis H. Benzing, Leonia, N.J., assignors to The G. C. Dewey Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 334,500, Dec. 30, 1963. This application June 10, 1966, Ser. No. 564,461

18 Claims. (Cl. 343—112)



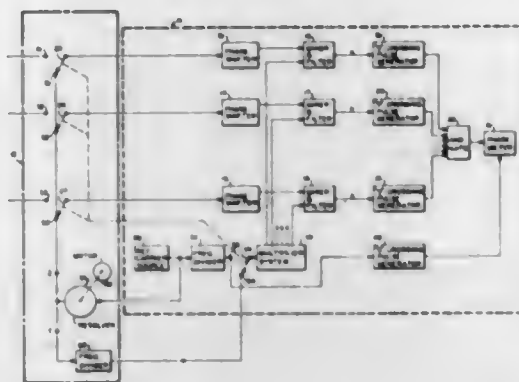
1. Apparatus for indicating the approach of a vehicle to a transmitter, one of said vehicle and said transmitter moving at a determined altitude and velocity relative to the other of said vehicle and transmitter, said apparatus comprising transmitter means for radiating signals, Doppler means supported by said vehicle for producing signals indicative of the Doppler shift in signals radiated

from said transmitter means and reaching said vehicle, and indicating means responsive to determined Doppler frequencies and said altitude and velocity for indicating different distances between said vehicle and said transmitter means.

3,344,429 SIGNAL SIMULATOR FOR PHASE CHANNEL COMBINERS

Hugh B. Gardner, Forest Heights, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 30, 1965, Ser. No. 517,864
7 Claims. (Cl. 343—113)



1. For use with a phase channel combiner adapted to process the output signals from n -radio interferometers having baselines varying in length from that necessary to obtain an unambiguous determination of the position of a target to that necessary to obtain the desired resolution of said position wherein said combiner comprises reference carrier means with an output adapted to provide a signal having a frequency ω_r , a multiplier system with an input and n -outputs, first signal translating means adapted to provide a predetermined frequency division X and having an input coupled to said reference carrier means output and an output adapted to be coupled to said multiplier system input when said combiner is in an operational status, and n -channels each of which include a mixer with a first input adapted to receive the output signal from a respective one of said interferometers when said combiner is in an operational status and a second input coupled to receive a signal from a respective one of said multiplier system outputs, and a filter adapted to reject the sum frequency of the signals applied to said first and second inputs, said multiplier system being adapted to provide at each of said n -outputs a signal of the form

$$E_{j\text{hz}} = \sin\left(1 + \frac{B_j}{XB_a}\right)\omega_r t$$

where

$E_{j\text{hz}}$ = the signal provided at the output of said multiplier system which is coupled to the second input of the mixer in the j th channel,

B_j = the length of the baseline of the interferometer adapted to be connected to the first input of the mixer in the j th channel when said combiner is in operational status,

B_a = the length of the shortest unambiguous interferometer baseline, and

t = time,

and said output signals from said interferometers being of the form

$$E_{aj} = \sin(\omega_r t + A\phi_{aj})$$

where

E_{aj} = the output signal from the interferometer adapted to be connected to said first input of said mixer in said

j th channel when said combiner is in operational status, and
 A = a sign determining unity multiplicative factor,
 ϕ_{aj} = the phase of said output signal from said interferometer in relative to the phase of the signal provided by said reference carrier means;

a novel simulator comprising:

signal providing means having a first output adapted to be connected to the first input of each of said mixers when said combiner is in test status and a second output, said signal providing means adapted to provide at each of said first and second output signals of the form

$$E = \sin(\omega_r - AX\alpha)t$$

where

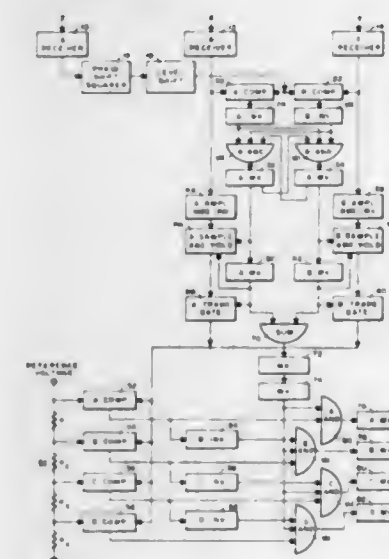
E = the signal provided at each of said first and second outputs, and

α = an assumed angular velocity of a simulated target;

second signal translating means adapted to provide said frequency division X and having an input coupled to said second output and an output adapted to be coupled to said multiplier system input when said combiner is in test status; and

switch means for coupling each of said first inputs of said mixers to respective ones of said interferometers and said multiplier system input to said first signal translating means output when said combiner is in operational status and for coupling said first inputs of said mixers to said first output and said multiplier system input to said output of said second signal translating means when said combiner is in test status.

3,344,430
SIGNAL AZIMUTH DETECTOR
Verne E. Hildebrand, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 21, 1966, Ser. No. 531,012
6 Claims. (Cl. 343—122)

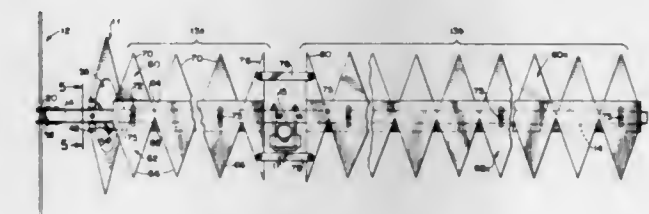


1. In a signal azimuth detector, the combination comprising:

(a) omni-directional radio frequency receiving means,
(b) first directional radio frequency receiving means for generating signals proportional to the direction and magnitude of received electromagnetic signals,
(c) second directional radio frequency receiving means for generating signals proportional to the direction and magnitude of received electromagnetic signals from a direction perpendicular to the direction of the received signals of said first directional receiving means,

(d) first comparator circuit means having a first input coupled to said omni-directional radio frequency receiving means and a second input coupled to said first directional radio frequency receiving means for producing an output signal when said first and second inputs are of equal value,
(e) second comparator circuit means having a first input coupled to said omni-directional radio frequency receiving means and a second input coupled to said second directional radio frequency receiving means for producing an output signal when said first and second inputs are of equal value,
(f) a first logic network coupled to the outputs of said first and second comparator circuit means for passing only the first signal produced by either of said comparator circuit means,
(g) first gate circuit means coupled to said first directional radio frequency receiving means and to the output of said logic network for passing signals received by said first receiving means only when a signal produced by said first comparator is passed by said logic network,
(h) second gate circuit means coupled to said second directional radio frequency receiving means and to the output of said logic network for passing signals received by said second receiving means only when a signal produced by said second comparator is passed by said logic network,
(i) third comparator circuit means including a plurality of reference voltages, each representing a sector of a circle, the sum of which equals 360°, for producing an output pulse when an output signal from either of said gate circuit means is equal in value to a reference voltage of said third comparator circuit means,
(j) a plurality of output terminals equal in number to that of said plurality of reference voltages,
(k) a second logic network coupled to the output of said first logic network and between the output of said third comparator and said output terminals for passing only the highest valued output from said third comparator to a corresponding output terminal of said plurality of output terminals.

3,344,431
ULTRA-HIGH-FREQUENCY ANTENNA ASSEMBLY
AND PARASITIC ARRAY THEREFOR
Harry Greenberg, Kerhonkson, and Charles C. Y. Liu, Ellenville, N.Y., assignors to Channel Master Corporation, Ellenville, N.Y., a corporation of New York
Filed Aug. 14, 1963, Ser. No. 302,205
31 Claims. (Cl. 343—795)



22. An antenna assembly comprising a horizontal cross-arm, an active element mounted on said cross-arm and a horizontal parasitic director array mounted on said cross-arm forwardly of said active element; said active element comprising a horizontal elongated folded dipole having a front-to-rear dimension at the center thereof tapering toward each end, said parasitic director array comprising an elongated horizontal doubly serrated, unitary conductive structure.

3,344,432 ELAPSED TIME AND COST RECORDERS

Collin Edward Hammond, 19 Hampden Hill,
Beaconsfield, England

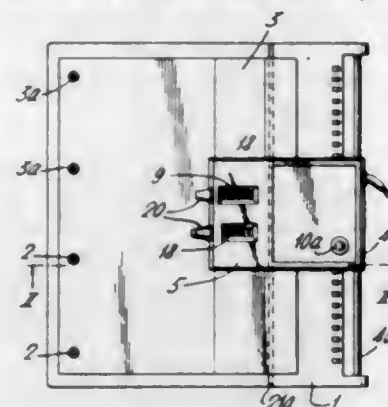
Filed July 20, 1965, Ser. No. 473,372

Claims priority, application Great Britain, July 27, 1964,
29,926/64; May 4, 1965, 18,774/65

6 Claims. (Cl. 346—95)

1. A device for producing a visual record dependent on elapsed time, comprising, a base to support and locate a recording medium in visible position face-up thereon to receive printed indicia, a printing head, a printing counter in the head, fixed-speed electric drive means driving the counter, means making the head movable between an inoperative position clear of a recording medium on the base and an operative position over said base for printing upon a recording medium supported thereon when the

head is depressed onto the medium, and means which senses head position and switches the drive means on and



off on movement of the head respectively to and from the operative position.

DESIGNS

SEPTEMBER 26, 1967

208,687

PUFFED SNACK FOOD PRODUCT

Merle F. Peden, Minneapolis, and La Verne M. Odden, Wayzata, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Oct. 4, 1966, Ser. No. 4,160

Term of patent 14 years
(Cl. D1—11)



208,688

COMBINED HAIR BRUSH AND HAIR LIFTER

Anthony Battaglia, 455 NW. 202nd Terrace,
Miami, Fla. 33169

Filed Oct. 17, 1966, Ser. No. 4,303

Term of patent 14 years
(Cl. D9—2)



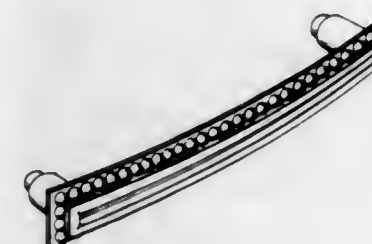
208,689

PULL

John R. Morgan, Wheeling, Ill., assignor, by mesne assignments, to Amerock Corporation, Rockford, Ill., a corporation of Connecticut

Filed July 15, 1966, Ser. No. 3,095

Term of patent 14 years
(Cl. D10—8)



208,690

COMBINED PULL AND ESCUTCHEON PLATE

John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois

Filed Nov. 14, 1966, Ser. No. 4,658

Term of patent 14 years

(Cl. D10—8)



208,691

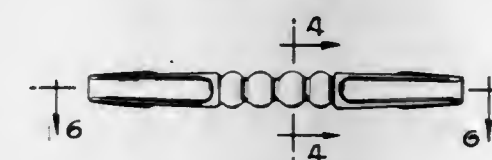
PULL

John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut

Filed Jan. 30, 1967, Ser. No. 5,603

Term of patent 14 years

(Cl. D10—8)



208,692

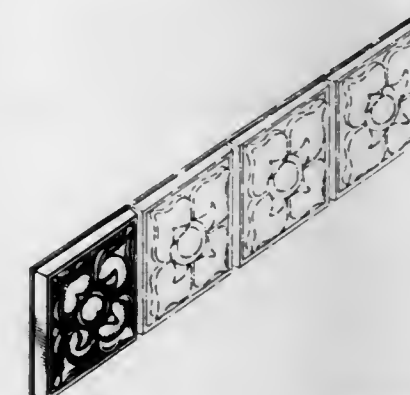
APPLIQUE TYPE PANEL FOR CABINET DOORS OR THE LIKE

John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut

Filed Dec. 19, 1966, Ser. No. 5,076

Term of patent 14 years

(Cl. D13—1)

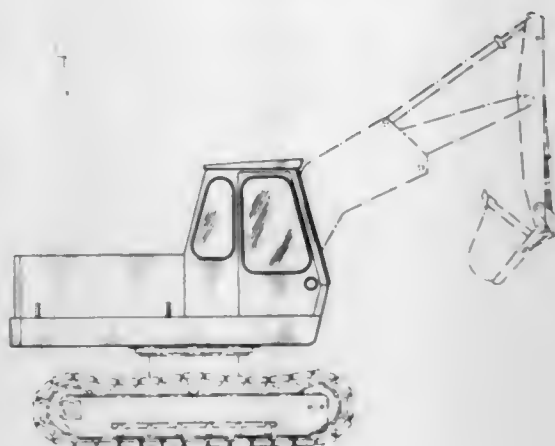


208,693

EARTH MOVING MACHINE

Derek A. Prime, Doveridge, England, assignor to J. C. Bamford (Excavators) Limited, Rocester, England, a British company

Filed Apr. 14, 1966, Ser. No. 1,894
Claims priority, application Great Britain Feb. 24, 1966
Term of patent 14 years
(Cl. D14—3)

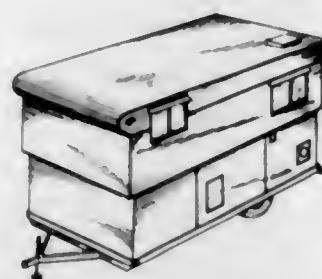


208,695

COLLAPSIBLE TRAILER

Joel J. Bouchard, Littleton, Colo., assignor to Jo Bud Inc., Englewood, Colo., a corporation of Colorado

Filed Oct. 27, 1966, Ser. No. 4,450
Term of patent 14 years
(Cl. D14—3)

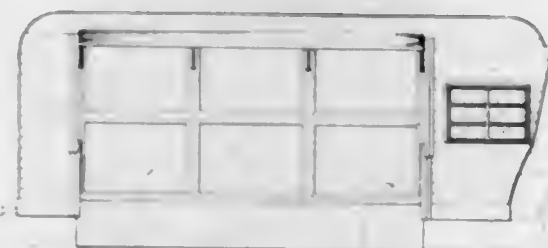
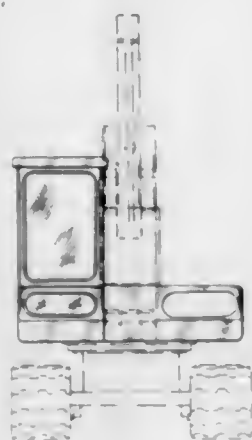


208,696

MOBILE FLOWER SHOP

George A. Rupp, Jr., 1919 Columbus Ave., Bay City, Mich. 48706

Filed Nov. 2, 1966, Ser. No. 4,524
Term of patent 14 years
(Cl. D14—3)

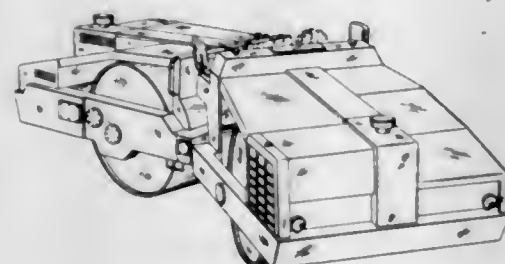
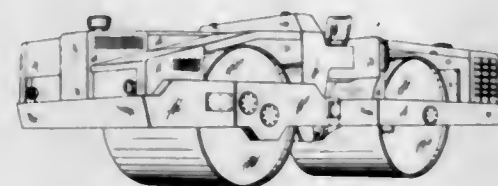


208,694

COMPACTOR VEHICLE

Harland C. Harbke, Portland, Oreg., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada

Filed July 18, 1966, Ser. No. 3,112
Term of patent 14 years
(Cl. D14—3)

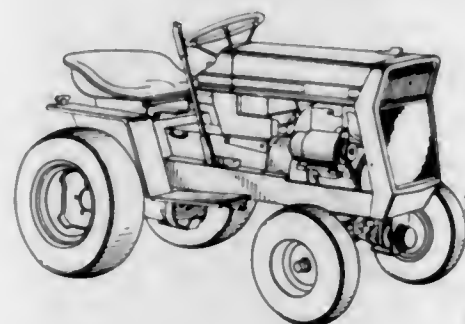


208,697

TRACTOR

Theodore H. Koeber, Barrington, George E. Bowman, Country Club Hills, and Mitchell Edward Kolak, Palatine, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 23, 1967, Ser. No. 6,364
Term of patent 3½ years
(Cl. D14—3)



208,698

CHAISE LOUNGE

Arthur W. Ellsworth, South San Gabriel, and Robert K. Fujlaka, Los Angeles, Calif., assignors to Samsonite Corporation, Denver, Colo., a corporation of Colorado

Filed June 7, 1965, Ser. No. 85,609
Term of patent 14 years
(Cl. D15—1)

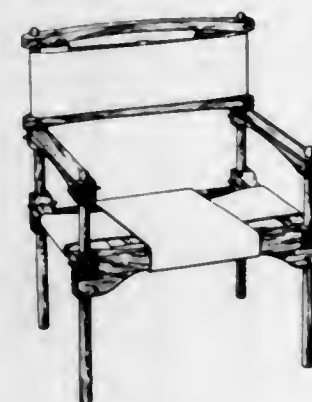


208,699

CHAIR

Don S. Shoemaker, % Senal, S.A., Santa Maria del Guldo, Morelia, Michoacan, Mexico

Filed Dec. 6, 1965, Ser. No. 74
Term of patent 14 years
(Cl. D15—1)



208,700

FISHING LURE

David L. Goforth, 613 W. Kemp Road, Greensboro, N.C. 27410

Filed Dec. 13, 1966, Ser. No. 5,016
Term of patent 14 years
(Cl. D22—28)

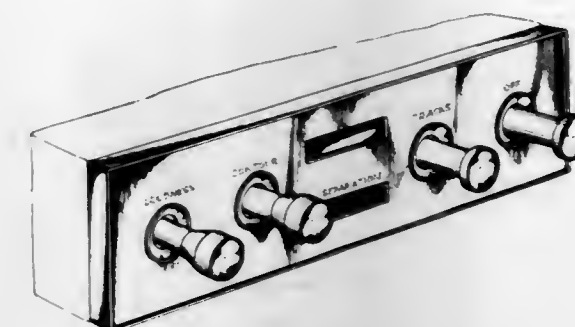


208,701

CONTROL PANEL FOR A MULTI-TRACK TAPE DECK

Rex C. Wilson, Granada Hills, Calif., assignor to Muntz Stereo-Pak, Inc., Van Nuys, Calif., a corporation of California

Filed Sept. 7, 1965, Ser. No. 86,888
Term of patent 14 years
(Cl. D26—14)

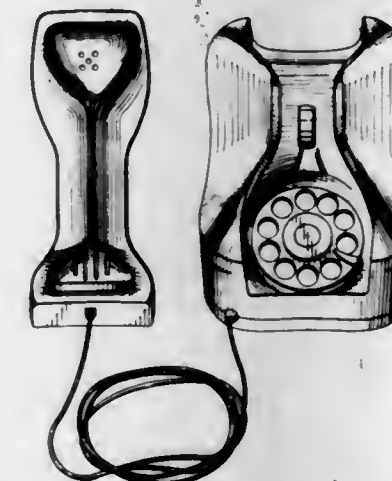


208,702

TELEPHONE SET

Dante Tini, Milan, Italy, assignor to International Standard Electric Corporation

Filed Sept. 16, 1965, Ser. No. 87,022
Claims priority, application Italy Mar. 17, 1965
Term of patent 14 years
(Cl. D26—14)

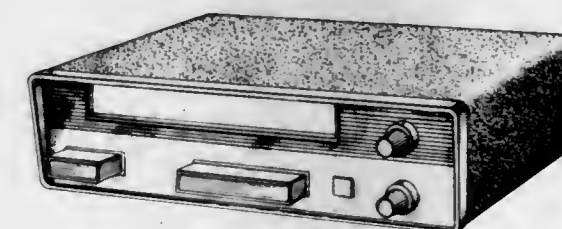


208,703

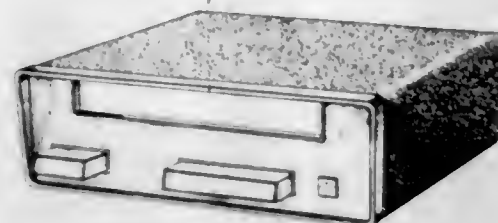
HOUSING FOR A CARTRIDGE MAGNETIC TAPE PLAYER OR SIMILAR ARTICLE

Gerhard Dietrich, Furth, Bavaria, Germany, assignor to Max Grundig, Furth, Bavaria, Germany

Filed Nov. 26, 1965, Ser. No. 88,214
Claims priority, application Germany Aug. 25, 1965
Term of patent 14 years
(Cl. D26—14)



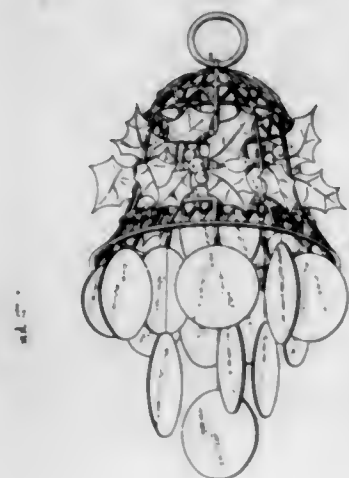
208,704
**HOUSING FOR A CARTRIDGE MAGNETIC TAPE
 PLAYER OR SIMILAR ARTICLE**
 Gerhard Dietrich, Furth, Bavaria, Germany, assignor to
 Max Grundig, Furth, Bavaria, Germany
 Filed Nov. 26, 1965, Ser. No. 88,222
 Claims priority, application Germany Aug. 25, 1965
 Term of patent 14 years
 (Cl. D26—14)



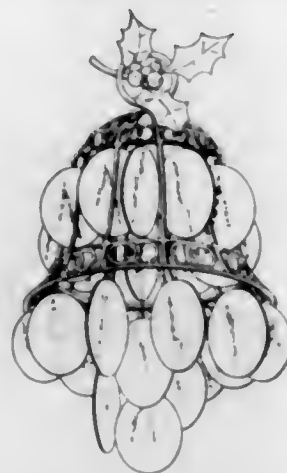
208,705
VIDEO TAPE RECORDER
 Ken Kira, Yokohama, Yoshinori Okumura, Tokyo, and
 Shigeo Takahashi, Yokohama, Japan, assignors to
 Victor Company of Japan Limited, Yokohama, Japan
 Filed June 1, 1966, Ser. No. 2,501
 Claims priority, application Japan Dec. 6, 1965
 Term of patent 14 years
 (Cl. D26—14)



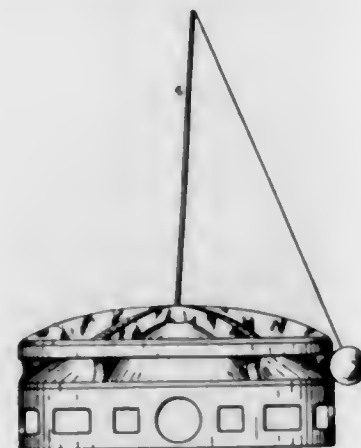
208,706
CHRISTMAS TREE ORNAMENT OR THE LIKE
 Bryan Irlam Barlow, 25 Tite St., London, SW. 3, England
 Filed Aug. 25, 1966, Ser. No. 3,588
 Claims priority, application Great Britain Mar. 11, 1966
 Term of patent 14 years
 (Cl. D29—1)



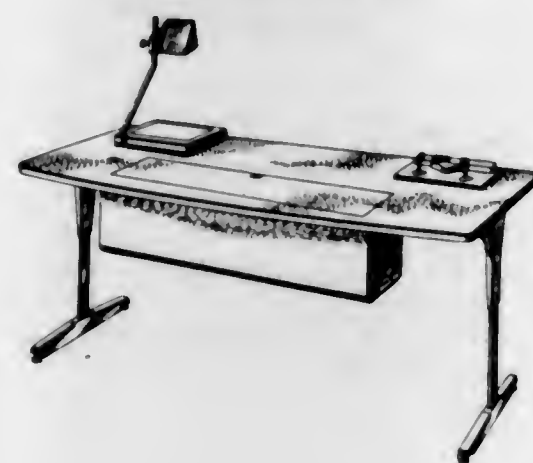
208,707
CHRISTMAS TREE ORNAMENT OR THE LIKE
 Bryan Irlam Barlow, 25 Tite St., London, SW 3, England
 Filed Aug. 25, 1966, Ser. No. 3,589
 Claims priority, application Great Britain Mar. 11, 1966
 Term of patent 14 years
 (Cl. D29—1)



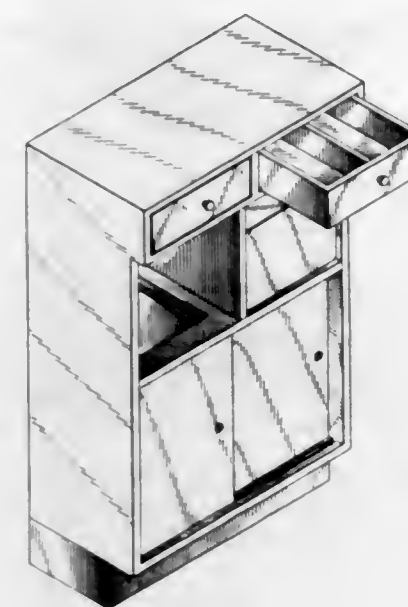
208,708
**COMBINED ANIMAL AMUSEMENT DEVICE
 AND SHELTER**
 Mike Smirnow, 531 Pandora Ave. W., Transcona,
 Manitoba, Canada
 Filed Oct. 6, 1965, Ser. No. 87,341
 Term of patent 3½ years
 (Cl. D30—1)



208,709
CONSOLE TABLE
 Chester J. Barecki, Grand Rapids, Mich., assignor to
 American Seating Company, Grand Rapids, Mich., a
 corporation of Delaware
 Filed June 21, 1966, Ser. No. 2,768
 Term of patent 14 years
 (Cl. D33—14)



208,710
WORK CABINET
 Everett A. Babcock, 204 W. Seaman Ave.,
 Freeport, N.Y. 11520
 Filed Dec. 30, 1965, Ser. No. 397
 Term of patent 14 years
 (Cl. D33—19)



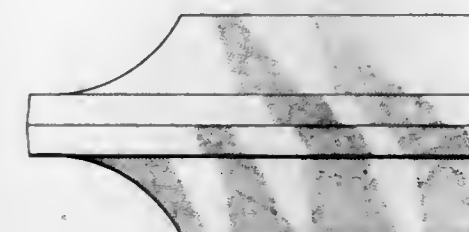
208,711
GOLF TEE
 Raymond R. Ward, North Royalton, Ohio, assignor to
 Golf Specialties, Inc., Brooklyn, Ohio, a corporation
 of Ohio
 Filed Nov. 1, 1966, Ser. No. 4,499
 Term of patent 7 years
 (Cl. D34—5)



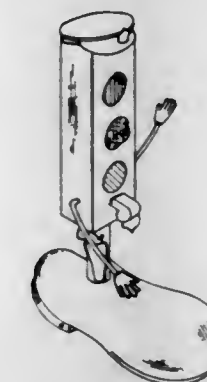
208,712
INFLATED TOY FIGURE
 Irvin J. Gershen, Springfield, N.J., assignor to Johnson &
 Johnson, a corporation of New Jersey
 Filed Feb. 9, 1966, Ser. No. 981
 Term of patent 14 years
 (Cl. D34—15)



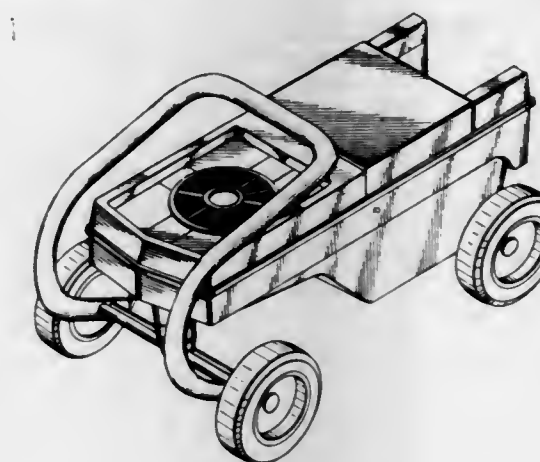
208,713
CASING FOR A TOY PHONOGRAPH
 Karl A. Utrecht, Cincinnati, Ohio, assignor to Kenner
 Products Company, Cincinnati, Ohio, a corporation of
 Delaware
 Filed May 25, 1966, Ser. No. 2,422
 Term of patent 14 years
 (Cl. D34—15)



208,714
MECHANICAL TOY
 Harry J. Chinn, 1709 Pensacola St.,
 Honolulu, Hawaii 96822
 Filed Aug. 15, 1966, Ser. No. 3,475
 Term of patent 14 years
 (Cl. D34—15)

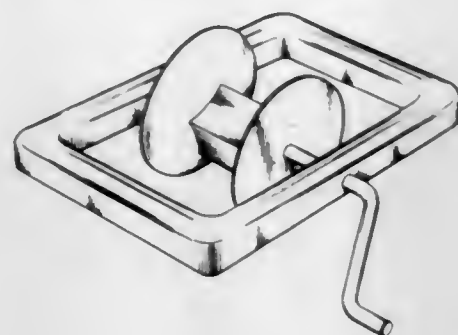


208,715
TOY VEHICLE
 John W. Ryan, Bel Air, and Gerald W. Schmidt, Tarzana,
 Calif., assignors to Mattel, Inc., a corporation of Cali-
 fornia
 Filed Nov. 3, 1966, Ser. No. 4,537
 Term of patent 14 years
 (Cl. D34—15)

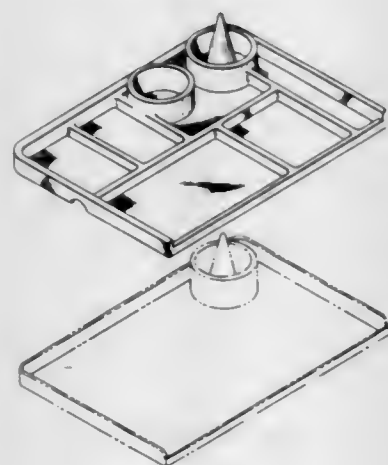


208,716
KITE STRING REEL

Thomas F. Nieman, Denver, Colo., assignor to The Saturn Corporation, Denver, Colo., a corporation of Colorado
Filed July 11, 1966, Ser. No. 3,032
Term of patent 14 years
(Cl. D41-1)



208,717
DISPOSABLE INSERT FOR A TRAY
Robert K. Parish, 3628 Dresher Road, Cornwells Heights, Pa. 19020
Filed Oct. 20, 1966, Ser. No. 4,358
Term of patent 14 years
(Cl. D44-10)

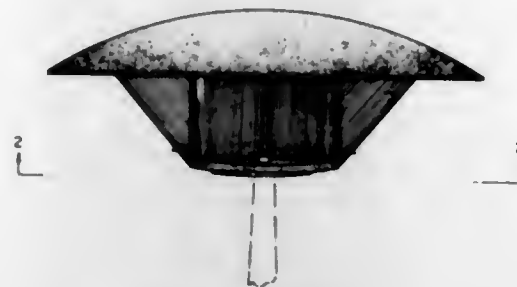


208,718
CONDIMENT SHAKER
Mel Appel, 9 Nottingham Road, Livingston, N.J. 07039, and Martin Schnur, St. Cloud One, West Orange, N.J. 07052
Filed Nov. 23, 1966, Ser. No. 4,793
Term of patent 14 years
(Cl. D44-22)

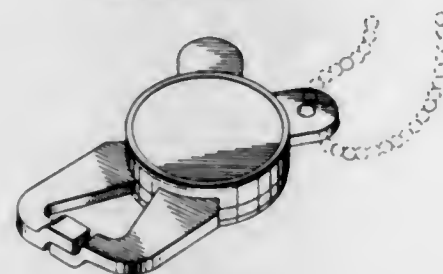


208,719
LIGHTING FIXTURE

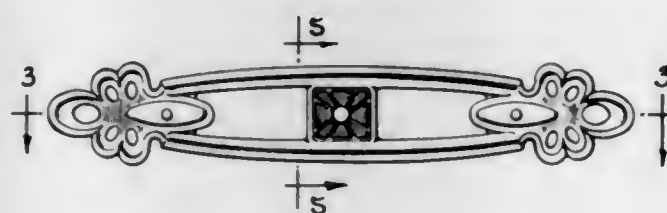
Hendrik A. J. de Vos, Wenham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 5,207
Term of patent 14 years
(Cl. D48-31)



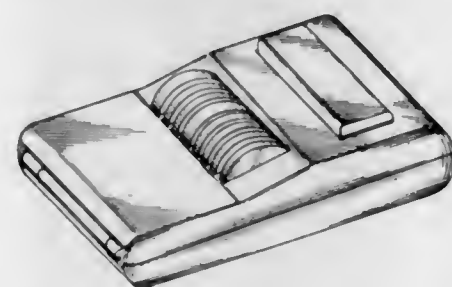
208,720
KEY HOLDER
Norman Burkhardt, Glenhead, N.Y., assignor to Jarco Metal Products Corp., Westbury, N.Y., a corporation of New York
Filed Oct. 3, 1966, Ser. No. 4,151
Term of patent 14 years
(Cl. D50-4)



208,721
BACK PLATE
John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Nov. 23, 1966, Ser. No. 4,779
Term of patent 14 years
(Cl. D50-6)



208,722
TRAVEL EXPENSE RECORDER
Philip M. Tubbs, 78 Gorham St., Canandaigua, N.Y. 14424
Filed Aug. 23, 1966, Ser. No. 3,562
Term of patent 3½ years
(Cl. D52-1)



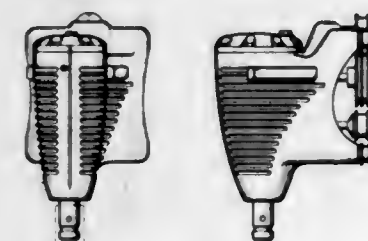
208,723
MULTI-PURPOSE LEVEL
Angelo Michael Cammilleri, 542 Richmond Ave., Buffalo, N.Y. 14222
Filed Apr. 22, 1966, Ser. No. 1,976
Term of patent 3½ years
(Cl. D52-6)



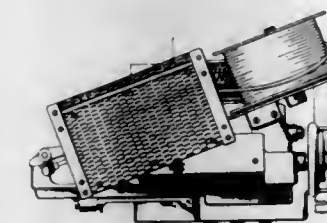
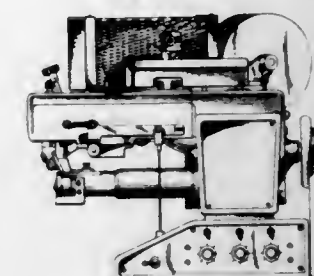
208,724
SPOON OR SIMILAR ARTICLE
Melvin A. Lea, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Apr. 19, 1967, Ser. No. 6,750
Term of patent 14 years
(Cl. D54-12)



208,725
GEAR HOUSING FOR AUGER
John Henry Danuser, %Danuser Machine Co., Fulton, Mo. 65251
Filed Oct. 3, 1966, Ser. No. 4,118
Term of patent 14 years
(Cl. D55-1)



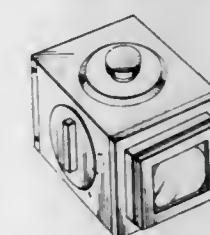
208,726
MACHINE FOR APPLYING REINFORCING MATERIAL TO SHOE UPPERS
Donald J. T. Hamm, Ipswich, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Dec. 20, 1966, Ser. No. 5,127
Term of patent 14 years
(Cl. D55-1)



208,727
MUSICAL INSTRUMENT
Bengt O. I. Brodin, Vastra Frolunda, Sweden, assignor to Joh Mustad a.b., Goteborg, Sweden, a corporation of Sweden
Filed Aug. 13, 1965, Ser. No. 86,567
Claims priority, application Sweden Feb. 15, 1965
Term of patent 14 years
(Cl. D56-9)



208,728
MONOCHROMATOR
J Perry Smith, Hawthorne, and Ulf R. Helgesson, Sherman Oaks, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 750
Term of patent 14 years
(Cl. D57-1)



208,729

REUSABLE BUNDLING STRAP

George Geisinger, Elizabeth, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed Apr. 11, 1966, Ser. No. 1,827
Term of patent 14 years
(Cl. 58—2)

208,730
JUG

Martin Schnur, West Orange, and Mel Appel, Livingston, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 30, 1965, Ser. No. 379
Term of patent 14 years
(Cl. D58—5)



208,731

BOTTLE OR SIMILAR ARTICLE

Robert A. Reinsema, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed Nov. 9, 1965, Ser. No. 88,054
Term of patent 14 years
(Cl. D58—6)

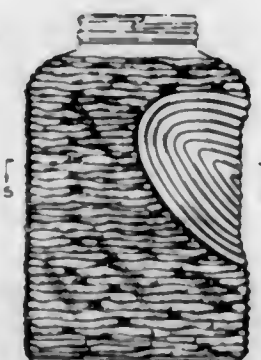


208,732

BOTTLE OR SIMILAR ARTICLE

Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed June 7, 1966, Ser. No. 2,597
Term of patent 14 years
(Cl. D58—6)



208,733

BOTTLE OR THE LIKE

Dean R. Straka, Evansville, Ind., assignor to Mead Johnson and Company, Evansville, Ind., a corporation of Indiana

Filed Oct. 14, 1966, Ser. No. 4,287
Term of patent 14 years
(Cl. D58—6)

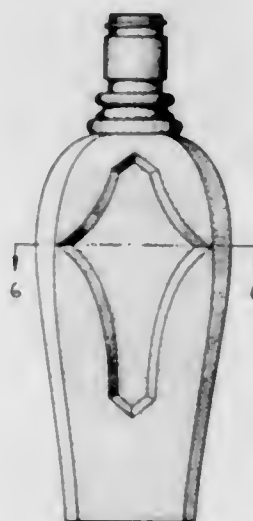


208,734

DECANTER

Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1966, Ser. No. 4,342
Term of patent 14 years
(Cl. D58—6)



208,735

PRESSURIZED DISPENSING CONTAINER

Erwin P. G. Rahn, Pittsford, and Saul A. Babbitt, Henrietta, N.Y., assignors to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware

Filed July 7, 1966, Ser. No. 2,971
Term of patent 14 years
(Cl. D58—17)

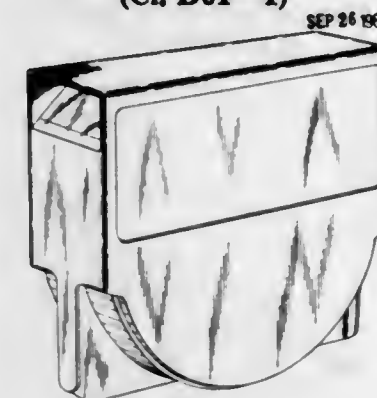


208,736

FILM CARTRIDGE

John J. Van Acker, Chesterland, Ohio, assignor to Vari-typer Corporation, Newark, N.J., a corporation of Delaware

Filed Aug. 30, 1965, Ser. No. 86,761
Term of patent 14 years
(Cl. D61—1)

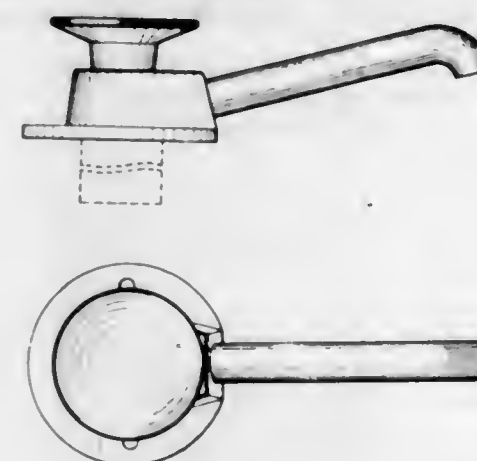


208,737

PUMP

Robert G. Huling, Battle Creek, Mich., assignor to S. H. Leggett Company, Marshall, Mich., a corporation of Michigan

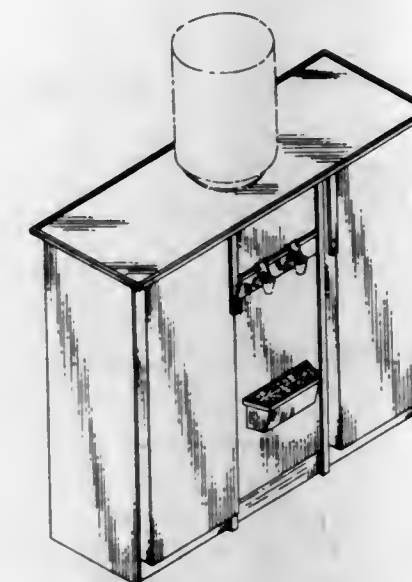
Filed Mar. 7, 1967, Ser. No. 6,106
Term of patent 14 years
(Cl. D65—1)



208,738

COMBINED WATER COOLER AND CABINET
Roger F. Chapin, Jr., Columbus, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania

Filed Nov. 7, 1966, Ser. No. 4,568
Term of patent 14 years
(Cl. D67—4)

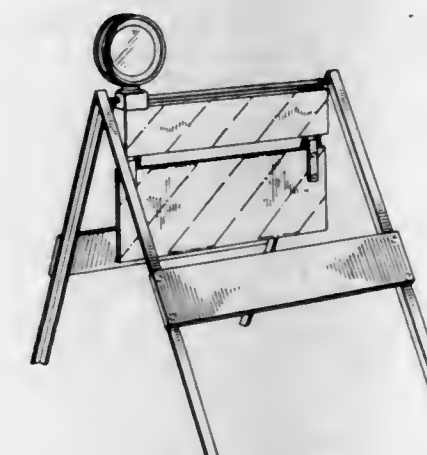


208,739

BARRICADE

Ewing D. Nunn, Jr., 2430 Terrazo Place, Fullerton, Calif. 92632

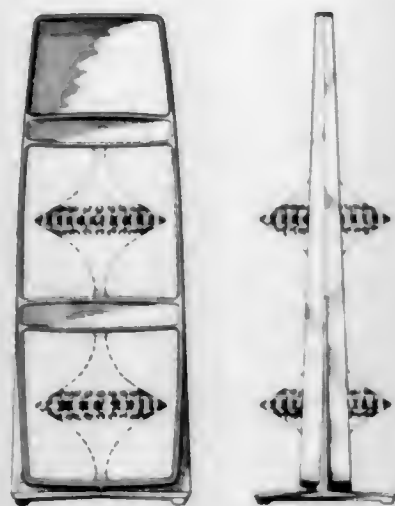
Filed June 6, 1966, Ser. No. 2,569
Term of patent 7 years
(Cl. D72—1)



208,740

FRAME FOR A MERCHANDISING DISPLAY STAND FOR WRITING INSTRUMENTS AND THE LIKE

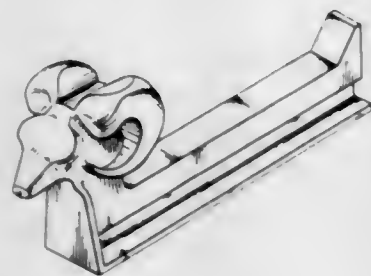
Frank H. Stephens, Jr., Dunwoody, Ga., assignor to Scripto, Inc., a corporation of Georgia
 Filed Oct. 31, 1966, Ser. No. 4,480
 Term of patent 14 years
 (Cl. D80—9)



208,741

FIREPLACE IRON

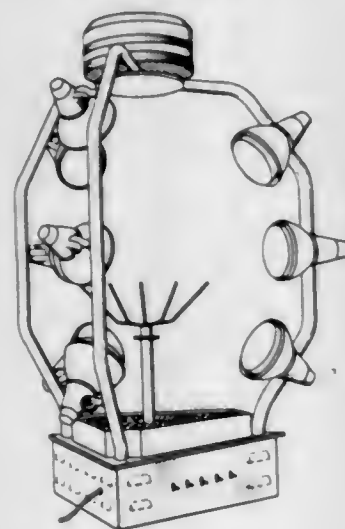
Donald E. Hodge, 7010 Pacific Ave., Olympia, Wash. 98501
 Filed Mar. 31, 1966, Ser. No. 1,711
 Term of patent 14 years
 (Cl. D81—6)



208,742

DISPLAY COOKER

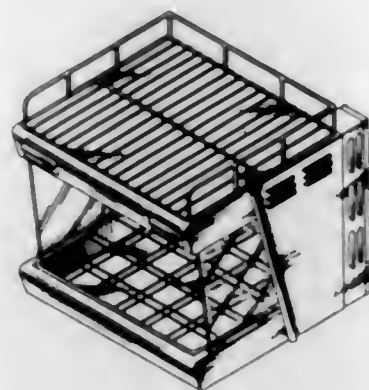
Robert G. Wilson, 643 E. Faris Road, Greenville, S.C. 29605
 Filed Mar. 7, 1966, Ser. No. 1,299
 Term of patent 14 years
 (Cl. D81—10)



208,743

POPCORN WARMER

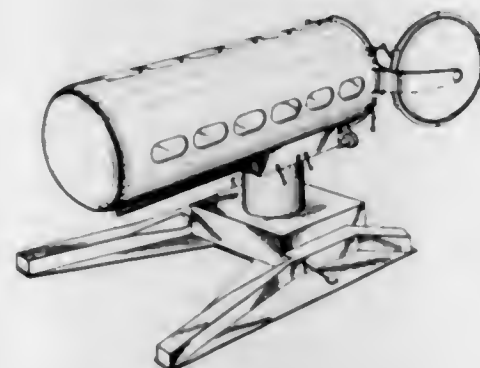
Jerome P. Hellwell, Merion, and Walter W. Freiling, Levittown, Pa., assignors to Star Metal Corporation, Philadelphia, Pa., a corporation of Pennsylvania
 Filed Nov. 23, 1966, Ser. No. 4,788
 Term of patent 14 years
 (Cl. D81—10)



208,744

OXYGEN CHAMBER FOR MEDICAL USE

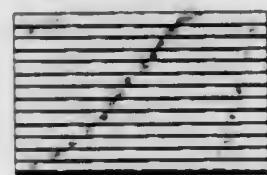
Peter Waine, Stockport, England, assignor to Fairey Engineering Limited, Heston, Middlesex, England, a company of Great Britain
 Filed May 31, 1966, Ser. No. 2,998
 Claims priority, application Great Britain Dec. 1, 1965
 Term of patent 14 years
 (Cl. D83—1)



208,745

SKIN GRAFT CUTTER

Charles C. Hill, Ann Arbor, Mich., assignor to Michigan Research Corporation, Ann Arbor, Mich., a corporation of Michigan
 Filed Dec. 29, 1966, Ser. No. 5,224
 Term of patent 14 years
 (Cl. D83—12)



208,746

REVOLVING VANITY CASE

William D. Taylor, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio

Filed Feb. 3, 1966, Ser. No. 902
 Term of patent 14 years
 (Cl. D86—10)



208,747

ELECTRIC MANICURIST CASE OR SIMILAR ARTICLE

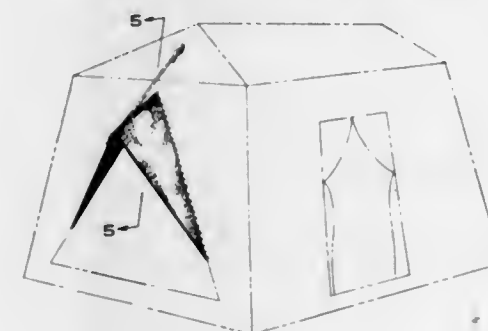
William V. Judson, Westport, Conn., assignor to General Electric Company, a corporation of New York
 Filed May 12, 1966, Ser. No. 2,271
 Term of patent 3½ years
 (Cl. D86—10)



208,748

TENT

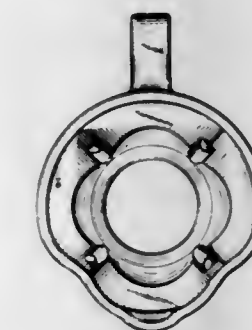
Arthur J. Kirkham, 5534 Avalon Drive, Murray, Utah 84107
 Filed June 27, 1966, Ser. No. 2,831
 Term of patent 14 years
 (Cl. D88—3)



208,749

MIXER JAR

Jack Slotnik, 265 S. Maple Drive, Beverly Hills, Calif. 90212
 Filed Nov. 3, 1966, Ser. No. 4,532
 Term of patent 14 years
 (Cl. D89—1)



208,750

TIRE

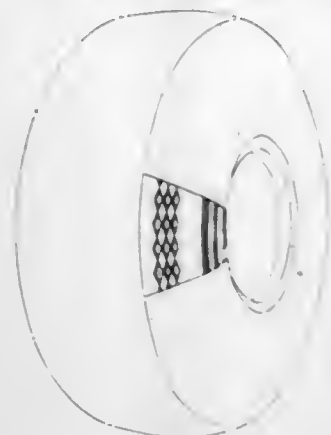
Charles C. Custer, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
 Filed Mar. 2, 1966, Ser. No. 1,261
 Term of patent 14 years
 (Cl. D90—20)



**208,751
TIRE**

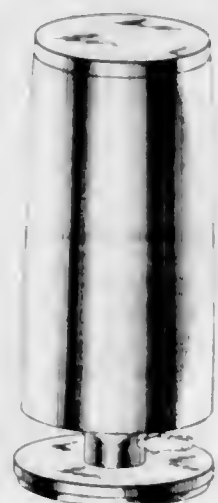
Aristides Makris, Plainfield, N.J., assignor to The B.F. of New York

Filed July 20, 1966, Ser. No. 3,147
Term of patent 14 years
(Cl. D90—20)

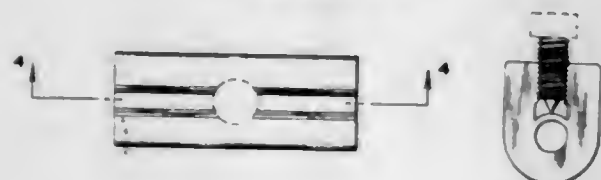
**208,752****FILTER FOR FLUIDS**

George Payne, Bedford Hills, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed May 4, 1966, Ser. No. 2,155
Term of patent 14 years
(Cl. D91—1)

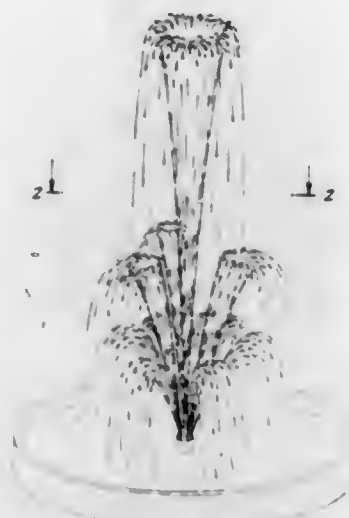
**208,753****PINCH VALVE FOR FLEXIBLE TUBING AND THE LIKE**

Byron V. Curry, Los Angeles, Calif.
(6 W. Orange Grove, Arcadia, Calif. 91006)
Filed June 24, 1966, Ser. No. 2,804
Term of patent 14 years
(Cl. D91—3)

**208,754****WATER FOUNTAIN**

John O. Hraby, Jr., 1240 Alta Paseo, Burbank, Calif. 91501

Filed July 6, 1962, Ser. No. 70,815
Term of patent 14 years
(Cl. D91—4)

**208,755****WATER FOUNTAIN**

John O. Hraby, Jr., 1240 Alta Paseo, Burbank, Calif. 91501

Filed July 6, 1962, Ser. No. 70,816
Term of patent 14 years
(Cl. D91—4)

**LIST OF REISSUE PATENTEEES**

TO WHOM

PATENTS WERE ISSUED ON THE 26TH DAY OF SEPTEMBER, 1967

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- American Cyanamid Co.: See—
Boothe, James H., and Petisi. Re. 26,271.
Bego, Robert E., W. J. Thomas, and A. N. Voltattorni, to Progress Pattern Co. Blow plate assembly. Re. 26,270, 9-26-67. Cl. 164—200.
Boothe, James H., and J. Petisi, to American Cyanamid Co. Reductive alkylation process. Re. 26,271, 9-26-67. Cl. 260—559.
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Ford, James A., to Kirsch Co. Panel traversing and supporting means. Re. 26,269, 8-26-67. Cl. 160—346.
Kennedy, Ted, Jr., to The Trenton Corp. Pipe wrapping. Re. 26,273, 9-26-67. Cl. 138—144.
Keskitalo, Howard O., to Caterpillar Tractor Co. Vehicle mounted loader. Re. 26,268, 9-26-67. Cl. 214—768.
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Schreiber, George: See—
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Schreiber, Joseph and G. Locking mechanisms. Re. 26,272.
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Barlow, Bryan I. Christmas tree ornament or the like. 208,707, 9-26-67. Cl. D29—1.
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Bouchard, Joel J., to Jo Bud, Inc. Collapsible trailer. 208,695, 9-26-67. Cl. D14—3.
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Brodin, Bengt O. L., to Joh. Mustad, A/B. Musical instrument. 208,727, 9-26-67. Cl. D56—9.
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Cammilleri, Angelo M. Multi-purpose level. 208,723, 9-26-67. Cl. D52—6.
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Chinn, Harry J. Mechanical toy. 208,714, 9-26-67. Cl. D34—15.
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Dietrich, Gerhard, to M. Grundig. Housing for a cartridge magnetic tape player or similar article. 208,704, 9-26-67. Cl. D26—14.
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Ellsworth, Arthur W., and R. K. Fujiocka, to Samsonite Corp. Chaise longue. 208,698, 9-26-67. Cl. D15—1.
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Harbke, Harland C., to Hyster Co. Compactor vehicle. 208,694, 9-26-67. Cl. D14—3.
Heilwell, Jerome P., and W. W. Freiling, to Star Metal Corp. Popcorn warmer. 208,743, 9-26-67. Cl. D81—0.
Helgesson, Ulf R.: See—
Smith, J. Perry, and Helgesson. 208,728.
Hill, Charles C., to Michigan Research Corp. Skin graft cutter. 208,745, 9-26-67. Cl. D83—12.
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Hraby, John O., Jr. Water fountain. 208,755, 9-26-67. Cl. D91—4.
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 Morgan, John R., to Amerock Corp. Combined pull and escutcheon plate. 208,690, 9-26-67, Cl. D10-8.
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 Mustad, Joh.: See—
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 Prime, Derek A., to Bamford, J. C. (Excavators), Ltd. Earth moving machine. 208,693, 9-26-67, Cl. D14-3.
 Rahn, Erwin P. G., and S. A. Babbitt, to Wallace & Tiernan Inc. Pressurized dispensing container. 208,735, 9-26-67, Cl. D58-17.
 Reintsema, Robert A., to Anchor Hocking Glass Corp. Bottle or similar article. 208,731, 9-26-67, Cl. D58-6.
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 Smith, J. Perry, and U. R. Helgesson, to TRW Inc. Monochromator. 208,728, 9-26-67, Cl. D57-1.
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 Star Metal Corp.: See—
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 Stephens, Frank H., Jr., to Scripto, Inc. Frame for a merchandising display stand for writing instruments and the like. 208,740, 9-26-67, Cl. D80-9.
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 TRW Inc.: See—
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 Takahashi, Shigeo: See—
 Kira, Ken, Okumura, and Takahashi. 208,705.
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 Ward, Raymond R., to Golf Specialties, Inc. Golf tee. 208,711, 9-26-67, Cl. D34-5.
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 Wilson, Robert G. Display cooker. 208,742, 9-26-67, Cl. D81-10.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 26TH DAY OF SEPTEMBER, 1967

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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100	: 3,344,236	210-15	: 3,344,061	238-10	: 3,343,793	2.3	: 3,344,091	586	: 3,344,191	305-10	: 3,343,888
100.2	: 3,344,237	23	: 3,344,062	239-101	: 3,343,794	2.5	: 3,344,092	587	: 3,344,192	307-66	: 3,344,282
	: 3,344,238	90	: 3,343,676	152	: 3,343,795		: 3,344,093	601	: 3,344,193	88.5	: 3,344,283
100.3	: 3,344,239	151	: 3,343,677	201	: 3,343,796	5	: 3,344,094	610	: 3,344,194		: 3,344,284
	: 3,344,240	182	: 3,343,678	355	: 3,343,797	9	: 3,344,095	611	: 3,344,195		: 3,344,285
175.2	: 3,344,241	222	: 3,343,679	533	: 3,343,798	18	: 3,344,096	635	: 3,344,196		: 3,344,286
180-1	: 3,343,618	263	: 3,343,680	568	: 3,343,799	21	: 3,344,097	658	: 3,344,197		: 3,344,287
9.2	: 3,343,619	343	: 3,343,681	240-7.5	: 3,344,264	22	: 3,344,098	666	: 3,344,198		: 3,344,288
23	: 3,343,620	477	: 3,343,682	8.3	: 3,344,265	23.7	: 3,344,099		: 3,344,199	141	: 3,344,289
74	: 3,343,621	211-89	: 3,343,683	11	: 3,344,266		: 3,344,100	667	: 3,344,200	308-4	: 3,343,890
82	: 3,343,622		: 3,343,684	59	: 3,344,267	28.5	: 3,344,101	669	: 3,344,201	29	: 3,343,892
	: 3,343,623	148	: 3,343,685	106	: 3,344,268	29.6	: 3,344,102	677	: 3,344,202	36.1	: 3,343,893
102	: 3,343,624	212-66	: 3,343,686	108	: 3,344,269	29.7	: 3,344,103	678	: 3,344,203	121	: 3,343,894
114	: 3,343,625	214-1	: 3,343,687	144	: 3,344,270	32.8	: 3,344,104	680	: 3,344,204	187.2	: 3,343,895
181-5	: 3,343,626	2	: 3,343,688	147	: 3,344,271	33.6	: 3,344,105	680	: 3,344,205	196	: 3,343,896
	: 3,343,627	6	: 3,343,689	241-47	: 3,343,800	37	: 3,344,106	684	: 3,344,206	310-3	: 3,344,289
24	: 3,343,628		: 3,343,690	242-3	: 3,343,751		: 3,344,107	697	: 3,344,207	21	: 3,344,290
52	: 3,343,629	7	: 3,343,691	9	: 3,343,752	45.7	: 3,344,112	261-1	: 3,343,819	50	: 3,344,291
182-209	: 3,343,630	16.4	: 3,343,692	18	: 3,343,753	45.8	: 3,344,109	23	: 3,343,820	76	: 3,344,292
230	: 3,343,631		: 3,343,695	26.1	: 3,343,754	45.85	: 3,344,113	112	: 3,343,821	81	: 3,344,293
188-72	: 3,343,632	138	: 3,343,693	26.3	: 3,343,755	45.9	: 3,344,110	118	: 3,343,822	191	: 3,344,294
78	: 3,343,633	152	: 3,343,694	35.6	: 3,343,756	46.5	: 3,344,111	263-28	: 3,343,823	211	: 3,344,295
190-58	: 3,343,634	450	: 3,343,696	55.12	: 3,343,757	47	: 3,344,108	33	: 3,343,824	260	: 3,344,296
192-21.5	: 3,343,635	768	: Re.26,268		: 3,343,758		: 3,344,114	264-5	: 3,344,208		: 3,344,297
84	: 3,343,636	215-9	: 3,343,697	55.19	: 3,343,759		: 3,344,115		: 3,344,209	312-7	: 3,343,896
105	: 3,343,637	31	: 3,343,698	58.6	: 3,343,760		: 3,344,116		: 3,344,211	31	: 3,343,897
193-36	: 3,343,639	38	: 3,343,699	75.5	: 3,343,761		: 3,344,117	3	: 3,344,210	60	: 3,343,898
194-4	: 3,343,638	41	: 3,343,700	78.6	: 3,343,762	51	: 3,344,118	37	: 3,344,212	111	: 3,343,899
	: 3,343,640	52	: 3,343,701	107.4	: 3,343,763	67	: 3,344,119	39	: 3,344,213	140.1	: 3,343,900
10	: 3,343,641	217-26.5	: 3,343,702		: 3,343,764	73	: 3,344,120	41	: 3,344,214	235	: 3,343,901
195-49	: 3,344,037	219-10.81	: 3,344,254		: 3,343,765	75	: 3,344,121	53	: 3,344,215	238	: 3,343,902
51	: 3,344,038	69	: 3,344,255	244-3.23	: 3,343,766	78.5	: 3,344,122	93	: 3,344,216	285	: 3,343,903
197-18	: 3,343,642	121	: 3,344,256	3.27	: 3,343,767	79.3	: 3,344,123	121	: 3,344,217	319	: 3,343,904
189	: 3,343,643	374	: 3,344,257	130	: 3,343,768		: 3,344,124	176	: 3,344,218	313-57	: 3,344,298
198-1	: 3,343,644	220-1	: 3,343,703	152	: 3,343,769	79.5	: 3,344,125	183	: 3,344,219	61	: 3,344,299
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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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PATENTS

1 : 3,343,382	6 : 3,343,512	6 : 3,344,243	9 : 3,343,610	12 : 3,344,061	17 : 3,343,772
3,343,383	3,343,519	3,344,253	3,343,666	3,344,225	3,343,784
3,343,414	3,343,557	3,344,258	3,343,679	3,344,250	3,343,791
3,343,507	3,343,562	3,344,276	3,343,715	3,344,264	3,343,834
3,343,836	3,343,581	3,344,278	3,343,788	3,344,421	3,343,837
3,343,980	3,343,582	3,344,279	3,343,799	3,343,236	3,343,853
3,344,143	3,343,588	3,344,280	3,343,854	3,343,265	3,343,858
3,344,224	3,343,589	3,344,283	3,343,885	3,343,650	3,343,861
4 : 3,343,179	3,343,601	3,344,289	3,343,890	3,343,660	3,343,876
3,343,878	3,343,608	3,344,300	3,343,952	3,343,774	3,343,882
3,344,249	3,343,609	3,344,306	3,343,955	3,343,973	3,343,887
5 : 3,343,296	3,343,657	3,344,308	3,343,964	3,344,079	3,343,894
3,343,866	3,343,669	3,344,322	3,343,989	3,344,277	3,343,902
6 : 3,343,178	3,343,673	3,344,330	3,344,022	3,343,183	3,343,904
3,343,196	3,343,684	3,344,334	3,344,138	3,343,198	3,343,919
3,343,202	3,343,689	3,344,342	3,344,148	3,343,199	3,343,924
3,343,205	3,343,695	3,344,345	3,344,182	3,343,220	3,343,926
3,343,217	3,343,696	3,344,350	3,344,238	3,343,257	3,343,929
3,343,226	3,343,701	3,344,377	3,344,245	3,343,262	3,343,933
3,343,247	3,343,720	3,344,378	3,344,290	3,343,268	3,343,938
3,343,250	3,343,727	3,344,394	3,344,408	3,343,392	3,343,941
3,343,264	3,343,735	3,344,401	3,343,241	3,343,450	3,343,957
3,343,287	3,343,764	3,344,402	3,343,380	3,343,473	3,343,966
3,343,288	3,343,766	3,344,403	3,343,901	3,343,494	3,344,008
3,343,290	3,343,780	3,344,409	3,343,943	3,343,503	3,344,059
3,343,301	3,343,781	3,344,412	3,344,004	3,343,506	3,344,060
3,343,313	3,343,808	3,344,413	3,344,014	3,343,510	3,344,110
3,343,314	3,343,813	3,344,416	3,344,064	3,343,530	3,344,204
3,343,316	3,343,810	3,344,419	3,344,108	3,343,533	3,344,216
3,343,336	3,343,828	3,344,430	3,344,135	3,343,537	3,344,239
3,343,366	3,343,842	8 : 3,343,267	3,344,141	3,343,540	3,344,242
3,343,384	3,343,870	3,343,278	3,343,281	3,343,541	3,344,247
3,343,387	3,343,891	3,343,348	3,343,863	3,343,542	3,344,251
3,343,389	3,343,898	3,343,369	3,344,340	3,343,551	3,344,252
3,343,399	3,343,907	3,343,454	3,344,425	3,343,566	3,344,270
3,343,400	3,343,915	3,343,501	3,343,201	3,343,576	3,344,301
3,343,404	3,343,976	3,343,597	3,343,364	3,343,596	3,344,307
3,343,416	3,343,997	3,343,744	3,343,543	3,343,651	3,344,313
3,343,417	3,344,040	3,343,771	3,343,548	3,343,661	3,344,327
3,343,419	3,344,056	3,344,209	3,343,577	3,343,662	3,344,341
3,343,432	3,344,057	3,344,417	3,343,683	3,343,667	3,344,355
3,343,443	3,344,083	9 : 3,343,184	3,343,688	3,343,686	3,344,373
3,343,445	3,344,175	3,343,231	3,343,693	3,343,699	3,344,384
3,343,453	3,344,200	3,343,309	3,343,746	3,343,711	3,344,398
3,343,470	3,344,205	3,343,310	3,343,753	3,343,718	Re. 26,268
3,343,471	3,344,213	3,343,327	3,343,838	3,343,719	18 : 3,343,218
3,343,483	3,344,214	3,343,515	3,343,840	3,343,728	3,343,312
3,343,486	3,344,231	3,343,516	3,343,864	3,343,731	3,343,362
3,343,489	3,344,235	3,343,536	3,343,869	3,343,733	3,343,418
3,343,491	3,344,237	3,343,567	3,343,982	3,343,759	3,343,469

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3,343,637	3,343,998	3,343,848	3,344,312	3,344,376	3,344,128
3,343,736	3,344,086	3,343,888	3,344,319	3,344,387	3,344,202
3,343,785	3,344,099	3,343,921	3,344,343	3,344,399	3,344,206
3,343,839	3,344,116	3,343,963	3,344,348	3,344,405	3,344,395
3,343,961	3,344,173	3,344,054	3,344,349	3,344,406	3,344,396
3,344,003	3,344,222	3,344,073	3,344,365	3,344,410	41 : 3,343,375
3,344,067	3,344,227	3,344,089	3,344,366	3,344,428	3,343,680
3,344,130	3,344,229	3,344,302	3,344,372	3,344,431	3,343,702
3,344,177	3,344,233	3,344,314	3,344,374	3,344,437	3,343,739
3,344,256	3,344,254	3,344,332	3,344,391	3,343,356	3,343,847
3,344,292	3,344,259	3,344,346	3,344,414	3,343,363	3,343,862
3,344,305	3,344,273	3,344,362	3,344,415	3,343,440	3,344,285
3,344,320	3,344,288	3,344,411	Re. 26,271	3,343,638	42 : 3,343,193
3,344,353	3,344,291	3,344,423	3,343,674	3,343,732	3,343,232
3,344,422	3,344,364	3,343,286	3,343,775	3,343,775	3,343,234
19 : 3,343,347	3,344,370	3,343,849	3,343,176	3,344,074	3,343,261
3,343,528	3,344,371	3,343,222	3,343,185	3,344,102	3,343,276
3,343,531	3,344,383	3,343,319	3,343,211	3,344,127	3,343,294
3,343,612	3,344,404	3,343,425	3,343,230	3,344,310	3,343,340
3,343,726	3,344,420	3,343,599	3,343,235	3,344,311	3,343,391
3,343,939	3,344,426	3,343,886	3,343,256	3,343,517	3,343,395
3,343,962	3,343,204	3,343,909	3,343,289	3,343,181	3,343,398
20 : 3,343,311	3,343,216	3,343,918	3,343,298	3,343,190	3,343,410
3,343,434	3,343,227	3,344,021	3,343,308	3,343,197	3,343,430
3,343,568	3,343,228	3,344,027	3,343,322	3,343,212	3,343,447
3,343,586	3,343,229	3,344,077	3,343,324	3,343,251	3,343,455
3,343,623	3,343,263	3,344,107	3,343,326	3,343,325	3,343,487
3,343,690	3,343,266	3,344,112	3,343,344	3,343,357	3,343,524
3,343,818	3,343,269	3,344,161	3,343,388	3,343,350	3,343,535
3,344,257	3,343,270	3,344,174	3,343,433	3,343,351	3,343,571
21 : 3,343,386	3,343,272	3,344,220	3,343,438	3,343,352	3,343,630
3,343,462	3,343,303	3,344,271	3,343,467	3,343,353	3,343,634
3,344,050	3,343,321	3,344,382	3,343,481	3,343,354	3,343,654
3,344,189	3,343,329	3,343,743	3,343,485	3,343,355	3,343,670
3,344,261	3,343,342	3,343,451	3,343,492	3,343,373	3,343,687
22 : 3,343,180	3,343,343	3,343,451	3,343,508	3,343,393	3,343,750
3,343,249	3,343,367	3,343,776	3,343,509	3,343,435	3,343,783
3,343,371	3,343,423	3,343,776	3,343,529	3,343,449	3,343,816
3,343,466	3,343,429	3,343,460	3,343,545	3,343,476	3,343,824
3,343,493	3,343,472	3,343,472	3,343,549	3,343,480	3,343,827
3,343,913	3,343,482	3,343,245	3,343,554	3,343,490	3,343,830
3,344,048	3,343,498	3,343,277	3,343,563	3,343,502	3,343,895
3,344,191	3,343,527	3,343,306	3,343,569	3,343,514	3,343,905
23 : 3,343,521	3,343,527	3,343,318	3,343,592	3,343,525	3,343,906
24 : 3,343,182	3,343,631	3,343,332	3,343,618	3,343,564	3,343,930
3,343,195	3,343,632	3,343,333	3,343,640	3,343,574	3,343,940
3,343,255	3,343,633	3,343,345	3,343,665	3,343,580	3,343,968
3,343,279	3,343,645	3,343,394	3,343,685	3,343,595	3,343,985
3,343,376	3,343,656	3,343,488	3,343,698	3,343,643	3,344,000
3,343,439	3,343,658	3,343,505	3,343,703	3,343,648	3,344,005
3,343,511	3,343,675	3,343,520	3,343,705	3,343,649	3,344,016
3,343,513	3,343,681	3,343,523	3,343,707	3,343,663	3,344,017
3,343,556	3,343,682	3,343,534	3,343,708	3,343,706	3,344,030
3,343,611	3,343,697	3,343,553	3,343,709	3,343,713	3,344,039
3,343,629	3,343,712	3,343,625	3,343,721	3,343,722	3,344,045
3,343,655	3,343,734	3,343,627	3,343,725	3,343,737	3,344,046
3,343,671	3,343,782	3,343,740	3,343,729	3,343,749	3,344,047
3,343,716	3,343,796	3,343,748	3,343,758	3,343,751	3,344,052
3,343,790	3,343,798	3,343,773	3,343,778	3,343,779	3,344,092
3,343,871	3,343,819	3,343,792	3,343,789	3,343,811	3,344,126
3,343,892	3,343,820	3,343,826	3,343,817	3,343,867	3,344,136
3,343,931	3,343,841	3,343,916	3,343,835	3,343,911	3,344,139
3,343,934	3,343,855	3,343,923	3,343,843	3,343,935	3,344,140
3,343,983	3,343,856	3,343,956	3,343,851	3,343,937	3,344,152
3,343,992	3,343,857	3,343,969	3,343,868	3,343,949	3,344,207
3,344,185	3,343,865	3,343,970	3,343,893	3,343,951	3,344,212
3,344,248	3,343,875	3,343,971	3,343,899	3,343,954	3,344,221
3,344,262	3,343,877	3,343,975	3,343,903	3,343,965	3,344,265
3,344,272	3,343,927	3,343,978	3,343,928	3,343,977	3,344,267
3,344,318	3,343,984	3,344,015	3,343,996	3,343,996	3,344,316
3,344,337	3,343,986	3,344,018	3,343,997	3,344,010	3,344,325
3,344,356	3,343,995	3,344,019	3,343,988	3,344,069	3,344,359
3,344,379	3,344,053	3,344,023	3,344,007	3,344,100	3,344,375

48 : 3,343,431	48 : 3,343,742	48 : 3,344,407	51 : 3,343,760	53 : 3,343,349	55 : 3,343,552
3,343,461	3,343,812	3,343,412	3,343,831	3,343,555	3,343,565
3,343,484	3,343,821	3,343,613	3,343,942	3,343,912	3,343,578
3,343,544	3,343,822	3,343,900	3,343,945	3,343,914	3,343,691
3,343,561	3,343,972	50 : 3,343,616	3,344,145	3,344,122	3,343,768
3,343,575	3,344,042	51 : 3,343,246	3,344,210	54 : 3,343,283	3,343,807
3,343,583	3,344,051	3,343,252	3,344,260	3,344,134	3,343,884
3,343,587	3,344,055	3,343,317	3,344,281	55 : 3,343,274	3,343,991
3,343,603	3,344,071	3,343,331	3,344,328	3,343,304	3,344,118
3,343,605	3,344,084	3,343,422	3,344,335	3,343,411	3,344,282
3,343,606	3,344,085	3,343,436	53 : 3,343,239	3,343,428	3,344,326
3,343,607	3,344,095	3,343,465	3,343,291	3,343,444	3,344,339
3,343,615	3,344,162	3,343,500	3,343,335	3,343,459	3,344,427
3,343,704	3,344,197				

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208,728	13 : 208,740	26 : 208,726	208,751	39 : 208,711	42 : 208,717
208,739	15 : 208,714	26 : 208,696	36 : 208,710	208,713	208,743
208,749	17 : 208,689	208,709	208,720	208,731	45 : 208,742
208,753	208,690	208,737	208,722	208,732	49 : 208,748
208,754	208,691	208,745	208,723	208,736	53 : 208,741
208,755	208,692	27 : 208,687	208,724	208,738	54 : 208,729
8 : 208,695	208,697	29 : 208,725	208,734		

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

September 26, 1967

Volume 842

Number 4

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel the registration identified below having been filed, and the notice of such proceedings sent by registered mail to registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrant listed herein, his assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Tiger Tractor Corporation, Keyser, W. Va., Reg. No. 615,324, Canc. No. 8817.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 308,808 (BEMBERG), American Bemberg Corporation, Knitted, netted, and textile fabrics composed solely or in part of filaments of artificial origin; **Reg. No. 634,410 (BEMBERG PRE-SHRUNK)**, Beaunit Mills, Inc., Woven, knitted, netted, textile, and pile fabrics in the piece, comprised of rayon, or in substantial part of rayon, combined with cotton, wool, silk, nylon, and other synthetic fibers; **Reg. No. 709,117 (BEMBERG ETC. AND DESIGN)**, same, Rayon yarn, filed May 12, 1967, D.C., S.D.N.Y., Doc. 67-C-1877, *Beaunit Corporation v. J. W. Mays, Inc.* Dismissed on stipulation with prejudice June 29, 1967.

Reg. No. 378,913 (BATMAN), Detective Comics, Inc., Cartoons published in a series, filed June 22, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66-C-587, *National Periodical Pub. Co. v. Masters, Inc.* Order dismissing action, Feb. 9, 1967.

Reg. No. 387,317 (JET), Parfums Corday, Inc., Perfumes, toilet waters, filed June 13, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-826-R, *Parfums Corday, Inc. v. Steven Lewis, doing business as Steven Lewis Co.*

Reg. No. 526,407 (WORLD SERVICE WITH SYMBOL AMERICAN EXPRESS), American Express Company, Travel, shipping, and financial services; said travel services consist of arranging, conducting and supervising trips and tours for individuals separately and in groups and rendering such services as are normally performed by a travel agency; said shipping services consist of forwarding domestic and foreign freight such as merchandise, household effects and baggage and handling of details of customs clearance, consolidation of shipments, booking cargo and steamship space, and placing marine insurance, and rendering such services as are normally performed by a shipping agency; and said financial services consist of issuance, payment and collection of travelers' cheques, foreign and domestic money orders, letters of credit, and unlimited checks, the investigation of loss or forgery thereof, arranging for the transfer of funds by mail, telegraph and cable, the transfer of foreign and domestic monies and the collection of utility bills and rendering such services as are incidental to the performance of the services specifically

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]----- 16,777
Date of oldest new application----- Sept. 2, 1966
Date of oldest amended application (filing date)----- Oct. 2, 1961

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B		9-2-66	10-15-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200		10-25-66	10-2-61
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36		10-3-66	4-16-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107		10-17-66	10-30-64
Renewals (All Classes)		6-30-67	
Sec. 12(c) Publications (All Classes)		7-12-67	

Applications filed during the month of July 1967—2,166

Registrations Issued ----- 415—No. 835,728 to No. 836,142
Renewals Issued ----- 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

mentioned in the foregoing; **Reg. No. 688,103** (REPRESENTATION OF GLADIATOR ON A SHIELD AND AMERICAN EXPRESS), same, Credit card plan for extension of credit to customers who patronize subscribing establishments and making collections from said customers through a central billing system; **Reg. No. 738,813** (AMERICAN EXPRESS CARDS AND SHIELD DESIGN), same, The business of issuing credit cards which enable the card-holder to purchase services and merchandise from participating establishments and to pay applicant for such purchases periodically upon receipt of a statement from applicant, filed Apr. 26, 1967, D.C., C.D. Calif.

(Los Angeles), Doc. 67-606-F, *American Express Co. v. Herbert Heller, doing business as Sherven Co.*

Reg. No. 634,410. (See Reg. No. 308,808.)

Reg. No. 688,103. (See Reg. No. 526,407.)

Reg. No. 709,117. (See Reg. No. 308,808.)

Reg. No. 738,813. (See Reg. No. 526,407.)

Reg. No. 801,497 (ARBY'S ROAST BEEF SANDWICH ETC. AND DESIGN), Arby's, Inc., Restaurant services, filed Mar. 13, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c397, *Arby's Inc., doing business as Arby's Roast Beef Sandwich, Inc. v. Arb's Roast Beef Sandwich, Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 226,670. J. C. Penney Company, New York, N.Y. Filed Aug. 27, 1965. SN 231,123. Herter's Inc., Waseca, Minn. Filed Oct. 22, 1965.

PENNCREST

Owner of Reg. Nos. 774,448, 788,427, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Corn Poppers.
First use Aug. 24, 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Slicing Knives and Food Choppers.
First use Sept. 24, 1964.

Class 31—Filters and Refrigerators

For Ice Cream Freezers.
First use June 25, 1965.

SN 228,386. Mothercare Limited, London, England. Filed Sept. 22, 1965.

Mothercare

Owner of British Reg. Nos. B860,196, dated Feb. 13, 1964, B865,467, dated June 11, 1964, B868,375, dated Aug. 21, 1964, and B871,223, dated Nov. 3, 1964.

Class 19—Vehicles

For Perambulators; Baby Carriages; Go-Carts; Push-Chairs; and Parts and Fittings Therefor.

Class 22—Games, Toys, and Sporting Goods

For Mechanical Toys; Electrical Toys; Toy Animals; Toy Figures; Dolls; Doll Dresses and Accessories for Dolls; Games for Young Children and Babies.

Class 32—Furniture and Upholstery

For Beds; Mattresses; Pillows; All for Use by Young Children and Babies; Play-Pens; Carry Cots; Cribs, Bassinets, Bathinets.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Bed Sheets; Rubberized Sheets; Blankets; Coverlets, All for Use by Young Children and Babies.

Class 51—Cosmetics and Toilet Preparations

For Perfumes; Colognes; Toilet Waters; Toothpastes; Dentifrices; Toilet Preparations—Namely, Face Powders, Hand Lotions, Body Lotions, Baby Oil, Zinc Cream, Castor Oil Cream, Disinfectant Ointments, Petroleum Jelly, Bath Oils, Bath Powders, Bath Salts, Bubble Bath, Depilatories, Hair Sprays, Hair Conditioner, Astringents, and Skin Conditioners.

Class 52—Detergents and Soaps

For Toilet Soaps and Hair Shampoos.

HUDSON BAY

Owner of Reg. Nos. 719,746, 726,933, and 742,842.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pails, Pots for Containing Coffee and Tea; Bed Warming Pans, Tumblers, Steins and Tankards; Cooking Receptacles, Sauce Pans and Mold Receptacles; Containers for Cream and Sugar, Syrup Pitchers, Pitchers for Water and Milk; Salt and Pepper Shakers, Drinking Cups, Water and Wine Glasses and Tankards and Trays All Made of Brass.

Class 32—Furniture and Upholstery

For Small Clothing Receptacles in the Form of Chests.
First use on or about Nov. 1, 1964.

SN 233,787. E-Z Manufacturing Company, Canton, Ohio. Filed Dec. 2, 1965.

E·Z

Owner of Reg. No. 106,418.

Class 5—Adhesives

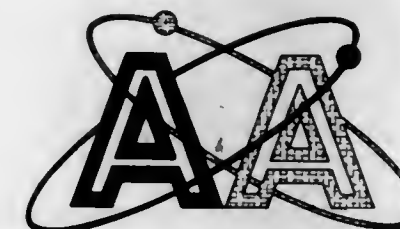
For Cement for Making Tire Repairs.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Tubless Tire Repair Kits and Materials Used in Connection With Such Repairs—Namely, Liquid Pre-Buff Cleaner and Patches for Making Tire Repairs.

First use June 18, 1957.

SN 235,476. Ablestik Adhesive Company, Gardena, Calif. Filed Dec. 29, 1965.



The drawing is lined for the color gold.

Class 1—Raw or Partly Prepared Materials

For General Purpose Potting Compounds.

Class 5—Adhesives

For Frozen Premixed and Two-Component System Adhesives.

Class 21—Electrical Apparatus, Machines, and Supplies

For Potting Compounds for Electric Insulation Purposes.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Pressure-Operated Dispensing Equipment and Parts Therefor for Dispensing Adhesives and Potting Compounds.

First use on or about July 13, 1965.

SN 236,542. Rutgerawerke und Teerverwertung Aktiengesellschaft, Frankfurt am Main, Germany. Filed Jan. 17, 1966.



Priority claimed under Sec. 44(d) on German application filed Oct. 23, 1965; Reg. No. 813,677, dated Dec. 16, 1965.

Class 1—Raw or Partly Prepared Materials

For Tar, Bitumen, Fluorspar, Asphalt, Foamed Plastics, Synthetic Resins in All Forms and States, Pitch, and Pitch Coke.

Class 4—Abrasives and Polishing Materials

For Resin-Bonded Grinding Wheels and Disks; Resin-Bonded Abrasive Paper and Cloth.

Class 5—Adhesives

For Synthetic resin adhesives for industrial use.

Class 6—Chemicals and Chemical Compositions

For Chemical Intermediates for the Preparation of Medicines; Organic Plasticizers, Air-Entraining Agents for Producing Porosity in Concrete, Agents for Accelerating and Retarding Setting of Cement and Concrete, Organic Solvents, Impregnating Agents, Fire-Extinguishing Agents, Pesticides and Herbicides, Antioxidants, Plasticizers and Stabilizers for Synthetic Plastics, Tanning Agents, Anticorrosion Agents, Antiseptic Preserving Agents, Carbon Black, Anthracene, Naphthalene, Phenol Cresols, Xylenols, Pyridene, Picolene, Quinoline and Homologues, Solvent Naphtha, Heavy Benzol, Benzol Wash Oil, Naphthalene Wash Oil, Flotation Oil; Impregnating Oils for Telegraph Poles and Railroad Ties; Creosote Oils, Agents for Sizing; Wood-Impregnating and Preserving Agents; and Anthracene Oil Fractions.

Class 12—Construction Materials

For Wood Veneers, Wood Fiber Plates, Artificial Wood; Mixtures of Bitumen and Synthetic Resins for Adhesive Substances, for Calking and Sealing Purposes; Road Tar, Roofing Paper, Tar Lutes for Clay Tubes, Putty; Insulation Material Consisting of Bitumen With Synthetic Resins; Structural Fabrics, and Insulating Fabrics for Waterproofing; and Portable Floors.

Class 14—Metals and Metal Castings and Forgings

For Sheet Metal.

Class 15—Oils and Greases

For Lubricating Oils, Fuel Oil, and Motor Oil.

Class 16—Protective and Decorative Coatings

For Sealing Compounds and Emulsions Based on Synthetic Resin and Bitumen for Concrete; Synthetic Resin and Bitumen, in Combination or Alone, Used as a Protective Coating Against Atmospheric Influences for Wood, Concrete, Metal, Masonry, and Ceramic Surfaces; Varnish; Lacquers; and Resin-Containing Materials Used as a Base for Paints and Protective Coatings; and Lacquer Composition for Roofs.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fabrics for Industrial Use.

Class 52—Detergents and Soaps

For Cleaners for Non-Metallic Surfaces, Agents for Cleaning and Conserving Leather; Dirt Solvents; and Spot-Removing Agents.

SN 239,280. Kabushiki Kaisha Kobayashi Kose, Chuo-ku, Tokyo, Japan. Filed Feb. 21, 1966.

KOSE

Owner of Japanese Reg. No. 401,313, dated July 30, 1951.

Class 51—Cosmetics and Toilet Preparations

For Cold Cream, Cleansing Cream, Vanishing Cream, Moistening Cream, Make-Up Cream, Nourishing Cream, Acne Cream, Hand Cream, Skin Lotion, Cleansing Lotion, After-Cleansing Lotion, Milk Lotion, Cosmetic Calamine Lotion, Body Lotion, Facial Packs, Make-Up Foundations, Pancake Make-Up, Cream Fills for Compacts, Eye-Liners, Eye Line Pencils, Eye Shadow, Mascara, Eyebrow Pencils, Hair Care Lotion, Cream, Oil, Tonic and Spray; Hair Setting Lotion, Hair Rinses, Including Cream Rinses and Rinse-Away for Dandruff, Face Powder, Talcum Powder, Lipsticks, Brush-On Rouge for Compacts, Nail Polish, Nail Polish Remover, Perfume and Eau de Cologne in Liquid and Cream Form.

Class 52—Detergents and Soaps

For Facial Soap, Facial Soap in Cream Form, and Hair Shampoo in Powder and Liquid Form.

SN 241,955. Air Control, Inc., Norristown, Pa. Filed Mar. 28, 1966.



The mark consists of a fanciful design of the lowercase letters "dc."

Class 26—Measuring and Scientific Appliances

For Portable Chambers Provided With Equipment for Controlling Atmospheric Conditions Therein.

First use September 1965.

Class 32—Furniture and Upholstery

For Storage Cabinets.

First use July 1960.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Hoods, Work Stations and Portable Rooms, All Provided With Equipment for Controlling the Atmosphere in a Work Area.

First use September 1961.

SN 245,447. Levolor Lorentzen, Inc., Hoboken, N.J. Filed May 12, 1966.

FLEX-TAY

Owner of Reg. No. 414,337.

Class 14—Metals and Metal Castings and Forgings

For Sheet-Metal Stock for Venetian Blinds, Which Is Pre-formed Sheet Metal in Long, Narrow Form That the Purchaser Cuts to Length for Use in Venetian Blinds.

First use August 1955.

Class 40—Fancy Goods, Furnishings, and Notions

For Venetian Blind Ladder Material, Which Is Often Referred to as "Ladder Tape" or "Venetian Blind Tape" and Which the Purchaser Cuts to Length for Use in Venetian Blinds.

First use December 1962.

SN 248,560. Valley Institutional Products Company, Decatur, Ala. Filed June 20, 1966.

VIPCO**Class 4—Abrasives and Polishing Materials**

For Bricks for Cleaning Grills, and the Like.

First use at least as early as 1958.

Class 52—Detergents and Soaps

For Grease Cleaners for Cleaning Grills, Fryers, and the Like.

First use at least as early as July 1, 1959.

SN 249,101. The Chemical Rubber Company, Cleveland, Ohio. Filed June 28, 1966.

INTRALON**Class 2—Receptacles**

For Plastic Lined Metal Receptacles—Namely, Utility Bowls, Utility Trays, and Storage Containers.

Class 26—Measuring and Scientific Appliances

For Metal Laboratory Ware—Namely, Graduated Measures, Funnel, and Beakers, at Least a Portion of Which Is Plastic Coated.

First use at least as early as May 27, 1966.

SN 253,812. Bio-Neering, Inc., Indianapolis, Ind. Filed Sept. 6, 1966.

**Class 18—Medicines and Pharmaceutical Preparations**

For Veterinary Medicines.

First use at least as early as May 1, 1964.

Class 44—Dental, Medical, and Surgical Appliances

For Syringes of the Injection Gun Type and Cartridges Therefor.

First use Apr. 29, 1964.

SN 256,332. The West Bend Company, West Bend, Wis. Filed Oct. 13, 1966.



Owner of Reg. Nos. 559,607, 567,784, 595,084, and 635,121.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Aluminum, Copper and Steel Cooking Utensils—Namely, Pots, Pans, Kettles, Skillets, Roasters, Broilers, Griddles, Coffee Makers, Tea Kettles, Egg Poachers, French Fryers, Dutch Ovens, Serving Humidors for Keeping Sandwiches, Cake and Similar Foods Fresh, Pitchers, Tumblers, Corn Poppers, Trays, Bowls, Ring Molds, Colanders, Canisters, and Bakeware.

First use February 1961.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Cooking Utensils—Namely, Electric Roasters, Electric Skillets, Electric Water Heaters, Electric Coffee Makers, Electric Toasters, Electric Corn Poppers, Electric Broilers, Electric Rotisseries, Electric Table Ranges, and Electric Griddles.

First use February 1961.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Humidifiers.

First use September 1963.

SN 258,195. Extracorporeal & Medical Specialties Company, Inc., Medford, N.J. Filed Nov. 8, 1966.

**Class 6—Chemicals and Chemical Compositions**

For Dialysate Chemicals for Use With Artificial Kidney Machines.

Class 44—Dental, Medical, and Surgical Appliances

For Surgical and Medical Appliances and Parts Therefor—Namely, Equipment for Dialysis, Heart and Lungs; Medical Electronic Appliances; and Surgical Tubes and Tourniquets.

First use Oct. 18, 1966.

SN 258,436. Mason Marking Systems Corporation, Norfolk, Va. Filed Nov. 14, 1966.

**Class 11—Inks and Inking Materials**

For Ink.

First use on or about Oct. 24, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Duplicating and Marking Hand Stamps.

First use on or about May 11, 1962.

Class 37—Paper and Stationery

For Stencils.

First use on or about Oct. 24, 1966.

SN 239,689. Cray-Pas Honpo Kabushiki Kaisha Sakura Shokai, Higashinari-ku, Osaka, Japan. Filed Nov. 30, 1966.

Sakura

The Japanese word "Sakura" means "cherry." Owner of Reg. Nos. 693,064 and 710,914.

Class 16—Protective and Decorative Coatings

For Drawing Paints and Water Colors.

Class 37—Paper and Stationery

For Crayons.

First use about Nov. 21, 1964; in commerce on or about Nov. 21, 1965.

SN 260,903. Federal Paper Board Company, Inc., Bogota, N.J. Filed Dec. 16, 1966.



Owner of Reg. No. 178,071.

Class 2—Receptacles

For Folding Cardboard and Paperboard Boxes and Cartons.

Class 37—Paper and Stationery

For Paperboard for Boxing and Wrapping Purposes.

First use 1959.

SN 261,574. Drulane, Inc., New York, N.Y. Filed Dec. 28, 1966.

DRULANE

Class 2—Receptacles

For Napkin Rings, Serving Trays, Plastic Dishes, Hampers, Baskets, Tissue Boxes, Soap Dishes, Bath Canisters, Perfume Trays, Sachet Boxes, Bed Trays, Napkin Holders, Canister Sets for the Kitchen, Cookie Jars, Bread Boxes, Recipe Boxes, Salt and Pepper Shakers, Muffineers, Bread Trays, Ice Buckets, Bar Trays, Coasters, Sweet Dishes, Individual Salad Bowls, Snack Plates, Standing Tray Sets, and Boxed Gifts Containing Any of the Above.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Luncheon Sets, Including Tablecloths and Napkins; Tablecloths, Place Mats, Napkins, Guest Towels, Shower Curtains, Potholders, Kitchen Towels, Cocktail Napkins, and Boxed Gifts Containing Any Combination of the Above.

First use Jan. 2, 1955.

SN 264,362. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Feb. 10, 1967.

CAN-AM

Class 6—Chemicals and Chemical Compositions

For Muriate of Potash.

Class 10—Fertilizers

For Potash Fertilizer.

First use Jan. 17, 1967.

SN 268,918. Columbia Broadcasting System, Inc., New York, N.Y. Filed Apr. 12, 1967.

COLUMBIA

Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers.

Class 36—Musical Instruments and Supplies

For Guftars.

First use in or about February 1967.

SN 268,919. Marsh Supermarkets, Inc., Yorktown, Ind. Filed Apr. 12, 1967.

MARSH

Class 45—Soft Drinks and Carbonated Waters

For Grape Drink, Lemonade, Orange Drink, Root Beer, Ginger Ale, Lemon-Lime Soft Drink, Orange Soda, Grape Soda, and Cola-Type Soft Drinks.

Class 46—Foods and Ingredients of Foods

For Potato Chips, Pretzels, Pancake Mix, Cake Mix, Frosting Mix, Flour, Vegetable Oil, Pancake Syrup, Peanut Butter, Salad Dressing, Tartar Sauce, Sandwich Spread, Catsup, and Pork and Beans; Canned Beans, Corn, Peas, Tomatoes, Mixed Vegetables, Cauliflower, Broccoli, Brussel Sprouts, Carrots, Peas and Carrots, Spinach, Succotash, and Stew Vegetables; Tomato Juice, Grape Juice, Prune Juice, Frozen Orange Juice, Applesauce in Cans and in Glasses; Macaroni, Spaghetti, Noodles, Coffee; Frozen Waffles, Asparagus, French Fries, Potato Nuggets and Hash Brown Potatoes; Butter, Ice Cream, Sherbet, Ice Milk; Garlic Dip, Cheese Dip, Onion Dip, Cheese, Margarine, Fluid Milk, Buttermilk, Chocolate Drink (Milk Base), Cottage Cheese, Cranberry-Apple Salad, Potato Salad, Bean Salad, Baked Beans, Fruit Salad, Orange Salad, Vegetable Salad, Cottage Cheese Salad, Tapioca Pudding, Rice Pudding, Waldorf Salad, Cole Slaw, Carrot Salad, Macaroni Salad, Cake, Sour Cream, Table Salt, Cheese Curds, Canned Black Cherries, Canned Strawberries, and Refrigerated Pizza.

First use May 15, 1951.

SN 269,253. Valley Sales Company, Lexington, Nebr. Filed Apr. 17, 1967.

BIG Valley

Class 12—Construction Materials

For Cattle Chutes.

First use on or about Aug. 8, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Livestock Oils and Sprayers.

First use on or about Dec. 1, 1966.

Class 50—Merchandise Not Otherwise Classified

For Livestock Waterers and Feeders.

First use on or about Sept. 1, 1966.

SN 274,286. Safeway Stores, Incorporated, Oakland, Calif. Filed June 20, 1967.

SAFEWAY

Owner of Reg. No. 206,116 and others.

Class 18—Medicines and Pharmaceutical Preparations

For APC Analgesic Tablets.

First use Mar. 23, 1967.

Class 29—Brooms, Brushes, and Dusters

For Toothbrushes.

First use Apr. 20, 1967.

Class 51—Cosmetics and Toilet Preparations

For Toothpaste.

First use May 1, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 258,534. The General Tire & Rubber Company, Akron, Ohio. Filed Nov. 14, 1966.

SN 244,740. Raybestos-Manhattan, Inc., Passaic, N.J. Filed May 2, 1966.

QUARTANE

For Molding Mixtures of Polyurethane and Quartz Sand.
First use Apr. 18, 1966.

SN 251,625. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 3, 1966.

VELAIRE

For Shoe Soling Material Made From Rubber or Rubber Compositions in the Form of Slab Stock.
First use June 30, 1966.

SN 253,683. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Sept. 1, 1966.

PROMEL

Owner of Reg. No. 720,179.
For Melamine Molding Powder.
First use Aug. 10, 1966.

SN 255,669. Wyomissing Corporation, Reading, Pa. Filed Oct. 3, 1966.

pawon

For Reservoir Web, Comprising Porous and Impermeable Web Members in Roll, Reel, or Sheet Form, Which Is Capable of Storing, or Acting as a Reservoir for, a Wide Range of Materials in Liquid or Semi-Liquid Form.
First use Sept. 3, 1966.

BUCCANEER

For Simulated Suede Material Intended Primarily for Use in Shoes and Outerwear.
First use Apr. 21, 1966.

SN 259,141. Neumond, Inc., St. Louis, Mo. Filed Nov. 21, 1966.

ALFA-LITTER

Owner of Reg. Nos. 822,050 and 822,062.
For Cat Litter.
First use Oct. 15, 1966.

SN 273,354. Nypel, Inc., West Conshohocken, Pa. Filed June 8, 1967.



Owner of Reg. No. 684,971.
For Thermoplastic Monofilament Bristles Impregnated With Abrasive Compound.
First use Mar. 14, 1967.

SN 276,284. Stauffer Chemical Company, New York, N.Y. Filed July 19, 1967.

WISP

For Polymeric Upper Shoe Material Having a Calf Leather Appearance.
First use at least as early as January 1965.

SN 276,288. Stauffer Chemical Company, New York, N.Y. Filed July 19, 1967.

TIARA

For Polymeric Upper Shoe Material Having a Patent Leather Appearance.
First use at least as early as January 1965.

SN 276,386. Minerals & Chemicals Philipp Corporation, Menlo Park, N.J. Filed July 20, 1967. SN 248,669. R. G. Barry Corporation, Columbus, Ohio. Filed June 22, 1966.

ULTRA GLOSS 90

Owner of Reg. No. 740,437.
For Clays for Coating and Filling Paper and Paperboard.
First use July 6, 1967.

Class 2 — Receptacles

SN 201,161. Waldorf Paper Products Company, St. Paul, Minn. Filed Aug. 13, 1964.

STRIP-FLAP

For Opening Device Sold as a Component of Paperboard Cartons and Paperboard Containers.
First use Mar. 7, 1963.

SN 234,362. Precision Metalsmiths, Inc., Cleveland, Ohio. Filed Dec. 10, 1963.

CAST-PAK

Owner of Reg. No. 776,871.
For Article-Enclosing Packages—Namely, Skin Packages.
First use Nov. 29, 1965.

SN 235,809. Arkay Packaging Corporation, New York, N.Y. Filed Jan. 5, 1966.

FABXON

For Boxes and Cartons.
First use Oct. 15, 1965.

SN 248,613. Georgia-Pacific Corporation, Portland, Oreg. Filed June 21, 1966.



The term "Pak" is disclaimed apart from the mark as shown without prejudice to applicant's common law rights. Owner of Reg. No. 788,889.
For Paperboard Cartons.
First use Feb. 24, 1966; 1963 as to "Glacier Pak."

For Laundry Bags.
First use October 1949.

SN 249,300. Burn-Strauss, Inc., d.b.a. Woodpecker Products, Los Angeles, Calif. Filed June 30, 1966.



The applicant makes no claim to the word "Products" alone, apart from the mark as shown. Owner of Reg. Nos. 571,250, 780,097, and others.

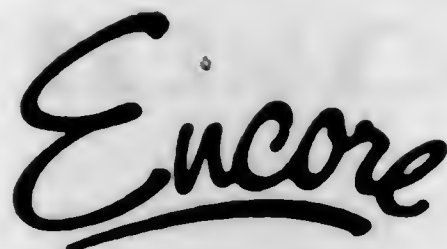
For Bathroom Accessories—Namely, Tissue Dispensers, Waste Baskets, Tumblers, Soap Dishes, Lotion Bottles, Powder Boxes, Tissue Compacts, Cotton Ball Jars, Hair Brush and Lipstick Caddies, Spray Can Covers, Perfume Jars, Apothecary Jars, and Towel Trees; and Pantryware—Namely, Canisters, Bread, Recipe, Cookie and Tissue Boxes, Toaster Covers, Cake Covers, Casseroles, Fruit and Nut Bowls, Trays, Spoon and Knife Racks, Waste Baskets, Wall Hung Dispensers, Salad Bowls, Salad Serving Sets, Spice Racks, Paper Dispensers, Salt and Pepper Shakers, and Planters, All Sold Empty and Made of Wood and/or Plastic or Combined Wood and Ceramic.
First use Jan. 10, 1966.

SN 250,925. Boyertown Packaging Service Corp., Boyertown, Pa. Filed July 25, 1966.



Owner of Reg. Nos. 717,662 and 724,588.
For Cellulose or Plastic Film Coated or Foil Laminated Bags and Wrappers.
First use Jan. 11, 1965.

SN 252,019. The Mead Corporation, Dayton, Ohio. Filed Aug. 9, 1966.



For Paperboard Containers for Ice Cream.
First use February 1966.

SN 257,519. Scott Paper Company, Delaware County, Pa. Filed Oct. 28, 1966. SN 253,187. F. W. Woolworth Co., New York, N.Y. Filed Aug. 25, 1966.

VENDPAK

Owner of Reg. No. 814,768.
For Paper Cups Packaged for Servicing Vending Machines.
First use Mar. 18, 1962.

SN 258,180. Vision Wrap Industries, Inc., Schiller Park, Ill. Filed Nov. 7, 1966.



The mark consists of a stylized "V" and "W."
For Flexible Packaging Products; Particularly Bags.
First use in or about May 1962.

SN 261,341. Weyerhaeuser Company, Tacoma, Wash. Filed Dec. 22, 1966.

ICE-O-BOX

For Fibre Shipping Container for Perishable Foods.
First use Sept. 6, 1966.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 223,615. Airline Textile Mfg. Co., Des Moines, Iowa. Filed July 19, 1965.



Applicant disclaims the representation of a bag and the word "Airlines" apart from the mark as shown.
For Tote and Utility Bags, Sold Empty.
First use June 5, 1965.

SN 246,034. Blue Ribbon Leather Company, Inc., Shelbyville, Tenn. Filed May 19, 1966.



For Tail Sets and Bridles.
First use 1951.



The words "Your Symbol of Quality" are disclaimed apart from the mark as shown.
For Cat Collars.
First use Mar. 15, 1966.

SN 255,780. Coniker Enterprises, Inc., Chicago, Ill. Filed Oct. 5, 1966.

POCKETMASTER

For Pocket Folio and Business Organizer.
First use Sept. 8, 1964.

SN 267,893. R. March Jamison, High Point, N.C. Filed Mar. 30, 1967.

DRAG BAG

The word "Bag" is disclaimed apart from the mark as shown.
For Luggage and Pocketbooks.
First use Feb. 24, 1967.

Class 4 — Abrasives and Polishing Materials

SN 259,844. Norton Company, Worcester, Mass. Filed Dec. 1, 1966.

MINIGRIND

For Grinding Wheels.
First use on or about Feb. 26, 1960.

SN 260,460. Skill Vending, Inc., Chicago, Ill. Filed Dec. 9, 1966.

LE VALET

For Aerosol Shoe Polish.
First use on or about Sept. 20, 1966.

SN 260,770. Schaffner Manufacturing Company, Inc., Pittsburgh, Pa. Filed Dec. 14, 1966.



For Buffing Wheels.
First use on or about Apr. 11, 1966.

SN 264,492. American Cyanamid Company, Wayne, N.J. Filed Feb. 13, 1967.

PREEN

Owner of Reg. Nos. 427,115, 774,324, and others.
For Cleaning and Waxing Preparations, for Cleaning and Waxing Wood Floors, Linoleum, Furniture, Paneling, Woodwork, Tiles, Metals, and Painted or Lacquered Surfaces.
First use Sept. 11, 1942.

SN 271,892. The Solarine Company, Baltimore, Md. Filed May 19, 1967.

SOLAR GLOSS

The word "Gloss" is disclaimed apart from the mark as shown.

Owner of Reg. No. 27,826.
For Floor Polish and Sealant.
First use December 1961.

Class 5 — Adhesives

SN 256,914. Avnet, Inc., New York, N.Y. Filed Oct. 21, 1966.

MECHANICS CHOICE

For Cement for Gaskets, Automobile Trim, and Weatherstripping.
First use Jan. 2, 1961.

SN 273,836. Diamond Alkali Company, Cleveland, Ohio. Filed June 14, 1967.

SAFIRE

For Binder for Foundry Operations.
First use June 7, 1967.

Class 6 — Chemicals and Chemical Compositions

SN 235,616. Amylo Chemie N.V., Koog aan de Zaan, Netherlands. Filed Jan. 3, 1966.

ALCHEMYL

Owner of Dutch Reg. No. 143,299, dated Jan. 19, 1962.
For Starch for Industrial Use.

SN 241,491. Miles Laboratories, Inc., Elkhart, Ind. Filed Mar. 21, 1966.

HEPATOSTIX

For Laboratory Reagent Test for Bilirubin and Urobilinogen in Urine.
First use on or before Mar. 3, 1966.

SN 241,492. Miles Laboratories, Inc., Elkhart, Ind. Filed Mar. 21, 1966.

UROBILISTIX

For Laboratory Reagent Test for Urinary Bilirubin.
First use on or before Mar. 3, 1966.

SN 242,861. Transene Company, Inc., Danvers, Mass. Filed Apr. 6, 1966.

VACOIL

For Carbon-Siloxane Compound for Use as a Diffusion Pump Fluid in Vacuum Systems.
First use Dec. 13, 1965.

SN 250,517. The Richardson Company, Melrose Park, Ill. Filed July 18, 1966.

RICHOPAQUE

For Chemical Compositions for Use in Imparting Opacity to Liquid Detergent Formulations.
First use Apr. 18, 1966.

SN 251,194. Arthur F. Couch, d.b.a. Sure Crop Chemical Company, Bayard, Nebr. Filed July 28, 1966.

SURE-CROP

For Insecticide and Fungicide Dust.
First use Jan. 2, 1945.

SN 253,176. Standard Oil Company of California, San Francisco, Calif. Filed Aug. 25, 1966.

CHEVRON

Owner of Reg. Nos. 659,689, 766,960, and others.
For Acetone, Phenol, Dispersants, Metaxylene, Orthoxylene, and Paraxylene.
First use Apr. 11, 1966.

SN 253,620. Beauty Counselors, Inc., Grosse Pointe, Mich. Filed Sept. 1, 1966.

SUITE SCENT

For Room Freshener.
First use May 20, 1960.

SN 254,041. Encap Products Company, Park Ridge, Ill. Filed Sept. 8, 1966.

POP-IN

For Pre-Measured Insecticide, Fungicide, and Miticide Spray for Shrubs and Evergreens.
First use Aug. 4, 1966.

SN 259,529. The Dow Chemical Company, Midland, Mich. Filed Nov. 28, 1966.

ARPOR

For Insecticide.
First use Nov. 4, 1966.

SN 262,475. Howard A. Chittick, d.b.a. Fairfax Biological Laboratory, Clinton Corners, N.Y. Filed Jan. 13, 1967.

JAPIDEMIC

For Microbial Control for Grubs of the Japanese Beetle.
First use on or about June 14, 1943.

SN 263,483. Sandoz, Inc., Hanover, N.J. Filed Jan. 27, 1967.

CONTINFIX

For Auxiliary for the Dyeing, Printing and Optical Brightening of Textiles.
First use Nov. 10, 1966.

SN 263,561. Gevaert-Agfa N.V., Mortsel, Belgium. Filed Jan. 30, 1967.

GEVAMATIC

Owner of Belgian Reg. No. 18,809, dated Sept. 20, 1963.
For Chemicals for Use in Photography—Namely, Developers, Fixer, Hardeners, and Replenishers.

SN 267,300. Diamond Alkali Company, Cleveland, Ohio. Filed Mar. 22, 1967.

ALBAFIX LIGHT-FAST

The applicant disclaims the term "Light-Fast" separate and apart from the mark shown in the accompanying drawing, reserving all of its common law rights now existing or hereafter arising in said term. Owner of Reg. No. 547,283.
For Synthetic Tanning Agent.
First use Dec. 21, 1966.

SN 268,980. Miller Chemical Company, Inc., Omaha, Nebr. Filed Apr. 12, 1967.

CINCH

For Pesticides—Namely, Herbicides and Insecticides.
First use at least as early as Apr. 2, 1964.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 250,884. White Cross Stores, Inc., Monroeville, Pa. Filed July 22, 1966.

HEALTH ⊕ CROSS

Owner of Reg. Nos. 725,249 and 763,260.
For Cigarette Lighter Parts.
First use July 1, 1966.

Class 10 — Fertilizers

SN 265,444. Star Enterprises, Inc., Cassopolis, Mich. Filed Feb. 24, 1967.

GRO-BELOW

Owner of Reg. No. 716,327.
For Soil Supplement.
First use 1960.

SN 268,981. Miller Chemical Company, Inc., Omaha, Nebr. Filed Apr. 12, 1967.

CINCH

For Lawn Fertilizers.
First use at least as early as Apr. 2, 1964.

SN 269,031. International Minerals & Chemical Corporation, Skokie, Ill. Filed Apr. 13, 1967.

TOP Q

Owner of Reg. Nos. 758,663 and 780,841.
For Fertilizer.
First use Feb. 25, 1967.

SN 269,032. International Minerals & Chemical Corporation, Skokie, Ill. Filed Apr. 13, 1967.

Q-BASE

Owner of Reg. Nos. 758,663 and 780,841.
For Fertilizer.
First use Feb. 25, 1967.

Class 12 — Construction Materials

SN 249,311. Domestic Marble & Stone Corporation, New York, N.Y. Filed June 30, 1966.

ESTE

For Travertine.
First use Dec. 7, 1965.
Subj. to Intf. with SN 264,915.

SN 255,091. Hillcrest Products, Inc., San Francisco, Calif. Filed Sept. 26, 1966.

PRO-FILM

For Resin-Base Compound Formulated To Be Diluted as a Membrane Forming Concrete Curing Compound, as an Inhibitor of Brine Action, and as a Form Release and Form Protection Compound.
First use April 1966.

SN 258,918. Meridian Brick Co., Seattle, Wash. Filed Nov. 17, 1966.

MERIDIAN

Owner of Reg. No. 677,203.
For Rough Surface Building Bricks Made From Pumice and Used for Exterior Surfacing of Buildings.
First use on or before Mar. 1, 1956.

SN 259,623. Ambassador Manufacturing Co., Montreal, Quebec, Canada. Filed Nov. 29, 1966.

ALUM-A-LITE

For Aluminum, Fiberglass, and Combination Aluminum and Fiberglass Products—Namely, Doors, Aluminum Extrusions, and Stampings in Aluminum and Fiberglass.
First use Nov. 25, 1965; in commerce Nov. 25, 1965.

SN 261,031. Ardex Chemie G.m.b.H. Chemische Fabrik Witten, Witten-Annen, Germany. Filed Dec. 19, 1966.



Owner of German Reg. No. 677,098, dated July 5, 1954.
For Construction Materials—Namely, Cement, Plaster, Mortar and Spackling Compounds; Bitumen, Asphalt and Paving Compositions; and Gravels and Aggregate Fillers for Pavings, Foundations, and Cements and Plasters.

SN 261,307. Kristal Kraft, Inc., Palmetto, Fla. Filed Dec. 22, 1966. SN 275,587. Fabmagic, Inc., Santa Ana, Calif. Filed July 10, 1967.

MINIT MAN

For Epoxy Base Repair Putty-Like Compound for Repairing of Styrofoam, Polyurethane Foam, Wood, Metal, and Other Hard To Bond Surfaces.
First use Oct. 6, 1960.

SN 264,915. Ditta Mariotti Primo, Rome, Italy. Filed Feb. 17, 1967.

ESTE

For Marble, Granite, Travertine, and Other Natural Stone for Use in Construction.
First use 1954; in commerce 1958.
Subj. to Intf. with SN 249,311.

SN 266,982. Air Master Corporation, Philadelphia, Pa. Filed Mar. 17, 1967.

AIR MASTER BLACK BUTTON

For Storm Windows.
First use Feb. 25, 1967.

SN 276,605. Madison Industries, Los Angeles, Calif. Filed July 24, 1967.

FINISHLINE

For Metal Overhead Doors.
First use Jan. 1, 1967.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 253,012. Chromatronix Incorporated, Berkeley, Calif. Filed Aug. 24, 1966.

CHEMINERT

For Tube and Pipe Fittings Used for Conducting Chemicals and Gases.
First use Feb. 28, 1966.

SN 254,461. Nalco Chemical Company, Chicago, Ill. Filed Sept. 14, 1966.

NAL-QUILL

Owner of Reg. No. 807,130.
For Chemical Feed Tube for Insertion in a Process-Stream Pipeline.
First use Aug. 1, 1966.

SN 259,396. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966.



Owner of Reg. Nos. 612,244, 765,989, and others.
For Pressure Pans and Cookware Sets.
First use Feb. 1, 1965.

CLOS-A-MAGIC

For Screen Door Closers.
First use on or about Mar. 3, 1967.

Class 14—Metals and Metal Castings and Forgings

SN 247,061. Reynolds Metals Company, Richmond, Va. Filed June 1, 1966.

REYNOLDS METALS

Applicant claims exclusive right to use of the word "Metals" as a part of its mark, but not otherwise. Owner of Reg. No. 765,763 and others.
For Wrought Metal—Namely, Cast, Rolled, and Drawn Aluminous Metal.
First use at least as early as April 1949; at least as early as March 1935 as to "Reynolds Metal."

SN 249,526. General Steel Industries, Inc., Granite City, Ill. Filed July 5, 1966.

GSI

For Rough and Semi-Finished Castings of Ferrous Metals.
First use on or about Dec. 20, 1965.

SN 259,514. Allegheny Ludlum Steel Corporation, Pittsburgh, Pa. Filed Nov. 28, 1966.

INVACUTRODE

Owner of Reg. No. 701,208.
For Metal and Alloy in the Form of Ingots, Billets, Bars, Rods, Wire, Plates, Strip, and Sheet.
First use Aug. 6, 1958.

Class 15—Oils and Greases

SN 222,792. Unidyne Industries, Incorporated, Denver, Colo. Filed July 6, 1965.

Q-PLUS

For Liquid Additives, Cleaners and Conditioners—Namely, Additives for Oils, Greases, Transmission Fluids, Fuels, and Lubricants Used in Vehicles, Diesels and Gas Turbines, and Marine and Industrial Equipment and the Like, Transmission Conditioner for Automatic Transmissions, Carburetor Liquid Cleaning Additive, and a Gasoline Liquid Additive for Cleaning Combustion Engine Valves and Removing Combustion Chamber Deposits.
First use on or about May 17, 1965.

SN 242,318. Automotive Merchandisers, Inc., Collinsville, Ill. Filed Mar. 31, 1966.

WINCHESTER

For Automobile Motor Oil.
First use Feb. 2, 1966.

SN 252,246. Chemical Research Laboratories, Superior, Wis. Filed Aug. 12, 1966.

Class 17—Tobacco Products

SN 274,528. Liggett & Myers Tobacco Company, New York, N.Y. Filed June 22, 1967.



For Motor Oil Additive.
First use Jan. 7, 1948.

SN 263,500. Wynn Oil Company, Azusa, Calif. Filed Jan. 30, 1967.

SPRINT

For Motor Oil Additives.
First use Jan. 11, 1967.

Class 16—Protective and Decorative Coatings

SN 253,875. Harris Paint Company, d.b.a. Harris Standard Paint Company, Tampa, Fla. Filed Sept. 6, 1966.



For Paints and Enamels for Interior and Exterior Use.
First use on or about June 17, 1952.

SN 254,291. The Jennison-Wright Corporation, Toledo, Ohio. Filed Sept. 12, 1966.



For Coal Tar Pitch, Wood Block Cement, Wood Block Sealer, Mastic Adhesive for Joining Wood to Concrete, and Coal Tar Finish Dressing.
First use Jan. 9, 1959.

SN 262,396. Robin H. Berens, d.b.a. Berens Associates, Oakland, Calif. Filed Jan. 12, 1967.

AUTOTOUCH

For Spray-Type Automotive Lacquers and Enamels.
First use May 12, 1966.



Applicant disclaims the word "Filters" apart from the mark as shown. The drawing is lined for the colors red and gold. Owner of Reg. No. 582,520 and others.
For Cigarettes.
First use on or about Jan. 26, 1967.

SN 275,350. M & N Cigar Manufacturers, Inc., Tampa, Fla. Filed July 5, 1967.

ACW

For Cigars.
First use April 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 251,508. Bristol-Myers Company, New York, N.Y. Filed Aug. 2, 1966.

ULTRAPEN

For Antibiotic.
First use May 13, 1966.

SN 252,044. Usylin Corporation, d.b.a. Usylin Laboratory, Lynn, Mass. Filed Aug. 9, 1966.

USYLIN

For Stomach Demulcent for the Temporary Relief of Certain Symptoms of Gastric Hyperacidity.
First use 1932.

SN 252,296. Taisho Pharmaceutical Co., Ltd., Toshimaku, Tokyo, Japan. Filed Aug. 12, 1966.



Owner of Japanese Reg. No. 468,118, dated July 13, 1955.
For Medicines and Pharmaceutical Preparations.

SN 253,750. Charles E. Frosst & Co., Montreal, Quebec, Canada. Filed Sept. 2, 1966.

282 MEP

Owner of Canadian Reg. No. 115,129, dated Aug. 28, 1959; and U.S. Reg. No. 629,408.
For Medicinal Preparation Having Analgesic, Antipyretic, Anti-Inflammatory, Muscle Relaxant and Tranquillizing Properties.

SN 256,294. Macsil, Inc., Philadelphia, Pa. Filed Oct. 12, 1966.

balmex

Owner of Reg. No. 617,601.
For Ointment for Diaper Rash and Chafed or Minor Skin Irritations.
First use Aug. 31, 1966; June 14, 1954, in another display.

SN 261,485. Gray Pharmaceutical Co., Yonkers, N.Y. Filed Dec. 27, 1966.

PRE-PREP

For Cathartic To Be Used for Preparation of the Intestinal Tract Prior to Diagnostic Procedure.
First use Nov. 30, 1966.

SN 261,539. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 27, 1966.

E.M.U.

For Antibiotic.
First use Aug. 8, 1966.

SN 261,799. Bristol-Myers Company, New York, N.Y. Filed Jan. 3, 1967.

DITTOTAB

For Antacid Analgesic Tablet.
First use Sept. 21, 1966.

SN 261,800. Bristol-Myers Company, New York, N.Y. Filed Jan. 3, 1967.

EFFTABS

For Antacid Analgesic Tablet.
First use Sept. 21, 1966.

SN 261,801. Bristol-Myers Company, New York, N.Y. Filed Jan. 3, 1967.

DITTOCAP

For Antacid Analgesic Tablet.
First use Sept. 21, 1966.

SN 261,802. Bristol-Myers Company, New York, N.Y. Filed Jan. 3, 1967.

NALDEVES

For Antacid Analgesic Tablet.
First use Oct. 25, 1966.

SN 262,725. Unimed, Inc., Morristown, N.J. Filed Jan. 17, 1967.

THEN

For Preparation for the Treatment of Coronary Insufficiency.
First use Dec. 20, 1966.

SN 262,810. Sandoz, Inc., Hanover, N.J. Filed Jan. 18, 1967.

HYDERGINE

Owner of Reg. No. 422,589.
For Medicinal Preparation for the Treatment of Migraine and Other Neurovegetative Syndromes.
First use Nov. 26, 1945.

SN 263,860. Warren-Teed Pharmaceuticals Inc., Columbus, Ohio. Filed Feb. 2, 1967.

IROHEME

For Iron Compound for the Prevention or Treatment of Iron Deficiency.
First use on or about Dec. 28, 1966.

SN 263,932. Meyer Laboratories, Inc., Detroit, Mich. Filed Feb. 3, 1967.

BRONDIL

For Pharmaceutical Preparation for the Treatment of Bronchial Asthma and Related Disorders.
First use Dec. 20, 1966.

SN 264,145. Chemway Corporation, Wayne, N.J. Filed Feb. 7, 1967.

ZONELLE

Owner of Reg. Nos. 339,563 and 791,961.
For Douche Powder for Feminine Hygiene.
First use Oct. 29, 1966.

SN 264,188. Bristol-Myers Company, New York, N.Y. Filed Feb. 8, 1967.

BRISMOS

For Antacid Analgesic Tablet.
First use Oct. 26, 1966.

SN 264,189. Bristol-Myers Company, New York, N.Y. Filed Feb. 8, 1967.

DYNATREX

For Antibiotic.
First use Sept. 22, 1966.

SN 264,190. Bristol-Myers Company, New York, N.Y. Filed Feb. 8, 1967.

HYMAX

For Antibiotic.
First use Sept. 22, 1966.

SN 264,807. The Dixie-Rub Co., Concord, N.C. Filed Feb. 16, 1967.



The word "Rub" is disclaimed apart from the mark as shown.
For Veterinary Liniment.
First use on or about May 15, 1927.

SN 268,362. Allied Mills, Inc., Chicago, Ill. Filed Apr. 5, 1967.

LECTRO-SUL

For Animal Medication for the Treatment and Prevention of Enteritis, Shipping Fever, Pneumonia, Foot Rot, Winter Dysentery, and Coryza.
First use Mar. 16, 1966.

SN 268,849. Mead Johnson & Company, Evansville, Ind. Filed Apr. 11, 1967.

GYNIL

For Progestational Agent.
First use on or prior to Apr. 6, 1967.

SN 269,290. Ciba Limited, Basel, Switzerland. Filed Apr. 17, 1967.

TENIALEX

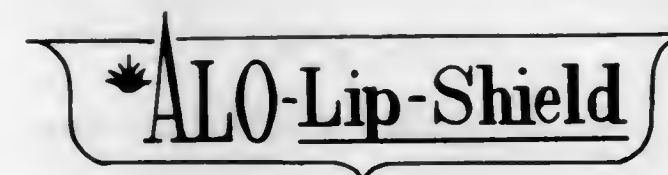
Owner of Swiss Reg. No. 210,025, dated Apr. 22, 1965.
For Anthelmintic Preparation.

SN 270,109. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed Apr. 27, 1967.

ALO-DERM

For Ointment for Treatment of Minor Burns, Cuts, Chafing, Skin Irritations, Abrasions, Poison Ivy, and Non-Poisonous Insect Bites.
First use Apr. 5, 1967.

SN 272,562. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed May 29, 1967.



For Ointment.
First use May 23, 1967.

SN 274,688. American Home Products Corporation, New York, N.Y. Filed June 26, 1967.

SPIRITONE

For Preparation for Use in Nutritional Anemias.
First use June 9, 1967.

SN 275,814. William H. Rorer, Inc., Fort Washington, Pa. Filed July 12, 1967.

COTRALUDE

For Antispasmodic-Sedative.
First use June 6, 1967.

Class 19—Vehicles

SN 239,969. Clinton Metal Fabricators, Inc., d.b.a. Raven Homes, Clinton, S.C. Filed Mar. 2, 1966.

RAVEN

For Mobile Homes.
First use Feb. 21, 1966.
Subj. to Intf. with SN 264,963.

SN 242,777. Aston Martin Lagonda Limited, Newport Pagnell, England. Filed Feb. 11, 1966.

ASTON MARTIN

Owner of British Reg. No. 877,064, dated Mar. 18, 1965.
For Automobiles and Parts Thereof.

SN 245,419. Pullman Incorporated, Chicago, Ill. Filed May 11, 1966.



Owner of Reg. Nos. 583,453, 602,120, and 695,205.
For Containers Adapted for Use on Various Type Vehicles and on Highway Trailers, and Structural Parts Thereof; Cargo Trailers, Truck Bodies, and Parts Thereof.
First use Aug. 16, 1960.

SN 249,525. General Steel Industries, Inc., Granite City, Ill. Filed July 5, 1966.

GSi

For Railway Vehicles—Namely, Freight Cars and Parts Thereof.
First use on or about Dec. 20, 1965.

SN 252,628. Air-Springs Inc., New York, N.Y. Filed Aug. 18, 1966.



For Suspension Systems for Motor Trucks and/or Cargo Carriers and Trailers.
First use May 20, 1966.

SN 255,843. White Stores, Inc., Wichita Falls, Tex., by assignment and change of name from White Stores, Inc., Wichita Falls, Tex. Filed Oct. 5, 1966.

WHITE MAGIC AIRE

For Shock Absorbers.
First use June 20, 1966; 1939 as to "White."

SN 257,431. Winner Boats, Inc., Dickson, Tenn. Filed Oct. 27, 1966.

LIFT QUADRA

For Boats.
First use Aug. 19, 1966.

SN 258,525. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Nov. 14, 1966.

RASAFE

For Coated Fabric Fuel Tanks for Automobiles.
First use Oct. 12, 1966.

SN 264,661. Fleetwood Enterprises, Inc., Riverside, Calif. Filed Feb. 14, 1967.



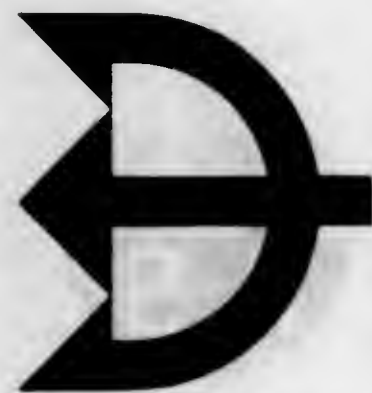
For Mobile Homes, Travel Trailers, House Trailers, and Camping Trailers.
First use Feb. 20, 1966.

SN 264,963. Ravens-Metal Products, Inc., Parkersburg, W. Va. Filed Feb. 17, 1967.

RAVENS

For Flatbed Trailers, Lowboy Trailers, Dump Truck Bodies, Dump Trailers, Bulk Hauling Trailers, and Tank Trailers.
First use October 1959.
Subj. to Intf. with SN 239,969.

SN 274,917. Accurate Systems, Inc., Costa Mesa, Calif. Filed June 28, 1967.



The mark consists of a stylized letter "D."
For Boats.
First use on or about Feb. 9, 1967.

SN 275,012. Allied Tank Truck Equipment Company, Philadelphia, Pa. Filed June 29, 1967.

TEND-A-TORQUE

For Suspension System for Truck Tank or Truck Body.
First use May 25, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 233,767. Ansac Industries, Inc., Cleveland, Ohio. Filed Dec. 2, 1965.

CONSERV-O-MATIC

For Electrical Load-Responsive Idle Control for Engine of Engine-Driven Electric Generator.
First use June 9, 1965.

SN 240,554. Superior Sewing Machine and Supply Corp., New York, N.Y. Filed Mar. 9, 1966.

E-Z

For Electric Clutch Motor.
First use Feb. 18, 1966.

SN 241,299. Illinois Testing Laboratories, Inc., Chicago, Ill. Filed Mar. 18, 1966.

GALV-AMP

For Electrical Relays Connected To Be Activated by a Galvanometer.
First use Feb. 28, 1966.

SN 242,320. Automotive Merchandisers, Inc., Collinsville, Ill. Filed Mar. 31, 1966.

WINCHESTER

For Automobile Solenoids, Generators, Starters, and Voltage Regulators.
First use Feb. 2, 1966.

SN 242,367. LTV Ling Altec, Inc., Anaheim, Calif. Filed Mar. 31, 1966.

MUSTANG

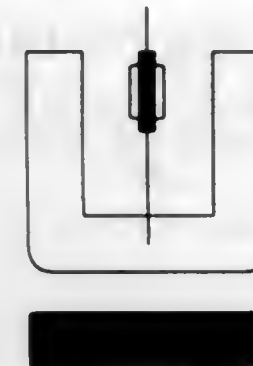
For Loudspeakers, Parts Thereof and Accessories Therefor, but Excluding Antennas.
First use May 11, 1964.

SN 248,953. American District Telegraph Company, New York, N.Y. Filed June 27, 1966.

TELAPPROACH

Owner of Reg. No. 693,618.
For Intruder Alarm Apparatus and Vault Alarm Devices.
First use on or about Apr. 14, 1966.

SN 251,971. Unitrode Corporation, Watertown, Mass. Filed Aug. 8, 1966.



Applicant disclaims the representation of the goods apart from the mark as shown.

For Semiconductor Devices—Namely, Diodes, Diode Assemblies, and High Voltage Rectifiers.
First use June 1963.

SN 252,000. The Gregory Amplifier Corp., Bronx, N.Y. Filed Aug. 9, 1966.

ADD-VERB

For Reverberation Units.
First use Apr. 22, 1966.

SN 260,412. Dynair Electronics, Inc., San Diego, Calif. Filed Dec. 9, 1966.

DYNA-MOD

For Electric Modulators.
First use Aug. 21, 1964.

SN 264,292. Airstream, Inc., Jackson Center, Ohio. Filed Feb. 9, 1967.

UNIVOLT

For Electrical Power Distribution System for Travel Trailers, Consisting Primarily of Connectors, Wiring, Outlets, Lighting Fixtures, and Converter.
First use Jan. 15, 1964.

SN 270,189. Columbia Broadcasting System, Inc., New York, N.Y. Filed Apr. 28, 1967.

SHOWMAN

For Amplifiers for Electrical Musical Instruments.
First use in or about 1961.

SN 274,481. Sylvania Electric Products Inc., New York, N.Y. Filed June 22, 1967.



FLEXI-CORE

Owner of Reg. No. 750,449.
For Electrical and Magnetic Devices—Namely, Power Transformers, Distribution Transformers, Chokes, Filters, Reactors, Solenoids, and Fluorescent, Mercury Vapor and other Lamp Ballasts.
First use June 1960.

Class 22—Games, Toys, and Sporting Goods

SN 236,992. Gerald J. Hager, d.b.a. Hagers, Mound, Minn. Filed Jan. 21, 1966.

CONVENIENTOTE

For Sporting Goods Carrier Made From a Flexible and Pliable Material for Transporting Articles Such as Skis, Ski Poles, Toboggans, Canoe Paddles, Camping Equipment, and the Like.
First use Nov. 1, 1965.

SN 237,085. Championship Games, Inc., Southport, Conn. Filed Jan. 24, 1966.

CHAMPIONSHIP GOLF

No claim of exclusive right is made to "Golf" for the goods recited.
For Apparatus for Playing a Golf-Type Board or Parlor Game.
First use Dec. 1, 1965.

SN 243,053. Western Import, Inc., Portland, Oreg. Filed Apr. 8, 1966.

SNO-MASTER

For Ski Equipment—Namely, Skis, Ski Bindings, and Ski Poles, Exclusive of Wearing Apparel.
First use Feb. 5, 1966.

SN 256,270. The Coleman Company, Inc., Wichita, Kans. Filed Oct. 12, 1966.



The drawing is lined for the color red.
Owner of Reg. Nos. 295,262, 726,393, and others.
For Sleeping Bags and Tents.
First use on or before Sept. 15, 1965.

SN 256,271. The Coleman Company, Inc., Wichita, Kans. Filed Oct. 12, 1966.

COLEMAN

Owner of Reg. Nos. 516,713, 726,393, and others.
For Sleeping Bags and Tents.
First use on or before Sept. 15, 1965.

SN 258,855. Transogram Company, Inc., New York, N.Y. Filed Nov. 16, 1966.

CONSTRUCT-ALL

The word "Construct" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit Comprising a Rivet-Type Toy Gun; Battery Operated, Remote Controlled Toy Piece Mover and Toy Construction Pieces.
First use Aug. 26, 1966.

SN 280,111. Vornado, Inc., Garfield, N.J. Filed Dec. 5, 1966.
For Skis and Ski Equipment.

GRAND PRX

First use in or about September 1965.
Subj. to Intf. with SN 265,038.

SN 260,936. Ident Inc., Van Nuys, Calif. Filed Dec. 16, 1966.

DEEP-VU

For Bowling Ball Marker.
First use Nov. 3, 1966.

SN 261,520. SW Industries, Inc., Newton, Mass. Filed Dec. 27, 1966.

CYCLONE 300

For Bowling Balls.
First use Nov. 9, 1966.

SN 261,952. Thompson Fishing Tackle Company, Inc., Knoxville, Tenn. Filed Jan. 4, 1967.

DOLL YA-HOO

Owner of Reg. No. 582,078.
For Fishing Lures.
First use Dec. 16, 1966.

SN 262,192. Princess Grace Doll, Inc., New York, N.Y. Filed Jan. 9, 1967.

T. V. HONEY TEENS

For Dolls and Dolls' Clothing and Accessories.
First use Dec. 22, 1966.

SN 262,768. De Luxe Topper Corporation, Elizabeth, N.J. Filed Jan. 18, 1967.

LPL MISS FUSSY

For Toy Doll.
First use Dec. 28, 1966.

SN 262,886. Leonard A. Pomier, d.b.a. Hanover Lures, Wilkes-Barre, Pa. Filed Jan. 19, 1967.

MUG-ZEE

For Fishing Lures.
First use Mar. 1, 1963.

SN 263,729. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 1, 1967.

BIG LEAGUE BASEBALL

Applicant claims no registration rights in the word "Baseball" as the name of a game.
For Apparatus Sold as a Unit for Playing a Board Game.
First use Oct. 13, 1966.

SN 264,996. Warner Press, Inc., Anderson, Ind. Filed Feb. 17, 1967.

STA-TRU

For Jigsaw Puzzles.
First use Jan. 1, 1950.

SN 270,855. R. Dakin & Company, San Francisco, Calif. Filed May 8, 1967.

BUTTONS 'N BOWS

For Stuffed Clown Doll.
First use as early as Aug. 3, 1966.

SN 271,724. Port-O-Play, Inc., Chicago, Ill. Filed May 17, 1967.

PORT-A-PLAY

For Exercising Toys.
First use May 8, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 234,438. Korfund Dynamics Corporation, Westbury, N.Y. Filed Dec. 13, 1965.

KORPAD

For Vibration and Shock Isolation Pads Useful for Mounting Machinery.
First use Oct. 5, 1965.

SN 237,556. Herter's Inc., Waseca, Minn. Filed Jan. 28, 1966.

HUDSON BAY

Owner of Reg. Nos. 719,746, 726,933, and 742,842.
For Outboard Motors and Power Driven Augers (Not Electric).
First use July 1965.

SN 241,979. Chrysler Outboard Corporation, Hartford, Wis. Filed Mar. 28, 1966.

AUTOELECTRIC

For Outboard Motors for Boats.
First use at least as early as Jan. 7, 1966.

SN 242,319. Automotive Merchandisers, Inc., Collinsville, Ill. Filed Mar. 31, 1966.

WINCHESTER

For Automobile Carburetors, Clutch Assembly, Clutch Plate, Fuel Pump, Water Pump, Exhaust Pipe, Tailpipe, and Mufflers.
First use Feb. 2, 1966.

SN 242,414. Johann Hochreuter, d.b.a. Hochreuter & Baum, Ansbach, Mittelfranken, Germany. Filed Mar. 3, 1966.

CARDEFLEX

Owner of German Reg. No. 706,651, dated Sept. 23, 1957.
For Resilient Shaft Couplings.

SN 244,967. Carrier Corporation, Syracuse, N.Y. Filed May 5, 1966.

pos-@-trip

For Control Mechanism for Preventing Shaft Overspeed in Rotating Machinery.
First use Nov. 29, 1965.

SN 246,643. The W. E. Bassett Company, Derby, Conn. Filed May 26, 1966.

SKRUZIT

For Pocket Screwdrivers.
First use May 13, 1966.

SN 248,753. Wisconsin Wire Works, Appleton, Wis. Filed June 22, 1966.

LIFE-GARD

For Plastic Coated Fourdrinier Wire.
First use on or about Mar. 26, 1965.

SN 249,240. Johnson Big Wheel Mowers, Inc., Jackson, Miss. Filed June 29, 1966.

**JOHNSON
Big WHEEL**

For Lawnmowers.
First use June 1963.

SN 249,271. VEB Nähwirmaschinenbau Malimo Karl-Marx-Stadt, Karl-Marx-Stadt, Germany. Filed June 29, 1966.

Maliwatt

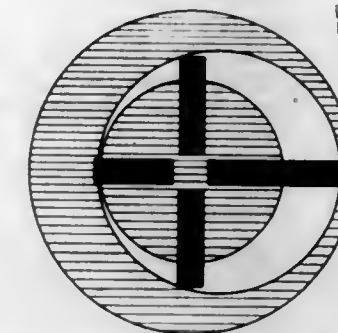
For Warp Knitting Machines—Namely, Machines for Binding Threads With a Plurality of Needles and for Knitting Threads Into Unweaved Textile Fiber Webs.
First use Mar. 10, 1959; in commerce Nov. 16, 1965.

SN 249,760. Harry Mann Chevrolet, Los Angeles, Calif. Filed July 7, 1966.

PANTHER

For Automobile Accessory Kits—Namely, Carburetor Kits and Solid Lifters.
First use May 15, 1966.

SN 251,239. Remington Arms Company, Inc., Bridgeport, Conn. Filed July 28, 1966.



The drawing is lined for the color blue, but no claim is made to color per se.

For Air Tools—Namely, Drills, Screwdrivers, Nut Setters, Impact Wrenches, Grinders, Sanders, Circular Saws and Chain Saws.
First use June 26, 1966.

SN 252,661. John Wood Company, Midland Park, N.J. Filed Aug. 18, 1966.

SANI-SUR

Owner of Reg. No. 754,163.
For Pressure Washers for Automobiles, or for Mechanical Parts Degreasing, and the Like.
First use May 5, 1966.

SN 252,820. Clack Corporation, Madison, Wis. Filed Aug. 22, 1966.

RES-UP

For Automatic Dispenser for Resin Bed Cleaner.
First use Aug. 2, 1966.

SN 253,808. Yard-Man, Inc., Jackson, Mich. Filed Sept. 2, 1966.

YARD-MAN

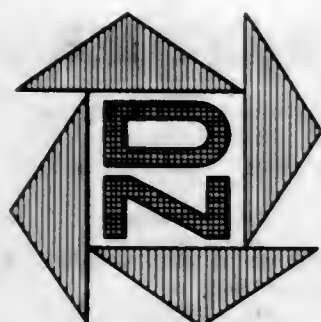
Owner of Reg. Nos. 378,647 and 522,133.
For Lawn Mowers and Lawn Tractors—Namely, Lawn Trimmers, Hand Mowers, Power Mowers, Rotary Mowers, Power Reel Mowers, Gang and Trailer Mowers, Front-Mounted Mower Attachments for Lawn Tractors, Riding Lawn Mowers, Lawn Mower Tractors, Lawn Tractors, Snow-Removal Attachments for Lawn Tractors; Lawn Mower Service Tools—Namely, Reel Grinders, Cutter Bar Grinders, and Lapping Stands.
First use May 9, 1933, on mowers.

SN 255,248. Walker-Neer Manufacturing Co., Inc., Wichita Falls, Tex. Filed Sept. 27, 1966.

CON-COR

For Well Drilling Apparatus Consisting of Supporting Masts, Drill Pipe, Drill Bits, Swivel Devices, Packing Devices, Power Transmitting Means, and Supporting Vehicles.
First use Oct. 10, 1965.

SN 255,520. Duff-Norton Company, Charlotte, N.C. Filed Sept. 30, 1966.



The drawing is lined for the color red.
For Hoists, Including Electric, Ratchet Lever and Chain Gear Types; Jacks, Including Worm Gear, Hydraulic, Pneumatic, Ratchet, and Screw Types; Monorail Trolleys; and Parts Therefor.
First use Aug. 31, 1966.

SN 256,376. Sanitary Hydraulics, Inc., Cleveland, Ohio. Filed Oct. 13, 1966.



For Apparatus for Removing Undesirable Material From the Inside of Pipes or Tubes by the Use of High Velocity Streams of Water.
First use May 1966.

SN 256,384. Sturdy Broaching Service, Inc., Southfield, Mich. Filed Oct. 13, 1966.



The drawing is lined for the color blue, but no claim is made to color. The mark consists of the letters "SBS."
For Square Hole Sleeve for Boring Bars, Toolholders, Milling Cutters, and the Like.
First use June 29, 1966.

SN 256,399. The Yoder Company, Cleveland, Ohio. Filed Oct. 13, 1966.

Y-LINE

For Tube Forming Mills, Metal Cutoff Machines, and Metal Levelling Machines.
First use on or about Apr. 15, 1965.

SN 256,566. A. F. Kilnsing Co., Inc., Milwaukee, Wis. Filed Oct. 17, 1966.

HAYLAGE MASTER

For Silo Unloaders.
First use on or about Sept. 26, 1966.

SN 256,601. The Smith and Winchester Manufacturing Company, South Windham, Conn. Filed Oct. 17, 1966.

VACUOLAP

For Paper Handling Equipment, Particularly Lay-Boys.
First use in or about April 1966.

SN 256,612. Textron Inc., Providence, R.I. Filed Oct. 17, 1966.

YARD TRAC

For Ride-On Lawn Mowers.
First use Dec. 9, 1960.

SN 257,248. Samuel Bingham Company, Chicago, Ill. Filed Oct. 26, 1966.



For Printing Rollers.
First use July 20, 1966.

SN 257,665. Superior Manufacturing Co., Albert City, Iowa. Filed Oct. 31, 1966.

MIGHTY MIDGET

For Grease Guns.
First use on or before Mar. 8, 1966.

SN 259,399. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966.



Owner of Reg. Nos. 612,244, 765,989, and others.
For Lawnmowers.
First use Feb. 1, 1965.

SN 272,093. Randel's Mfg. Co., Inc., Oklahoma City, Okla. Filed May 22, 1967.

BIG GIANT

For Automotive Mufflers, Automotive Tailpipes, Pipe Bending and Swedging Equipment.
First use Feb. 15, 1966.

SN 272,138. Yarway Corporation, Chestnut Hill, Philadelphia, Pa. Filed May 23, 1967.

GRIP-SEAL

For Fittings for Fluid Handling Pipes and Tubing.
First use May 11, 1967.

SN 275,583. The Gillette Company, Boston, Mass. Filed July 10, 1967.

VAPOCROME

For Razor Blades.
First use June 14, 1967.

SN 275,586. Universal American Corporation, New York, N.Y. Filed July 10, 1967.

THERMOFIX

For Machine for Effecting Contact Fixation of Dyestuffs on Polyester Fabrics or the Polyester Portion of Cotton-Polyester Blended Fabrics.
First use March 1964.

SN 276,723. Oury Engineering Company, Elmhurst, Ill. Filed July 25, 1967.

SWINGER

For Concrete Handling Equipment, Particularly Conveyors.
First use during or about April 1965.

Class 24 — Laundry Appliances and Machines

SN 259,397. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966.



Owner of Reg. Nos. 612,244, 765,989, and others.
For Ironing Tables.
First use Feb. 1, 1965.

Class 25 — Locks and Safes

SN 259,482. Speed-O-Loc, Encino, Calif. Filed Nov. 25, 1966.

SPEED-O-LOC

For Tamper-Proof Seal for Speedometer Cable and Other Mechanical Connections.
First use Sept. 3, 1965.

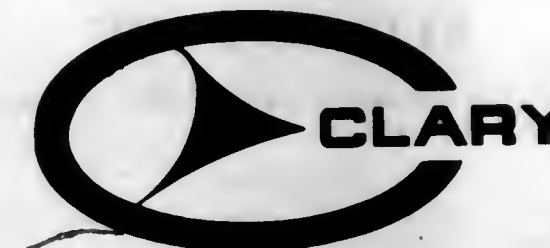
Class 26 — Measuring and Scientific Appliances

SN 220,071. Cabot Corporation, Boston, Mass. Filed June 1, 1965.

PELLETOMETER

Owner of Reg. No. 308,853.
For Machines, Devices or Apparatus Designed To Measure, Test and Record the Pellet Strength of Substances in Pellet Form.
First use May 19, 1965.

SN 238,170. Clary Corporation, San Gabriel, Calif. Filed Feb. 7, 1966.



For Data Recorders.
First use on or about Nov. 14, 1964.

SN 242,236. General Dynamics Corporation, Rochester, N.Y. Filed Mar. 30, 1966.

VERSA-VERTER

For Electronic Data Handling Equipment, Specifically, Code Converters for Transferring Digital Data From One Storage Medium to Another Storage Medium.
First use at least as early as Jan. 22, 1965.

SN 246,259. E. W. Bliss Company, Davenport, Iowa. Filed May 23, 1966.

MULTIPULSE

Owner of Reg. No. 379,285.
For Motor Driven Timers Employed in Mechanisms of all Kinds in Which Cyclic Operations and Predetermined Sequences of Operations Are Controlled Thereby.
First use in or about October 1965.

SN 248,059. Joseph W. Soper, d.b.a. Photomont Company, Houston, Tex. Filed June 14, 1966.

PHOTOMONT

For Camera Attachments for Use in Connection With Bio-Microscopes.
First use at least as early as Oct. 12, 1965.

SN 250,767. Projects Unlimited, Inc., Dayton, Ohio. Filed July 21, 1966.

AUTO-LEVEL

For Small Bubble Type Level Device for Mounting on the Side Window of an Automobile or Truck To Indicate Whether the Headlights Are Properly Directed.
First use May 17, 1966.

SN 251,875. Charles A. Ball, Jr., d.b.a. Woodrow Engineering Company, Northbrook, Ill. Filed Aug. 8, 1966.



For Rulers.
First use March 1960.

SN 252,910. Thermotech Industries, Inc., Minneapolis, Minn. Filed Aug. 22, 1966.

FLUOROWARE

For Scientific and Laboratory Ware Made of Plastic.
First use July 19, 1966.

SN 254,954. Union Carbide Corporation, New York, N.Y. Filed Sept. 22, 1966.

PRESTONE

Owner of Reg. Nos. 181,657, 658,623, and others.
For Radiator Pressure Caps and Thermostats for Automotive Cooling Systems.
First use Aug. 19, 1966.

SN 255,882. HC Electronics, Inc., Tiburon, Calif. Filed Oct. 6, 1966.

PHONIC MIRROR

For Sound Recorders and Reproducers for Speech and Hearing Therapy.
First use on or about Sept. 1, 1964.

SN 255,883. HC Electronics, Inc., Tiburon, Calif. Filed Oct. 6, 1966.



For Sound Recorders and Reproducers for Speech and Hearing Therapy.
First use on or about Sept. 1, 1964.

SN 255,934. Valor Electronics, Inc., Gardena, Calif. Filed Oct. 6, 1966.

CELESTRON

For Lenses, Telephoto Lenses, Reflecting Telescopes, Catadioptric Telescopes, Binoculars, Cameras, and Components Therefor.
First use May 7, 1965.

SN 256,175. Zolkind & Son, Inc., Brooklyn, N.Y. Filed Oct. 10, 1966.

PALM BEACH

For Sunglasses.
First use July 30, 1966.

SN 257,325. Norbest Turkey Growers Association, Salt Lake City, Utah. Filed Sept. 27, 1966.

Tender-Timer

For Cooking Gauges in the Nature of Thermometers Placed in Bagged Packages Containing Fresh and Frozen Dressed Poultry, Such as Turkey.
First use Sept. 1, 1966.

SN 259,225. Dentronics, Inc., Hackensack, N.J. Filed Nov. 22, 1966.

DENFOIL

For Strain Gages.
First use at least as early as Feb. 27, 1963.

SN 276,381. Ehrenreich Photo-Optical Industries, Inc., Garden City, N.Y. Filed July 20, 1967.

CAPRO

For Still Cameras and Movie Cameras, and Parts Thereof.
First use July 12, 1966.

SN 276,773. Univis Inc., Fort Lauderdale, Fla. Filed July 25, 1967.

UNI-FORM

Owner of Reg. No. 808,475.
For Ophthalmic Lenses.
First use Dec. 5, 1966.

Class 27 — Horological Instruments

SN 248,640. Sheffield Watch, Inc., New York, N.Y. Filed June 21, 1966.

MUSTANG

For Watches and Clocks.
First use May 26, 1966.
Subj. to Intf. with SN 250,176.

Class 28 — Jewelry and Precious-Metal Ware

SN 235,168. B. David Company, Cincinnati, Ohio. Filed Dec. 23, 1965.

FAMILY CROWN

Applicant disclaims any right to the word "Crown" apart from the mark as a whole.
For Pin in the Form of a Two-Dimensional Outline of a Crown, Having Colored Stones Mounted to It, Designating Birth Months.
First use July 24, 1961.

SN 254,108. Anson Incorporated, Providence, R.I. Filed Sept. 9, 1966.

PORT OF CALL

For Men's Jewelry—Namely, Tie Holders and Cuff Links.
First use Dec. 21, 1955.

SN 254,755. Robert Zentall Inc., Mount Vernon, N.Y. Filed Sept. 19, 1966.

ZENTALL

For Jewelry.
First use on or about Mar. 1, 1952.

SN 263,710. Tishman & Lipp, Inc., New York, N.Y. Filed Jan. 31, 1967.

CARJEAN

For Jewelry for Personal Wear or Adornment.
First use Oct. 2, 1966.

SN 276,505. Jeweled Cross Company, Inc., North Attleboro, Mass. Filed July 21, 1967.



For Crucifixes, Crosses, Plaques, Medals, and Candlesticks, Partly Plated With Precious Metal.
First use at least as early as December 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 258,291. DBA Products Co., Inc., Deerfield, Ill. Filed Nov. 9, 1966.

LINO-DUSTER

For Dusting Devices Having Mounted Roller With Ratchet, for Mounting Rolls of Cloth for Dusting Bowling Lanes and Like Surfaces.
First use October 1946.

Class 30 — Crockery, Earthenware, and Porcelain

SN 263,128. Syracuse China Corporation, Syracuse, N.Y. Filed Jan. 23, 1967.

CAREFREE XL

Owner of Reg. No. 655,821.
For Dinnerware and Tableware Made of China.
First use Oct. 24, 1966.

Class 31 — Filters and Refrigerators

SN 247,246. National Automotive Parts Association, Chicago, Ill. Filed June 3, 1966.

NAPA

Owner of Reg. Nos. 530,417, 535,474, and 558,373.
For Automotive Filters.
First use May 9, 1966.

SN 251,611. The Cuno Engineering Corporation, Meriden, Conn. Filed Aug. 3, 1966.

MICRO-KLEAN

Owner of Reg. Nos. 422,851, and 552,247.
For Mechanical Liquid Straining and Filtering Apparatus, and Parts Thereof.
First use Dec. 13, 1944.

SN 253,029. General Dynamics Corporation, New York, N.Y. Filed Aug. 24, 1966.

ROGA

For Reverse Osmosis Equipment Utilizing a Process Employing a Semi-Permeable Membrane To Separate Fluids From a Fluid Mixture.
First use Aug. 2, 1966.

SN 257,703. Fluid Dynamics, Incorporated, New York, N.Y. Filed Nov. 1, 1966.

FLUID DYNAMICS

For "T"-Type, "Y"-Type, Inline and Tank Type, Specific Performance Filters Employing Wire Mesh Filtering Media for the Filtration of Gases and Liquids.
First use September 1960.

SN 264,602. Signal Oil and Gas Company, Los Angeles, Calif. Filed Feb. 13, 1967.

SUPER-TEST

Owner of Reg. Nos. 788,518, 812,796, and 831,356.
For Oil Filters, Gasoline Filters, and Air Filters.
First use Jan 1, 1965.

Class 32 — Furniture and Upholstery

SN 229,367. Oakland Community College, Union Lake, Mich. Filed Oct. 5, 1965.

ACOUSTI CARREL

Applicant disclaims the word "Carrel" apart from the mark as shown.
For Carrels.
First use June 25, 1965.

SN 245,776. The Upjohn Company, Kalamazoo, Mich. Filed May 16, 1966.

RESTFOAM

For Urethane Flexible Foam Mattress.
First use Apr 28, 1966.

SN 247,337. Cecil C. Cunningham, d.b.a. Form-Fit Manufacturing Company, Castro Valley, Calif. Filed June 6, 1966.

FORM-FIT

For Mattresses.
First use May 11, 1966.

SN 248,478. Jus-Rock, Inc., St. Louis, Mo. Filed June 20, 1966.

TOOTSIE ROCKER

The word "Rocker" is disclaimed apart from the mark as shown.
For Rocking Type Footstool.
First use Mar. 17, 1966.

SN 249,356. W. L. Platt Co., Inc., Reno, Nev. Filed June 30, 1966.

PACIFIC GALLERY

For Furniture—Namely, Upholstered Chairs, Sofas, Ottomans, Occasional Chairs, Coffee Tables, Cocktail Tables, and End Tables.
First use May 6, 1966.

SN 252,111. Love Furniture, Inc., Tonawanda, N.Y. Filed Aug. 10, 1966. SN 263,263. Florida Foam Products, Inc., Hialeah, Fla. Filed Jan. 25, 1967.

LOVE

For Living Room, Dining Room, and Bedroom Furniture.
First use on or about Sept. 17, 1964.

SN 259,362. Young Spring & Wire Corporation, Detroit, Mich. Filed Nov. 23, 1966.

omni^{deck}

For Spring Assembly Utilized in Furniture, Such as Chairs and Sofas.
First use Nov. 14, 1966.

SN 261,569. Broyhill Furniture Factories, Lenoir, N.C. Filed Dec. 28, 1966.

MAISON DE VILLE

For Bedroom, Dining Room, and Living Room Furniture.
First use Oct. 21, 1966.

SN 261,865. Mosler Harbor Sales Corporation, Belmont, Calif. Filed Jan. 3, 1967.

MICRO CENTER

For Filing Cabinets.
First use Dec. 8, 1966.

SN 262,152. Flex-O-Lators, Inc., Carthage, Mo. Filed Jan. 9, 1967.

FLEX-CORD

Owner of Reg. No. 746,775.
For Furniture Welt Cord.
First use Dec. 11, 1961.

SN 262,345. Phillocraft Company, Fort Washington, Pa. Filed Jan. 11, 1967.

XTENDX

For Sectional Tables and Extensions Therefor.
First use on or about July 11, 1966.

SN 262,634. The Stearns & Foster Co., Lockland, Cincinnati, Ohio. Filed Jan. 16, 1967.

MARVELUX

For Mattresses.
First use Jan. 5, 1967.

SN 263,038. Gertrude Enelow, d.b.a. Body Dynamics, Chicago, Ill. Filed Jan. 23, 1967.

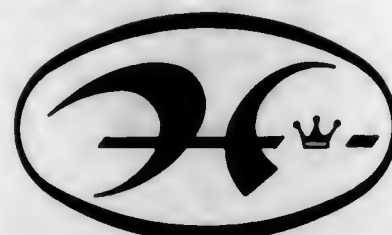
BODY DYNAMICS

For Pillow.
First use Nov. 20, 1966.

HiaSun

For Decorative Pillows, Pads and Cushions.
First use Nov. 8, 1966.

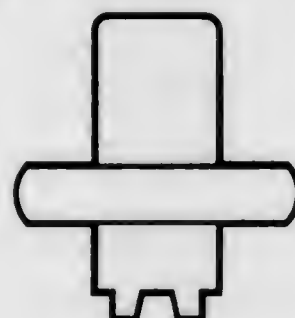
SN 263,264. Florida Foam Products, Inc., Hialeah, Fla. Filed Jan. 25, 1967.



For Decorative Pillows, Pads and Cushions.
First use Nov. 8, 1966.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 234,895. The Glass-Lined Water Heater Company, Cleveland, Ohio. Filed Dec. 20, 1965.



For Water Heaters.
First use Nov. 12, 1965.

SN 241,920. Mid-States Welder Manufacturing Company, Chicago, Ill. Filed Mar. 25, 1966.

DOT

For Electric Welding Equipment for Fusion Filling and Repairing Metal Cavities, Undercuts, Cracks, Scratches, and Other Like Imperfections in a Base Metal.
First use in 1958.

SN 243,848. Combustion and Power Equipment Ltd., Montreal, Quebec, Canada. Filed Apr. 20, 1966.

COMPOWER

Priority claimed under Sec. 44(d) on Canadian application filed Mar. 5, 1966; Reg. No. 151,087, dated June 2, 1967.
For Oil Pumping, Heating and Straining Sets Comprising Various Combinations of Fuel Oil Pumps, Motor or Turbine Drives, Suction Strainers and Discharge Strainers, Steam or Electrical Heaters, and Associated Structural Framework, Piping Connections and Occasionally Wiring; Oil and Gas Burner Packages and Fuel Burning Systems Comprising Various Combinations of Burners, Burner Fans, Burner Steel Windboxes and Combustion Control Panels.

SN 249,926. Acme Engineering and Manufacturing Corporation, Muskogee, Okla. Filed July 11, 1966.

FAN-JET

For Horticultural Atmospheric Control Regulators, Particularly Automatic Ventilating and Circulating Air Systems for Greenhouses.
First use Jan. 7, 1966.

SN 251,190. Correct Air Corporation, Willoughby, Ohio. Filed July 28, 1966.

KOOLMOBILE

For Carriage Supported, Heavy Duty Industrial Air Conditioner for Temporarily Conditioning the Air in the Interior of Industrial Furnaces, Hot Plots, and Other High Temperature Industrial Equipment During Shutdown Thereof.
First use Dec. 16, 1965.

SN 252,652. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Aug. 18, 1966.

ABRATEC

Owner of Reg. Nos. 594,776, 739,914, and 782,851.
For Welding Consumable Products—Namely, Welding Electrodes, Welding Rods, Welding Fluxes, Solders, and Chemical Aids of Welding.
First use June 28, 1966.

SN 253,968. General Heat Distributors, Inc., Greenwich, Conn. Filed Sept. 7, 1966.

DEL-RAY

For Oil, Gas and Electric Cast Iron Boilers, Steel Boilers, Water Heaters, Furnaces, and Oil and Gas Burners.
First use July 16, 1965.

SN 255,316. Hermet Manufacturing Division, Lawrence Rigging, Inc., Woodside, N.Y. Filed Sept. 28, 1966.

HERMET

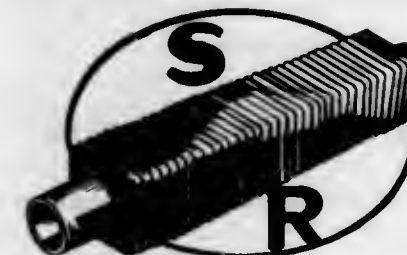
For Air-Sealed Smokestack.
First use Dec. 15, 1965.

SN 256,165. Wheeling Service & Supply, Inc., Arlington Heights, Ill. Filed Oct. 10, 1966.

P.V.S.

For Plastic-Coated Metal Air Ducts and Fittings Therefor.
First use July 1, 1962.

SN 256,776. Sterling Radiator Co., Inc., Westfield, Mass. Filed Oct. 19, 1966.



The representation of the goods is disclaimed apart from the mark as shown.
For Baseboard and Suspension Type Finned Tube Heating Radiators and Parts Thereof.
First use Sept. 26, 1966.

SN 256,994. Air Devices, Inc., New York, N.Y. Filed Oct. 11, 1966.

PLACAIR

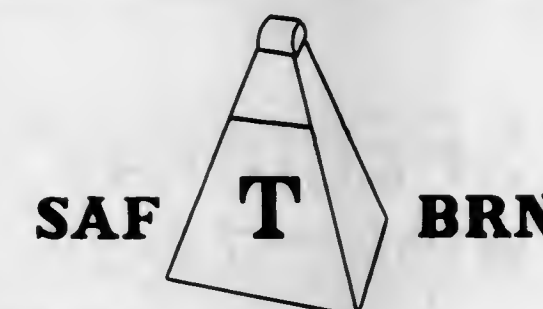
For Air Outlets Associated With Ventilating and Air Conditioning Systems.
First use Mar. 10, 1959.

SN 275,819. Olin Mathieson Chemical Corporation, New York, N.Y. Filed July 12, 1967.

ROLL-BOND

Owner of Reg. Nos. 634,379 and 658,282.
For Heat Exchangers and Refrigerated Evaporators.
First use Oct. 13, 1954.

SN 276,397. Daniel J. Martin, Cleveland, Ohio. Filed July 20, 1967.



Owner of Reg. No. 436,302.
For Portable Sheet Metal Burners for Use as Incinerators, Salamanders, Smudge Pots, and for the Burning of Rubbish.
First use May 22, 1946.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 225,073. Servotronics, Inc., Cheektowaga, N.Y. Filed Aug. 5, 1965.

SERVOTRONICS, INC.

For Metallic Seals.
First use on or about Mar. 30, 1960.

SN 238,998. Automotive Merchandisers, Inc., Collinsville, Ill. Filed Feb. 17, 1966.

WINCHESTER

For Automotive Tires and Fan Belts and Tubes.
First use Feb. 2, 1966.

SN 239,515. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Feb. 24, 1966.

BRUTE

Owner of Reg. No. 531,024.
For Tires.
First use Dec. 16, 1965.

SN 244,030. Geo. Rennie Bicycle Shop, Rochester, N.Y. Filed Apr. 21, 1966.

CYCLODYNAMICS SPECIALISTS

Applicant disclaims any rights in the word "Specialists" when that word is not used as part of the phrase "Cyclodynamics Specialists."

For Tubular Bicycle Tires.
First use on or before Mar. 1, 1965.

SN 258,296. Dodge Cork Company, Incorporated, Lancaster, Pa. Filed Nov. 9, 1966.

RESILIOCORK

For Flexible Gasket Materials.
First use Sept. 30, 1965.

SN 258,376. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Nov. 10, 1966.

SPEEDWAY WIDE TREAD

The words "Wide Tread" are disclaimed apart from the mark as shown.

For Tires.
First use Sept. 8, 1966.

SN 258,537. The B. F. Goodrich Company, Akron, Ohio. Filed Nov. 14, 1966.

BIG JOHN

For Wire-Reinforced Rubber Steam Hose.
First use Apr. 27, 1966.

Class 36 — Musical Instruments and Supplies

SN 243,011. J. C. Penney Company, New York, N.Y. Filed Apr. 8, 1966.

PENNCREST

Owner of Reg. Nos. 787,183, 792,577, and others.
For Guitars, Electric Guitars, Banjos, Ukuleles, and Amplifiers Therefor.
First use Oct. 13, 1965, on ukuleles.

SN 247,146. Pearl Musical Instrument Manufacturing Company Limited, Sumida-ku, Tokyo, Japan. Filed June 2, 1966.

PEARL

For Drums and Accessories Thereof.
First use Dec. 19, 1953; in commerce Oct. 30, 1965.

SN 249,734. Columbia Broadcasting System, Inc., New York, N.Y. Filed July 7, 1966.

TC8

The figure "8" is disclaimed apart from the mark as shown.
For Pre-Recorded Magnetic Tape.
First use May 10, 1966.

SN 271,890. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 19, 1967.

CROLYN

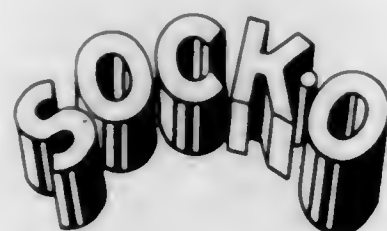
For Magnetic Tape.
First use Apr. 26, 1967.

SN 273,422. Scholastic Magazines, Inc., New York, N.Y. Filed June 8, 1967.



For Phonograph Records.
First use May 15, 1967.

SN 276,393. The Total Sound, Inc., New York, N.Y. Filed July 20, 1967.



For Phonograph Records.
First use June 9, 1967.

SN 276,538. Harry J. Coombs, d.b.a. Tec Records, Washington, D.C. Filed July 21, 1967.

TEC

For Phonograph Records.
First use Nov. 21, 1963.

Class 37 — Paper and Stationery

SN 249,802. Scott Paper Company, Delaware County, Pa. Filed July 7, 1966.

EXPANDA

Owner of Reg. No. 701,395.
For Printing and Converting Papers.
First use Sept. 4, 1959.

SN 252,826. Cory Corporation, Chicago, Ill. Filed Aug. 22, 1966.

AUTOPEN

Owner of Reg. Nos. 125,149, 613,577, and others.
For Pen-Type Writing Instruments.
First use February 1966.

SN 252,963. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed Aug. 23, 1966.

SPEEDIMEMO

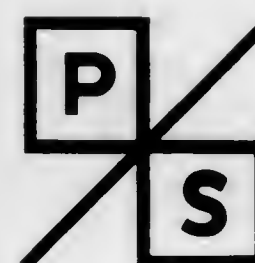
Owner of Reg. Nos. 299,928, 302,371, and 692,826.
For Printed Business Form Sets.
First use at least as early as 1953.

SN 257,976. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed Nov. 4, 1966.

REDITYPE

Owner of Reg. Nos. 268,926, 761,648, and others.
For Business Forms.
First use Sept. 21, 1966.

SN 260,576. Park Sherman, Inc., Roseland, N.J. Filed Dec. 12, 1966.



For Pens, Pen Bases, and Pencils.
First use Feb. 25, 1966.

SN 261,513. The Parker Pen Company, Janesville, Wis. Filed Dec. 27, 1966.

KEEPSAKE

For Fountain Pens, Mechanical Pencils, Ball Point Pens, and Wick Pens.
First use Dec. 7, 1966.

SN 262,146. Fawn Products Corporation, New York, N.Y. Filed Jan. 9, 1967.



For Shelf Lining Paper.
First use Oct. 30, 1953.

SN 274,837. Blinney & Smith Inc., New York, N.Y. Filed June 27, 1967.

KLEERWAE

Owner of Reg. No. 565,082.
For Chalk Used for Writing and Drawing Purposes.
First use Nov. 19, 1951.

SN 275,498. Safeway Stores, Incorporated, Oakland, Calif. Filed July 7, 1967.

TRULY FINE

Owner of Reg. No. 793,362.
For Paper Towels.
First use Oct. 15, 1964.

Class 38 — Prints and Publications

SN 242,455. The Institute of Electrical and Electronics Engineers, Incorporated, New York, N.Y. Filed Apr. 1, 1966.



For Digest of Conference Proceedings Issued From Time to Time in Connection With Conferences on Magnetism.
First use April 1963.

SN 244,684. George B. Dennis and Richard J. Ludwick (joint venture), South Bend, Ind. Filed May 2, 1966.

WHERE IN THE WORLD IS THIS?

For Feature Article Published in a Weekly Newspaper.
First use Apr. 15, 1966.

SN 255,194. Editorial America, S.A., Miami, Fla. Filed Sept. 27, 1966.

VANIDADES CONTINENTAL

The word "Continental" is disclaimed apart from the mark as shown. Owner of Reg. No. 733,438.

For Magazine in the Spanish Language Containing Articles, Stories, Comics, on a Variety of Subjects.
First use August 1961.

SN 255,268. Western Air Lines, Inc., Los Angeles, Calif. Filed Sept. 28, 1966.

FLUB STUB

For Redeemable Coupons.
First use May 10, 1966.

SN 257,112. United States Leasing Corporation, San Francisco, Calif. Filed Oct. 24, 1966.

NEWSLEASE

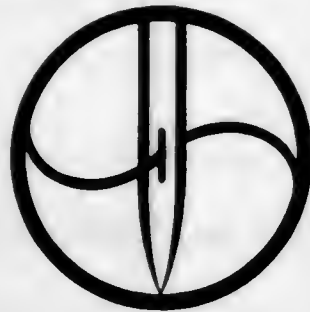
For News Bulletins Published From Time to Time, Concerning Equipment Available for Lease by Applicant.
First use on or about Sept. 15, 1966.

SN 257,392. Industrial Trade Publications, Conroe, Tex. Filed Oct. 27, 1966.

OFFSHORE

For Magazine Published Periodically.
First use May 1955.

SN 258,032. The Apparel Research Foundation, Inc., Washington, D.C. Filed Nov. 7, 1966.



For Quarterly Review in the Apparel Field, Reports to the Apparel Industry, and News Releases.
First use August 1965.

SN 258,939. Transamerica Corporation, San Francisco, Calif. Filed Nov. 17, 1966.



TIMES

Owner of Reg. No. 741,404.
For Magazine Published Bimonthly.
First use November 1961.

SN 259,029. Scholastic Magazines, Inc., New York, N.Y. Filed Nov. 18, 1966.

LET'S START

For Informational Bulletin Published Periodically for Use by Primary and Secondary School Teachers and Other Educators.
First use Oct. 24, 1966.

SN 259,295. Bantam Books, Inc., New York, N.Y. Filed Nov. 23, 1966.

UNIFACT

For Books Published From Time to Time in Series.
First use Oct. 18, 1966.

SN 259,408. Colourpicture Publishers, Inc., Jamaica Plain, Mass. Filed Nov. 25, 1966.

PANA-SCENES

For Picture Postcards, Picture Postcard Sets and Albums of Printed Pictures.
First use Oct. 13, 1966.

SN 260,648. Chilton Company, Philadelphia, Pa. Filed Dec. 13, 1966.

**MEDICAL ELECTRONICS
NEWS**

Owner of Reg. No. 674,764.
For Trade Publication—Namely, a Magazine.
First use Sept. 9, 1957.

SN 264,552. Korad Corporation, Santa Monica, Calif. Filed Feb. 13, 1967.

LASER-FARE

For Periodical Trade Bulletin.
First use on or about Feb. 1, 1965.

SN 269,959. Institute for Scientific Information, Inc., Philadelphia, Pa. Filed Apr. 25, 1967.

PERMUTERM

For Periodically Published Word Index Containing Words Appearing in Recently Published Articles.
First use Feb. 17, 1967.

SN 271,985. Heart-O-Gold Corporation, Philadelphia, Pa. Filed May 22, 1967.

HEART O GOLD

For Greeting Cards for Facilitating the Giving of a Gift.
First use May 15, 1967.

SN 273,423. Scholastic Magazines, Inc., New York, N.Y. Filed June 8, 1967.



For Books.
First use May 15, 1967.

Class 39—Clothing

SN 231,479. J. C. Penney Company, New York, N.Y. Filed Oct. 23, 1965.

Susan WELLS

The name "Susan Wells" is fictitious.
For Women's Hosiery, Underwear, Foundation Garments, Brassieres, and Shoes.
First use May 26, 1964.

SN 244,332. Link & Co. Schuhfabrik GmbH, Schney, near Lichtenfels, Bavaria, Germany. Filed Apr. 26, 1966.

LICO

For Shoes for Men, Women, and Children.
First use Oct. 23, 1962; in commerce May 1963.

SN 247,647. The Thomas Holmes Corporation, Philadelphia, Pa. Filed June 8, 1966.

SUSAN HOLMES

The name "Susan Holmes" is fanciful and is not the name of any living individual.
For Head Bands of Woven and Knitted Fabrics for Fitting Around the Heads of Girls and Women To Hold the Hair in Place.
First use January 1946.

SN 248,465. Genesco Inc., Nashville, Tenn. Filed June 20, 1966.

TED SAVAL

"Ted Saval" is not the name of any known living individual.
For Women's and Misses' Shoes.
First use September 1940.

SN 248,839. Oomphies, Inc., New York, N.Y. Filed June 23, 1966.

Réalités

Owner of Reg. No. 732,764.
For Women's Shoes and Slippers.
First use May 18, 1966.

SN 252,891. Puritan Fashions Corporation, New York, N.Y. Filed Aug. 22, 1966.

MAM'SELLE KNITS

Applicant disclaims the word "Knits" apart from the mark as a whole, while reserving all common law rights therein.
For Women's Dresses, Coats, Suits, Dress and Coat Costumes, Dress and Jacket Costumes, Pant Dresses, Sport Coats, T-Shirt Dresses, and Sport Slacks.
First use July 1966; 1955 as to "Mam'selle."

SN 255,472. Spartans Industries, Inc., New York, N.Y. Filed Sept. 29, 1966.

BARNYARDERS

For Boys' and Girls' Apparel—Namely, Dungarees, Jackets, Overalls, Shirts, and Shorts.
First use Jan. 2, 1964.

SN 255,929. Kangol Wear Limited, Cleator, Cumberland, England, assignee of E. Stern & Company, New York, N.Y. Filed Oct. 6, 1966.

TROPICAP

For Men's Caps.
First use Apr. 1, 1965.

SN 256,645. Capezio, Inc., New York, N.Y. Filed Oct. 18, 1966.

LEOSHIRT

For Outer Shirt.
First use July 5, 1966.

SN 257,315. The Shoe Show, Inc., Kannapolis, N.C. Filed Oct. 26, 1966.



No claim is made to the word "Shoe" apart from the mark as shown.
For Shoes.
First use on or about Sept. 10, 1964.

SN 257,713. Tom Jones, Inc., New York, N.Y. Filed Nov. 1, 1966.

T. Jones

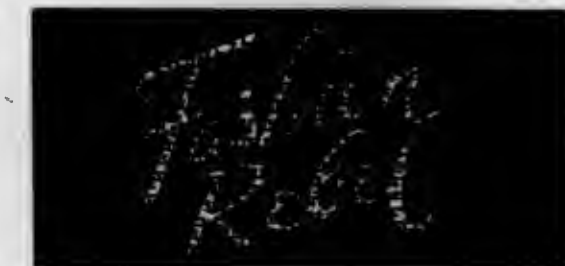
The name "T. Jones" is fanciful.
For Coats, Dresses, Suits, Sweaters, and Skirts.
First use Mar. 4, 1965.

SN 257,867. L & M Knitting Mills, Inc., Philadelphia, Pa. Filed Nov. 3, 1966.



The drawing is lined for gold or yellow.
For Men's Sweaters.
First use July 15, 1966.

SN 257,868. L & M Knitting Mills, Inc., Philadelphia, Pa. Filed Nov. 3, 1966.



The word "Fashion" is disclaimed apart from the mark as shown. The drawing is lined for yellow or gold.
For Men's Sweaters.
First use April 1966.

SN 258,103. Richard Gregg Manufacturing Company, Inc., Meridianville, Ala. Filed Nov. 7, 1966.

Style-Tender

For Hair Nets.
First use Oct. 27, 1966.

SN 258,552. The Joseph & Feiss Company, Cleveland, Ohio. Filed Nov. 14, 1966.

JOSEPH & FEISS

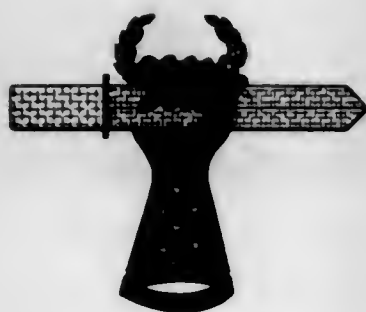
For Men's Tailored Apparel—Namely, Suits, Coats, Trousers, Vests, Slacks, Sport Jackets, Topcoats, Overcoats, and Raincoats.
First use Sept. 1, 1907.

SN 258,723. A. Rivetz Co., Inc., Boston, Mass. Filed Nov. 15, 1966. SN 260,249. Grey-Wood Knitwear Industries, Inc., New York, N.Y. Filed Dec. 7, 1966.



The lining in the drawing indicates gold or yellow.
For Fabrics Woven in Switzerland and Made Up Into Neckwear.
First use in or about January 1966.

SN 258,724. A. Rivetz Co., Inc., Boston, Mass. Filed Nov. 15, 1966.



The lining in the drawing indicates gold or yellow.
For Silk Fabrics Woven in Italy and Made Up Into Neckwear.
First use in or about January 1966.

SN 259,270. Sil-O-Ette Sales Corp., Jamaica, N.Y. Filed Nov. 22, 1966.

SPECTRA

For Women's and Children's Foundation Garments.
First use on or about Nov. 16, 1966.

SN 259,540. Farah Manufacturing Company, Inc., El Paso, Tex. Filed Nov. 28, 1966.

*Rambl-
Stripe*

Owner of Reg. Nos. 724,244 and 732,185.
For Men's Slacks and Jeans, and Fabrics Sold Exclusively in the Form of Such Garments.
First use Nov. 10, 1966.

SN 259,914. Gale Knitting Mills, Inc., Bronx, N.Y. Filed Dec. 2, 1966.

GALE-LYNN

For Sweaters, Dresses, and Skirts.
First use Apr. 1, 1966.

LES TEE

For Ladies' and Misses' Knit Dresses.
First use Oct. 27, 1966.

SN 261,121. Wellco Ro-Search Industries, Inc., Waynesville, N.C. Filed Dec. 19, 1966.

THE WALK THAT RELAXES

For Footwear.
First use May 2, 1958.

SN 261,300. I. C. Herman & Company, Inc., New York, N.Y. Filed Dec. 22, 1966.

PERMA-HEM

For Men's Handkerchiefs.
First use Nov. 25, 1966.

SN 262,582. Gomu, Inc., Hackensack, N.J. Filed Jan. 16, 1967.



For Footwear.
First use November 1963.

SN 262,814. Sportempos, Inc., New York, N.Y. Filed Jan. 18, 1967.

SPORTEMPOS

Owner of Reg. No. 428,190.
For Suits, Jackets and Skirts; Trousers and Slacks; Outer Shorts; Coats; Outer Dress and Sport Shirts; Blouses, Shells, With and Without Sleeves; Sweaters; Shifts; and Caps, All for Women, Young Women, and Girls.
First use Jan. 13, 1946.

SN 262,870. Kayser-Roth Corporation, New York, N.Y. Filed Jan. 19, 1967.

BAKER ST.

For Women's Suits, Jackets, Skirts, Pants, Shifts, Dresses, Shells, Shirts, Blouses, Beach Robes, Beach Jackets, and Shorts.
First use Dec. 5, 1966.

SN 265,206. J. J. Newberry Co., New York, N.Y. Filed Feb. 21, 1967.

BROOKDALE

Owner of Reg. No. 821,681.
For Men's and Boys' Sneakers, Pajamas, Briefs, Under-shirts, T-Shirts, Boxer Shorts, and Outer Shirts.
First use Jan. 26, 1966.

SN 275,111. Chadbourn Gotham, Inc., Charlotte, N.C. Filed June 30, 1967.

GUESS WHICH BRAND

No claim is made to the word "Brand" apart from the mark as shown.
For Ladies' Hosiery.
First use 1959.

SN 276,074. Kangol Wear Ltd., Cleator, Cumberland, England. Filed July 17, 1967.



For Hats, Caps and Berets.
First use June 15, 1967; in commerce June 15, 1967.

SN 276,502. Izod, Ltd., New York, N.Y. Filed July 21, 1967. Owner of Reg. Nos. 655,860, 787,838, and others.

IZOD

For Men's Walking Shorts, Slacks, Sweaters, Golf Caps and Golf Gloves, Socks, Jackets; and Men's and Women's Sport Shirts.
First use March 1947.

Class 40 - Fancy Goods, Furnishings, and Notions

SN 248,479. Kee Comb Co., Inc., Massapequa, N.Y. Filed June 20, 1966.

VICO

For Combs.
First use Apr. 25, 1966.

SN 264,548. J.L. Industries, Inc., Newark, N.J. Filed Feb. 13, 1967.

GO GO TAIL

The word "Tail" is disclaimed apart from the mark as shown.
For Artificial Hair Pieces for Women.
First use November 1965.

SN 266,587. R. & A. Sales Co., d.b.a. R. A. Sales Co., Bedford Heights, Ohio. Filed Mar. 13, 1967.

PERMALLOY

For Combs.
First use Jan 3, 1967.

Class 42 - Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 247,869. Allison Ayres, Inc., New York, N.Y. Filed June 13, 1966.

PREM
Ayres

For Bonded Wool Fabrics.
First use May 17, 1966.

SN 256,970. Quick Service Textiles Inc., Chicago, Ill. Filed Oct. 21, 1966.

RESISTA-ROL

For Waistband Material of Fabric Sold in Strip Form and Adapted To Be Incorporated in the Waistband or Similar Edge Portion of a Garment.
First use Oct. 12, 1966.

SN 262,846. Bibb Manufacturing Company, Macon, Ga. Filed Jan. 19, 1967.



For Blankets.
First use Dec. 30, 1966.

SN 268,276. Abraham Perchick & Sons, Inc., New York, N.Y. Filed Apr. 4, 1967.

ALISTRANA A PERCHICK FABRIC

The word "Fabric" is disclaimed apart from the mark as shown.
For Synthetic Fur Fabric.
First use Mar. 9, 1967.

SN 276,280. Lerrick & Company, Incorporated, New York, N.Y. Filed July 19, 1967.

CORNUCOPIA

For Place Mats.
First use June 1, 1967.

SN 276,283. Lerrick & Company, Incorporated, New York, N.Y. Filed July 19, 1967.



For Place Mats.
First use June 1, 1967.

Class 43—Thread and Yarn

SN 259,297. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Nov. 23, 1966.

OPAL TWEED

The word "Tweed" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 774,211 and 818,743.

For Hand Knitting Yarns.
First use Oct. 13, 1966.

SN 262,371. Filatures Prouvost & Cie, La Lainiere de Roubaix, Societe en Commandite par Actions, Roubaix (Nord), France. Filed Jan. 9, 1967.

ICEBERG

Owner of French Reg. No. 9,457, dated Dec. 24, 1963 (Roubaix); Natl. Inst. No. 218,920.
For Yarns and Threads.

SN 263,042. Filatures Prouvost & Cie, La Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 23, 1967.

TOM POUCE

Owner of French Reg. No. 8,713, dated Mar. 11, 1961 (Roubaix); Natl. Inst. No. 162,048.
For Yarns and Threads.

Class 45—Soft Drinks and Carbonated Waters

SN 258,571. Pacific Food Products Company, Seattle, Wash. Filed Nov. 14, 1966.

WITCHES BREW

The word "Brew" is disclaimed apart from the mark as shown.

For Soft Drink.
First use Sept. 28, 1966.

SN 258,583. Red Arrow Bottling, Inc., Detroit, Mich. Filed Nov. 14, 1966.



For Soft Drink.
First use on or about Oct. 7, 1966.

Class 46—Foods and Ingredients of Foods

SN 184,820. Honig Merkartikelen N.V., d.b.a. Honig Mills and Honig Foods Ltd., Koog aan de Zaan, Netherlands. Filed Jan. 17, 1964.



For Cereals Made of Wheat and Oats for Use as Breakfast Cereals and Dessert Cereals; Wheatmeal, Canned, Frozen and Dehydrated Corn, Maize and Potatoes; Corn Flour and Maize Flour, Potato Flour, Farina, Corn Glucose, Malt and Malt Extracts for Food Purposes, Gluten, Vermicelli, Macaroni, Spaghetti and Other Allimentary Pastes, Rice (Including Pre-Cooked Rice), Barley, Groats, Grits, Semolina, Wheat Flour (Including Self-Rising Flour), Rolled Barley, Pudding, Cream and Custard Powders, Cake Mixes; Mayonnaises, Gravy and Sauce Preparations, Dehydrated Soups and Broth, Bouillon Cubes, Canned Soup, Wheat Gluten and Monosodium Glutamate Seasonings; Soya Bean Sauce, Dietetic Foods Made From Cereals and/or Milk and/or Milk Powder, With or Without Vitamins and/or Minerals Added; Spices, Mixtures of Spices and Condiments, Saccharine as a Food Additive; Coffee, Coffee-Extracts and Coffee Syrups for Food Purposes, Instant Coffee, Tea, Cocoa, Cooking or Baking Chocolate, Sugar; Candies—Namely, Liquorice, Acid Drops, Peppermint, and Marzipan; Chewing Gum, Crystallized Fruits, Peanut Butter, Sandwich Spreads, Jams, Syrups for Food Purposes, Honey, Treacle for Food Purposes, Apple Syrups, Canned, Frozen and Dehydrated Eggs; Pickles, Vanilla in Natural and Essence Form for Use as a Flavoring for Foods, Vanilla Sugar, Canned Peel, Ginger and Other Candied and Preserved Parts of Plants, Colouring Substances, and Cake, Bread, Biscuits, Rusks, Pastry, Ice Creams, Fresh, Preserved, Frozen and Dehydrated Vegetables, Seeds for Food, Canned, Frozen and Dehydrated Fruits, Fish, Crustaceans and Mollusks; Creams and Emulsions for the Bread, Biscuit, Cake and Pastry Industry, Aromatic Substances as Raw Materials for the Confectionery Industry, Yeast, Baking Powder, Lecithine, Edible Oils and Fats Either of Vegetable or of Animal Fat Origin; Butter, Margarine, Oil and Fat Emulsions Either of Vegetable or of Animal Fat Origin, Powders To Be Used as Raw Material for the Preparing of Ice Cream, Milk Powder, Cheese and Cream, Ethereal Oils and Essences for the Preparation of Foodstuffs, All of the foregoing Products Being Either Fresh, Canned, Frozen or in Dehydrated Form.
First use 1938; in commerce June 12, 1958.

SN 209,352. Kentucky Fried Chicken Corporation, Shelbyville, Ky. Filed Jan. 5, 1965.

COL. SANDERS' RECIPE

Kentucky Kandies

The applicant disclaims the words "Recipe" and "Kandies" apart from the mark as shown. The representation of the human face is that of a living individual—namely, Harland Sanders, and his consent is of record. Owner of Reg. Nos. 637,305, 814,610, and others.

For Candy.
First use on or about July 1, 1963; in or about May 1948 as to "Kentucky Kandies."
Subj. to Intf. with SN 178,773.

SN 209,944. New York Snacktime, Inc., New York, N.Y. Filed Jan. 14, 1965.

SNACKTIME

For French Fried Potatoes, Jumbo Fantail Shrimp, Soft-shell Crabs, Frogs Legs, Shrimp Egg-Roll, Clam Chowder, and Corn on the Cob.

First use July 9, 1963.
Subj. to Intf. with SN 233,703.

SN 231,651. Specialty Franchises, Inc., Woodside, N.Y. Filed Oct. 26, 1965.



For Bread.
First use July 26, 1965.

SN 233,703. Fairmont Foods Company, d.b.a. Johnson Nut Company, Omaha, Nebr. Filed Dec. 1, 1965.



Owner of Reg. Nos. 714,234 and 786,896.

For Shelled and Unshelled Nuts, Peanut Butter, Potato Chips, Corn Chips, Pretzels; Cracker and Cookie Sandwiches, Containing Fillings Such as Cheese, Peanut Butter or Creamed Confections; Ready To Eat Dips of Both the Dairy Based and Vegetable Fat Based Types, Dehydrated Dips of Vegetable Fat Base, and Dehydrated Dips Combining Dairy and Vegetable Fat Bases; Popped Pop Corn, Frozen Bakery Rolls, Pickled Meats and Seafood, Smoked Meats and Seafood, Candy, Pickles, Cookies, and Crackers.

First use May 23, 1960.
Subj. to Intf. with SN 209,944.

SN 240,810. Keebler Company, Melrose Park, Ill., by change of name from United Biscuit Company of America, Melrose Park, Ill. Filed Mar. 11, 1966.

PENGUIN

Owner of Reg. No. 685,239.
For Edible Cups and Cones for Ice Cream and the Like.
First use Jan. 26, 1966.

SN 240,812. Keebler Company, Melrose Park, Ill., by change of name from United Biscuit Company of America, Melrose Park, Ill. Filed Mar. 11, 1966.

POTATO PIFFLES

The word "Potato" is disclaimed apart from the mark as shown.

For Crackers.
First use Jan. 22, 1966.

SN 240,813. Keebler Company, Melrose Park, Ill., by change of name from United Biscuit Company of America, Melrose Park, Ill. Filed Mar. 11, 1966.

SESAME SILLYS

The word "Sesame" is disclaimed apart from the mark as shown.

For Crackers.
First use Jan. 22, 1966.

TM 842 O.G.—8

ZORA

The word "Zora" which is derived from the Greek word "Zoros" means "morning star." Owner of Czechoslovakian Reg. No. 116,819, dated Feb. 18, 1936.

For Cooking, Baking and Milk Chocolate; Edible Foiled Chocolate Candy Novelties; Candles; Food Colors and Food Flavoring Extracts; Wafers; and Confectionery Waffles.

SN 241,862. Chocolate Products Limited, Toronto, Ontario, Canada. Filed Mar. 25, 1966.

DUTCH MILL

Owner of Canadian Reg. No. 124,068, dated Oct. 20, 1961.
For Flavouring Bases for Chocolate Beverages, Powdered Cream Substitute, Dry and Liquid Flavouring Bases for Soups Having Meat and Poultry Flavours; All for Use in Vending Machines in Which a Beverage is Prepared and Dispensed.

SN 243,611. Wisconsin Foods, Inc., Sturgeon Bay, Wis. Filed Apr. 15, 1966.



For Fresh Apples, Canned Apple Sauce, Canned Cherries and Frozen Cherries.
First use September 1950.

SN 248,559. Valley Institutional Products Company, Decatur, Ala. Filed June 20, 1966.

VIPCO

For Anti-Oxidants for Use as a Potato Whitener, Malt for Food Purposes, Meat Tenderizers, Monosodium Glutamate, Liquid Smoke for Use as a Food Flavoring, Table Salt, Pepper, Sugar, Table Salt and Sugar Substitutes, Gravy Coloring, and Fryer Fat Extender.
First use at least as early as July 1, 1959.

SN 249,640. Golden Dipt Corporation, Millstadt, Ill. Filed July 6, 1966.

ZIP 'N DIP

No claim is made to the word "Dip" apart from the mark as shown.

For Food Breeding Mixes.
First use May 10, 1966.

SN 249,740. The Dob Corporation, Los Angeles, Calif. Filed July 7, 1966.

ARRIVEDERCI

The word "Arrivederci" is an Italian word which translated means "I'll be seeing you."

For Pizza.
First use November 1963.

SN 251,247. Stoppenbach Sausage Company, Jefferson, Wis. Filed July 28, 1966.

BEANEE

For Frankfurter Sausage of Beef and Pork.
First use July 21, 1966.

SN 251,514. Carter-Wallace, Inc., New York, N.Y. Filed Aug. 2, 1966.

VITA BULK

For Vitamin Enriched Orange Flavored Beverage Drink.
First use June 21, 1966.

SN 251,840. Spatini Company, Philadelphia, Pa. Filed Aug. 5, 1966.

SPATINI

For Spaghetti Sauce Mix, Marinara Sauce Mix, and Brown Gravy Mix, All Meatless.
First use October 1952.

SN 252,009. Isadore D. Frank, d.b.a. Frank Wholesale, Clarksdale, Miss. Filed Aug. 9, 1966.

SHADY NOOK

For Barbecue Sauce.
First use Apr. 8, 1965.

SN 252,496. Taylor & Sledd, Inc., Richmond, Va. Filed Aug. 16, 1966.



Owner of Reg. Nos. 220,939, 508,210, and 541,451.
For Canned Foods—Namely, Fruits, Berries, Vegetables, Tuna Fish, Olives, and Pimientos; and Mayonnaise and Salad Dressing.
First use 1915.

SN 253,630. Cain's Foods, Tempe, Ariz. Filed Sept. 1, 1966.



The words "Honey Nuts" are disclaimed apart from the mark as shown.
For Edible Nuts.
First use Apr. 12, 1966.

SN 253,929. Tri-Valley Growers, San Francisco, Calif. Filed Sept. 6, 1966.



The portrait is that of "Toni O'Connor" whose consent is of record. Owner of Reg. No. 620,504.
For Canned Vegetables, Canned Tomato Paste, Canned Tomato Puree, and Canned Tomato Sauce.
First use Aug. 8, 1966; Sept. 1, 1930, as to "Corina."

SN 254,000. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Sept. 7, 1966.

BAZOOKA

Owner of Reg. Nos. 506,872 and 727,088.
For Frozen Confection—Namely, Fruit Ices.
First use Aug. 10, 1966.

SN 254,110. Balfour, Guthrie & Co., Limited, San Francisco, Calif. Filed Sept. 9, 1966.

PACIFIC CLOUD

Owner of Reg. Nos. 277,217, 582,706, and 807,324.
For Canned Fruits, Vegetables and Fish, and Dried Fruits and Vegetables.
First use on or about Nov. 14, 1930.

SN 254,340. Atalanta Trading Corp., New York, N.Y., assignee of Valio Finnish Co-Operative Dairies Association, Helsinki, Finland. Filed Sept. 12, 1966.



Applicant disclaims the words "Cheese From Finland" apart from the mark as shown.
For Cheese.
First use Aug. 15, 1965; in commerce Aug. 15, 1965.

SN 254,475. The Southland Corporation, Dallas, Tex. Filed Sept. 14, 1966.

COOL SCOOP

For Ice Milk and Mellorine.
First use April 1951.

SN 255,015. Potato Service, Inc., Presque Isle, Maine. Filed Sept. 23, 1966.

WONDER FLAKES

No claim is made to the word "Flakes" apart from the mark as shown.
For Instant Mashed Potato Flakes.
First use on or about July 7, 1966.

SN 255,143. Wilsey-Bennett Co., San Francisco, Calif. Filed Sept. 26, 1966.

PLUS+33

For Margarine.
First use June 24, 1966.

SN 255,186. Coronet Baking, Inc., Seattle, Wash. Filed Sept. 27, 1966.

Kreme Kups

The word "Kups" is disclaimed apart from the mark as shown.
For Baked Sugar Crisp Edible Dessert Dish.
First use Aug. 1, 1966.

SN 256,232. A. J. Pietrus & Sons Co., Sleepy Eye, Minn. Filed Oct. 11, 1966.

NUTRI-EGG

For Dried Whole Egg Mix.
First use July 15, 1966.

SN 256,454. P. Lorillard Company, New York, N.Y. Filed Oct. 14, 1966.

PAL-LOOP

For Candy.
First use at least as early as 1933.

SN 256,484. W. F. Straub & Company, Chicago, Ill. Filed Oct. 14, 1966.

PRUNE DELIGHT

Applicant disclaims the word "Prune" apart from the mark as shown.
For Prune Juice Food Beverage.
First use Sept. 26, 1966.

SN 256,854. North American Food Service Corporation, Chicago, Ill. Filed Oct. 20, 1966.

VIA VENETO

The wording "Via Veneto" is Italian in nature and can best be translated as "Veneto Road."

For Frozen and Canned Vegetables—Namely, Zucchini, Pizza Sauce, Spaghetti Sauce, Tomato Paste, Tomato Sauce, Tomato Puree, Crushed Tomatoes, Tomato Catsup, Chili Sauce, Canned Tomatoes in Puree, Canned Tomatoes, Diced Tomatoes, Italian Pear Shaped Tomatoes and Ground Tomatoes; Packaged and Bagged Pasta—Namely, Ravioli, Spaghetti, Macaroni and Lasagne; Frozen Prepared Pasta—Namely, Lasagne, Pizza and Ravioli; and Other Canned and Bottled Italian Specialty Items—Namely, Pepperocine, Gardinera, Olives, Antipasta, and Olive Oil.
First use Aug. 22, 1966.

LICS

For Candy.
First use July 1966.

SN 257,311. S & D Coffee, Inc., Concord, N.C. Filed Oct. 26, 1966.



For Coffee.
First use on or about Mar. 1, 1966.

SN 257,375. The F. L. Emmert Company, Cincinnati, Ohio. Filed Oct. 27, 1966.



For Livestock Provender.
First use Aug. 21, 1966.

SN 257,376. The F. L. Emmert Company, Cincinnati, Ohio. Filed Oct. 27, 1966.



For Fortified Livestock Provender.
First use June 20, 1965.

SN 258,096. The Gorton Corporation, d.b.a. Gorton's of Gloucester, Gloucester, Mass. Filed Nov. 7, 1966.



No exclusive right is claimed in the words "of Gloucester" apart from the mark as shown. Owner of Reg. Nos. 411,843, 514,074, and 716,235.

For Frozen Seafood—Namely, Fish Sticks, Fish Steaks, Fillets of Fish, Scallops, Fish Cakes, and Shellfish, Including Shrimp and Clams.
First use Aug. 25, 1966.

SN 253,561. H. A. McPeak, d.b.a. Pizzaco Express and Perky's Pizza, Lincoln, Nebr. Filed Nov. 14, 1966.



For Baked, Pizza-Like Product Consisting of a Corn Meal Shell With a Tomato-Cheese Filling.
First use Mar. 1, 1966.

SN 259,083. C.F.I. Products, Inc., Pottstown, Pa. Filed Nov. 21, 1966.



For Canned Soups and Consommés.
First use on or about Feb. 21, 1958.

SN 261,459. Carnation Company, Los Angeles, Calif. Filed Dec. 27, 1966.

SLENDER

Owner of Reg. No. 574,591.
For Dietary Food Concentrate for Weight Control.
First use Sept. 27, 1966.

SN 263,998. General Mills, Inc., Minneapolis, Minn. Filed Feb. 6, 1967.

MACARONI MONTE BELLO

The word "Macaroni" is disclaimed apart from the mark as shown. The word "Monte" is translated from Italian and means mountain, hill or heap. The word "Bello" is translated from Italian and means beautiful or handsome.

For Packaged Food Product Consisting of Macaroni and Tomato Sauce.
First use Jan. 4, 1967.

SN 267,084. Waples-Platter Company, Fort Worth, Tex. Filed Mar. 17, 1967.

SILVER BAND

For Food Products, Specifically Jams and Cooking and Salad Oils.
First use July 1, 1957.
Subj. to Intf. with SN 248,582.

SN 268,659. Best Fruit and Produce Co., South San Francisco, Calif. Filed Apr. 10, 1967.



No claim is made to the representation of the goods apart from the mark as shown. Owner of Reg. Nos. 534,200 and 565,762.

For Fresh Fruits and Fresh Vegetables.
First use Feb. 3, 1964; Sept. 1, 1926, as to "Best."

SN 268,920. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1967.

SPRED-WICH

For Sandwich Filling Containing Shredded Chicken and Vegetable Protein.
First use Jan. 9, 1967.

SN 269,014. Allen Foods, Inc., St. Louis, Mo. Filed Apr. 13, 1967.



No exclusive right is claimed in the word "Dessert" apart from the mark as shown.

For Flavored Instant Mixes for Pudding Desserts and Dessert Fillings as Sold to Institutional Food Serving Establishments.

First use Apr. 4, 1967.

SN 269,261. General Mills, Inc., Minneapolis, Minn. Filed Apr. 17, 1967.

BEEHIVES

For Ready To Eat Corn Snacks.
First use Oct. 24, 1966.

SN 269,961. Van Den Bergh en Jurgens N.V., Rotterdam, Holland. Filed Apr. 25, 1967.

MIRIC

The word "Miric" is fanciful. Owner of Dutch Reg. No. 160,032, dated May 11, 1965.

For Potato Chips and Other Potato Snack Products Sold in Puffed Form.

SN 270,743. Snokist Growers, Yakima, Wash. Filed May 5, 1967.



Owner of Reg. No. 568,882.
For Canned Fruits and Canned Apple Sauce.
First use Jan. 30, 1952.

SN 273,333. Weight Watchers International, Inc., Forest Hills, N.Y. Filed June 7, 1967.



For Dietetic Sweeteners, Instant Bouillon, and Non-Fat Dry Milk Powder.
First use May 22, 1966.

SN 274,284. Martha White, Inc., Nashville, Tenn. Filed June 22, 1967.

FOOD OF CHAMPIONS

Without relinquishing any common law rights, applicant disclaims exclusive rights in the word "Food" apart from the mark as shown.

For Dog Food.
First use Nov. 13, 1964.
Subj. to Intf. with SN 240,688.

SN 275,812. California Coastal Farms, Inc., Salinas, Calif. Filed July 12, 1967.



For Fresh Vegetables.
First use at least as early as Apr. 18, 1935.

SN 275,815. Les Chefettes, Inc., Great Neck, N.Y. Filed July 12, 1967.

SLICE-A-DERV

For Frozen Hors d'Oeuvres Comprising Fillings of Vegetable, Meat, Fish or Cheese.
First use May 29, 1967.

SN 276,065. Philip Morris Incorporated, d.b.a. Clark Gum Co., New York, N.Y. Filed July 17, 1967.

CLARKITOS

Owner of Reg. Nos. 791,935, 826,996, and others.
For Chewing Gum.
First use June 29, 1967.

SN 276,292. Robert W. Gretter, d.b.a. Gretter's Distributing Co. and Gretter's Distrib. Co., Long Beach, Calif. Filed July 19, 1967.



Applicant disclaims the word "Brand" apart from the mark as shown.
For Beef Jerky, Smoked Salami, Polish Sausage, Smoked Beef Sausage, and Pepperoni.
First use January 1964.

Class 47 - Wines

SN 250,797. De Ladoucette Freres, Societe a Responsabilite Limitee, Paris, France. Filed July 11, 1966.

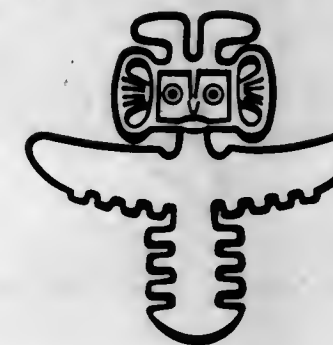
de Ladoucette



For Wines.
First use 1952; in commerce 1952.

Class 48 - Malt Beverages and Liquors

SN 263,350. Club Colombia Importers, Inc., New York, N.Y. Filed Jan. 26, 1967.



For Beer.
First use on or about Sept. 2, 1966.

Class 49 - Distilled Alcoholic Liquors

SN 239,748. Distillers Corporation (S.A.) Limited, Stellenbosch, Cape Province, Republic of South Africa. Filed Feb. 28, 1966.



"Oude Meester" is the Afrikaans equivalent for the English words "old master." The portrait on the drawing is not that of any particular person. Owner of South African Reg. No. 63/0259, dated Jan. 22, 1963.
For Brandy.

SN 254,892. Schleffelin & Co., New York, N.Y. Filed Sept. 21, 1966.



For Brandy.
First use July 19, 1966; Nov. 12, 1965, in a different form.

SN 260,670. Robert McNish & Company Limited, d.b.a. Craig, Marshall & Co., Glasgow, Scotland. Filed Dec. 13, 1966.

ROYAL CRAG

For Whisky.
First use 1950; in commerce Oct. 30, 1966.

SN 261,488. Heaven Hill Distilleries, Inc., d.b.a. R.L.D. Distilling Co., Bardstown, Ky. Filed Dec. 27, 1966.

BOURBON TIME

The word "Bourbon" is disclaimed apart from the mark as shown.
For Bottled Whiskey.
First use Dec. 6, 1966.

SN 261,956. Maison E. Remy Martin & Co., Cognac, France. Filed Jan. 5, 1967.



Owner of U.S. Reg. No. 749,501.
For Cognac.
First use at least as early as Apr. 15, 1963; in commerce at least as early as Apr. 15, 1963; at least as early as 1884 in a different form.

Class 50 — Merchandise Not Otherwise Classified

SN 234,052. Monroe International, Inc., Orange, N.J. Filed Dec. 6, 1965.

EDU KIT

The word "Kit" is disclaimed apart from the mark as shown.
For Kit Comprising Printed Material for the Sales Promotion of Business Machines.
First use not later than Nov. 4, 1965.

SN 246,044. Charlet Corporation, New York, N.Y. Filed May 19, 1966.

"RUSTICS"

For Hand Painted Wall Plaques.
First use Sept. 1, 1964.

SN 254,827. R. D. Werner Co., Inc., Greenville, Pa. Filed Sept. 20, 1966.

TWIST-PROOF

Owner of Reg. Nos. 808,637 and 808,638.
For Extension Ladders, Stepladders, Stages, and Platform Ladders.
First use July 1, 1961.

SN 256,953. Metlox Manufacturing Co., Manhattan Beach, Calif. Filed Oct. 21, 1966.

POPPETS

For Ceramic Figurine Flower Holders.
First use Sept. 19, 1966.

SN 272,546. Eldon Industries, Inc., d.b.a. Danlee Company, Hawthorne, Calif. Filed May 29, 1967.

DANNY DRIBBLE

For Bendable Figurine.
First use Apr. 8, 1967.

SN 273,238. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 7, 1967.

SCOTCH

For Protector Pads.
First use May 12, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 262,220. Textron Inc., Providence, R.I. Filed Jan. 9, 1967.



For Men's Cologne, After Shave Lotion, and Personal Deodorant.
First use Sept. 30, 1965.

SN 266,631. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 14, 1967.

AWAKE

For Mouthwash and Oral Antiseptic.
First use Feb. 21, 1967.

SN 266,987. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed Mar. 17, 1967.



The English translation of "Cri d'Amour" is "cry of love."
For Perfume.
First use Mar. 8, 1967.

SN 268,929. From the Ancients, Inc., New York, N.Y. Filed Apr. 12, 1967.

NEW BORN

For Face Cream.
First use Aug. 4, 1966.

SN 271,769. Chesebrough-Pond's Inc., New York, N.Y. Filed May 18, 1967.

NOTHING

For Hair Dressings.
First use May 4, 1967.

SN 274,996. Sterling Drug Inc., New York, N.Y. Filed June 28, 1967.

MIDNIGHT FROLIC

Owner of Reg. No. 229,919.
For Cologne, Dusting Powder, and Hand and Body Lotion.
First use at least as early as 1927.

SN 275,344. Adams National Industries (Pty) Ltd., Durban, Natal, Republic of South Africa. Filed July 5, 1967.

DALESMAN

For Personal Deodorant.
First use Jan. 24, 1966; in commerce Mar. 31, 1966.

SN 275,985. The Procter & Gamble Company, Cincinnati, Ohio. Filed July 14, 1967.

AMERICAN FAMILY

Owner of Reg. Nos. 76,449 and 580,286.
For Personal Deodorant.
First use Apr. 24, 1967.

SN 276,290. The Procter & Gamble Company, Cincinnati, Ohio. Filed July 19, 1967.

FLINTLOCK

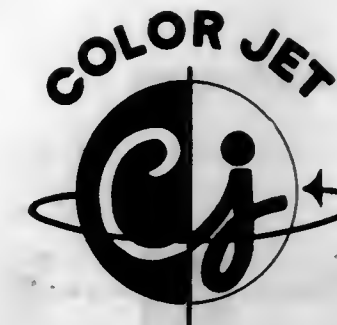
For Shaving Cream and Hair Dressing.
First use Dec. 19, 1966.

Class 52 — Detergents and Soaps

SN 248,483. Clarence J. Lande, d.b.a. Auto Specialty Products, Portland, Ore. Filed June 20, 1966.



The representation of the windshield and wiper are disclaimed apart from the mark as shown.
For Windshield Cleaner.
First use Mar. 13, 1966.



Owner of Reg. Nos. 720,239 and 825,996.
For De-Greasers and Engine Cleaners.
First use October 1964; Feb. 1, 1959, as to "Color Jet."

SN 259,348. Sterling Drug Inc., New York, N.Y. Filed Nov. 23, 1966.



Owner of Reg. Nos. 408,558, 764,556, and others.
For Emollient Antibacterial Detergent for Use on the Skin and Mucous Membranes.
First use Oct. 21, 1966.

LASER

For All Purpose Cream Cleaner for Household and Industrial Use.
First use Oct. 12, 1966.

SN 275,898. Naman Pharmacal Co., Lawrence, Mass. Filed July 13, 1967.

DERMASEPTIC

For Liquid Antibacterial Skin Detergent Cleanser.
First use at least as early as Feb. 5, 1965.

SN 276,615. Nugget Distributors' Cooperative of America, Inc., Stockton, Calif. Filed July 24, 1967.



For General Purpose Detergent; Heavy Duty Sanitizing Detergent; Lime Remover; Stainless Steel Cleaning Preparation; Heavy Duty Spray Degreaser; Organic Acid Detergent-Dellmer for Cleaning Glass and Stainless Steel; and Detergent for General Light Cleaning.
First use at least as early as Feb. 8, 1966.

SERVICE MARKS

Class 100 — Miscellaneous

SN 235,989. Jack-In-The-Box, Inc., San Diego, Calif. Filed Jan. 7, 1966.



The words "drive thru" and the arrow appearing above said words in the drawing are disclaimed apart from the balance of the mark as shown in the drawing. Owner of Reg. Nos. 722,379 and 722,380.
For Restaurant and Take-Out Food Services.
First use September 1962.

SN 252,167. FNCB Services Corporation, New York, N.Y. Filed Aug. 11, 1966.



For Travel Agency Services Including Arranging Traveller's Itineraries, Hotel and Transportation Reservations, Car Rental, and Selling Transportation Tickets.
First use May 31, 1966.

SN 253,451. Royal Castle Systems, Inc., Miami, Fla. Filed Aug. 30, 1966.



The drawing is lined for orange.
For Restaurant Services.
First use Aug. 1, 1965.

SN 255,181. American Petroleum Institute, New York, N.Y. Filed Sept. 27, 1966.

API

Owner of Reg. Nos. 677,359 and 679,642.
For Association Services—Namely, Promotion of the General Development and Improvement of the American Petroleum Industry, Including Development of Standards and Promotion of Research; Dissemination of Information Regarding Legislation and of Information About and of Interest to the Petroleum Industry; Appearances Before Private and Governmental Bodies; and Encouraging Foreign and Interstate Trade in American Petroleum Industry Products.
First use Sept. 24, 1924.

TM 196

SN 259,250. Iowa Electric Light and Power Company, Cedar Rapids, Iowa. Filed Nov. 22, 1966.

IE

For Operation of a Public Utility.
First use June 1, 1966.

Class 101 — Advertising and Business

SN 241,767. East Coast Guards, Inc., Bloomfield, N.J. Filed Mar. 24, 1966.



For Furnishing Security Guards to Various Industries for Plant Security and Property Protection, Including Payroll.
First use June 1, 1965.

SN 242,047. Presbyterian Life, Inc., Philadelphia, Pa. Filed Mar. 28, 1966.



Applicant disclaims the wording "Religious Family Magazines" and the date "1966" apart from the mark as shown.
For Promoting the Sale of Advertising Space in Member's Religious Family Magazines by Offering Broader Circulation and Combination Discounts to Advertisers.
First use July 13, 1965.

SN 248,001. Sun Oil Company, Philadelphia, Pa., assignee of Volume Builders, Inc., Philadelphia, Pa. Filed June 14, 1966.



For Issuance and Redemption of Promotional Coupons.
First use June 3, 1966.

SEPTEMBER 26, 1967

U. S. PATENT OFFICE

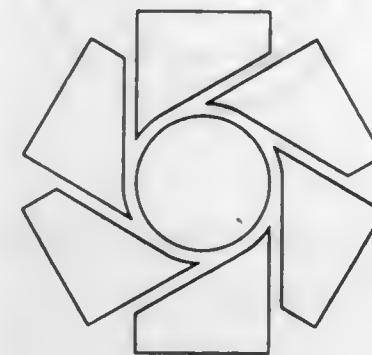
TM 197

SN 248,002. Sun Oil Company, Philadelphia, Pa., assignee of Volume Builders, Inc., Philadelphia, Pa. Filed June 14, 1966.

SUNNY DOLLARS

For Issuance and Redemption of Promotional Coupons.
First use June 3, 1966.

SN 249,229. Fort Worth Chamber of Commerce, Fort Worth, Tex. Filed June 29, 1966.



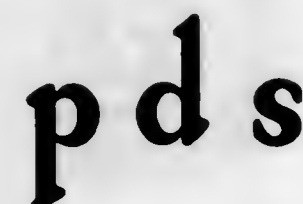
For Promoting the Commercial, Industrial, and General Growth and Development of Fort Worth by Such Means as Encouraging New Industries To Locate in the City and by Informing the General Public of the Desirability of Locating, Living, and Visiting the City.
First use Dec. 14, 1965.

SN 258,393. L. P. McCarty & Son, Inc., Tupelo, Miss. Filed Nov. 10, 1966.

PAK N SAK

For Retail Grocery Store Services.
First use June 16, 1966.

SN 258,923. Professional Detail Service, Inc., Freeport, N.Y. Filed Nov. 17, 1966.



For Promoting the Sale of Goods and Services of Others Through the Medium of Programs in the Sales Promotion, Advertising, and Public Relations Field.
First use at least as early as June 30, 1961.

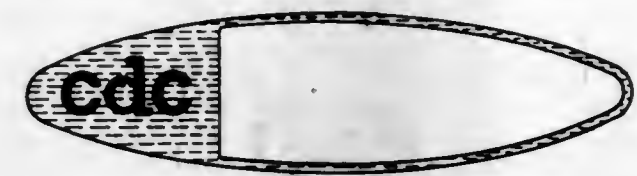
SN 267,222. The Stork Club, Inc., New York, N.Y. Filed Mar. 21, 1967.

STORK CLUB

For Services Performed for Banking Institutions—Namely, Designing and Preparing Advertising Copy, Display Pieces, and Printed Promotional Materials To Promote Said Banking Institution's Business.
First use Apr. 18, 1966.

Class 102 — Insurance and Financial

SN 246,882. Credit Data Corporation, Detroit, Mich. Filed May 31, 1966.



The drawing is lined for the color gray, but color is not claimed.
For Furnishing of Credit Information.
First use September 1960.

Class 103 — Construction and Repair

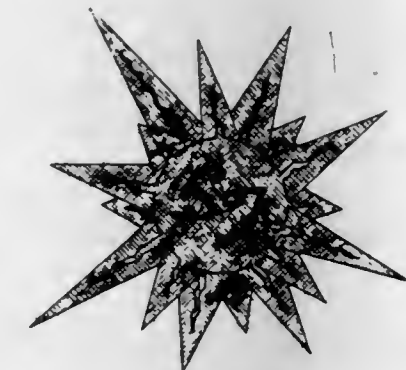
SN 244,710. Honeywell Inc., Minneapolis, Minn. Filed May 2, 1966.

HONEYWELL

Owner of Reg. Nos. 520,350 and 791,367.
For Installation, Repair and Maintenance of Controlling, Indicating, Measuring, Security, Switching, Data Processing, Aerospace, and Photographic Equipment.
First use at least as early as 1956.

Class 105 — Transportation and Storage

SN 213,189. Sundance Travel Service Inc., Jackson Heights, N.Y. Filed Apr. 11, 1966.



The drawing is lined for orange. The center of the design is a lighter shade of orange than the outer segment.
For Travel Reservation Services.
First use June 30, 1965.

SN 258,699. Norman H. Kneisel, d.b.a. Kneisel Travel, Portland, Ore. Filed Nov. 15, 1966.



For Travel Agency and Tour Services.
First use on or about Feb. 1, 1965.

SN 260,013. Budget Rent-A-Car Corporation of America, Chicago, Ill. Filed Dec. 5, 1966.



Applicant disclaims the words "Rent-A-Car System" apart from the mark as shown. The drawing is lined for hatching and not for the purpose of indicating color. Owner of Reg. No. 715,907.

For Rental and Leasing of Motor Vehicles.
First use June 27, 1966.

SN 260,341. Middle Atlantic Transportation Co., Inc., New Britain, Conn. Filed Dec. 8, 1966.

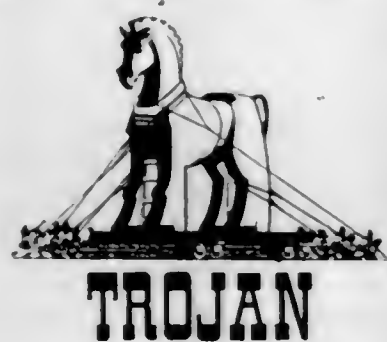


The drawing is lined for red and blue, but said colors are not claimed as part of the mark.

For Common-Carrier Transportation Services—Namely, the Transportation of General and Special Commodities Freight by Motor Truck.

First use on or about Aug. 20, 1957.

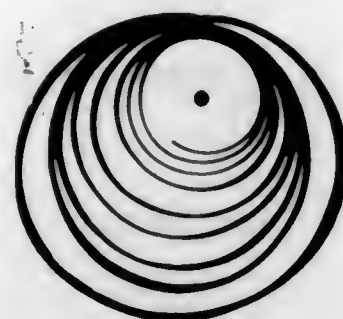
SN 273,452. Trojan Incorporated, Bladensburg, Md. Filed June 9, 1967.



For Rigging and Hauling of Heavy Equipment for Others.
First use July 1965.

Class 106 — Material Treatment

SN 259,498. Robert Zacharias Company, Chicago, Ill. Filed Nov. 25, 1966.



For Plating and Finishing Component Parts and Assemblies
Furnished by Others.
First use in or about February 1963.

SN 268,123. Techni-Finish, Inc., Youngstown, Ohio. Filed Apr. 3, 1967.

GREEN GRABBER FACE

No claim is made to the word "Face" apart from the mark as shown; applicant's common law rights, however, are reserved.

For Golf Club Refinishing Services.
First use Feb. 15, 1967.

Class 107 — Education and Entertainment

SN 251,277. California College of Radio & Television Broadcasting, Inc., d.b.a. Columbia School of Broadcasting, San Francisco, Calif. Filed July 29, 1966.



For Teaching Radio and Television Announcing by Means
of Correspondence Courses.
First use Apr. 4, 1966.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

835,728. BFI AND DESIGN. Bedford Farms, Inc. SN 241,736. Pub. 7-11-67. Filed 3-24-66.
835,729. INGRAM. Ingram Corporation. SN 245,713. Pub. 7-11-67. Filed 5-16-66.
835,730. FRANKLIN PLASTICS. Franklin Fibre-Lamitex Corp. SN 247,216. Pub. 7-11-67. Filed 6-3-66.
835,731. ARMOURINE. Armour and Company. SN 248,105. Pub. 7-11-67. Filed 6-15-66.

Class 2 — Receptacles

835,732. CIR-CARD. Radio Corporation of America. SN 220,149. Pub. 7-11-67. Filed 6-1-65.
835,733. CHEF PAN. Anaconda Aluminum Company. SN 225,097. Pub. 7-11-67. Filed 8-6-65.
835,734. HOM-PAK. Hancock Gross, Inc. SN 227,499. Pub. 7-11-67. Filed 9-9-65.
835,735. HASKON AND DESIGN. Haskon, Inc. SN 230,639. Pub. 7-11-67. Filed 10-20-65.
835,736. MIST-O-SPRAY. Jack M. Fuls, d.b.a. Mist-O-Spray Company. SN 231,102. Pub. 7-11-67. Filed 10-22-65.
835,737. COUNTRY CRAFT. Nibot Corporation. SN 233,274. Pub. 7-11-67. Filed 11-24-65.
835,738. SPRING PAK. American Lecithin Company, assignee of GK Industries, Inc. SN 237,953. Pub. 7-11-67. Filed 2-3-66.
835,739. PACK-STIK. Packaging Corporation of America. SN 242,277. Pub. 7-11-67. Filed 3-30-66.
835,740. ADAPTATUBE. Dave Epstein. SN 244,095. Pub. 7-11-67. Filed 4-22-66.
835,741. CTI. Container Transport International Inc. SN 244,307. Pub. 7-11-67. Filed 4-26-66.
835,742. KERO-STACKER. Inland Steel Company. SN 245,079. Pub. 7-11-67. Filed 5-6-66.
835,743. GC SYMBOL. Graphic Controls Corporation. SN 247,119. Pub. 7-11-67. Filed 6-2-66.
835,744. JIFFY-7. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America. SN 250,129. Pub. 7-11-67. Filed 7-13-66.
835,745. RIGIDFLEX. Mahaffy & Harder Engineering Company. SN 260,058. Pub. 7-11-67. Filed 12-5-66.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

835,746. PAIR KNIT. Asahi Kasei Kogyo Kabushiki Kaisha. MULTIPLE CLASS (Classes 3, 22, 39, and 42). SN 194,767. Pub. 6-8-65. Filed 6-3-64.
835,747. DRAGONHIDE. Gail Leather Products, Inc. SN 212,305. Pub. 7-11-67. Filed 2-18-65.

Class 4 — Abrasives and Polishing Materials

835,748. QUIK EASE. Knomark, Inc. SN 183,844. Pub. 2-16-65. Filed 12-31-63.
835,749. SURFA SHINE. Glow-It Chemical Corporation. SN 230,820. Pub. 7-11-67. Filed 10-21-65.

835,750. JOLLYCLOTH. Barry's Products, Ltd. SN 240,057. Pub. 7-11-67. Filed 2-25-66.
835,751. MASON-MATE. Avco Corporation. SN 247,564. Pub. 7-11-67. Filed 6-8-66.
835,752. CONOCO. Continental Oil Company. SN 247,582. Pub. 7-11-67. Filed 6-8-66.
835,753. CAPTURE. S. C. Johnson & Son, Inc. SN 248,709. Pub. 7-11-67. Filed 6-22-66.

Class 6 — Chemicals and Chemical Compositions

835,754. CAPRI. The Sinclair Manufacturing Company. MULTIPLE CLASS (Classes 6 and 52). SN 227,209. Pub. 7-11-67. Filed 9-7-65.
835,755. TESTOMAT. Gebrüder Heyl Kommanditgesellschaft für Analysentechnik. MULTIPLE CLASS (Classes 6 and 26). SN 236,034. Pub. 7-11-67. Filed 1-10-66.
835,756. TERRAZOLE. Olin Mathieson Chemical Corporation. SN 241,505. Pub. 7-11-67. Filed 3-21-66.
835,757. TECNOCIN. Montecatini, Societe Generale per l'Industria Mineraria e Chimica. SN 243,798. Pub. 7-11-67. Filed 4-19-66.
835,758. DALTOROL. Imperial Chemical Industries Limited. SN 246,511. Pub. 7-11-67. Filed 5-11-66.
835,759. DALTOLAC. Imperial Chemical Industries Limited. SN 246,512. Pub. 7-11-67. Filed 5-11-66.
835,760. TROPITAL. McLaughlin Gormley King Company. SN 262,835. Pub. 7-4-67. Filed 1-19-67.

Class 7 — Cordage

835,761. GLASTRAN. General Motors Corporation. SN 244,320. Pub. 7-11-67. Filed 4-26-66.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

835,762. MAYDAY. Cre-Fan Enterprises, Inc. SN 210,100. Pub. 7-11-67. Filed 1-18-65.
835,763. NOROC. Norton Company. SN 249,176. Pub. 7-11-67. Filed 6-28-66.

Class 10 — Fertilizers

835,764. NU-AGE AND DESIGN. Nu-Age Corporation. MULTIPLE CLASS (Classes 10 and 18). SN 218,131. Pub. 7-11-67. Filed 5-5-65.
835,765. POLY-K. Allied Chemical Corporation. SN 241,844. Pub. 7-11-67. Filed 3-25-66.

Class 11 — Inks and Inking Materials

835,766. RO-INK. Rose Patch & Label Company. SN 244,253. Pub. 7-11-67. Filed 4-25-66.

835,767. MILLER-BRYANT-PIERCE. Columbia Ribbon and Carbon Manufacturing Co. Inc. SN 256,273. Pub. 7-11-67. Filed 10-12-66.

Class 12—Construction Materials

835,768. SNAP-ON. Snap-On Tools Corporation. SN 213,903. Pub. 7-11-67. Filed 3-11-65.
 835,769. STIC-TITE. Refractory & Insulation Corporation. SN 224,461. Pub. 7-11-67. Filed 7-28-65.
 835,770. SINGLE-WING. Powerlock Floors, Inc. SN 239,540. Pub. 7-11-67. Filed 2-24-66.
 835,771. SUPER 711 AND DESIGN. Refractory & Insulation Corporation. SN 240,342. Pub. 7-11-67. Filed 3-7-66.
 835,772. SPRAYRIB. Western Metal Lath Co. SN 242,765. Pub. 7-11-67. Filed 4-5-66.
 835,773. FRANKLIN PLASTICS. Franklin Fibre-Lamtex Corp. SN 247,218. Pub. 7-11-67. Filed 6-3-66.
 835,774. MBI. Metal Building Interior Products Company. SN 247,383. Pub. 7-11-67. Filed 6-6-66.
 835,775. KOOL-N-HEAT. Hagan Manufacturing Company. SN 251,301. Pub. 7-11-67. Filed 7-29-66.
 835,776. SEAL-PRUF. Daubert Chemical Company. SN 253,124. Pub. 7-11-67. Filed 8-25-66.
 835,777. PINE TREE (DESIGN). Forest City Millwork & Supply, Inc. SN 253,138. Pub. 7-11-67. Filed 8-25-66.
 835,778. GIL-SELECT. Standard Gilsolite Co. SN 253,175. Pub. 7-11-67. Filed 8-25-66.
 835,779. REX-ANGLE. The Flintkote Company. SN 253,517. Pub. 7-11-67. Filed 8-31-66.
 835,780. WHISPERTONE. Johns-Manville Corporation. SN 254,691. Pub. 7-11-67. Filed 9-19-66.
 835,781. LUMIDOR AND DESIGN. Lumidor Manufacturing Corporation, d.b.a. Lumidor. SN 263,927. Pub. 7-11-67. Filed 2-3-67.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

835,782. ROSE. Rose Manufacturing Co. MULTIPLE CLASS (Classes 13, 19 and 50). SN 228,858. Pub. 7-11-67. Filed 9-29-65.
 835,783. BON APPETIT. Morgan & Company, Inc. SN 233,811. Pub. 7-11-67. Filed 12-2-65.
 835,784. SPARTAN. Crescent Plastics, Inc. SN 244,574. Pub. 7-11-67. Filed 4-29-66.
 835,785. SWINGLINE. Swingline Inc. SN 265,376. Pub. 7-11-67. Filed 2-24-67.

Class 14—Metals and Metal Castings and Forgings

835,786. WESCOLOY. West Coast Alloys Co., Inc. MULTIPLE CLASS (Classes 14 and 34). SN 216,987. Pub. 3-14-67. Filed 4-20-65.
 835,787. RX. Hoeganaes Corporation, by change of name from Hoeganaes Sponge Iron Corporation. SN 238,431. Pub. 7-11-67. Filed 2-9-66.
 835,788. XRX. Hoeganaes Corporation, by change of name from Hoeganaes Sponge Iron Corporation. SN 238,432. Pub. 7-11-67. Filed 2-9-66.
 835,789. CO-NETIC NETIC MAGNETIC SHIELD DIV. AND DESIGN. Perfection Mica Company. SN 266,395. Pub. 7-11-67. Filed 3-10-67.

Class 15—Oils and Greases

835,790. CAV. Frontier Research Company. SN 221,920. Pub. 7-11-67. Filed 6-24-65.
 835,791. ENTER THE QUIET ZONE OF Q PLUS AND DESIGN. Unidyne Industries, Incorporated. SN 222,881. Pub. 8-23-66. Filed 7-7-65.
 835,792. MODSOL. Hess Oil & Chemical Corporation. SN 236,753. Pub. 7-11-67. Filed 1-18-66.
 835,793. VEND A LUBE AND DESIGN. M.G.M.S. Associates, Inc., d.b.a. Arrow Line Products. SN 240,752. Pub. 7-11-67. Filed 3-11-66.
 835,794. NAUGALUBE. United States Rubber Company. SN 248,269. Pub. 7-11-67. Filed 6-16-66.
 835,795. QUAKER STATE ETC. AND DESIGN. Quaker State Oil Refining Corporation. SN 251,834. Pub. 7-11-67. Filed 8-5-66.
 835,796. IBS AND DESIGN. IBS Oil City Inc. SN 252,099. Pub. 7-11-67. Filed 8-10-66.
 835,797. KOCOLENE AND DESIGN. Kocolene Company, Inc. SN 267,103. Pub. 7-11-67. Filed 3-20-67.

Class 16—Protective and Decorative Coatings

835,798. MOBILINER. Mobil Oil Corporation, by change of name from Socony Mobil Oil Company, Inc. SN 243,917. Pub. 7-11-67. Filed 4-19-66.
 835,799. CAPRI. Goldblatt Bros. Inc. SN 249,528. Pub. 5-9-67. Filed 7-5-66.
 835,800. KIMBERLY KENT. Windsor-Lloyd Products, Inc. SN 251,350. Pub. 7-11-67. Filed 7-29-66.
 835,801. HOMEOWNERS. Goldblatt Bros. Inc., d.b.a. Goldblatt's. SN 251,916. Pub. 7-11-67. Filed 8-8-66.
 835,802. TRI-LUX. International Paint Company, Inc. SN 254,392. Pub. 7-11-67. Filed 9-13-66.
 835,803. LUMA-TINT AND DESIGN. James B. Sipe and Company, Inc. SN 259,860. Pub. 7-11-67. Filed 12-1-66.
 835,804. PERMAGILD. W. H. Kemp Company, Ltd. SN 261,218. Pub. 7-11-67. Filed 12-21-66.
 835,805. PERMISET. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company. SN 261,644. Pub. 7-11-67. Filed 12-29-66.
 835,806. INTUF. International Paint Company, Inc. SN 261,659. Pub. 7-11-67. Filed 12-29-66.
 835,807. SAFE GLOW. United States Chemical Corporation. SN 264,348. Pub. 7-11-67. Filed 2-9-67.

Class 17—Tobacco Products

835,808. OLD GUARDS. Wally Frank, Ltd. SN 238,471. Pub. 7-11-67. Filed 2-9-66.

Class 18—Medicines and Pharmaceutical Preparations

835,764. (See Class 10 for this trademark.)
 835,809. FARMACY. Central Soya Company, Inc. SN 231,668. Pub. 7-11-67. Filed 10-27-65.
 835,810. WELCAPS. Borchardt Company. SN 247,316. Pub. 7-11-67. Filed 6-6-66.
 835,811. WELDROPS. Borchardt Company. SN 247,317. Pub. 7-11-67. Filed 6-6-66.
 835,812. WEL-IRON. Borchardt Company. SN 247,318. Pub. 7-11-67. Filed 6-6-66.

835,813. QUICK GAIN WEIGHT. Robert C. Hoffman, d.b.a. Olympic Coach Bob Hoffman. SN 247,469. Pub. 7-11-67. Filed 6-7-66.
 835,814. VERMILAX. Burns Pharmaceuticals, Inc., d.b.a. H. C. Burns Pharmaceuticals. SN 249,135. Pub. 7-11-67. Filed 6-28-66.
 835,815. TREMOL. National College of Health Limited. SN 249,173. Pub. 7-11-67. Filed 6-28-66.
 835,816. FANPAK. Mead Johnson & Company. SN 250,617. Pub. 7-11-67. Filed 7-20-66.
 835,817. ORAPAK. Mead Johnson & Company. SN 250,618. Pub. 7-11-67. Filed 7-20-66.
 835,818. FANPACK. Mead Johnson & Company. SN 250,620. Pub. 7-11-67. Filed 7-20-66.
 835,819. AR3. Stanley Drug Products, Inc. SN 251,751. Pub. 7-11-67. Filed 8-4-66.
 835,820. ADAMYCIN. American Cyanamid Company. SN 252,939. Pub. 7-11-67. Filed 8-23-66.

Class 19—Vehicles

835,782. (See Class 13 for this trademark.)
 835,821. DAKON AND DESIGN. Dakota Iron. MULTIPLE CLASS (Classes 19 and 23). SN 234,626. Pub. 7-11-67. Filed 12-15-65.
 835,822. MO-SKI-TOW. Alton L. White, d.b.a. White's Marina. SN 247,429. Pub. 7-11-67. Filed 6-6-66.
 835,823. DAHL HOUSE AND DESIGN. David Dahlgren, d.b.a. The Dahlgren Company. SN 248,900. Pub. 7-11-67. Filed 6-24-66.
 835,824. KODE KART. M-H Equipment Co., Inc. SN 249,026. Pub. 7-11-67. Filed 6-27-66.
 835,825. JUGGERNAUT. Thiokol Chemical Corporation. SN 249,087. Pub. 7-11-67. Filed 6-27-66.
 835,826. KIRKWOOD. Redman Industries, Inc. SN 249,180. Pub. 7-11-67. Filed 6-28-66.
 835,827. G AND DESIGN. S.p.A. Teodoro Carnielli & C. SN 252,423. Pub. 7-11-67. Filed 8-15-66.
 835,828. SKYSKOOTOR. Saalfeld Aircraft Co. SN 252,687. Pub. 7-11-67. Filed 8-18-66.
 835,829. UNI-VAN. Redman Industries, Inc. SN 253,450. Pub. 7-11-67. Filed 8-30-66.

Class 21—Electrical Apparatus, Machines, and Supplies

835,830. SCHAUB-LORENZ. Standard Elektrik Lorenz Aktiengesellschaft. SN 133,331. Pub. 7-11-67. Filed 12-4-61.
 835,831. ACCUSPEDE. Borg-Warner Corporation. SN 186,054. Pub. 2-9-65. Filed 2-5-64.
 835,832. ASTRO. Packard-Bell Electronics Corporation. SN 226,277. Pub. 11-1-66. Filed 8-23-65.
 835,833. MERRIMAC. Aquariums Incorporated. SN 229,328. Pub. 7-11-67. Filed 10-5-65.
 835,834. DIAL-A-MATIC. Aquariums Incorporated. SN 229,330. Pub. 7-11-67. Filed 10-5-65.
 835,835. TWINTROL. Capron Lighting Co., Inc. SN 229,755. Pub. 7-11-67. Filed 10-11-65.
 835,836. SEAFONE. Charles R. Browning, d.b.a. Browning Communication Associates. SN 239,122. Pub. 7-11-67. Filed 2-18-66.
 835,837. COMPACT IEC ELECTRA AND DESIGN. Interstate Engineering Corporation. SN 241,473. Pub. 7-11-67. Filed 3-21-66.
 835,838. D AND DESIGN. Werner Pinteragel, d.b.a. Dynacord. MULTIPLE CLASS (Classes 21 and 36). SN 243,348. Pub. 7-11-67. Filed 4-13-66.

835,839. TELECRUISER. Naxon Telesign Corporation. SN 246,928. Pub. 7-11-67. Filed 5-31-66.
 835,840. NEWS CRUISER. Naxon Telesign Corporation. SN 246,929. Pub. 7-11-67. Filed 5-31-66.
 835,841. TEXACO AND DESIGN. Texaco Inc. SN 248,181. Pub. 7-11-67. Filed 6-15-66.
 835,842. VALCOR. Valcor Engineering Corporation. SN 248,378. Pub. 7-11-67. Filed 6-17-66.
 835,843. BALI. Hy Glow Products, Inc. SN 249,645. Pub. 7-11-67. Filed 7-6-66.
 835,844. TELSAT. Lafayette Radio Electronics Corporation. SN 250,002. Pub. 7-11-67. Filed 7-11-66.
 835,845. FILTEROL. Sprague Electric Company. SN 250,045. Pub. 7-11-67. Filed 7-11-66.
 835,846. INSULKRIMP. ETC, Incorporated. SN 250,368. Pub. 7-11-67. Filed 7-15-66.
 835,847. TEMP-TERMS. ETC, Incorporated. SN 250,369. Pub. 7-11-67. Filed 7-15-66.
 835,848. NITEMATE. Z & T Importing Co., Inc. SN 250,889. Pub. 7-11-67. Filed 7-22-66.

Class 22—Games, Toys, and Sporting Goods

835,746. (See Class 3 for this trademark.)
 835,849. M AND DESIGN. Inter-Montana Sport A. Muller & Co. SN 229,356. Pub. 7-11-67. Filed 10-5-65.
 835,850. BAYOU-SPECIAL. J. Roger St. Amant. SN 236,548. Pub. 7-11-67. Filed 1-17-66.
 835,851. RADIO-PAL. Radio Steel & Mfg. Co. SN 237,483. Pub. 7-11-67. Filed 1-27-66.
 835,852. THUNDERBOARD. Norman Bennett. SN 239,211. Pub. 7-11-67. Filed 2-21-66.
 835,853. WICO. Western Import, Inc. SN 240,377. Pub. 7-11-67. Filed 3-7-66.
 835,854. MONSTER. C-D Holder Company. SN 242,623. Pub. 7-11-67. Filed 4-4-66.
 835,855. BAT CAR AND DESIGN. All Tech Industries, Inc. SN 245,803. Pub. 7-11-67. Filed 5-17-66.
 835,856. AMERICAN GOLF TESTING CO. American Golf Testing Corporation. SN 245,891. Pub. 7-11-67. Filed 5-18-66.
 835,857. TRU-DRIVE. Empire La Vive Corporation. SN 248,687. Pub. 7-11-67. Filed 6-22-66.
 835,858. FITNESS KING AND DESIGN. Fitness King, Inc. SN 248,692. Pub. 7-11-67. Filed 6-22-66.
 835,859. MONEY BUNNY. Vivian V. King. SN 248,712. Pub. 7-11-67. Filed 6-22-66.
 835,860. CAPTAIN ACTION. Ideal Toy Corporation. SN 248,912. Pub. 7-11-67. Filed 6-24-66.
 835,861. MAN. Items, Incorporated. SN 252,955. Pub. 7-11-67. Filed 8-23-66.
 835,821. (See Class 19 for this trademark.)
 835,862. JIFFY ULTRONICS-SPRAY. Ultro-Spray of America, Inc. SN 211,481. Pub. 6-14-66. Filed 2-5-65.
 835,863. COMET AND DESIGN. Aquariums Incorporated. SN 229,628. Pub. 6-21-66. Filed 10-8-65.
 835,864. CI AND DESIGN. Compact Industries, Inc. SN 237,936. Pub. 7-11-67. Filed 2-3-66.
 835,865. SAV-REE-VEND. Allen Electronics, Inc. SN 238,379. Pub. 7-11-67. Filed 2-9-66.
 835,866. SAV-REE-SERV. Allen Electronics, Inc. SN 238,380. Pub. 7-11-67. Filed 2-9-66.

- 835,867. COVINGTON AND DESIGN. W. F. Covington Planter Co., Inc. SN 238,502. Pub. 7-11-67. Filed 2-10-66.
- 835,868. VORTEX. Bemis Company, Inc. SN 238,697. Pub. 7-11-67. Filed 2-14-66.
- 835,869. GM AND DESIGN. Suzanne Mouson-Jungers. SN 239,292. Pub. 7-11-67. Filed 2-21-66.
- 835,870. FIXTIP. P. L. Robertson Mfg. Co. Limited. SN 239,321. Pub. 7-11-67. Filed 2-21-66.
- 835,871. PARCOLINER. Plastic and Rubber Products Company. SN 239,928. Pub. 7-11-67. Filed 3-1-66.
- 835,872. MOV-A-MATIC. Colman J. Seman. SN 239,941. Pub. 7-11-67. Filed 3-1-66.
- 835,873. WS AND DESIGN. The Warner & Swasey Company. SN 240,993. Pub. 7-11-67. Filed 3-14-66.
- 835,874. MESSENGER. Bell & Howell Company. SN 241,023. Pub. 7-11-67. Filed 3-15-66.
- 835,875. POWR-WASH. Nu-Process Industries, Inc. SN 241,364. Pub. 7-11-67. Filed 3-18-66.
- 835,876. POWR-WASH. Nu-Process Industries, Inc. SN 241,503. Pub. 7-11-67. Filed 3-21-66.
- 835,877. NEOTHERM. Kugelfischer Georg Schafer & Company. SN 244,122. Pub. 7-11-67. Filed 4-22-66.
- 835,878. MOTOWLIFT. Lift Parts Mfg., Inc. SN 245,497. Pub. 7-11-67. Filed 5-12-66.
- 835,879. ISO-LUBE. Clevite Corporation. SN 245,810. Pub. 7-11-67. Filed 5-17-66.
- 835,880. TRANS-A-STEER. Bros Incorporated. SN 245,906. Pub. 7-11-67. Filed 5-18-66.
- 835,881. SEISMIC AND DESIGN. Bros Incorporated. SN 246,036. Pub. 7-11-67. Filed 5-19-66.
- 835,882. SPIN TILLER AND DESIGN. Rawlen T. Smith, d.b.a. Special Products Co. SN 246,958. Pub. 7-11-67. Filed 5-31-66.
- 835,883. MIRROR POCKET. The Mirror Polishing and Plating Company, Inc. SN 247,943. Pub. 7-11-67. Filed 6-13-66.
- 835,884. POLARIS. The New Home Sewing Machine Company. SN 249,788. Pub. 7-11-67. Filed 7-7-66.
- 835,885. SLURITE. Kaiser Aluminum & Chemical Corporation. SN 250,486. Pub. 7-11-67. Filed 7-18-66.
- 835,886. CONTOUR FLOTATION C/F AND DESIGN. Owatonna Manufacturing Company, Inc. SN 253,780. Pub. 7-11-67. Filed 9-2-66.

Class 24 — Laundry Appliances and Machines

- 835,887. VOSS. Midwest Metal Stamping Company (Voss Washer Company Division). SN 240,185. Pub. 7-11-67. Filed 3-4-66.

Class 26 — Measuring and Scientific Appliances

- 835,755. (See Class 6 for this trademark.)
- 835,888. PICCO. August Kluber Company. SN 188,414. Pub. 5-24-66. Filed 3-11-64.
- 835,889. LAF 2. Jenaer Glaswerk Schott & Gen. SN 210,315. Pub. 6-21-66. Filed 1-21-65.
- 835,890. PORTRAYA. Xerox Corporation. SN 236,688. Pub. 7-11-67. Filed 1-17-66.
- 835,891. HALOBROME. Xerox Corporation. SN 236,690. Pub. 7-11-67. Filed 1-17-66.
- 835,892. METALON. Alexander Vacuum Research, Inc. SN 239,363. Pub. 7-11-67. Filed 2-23-66.
- 835,893. PC 1421. Monroe International, Inc., by merger from Monroe International Corporation. SN 244,421. Pub. 7-11-67. Filed 4-27-66.

- 835,894. CLASSMATE. Monroe International, Inc., by merger from Monroe International Corporation. SN 244,422. Pub. 7-11-67. Filed 4-27-66.
- 835,895. NEPTUNE. Neptune Meter Company. SN 249,350. Pub. 7-11-67. Filed 6-30-66.
- 835,896. CUBEX. Imperial Camera Corp. SN 249,537. Pub. 7-11-67. Filed 7-5-66.
- 835,897. LITTLE SQUIRT. Ferguson Fumigants, Inc. SN 249,968. Pub. 7-11-67. Filed 7-11-66.
- 835,898. S AND DESIGN. Sigma Instruments, Inc. SN 250,179. Pub. 7-11-67. Filed 7-13-66.
- 835,899. POLY-THIN. International Equipment Co. SN 250,277. Pub. 7-11-67. Filed 7-14-66.
- 835,900. CENTRITUBES. International Equipment Co. SN 250,278. Pub. 7-11-67. Filed 7-14-66.
- 835,901. PEERLESS. Peerless Telerad, Inc. SN 250,677. Pub. 7-11-67. Filed 7-20-66.
- 835,902. HOW ALL AND DESIGN. Howall Products, Inc. SN 250,758. Pub. 7-11-67. Filed 7-21-66.
- 835,903. VARIFILM. Cordell Engineering. SN 251,120. Pub. 7-11-67. Filed 7-27-66.
- 835,904. INDY AUTOMOTIVE. Accurate Products, Incorporated. SN 252,512. Pub. 7-11-67. Filed 8-17-66.
- 835,905. PA AND DESIGN. The Pneumatic Applications Company. SN 255,454. Pub. 7-11-67. Filed 9-29-66.
- 835,906. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,292. Pub. 7-11-67. Filed 10-26-66.
- 835,907. GARM. Allen Aircraft Radio, Inc. SN 268,364. Pub. 7-11-67. Filed 4-5-67.

Class 27 — Horological Instruments

- 835,908. SCHATZ. Jahresuhren-Fabrik G.m.b.H. Aug. Schatz & Sohne. SN 230,162. Pub. 7-11-67. Filed 10-14-65.
- 835,909. ROLEX WATCH. Manufacture des Montres Rolex S.A. Bienne (Uhrenfabrik Rolex AG Biele) (Manufacture of Watches Rolex Ltd. Bienne). SN 238,255. Pub. 7-11-67. Filed 2-7-66.
- 835,910. DAY-NITE. Gruen Industries, Inc., d.b.a. The Gruen Watch Company. SN 239,262. Pub. 7-11-67. Filed 2-21-66.
- 835,911. JACQUES PERE. Accro Watch Co., Inc. SN 244,645. Pub. 7-11-67. Filed 5-2-66.
- 835,912. CHARLES BONNET. Emil Leichter Watch Co., Inc. SN 247,343. Pub. 7-11-67. Filed 6-6-66.
- 835,913. PENTAD AND DESIGN. Leonard Klan, d.b.a. Pentad Watch Company. SN 248,342. Pub. 7-11-67. Filed 6-17-66.
- 835,914. NICOLETTE JANEL. Winton Watch Company, Inc. SN 263,153. Pub. 7-11-67. Filed 1-24-67.

Class 28 — Jewelry and Precious-Metal Ware

- 835,915. AV AND DESIGN. David Landman, d.b.a. Avis Pearl Co. SN 245,830. Pub. 7-11-67. Filed 5-17-66.

Class 29 — Brooms, Brushes, and Dusters

- 835,916. HANDI WIPES. Colgate-Palmolive Company. SN 190,889. Pub. 7-12-66. Filed 4-13-64.
- 835,917. OSTER. John Oster Manufacturing Co. SN 239,277. Pub. 7-11-67. Filed 2-21-66.
- 835,918. TWISTEEZ. The New York Association for the Blind. SN 244,515. Pub. 7-11-67. Filed 4-28-66.

Class 30 — Crockery, Earthenware, and Porcelain

- 835,919. CANTERBURY. Syracuse China Corporation. SN 242,404. Pub. 7-11-67. Filed 3-31-66.
- 835,920. OLD CATHAY. Syracuse China Corporation. SN 242,678. Pub. 7-11-67. Filed 4-4-66.
- 835,921. BELCANTO. Syracuse China Corporation. SN 242,679. Pub. 7-11-67. Filed 4-4-66.
- 835,922. LA BOHEME. Castleton China, Inc. SN 248,112. Pub. 7-11-67. Filed 6-15-66.

Class 31 — Filters and Refrigerators

- 835,923. MULTICRON. Commercial Filters Corporation of California, Inc., assignee, by mesne assignment, of Co Fil Corporation. SN 228,513. Pub. 7-11-67. Filed 9-24-65.
- 835,924. HILLAIRE. Emhart Corporation. SN 252,835. Pub. 7-11-67. Filed 8-22-66.

Class 32 — Furniture and Upholstery

- 835,925. MISCELLANEOUS DESIGN. Okamura Manufacturing Company, Limited. SN 228,270. Pub. 7-11-67. Filed 9-21-65.
- 835,926. GOOD MORNING AND SUN DESIGN. Holland Wire Products, Incorporated. SN 237,124. Pub. 8-2-66. Filed 1-24-66.
- 835,927. CASTILIAN. Alma Desk Company. SN 238,827. Pub. 7-11-67. Filed 2-15-66.
- 835,928. SICO AND DESIGN. Sico Incorporated. SN 257,200. Pub. 7-11-67. Filed 10-25-66.
- 835,929. KEYSTON AND DESIGN. Keystone Bros. MULTIPLE CLASS (Classes 32 and 42). SN 265,765. Pub. 7-11-67. Filed 3-2-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 835,786. (See Class 14 for this trademark.)
- 835,930. THERM-O-WHEEL. Southern Industries, Inc. SN 184,261. Pub. 9-14-65. Filed 1-8-64.
- 835,931. FAWPAK. Arcos Corporation. SN 249,716. Pub. 7-11-67. Filed 7-7-66.
- 835,932. KINFACTOR. American Air Filter Company, Inc. SN 250,725. Pub. 7-11-67. Filed 7-21-66.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 835,933. MICRO-BOND. Louis Fishman & Co., Inc. SN 231,375. Pub. 7-11-67. Filed 10-23-65.
- 835,934. MISCELLANEOUS DESIGN. Louis Fishman & Co., Inc., d.b.a. Bearcat Tire Company. SN 233,792. Pub. 7-11-67. Filed 12-2-65.
- 835,935. ROYALUS. United States Rubber Company. SN 234,789. Pub. 7-11-67. Filed 12-16-65.
- 835,936. THE BLUE BASE OF QUALITY. Western Auto Supply Company. SN 237,060. Pub. 7-11-67. Filed 1-21-66.
- 835,937. MOLY DURAPOWER. General Motors Corporation. SN 248,127. Pub. 7-11-67. Filed 6-15-66.

- 835,938. CARBO-S.A.F. The Firestone Tire & Rubber Company. SN 248,321. Pub. 7-11-67. Filed 6-17-66.
- 835,939. POWRTUF. Acushnet Process Company. SN 248,879. Pub. 7-11-67. Filed 6-24-66.
- 835,940. WYE-SEAL. Greene, Tweed & Co., Inc. SN 248,998. Pub. 7-11-67. Filed 6-27-66.
- 835,941. SUPER-HAUL. Dunlop Tire and Rubber Corporation. SN 249,312. Pub. 7-11-67. Filed 6-30-66.
- 835,942. SPEEDWAY BLUE STREAK WP. The Goodyear Tire & Rubber Company. SN 250,571. Pub. 7-11-67. Filed 7-19-66.
- 835,943. SPEEDWAY WHITE STREAK. The Goodyear Tire & Rubber Company. SN 250,572. Pub. 7-11-67. Filed 7-19-66.
- 835,944. SPEEDWAY RED STREAK WP. The Goodyear Tire & Rubber Company. SN 250,573. Pub. 7-11-67. Filed 7-19-66.
- 835,945. SPEEDWAY RED STREAK. The Goodyear Tire & Rubber Company. SN 250,574. Pub. 7-11-67. Filed 7-19-66.
- 835,946. SPEEDWAY BLUE STREAK. The Goodyear Tire & Rubber Company. SN 250,575. Pub. 7-11-67. Filed 7-19-66.

Class 36 — Musical Instruments and Supplies

- 835,838. (See Class 21 for this trademark.)
- 835,947. ALEX. Alexander Apfelbaum Company, Inc. SN 234,159. Pub. 7-11-67. Filed 12-3-65.
- 835,948. CYNPAIOH AND DESIGN. National Gramophone Works Corporation. SN 238,271. Pub. 7-11-67. Filed 2-7-66.
- 835,949. ALEXANDER HEINRICH. World Wide Musical Instrument Co., Inc. SN 245,646. Pub. 7-11-67. Filed 5-13-66.
- 835,950. OUTER SPACE AND DESIGN. Albert Schmidt, d.b.a. Outer Space. SN 245,971. Pub. 7-11-67. Filed 5-18-66.
- 835,951. GEOTAPE. Memorex Corporation. SN 246,801. Pub. 7-11-67. Filed 5-27-66.
- 835,952. SKILLTAPES. International Teaching Tapes, Inc. SN 251,728. Pub. 11-29-66. Filed 8-4-66.
- 835,953. LEBAN. Leban Imports, Inc. SN 264,279. Pub. 7-11-67. Filed 2-9-67.

Class 37 — Paper and Stationery

- 835,954. PAPER CRAFT AND DESIGN. Papercraft Corporation. SN 182,736. Pub. 7-11-67. Filed 12-10-63.
- 835,955. CARLTON. American Greetings Corporation. SN 216,650. Pub. 3-22-66. Filed 4-16-65.
- 835,956. TITAN IV. Titan Plastics Corporation. SN 227,628. Pub. 7-11-67. Filed 9-10-65.
- 835,957. LO THERMO. Gulf States Paper Corporation. SN 232,308. Pub. 7-11-67. Filed 11-8-65.
- 835,958. K MART AND DESIGN. S. S. Kresge Company. SN 243,879. Pub. 7-11-67. Filed 4-20-66.
- 835,959. IT'S BOSS. Joe M. Womack. SN 245,787. Pub. 7-11-67. Filed 5-16-66.
- 835,960. KLEAN-STAT. Frankel Carbon & Ribbon Company. SN 246,674. Pub. 7-11-67. Filed 5-26-66.
- 835,961. COLLEGE CREST. Simpson Lee Paper Company. SN 250,307. Pub. 7-11-67. Filed 7-14-66.
- 835,962. WILLOW AND DESIGN. Doeskin Products, Inc. SN 257,593. Pub. 7-11-67. Filed 10-31-66.

- 835,963. ALEENES CRAFTMAKER AND DESIGN. Aleene's Fibre & Floral Supply Company, d.b.a. Aleene's Inc., and Aleene's. SN 262,380. Pub. 7-11-67. Filed 1-12-67.
- 835,964. CCC AND DESIGN. Catalog Card Corporation of America, Inc. SN 266,981. Pub. 7-11-67. Filed 3-17-67.
- 835,965. REFLEX. Eversharp, Inc. SN 268,132. Pub. 7-11-67. Filed 4-3-67.

Class 38 — Prints and Publications

- 835,966. ARIZONA RANGE NEWS AND DESIGN. Arizona Range News. SN 227,991. Pub. 7-11-67. Filed 9-17-65.
- 835,967. TOPPS. Topps Chewing Gum, Incorporated. SN 249,891. Pub. 7-11-67. Filed 7-8-66.

Class 39 — Clothing

- 835,746. (See Class 3 for this trademark.)
- 835,968. STONE CUTTER. Universal Overall Company. SN 678,290. Pub. 9-20-60. Filed 12-13-54.
- 835,969. NUHIDE. New England Overall Co., Inc. SN 164,988. Pub. 9-24-63. Filed 3-19-63.
- 835,970. AFTER DARK. S. Rudofker's Sons, Inc. SN 217,789. Pub. 11-9-65. Filed 4-30-65.
- 835,971. LEAPING FIGURE (DESIGN). Fancee Free Manufacturing Co., Inc. SN 229,220. Pub. 7-11-67. Filed 10-4-65.
- 835,972. EDWARDIAN. Harry Fischer Corporation. SN 230,629. Pub. 7-11-67. Filed 10-20-65.
- 835,973. AMICO. A.M.C. Leather Goods Ltd. SN 237,781. Pub. 7-11-67. Filed 2-2-66.
- 835,974. ALLEY CAT (DESIGN). Le Damor, Inc. SN 238,646. Pub. 7-11-67. Filed 2-11-66.
- 835,975. CROWD PLEASERS. Celanese Corporation, by change of name from Celanese Corporation of America. SN 241,428. Pub. 7-11-67. Filed 3-21-66.
- 835,976. BACK-AID. Flexnit Company, Inc. SN 241,587. Pub. 7-11-67. Filed 3-22-66.
- 835,977. CAROL EVANS. J. C. Penney Company. SN 243,014. Pub. 7-11-67. Filed 4-8-66.
- 835,978. LICORICE STICK AND DESIGN. Girl Talk. SN 243,318. Pub. 7-11-67. Filed 4-13-66.
- 835,979. GUY DE BERAC. Tricotages Mecaniques Troyens. SN 243,359. Pub. 7-11-67. Filed 4-13-66.
- 835,980. LION AND CROWN (DESIGN). Burma-Bibas, Inc. SN 243,954. Pub. 7-11-67. Filed 4-21-66.
- 835,981. LION (DESIGN). Burma-Bibas, Inc. SN 243,955. Pub. 7-11-67. Filed 4-21-66.
- 835,982. THIS IS A POST TIME ORIGINAL AND DESIGN. Post Time Originals, Inc. SN 248,736. Pub. 7-11-67. Filed 6-22-66.
- 835,983. SEIBERLING. Meco, Inc. SN 252,269. Pub. 7-11-67. Filed 8-12-66.
- 835,984. SPORT CHIEF. Chief Apparel, Inc. SN 252,444. Pub. 7-11-67. Filed 7-27-66.
- 835,985. PETAL BURST. Canadian Lady Corset Co. Ltd. SN 252,706. Pub. 7-11-67. Filed 7-26-66.
- 835,986. MISS DORCREST. The National Dollar Stores, Ltd. SN 253,163. Pub. 7-11-67. Filed 8-25-66.
- 835,987. SIGNORICCI. Nina Ricci, S.A.R.L. SN 253,671. Pub. 7-11-67. Filed 9-1-66.
- 835,988. EVIE ADAMS AND DESIGN. Fortune Designs Inc. SN 255,078. Pub. 7-11-67. Filed 9-26-66.
- 835,989. BROLLY DOLLY. McGregor-Doniger Inc. SN 255,112. Pub. 7-11-67. Filed 9-26-66.
- 835,990. QUIKOTON. Quikoton A.G. SN 255,353. Pub. 7-11-67. Filed 9-28-66.

- 835,991. RUXTON. Associated Dry Goods Corporation, d.b.a. Stewart & Co. SN 256,517. Pub. 7-11-67. Filed 10-17-66.
- 835,992. SMILE GIRL. Jantzen Inc. SN 256,743. Pub. 7-11-67. Filed 10-19-66.
- 835,993. BLUE BELL AND DESIGN. Blue Bell, Inc. SN 269,609. Pub. 7-11-67. Filed 4-20-67.
- 835,994. LIVELY LADY. Chadbourne Gotham, Inc. SN 269,935. Pub. 7-11-67. Filed 4-25-67.

Class 40 — Fancy Goods, Furnishings, and Notions

- 835,995. LIVING SWITCH. Reid-Meredith, Inc. SN 208,848. Pub. 7-11-67. Filed 12-24-64.
- 835,996. R & M LIVING SWITCH. Reid-Meredith, Inc. SN 208,489. Pub. 7-11-67. Filed 12-24-64.
- 835,997. NEEDLENEET. James R. Higgs, d.b.a. Sleepy Jim Designs. SN 237,344. Pub. 7-11-67. Filed 1-26-66.

Class 41 — Canes, Parasols, and Umbrellas

- 835,998. COQUETTE. Telesco Brophay Limited. SN 259,591. Pub. 7-11-67. Filed 11-28-66.
- 835,999. CORONA. Telesco Brophay Limited. SN 259,592. Pub. 7-11-67. Filed 11-28-66.
- 836,000. DIPLOMAT. Telesco Brophay Limited. SN 259,594. Pub. 7-11-67. Filed 11-28-66.
- 836,001. CARESS. Telesco Brophay Limited. SN 259,595. Pub. 7-11-67. Filed 11-28-66.
- 836,002. EXECUTIVE. Telesco Brophay Limited. SN 259,596. Pub. 7-11-67. Filed 11-28-66.
- 836,003. CROWN. Telesco Brophay Limited. SN 259,600. Pub. 7-11-67. Filed 11-28-66.
- 836,004. CONTINENTAL. Telesco Brophay Limited. SN 259,601. Pub. 7-11-67. Filed 11-28-66.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 835,746. (See Class 3 for this trademark.)
- 835,929. (See Class 32 for this trademark.)
- 836,005. STONECUTTER. Stonecutter Mills Corporation. SN 79,125. Pub. 11-22-60. Filed 8-6-59.
- 836,006. ZEPHYRBOND AND DESIGN. Abaco Fabrics Corp. SN 196,932. Pub. 5-18-65. Filed 7-2-64.
- 836,007. BANDINA. Joseph Bancroft & Sons Co., assignee of Soptra Fabrics Corporation. SN 230,576. Pub. 6-21-66. Filed 10-19-65.
- 836,008. ROBE-STER. Barbet & Weigert Advertising, Inc., assignee of Media Counselors, Inc. SN 248,046. Pub. 7-11-67. Filed 6-14-66.
- 836,009. FF FORTUNE FABRICS, INC. AND DESIGN. Fortune Fabrics, Inc. SN 255,079. Pub. 7-11-67. Filed 9-26-66.
- 836,010. CARMOLON. Crown Textile Mfg. Corp. SN 256,527. Pub. 7-11-67. Filed 10-17-66.
- 836,011. DORFORM. Irving J. Dorfman Co., Inc. SN 257,260. Pub. 7-11-67. Filed 10-26-66.

Class 43 — Thread and Yarn

- 836,012. DOSPUN. The Doagh Spinning Company Limited. SN 213,210. Pub. 3-17-66. Filed 3-3-65.

- 836,013. SPUN DEE. The American Thread Company. SN 256,910. Pub. 7-11-67. Filed 10-21-66.

Class 44 — Dental, Medical, and Surgical Appliances

- 836,014. DOLS ETC. AND DESIGN. Dols' Volatalise Flannel Limited. SN 242,118. Pub. 7-11-67. Filed 3-29-66.
- 836,015. GEMINI. Kaz Manufacturing Co., Inc. SN 243,673. Pub. 7-11-67. Filed 4-18-66.
- 836,016. CUSTOM-FIT. Roberts Dental Manufacturing Co., Inc. SN 246,952. Pub. 7-11-67. Filed 5-31-66.
- 836,017. FRIGITRONICS. Frigitronics, Inc. SN 247,690. Pub. 7-11-67. Filed 6-9-66.
- 836,018. SPACEMAKER. S. S. White Company, assignee of X-Ray Mfg. Corporation of America. SN 249,375. Pub. 7-4-67. Filed 6-30-66.
- 836,019. K AND DESIGN. Koberloy, Inc. SN 257,059. Pub. 7-11-67. Filed 10-24-66.
- 836,020. BEAVER. Rudolph Beaver, Inc. SN 257,157. Pub. 7-11-67. Filed 10-25-66.
- 836,021. PORTA-VUE. Sierra Engineering Company. SN 257,410. Pub. 7-11-67. Filed 10-27-66.
- 836,022. DISPIRATOR. Disposable Products Corporation. SN 257,594. Pub. 7-11-67. Filed 10-31-66.

Class 45 — Soft Drinks and Carbonated Waters

- 836,023. DRINK-AID LION LIME AND DESIGN. The Kroger Co., d.b.a. Wesco Foods Co. SN 234,655. Pub. 7-11-67. Filed 12-15-65.
- 836,024. KICKAPOO JOY JUICE AND DESIGN. Capp Enterprises, Inc. SN 244,965. Pub. 7-11-67. Filed 5-5-66.
- 836,025. MOON YUM AND DESIGN. Capitol Food Industries, Inc. SN 248,945. Pub. 7-11-67. Filed 6-27-66.
- 836,026. OZARKA. Ozarka Water Company. SN 268,650. Pub. 7-4-67. Filed 4-10-67.

Class 46 — Foods and Ingredients of Foods

- 836,027. DIAL-A-SHAKE. Nimco Incorporated. SN 226,161. Pub. 7-11-67. Filed 8-20-65.
- 836,028. BEACH BOY. G.H. J. Kuhn, d.b.a. G. J. Kuhn. SN 227,037. Pub. 7-11-67. Filed 9-2-65.
- 836,029. MORONBURGER. E. Mitchell Kaufman, d.b.a. Holland House. SN 229,819. Pub. 7-11-67. Filed 10-11-65.
- 836,030. EMERALD AND DESIGN. Diamond Walnut Growers, Inc., assignee of Ernle Johnson & Son. SN 238,231. Pub. 11-1-66. Filed 2-7-66.
- 836,031. MISS ALMA'S OZARK FRIED CHICKEN AND DESIGN. Ozark Fried Chicken, Inc. SN 238,277. Pub. 7-11-67. Filed 2-7-66.
- 836,032. SUGAR TWIN. Northmore Corporation. SN 238,772. Pub. 7-11-67. Filed 2-14-66.
- 836,033. LUMBERJACK. Muller-Grocers Baking Co. SN 241,265. Pub. 2-28-67. Filed 3-17-66.
- 836,034. LUMBERJACK AND DESIGN. Muller-Grocers Baking Co. SN 241,267. Pub. 2-28-67. Filed 3-17-66.
- 836,035. LUMBER JACK AND DESIGN. Muller-Grocers Baking Co. SN 241,360. Pub. 2-28-67. Filed 3-18-66.
- 836,036. MEAD JOHNSON LABORATORIES. Mead Johnson & Company. SN 244,601. Pub. 7-11-67. Filed 4-29-66.

- 836,037. QUALITY CHEKD Q AND DESIGN. Quality Chekd Dairy Products Association. SN 245,759. Pub. 7-11-67. Filed 5-16-66.
- 836,038. FRITOS AND DESIGN. Frito-Lay, Inc. SN 247,219. Pub. 7-11-67. Filed 6-3-66.
- 836,039. FEUSNER F AND DESIGN. Feusner's Deluxe Foods, Inc. SN 248,318. Pub. 7-11-67. Filed 6-17-66.
- 836,040. REPRESENTATION OF A BARN (DESIGN). Gerber Cheese Co., Inc. SN 248,332. Pub. 7-11-67. Filed 6-17-66.
- 836,041. TOTEM POLE. Eskimo Pie Corporation. SN 249,149. Pub. 7-11-67. Filed 6-28-66.
- 836,042. ABERDEEN CUT. Moore's Seafood Products, Inc. SN 250,762. Pub. 7-11-67. Filed 7-21-66.
- 836,043. FARROW-EASE. Kent Feeds, Inc. SN 250,847. Pub. 7-11-67. Filed 7-22-66.
- 836,044. SPARTAN. McDermont Fruit Company. SN 251,444. Pub. 7-11-67. Filed 8-1-66.
- 836,045. CURB. Chemical Industries, Inc. SN 252,723. Pub. 7-11-67. Filed 8-19-66.
- 836,046. BATMAN. National Periodical Publications, Inc. SN 256,369. Pub. 7-11-67. Filed 10-13-66.

Class 49 — Distilled Alcoholic Liquors

- 836,047. ZARKOW. E. Martinoni Co., d.b.a. Zarkow-Boaka Cie. SN 203,102. Pub. 7-11-67. Filed 10-1-64.

Class 50 — Merchandise Not Otherwise Classified

- 835,782. (See Class 13 for this trademark.)
- 836,048. ILLUSTRATION-COLOR. Pacific Chalkboard Co. SN 251,562. Pub. 7-11-67. Filed 8-2-66.

Class 51 — Cosmetics and Toilet Preparations

- 836,049. HABIT. Avon Products, Inc. SN 192,256. Pub. 7-11-67. Filed 4-29-64.
- 836,050. D'AZUR. House of d'Azur Inc. SN 213,216. Pub. 7-11-67. Filed 3-3-65.
- 836,051. VITA-D HOWELL ETC. AND DESIGN. Howell Brothers Chemical Laboratory. SN 235,404. Pub. 7-11-67. Filed 12-28-65.
- 836,052. AMALGAN. L'Oreal. SN 242,462. Pub. 7-11-67. Filed 4-1-66.
- 836,053. POST TIME. I. Posner, Inc. SN 245,101. Pub. 7-11-67. Filed 5-6-66.
- 836,054. SIMPLY BLONDE. Clairol Incorporated. SN 246,448. Pub. 7-11-67. Filed 5-24-66.
- 836,055. SOFT & SUNNY. Clairol Incorporated. SN 246,657. Pub. 7-11-67. Filed 5-26-66.
- 836,056. EYE TWINKLERS. Yardley of London, Inc. SN 246,980. Pub. 7-11-67. Filed 5-31-66.
- 836,057. BUON GIORNO. Sopas Profumi S.p.A. SN 249,686. Pub. 7-11-67. Filed 7-6-66.
- 836,058. DRAB KING. L. E. Macy Holding Corp. SN 250,850. Pub. 7-11-67. Filed 7-22-66.
- 836,059. BINACA. Ciba Limited. SN 251,284. Pub. 7-11-67. Filed 7-29-66.
- 836,060. DON'T WEAR ONDINE UNLESS YOU MEAN IT. Suzanne Thierry Parfums, Inc. SN 251,479. Pub. 7-11-67. Filed 8-1-66.

- 836,061. TOTSIE. Cecil Elroy Bell. SN 251,699. Pub. 7-11-67. Filed 8-4-66.
- 836,062. ROLL CALL. McKesson & Robbins, Incorporated, d.b.a. McKesson Laboratories. SN 251,939. Pub. 7-11-67. Filed 8-8-66.
- 836,063. FROSTED VELVET. Chas. Pfizer & Co., Inc. SN 252,128. Pub. 7-11-67. Filed 8-10-66.
- 836,064. GO STRAIGHT. Del Laboratories, Inc. SN 252,643. Pub. 7-11-67. Filed 8-18-66.
- 836,065. DENTAL REX. Rexall Drug and Chemical Company, d.b.a. The Rexall Drug Company. SN 252,761. Pub. 7-11-67. Filed 8-19-66.

Class 52 — Detergents and Soaps

- 836,754. (See Class 6 for this trademark.)
- 836,066. TRU MAGIC NO ODOR AND DESIGN. Tru Magic Products. SN 237,177. Pub. 7-11-67. Filed 1-24-66.
- 836,067. BRAZE-KLEEN. Braze Kleen Chemical Company Incorporated. SN 246,155. Pub. 7-11-67. Filed 5-20-66.
- 836,068. THERMOVAC. MacKenzie Chemical Works, Inc. SN 251,826. Pub. 7-11-67. Filed 8-5-66.
- 836,069. FRYDELITE. Royal Paper Products, Inc. SN 252,213. Pub. 7-11-67. Filed 8-11-66.
- 836,070. SWEETIE-FRY. Royal Paper Products, Inc. SN 252,214. Pub. 7-11-67. Filed 8-11-66.
- 836,071. GLID STRIP. The Glidden Company. SN 250,105. Pub. 7-11-67. Filed 11-21-66.

Service Marks

Class 100 — Miscellaneous

- 836,072. FIRESIDE CAMPS AND DESIGN. Howard J. Lechner, d.b.a. Lechner Manufacturing Company. SN 228,048. Pub. 7-11-67. Filed 9-17-65.
- 836,073. ARMOUR ETC. AND DESIGN. Armour and Company. SN 232,054. Pub. 7-11-67. Filed 11-3-65.
- 836,074. "OPERATION CHRISTMAS AMIGO." The Cuellar Brothers. SN 236,470. Pub. 7-11-67. Filed 1-14-66.
- 836,075. TRIANGLE AND FLAME (DESIGN). Cities Service Gas Company. SN 240,856. Pub. 7-11-67. Filed 3-14-66.
- 836,076. AM (DESIGN). The Austin Company. SN 245,148. Pub. 7-11-67. Filed 5-9-66.
- 836,077. SYMBOLIC DESIGN. Howard D. Johnson Company. SN 247,127. Pub. 7-11-67. Filed 6-2-66.
- 836,078. MEET-O-MATIC. Holiday Inns of America, Inc. SN 247,798. Pub. 7-11-67. Filed 6-10-66.
- 836,079. JOLLY TROLL. Jolly Troll, Inc. SN 248,624. Pub. 7-11-67. Filed 6-21-66.

Class 101 — Advertising and Business

- 836,080. WESTBURYTOTE. Westbury Electronic Corporation. SN 229,617. Pub. 7-11-67. Filed 10-7-65.
- 836,081. DATATAX. Monroe International, Inc., assignee of Datatex Corporation. SN 232,392. Pub. 7-11-67. Filed 11-9-65.
- 836,082. MISCELLANEOUS DESIGN. Ad Ventures Company, Inc. SN 239,692. Pub. 7-11-67. Filed 2-28-66.
- 836,083. DIAL-A-SECRETARY. Dial-A-Secretary. SN 241,765. Pub. 7-11-67. Filed 3-24-66.

- 836,084. NEWSO. Jay Kashuk and Associates. SN 242,827. Pub. 7-11-67. Filed 4-6-66.
- 836,085. MICRIGHT. Burroughs Corporation. SN 244,673. Pub. 7-11-67. Filed 5-2-66.
- 836,086. NSC. NSC International Inc. SN 248,828. Pub. 7-11-67. Filed 6-23-66.
- 836,087. FRIEND-CHISE. The Travelodge Corporation. SN 249,088. Pub. 7-14-67. Filed 6-27-66.

Class 102 — Insurance and Financial

- 836,088. LEXINGTON. Lexington Income Trust. SN 227,045. Pub. 7-11-67. Filed 9-2-65.
- 836,089. THE OREGON BANK AND DESIGN. The Oregon Bank. SN 239,170. Pub. 7-11-67. Filed 2-18-66.
- 836,090. UNITED STATES TRUST COMPANY OF NEW YORK AND DESIGN. United States Trust Company of New York. SN 239,559. Pub. 7-11-67. Filed 2-24-66.
- 836,091. CIRCLE (DESIGN). American Bankers Life Assurance Company of Florida. SN 245,550. Pub. 7-11-67. Filed 5-13-66.
- 836,092. THE MAN WITH THE PLAN. The Employers' Liability Assurance Corporation, Ltd., d.b.a. The Employers' Group of Insurance Companies. SN 249,226. Pub. 7-11-67. Filed 6-29-66.

Class 103 — Construction and Repair

- 836,093. M MOLECULAR RESEARCH INC. AND DESIGN. Molecular Research, Inc. SN 224,438. Pub. 7-11-67. Filed 7-28-65.
- 836,094. SPRAY CRAFT ETC. AND DESIGN. Spraycraft Auto Painting Systems, assignee of Spraycraft Auto Painting Systems Inc., d.b.a. Spraycraft Auto Painting Co. SN 235,803. Pub. 7-11-67. Filed 1-4-66.
- 836,095. HESS. Hess Oil & Chemical Corporation. SN 237,965. Pub. 7-11-67. Filed 2-3-66.
- 836,096. MAN HOLDING CAR (DESIGN). Anthony Snlger, d.b.a. Big Bear Shops. SN 240,669. Pub. 7-11-67. Filed 3-10-66.
- 836,097. LAMALIGN. Anthony Snlger, d.b.a. Big Bear Shops. SN 240,670. Pub. 7-11-67. Filed 3-10-66.
- 836,098. LAM LIFEGUARD AUTO MAINTENANCE. Anthony Snlger, d.b.a. Big Bear Shops. SN 240,671. Pub. 7-11-67. Filed 3-10-66.
- 836,099. BEE ON A WRENCH (DESIGN). Fred Wendel, Inc. SN 246,412. Pub. 7-11-67. Filed 5-23-66.
- 836,100. RYAN HOMES AND DESIGN. Ryan Homes, Inc. SN 246,721. Pub. 7-11-67. Filed 5-26-66.
- 836,101. MISCELLANEOUS DESIGN. Green & White Construction Company. SN 248,391. Pub. 7-11-67. Filed 6-20-66.

Class 104 — Communication

- 836,102. CABLEVIEW. Baker Broadcasters Inc. SN 246,860. Pub. 7-11-67. Filed 5-31-66.

Class 105 — Transportation and Storage

- 836,103. SPECIAL DELIVERY ETC. AND DESIGN. Global Van Lines, Inc. SN 234,603. Pub. 7-11-67. Filed 12-13-65.

- 836,104. THE PROUD BIRD WITH THE GOLDEN TAIL. Continental Air Lines, Inc. SN 239,972. Pub. 7-11-67. Filed 3-2-66.
- 836,105. CITGO AND DESIGN. Cities Service Oil Company. SN 241,012. Pub. 7-11-67. Filed 3-10-66.
- 836,106. INGRAM. Ingram Corporation. SN 245,707. Pub. 7-11-67. Filed 5-16-66.
- 836,107. BEE (DESIGN). Eugene L. Miller, d.b.a. Bee-Line Trailer Rental and Bee-Line Co. SN 250,587. Pub. 7-11-67. Filed 7-19-66.

Class 106 — Material Treatment

- 836,108. FOR A HEALTHIER ENVIRONMENT THROUGH MODERN CHEMISTRY. Airkem, Inc. SN 231,876. Pub. 7-11-67. Filed 11-1-65.
- 836,109. KORV-AIR. E. J. Korvette, Inc. SN 239,521. Pub. 7-11-67. Filed 2-24-66.
- 836,110. FILM-WAY. Galeski Photo Center, Inc. SN 245,586. Pub. 7-11-67. Filed 5-13-66.

Class 107 — Education and Entertainment

- 836,111. ICTA. The Institute of Certified Travel Agents. SN 244,326. Pub. 7-11-67. Filed 4-26-66.
- 836,112. DREAM WORLD SERIES. Triangle Publications, Inc. SN 245,529. Pub. 7-11-67. Filed 5-12-66.
- 836,113. J & J CHEESE CUPBOARD. Johnson & Johnson. SN 248,340. Pub. 7-11-67. Filed 6-17-66.
- 836,114. EL DERECHO DE NACER. Martin Reynolds. SN 249,181. Pub. 7-11-67. Filed 6-28-66.

- 836,115. GOLDEN BOUZOUKIA. James N. Demos, d.b.a. Jimmy Demos Golden Bouzoukia Ensemble. SN 249,511. Pub. 7-11-67. Filed 7-5-66.
- 836,116. CLEVELAND BROWNS. Cleveland Browns, Inc. SN 250,217. Pub. 7-11-67. Filed 7-14-66.
- 836,117. CARICATURE OF A FOOTBALL PLAYER ON HORSE (DESIGN). Dallas Cowboys Football Club, Inc. SN 250,219. Pub. 7-11-67. Filed 7-14-66.
- 836,118. FOOTBALL PLAYER IN CIRCLE (DESIGN). Green Bay Packers, Inc. SN 250,221. Pub. 7-11-67. Filed 7-14-66.
- 836,119. FIGURE OF FOOTBALL PLAYER AND STADIUM (DESIGN). The New York Football Giants, Inc. SN 250,223. Pub. 7-11-67. Filed 7-14-66.
- 836,120. EAGLE WITH FOOTBALL (DESIGN). The Philadelphia Eagles Football Club, Inc. SN 250,225. Pub. 7-11-67. Filed 7-14-66.
- 836,121. HEAD PROFILE OF INDIAN IN CIRCLE (DESIGN). Pro-Football, Inc. SN 250,226. Pub. 7-11-67. Filed 7-14-66.
- 836,122. THE REDSKINS. Pro-Football, Inc. SN 250,227. Pub. 7-11-67. Filed 7-14-66.
- 836,123. THE FUGS. Ed Sanders. SN 254,322. Pub. 7-11-67. Filed 9-12-66.

Collective Membership Mark

Class 200

- 836,124. SEAL OF INTEGRITY AND DESIGN. Greater St. Louis Automotive Association, Inc. SN 209,852. Pub. 7-11-67. Filed 1-13-65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

- 836,125. American Greetings Corporation, Cleveland, Ohio. SN 228,600. Filed P.R. 9-27-65; Am. S.R. 7-26-67.

HOUSE OF PAPER

Class 2—Receptacles

For Paper Plates, Cups, and Coasters.

Class 37—Paper and Stationery

For Paper Party Goods—Namely, Napkins, Towels Table Covers, Place Mats, Lace Mats, Doilies, Place Cards, Table Centerpieces.

First use at least as early as 1938.

SECTION 2

Class 2 — Receptades

- 836,125. See Section 1 (Combined Certificate).

For Saccharin for Medicinal Use, Aspirin and Vitamin Tablets, Brewers Yeast Tablets, Sleep Inducing Capsules, Mineral Supplement Tablets, Mouth Wash for Medicinal Use, Nasal Spray, Liquid Antacid Preparations, Children's Chewable Vitamin Tablets, and Cold Tablets.

First use Dec. 7, 1959, on aspirin and saccharin.

Class 18 — Medicines and Pharmaceutical Preparations

- 836,126. Strong Cobb Arner, Inc., Cleveland, Ohio. SN 249,086. Filed P.R. 6-27-66; Am. S.R. 7-27-67.

- 836,127. Dr. Madaus & Co., Koln-Merheim, Germany. SN 252,829. Filed P.R. 8-22-66; Am. S.R. 7-31-67.

MADAUS

Owner of U.S. Reg. No. 822,279, and German Reg. No. 311,122, dated Feb. 11, 1924.
For Pharmaceutical Products.

Professional

Class 21—Electrical Apparatus, Machines, Class 46—Foods and Ingredients of Foods and Supplies

836,128. Phillip J. Parker, d.b.a. Parker Research, Dunedin, Fla. SN 230,070. Filed P.R. 10-13-65; Am. S.R. 7-19-67.

CONTOUR PROBE

For Magnetic Particle Inspection Apparatus.
First use June 8, 1965.

836,129. Clevite Corporation, Cleveland, Ohio. SN 236,054. Filed P.R. 1-10-66; Am. S.R. 7-20-67.

UNI-WAFER

For Electric Wave Filters and Piezoelectric Resonators.
First use Sept. 10, 1965.

836,130. Topp Import & Export, Inc., Miami, Fla. SN 252,042. Filed P.R. 8-9-66; Am. S.R. 7-19-67.

INSTANT SOUND

For Radios.
First use on or about Jan. 4, 1966.

Class 22—Games, Toys, and Sporting Goods

836,131. Cadaco, Inc., Chicago, Ill. SN 270,329. Filed P.R. 5-1-67; Am. S.R. 7-3-67.

TEN COMMANDMENTS

For Equipment for Playing a Table Game.
First use Mar. 7, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

836,132. Oppel Sales, Inc., Boise, Idaho. SN 248,357. Filed P.R. 6-17-66; Am. S.R. 7-28-67.



For Farm Machinery—Namely, Beet Top Savers, Terracing Blades, Tractor Front-End Loaders, Mixer Feeder-Boxes, Beet Harvesters, Potato Harvesters, Mulchers, Rotary Shredders, Manure Spreaders, Defoliators, Potato Windrowers and Power Cultivators.
First use Feb. 10, 1966.

Class 37—Paper and Stationery

836,125. See Section 1 (Combined Certificate).

836,133. Cia. Frutera Sud-Americana (Ecuador) S.A., Guayaquil, Ecuador. SN 196,355. Filed P.R. 6-24-64; Am. S.R. 10-21-66.

FRUTERA

The Spanish word "Frutera" is translated in English as "fruiterer."
For Fresh Bananas.
First use December 1960.

836,134. Houston Foods, Inc., Chicago, Ill. SN 236,819. Filed P.R. 1-19-66; Am. S.R. 7-31-67.

YARD OF CHEESE

For Gourmet Food Package Consisting of a Plurality of Individually Wrapped Cheeses.
First use Aug. 17, 1965.

836,135. MacRobertson Proprietary Limited, Fitzroy, Victoria, Australia. SN 236,835. Filed P.R. 1-19-66; Am. S.R. 7-19-67.

CHERRY RIPE

For Cherry Flavored Candy.
First use June 1, 1923.

836,136. The H. T. Hackney Company, d.b.a. The H. T. Hackney Co., Knoxville, Tenn. SN 266,973. Filed P.R. 3-17-67; Am. S.R. 6-9-67.

SUPER GOOBER

For Peanut Butter.
First use May 5, 1966.

Class 51—Cosmetics and Toilet Preparations

836,137. Eversharp, Inc., Milford, Conn. SN 234,404. Filed P.R. 12-13-65; Am. S.R. 7-3-67.

AUTO LATHER

For Shaving Cream.
First use Nov. 24, 1965.

836,138. John H. Breck, Inc., Springfield, Mass. SN 235,266. Filed P.R. 12-27-65; Am. S.R. 7-21-67.

TRULY SLATE

For Hair Coloring Preparation.
First use Dec. 2, 1965.

836,139. John H. Breck, Inc., Springfield, Mass. SN 235,267. Filed P.R. 12-27-65; Am. S.R. 7-21-67.

TRUE SLATE

For Hair Coloring Preparation.
First use Dec. 2, 1965.

836,140. John H. Breck, Inc., Springfield, Mass. SN 235,268. Filed P.R. 12-27-65; Am. S.R. 7-21-67.

CLEARLY SLATE

For Hair Coloring Preparation.
First use Dec. 2, 1965.

Class 52—Detergents and Soaps

836,141. Glissen Chemical Co., Inc., Brooklyn, N.Y. SN 255,312. Filed 9-28-66.

NU-FOAM

For Detergents for Cleaning Glassware, Dishes, Rugs, Automobiles, and General Cleaning.
First use in or about June 1940.

Service Mark

Class 102—Insurance and Financial

836,142. Business Guides, Inc., New York, N.Y. SN 255,171. Filed P.R. 9-27-66; Am. S.R. 7-26-67.

PRODUCT RESEARCH BUREAU

For Competitive Analyses Service of Products of Others by Store-by-Store Surveys of Store Managers, and Others.
First use July 19, 1966.

TRADEMARK REGISTRATIONS RENEWED

30,916. JUNKET. Cl. 6. 11-30-1897.	235,973. CLICQUOT CLUB AND DESIGN. Cl. 45. 11-29-27.
61,344. BRADES. Cl. 23. 3-19-07.	236,196. "MOTOLUXE" ETC. AND DESIGN. Cl. 42. 12-6-27.
63,746. MILTON. Cl. 36. 7-9-07.	236,276. CREMAGOL. Cl. 18. 12-6-67.
64,341. DESIGN OF A TRIANGLE. Cl. 26. 8-6-07.	236,307. AJAX. Cl. 12. 12-6-27.
66,675. STANLEY. Cl. 26. 12-17-07.	236,439. RIPPLETTE. Cl. 42. 12-13-27.
230,244. LAWRO. Cl. 1. 7-19-27.	236,896. MAGIC CIRCLE. Cl. 46. 12-27-27.
230,486. FILTEX. Cl. 16. 7-26-27.	237,576. MT. HOOD. Cl. 46. 1-10-28.
230,792. TOM THUMB. Cl. 36. 8-2-27.	237,798. ROYAL PALM. Cl. 39. 1-17-28.
230,937. BETTER METHODS. Cl. 38. 8-9-27.	238,084. FISHER. Cl. 13. 1-24-28.
230,969. SANTONE. Cl. 39. 8-9-27.	239,320. CO-SHOC. Cl. 39. 2-28-28.
231,103. SMETINA. Cl. 46. 8-9-27.	430,111. GOLDEN PEARL. Cl. 46. 6-10-47.
231,253. VANETTE. Cl. 39. 8-16-27.	431,708. DIECARB AND DESIGN. Cl. 14. 8-5-47.
231,365. IVER JOHNSON. Cl. 9. 8-16-27.	431,712. MISCELLANEOUS DESIGN. Cl. 34. 8-5-47.
231,602. PICTURE OF SUN, GIRL, AND FISH. Cl. 6. 8-23-27.	431,715. REXALLOY. Cl. 14. 8-5-47.
231,658. GREEN CIRCLE AND DESIGN. Cl. 13. 8-23-27.	432,396. HYDROMENT. Cl. 12. 9-2-47.
231,761. COREX. Cl. 33. 8-23-27.	433,041. MC. PHAIL. Cl. 36. 9-23-47.
231,805. THE CLEVELANDER. Cl. 38. 8-30-27.	433,042. KROEGER. Cl. 36. 9-23-47.
232,156. CHAFIX. Cl. 18. 9-6-27.	433,057. GOLDEN KNIGHT. Cl. 28. 9-23-47.
232,598. BEACON. Cl. 15. 9-13-27.	433,638. JA-SON AND DESIGN. Cl. 23. 10-21-47.
232,611. CHUBBY GARMENTS. Cl. 39. 9-13-27.	433,872. ELCOFILT. Cl. 31. 11-4-47.
232,759. ORTHO-CLEAR. Cl. 16. 9-13-27.	433,911. CUPROSE. Cl. 6. 11-4-47.
232,931. ADVERTAG. Cl. 38. 9-20-27.	433,975. PETROHOL. Cl. 6. 11-4-47.
233,107. WALDORF. Cl. 36. 9-20-27.	433,976. PETROHOL. Cl. 52. 11-4-47.
234,217. DUKE'S MIXTURE. Cl. 17. 10-18-27.	434,290. NUSHAVE. Cl. 51. 11-18-47.
234,403. GREEN TIP. Cl. 13. 10-25-27.	434,442. V AND DESIGN. Cl. 28. 11-18-47.
234,470. DIGITORA. Cl. 18. 10-25-27.	434,679. PERFECTION. Cl. 6. 12-2-47.
234,471. CALAMAIN. Cl. 18. 10-25-27.	434,724. ALUMILINE. Cl. 12. 12-2-47.
234,554. ATO AND DESIGN. Cl. 27. 11-1-27.	435,060. VB AND DESIGN. Cl. 18. 12-9-47.
234,641. LONE EAGLE. Cl. 27. 11-1-27.	435,308. CARDIS. Cl. 11. 12-16-47.
234,700. FLOR DE BLASON. Cl. 52. 11-1-27.	435,660. NURSERITEX. Cl. 32. 1-6-48.
234,702. ORGIA. Cl. 52. 11-1-27.	435,712. 70-30 MIXTURE AND DESIGN. Cl. 18. 1-6-48.
234,819. SERACETA. Cl. 43. 11-8-27.	435,725. FLOTILL. Cl. 46. 1-6-48.
234,863. MASTIPAVE. Cl. 20. 11-8-27.	435,737. L.A. Cl. 18. 1-6-48.
235,481. TROJAN. Cl. 27. 11-22-27.	435,763. POR-SAN. Cl. 4. 1-6-48.
235,817. UNIVIS. Cl. 26. 11-29-27.	435,955. SQUIBB ASPIRIN. Cl. 18. 1-20-48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Aug. 8, 1961

719,454. TERLASTIC. Cl. 1.	719,520. RO-VAR. Cl. 13.
719,458. REDWOOD. Cl. 1.	719,521. DELBAR. Cl. 13.
719,460. EGG PAK AND DESIGN. Cl. 2.	719,523. BUTTON-ZIP. Cl. 13.
719,461. "LIVING POTTERY." Cl. 2.	719,528. HARDWELD. Cl. 14.
719,464. SORTRAY. Cl. 2.	719,529. INSLEAD. Cl. 14.
719,466. MIRROSHEEN. Cl. 2.	719,531. "MICROGRAF." Cl. 15.
719,483. HUGHSON AND DESIGN. Cl. 6.	719,533. PUROJET. Cl. 15.
719,485. BASOGEN. Cl. 6.	719,537. VELV. Cl. 16.
719,487. LARYTECTANT. Cl. 6.	719,542. ETHICA STANDARD AND DESIGN. Cl. 18.
719,495. KIP-KLEEN. Cl. 6.	719,543. PEN-I-VITE. Cl. 18.
719,496. ZIP-ZYME. Cl. 6.	719,546. K (DESIGN). Cl. 18.
719,504. CYPRESS GARDENS. Cl. 10.	719,550. SACOVITE. Cl. 18.
719,506. SPRING-WELL BOARDS AND DESIGN. Cl. 12.	719,552. VESIDRYL. Cl. 18.
719,507. SCULPTURAMA AND DESIGN. Cl. 12.	719,558. GETRIC. Cl. 18.
719,511. BRADFORD POOLS. Cl. 12.	719,559. PICOT AND DESIGN. Cl. 18.
719,514. CAPRI. Cl. 12.	719,569. LORYL. Cl. 18.
719,518. FLUSH-FLO. Cl. 13.	719,576. CONCESSIONAIRE. Cl. 19.
	719,579. DUST-EX. Cl. 21.
	719,585. TUDOR. Cl. 21.
	719,587. ROMANCE. Cl. 21.

719,589. SPARD. Cl. 21.
 719,607. SERVOTORQUE. Cl. 23.
 719,615. SHAV-A-LAWN. Cl. 23.
 719,619. CORONET. Cl. 23.
 719,622. SESAME. Cl. 23.
 719,623. SEE-FOG. Cl. 23.
 719,626. GRA-TITE. Cl. 23.
 719,632. NEED-L-MINDER. Cl. 26.
 719,633. FLUOR-O-DODGE. Cl. 26.
 719,635. D.B.E. AND DESIGN. Cl. 26.
 719,638. HALMOR. Cl. 26.
 719,646. VIDIBOR. Cl. 28.
 719,649. DOVERITE. Cl. 32.
 719,650. CERAMA. Cl. 32.
 719,654. SNAK'R DINE. Cl. 32.
 719,655. STAR AND DESIGN. Cl. 34.
 719,656. R AND DESIGN. Cl. 34.
 719,661. EXTREFLEX. Cl. 35.
 719,667. PHANTOM PEDAL. Cl. 36.
 719,687. FANCIFUL REPRESENTATION OF MAN WITH
 Mallet and Chisel. Cl. 38.
 719,690. CASUAL LIVING. Cl. 38.
 719,693. THE TACHOMETER. Cl. 38.
 719,698. TAPER IVYS. Cl. 39.
 719,699. PEGGER IVYS. Cl. 39.
 719,700. STARINA AND DESIGN. Cl. 39.
 719,703. BRITON AIRES. Cl. 39.
 719,704. PARTOS "M" BRA. Cl. 39.
 719,714. PERMA-DENT. Cl. 44.
 719,718. GALASTIC. Cl. 44.
 719,719. LIPSEAL. Cl. 44.

719,721. LENSCECTOR. Cl. 44.
 719,722. MA CHERIE, MY DEAR AND DESIGN. Cl. 45.
 719,725. CONFIGURATION OF A BOTTLE. Cl. 46.
 719,726. THE ROYALTY OF NATIONALITY FOODS AND
 DESIGN. Cl. 46.
 719,727. MOM'S BEST. Cl. 46.
 719,734. CYPRESS GARDENS. Cl. 46.
 719,739. UNCLE SAUL'S. Cl. 46.
 719,740. NAVAJO MAID AND DESIGN. Cl. 46.
 719,743. MINVITINE. Cl. 46.
 719,749. STRAWBERRY BLONDE AND DESIGN. Cl. 46.
 719,754. VLR. Cl. 46.
 719,758. COLOR COMBO. Cl. 50.
 719,759. HOOHAH. Cl. 50.
 719,765. ROBERTA LYNN. Cl. 51.
 719,766. DESIGN OF BABY IN SHELL. Cl. 52.
 719,770. OPTI-GLEAM. Cl. 52.
 719,773. EMAKU. Cl. 52.
 719,787. FLUOROCALAD. Cl. 106.
 719,789. THE BOWLERS COUNTRY CLUB. Cl. 107.
 719,790. ATLANTIC. Cl. 107.
 719,791. ATLANTIC AND DESIGN. Cl. 107.
 719,796. RHODE. Cl. 18.
 719,798. LEARN 'N PLAY AND DESIGN. Cl. 22.
 719,799. ZIP-OPENER. Cl. 37.
 719,807. MAKE IT YOURSELF WITH WOOL. Cl. 100.

Section 18

358,044. LOVELY LADY. Cl. 51. 6-28-38.
 619,236. I-C-PAK. Cl. 2. 1-17-56.
 767,920. SCAGWAY. Cl. 42. 4-7-64.

INDEX OF REGISTRANTS

SEPTEMBER 26, 1967

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A.M.C. Leather Goods, Ltd., Bolton, England. 835,973, pub. 7-11-67. Cl. 39.
 Aarbern Pharmacal Co.: See—
 Wander Co., The.
 Abaco Fabrics Corp., New York, N.Y. 836,006, pub. 5-18-65. Cl. 42.
 Accro Watch Co., Inc., New York, N.Y. 835,911, pub. 7-11-67. Cl. 27.
 Accurate Products, Inc., Indianapolis, Ind. 835,904, pub. 7-11-67. Cl. 26.
 Acushnet Process Co., New Bedford, Mass. 835,939, pub. 7-11-67. Cl. 35.
 Ad Ventures Co., Inc., Wichita, Kans. 836,082, pub. 7-11-67. Cl. 101.
 Ahlbin, John, & Sons, Inc., Bridgeport, Conn. 433,638, ren. 9-26-67. Cl. 23.
 Airkem, Inc., New York, N.Y. 836,108, pub. 7-11-67. Cl. 106.
 Aleene's: See—
 Aleene's Fibre & Floral Supply Co.
 Aleene's Fibre & Floral Supply Co., d.b.a. Aleene's, Inc., and Aleene's, Temple City, Calif. 835,963, pub. 7-11-67. Cl. 37.
 Aleene's, Inc.: See—
 Aleene's Fibre & Floral Supply Co.
 Alexander Vacuum Research, Inc., New York, N.Y. 835,892, pub. 7-11-67. Cl. 26.
 All Tech Industries, Inc., Hialeah, Fla. 835,855, pub. 7-11-67. Cl. 22.
 Allen Aircraft Radio, Inc., Elk Grove Village, Ill. 835,907, pub. 7-11-67. Cl. 26.
 Allen Electronics, Inc., Bethlehem, Pa. 835,865-6, pub. 7-11-67. Cl. 23.
 Allied Chemical Corp., New York, N.Y. 835,765, pub. 7-11-67. Cl. 10.
 Alma Desk Co., High Point, N.C. 835,927, pub. 7-11-67. Cl. 32.
 Altman Brothers Shoe Mfg. Co., Cincinnati, Ohio. 719,703, can. Cl. 39.
 Alumline Corp., The, Pawtucket, R.I. 434,724, ren. 9-26-67. Cl. 12.
 Alver Popcorn Co.: See—
 Premier Popcorn Assn.
 American Air Filter Co., Inc., Louisville, Ky. 835,932, pub. 7-11-67. Cl. 34.
 American Bankers Life Assurance Co. of Florida, Miami, Fla. 836,091, pub. 7-11-67. Cl. 102.
 American Crayon Co., The: See—
 Dixon, Joseph, Crucible Co., The.
 American Cyanamid Co., Wayne, N.J. 835,820, pub. 7-11-67. Cl. 18.
 American Golf Testing Corp., Tuscaloosa, Ala. 835,856, pub. 7-11-67. Cl. 22.
 American Greetings Corp., Cleveland, Ohio. 835,955, pub. 3-22-66. Cl. 37.
 American Greetings Corp., Cleveland, Ohio. 836,125, pub. 7-11-67. Multiple Class (Classes 2 and 37).
 American Lecithin Co., from GK Industries, Inc., Atlanta, Ga. 835,738, pub. 7-11-67. Cl. 2.
 American Thread Co., The, New York, N.Y. 836,013, pub. 7-11-67. Cl. 43.
 Anaconda Aluminum Co., Louisville, Ky. 835,733, pub. 7-11-67. Cl. 2.
 Angellique and Co., Inc., The, Wilton, Conn. 719,766, can. Cl. 52.
 Angelo, Alfred, Inc., Philadelphia, Pa. 719,723, can. Cl. 13.
 A-1 Mfg. Co.: See—
 Kotsin, Tobias.
 Apfelbaum, Alexander, Co., Inc., New York, N.Y. 835,947, pub. 7-11-67. Cl. 36.
 Aquariums, Inc., Maywood, N.J. 835,833-4, pub. 7-11-67. Cl. 21.
 Aquariums, Inc., Maywood, N.J. 835,863, pub. 6-21-66. Cl. 23.
 Arcos Corp., Philadelphia, Pa. 835,931, pub. 7-11-67. Cl. 34.
 Arizona Range News, Willcox, Ariz. 835,966, pub. 7-11-67. Cl. 38.
 Armour & Co., Chicago, Ill. 835,731, pub. 7-11-67. Cl. 1.
 Armour and Co., Chicago, Ill. 836,073, pub. 7-11-67. Cl. 100.
 Arrow Line Products: See—
 M.G.M.S. Associates, Inc.
 Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan. 835,746, pub. 6-8-65. Multiple Class (Classes 3, 22, 36, and 42).
 Associated Dry Goods Corp., d.b.a. Stewart & Co., New York, N.Y. 835,991, pub. 7-11-67. Cl. 39.
 Atlantic Bowling Corp., Providence, R.I. 719,789-91, can. Cl. 107.
 Austin Co., The, Cleveland, Ohio. 836,076, pub. 7-11-67. Cl. 100.
 Arco Corp., Westboro, Mass. 835,751, pub. 7-11-67. Cl. 4.
 Avis Pearl Co.: See—
 Landman, David.
 Avon Products, Inc., New York, N.Y. 836,049, pub. 7-11-67. Cl. 51.
 Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. 719,485, can. Cl. 6.
 Baker Broadcasters, Inc., Xenia, Ohio. 836,102, pub. 7-11-67. Cl. 104.
 Baker-Moise Co., Dallas, Tex., to Bear Brand Hosiery Co., Chicago, Ill. 231,253, ren. 9-26-67. Cl. 39.
 Ball, Geo. J., Inc., d.b.a. Jiffy-Pot Co. of America, West Chicago, Ill. 835,744, pub. 7-11-67. Cl. 2.
 Bancroft, Joseph, & Sons Co., Wilmington, Del., from Soptra Fabrics Corp., New York, N.Y. 836,007, pub. 6-21-66. Cl. 42.
 Barbet & Welgert Advertising, Inc., from Media Counselors, Inc., New York, N.Y. 836,008, pub. 7-11-67. Cl. 42.
 Barry's Products, Ltd., St. Louis, Mo. 835,750, pub. 7-11-67. Cl. 4.
 Bates Mfg. Co., Inc.: See—
 Bliss, Fabian & Co.
 Beacon Oil Co., Boston, Mass., to Humble Oil & Refining Co., Houston, Tex. 232,598, ren. 9-26-67. Cl. 15.
 Bear Brand Hosiery Co.: See—
 Baker-Moise Co.
 Bearcat Tire Co.: See—
 Fishman, Louis, & Co.
 Beardsley & Piper Co., The, to Pettibone Mulliken Corp., Chicago, Ill. 230,937, ren. 9-26-67. Cl. 38.
 Beaver, Rudolph, Inc., Belmont, Mass. 836,020, pub. 7-11-67. Cl. 44.
 Becton, Dickinson & Co.: See—
 Wagner, S. C.
 Bedford Farms, Inc., Shelbyville, Tenn. 835,728, pub. 7-11-67. Cl. 1.
 Bee-Line Co.: See—
 Miller, Eugene L.
 Bee-Line Trailer Rental: See—
 Miller, Eugene L.
 Bell, Cecil E., Benton Harbor, Mich. 836,061, pub. 7-11-67. Cl. 51.
 Bell & Howell Co., Chicago, Ill. 835,874, pub. 7-11-67. Cl. 23.
 Bemis Co., Inc., Minneapolis, Minn. 835,868, pub. 7-11-67. Cl. 23.
 Bennett, Norman, Washington, D.C. 835,852, pub. 7-11-67. Cl. 22.
 Big Bear Shops: See—
 Sniger, Anthony.
 Bliss, Fabian & Co., to Bliss, Fabian & Co., Inc. of Boston, Mass., New York, N.Y., to Bates Mfg. Co., Inc., Lewiston, Maine. 236,439, ren. 9-26-67. Cl. 42.
 Blue Bell, Inc., Greensboro, N.C. 835,993, pub. 7-11-67. Cl. 39.
 Borchardt Co., Chicago, Ill. 835,810-12, pub. 7-11-67. Cl. 18.
 Borg-Warner Corp., Chicago, Ill. 835,831, pub. 2-9-65. Cl. 21.
 Bosco, Don, Electronics, Inc., Hanover, N.J. 719,635, can. Cl. 26.
 Bradford Pools, Inc., Princeton, N.J. 719,511, can. Cl. 12.
 Brase Kleen Chemical Co., Inc., Birmingham, Ala. 836,067, pub. 7-11-67. Cl. 52.
 Breck, John H., Inc., Springfield, Mass. 836,138-40, pub. 7-11-67. Cl. 51.
 Bronson, Melvin W., d.b.a. Bronson Products Co., from Bronson Products Co., d.b.a. Meridian Enterprises, Chicago, Ill. 719,714, can. Cl. 44.
 Bronson Products Co.: See—
 Bronson, Melvin W.
 Bros., Inc., Minneapolis, Minn. 835,880-1, pub. 7-11-67. Cl. 23.
 Browning, Charles R., d.b.a. Browning Communication Associates, Raleigh, N.C. 835,836, pub. 7-11-67. Cl. 21.
 Browning Communication Associates: See—
 Browning, Charles R.
 Broyhill Furniture Factories, Lenoir, N.C. 719,650, can. Cl. 32.
 Bulova Watch Co., Inc., Flushing, N.Y. 234,641, ren. 9-26-67. Cl. 27.
 Bulova Watch Co., Inc., New York, to Bulova Watch Co., Inc., Flushing, N.Y. 235,481, ren. 9-26-67. Cl. 27.
 Burdick, William H.: See—
 Cushing, Mary F.
 Burma-Bibas, Inc., New York, N.Y. 835,980-1, pub. 7-11-67. Cl. 39.
 Burns, H. C. Pharmaceuticals: See—
 Burns Pharmaceuticals, Inc.
 Burns Pharmaceuticals, Inc., d.b.a. H. C. Burns Pharmaceuticals, Oakland, Calif. 835,814, pub. 7-11-67. Cl. 18.
 Burroughs Corp., Detroit, Mich. 836,085, pub. 7-11-67. Cl. 101.
 Bush, Jack C., d.b.a. Stampcraft, Ann Arbor, Mich. 719,464, can. Cl. 2.
 Business Guides, Inc., New York, N.Y. 836,142, pub. 7-11-67. Cl. 102.
 C-D Holder Co., Tulsa, Okla. 835,854, pub. 7-11-67. Cl. 22.
 Cadaco, Inc., Chicago, Ill. 836,131, pub. 7-11-67. Cl. 22.
 Canadian Lady Corset Co., Ltd., Montreal, Quebec, Canada. 835,985, pub. 7-11-67. Cl. 39.
 Capitol Food Industries, Inc., Chicago, Ill. 836,025, pub. 7-11-67. Cl. 45.
 Capri Enterprises, Inc., Boston, Mass. 836,024, pub. 7-11-67. Cl. 45.
 Capri Screen House Products, Inc., New York, N.Y. 719,514, can. Cl. 12.
 Capron Lighting Co., Inc., Newton Centre, Mass. 835,835, pub. 7-11-67. Cl. 21.

Cardel Greetings, Inc., New Hyde Park, N.Y. 719,687, canc. Cl. 38.
 Carnielli, Teodoro, & C., S.p.A., Treviso, Italy. 835,827, pub. 7-11-67. Cl. 19.
 Castleton China, Inc., New Castle, Pa. 835,922, pub. 7-11-67. Cl. 30.
 Catalog Card Corp. of America, Inc., Minneapolis, Minn. 835,964, pub. 7-11-67. Cl. 37.
 Celanese Corp., from Celanese Corp. of America, New York, N.Y. 835,975, pub. 7-11-67. Cl. 39.
 Celanese Corp. of America: See—
 Celanese Corp.
 Central Soya Co., Inc., Fort Wayne, Ind. 835,809, pub. 7-11-67. Cl. 18.
 Chadbourne Gotham, Inc., Charlotte, N.C. 835,994, pub. 7-11-67. Cl. 39.
 Chemical Industries, Inc., Des Moines, Iowa. 836,045, pub. 7-11-67. Cl. 46.
 Chief Apparel, Inc., New York, N.Y. 835,984, pub. 7-11-67. Cl. 39.
 Chun King Corp., The, from Chun King Sales, Inc., Duluth, Minn. 719,726, canc. Cl. 46.
 Chun King Sales, Inc.: See—
 Chun King Corp., The.
 Cia. Frutera Sud-Americana (Ecuador) S.A., Guayaquil, Ecuador. 836,133, pub. 7-11-67. Cl. 46.
 Ciba Ltd., Basel, Switzerland. 836,059, pub. 7-11-67. Cl. 51.
 Cincinnati Sheet Metal & Roofing Co., The, Cincinnati, Ohio. 236,307, ren. 9-26-67. Cl. 12.
 Cities Service Gas Co., Oklahoma City, Okla. 836,075, pub. 7-11-67. Cl. 100.
 Cities Service Oil Co., Tulsa, Okla. 836,105, pub. 7-11-67. Cl. 105.
 Clairol, Inc., New York, N.Y. 836,054-5, pub. 7-11-67. Cl. 51.
 Cleveland Browns Inc., Cleveland, Ohio. 836,116, pub. 7-11-67. Cl. 107.
 Cleveland Chamber of Commerce, The, Cleveland, Ohio. 231-805, ren. 9-26-67. Cl. 38.
 Clevis Corp., Cleveland, Ohio. 835,879, pub. 7-11-67. Cl. 23.
 Clevis Corp., Cleveland, Ohio. 836,129, pub. 7-11-67. Cl. 21.
 Clisquot Club Co., Millis, Mass. 235,973, ren. 9-26-67. Cl. 45.
 Co Fil Corp.: See—
 Commercial Filters Corp. of Calif., Inc.
 Colgate-Palmolive Co., New York, N.Y. 835,916, pub. 7-12-66. Cl. 29.
 Colonial Corned Beef Co., Inc., Chicago, Ill. 719,739, canc. Cl. 46.
 Columbia Ribbon & Carbon Mfg. Co., Inc., Glen Cove, N.Y. 835,767, pub. 7-11-67. Cl. 11.
 Commercial Filters Corp. of Calif., Inc., Compton, Calif., from Co Fil Corp., Caldwell, N.J. 835,923, pub. 7-11-67. Cl. 31.
 Compact Industries, Inc., Northbrook, Ill. 835,864, pub. 7-11-67. Cl. 23.
 Container Transport International, Inc., New York, N.Y. 835-741, pub. 7-11-67. Cl. 2.
 Continental Air Lines, Inc., Los Angeles, Calif. 836,104, pub. 7-11-67. Cl. 105.
 Continental Oil Co., Ponca City, Okla. 835,752, pub. 7-11-67. Cl. 4.
 Cordell Engineering, Everett, Mass. 835,903, pub. 7-11-67. Cl. 26.
 Corning Glass Works, to Corning Glass Works (1937), Corning, N.Y. 231,761, ren. 9-26-67. Cl. 33.
 Coshocton Glove Co., The, Coshocton, Ohio, to Indianapolis Glove Co., Inc., Indianapolis, Ind. 239,320, ren. 9-26-67. Cl. 39.
 Courtaulds, Ltd., London, England, to FMC Corp., Philadelphia, Pa. 234,819, ren. 9-26-67. Cl. 43.
 Covington, W. F., Planter Co., Inc., Dothan, Ala. 835,867, pub. 7-11-67. Cl. 23.
 Cramer Chemical Co., The, Gardner, Kans. 435,712, ren. 9-26-67. Cl. 18.
 Cre-Fan Enterprises, Inc., South Gate, Calif. 835,762, pub. 7-11-67. Cl. 9.
 Crescent Plastics, Inc., Evansville, Ind. 835,784, pub. 7-11-67. Cl. 13.
 Crown Textile Mfg. Corp., Philadelphia, Pa. 836,010, pub. 7-11-67. Cl. 42.
 Crucible Steel Co. of America, Pittsburgh, Pa. 431,715, ren. 9-26-67. Cl. 14.
 Cuellar Brothers, The, Dallas, Tex. 836,074, pub. 7-11-67. Cl. 100.
 Cuprose Co., Dallas, Tex., to Nalco Chemical Co., Chicago, Ill. 433,911, ren. 9-26-67. Cl. 6.
 Curry Distributing Co.: See—
 Curry, Francis J.
 Curry, Francis J., d.b.a. Curry Distributing Co., Daly City, Calif. 719,655, canc. Cl. 34.
 Cushing, Mary F., executrix for the Estate of Caleb H. Cushing, d.b.a. W. Cushing & Co., assor. to Mary F. Cushing, d.b.a. W. Cushing & Co., to William H. Burdick, Dover-Foxcroft, Maine. 434,679, ren. 9-26-67. Cl. 6.
 Cushing W., & Co.: See—
 Cushing, Mary F.
 D.P. Battery Co. Ltd., The, Bakewell, Derbyshire, England. 719,585, canc. Cl. 21.
 Dahlgren Co., The: See—
 Dahlgren, David.
 Dahlgren, David, d.b.a. The Dahlgren Co., Abilene, Tex. 835-823, pub. 7-11-67. Cl. 19.
 Dakota Iron, Sioux Falls, S. Dak. 835,821, pub. 7-11-67. Multiple Class (Classes 9 and 23).
 Dallas Cowboys Football Club, Inc., Dallas, Tex. 836,117, pub. 7-11-67. Cl. 107.
 Datatax Corp.: See—
 Monroe International, Inc.

Daubert Chemical Co., Oak Brook, Ill. 835,776, pub. 7-11-67. Cl. 12.
 Davidson Enamel Products, Inc., Lima, Ohio. 719,507, canc. Cl. 12.
 Deering Milliken, Inc., New York, N.Y. 767,920, canc. Cl. 42.
 Del Laboratories, Inc., Farmingdale, N.Y. 836,064, pub. 7-11-67. Cl. 51.
 Delbar Co., The, Boulder, Colo. 719,521, canc. Cl. 13.
 Delta Pharmaceuticals, Inc., Atlanta, Ga. 719,550, canc. Cl. 18.
 Demos, James N., d.b.a. Jimmy Demos Golden Bouzoukia Ensemble, Weehawken, N.J. 836,115, pub. 7-11-67. Cl. 107.
 Demos, Jimmy, Golden Bouzoukia Ensemble: See—
 Demos, James N.
 Denney Tag Co., The, to Denney-Reyburn Co., West Chester, Pa. 232,931, ren. 9-26-67. Cl. 38.
 Denney-Reyburn Co.: See—
 Denney Tag Co., The.
 Dial-A-Secretary, Birmingham, Ala. 836,083, pub. 7-11-67. Cl. 101.
 Diamond Walnut Growers, Inc., Stockton, Calif., from Ernie Johnson & Son, Phoenix, Ariz. 836,030, pub. 11-1-66. Cl. 46.
 Disposable Products Corp., Brookline, Mass. 836,022, pub. 7-11-67. Cl. 44.
 Dixon, Joseph, Crucible Co., The, d.b.a. The American Crayon Co., Jersey City, N.J. 835,805, pub. 7-11-67. Cl. 16.
 Doagh Spinning Co., Ltd., The, Belfast, Northern Ireland. 836,012, pub. 5-17-66. Cl. 43.
 Doeskin Products, Inc., New York, N.Y. 835,962, pub. 7-11-67. Cl. 37.
 Dols' Volatilis Flannel, Ltd., Huddersfield, York, England. 836,014, pub. 7-11-67. Cl. 44.
 Dorfman, Irving J., Co., Inc., New York, N.Y. 836,011, pub. 7-11-67. Cl. 42.
 Dover Mfg. Co., Austin, Tex. 719,649, canc. Cl. 32.
 Dunlop Tire & Rubber Corp., Buffalo, N.Y. 835,941, pub. 7-11-67. Cl. 35.
 Dynacord: See—
 Pinteragel, Werner.
 ETC, Inc., Cleveland, Ohio. 835,846-7, pub. 7-11-67. Cl. 21.
 Electric Auto-Lite Co., The, Toledo, Ohio. 719,589, canc. Cl. 21.
 Elgin Softener Corp., to Elgin Softener, Inc., Elgin, Ill. 433-872, ren. 9-26-67. Cl. 31.
 Elgin Softener, Inc.: See—
 Elgin Softener Corp.
 Elliott, Donald R., Buckner, Mo. 719,673, canc. Cl. 38.
 Elliott Paint & Varnish Co., Chicago, Ill. 719,758, canc. Cl. 50.
 Emaku-Cleaner Co.: See—
 McClellan, Benette.
 Embart Corp., Hartford, Conn. 835,924, pub. 7-11-67. Cl. 31.
 Empire La Vive Corp., Tuckahoe, N.Y. 835,857, pub. 7-11-67. Cl. 22.
 Employers' Group of Insurance Co., The: See—
 Employers' Liability Assurance Corp., Ltd., The, d.b.a. Employers' Group of Insurance Co., Boston, Mass. 836,092, pub. 7-11-67. Cl. 102.
 Epstein, Dave, New York, N.Y. 835,740, pub. 7-11-67. Cl. 2.
 Esge Gachwend & Spingler K.G. Elektromotoren und Apparatebau, Neuffen, Wurttemberg, Germany. 719,579, canc. Cl. 21.
 Eskimo Pie Corp., Richmond, Va. 836,041, pub. 7-11-67. Cl. 46.
 Etablissements Cln-Byla, Societe Anonyme, Paris, France. 719,552, canc. Cl. 18.
 Ethica Standard Co., Inc., Great Neck, N.Y. 719,542, canc. Cl. 18.
 Eversharp, Inc., Milford, Conn. 835,965, pub. 7-11-67. Cl. 37.
 Eversharp, Inc., Milford, Conn. 836,137, pub. 7-11-67. Cl. 51.
 Extremultus, Inc., Long Island City, N.Y. 719,601, canc. Cl. 35.
 FMC Corp.: See—
 Courtaulds, Ltd.
 Fancee Free Mfg. Co., Inc., St. Louis, Mo. 835,971, pub. 7-11-67. Cl. 39.
 Ferguson Fumigants, Inc., Hazelwood, Mo. 835,897, pub. 7-11-67. Cl. 26.
 Feusner's Deluxe Foods, Inc., Basin, Wyo. 836,039, pub. 7-11-67. Cl. 46.
 Fibreboard Corp.: See—
 Paraffine Companies, Inc., The.
 Fibreboard Paper Products Corp., San Francisco, Calif. 719-466, canc. Cl. 2.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 835,938, pub. 7-11-67. Cl. 35.
 Firth Sterling, Inc.: See—
 Firth Sterling Steel Co.
 Firth Sterling Steel Co., McKeesport, to Firth Sterling, Inc., Pittsburgh, Pa. 431,708, ren. 9-26-67. Cl. 14.
 Fischer, Harry, Corp., Philadelphia, Pa. 835,972, pub. 7-11-67. Cl. 39.
 Fisher Governor Co., The, Marshalltown, Iowa. 238,084, ren. 9-26-67. Cl. 13.
 Fishman & Co., Inc., Chicago, Ill. 835,933, pub. 7-11-67. Cl. 35.
 Fishman, Louis, & Co., Inc., d.b.a. Bearcat Tire Co., Chicago, Ill. 835,934, pub. 7-11-67. Cl. 35.
 Fitness King, Inc., Hollywood, Calif. 835,858, pub. 7-11-67. Cl. 22.
 Flexnit Co., Inc., New York, N.Y. 835,976, pub. 7-11-67. Cl. 39.
 Flintkote Co., The, New York, N.Y. 835,779, pub. 7-11-67. Cl. 12.

Flotill Products, Inc., to Tillie Lewis Foods, Inc., Stockton, Calif. 435,725, ren. 9-26-67. Cl. 46.
 Fluorocarbon Co., The, Fullerton, Calif. 719,787, canc. Cl. 106.
 Foremost Dairies, Inc., San Francisco, Calif. 719,749, canc. Cl. 46.
 Forest City Millwork & Supply, Inc., Rockford, Ill. 835,777, pub. 7-11-67. Cl. 12.
 Fortune Designs, Inc., Dallas, Tex. 835,988, pub. 7-11-67. Cl. 39.
 Fortune Fabrics, Inc., Swoyersville, Pa. 836,009, pub. 7-11-67. Cl. 42.
 Fox Go-Boy Carts, Inc., Janesville, Wis. 719,576, canc. Cl. 19.
 Frank, Wally, Ltd., New York, N.Y. 835,808, pub. 7-11-67. Cl. 17.
 Frankel Carbon & Ribbon Co., Denver, Colo. 835,960, pub. 7-11-67. Cl. 37.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 835,730, pub. 7-11-67. Cl. 1.
 Franklin Fibre-Lamitex Corp., Wilmington, Del. 835,773, pub. 7-11-67. Cl. 12.
 Frederiksen, Johan D., Little Falls, N.Y., to Salada Foods, Ltd., Don Mills, Ontario, Canada. 80,916, ren. 9-26-67. Cl. 6.
 Frigifronics, Inc., Bridgeport, Conn. 836,017, pub. 7-11-67. Cl. 44.
 Frito-Lay, Inc., Dallas, Tex. 836,038, pub. 7-11-67. Cl. 46.
 Frontier Research Co., Denver, Colo. 835,790, pub. 7-11-67. Cl. 15.
 Fuls, Jack M., d.b.a. Mist-O-Spray Co., Portland, Oreg. 835-730, pub. 7-11-67. Cl. 2.
 GK Industries, Inc.: See—
 American Lecithin Co.
 Gall Leather Products, Inc., New York, N.Y. 835,747, pub. 7-11-67. Cl. 3.
 Galeski Photo Center, Inc., Richmond, Va. 836,110, pub. 7-11-67. Cl. 106.
 Galleher, Inc., Fort Myer, Fla. 719,718-19, canc. Cl. 44.
 Gebruder Heyl Kommanditgesellschaft Gesellschaft Fur Analysentechnik, Hildesheim, Germany. 835,755, pub. 7-11-67. Multiple Class (Classes 6 and 26).
 General Electric Co., Schenectady, N.Y. 719,632, canc. Cl. 26.
 General Motors Corp., Detroit, Mich. 835,761, pub. 7-11-67. Cl. 7.
 General Motors Corp., Detroit, Mich. 835,937, pub. 7-11-67. Cl. 35.
 Gerber Cheese Co., Inc., New York, N.Y. 836,040, pub. 7-11-67. Cl. 46.
 Girl Talk, Los Angeles, Calif. 835,978, pub. 7-11-67. Cl. 39.
 Gittins, Geo. W., assor. to Milton Piano Co. of New York, New York, N.Y., to Kohler & Campbell, Inc., Granite Falls, N.C. 63,746, ren. 9-26-67. Cl. 36.
 Glidden Co., The, Cleveland, Ohio. 836,071, pub. 7-11-67. Cl. 52.
 Glissen Chemical Co., Inc., Brooklyn, N.Y. 836,141, pub. 7-11-67. Cl. 52.
 Globel Van Lines, Inc., Anaheim, Calif. 836,103, pub. 7-11-67. Cl. 105.
 Glow-It Chemical Corp., Detroit, Mich. 835,749, pub. 7-11-67. Cl. 4.
 Goldblatt Bros., Inc., Chicago, Ill. 835,799, pub. 5-9-67. Cl. 16.
 Goldblatt Bros., Inc., d.b.a. Goldblatt's, Chicago, Ill. 835,801, pub. 7-11-67. Cl. 16.
 Goldblatt's: See—
 Goldblatt Bros., Inc.
 Golden State Sales Corp., San Francisco, Calif. 619,236, canc. Cl. 2.
 Goldfarb, M., —My Florist, Inc., New York, N.Y. 719,461, canc. Cl. 2.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 835,942-6, pub. 7-11-67. Cl. 35.
 Graphic Controls Corp., Buffalo, N.Y. 835,743, pub. 7-11-67. Cl. 2.
 Gray Properties, Inc., Portland, Oreg. 719,626, canc. Cl. 23.
 Greater St. Louis Automotive Association Inc., St. Louis, Mo. 836,124, pub. 7-11-67. Cl. 200.
 Green Bay Packers, Inc., Green Bay, Wis. 836,118, pub. 7-11-67. Cl. 107.
 Green & White Construction Co., New York, N.Y. 836,101, pub. 7-11-67. Cl. 103.
 Greene, Tweed & Co., Inc., North Wales, Pa. 835,940, pub. 7-11-67. Cl. 35.
 Gruen Industries, Inc., d.b.a. The Gruen Watch Co., New York, N.Y. 835,910, pub. 7-11-67. Cl. 27.
 Gruen Watch Co., The: See—
 Gruen Industries, Inc.
 Gulf States Paper Corp., Tuscaloosa, Ala. 835,957, pub. 7-11-67. Cl. 37.
 Haase, A. C. L., Co.: See—
 Haase, A. C. L., & Sons Fish Co.
 Haase, A. C. L., & Sons Fish Co., to A. C. L. Haase Co., St. Louis, Mo. 238,896, ren. 9-26-67. Cl. 46.
 Hackney, H. T., Co., The, Knoxville, Tenn. 836,136, pub. 7-11-67. Cl. 46.
 Hagan Mfg. Co., Delphos, Ohio. 835,775, pub. 7-11-67. Cl. 12.
 Halpine, J. A., & Son, Inc., Tulsa, Okla. 719,638, canc. Cl. 26.
 Hancock Gross, Inc., Philadelphia, Pa. 835,734, pub. 7-11-67. Cl. 2.
 Haskon, Inc., Long Island City, N.Y. 835,735, pub. 7-11-67. Cl. 2.
 Hayden Flour Mills, Tempe, Ariz. 719,740, canc. Cl. 46.
 Hays Mfg. Co., Erie, Pa. 719,518, canc. Cl. 13.
 Hess Oil & Chemical Corp., Perth Amboy, N.J. 835,792, pub. 7-11-67. Cl. 15.
 Hess Oil & Chemical Corp., Perth Amboy, N.Y. 836,095, pub. 7-11-67. Cl. 103.
 Higgs, James R., d.b.a. Sleepy Jim Designs, Rocky River, Ohio. 835,997, pub. 7-11-67. Cl. 40.
 Hoeganaes Corp., from Hoeganaes Sponge Iron Corp., New York, N.Y. 835,787-8, pub. 7-11-67. Cl. 14.
 Hoeganaes Sponge Iron Corp.: See—
 Hoeganaes Corp.
 Hoffman, Robert C., d.b.a. Olympic Coach Bob Hoffman, York, Pa. 835,813, pub. 7-11-67. Cl. 18.
 Holiday Inns of America, Inc., Memphis, Tenn. 836,078, pub. 7-11-67. Cl. 100.
 Holland House: See—
 Kaufman, E. Mitchell.
 Holland Wire Products, Inc., Holland, Mich. 835,926, pub. 8-2-66. Cl. 32.
 Hoobah, Kansas City, Mo. 719,759, canc. Cl. 50.
 House of d'Azur, Inc., Skokie, Ill. 836,050, pub. 7-11-67. Cl. 51.
 Houston Foods, Inc., Chicago, Ill. 836,134, pub. 7-11-67. Cl. 46.
 Howell Brothers Chemical Laboratory, Philadelphia, Pa. 836-051, pub. 7-11-67. Cl. 51.
 Howell Products, Inc., Indianapolis, Ind. 835,902, pub. 7-11-67. Cl. 26.
 Humble Oil & Refining Co.: See—
 Beacon Oil Co.
 Hunt, William, & Sons, The Brades, Ltd., Oldbury, near Birmingham, England. 61,344, ren. 9-26-67. Cl. 23.
 Huntington Laboratories, Inc., Huntington, Ind. 435,763, ren. 9-26-67. Cl. 4.
 Hy Glow Products, Inc., Los Angeles, Calif. 835,843, pub. 7-11-67. Cl. 21.
 IBS Oil City, Inc., Port Chester, N.Y. 835,796, pub. 7-11-67. Cl. 15.
 Ideal Toy Corp., Hollis, N.Y. 835,860, pub. 7-11-67. Cl. 22.
 Imperial Camera Corp., Chicago, Ill. 835,896, pub. 7-11-67. Cl. 26.
 Imperial Chemical Industries, Ltd., London, England. 835-758-9, pub. 7-11-67. Cl. 6.
 Indianapolis Glove Co., to Indianapolis Glove Co., Inc., Indianapolis, Ind. 237,798, ren. 9-26-67. Cl. 39.
 Indianapolis Glove Co., Inc.: See—
 Coshocton Glove Co., The.
 Indianapolis Glove Co., Inc.
 Industrial Colloids Co., Emmenton, Pa. 719,531, canc. Cl. 15.
 Ingram Corp., New Orleans, La. 835,729, pub. 7-11-67. Cl. 1.
 Ingram Corp., New Orleans, La. 836,106, pub. 7-11-67. Cl. 105.
 Inland Steel Co., Chicago, Ill. 835,742, pub. 7-11-67. Cl. 2.
 Institute of Certified Travel Agents, The, Washington, D.C. 836,111, pub. 7-11-67. Cl. 107.
 Inter-Montana Sport A. Muller & Co., Hergiswil A. See., Switzerland. 835,849, pub. 7-11-67. Cl. 22.
 International Equipment Co., Needham Heights, Mass. 835-899-900, pub. 7-11-67. Cl. 26.
 International Paint Co., Inc., New York, N.Y. 835,802, pub. 7-11-67. Cl. 16.
 International Paint Co., Inc., New York, N.Y. 835,806, pub. 7-11-67. Cl. 16.
 International Teaching Tapes, Inc., Tulsa, Okla. 835,952, pub. 11-29-66. Cl. 36.
 Interstate Engineering Corp., Anaheim, Calif. 835,837, pub. 7-11-67. Cl. 21.
 Items, Inc., St. Louis, Mo. 835,861, pub. 7-11-67. Cl. 22.
 Jahresuhren-Fabrik G.m.b.H. Aug. Schatz & Sohne, Black Forest, Germany. 835,908, pub. 7-11-67. Cl. 27.
 Jantzen, Inc., Portland, Oreg. 835,992, pub. 7-11-67. Cl. 39.
 Jenaer Glaswerk Schott & Gen., Mainz, Germany. 835,889, pub. 6-21-66. Cl. 26.
 Jergens, Andrew, Co., The, Cincinnati, Ohio. 434,290, ren. 9-26-67. Cl. 51.
 Jiffy-Pot Co. of America: See—
 Ball, Geo. J., Inc.
 Johns-Manville Corp., New York, N.Y. 835,780, pub. 7-11-67. Cl. 12.
 Johnson, Ernie, & Son: See—
 Diamond Walnut Growers, Inc.
 Johnson, Howard D., Wollaston, Mass. 836,077, pub. 7-11-67. Cl. 100.
 Johnson, Iver, Arms & Cycle Works, Inc.: See—
 Johnson's, Iver, Arms & Cycle Works.
 Johnson's, Iver, Arms & Cycle Works, to Iver Johnson Arms & Cycle Works, Inc., Fitchburg, Mass. 231,365, ren. 9-26-67. Cl. 9.
 Johnson & Johnson, New Brunswick, N.J. 836,113, pub. 7-11-67. Cl. 107.
 Johnson, S. C., & Sons, Inc., Racine, Wis. 835,753, pub. 7-11-67. Cl. 4.
 Jolly Troll, Inc., Minneapolis, Minn. 836,079, pub. 7-11-67. Cl. 100.
 Juvenile Mfg. Co., Inc., The, San Antonio, Tex. 230,969, ren. 9-26-67. Cl. 39.
 Kaiser Aluminum & Chemical Corp., Oakland, Calif. 835,885, pub. 7-11-67. Cl. 23.
 Kashuk, Jay, and Associates, Miami Beach, Fla. 836,084, pub. 7-11-67. Cl. 101.
 Kaufman, E. Mitchell, d.b.a. Holland House, Toledo, Ohio. 836,029, pub. 7-11-67. Cl. 46.
 Kaz Mfg. Co., Inc., New York, N.Y. 836,015, pub. 7-11-67. Cl. 44.
 Kearney Industries Fluid Equipment Division, Raritan, N.J. 719,520, canc. Cl. 13.
 Kelsey-Hayes Co., Detroit, Mich. 719,607, canc. Cl. 23.
 Kemp, W. H., Co., Ltd., Mount Vernon, N.Y. 835,804, pub. 7-11-67. Cl. 16.
 Kent Feeds, Inc., Muscatine, Iowa. 836,043, pub. 7-11-67. Cl. 46.

Keystone Bros., San Francisco, Calif. 835,929, pub. 7-11-67. Multiple Class (Classes 32 and 42).

Keystone Steel & Wire Co., South Bartonville, to Keystone Steel & Wire Co., Peoria, Ill. 231,658, ren. 9-26-67. Cl. 13.

Keystone Steel & Wire Co., South Bartonville, to Keystone Steel & Wire Co., Peoria, Ill. 234,403, ren. 9-26-67. Cl. 13.

Klan, Leonard, d.b.a. Pentad Watch Co., Grand Rapids, Mich. 835,913, pub. 7-11-67. Cl. 27.

King, Vivian V., Coral Gables, Fla. 835,859, pub. 7-11-67. Cl. 22.

Kluber, August, Co., Schriesheim, Germany. 835,888, pub. 5-24-66. Cl. 26.

Knapp Mills, Inc., Long Island City, N.Y. 719,529, can. Cl. 14.

Knickerbocker Biosales, Inc., New York, N.Y. 719,546, can. Cl. 18.

Knomark, Inc., Springfield Gardens, N.Y. 835,748, pub. 2-16-65. Cl. 4.

Koberloy, Inc., La Mesa, Calif. 836,019, pub. 7-11-67. Cl. 44.

Kocolese Co., Inc., Seymour, Ind. 835,797, pub. 7-11-67. Cl. 15.

Kohler & Campbell, Inc.: See—
Gittins, Geo. W.
Milton Piano Co.
Waldorf Piano Co.

Kohler & Campbell, Inc., Granite Falls, N.C. 433,041-2, ren. 9-26-67. Cl. 36.

Korvette, E. J., Inc., New York, N.Y. 836,109, pub. 7-11-67. Cl. 106.

Kotzin, Theodore, Co., Ltd., The, Los Angeles, Calif. 719,698, can. Cl. 39.

Kotzin, Tobias, d.b.a. A-1 Mfg. Co., Los Angeles, Calif. 719,699, can. Cl. 39.

Kresge, S. S., Co., Detroit, Mich. 835,958, pub. 7-11-67. Cl. 37.

Kroger Co., The, d.b.a. Wasco Foods Co., Cincinnati, Ohio. 836,023, pub. 7-11-67. Cl. 45.

Kugelscher Georg Schafer & Co., Schweinfurt, Germany. 835,877, pub. 7-11-67. Cl. 23.

Kuhn, G. J.: See—
Kuhn, Gil J.

Kuhn, Gil J., d.b.a. G. J. Kuhn, San Diego, Calif. 836,028, pub. 7-11-67. Cl. 46.

Lafayette Radio Electronics Corp., Syosset, N.Y. 835,844, pub. 7-11-67. Cl. 21.

Landman, David, d.b.a. Avia Pearl Co., New York, N.Y. 835,915, pub. 7-11-67. Cl. 28.

Lawrence, A. C., Leather Co., Boston, Mass., to Swift & Co., Chicago, Ill. 230,244, ren. 9-26-67. Cl. 1.

Leban Imports, Inc., Baltimore, Md. 835,953, pub. 7-11-67. Cl. 36.

Le Damor, Inc., Philadelphia, Pa. 835,974, pub. 7-11-67. Cl. 39.

Lee Bros. (Overwear), Ltd., London, England. 236,196, ren. 9-26-67. Cl. 42.

Lee, Simpson, Paper Co., Vicksburg, Mich. 835,961, pub. 7-11-67. Cl. 37.

Leftman, S., Ltd., Bridgewater, Somerset, England. 719,704, can. Cl. 39.

Leichter, Emil, Watch Co., Inc., New York, N.Y. 835,912, pub. 7-11-67. Cl. 27.

Leichner, Howard J., d.b.a. Leichner Mfg. Co., Champaign, Ill. 836,072, pub. 7-11-67. Cl. 100.

Leichner Mfg. Co.: See—
Leichner, Howard J.

Lewis, Tillie, Foods, Inc.: See—
Flotill Products, Inc.

Lexington Income Trust, Englewood, N.J. 836,088, pub. 7-11-67. Cl. 102.

Lift Parts Mfg., Inc., Elk Grove Township, Ill. 835,878, pub. 7-11-67. Cl. 23.

Liggett & Myers Tobacco Co., New York, N.Y. 234,217, ren. 9-26-67. Cl. 17.

Lincoln Electric Co., The, Cleveland, Ohio. 719,528, can. Cl. 14.

Lincoln Industries: See—
Meyer, Norman.

Lord Mfg. Co., Erie, Pa. 719,483, can. Cl. 6.

L'Oreal, Paris, France. 836,052, pub. 7-11-67. Cl. 51.

Lovely Lady, Inc., Chicago, Ill. 358,044, can. Cl. 51.

Lumidor: See—
Lumidor Mfg. Corp.

Lumidor Mfg. Corp., d.b.a. Lumidor, Hialeah, Fla. 835,781, pub. 7-11-67. Cl. 12.

M.G.M.S. Associates, Inc., d.b.a. Arrow Line Products, Cambridge, Mass. 835,793, pub. 7-11-67. Cl. 15.

M-H Equipment Co., Inc., Duncanville, Tex. 835,824, pub. 7-11-67. Cl. 19.

Ma Cherie Sales Corp.: See—
Ma Cherie Sales Corp. of America.

Ma Cherie Sales Corp. of America, d.b.a. Ma Cherie Sales Corp., St. Louis, Mo. 719,722, can. Cl. 45.

Mackenzie Chemical Works, Inc., Central Islip, N.Y. 836,068, pub. 7-11-67. Cl. 52.

Macy, L. E., Holding Corp., Brooklyn, N.Y. 836,058, pub. 7-11-67. Cl. 51.

Madaus, Dr. & Co., Koln-Merheim, Germany. 836,127, pub. 7-11-67. Cl. 18.

Mahaffy & Harder Engineering Co., Totowa, N.J. 835,745, pub. 7-11-67. Cl. 2.

Mallinckrodt Chemical Works: See—
Van Pelt & Brown, Inc.

Manufacture Des Montres Rolex S.A. Bienne (Uhrenfabrik Rolex Ag Biel) (Manufacture of Watches Rolex, Ltd., Bienne), Bienne, Switzerland. 835,909, pub. 7-11-67. Cl. 27.

Martinoni, E., Co., d.b.a. Zarkow-Boaka Cie, San Francisco, Calif. 836,047, pub. 7-11-67. Cl. 49.

McCellan, Benette, d.b.a. Emaku-Cleaner Co., Akron, Ohio. 719,773, can. Cl. 52.

McDermont Fruit Co., Riverside, Calif. 836,044, pub. 7-11-67. Cl. 46.

McGregor-Doniger, Inc., New York, N.Y. 835,989, pub. 7-11-67. Cl. 39.

McKay Co., The, Pittsburgh, Pa. 431,712, ren. 9-26-67. Cl. 84.

McKesson Laboratories: See—
McKesson & Robbins, Inc.

McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 836,062, pub. 7-11-67. Cl. 51.

McLaughlin Gormley King Co., Minneapolis, Minn. 835,760, pub. 7-4-67. Cl. 6.

Mead Johnson & Co., Evansville, Ind. 835,816-8, pub. 7-11-67. Cl. 18.

Mead Johnson & Co., Evansville, Ind. 836,036, pub. 7-11-67. Cl. 46.

Meco, Inc., Wichita, Kans. 835,983, pub. 7-11-67. Cl. 39.

Media Counselors, Inc.: See—
Barbet & Weigert Advertising, Inc.

Memorex Corp., Santa Clara, Calif. 835,951, pub. 7-11-67. Cl. 36.

Merk & Co., Inc., Rahway, N.J. 719,495-6, can. Cl. 6.

Meridian Enterprises: See—
Bronson Products Co.

Metal Building Interior Products Co., Cleveland, Ohio. 835,774, pub. 7-11-67. Cl. 12.

Metro Wholesale Corp., New York, N.Y. 835,906, pub. 7-11-67. Cl. 26.

Midwest Metal Stamping Co., (Voss Washer Co. Division), Kellogg, Iowa. 835,887, pub. 7-11-67. Cl. 24.

Miller, Eugene L., d.b.a. Bee-Line Trailer Rental & Bee-Line Co., Daytona Beach Shores, Fla. 836,107, pub. 7-11-67. Cl. 105.

Milton Piano Co., New York, N.Y., to Kohler & Campbell, Inc., Granite Falls, N.C. 230,792, ren. 9-26-67. Cl. 36.

Mirror Polishing & Plating Co., Inc., The, Waterbury, Conn. 835,883, pub. 7-11-67. Cl. 23.

Mist-O-Spray Co.: See—
Fuls, Jack M.

Mobil Oil Corp., from Socony Mobil Oil Co., Inc., New York, N.Y. 835,798, pub. 7-11-67. Cl. 16.

Molecular Research, Inc., West Palm Beach, Fla. 836,093, pub. 7-11-67. Cl. 103.

Moller, Peter, A/S, Oslo, Norway. 231,602, ren. 9-26-67. Cl. 6.

Mom's Best Foods Inc., Dearborn, Mich. 719,727, can. Cl. 46.

Monarch Garment Corp., New York, N.Y. 719,700, can. Cl. 39.

Monroe Corp.: See—
Monroe International, Inc.

Monroe International, Inc., from Monroe Corp., Orange, N.J. 835,893-4, pub. 7-11-67. Cl. 26.

Monroe International, Inc., Orange, N.J., from Datatar Corp., Albuquerque, N. Mex. 836,081, pub. 7-11-67. Cl. 101.

Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy. 835,757, pub. 7-11-67. Cl. 6.

Moore's Seafood Products, Inc., Fort Atkinson, Wis. 836,042, pub. 7-11-67. Cl. 46.

Morgan & Co., Inc., Boston, Mass. 835,783, pub. 7-11-67. Cl. 13.

Morgan Crucible Co., Ltd., The, Battersea, London, England. 64,341, ren. 9-26-67. Cl. 26.

Morton Chemical Co., Chicago, Ill. 719,487, can. Cl. 6.

Mouzon-Jungers, Suzanne, Paris, France. 835,869, pub. 7-11-67. Cl. 23.

Muller-Grocers Baking Co., Grand Rapids, Mich. 836,033-5, pub. 2-24-67. Cl. 46.

Myer, Norman, d.b.a. Lincoln Industries, New York, N.Y. 719,770, can. Cl. 52.

Myrurgia, S.A., to Myrurgia, S.A., Barcelona, Spain. 234,700, ren. 9-26-67. Cl. 52.

Myrurgia, S.A., to Myrurgia, S.A., Barcelona, Spain. 234,702, ren. 9-26-67. Cl. 52.

NSC International Inc., Washington, D.C. 836,086, pub. 7-11-67. Cl. 101.

Nalco Chemical Co.: See—
Cuprose Co.

National College of Health, Ltd., Broughton, Manchester, England. 835,815, pub. 7-11-67. Cl. 18.

National Dollar Stores, Ltd., The, San Francisco, Calif. 835,986, pub. 7-11-67. Cl. 39.

National Gramophone Works Corp., Mount Kisco, N.Y. 835,948, pub. 7-11-67. Cl. 36.

National Periodical Publications, Inc., New York, N.Y. 836,046, pub. 7-11-67. Cl. 46.

Naxon Telesign Corp., Chicago, Ill. 835,839-40, pub. 7-11-67. Cl. 21.

Neptune Meter Co., New York, N.Y. 835,895, pub. 7-11-67. Cl. 26.

New England Overall Co., Inc., Boston, Mass. 835,969, pub. 9-24-63. Cl. 39.

New Home Sewing Machine Co., The, Los Angeles, Calif. 835,884, pub. 7-11-67. Cl. 23.

New York Association for the Blind, The, New York, N.Y. 835,918, pub. 7-11-67. Cl. 29.

New York Football Giants, Inc., The, New York, N.Y. 836,119, pub. 7-11-67. Cl. 107.

Nibot Corp., Chicago, Ill. 835,737, pub. 7-11-67. Cl. 2.

Nimco, Inc., Spring Valley, Ill. 836,027, pub. 7-11-67. Cl. 46.

North Star Paint & Varnish Co., St. Paul, Minn. 719,537, can. Cl. 16.

Northmore Corp., Cudahy, Wis. 836,032, pub. 7-11-67. Cl. 46.

Norton Co., Worcester, Mass. 835,763, pub. 7-11-67. Cl. 9.

Nu-Age Corp., Minneapolis, Minn. 835,764, pub. 7-11-67. Multiple Class (Classes 10 and 18).

Nu-Process Industries, Inc., Livonia, Mich. 835,875-8, pub. 7-11-67. Cl. 23.

Nurserytyme Products, to Nurserytyme Products, Inc., Brooklyn, N.Y. 435,660, ren. 9-26-67. Cl. 32.

Nurserytyme Products, Inc.: See—
Nurserytyme Products.

Nylacore Corp., Glen Cove, N.Y. 719,721, can. Cl. 44.

Okamura Mfg. Co., Ltd., Yokohama, Japan. 835,925, pub. 7-11-67. Cl. 32.

Old Mathieson Chemical Corp., New York, N.Y. 835,756, pub. 7-11-67. Cl. 6.

Olympic Coach Bob Hoffman: See—
Hoffman, Robert C.

Oppel Sales, Inc., Boise, Idaho. 836,132, pub. 7-11-67. Cl. 23.

Oregon Bank, The, Portland, Ore. 836,089, pub. 7-11-67. Cl. 102.

Oster, John, Mfg. Co., Milwaukee, Wis. 835,917, pub. 7-11-67. Cl. 29.

Outer Space: See—
Schmidt, Albert.

Ovaltine Food Products: See—
Wander Co., The.

Owatonna Mfg. Co., Inc., Owatonna, Minn. 835,886, pub. 7-11-67. Cl. 23.

Ozark Fried Chicken, Inc., Paris, Tex. 836,031, pub. 7-11-67. Cl. 46.

Ozarka Water Co., Los Angeles, Calif. 836,026, pub. 7-4-67. Cl. 45.

Pacific Chalkboard Co., Portland, Ore. 836,048, pub. 7-11-67. Cl. 50.

Packaging Corp. of America, Evanston, Ill. 835,739, pub. 7-11-67. Cl. 2.

Packard-Bell Electronics Corp., Los Angeles, Calif. 835,832, pub. 11-1-66. Cl. 21.

Papercraft Corp., Pittsburgh, Pa. 835,954, pub. 7-11-67. Cl. 37.

Paraffine Companies, Inc., The, to Fibreboard Corp., San Francisco, Calif. 234,863, ren. 9-26-67. Cl. 20.

Parker, Phillip J., Dunedin, Fla. 836,128, pub. 7-11-67. Cl. 21.

Parker Research: See—
Parker, Phillip J.

Parsons, Burton, & Co., Washington, D.C. 435,737, ren. 9-26-67. Cl. 18.

Peerless Telerad, Inc., New York, N.Y. 835,901, pub. 7-11-67. Cl. 26.

Penney, J. C., Co., New York, N.Y. 835,977, pub. 7-11-67. Cl. 39.

Pentad Watch Co.: See—
Klan, Leonard.

Perfection Mica Co., Chicago, Ill. 835,789, pub. 7-11-67. Cl. 14.

Pettibone Mulliken Corp.: See—
Beardsley & Piper Co., The.

Pfizer, Chas. & Co., Inc., New York, N.Y. 836,063, pub. 7-11-67. Cl. 51.

Philadelphia Eagles Football Club, Inc., The, Philadelphia, Pa. 836,120, pub. 7-11-67. Cl. 107.

Pilot Laboratories, Inc., Mount Vernon, N.Y. 719,559, can. Cl. 18.

Pinterangel, Werner, d.b.a. Dynacord, Straubing, Germany. 835,838, pub. 7-11-67. Multiple Class (Classes 21 and 36).

Plastic & Rubber Products Co., Los Angeles, Calif. 835,871, pub. 7-11-67. Cl. 23.

Pneumatic Applications Co., The, Simsbury, Conn. 835,905, pub. 7-11-67. Cl. 26.

Polv-Pak Corp. of America, Springdale, Conn. 719,460, can. Cl. 2.

Pooley, Edwin R., to Pooley Fruit Co., Hood River, Ore. 237,576, ren. 9-26-67. Cl. 46.

Pooley Fruit Co.: See—
Pooley, Edwin R.

Posner, I., Inc., Corona, N.Y. 836,053, pub. 7-11-67. Cl. 51.

Post Time Originals, Inc., New York, N.Y. 835,982, pub. 7-11-67. Cl. 39.

Powerlock Floors, Inc., Philadelphia, Pa. 835,770, pub. 7-11-67. Cl. 12.

Pratt & Lambert, Inc., Buffalo, N.Y. 230,486, ren. 9-26-67. Cl. 16.

Premier Popcorn Assn., d.b.a. Premier Popcorn Co., Maple Park, to Alver Popcorn Co., d.b.a. Premier Popcorn Co., Milford, Ill. 430,111, ren. 9-26-67. Cl. 46.

Premier Popcorn Co.: See—
Premier Popcorn Assn.

Prescription House, The, to Felix Ressmann, Houston, Tex. 236,276, ren. 9-26-67. Cl. 18.

Pro-Football, Inc., Washington, D.C. 836,121-2, pub. 7-11-67. Cl. 107.

Pure Oil Co., The, Palatine, Ill. 719,533, can. Cl. 15.

Puretex Lemon Juice, Inc., Raymondville, Tex. 719,725, can. Cl. 46.

Quaker State Oil Refining Corp., Oil City, Pa. 835,795, pub. 7-11-67. Cl. 15.

Quality Check Dairy Products Assn., Hinsdale, Ill. 836,037, pub. 7-11-67. Cl. 46.

Quikton A.G., Glarus, Switzerland. 835,990, pub. 7-11-67. Cl. 39.

Radio Corp. of America, New York, N.Y. 835,732, pub. 7-11-67. Cl. 2.

Radio Steel & Mfg. Co., Chicago, Ill. 835,851, pub. 7-11-67. Cl. 22.

Raskas Dairy, Inc.: See—
Raskas, Louis S.

Raskas, Louis S., to Raskas Dairy, Inc., St. Louis, Mo. 281,103, ren. 9-26-67. Cl. 46.

Ray-Vitam Products Co.: See—
Wolfe, Ray.

Redman Industries, Inc., Dallas, Tex. 835,826, pub. 7-11-67. Cl. 19.

Redman Industries, Inc., Dallas, Tex. 835,829, pub. 7-11-67. Cl. 19.

Refractory & Insulation Corp., Port Kennedy, Pa. 835,769, pub. 7-11-67. Cl. 12.

Refractory & Insulation Corp., Port Kennedy, Pa. 835,771, pub. 7-11-67. Cl. 12.

Reld-Meredith, Inc., Lawrence, Mass. 835,995-6, pub. 7-11-67. Cl. 40.

Ressmann, Felix: See—
Prescription House, The.

Rexall Drug and Chemical Co., d.b.a. The Rexall Drug Co., Los Angeles, Calif. 836,065, pub. 7-11-67. Cl. 51.

Rexall Drug Co., The: See—
Rexall Drug and Chemical Co.

Reynolds, Martin, Caracas, Venezuela. 836,114, pub. 7-11-67. Cl. 107.

Ricci, Nina, S.A.R.L., Paris, France. 835,987, pub. 7-11-67. Cl. 39.

Rid-Fest Chemical Co., Clinton, Pa. 719,615, can. Cl. 23.

Roberts Dental Mfg. Co., Inc., Buffalo, N.Y. 836,016, pub. 7-11-67. Cl. 44.

Robertson, Mac, Proprietary Ltd., Fitzroy, Victoria, Australia. 836,135, pub. 7-11-67. Cl. 46.

Robertson, P. L., Mfg. Co., Ltd., Milton, Ontario, Canada. 835,870, pub. 7-11-67. Cl. 23.

Rohm & Haas Co., Philadelphia, Pa. 232,759, ren. 9-26-67. Cl. 16.

Rose Mfg. Co., Denver, Colo. 835,782, pub. 7-11-67. Multiple Class (Classes 13, 19, and 50).

Rose Patch & Label Co., Grand Rapids, Mich. 835,766, pub. 7-11-67. Cl. 11.

Rosenau Brothers, Inc.: See—
Wheatley & Schwabe.

Rotaflex of Canada, Ltd., Toronto, Ontario, Canada. 719,656, can. Cl. 34.

Royal Paper Products, Inc., Coatesville, Pa. 836,069-70, pub. 7-11-67. Cl. 52.

Rudolfer's, S. Sons, Inc., Philadelphia, Pa. 835,970, pub. 11-9-65. Cl. 39.

Russell, Bill, Inc., Austin, Tex. 719,508, can. Cl. 12.

Ryan Homes, Inc., Pittsburgh, Pa. 836,100, pub. 7-11-67. Cl. 103.

Saalfeld Aircraft Co., San Diego, Calif. 835,828, pub. 7-11-67. Cl. 19.

St. Amant, J. Roger, Pontiac, Mich. 835,850, pub. 7-11-67. Cl. 22.

Salada Foods, Ltd.: See—
Frederiksen, Johan D.

Salz, A. K., Tannery, Inc., Santa Cruz, Calif. 719,458, can. Cl. 1.

Sanders, Ed, New York, N.Y. 836,123, pub. 7-11-67. Cl. 107.

Schmidt, Albert, d.b.a. Outer Space, Kansas City, Mo. 835,950, pub. 7-11-67. Cl. 36.

Schoonmaker, Frank, New York, N.Y. 719,622, can. Cl. 23.

Seeburg Corp., The, Chicago, Ill. 719,623, can. Cl. 23.

Selection Products, Inc., Philadelphia, Pa. 719,765, can. Cl. 51.

Seman, Colman J., Erie, Pa. 835,872, pub. 7-11-67. Cl. 23.

Sico, Inc., Minneapolis, Minn. 835,928, pub. 7-11-67. Cl. 32.

Sierra Engineering Co., Sierra Madre, Calif. 836,021, pub. 7-11-67. Cl. 44.

Sigma Instruments, Inc., Braintree, Mass. 835,898, pub. 7-11-67. Cl. 26.

Sinclair Mfg. Co., The, Toledo, Ohio. 835,754, pub. 7-11-67. Multiple Class (Classes 6 and 52).

Sipe, James B., & Co., Inc., Pittsburgh, Pa. 835,803, pub. 7-11-67. Cl. 16.

Sleepy Jim Designs: See—
Higgs, James R.

Smith, Rawlen T., d.b.a. Special Products Co., Golden, Colo. 835,882, pub. 7-11-67. Cl. 23.

Snap-On Tools Corp., Kenosha, Wis. 835,768, pub. 7-11-67. Cl. 12.

Sulger, Anthony, d.b.a. Big Bear Shops, Taunton, Mass. 836,096-8, pub. 7-11-67. Cl. 103.

Snively Groves, Inc., Winter Haven, Fla. 719,504, can. Cl. 10.

Snively Groves, Inc., Winter Haven, Fla. 719,734, can. Cl. 46.

Societe Anonyme des Etablissements Leon Hatot, The, Paris, France. 234,554, ren. 9-26-67. Cl. 27.

Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France. 719,454, can. Cl. 1.

Socony Mobil Oil Co., Inc.: See—
Mobil Oil Corp.

Sopas Profumi S.p.A., Pisa, Italy. 836,057, pub. 7-11-67. Cl. 51.

Soptra Fabrics Corp.: See—
Bancroft, Joseph, & Sons Co.

Southern Industries, Inc., Richmond, Va. 835,930, pub. 9-14-65. Cl. 34.

Special Products Co.: See—
Smith, Rawlen T.

Speidel Corp., to Textron, Inc., Providence, R.I. 433,057, ren. 9-26-67. Cl. 28.

Sprague Electric Co., North Adams, Mass. 835,845, pub. 7-11-67. Cl. 21.

Spraycraft Auto Painting Systems, from Spraycraft Auto Painting Systems, Inc., San Francisco, Calif. 836,094, pub. 7-11-67. Cl. 103.

Spraycraft Auto Painting Systems, Inc.: See—
Spraycraft Auto Painting Systems.

- Squibb, E. R., & Sons, to E. R. Squibb & Sons, Inc., New York, N.Y. 435,955, ren. 9-26-67. Cl. 18.
 Squibb, E. R., & Sons, Inc.: See—
 Squibb, E. R., & Sons.
 Stampcraft: See—
 Bush, Jack C.
 Standard Alcohol Co., New York, N.Y., to Humble Oil & Refining Co., Houston, Tex. 433,975-6, ren. 9-26-67. Cl. 6.
 Standard Elektrik Lorenz Aktiengesellschaft, Stuttgart-Zuffenhausen, Germany. 835,830, pub. 7-11-67. Cl. 21.
 Standard Gilsonite Co., Amarillo, Tex. 835,778, pub. 7-11-67. Cl. 12.
 Stanley Drug Products, Inc., Portland, Oreg. 835,819, pub. 7-11-67. Cl. 18.
 Stanley Rule & Level Co., to The Stanley Works, New Britain, Conn. 66,675, ren. 9-26-67. Cl. 26.
 Stanley Works, The: See—
 Stanley Rule & Level Co.
 Stewart & Co.: See—
 Associated Dry Goods Corp.
 Stonecutter Mills Corp., Spindale, N.C. 836,005, pub. 11-20-60. Cl. 42.
 Strong Cobb Arner, Inc., Cleveland, Ohio. 836,126, pub. 7-11-67. Cl. 18.
 Sun Chemical Corp., New York, N.Y., to The Western Petrochemical Corp., Chanute, Kans. 435,308, ren. 9-26-67. Cl. 11.
 Swift & Co.: See—
 Lawrence, A. C., Leather Co.
 Swingline, Inc., Long Island City, N.Y. 835,785, pub. 7-11-67. Cl. 13.
 Syracuse China Corp., Syracuse, N.Y. 835,919-21, pub. 7-11-67. Cl. 30.
 Telesco Brophey, Ltd., Montreal, Quebec, Canada. 835,009-836,004, pub. 7-11-67. Cl. 41.
 Texaco Inc., New York, N.Y. 835,841, pub. 7-11-67. Cl. 21.
 Textron, Inc.: See—
 Spidel Corp.
 Thierry, Suzanne, Parfums, Inc., Miami, Fla. 836,060, pub. 7-11-67. Cl. 51.
 Thiokol Chemical Corp., Bristol, Pa. 835,825, pub. 7-11-67. Cl. 19.
 Thomas Organ Corp., Sepulveda, Calif. 719,667, can. Cl. 36.
 Titan Plastics Corp., New York, N.Y. 835,956, pub. 7-11-67. Cl. 37.
 Topp Import & Export, Inc., Miami, Fla. 836,130, pub. 7-11-67. Cl. 21.
 Topps Chewing Gum, Inc., Brooklyn, N.Y. 835,967, pub. 7-11-67. Cl. 38.
 Travelodge Corp., The, El Cajon, Calif. 836,087, pub. 7-11-67. Cl. 101.
 Triangle Publications, Inc., Philadelphia, Pa. 836,112, pub. 7-11-67. Cl. 107.
 Tricotages Mecaniques Troyens, Lomme, Nord, France. 835,979, pub. 7-11-67. Cl. 39.
 Tru Magic Products, Portales, N. Mex. 836,066, pub. 7-11-67. Cl. 52.
 Ultro-Spray of America, Inc., Harrisburg, Pa. 835,862, pub. 6-14-66. Cl. 23.
 Unidyne Industries, Inc., Denver, Colo. 835,791, pub. 8-23-66. Cl. 15.
 United States Chemical Corp., Cheshire, Conn. 835,807, pub. 7-11-67. Cl. 16.
 United States Rubber Co., New York, N.Y. 835,794, pub. 7-11-67. Cl. 15.
 United States Rubber Co., New York, N.Y. 835,935, pub. 7-11-67. Cl. 35.
 United States Trust Co. of New York, New York, N.Y. 836,090, pub. 7-11-67. Cl. 102.
 Universal Overall Co., Chicago, Ill. 835,968, pub. 9-20-60. Cl. 39.
 Univis, Inc.: See—
 Univis Lens Co., The.
 Univis Lens Co., The, Dayton, Ohio, to Univis, Inc., Fort Lauderdale, Fla. 235,817, ren. 9-26-67. Cl. 26.
 Upco Co., The, Cleveland, Ohio, to The Upco Co., Portland, Maine. 432,396, ren. 9-26-67. Cl. 12.
 Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 234,470-1, ren. 9-26-67. Cl. 18.
 Upjohn Co., The, Kalamazoo, Mich. 719,569, can. Cl. 18.
 Valcor Engineering Corp., Kenilworth, N.J. 835,842, pub. 7-11-67. Cl. 21.
 Van Pelt & Brown, Inc., Richmond, Va., to Mallinckrodt Chemical Works, St. Louis, Mo. 435,060, ren. 9-26-67. Cl. 18.
 Vargas Mfg. Co., Providence, R.I. 434,442, ren. 9-26-67. Cl. 28.
 Vidbor Casting Corp., New York, N.Y. 719,646, can. Cl. 28.
 Wagner, E. R., Mfg. Co., Milwaukee, Wis. 719,619, can. Cl. 23.
 Wagner, S. C., Toledo, Ohio, to Becton, Dickinson and Co., East Rutherford, N.J. 232,156, ren. 9-26-67. Cl. 18.
 Waldorf Piano Co., New York, N.Y., to Kohler & Campbell, Inc., Granite Falls, N.C. 233,107, ren. 9-26-67. Cl. 36.
 Wander Co., The, d.b.a. Aarbern Pharmacal Co., Chicago, Ill. 719,558, can. Cl. 18.
 Wander Co., The, d.b.a. Ovaltine Food Products, Chicago, Ill. 719,743, can. Cl. 46.
 Warner & Swasey Co., The, Cleveland, Ohio. 835,873, pub. 7-11-67. Cl. 23.
 Wasso Foods Co.: See—
 Kroger Co., The.
 Watson Electronics & Engineering Co., Inc., Arlington, Va. 719,633, can. Cl. 26.
 Wendel, Fred, Inc., Paramus, N.J. 836,099, pub. 7-11-67. Cl. 103.
 West Coast Alloys Co., Inc., Troutdale, Oreg. 835,786, pub. 3-14-67. Multiple Class (Classes 14 and 34).
 Westbury Electronic Corp., Westbury, N.Y. 836,080, pub. 7-11-67. Cl. 101.
 Western Auto Supply Co., Kansas City, Mo. 835,936, pub. 7-11-67. Cl. 35.
 Western Import, Inc., Portland, Oreg. 835,853, pub. 7-11-67. Cl. 22.
 Western Metal Lath Co., La Mirada, Calif. 835,772, pub. 7-11-67. Cl. 12.
 Western Petrochemical Corp., The: See—
 Sun Chemical Corp.
 Wheatley & Schwabe, New York, N.Y., to Rosenau Brothers, Inc., Philadelphia, Pa. 232,611, ren. 9-26-67. Cl. 39.
 White, Alton L., d.b.a. White's Marina, Norway, Maine. 835,822, pub. 7-11-67. Cl. 19.
 White, S. S., Co., Philadelphia, Pa., from X-Ray Mfg. Corp. of America, Great Neck, N.Y. 836,018, pub. 7-4-67. Cl. 44.
 White's Marina: See—
 White, Alton L.
 Wico Corp., Chicago, Ill. 719,654, can. Cl. 32.
 Windsor-Lloyd Products, Inc., Philadelphia, Pa. 835,800, pub. 7-11-67. Cl. 16.
 Winton Watch Co., Inc., New York, N.Y. 835,914, pub. 7-11-67. Cl. 27.
 Wilsir Publications, Inc., New York, N.Y. 719,690, can. Cl. 38.
 Williams, C. K., & Co., East St. Louis, Ill. 719,754, can. Cl. 46.
 Williams, John T., Lauderdale-By-The Sea, Fla. 719,796, can. Cl. 18.
 Wolfe, Ray, d.b.a. Ray-Vitam Products Co., Waseca, Minn. 719,543, can. Cl. 18.
 Womack, Joe M., San Clemente, Calif. 835,959, pub. 7-11-67. Cl. 37.
 Wool Bureau, Inc., The, New York, N.Y., and Women's Auxiliary, to The National Wool Growers Association, Salt Lake City, Utah. 719,807, can. Cl. 100.
 World Exports, Inc., Miami, Fla. 719,587, can. Cl. 21.
 World Wide Musical Instrument Co., Inc., New York, N.Y. 835,949, pub. 7-11-67. Cl. 36.
 Xerox Corp., Rochester, N.Y. 835,890-1, pub. 7-11-67. Cl. 26.
 X-Ray Mfg. Corp. of America: See—
 White, S. S., Co.
 Yardley of London, Inc., Totowa, N.J. 836,056, pub. 7-11-67. Cl. 51.
 Z & T Importing Co., Inc., Los Angeles, Calif. 835,848, pub. 7-11-67. Cl. 21.
 Zarkow-Boaka Cie: See—
 Martinoni, E., Co.
 Zip-Opener Corp., Inc., Philadelphia, Pa. 719,799, can. Cl. 37.

